Aboriginal Affairs and Northern Development Canada
Affaires autochtones et Développement du Nord Canada

Contaminants and Remediation Directorate
5103- 48th Street
Box 1500
Yellowknife, NT X1A 2R3

April 24, 2013

Freda Wilson, Office Manager
Northwest Territories Water Board
125 Mackenzie Road
PO Box 2531
Suite 302, Professional Building
Inuvik, NT X0E 0T0

Dear Ms. Wilson,

Re: ***2012 Monitoring Program Report*** **- Johnson Point**
NWT Water Licence N7L1-1824

As per the NWT Water Licence N7L1-1824, please find enclosed one (1) hard copy and one (1) electronic copy of the *2012 Johnson Point Monitoring Program Report* for your records.

If you have any questions or concerns, please contact me at Stanley.Yee@aandc.gc.ca or (867) 669-2452.

Sincerely,

Stanley Yee

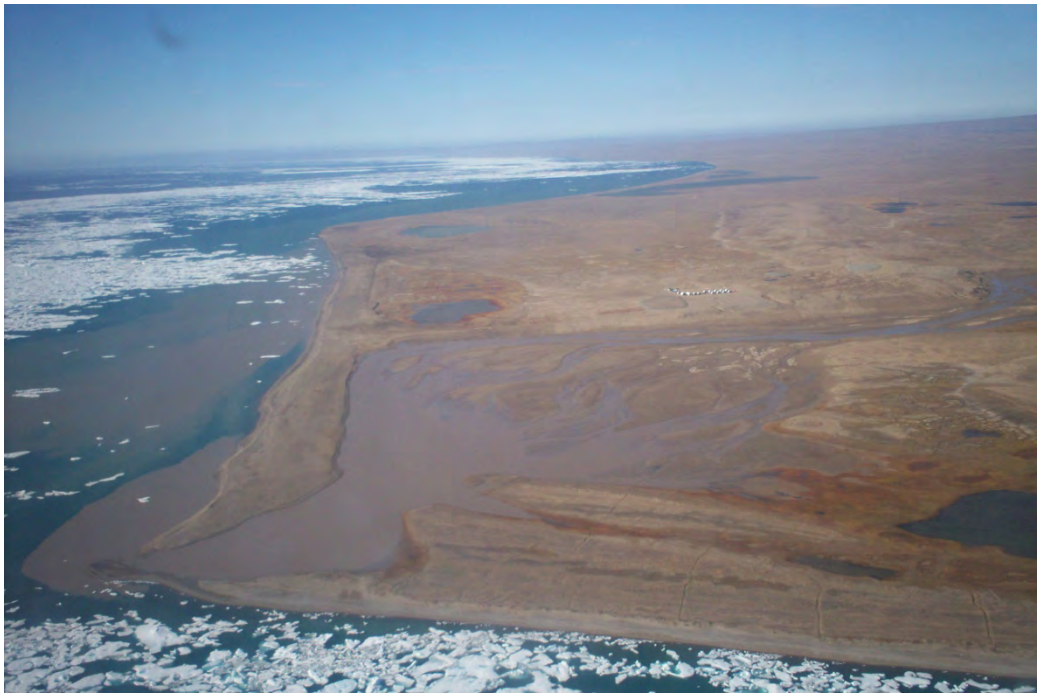
Stanley Yee
Environmental Management Scientist
AANDC-CARD

February 2013

FINAL REPORT ON:

2012 Johnson Point Monitoring Program Report

Submitted to:
Contaminants and Remediation Directorate
Aboriginal Affairs and Northern Development Canada
3rd Floor - Waldron Building
5103-48 Street
Yellowknife, NT X1A 2R3



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REPORT

Golder Associates

Executive Summary

Golder Associates Ltd. (Golder), with its Inuvialuit-owned partner IMG-Golder Corporation (IMG-Golder), was retained by Aboriginal Affairs and Northern Development Canada (AANDC) – Contaminants and Remediation Directorate (CARD) to conduct the 2012 Johnson Point Monitoring Program at Johnson Point, Banks Island, Northwest Territories. Located at latitude 72°45' North and longitude 118°30' West, the site was constructed in the 1970s as a staging area for oil and gas exploration and was actively used until the early 1980s. The site consisted of a fuel tank farm, buildings, pipelines, and miscellaneous debris, where leaking fuels tanks within and outside the fuel tank area resulted in petroleum hydrocarbon (PHC) contamination. Remediation of the site took place between 2005 and 2010, and included: excavation and treatment of PHC impacted soil, demolition and collection of all tanks, buildings and debris, burial of non-hazardous debris in existing landfills, construction of erosion-resistant caps on the landfills and removal of hazardous materials from the site. Currently, the site consists of the Airstrip, Apron Area, Barge Landing Area, Borrow Areas, Former Construction Camp Location, Former Tank Farm Pad, Landfills A, B, C and D and Soil Disposal Areas. The 2012 monitoring program, completed in August, included a site investigation. The investigation included geotechnical monitoring and visual inspection, groundwater and surface water sampling, soil sampling, and thermistors readings. The 2012 monitoring program was the second monitoring program completed for the site.

Overall, the site appeared to be in good condition. Minor settling and erosion channels were observed in the landfills. Small erosion channels were also observed on the Soil Disposal Areas. Three slope profiles were surveyed in the Apron Area and were found to be generally comparable to the profiles measured in 2010. Measurements to permafrost were collected across the site. The permafrost probe was refused at less than 0.10 m depth at some compacted areas on the Apron Area. Non-compacted areas across the site typically ranged from 0.30 m to 0.80 m, with areas near water measuring greater than 1.00 m.

A PHC odour was noticed around the Former Tank Farm Pad. No obvious stains were observed and because of windy conditions, the source of the PHC odour could not be located.

Monitoring wells MW09-01 and MW09-02 were frozen and no free water could be collected. Due to time constraints, purged water rather than recharge water was collected from all other monitoring wells (MW09-03, MW09-04, MW09-05, MW09-06, and MW09-07). With the exception of MW09-07, analytical results of groundwater chemistry for the 2012 monitoring event were not significantly different from previous years. Concentrations of toluene and ethylbenzene in groundwater from MW09-07 have increased from what was measured during the baseline study in 2009. MW09-07 is adjacent to the Prince of Wales Strait and migration of these parameters toward the Strait is a concern.

Surface water was collected from the Unnamed River and from a pond at the eastern toe of Landfill B, where soil staining was observed. In both cases, samples returned results below detection limit or below applicable guidelines. Comparison against past conditions was not possible because these areas were not discussed in previous reports.

Seven soil samples were collected from areas where surface staining or seepage evidences were observed. This included areas in Landfills A, B, and D, and the Former Tank Farm Pad. Concentrations for Total petroleum hydrocarbons in two soil samples collected at ground level and at depth from a stained area north of Landfill A were measured above the site specific target level (SSTL). Concentrations for PHC Fractions 3 and 4 showed an increasing trend from samples collected at the same location between 2009 and 2012. Although no

set criteria are established within the designated soil guidelines for these specific contaminants, this trend could indicate that contaminants are migrating from the Former Tank Farm Pad towards Landfill A. Otherwise, soil analytical data are mostly consistent with previous investigations.

Ground temperature observations indicate that freeze-back conditions are potentially re-establishing in the Apron Area. However, more thermal data is required to confirm if permafrost has been re-established.

Golder recommends AANDC-CARD continue with the Johnson Point monitoring program as planned, where the next visit is to occur in 2014.

Study Limitations

This document, including all text, data, tables, plans, figures, drawings and other documents contained herein, has been prepared by Golder Associates Ltd. (Golder) for the sole benefit of Aboriginal Affairs and Northern Development Canada (AANDC) – Contaminants and Remediation Directorate (CARD). It represents Golder's experience based on the knowledge and information available at the time of completion. Golder is not responsible for any unauthorized use or modification of this document. All third parties relying on this document do so at their own risk.

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1.0 INTRODUCTION

Golder Associates Ltd. (Golder), in conjunction with its Inuvialuit-owned partner IMG-Golder Corporation (IMG-Golder), was retained by Aboriginal Affairs and Northern Development Canada (AANDC) – Contaminants and Remediation Directorate (CARD) to conduct the 2012 Johnson Point Monitoring Program at Johnson Point, Banks Island, Northwest Territories (the Project). The Project is the second monitoring program completed for the site. Monitoring of the site began in 2010 and is currently in Year 3 of a biannual monitoring phase.

The Project was completed under Standing Offer Agreement (SOA) number 00-05-6003-9. The AANDC file number for the Project is A1632-11/00-05-6003-9. The site monitoring Plan, Health and Safety Plan, and Investigation Progress Report prepared by Golder are included in Appendix A.

1.1 Background

The site is located on the eastern coast of Banks Island, approximately 270 kilometres (km) north-west of Sachs Harbour at latitude 72°45' North and longitude 118°30' West (Figure 1), within the zone of continuous permafrost. Ulukhaktok and Sachs Harbour are the closest communities to the site (AECOM Canada Ltd. [AECOM] 2011).

The site was constructed to serve as a staging area and base for oil and gas exploration activities in the 1970s, and was actively used until the early 1980s. Since that time, several companies have used the airstrip at the site as an alternative landing location and as a staging area for exploration activities occurring on the north end of Banks Island (Assessment, Inventory and Monitoring [AIM] and AANDC-CARD 2012; AECOM 2011).

The site consisted of a fuel tank farm, buildings, pipelines, and miscellaneous debris. Leaking fuel tanks within and outside the fuel tank area resulted in petroleum hydrocarbon (PHC) contamination at the site. Environmental investigations and remediation of the site were conducted by AANDC between 2005 and 2010, and consisted of (AECOM 2011):

- Excavation and treatment of PHC impacted soil;
- Demolition and collection of all tanks, buildings and debris;
- Burial of non-hazardous debris in existing landfills;
- Construction of erosion-resistant caps on the landfills; and
- Removal of hazardous materials from the site.

An initial biannual monitoring phase, where site investigations will occur on Year 1, 3, and 5, began in 2010 at the conclusion of remediation operations (AECOM 2011).

1.2 Site Description

The site consists of the following monitoring locations that are shown on Figure 1:

- Airstrip;
- Apron Area;
- Barge Landing Area;
- Borrow Areas;
- Former Construction Camp Location;

- Former Tank Farm Pad;
- Landfill A;
- Landfill B;
- Landfill C;
- Landfill D; and
- Soil Disposal Areas.

1.2.1 Airstrip

The Airstrip runs across the eastern shore of Banks Island, adjacent to the Prince of Wales Strait. Washouts across the airstrip have been observed in the past and were backfilled during remedial operations (AECOM 2011). The airstrip is dry, firm, flat, and the entire airstrip length, approximately 1.35 km, is in usable condition (AECOM 2011).

1.2.2 Apron Area

The Apron Area is located between a pond adjacent to the Airstrip and the Unnamed River. Evidence of hydrocarbon contaminated soil and groundwater was found in the Apron Area during site investigations prior to 2010. Remediation of the area involved the excavation of contaminated soil for on-site treatment. Contaminated soil between Unnamed River, the pond and the airstrip was excavated to depths of up to 2.5 metres (m) and was backfilled with clean sand and silt material (AECOM 2010).

Seven groundwater monitoring wells were installed in 2009 to facilitate future groundwater monitoring activities of hydrocarbon contamination. Excavation resulted in permafrost degradation in the area. The groundwater wells are identified MW09-01 to MW09-07.

Two thermistor strings (T09-01 and T09-02) were installed in this area in 2009 to monitor permafrost reestablishment impacted by excavation (AECOM 2010). Each thermistor consists of 10 beads spaced at approximately 0.30 m to allow for temperature measurement at various depths below the ground surface. Beads for thermistor T09-01 range from 0.30 m to 2.40 m below ground surface (bgs) and beads for thermistor T09-02 range from 0.58 to 3.28 mbgs.

1.2.3 Barge Landing Area

A Barge Landing Area was used in August 2010 to facilitate demobilization of construction equipment for remedial operations at the site. The Barge Landing Area is located on a portion of beach on the Prince of Wales Strait across the Airstrip from the Apron Area.

1.2.4 Borrow Areas

Three Borrow Areas were used at the site for the construction of landfill caps and for backfilling. The areas are Borrow Area B (also known as the Main Borrow Pit), Ridge Road Borrow Area, and Borrow Area 6. In 2009 and 2010, attempts were made to contour and grade the Borrow Areas to improve drainage. Permafrost was degraded due to excavation during remedial operations. Most areas are expected to recover, but areas with potential for accumulation of ponded water may further degrade if thermokarst were to develop and therefore require monitoring (AECOM 2011).

1.2.5 Former Construction Camp Location

A camp was established along the original road alignment in 2008 and 2009 for remedial operations at the site and was demobilized in 2010. The Former Construction Camp Location was re-graded during demobilization (AECOM 2011). Rio Tinto established a temporary exploration camp at the former camp location in 2011. Some temporary tents enclosed in a fenced area were still present during the 2012 monitoring visit.

1.2.6 Former Tank Farm Pad

A tank farm pad consisting of 19 large fuel tanks and numerous smaller tanks was formerly located at the site. Leaking tanks resulted in hydrocarbon contamination in the Former Tank Farm Pad. Remediation of the Former Tank Farm Pad included the removal and disposal of all tanks, excavation and treatment of impacted soils, and grading (AIM and AANDC-CARD 2012; AECOM 2011).

1.2.7 Landfill A

Landfill A is located to the south of the Former Tank Farm Pad, approximately 500 m from the Prince of Wales Strait and 200 m from the Unnamed River. Landfill A was constructed prior to remedial operations and a geophysical survey found that the landfill consists of ferrous debris in five parallel trenches with an areal extent of 4 000 m^2. Remedial operations for the landfill included the construction of under-fill drains in existing erosion channels and a landfill cap using angular gravel/cobbles (Type 1 material) and sand (Type 2 material). These measures were installed to protect against ponding and erosion. Previous assessments concluded that Landfill A was a low potential environmental risk (AECOM 2011; AECOM 2010).

1.2.8 Landfill B

Landfill B is located to the west of the Former Tank Farm Pad adjacent to a small pond, approximately 750 m from the Prince of Wales Strait and 430 m from the Unnamed River. Landfill B was constructed prior to remedial operations and contains wood, metal and plastic debris. A geophysical survey found that the areal extent of the landfill is 600 m^2. Remedial operations for the landfill included the construction of a landfill cap consisting of Type 1 and Type 2 material to enhance protection against water erosion. Previous assessments concluded that Landfill B was a low potential environmental risk (AECOM 2011; AECOM 2010).

1.2.9 Landfill C

Landfill C is located to the north-west of the Former Tank Farm Pad, approximately 900 m from the Prince of Wales Strait and 500 m from the Unnamed River. Landfill C was constructed prior to remedial operations and likely consists of two pits. A geophysical survey found that the landfill contains metal, wood, tires/tubes and vehicle wheels and its areal extent is 1 900 m^2. Remedial operations for the landfill included the construction of a landfill cap consisting of Type 1 and Type 2 material to protect against water erosion. Previous assessments concluded that Landfill C was a low potential environmental risk (AECOM 2011; AECOM 2010).

1.2.10 Landfill D

Landfill D is located farther west of the Former Tank Farm Pad than Landfill B, approximately 1 000 m from the Prince of Wales Strait. Landfill D was constructed prior to remedial operations and contains metallic debris in one pit with an areal extent of approximately 1 300 m^2. Remedial operations for the landfill included constructing a cap consisting of Type 2 material and placing Type 1 material on the side slopes to protect against erosion. Previous assessments concluded that Landfill D was a low potential environmental risk (AECOM 2011; AECOM 2010).

1.2.11 Soil Disposal Areas

Two areas were used for disposal of soil excavated from the Apron Area that met site specific remedial criteria. Soil Disposal Area 1 is located to the west of Landfill C and Soil Disposal Area 2 is located to the west of Soil Disposal Area 1. Soil Disposal Areas were graded during remedial operations (AECOM 2011; AECOM 2010).

1.3 Previous Work

Previous work reviewed to complete the Project included:

- *Johnson Point Post-Construction Monitoring Plan* (AECOM 2010); and
- *Johnson Point Post-Construction Monitoring Program 2010 Report*, i.e., Year 1 of site monitoring (AECOM 2011).

The *Johnson Point Post-Construction Monitoring Plan* established site monitoring objectives and baseline information, which were collected in 2009. Objectives were further developed in the *Johnson Point Post-Construction Monitoring Program 2010 Report*, which included additional monitoring information collected during the 2010 program. Baseline and Year 1 of site monitoring consisted of geotechnical monitoring and visual inspection, groundwater sampling, soil sampling, and thermal monitoring.

Geotechnical monitoring and visual inspection assessed the absence or presence, and magnitude of the following items at site monitoring locations:

- Settlement;
- Erosion;
- Frost action, including changes to patterned ground;
- Animal burrows;
- Vegetation re-establishment and percentage cover;
- Soil or water staining;
- Vegetation stress;
- Seepage points or ponded water;
- Debris exposure; and
- Any other features of note.

Additionally, slope profile surveys were completed in 2010 in the Apron Area near the Unnamed River. The profiles provide baseline information to facilitate monitoring of key river erosion, deposition and morphology features relative to the monitoring wells.

Groundwater samples were collected in the Apron Area during 2009 and 2010. Samples were analyzed for Benzene, Toluene, Ethylbenzene and Xylenes (BTEX), PHC Fraction 1 (F1) (C6-C10) less BTEX, and PHC Fraction 2 (F2) (C10-C16).

Soil sampling in 2009 and 2010 was limited to locations where seepage or staining had been identified as part of the visual inspection. In 2009, soil sampling was conducted in Landfills A, B, C, and D. In 2010, samples were collected from Landfill A, Soil Disposal Area 1, and the Former Tank Farm Pad. Samples collected during 2009 and 2010 were analyzed for PHC F1-F4, Total Petroleum Hydrocarbons C5-C30 (TPH), BTEX, polychlorinated biphenyls (PCBs), and selected metals (including arsenic, cadmium, chromium, cobalt, lead, nickel, copper, and zinc).

Thermal monitoring of the Apron Area completed in 2009 and 2010 provided data from September 9, 2009 to September 16, 2010.

2.0 2012 MONITORING PROGRAM

The investigation of the site for the 2012 Johnson Point Monitoring Program was completed on August 20, 2012, by a five-person field crew consisting of two Golder staff (Suzi Martin and Anne Croteau), one IMG-Golder staff (Christopher Cunada) and two Wildlife Monitors (Rachel Hansen and Miles Dillon). In addition, an inspector from AANDC – North Mackenzie District, Donald Arey, joined the field crew. The site investigation was completed following methodology as outlined in the *2012 Monitoring Program for Johnson Point and BAR-E Horton River: site Monitoring Plan*, submitted to AANDC–CARD on July 27, 2012 (Golder 2012) (Appendix A), and the *Johnson Point and Horton River Priority List 2012* provided by AANDC–CARD to Golder on August 16, 2012 (AANDC-CARD 2012). The site was accessed by fixed-wing aircraft (Twin Otter).

2.1 Program objectives and Methodology

Project objectives were to assess the condition of the on-site landfills, to monitor the Apron area for freeze back, and to monitor the groundwater and surface water quality of the Apron area. The data collected during the 2012 site investigation was obtained by geotechnical monitoring and visual inspection, groundwater and surface water sampling, soil sampling, and thermistor readings. A Quality Assurance/Quality Control (QA/QC) program was followed for the environmental sampling events.

2.1.1 Geotechnical Monitoring and Visual Inspection

Geotechnical monitoring was completed for the Apron Area by measuring slope profile alignments and soil active zone thickness. Slope profile alignments were measured for the same area as completed by AECOM in Year 1 of site monitoring. Measurements were surveyed at one meter intervals using a level and rod. Soil active zone thickness in the Apron Area was measured using a steel permafrost probe. Evenly spaced measurements were taken across the Apron Area and at background locations.

Visual inspections were conducted at the Airstrip; Apron Area; Barge Landing Area; Ridge Road Borrow Area and Borrow Area 6; Former Construction Camp Location; Former Tank Farm Pad; Landfills A, B, C, and D; and Soil Disposal areas. Borrow Area B was not inspected due to time constraints and its relative distance from other site features. The visual inspection was completed by walking around the perimeter and then crisscrossing these areas. Visual inspection included:

- Identifying any changes that have occurred, such as settlement, erosion, frost action, sloughing and cracking and seepage points or presence of ponded water;
- Examining the state of re-vegetation, percentage of vegetation cover, and any sign of vegetation stress (e.g., discoloration);
- Recording potential animal burrows;
- Identifying areas with soil or water staining, odours, and/or exposed debris;
- Recording any other features which may compromise the integrity of the landfill; and
- Describing the condition of monitoring instruments at the site.

Visual inspections included detailed photographic records with scale reference and Global Positioning System (GPS) location.

2.1.2 Groundwater and Surface Water Sampling

Water samples were collected from seven groundwater monitoring wells to help determine whether contaminant migration has occurred in the Apron Area. The wells are constructed of solid and slotted polyvinyl chloride pipe of 50.8 mm in diameter. Groundwater was collected from wells using a peristaltic pump and Waterra tubing (6.4 mm in diameter) discharged into laboratory supplied containers. For QA purposes, tubing was not shared between the wells. Due to the slow recharge rate and limited amount of time to complete the site investigation, purged water as opposed to recharge water was collected.

A surface water sample was collected from the Unnamed River in laboratory supplied containers. An additional surface water sample was collected from a pond located on the eastern toe of Landfill B where staining was observed in this area during the visual inspection. Sampling locations were recorded in Universal Transverse Mercator (UTM) using a Garmin etrex GPS unit.

All water samples were transported in coolers chilled with ice packs from the site to Inuvik, from where the samples were shipped to ALS Environmental in Edmonton for laboratory analyses. The samples were analyzed for BTEX, PHC F1 (C6-C10) less BTEX, and PHC F2 (C10-C16).

Results of laboratory analyses for all water samples were compared against:

- Canadian Council of Ministers of the Environment (CCME) Water Quality Guidelines for the Protection of Aquatic Life – Freshwater and Marine (CCME 1999 and updates);
- Year 1 site monitoring results (AECOM 2011); and
- Baseline monitoring results (AECOM 2010).

2.1.3 Soil Sampling

Soil sampling locations were limited to where seepage or staining was identified as part of the visual inspection as per Section 2.1.1. Results from Year 1 site monitoring results (AECOM 2011) and baseline monitoring data (AECOM 2010) showed staining and seepage at Landfills A, C, and D, and in the vicinity of the Former Tank Farm that corresponds with the surface disturbance related to Rio Tinto's camp exploration setup. During the 2012 Monitoring Program, soil samples were collected from seven locations:

- Three samples at Landfill A;
- Two samples at Landfill B;
- One sample at Landfill D; and,
- One sample at Former Tank Farm location.

Samples were collected in laboratory supplied jars. Sampling locations were recorded in UTM using a Garmin etrex GPS unit.

All soil samples were transported in coolers chilled with ice packs from the site to Inuvik. Samples were shipped from Inuvik to ALS Environmental in Edmonton for analysis for PCBs, PHC F1-F4, TPH, and metals (including but not limited to arsenic, cadmium, chromium, cobalt, lead, nickel, copper, and zinc).

Analytical results were compared against:

- Johnson Point Site Specific Target Level (SSTL) for risk to ecological receptors (for use in areas where Protection of Freshwater Aquatic Life does not apply; AECOM 2011 and Jacques Whitford Ltd. [Jacques Whitford] 2007);
- Abandoned Military Site Remediation Protocol (AMSRP) DEW Line Cleanup Criteria (DCC) for soil and Protection of Freshwater Aquatic Life criteria (Indian and Northern Affairs Canada [INAC] 2009);
- Year 1 site monitoring results (AECOM 2011); and
- Baseline monitoring results (AECOM 2010).

2.1.4 Thermal Monitoring

During the August 2012 Monitoring Program, the thermistors' monitoring consisted of: recording thermal data, replacing the batteries and updating the sampling frequencies for thermistor T09-01 and T09-02. The thermistors operate on *Prolog Datalogger* software (AECOM 2010 and 2011).

Thermal data collected were compared against Year 1 site monitoring results (AECOM 2011) and baseline monitoring results (AECOM 2010).

2.1.5 Quality Assurance and Quality Control

QA/QC procedures and requirements are an important aspect of any field or laboratory testing program. QA/QC procedures are followed to limit the introduction of error into analytical data and ensure that the sampling and analytical data are interpretable, meaningful and reproducible. QA/QC procedures include appropriate training of sampling personnel, use of standard operating procedures when collecting the samples, appropriate sample handling and storage, and use of accredited analytical laboratories, and data management systems.

Water chemistry and soil samples were collected in accordance with applicable Golder Technical Procedures. The procedures are consistent with industry standards and include collection, preservation, storage, and shipping protocols. Samples were submitted to an accredited analytical laboratory, ALS Laboratory Group in Edmonton, Alberta for analysis.

QA procedures that were followed include:

- Calibrating water quality meter prior to sample collection (the probe calibration was completed according to manufacturer's recommendations);
- Recording detailed field notes in pencil on waterproof field datasheets;
- Verifying field data at the end of the sampling event for completeness and accuracy;
- Wearing nitrile gloves during sampling to prevent cross-contamination;
- Using certified sample containers provided by the analytical laboratory;
- Preserving the samples according to standard methods;
- Collecting samples as per laboratory chain-of-custody (COC) procedures (e.g., no headspace for samples analyzed for volatile parameters); and
- Storing and shipping samples in coolers with ice as per laboratory COC procedures.

QC procedures that were observed include:

- Collecting a duplicate sample to detect variability at a sampling location and verify field-sampling methods;
- Preparing a travel blank to detect sample contamination during transport and pre-sampling bottle contamination; and
- Collecting a total number of QC samples (duplicate sample and travel blank) greater than 10% of total collected test samples.

3.0 RESULTS AND DISCUSSION

Results of the Project are provided below. A detailed photographic record of the visual inspection is provided in Appendix B. The laboratory report for groundwater, surface water and soil samples analyses are provided in Appendix C. Thermal data are provided in Appendix D.

3.1 Geotechnical Monitoring and Visual Inspection

Vegetation is naturally sparse on Banks Island and was observed in isolated patches around the site. Sparse native vegetation was observed at the toe of the slope for each of Landfill A (Photographs 11, 12, and 13), Landfill B (Photographs 15 and 16), Landfill C (Photographs 17 and 18), and Landfill D (Photograph 20). It is unknown if this vegetation was present in its current condition before the remediation activities or if re-vegetation has occurred in these areas.

No vegetation was observed in the Former Tank Farm Pad location, along the original road alignment, on the Borrow Areas visited, or in the Apron Area. Vegetation was typically more prevalent in low-lying areas or near fresh water bodies.

3.1.1 Airstrip

The operational length of the airstrip appeared neatly groomed and in good condition. There were no washouts and no visible signs of erosion in the areas that were investigated. The extreme ends of the airstrip were not investigated during 2012 due to time constraints.

3.1.2 Apron Area

The Apron Area is located adjacent to the air strip between the Unnamed River and the pond adjacent to the air strip. Hydrocarbon contaminated soil was historically excavated from this area and monitoring wells and thermistors were installed to help monitor the area. During the 2012 inspection, this area was primarily dry and firm. Some settlement was observed, similar to the 2010 observations. Some areas were softer than others. Vehicle ruts are still apparent in the apron area. No standing water was observed in the ruts in 2012.

3.1.2.1 Slope Profiles

Three slope profiles were established in 2010. Profile alignments were positioned to be reproducible in future monitoring events. Profile 1 is the longest profile, placed along the alignment between MW09-02 and MW09-03 and on to the water's edge. Profile 2 was oriented from MW09-03 to the closest point of the river flow, and as such will vary in future monitoring events but will still serve as a record of the distance between the monitoring well and the river channel. Profile 3 was placed along the alignment between MW09-02 and MW09-04, from MW09-02 on to the water's edge. The profiles are shown in Figure 6.

In 2012, the profile measurements were collected using a survey level. The distances were adjusted to reflect profiles measured in 2010 for comparison purposes. However, the 2010 figures did not provide a vertical scale, so one has been inferred for comparison purposes.

The profiles indicated that

- In 2010, the distance from MW09-03 to the water was 12.2 m. In 2012, the distance from MW09-03 to the water was approximately 8.7 m, indicating that the course of the Unnamed River has changed, or that water levels were higher in 2012 than when Profile 1 was measured in 2010. Because no vertical scale was provided in the 2010 figures, one was inferred for comparison purposes and the resulting apparent discrepancies may not be entirely accurate.

- The distance from MW09-03 to the water's edge along Profile 2 in 2012 was 16.3 m, which is 5 m greater than the distance measured in 2010. There were no obvious erosion scarps in this area in 2012. This area may have been altered by sediment accumulation.
- The distance from MW09-04 to the Unnamed River along Profile 3 in 2012 was 30.4 m, which is comparable to the distance measured in 2010 (31 m). The profile was similar to what was observed in 2010. The annual high water line was not obvious in 2012, but is believed to be around 4 m from MW09-04 along this profile, which is comparable to the distance measured in 2010 (4.5 m).

Based on the 2012 profile measurements, minor changes have occurred in the profiles, which appear to be related to migration of the Unnamed River channel. Future monitoring of these profiles will help to establish if there are trends in these data.

3.1.2.2 Soil Active Zone Thickness

The depth to permafrost was measured using a permafrost probe. Measurements were taken across the Apron Area, in the Soil Disposal Areas, on the landfill caps for Landfill A through Landfill D, and around each of the four landfills. Results are presented in Table 1. The airstrip was too compacted to allow the permafrost probe to penetrate more than a few centimetres.

It was found that soil was compacted in some areas of the Apron Area. The permafrost probe would be refused at less than 0.10 m depth. Penetration depths in non-compacted areas around each of the landfills and on the Soil Disposal Areas typically ranged from 0.30 m to 0.80 m, with areas near water measuring greater than 1.00 m. The maximum penetration depth measured on the landfill caps was 0.30 m (on Landfill A).

3.1.2.3 Monitoring Instruments

The cap of MW09-04 was not on the well (Photograph 4). The field crew put the cap back on prior to leaving the site, but a proper cap (J-plug) would be required to ensure that the well is properly covered. Otherwise, the monitoring instruments appeared to be in good working condition as no damage to the monitoring wells and thermistor casings were observed.

3.1.3 Barge Landing Area

The Barge Landing Area, located across the Air Strip from the Apron Area and primarily between wells MW09-05 and MW09-07, appeared to be in comparable condition to 2010. The soil mounds were still present in this area, but no significant concerns with respect to erosion or settlement were observed.

3.1.4 Borrow Areas

Borrow Areas were not inspected due to time constraints and relative distance from other site features.

3.1.5 Former Construction Camp Location

No significant signs of erosion or settlement were observed in the area of the Former Construction Camp. The 2012 Camp was not specifically investigated during this program; however, a cursory view of the 2012 Camp was conducted and all facilities appeared to be in good condition.

3.1.6 Former Tank Farm Pad

Two areas of settlement were observed on the Former Tank Farm Pad. These areas were also identified during Year 1 of site monitoring (AECOM 2011). Some erosion has occurred near drainage channels located near the south and north portions of the Former Tank Farm Pad.

A PHC odour was noticed around the Former Tank Farm Pad and west of the 2012 camp; however because of windy conditions, the source of the PHC odour could not be located. A soil sample (TANK FARM A) was collected along the drainage channel at the east end of the Former Tank Farm Area as sheen was observed on the drainage water (Figure 4). Insufficient surface water was present to collect a sample. Concentrations of BTEX and PHC F1-F4 in the soil sample were typically below the detection limits, and metals were generally an order of magnitude below the applicable guidelines (Table 5).

3.1.7 Landfill A

The Landfill A cover was observed to be good condition, with minor signs of erosion on the cap and at the base of the armoured slopes. Equipment cleat marks were observed on the cap surface. Wire was observed to be protruding from the cap in three locations. These wires were approximately 10 to 30 cm long and were not disturbed. No animal burrows were identified near Landfill A. The erosion channels identified in 2010 on the east side of the landfill have caused some settlement of soil in this area. The settlement does not appear to be affecting the landfill; however, if it progresses it may affect the road (Photographs 12 and 13).

Stained areas were observed up-slope, by the camp, and to the north and south of Landfill A. Evidence of previous soil sampling was found near the far south stain. Sampling of this area was not repeated. Samples were collected from a stained area north of the landfill (Photograph 14). PHC odour was noted at the sampling location, but due to windy conditions the source could not be located.

The soil sample results indicated that concentrations for BTEX, PHC F1-F4 were below the detection limits, two samples showed concentrations for TPH above designated guidelines, and metals concentrations were typically an order of magnitude below the applicable soil guidelines (Table 5). Further details on the soil sampling program's results are provided in Section 3.3.

3.1.8 Landfill B

Landfill B is entirely armoured and the armour appears to be in good condition. No signs of animal burrowing or significant erosion were observed in the vicinity of Landfill B. The east flank of the landfill is abutted by a small body of water.

A water sample (Landfill B-A) was collected from the pond adjacent to Landfill B (Photograph 16). Results indicated that concentrations of BTEX and PHC F1-F2 were below the detection limits (Table 3).

One soil sample was collected from the edge of the pond (LFA-B-12-01). A dark, potentially organic layer was observed while collecting this soil sample. To provide a comparison sample, a second sample was collected nearby (LFA-B-12-02). The concentrations of BTEX, PHC F1-F4, and metals in both samples were typically an order of magnitude below the applicable soil guidelines (Table 5).

3.1.9 Landfill C

Landfill C is entirely armoured and the armour appears to be in good condition. One piece of metal was observed to be exposed above the armour. No signs of animal burrowing or significant erosion were observed in the vicinity of Landfill C.

No areas of seepage or staining were observed in 2012. Drainage channels and associated silty sand deposition along the landfill toe were consistent with pre-existing conditions.

3.1.10 Landfill D

The overall condition of Landfill D was good, including the cap. In 2010, wet areas were observed on the surface of the landfill. These were not noted during the 2012 inspection (Photograph 19). Some settlement was observed on the north side of the landfill, which Donald Arey indicated did not previously exist. Erosion channels were observed to converge at a low spot resulting in sediment deposition. A soil sample was collected from the convergence of this deposit (LFA-D-12-01).

Concentrations of BTEX and PHC F1-F4 in the soil sample were typically below the detection limits, and metals were generally an order of magnitude below the applicable guidelines (Table 5).

3.1.11 Soil Disposal Areas

AANDC's inspector, Donald Arey, indicated that there was erosion between the disposal piles (Photograph 22) as well as settlement on the south side of the Disposal Area 2 (Figure 3, Photograph 24). These were approximately 3 m across and 1.5 m deep. Small erosion channels were observed in the Disposal Areas, but overall the piles appeared to be in good condition. Permafrost depths were consistent on and off the piles.

3.2 Groundwater and Surface Water Sampling

The field crew collected five groundwater samples from the Apron Area, one surface water sample from the Unnamed River, and one surface water sample from a pond adjacent to Landfill B. The water and groundwater program are summarized in Table 2, including field measurements (temperature and pH) and sampling location. Surface water sampling and well locations are presented on Figures 4 and 5.

3.2.1 Groundwater

Ice was observed at the end of the water-level probe at two monitoring wells: MW09-01 and MW09-02. These wells were considered frozen and no free water could be collected. Purged water was collected from all other monitoring wells (MW09-03, MW09-04, MW09-05, MW09-06, and MW09-07), and these samples were analyzed for the same parameters as in previous years: BTEX, PHC F1 (C6-C10) less BTEX, and PHC F2 (C10-C16). Analytical data for the groundwater samples are summarized and compared against the guidelines in Table 3. Groundwater collected from MW09-07 exceeded CCME Water Quality Guidelines for the Protection of Aquatic Life – Freshwater and Marine criteria for two parameters: ethylbenzene and toluene. Parameter concentrations in samples collected from all other monitoring wells were found below detection limit, and below CCME Water Quality criteria for freshwater and marine aquatic life.

During baseline monitoring data collection in 2009 (AECOM 2010), exceedances of CCME Water Quality criteria were observed in groundwater collected from MW09-01 (benzene, toluene and ethylbenzene), MW09-02 (toluene and ethylbenzene), and MW09-07 (toluene and ethylbenzene). Groundwater samples collected from the other wells (MW09-03, MW09-04, MW09-05, and MW09-06) showed analyte concentrations below the guideline criteria. In Year 1 of site monitoring in 2010, there was no free water to sample in MW09-01, MW09-02, MW09-05, MW09-06 and MW09-07 (AECOM 2011). Groundwater samples collected from wells MW09-03 and MW09-04 contained analyte concentrations below CCME Water Quality criteria for freshwater and marine aquatic life.

Results from the 2012 Monitoring Program are consistent with the baseline and Year 1 results when comparison is possible for most of the wells. Exceedances in MW09-07 have increased for toluene and ethylbenzene from 0.340 milligrams per litre (mg/L) and 0.200 mg/L in 2009 to 1.181 mg/L and 0.329 mg/L in 2012. The 2012

concentrations are 5 and 1.7 times higher than the baseline results. This well is located along the Prince of Wales Strait, just outside of the former excavation of hydrocarbon contaminated soil (Figure 5).

3.2.2 Surface Water

The surface water sampling location at Unnamed River was not identical to the coordinates provided by AANDC-CARD because there was insufficient surface water to collect at the intended sampling location. Instead, surface water was collected at the shore of the main channel of the braided river network nearest the provided coordinates. Analytical data for the samples were compared against CCME Water Quality Guidelines for the Protection of Aquatic Life – Freshwater and Marine criteria for: BTEX, PHC F1 less BTEX, and PHC F2. Samples returned results below detection limit, and below CCME Water Quality criteria for freshwater and marine aquatic life. These data are summarized in Table 3.

Surface water was also collected from a pond located on the eastern toe of Landfill B (Figure 4), where soil staining was observed. The samples were analyzed for BTEX, PHC F1 less BTEX, and PHC F2. Samples results returned below detection limit and below CCME Water Quality criteria for freshwater and marine aquatic life although staining and odour were observed at this location. These data are also summarized in Table 3.

Surface water analytical data from the Unnamed River and the pond at Landfill B are not discussed in Baseline (AECOM 2010) and Year 1 (AECOM 2011) site investigation reports. Therefore, results from 2012 surface water sampling could not be compared to previous investigations.

3.3 Soil Sampling

The field crew collected seven soil samples from areas where surface staining or seepage evidences were observed. Samples collected from Landfill A, B, and D, and the Former Tank Farm Pad were analyzed for PCBs, PHC F1-F4, TPH, and metals.

Soil sampling locations are summarized in Table 4 and are presented on Figures 2 and 4. Soil analytical results are compiled in Table 5. Most of the analytical results for BTEX, PHCs F1-F4, TPH, PCBs, and selected metals show low analyte concentration or concentrations below the detection limits. Guideline criteria exceedances and particularly high analyte concentration measured within the seven soil samples are further discussed below. Results from the 2012 monitoring program are compared to Year 1 monitoring program and the baseline study.

TPH concentrations exceeding the Johnson Point SSTL, 4 570 milligrams per kilogram (mg/kg), were found in two samples collected from a stained area to the north of Landfill A (LFA-A-12-01 and LFA-A-12-02). The samples were collected from the same location and at different depths. TPH concentrations of 30 116 mg/kg and 22 546 mg/kg were measured for the surface (0 m to 0.10 m) and at depth (0.10 m to 0.20 m) respectively, showing a decrease in TPH concentration with depth. The sample at depth appeared to be from below the stained area. PHC odour was noted at the sampling location, but the source of the odour may have been the Former Tank Farm Pad. Windy conditions made it difficult to pinpoint the source of the PHC odour. In Year 1 of site monitoring, although elevated concentrations of TPH were found at Landfill A at a depth of 0.10 m, these were below SSTL. During baseline data collection in 2009, exceedance of SSTL for TPH, 5 080 mg/kg, was observed in Landfill A at a depth of 0.10 m.

A PHC F1 concentration of 181 mg/kg was measured in a sample collected at depth from Landfill A (LFA-A-12-02). Concentration of PHC F1 was measured at 48 mg/kg and 520 mg/kg in Year 1 (both samples were taken at a depth of 0.10 m) at the same monitoring location. Therefore, analytical results from 2012 and 2010 are within the same range. PHC F1 was not measured during baseline data collection in Landfill A.

PHC F2 concentration in the soil sample collected from the ground surface at Landfill A, 471 mg/kg, was found to be above the AMSRP Protection of Freshwater Aquatic Life criteria of 330 mg/kg. However, the guideline applies to areas within 30 m of a water body, which is not relevant for this specific sampling location. PHC F2 concentrations were measured in Landfill A at a depth of 0.10 m in Year 1 in two samples: at 100 mg/kg and 1 600 mg/kg. PHC F2 concentration was measured at 1 900 mg/kg in Landfill A during baseline data collection. Analytical results in 2012 are below the highest previously measured concentrations and indicate a potential decreasing trend in PHC F2 concentrations through time.

High PHC F3 concentration was measured at the ground surface (LFA-A-12-01), 34 800 mg/kg, and at depth (LFA-A-12-02), 25 700 mg/kg, just north of Landfill A, showing a decrease in the PHC F3 concentration with depth. However, no set criteria are established within the designated soil guidelines for these specific analytical parameters. Low PHC F3 concentrations, 460 mg/kg and below, and one higher concentration of 2 900 mg/kg, were measured at depth between 0.10 and 1.0 m in Landfill A during Year 1 and baseline study data collection. PHC F3 concentrations in 2012 are, on average, 1 000 times greater than measurements from the previous programs. This substantial increase in PHC F3 concentration north of Landfill A could be explained by contaminant migration from the Former Tank Farm Pad located just up-gradient from Landfill A.

PHC F4 was measured in Landfill A at the ground surface (2 580 mg/kg) and at depth (1 250 mg/kg). This is one order of magnitude higher than maximum concentrations measured for the same monitoring location during the previous monitoring program and baseline study. This increasing trend could also be explained by contaminant migration from the Former Tank Farm Pad located up-gradient from Landfill A.

With respect to PCBs, there were no detectable traces in any of the soil samples collected from the site.

There were no exceedances in regards to metals in any of the soil samples. Concentrations of arsenic, chromium, cobalt, copper, nickel and zinc were measured in all soil samples, but are below DCC Tier I and Tier II soil criteria. Traces of lead, 13.4 mg/kg (LFA-A-12-01), were found in one sample collected from Landfill A, but are also below the set criteria. Lead was not measured in any other sample collected from the site. No traces of cadmium were measured in any of the samples. Analytical results show higher metal concentrations for LFA-A-12-01 than the other soil samples. These results are consistent or slightly higher than results from soil samples also collected up-gradient of Landfill A during the previous monitoring program and baseline study.

Overall, soil analytical data are mostly consistent with previous investigations, except for PHC F3-F4 and TPH concentrations from samples collected north of Landfill A. These results are showing an increasing trend between 2009 and 2012.

3.4 Thermal Monitoring

The dataloggers were installed to document the active layer depth fluctuation over time as the permafrost is re-establishing to its original depth, i.e. before remediation work. Temperature measurements, recorded in degree Celsius (°C) from July 9, 2010 to date were downloaded from thermistors T09-01 and T09-02 on August 20, 2012. Following the data download, the thermistors were set to record temperatures on a 12-hour frequency. With the actual settings, the storage memory of the thermistors will be full on January 4, 2015.

Figures 7 and 8 present the temperature's fluctuation recorded for each bead at T09-01 and T09-02 from July 9, 2010 to August 20, 2012. The complete sets of downloaded data are presented in Appendix D. Figure 7 shows that the permafrost table (base of the active zone layer) in T09-01 was just below 1.20 mbgs in 2010 and just above 1.20 mbgs in 2011 and 2012. Figure 8 shows that the permafrost table in T09-02 was just above

1.18 mbgs in 2010 and 2011 and at 1.18 mbgs in 2012. The active zone layer has developed to similar depths for both thermistors. The 0°C level fluctuation between 2010 and 2012 is in the magnitude of 0.10 m.

Figures 9 and 10 depict the monthly temperature-depth profiles measured over two years for T09-01 and T09-02 respectively. The top graph presents profiles from July 2010 to August 2011 and the bottom graph presents profiles from July 2011 to August 2012. The shape of Figures 9 and 10 are consistent with the cone shape of the idealized permafrost temperature curve (AECOM 2011). The consistency of these steady-state curves through the next few years will confirm re-establishment of the permafrost at its natural depth.

Observations in T9-01 and T09-02 indicate that freeze back is re-establishing as the 0°C isotherm appears to be stabilizing over the 2 year period of time. As per AECOM (2011), permafrost should re-establish within 2 to 5 years following the remediation work.

3.5 Quality Assurance and Quality Control

A travel blank and a duplicate water sample were collected as part of the QA/QC program. A QC review was also completed on the ALS analytical results. Key findings of the QA/ QC program are summarized below.

No QA/QC samples were collected for soil. Soil is inherently heterogeneous, which limits comparison between samples (original and duplicate) due to a potential high degree of variability in analytical results. While onsite the field crew collected soil samples selectively. They sampled soils showing the highest evidence of contamination based on visual and olfactive observations, which often represented a limited amount of soil (e.g. a small stain). Therefore, contaminant concentrations to be measured, if any, were optimal in the collected sample and should not be compared with a diluted sample. Furthermore, it was determined that the potential impact of travel (e.g., air) on the samples was low. It was reasoned that if air travel would impact soil samples, this would be measurable in the travel blank.

3.5.1 Parameter List

The following parameters were analyzed:

- BTEX;
- PHC F1; and
- PHC F2.

3.5.2 Duplicate Samples

A duplicate water sample was collected from the Unnamed River on August 20, 2012. Results are presented in Table 6. This duplicate water sample was collected to assess any variability during sample collection, handling, and analysis. Variability in duplicate samples was assessed based on the following criteria:

- A relative percent difference (RPD) less than or equal to 20% between samples; and
- A concentration less than or equal to five times the method detection limit (MDL) used by the lab.

This threshold takes into account the potential for analytical uncertainty when concentrations approach MDLs (Weiner 2000). These criteria are consistent with those used by ALS for their internal QC procedures. Variability between duplicate samples was rated as follows:

- Low, if less than 10% of the parameters included in the duplicate analysis were notably different from one another;
- Moderate, if 10 to 30% of the parameters included in the duplicate analysis were notably different from one another; and
- High, if more than 30% of the parameters included in the duplicate sample analysis were notably different from one another.

These standards are based on the Practical Quantitation Limit defined by the United States Environmental Protection Agency (1985), which takes into account the potential for analytical uncertainty when concentrations approach MDLs. These criteria are consistent with those used by ALS for their internal QC procedures (ALS pers. comm. 2007). Overall, the sample variability for water duplicates was low for this monitoring program. Concentrations from each sample were below laboratory detection limits. Hence, RPDs were estimated at 0% and no concentrations greater than five times the analyte detection limit were found.

3.5.3 Holding Times

Holding times between sample collection and analysis for each parameter are specified by ALS. Samples were collected and sent to the lab with sufficient time for testing within the holding time limits. In order to ensure reliable data, exceeding holding times should be avoided. No hold time exceedances were observed for this sampling program.

3.5.4 Travel Blank

Results for all parameters for the travel blank show a concentration lower than five times the MDL; therefore, the results from the travel blank were considered valid (Table 6),

3.5.5 Data Qualifiers

The following data qualifiers reported by ALS for submitted samples were reviewed to determine if there were any laboratory issues that may have impacted data quality:

- The percent recovery of molybdenum in a QC soil sample was 131.1%, which was outside of the acceptable percent range of 70 to 130 % by 1%. This result indicates that molybdenum concentrations for this sample may be biased high.
- Samples from MW09-03 PW were received with headspace, which may bias the results low. Concentrations of hydrocarbons in this sample were all below the detection limit, which is consistent with concentrations from nearby wells. These concentrations are also consistent with low or below the detection limit concentrations measurement in Year 1 and the baseline study for MW09-03. Results should be confirmed in the following round of sampling.

No relevant impact in data quality was identified as a result of these data qualifiers.

3.5.6 Units

All reported units were correct and no issues were identified during the review of electronic against the hard copy report provided by ALS.

4.0 CONCLUSIONS AND SUMMARY

4.1 Visual Inspection

Overall, the site appeared to be in good condition. Minor settling and erosion channels were observed in the landfills. Small erosion channels were also observed on the Soil Disposal Areas. The magnitude of settlement and erosion did not appear to compromise the stability of the landfills or Soil Disposal Areas, but may in the future if the settlement or erosion continues. Permafrost was consistent on and off landfills and Soil Disposal Areas.

Areas of increased or new settlement in 2012 were identified on the southeast portion of Landfill A, in the Former Tank Farm Pad area, the north side of Landfill D, and near Disposal Area 2.

A hydrocarbon-like odour was observed around the Former Tank Farm Pad and west of the 2012 camp. No obvious stains were observed and because of windy conditions, the source of the PHC odour could not be located. The direction of the wind suggested that the odour could be coming from the Former Tank Farm Pad area.

4.2 Survey

The slope profiles were measured in 2010 and again 2012. The profiles were generally comparable between the years, with slight variations that could be related to seasonal fluctuations. Future monitoring of the profiles will help establish if there are trends in the data.

4.3 Active Zone Measurement

It was found that soil was compacted in some areas of the Apron Area and at other locations on the site. The permafrost probe would be refused at less than 0.10 m depth in these compacted areas. Non-compacted areas across the site typically ranged from 0.30 m to 0.80 m, with areas near water typically measuring at or greater than 1.00 m.

4.4 Groundwater Results

Groundwater was available from five of seven wells: MW09-03, MW09-04, MW09-05, MW09-06, and MW09-07; as MW09-01 and MW09-02 were identified as frozen. Due to time constraints, purge water was collected as opposed to recharge water. With the exception of MW09-07, analytes from all wells were found below the detection limit. Toluene and benzene concentrations were measured in groundwater collected from MW09-07 in exceedance of guidelines. When compared against previous investigations, it was found that toluene and ethylbenze concentrations in MW09-07 have increased by up to 5 times between baseline (2009) and Year 3 (2012) results. Because this well is located adjacent the Prince of Wales Strait, contaminant migration is a concern.

4.5 Surface Water Results

Surface water was collected from the Unnamed River and from a pond at the eastern toe of Landfill B, where soil staining was observed. In both cases, samples returned results below detection limit and below applicable guidelines. Comparison against past conditions was not possible because these areas were not discussed in previous reports.

4.6 Soil Results

From the seven collected soil samples, exceedance of guidelines for one soil analyte was noted. TPH concentrations exceeding the Johnson Point SSTL were found in two samples collected from a stained area to the north of Landfill A. The samples were collected from the same location, at depths of 0 to 0.10 m and 0.10 to 0.20 m, where the sample at depth appeared to be below the stain. PHC odour was observed at the sampling location, but the source of the odour may have been the Former Tank Farm Pad. Windy conditions made it difficult to pinpoint to source of the PHC odour. In Year 1 of site monitoring, elevated concentrations of TPH were found in Landfill A at a depth of 0.10 m, but these were below the SSTL. During baseline data collection in 2009, exceedance of SSTL for TPH was observed in Landfill A at a depth of 0.10 m. No other exceedances were observed during baseline data collection.

PHC F2 concentration in soil collected from the ground surface at Landfill A was found to be above AMSRP Protection of Freshwater Aquatic Life criteria, but the guideline is not relevant for this specific sampling location as it is over 30 m from a water body. This was also the case in previous investigations.

Although no set criteria are established within the designated soil guidelines for PHC F3 and F4 concentrations, results from soil samples north of Landfill A show an increasing trend between 2009 and 2012. This increase could result from contaminant migration from the Former Tank Farm Pad located just up-gradient of Landfill A.

4.7 Thermal Results

Similar temperatures recorded at comparable depths for thermistors T09-01 and T09-02 and active zone layer appearing to stabilize with time (when comparing data from 2009 and 2011) tend to indicate that freeze-back conditions are potentially re-establishing in the Apron Area. However, only temperature monitoring for a longer period of time will allow assessment of the permafrost conditions to their natural depth in the Apron Area.

5.0 RECOMMENDATIONS

Based on the results of the 2012 Monitoring Program at Johnson Point, the following recommendations are made:

- Continue multi-year sampling programs to ensure the integrity of Landfills A, B, C and D, and the Apron Area. The next visit is scheduled to occur in 2014 and, as previously recommended, the visit should coincide with the time of maximum ground thaw. Thermistor data indicates that this is the middle of August for the site. The next site visit should occur prior to January 4, 2015, after which time the thermistors will no longer have sufficient memory to store temperature data. In planning the monitoring programs, consideration should also be made as to the time that groundwater is most likely present in the monitoring wells.
- Monitoring of hydrocarbon concentrations in MW09-07 is recommended to determine if there is an increasing trend in concentrations over time. Additional soil sampling or well installation should be conducted in the area around MW09-07 to determine how contaminants are migrating through soil and/or water in this area.
- Monitor areas of settlement, particularly on the southeast portion of Landfill A, in the Former Tank Farm Pad area, the north side of Landfill D, and near Disposal Area 2. These areas were identified as having some erosion or settlement in the 2010 report, but settlement had increased based on comparison of photographs and comments from Mr. Arey.
- Soil samples should be collected in the vicinity of the stained areas north of Landfill A. A broader set of data should confirm the increasing trend for PHC F3 and F4 concentrations. Possible remediation options should be considered for areas that are impacted by hydrocarbons.
- Cap of MW09-04 should be replaced with a J-plug to ensure that the well is properly covered.
- In order to maximize time on-site while respecting industry limitations on daily work hours, considerations should be made regarding travel. Mobilization from and to Sach's Harbour may be prudent.

6.0 REFERENCES

Aboriginal Affairs and Northern Development Canada – Contaminants and Remediation Directorate (AANDC-CARD). 2012. Johnson Point and Horton River Priority List 2012. August 16, 2012.

ALS Laboratory Group, Environmental Division. 2007. Personal Communication with Can Dang at ALS Vancouver, December 6, 2007.

AECOM Canada Ltd. (AECOM). 2011. Johnson Point Post-Construction Monitoring Program 2010 Report. Prepared for Public Works and Government Services Canada. March, 2011.

AECOM. 2010. Johnson Point Post-Construction Monitoring Plan. Prepared for Public Works and Government Services Canada. June 9, 2010

Assessment, Inventory and Monitoring (AIM), Aboriginal Affairs and Northern Development Canada (AANDC) – Contaminants and Remediation Directorate (CARD). 2012. Terms of Reference to 2012 Monitoring Program of Johnson Point (NM079) and BAR-E Horton River DEW Line Site (NM041). Northwest Territories. June 2012.

Canadian Council of Ministers of the Environment (CCME). 1999. Canadian Environmental Water Quality Guidelines for the Protection of Aquatic Life – Freshwater and Marine – Summary Table with updates to 2012. http://st-ts.ccme.ca/; Accessed September 2012.

Golder Associates Ltd. 2012 (Golder). 2012 Monitoring Program for Johnson Point and BAR-E Horton River: Site Monitoring Plan. Prepared for AANDC-CARD. July 27, 2012.

Indian and Northern Affairs Canada (INAC). 2009. Abandoned Military Site Remediation Protocol: Volume 1 – Main Report. March 2009.

Jacques Whitford Ltd. (Jacques Whitford). 2007. Human Health and Ecological Risk Assessment for Johnson Point Staging Facility, Johnson Point, Northwest Territories. Final Report. Prepared for Indian and Northern Affairs Canada. Report No. 1015321. January 26, 2007.

United States Environmental Protection Agency. 1985. National Primary Drinking Water Regulations; Volatile Synthetic Organic Chemicals; Proposed Rule. November 13, 1985. Volume 50. Number 219. Federal Register: 50.

Weiner, E.R. 2000. Applications of environmental chemistry: a practical guide for environmental professionals. Lewis Publishers, Boca Raton, FL. 288 pp.

CLOSURE

This report should be read in conjunction with the ***"Study Limitations"*** of this report which is appended at the beginning of this report. The reader's attention is specifically drawn to this information, as it is essential that it be followed for the proper use and interpretation of this report.

We trust that this report meets the requirements of AANDC-CARD. Should any additional information be required, please do not hesitate to contact the undersigned.

Sincerely,

GOLDER ASSOCIATES LTD.

REGISTERED PROFESSIONAL ENGINEER
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TABLES

Table 1: 2012 Measured Permafrost Depths at Johnson Point

Test Location	Depth to Permafrost or refusal (metres)
Landfill A - on landfill cap	0.1
Landfill A - on landfill cap	0.2
Landfill A - on landfill cap	0.2
Landfill A - on landfill cap	0.3
Landfill A - around toe	0.05
Landfill A - around toe	0.05
Landfill A - around toe	0.05
Landfill A - around toe	0.05
Landfill A - around toe	0.1
Landfill A - around toe	0.2
Landfill A - around toe	0.4
Landfill A - around toe	0.5
Landfill A - around toe	0.6
Landfill B - around toe	0.3
Landfill B - around toe	0.4
Landfill B - around toe	0.7
Landfill B - around toe - near water	0.95
Landfill B - around toe - near water	1
Landfill B - around toe	1
Landfill C - around toe	0.2
Landfill C - around toe	0.4
Landfill C - around toe	0.5
Landfill C - around toe	0.5
Landfill C - around toe	0.5
Landfill D - on landfill cap	0.05
Landfill D - on landfill cap	0.05
Landfill D - on landfill cap	0.1

Test Location	Depth to Permafrost or refusal (metres)
Landfill D - around toe	0.3
Landfill D - around toe	0.4
Landfill D - around toe	0.4
Landfill D - around toe	0.5
Landfill D - around toe	0.7
Soil Disposal Piles (on)	0.3
Soil Disposal Piles (on)	0.4
Soil Disposal Piles (on)	0.5
Soil Dispolsa Piles (off)	0.3
Soil Dispolsa Piles (off)	0.4
Soil Dispolsa Piles (off)	0.4
Apron Area (on compacted area)	0.1
Apron Area (on compacted area)	0.1
Apron Area (on compacted area)	0.1
Apron Area (on compacted area)	0.1
Apron Area (on compacted area)	0.3
Apron Area (on compacted area)	0.4
Apron Area (off compacted area)	0.75
Apron Area (off compacted area)	0.8
Apron Area (off) - near water	1
Apron Area (off) - near water	1.1
Apron Area (off) - near water	1.2
Apron Area (off) - near water	>1.2

Table 2: Summary of 2012 Groundwater and Surface Water Sampling at Johnson Point

Sampling Location	Depth to water (mbgl)	Depth to bottom or permafrost (mbgl)	Field temperature (deg. Celsius)	Field pH	Sample ID	Type of Water	Notes	Coordinates[1]
MW09-01	-	1.2	-	-	-	-	Frozen: ice observed at end of probe.	451040E / 8075565N
MW09-02	-	1.2	-	-	-	-	Frozen: ice observed at end of probe	451149E / 8075586N
MW09-03	0.46	1.53	4.5	7.07	MW09-03 PW	Groundwater	Collected purged water	451142E / 8075618N
MW09-04	0.79	1.76	0.9	7.08	MW09-04 PW	Groundwater	Collected purged water	451169E / 8075604N
MW09-05	1.00	1.14	2.8	7.61	MW09-05 PW	Groundwater	Collected purged water	451192E / 8075535N
MW09-06	0.93	1.01	3.2	7.54	MW09-06 PW	Groundwater	Collected purged water	451116E / 8075479N
MW09-07	1.03	1.39	3.3	7.07	MW09-07 PW	Groundwater	Collected purged water	451085E / 8075453N
Unnamed River	-	-	6.4	8.25	UNNAMED RIVER	Surface water	Collected from shore	450995E / 8075906N
Landfill B	-	-	6.5	8.57	LANDFILLB-A	Pond water	Collected from pond located on eastern toe of Landfill B	450465E / 8075908N
QA/QC								
Duplicate	-	-	-	-	DUP-1	Surface water	Collected from shore of Unnamed River	450995E / 8075906N
Travel Blank	-	-	-	-	TB	Undetermined	-	-

Notes:
mbgl: meters below ground level
[1] Datum: NAD 83, Universal Transverse Mercator 11X

Table 3: Summary of 2012 Water Sample Analytical Data at Johnson Point

Sampling Location	Golder Sample ID	ALS Sample ID	Benzene	Toluene	Ethyl-benzene	o-Xylene	m & p-Xylene	Xylenes	F1 less BTEX	F2 (>C10-C16)
	Detection Limit (mg/L)		**0.00050**	**0.00050**	**0.00050**	**0.00050**	**0.00050**	**0.00071**	**0.10**	**0.25**
	CCME Protection of Freshwater Aquatic Life (mg/L)		**0.37**	**0.002**	**0.09**	**NG**	**NG**	**NG**	**NG**	**NG**
	CCME Protection of Marine Life (mg/L)		**0.11**	**0.215**	**0.025**	**NG**	**NG**	**NG**	**NG**	**NG**
MW09-01	NA	NA	No free water to sample. Frozen water in well 1.20 m below ground surface.							
MW09-02	NA	NA	No free water to sample. Frozen water in well 1.20 m below ground surface.							
MW09-03	MW09-03 PW	L1198412-1	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00071	<0.10	<0.25
MW09-04	MW09-04 PW	L1198412-2	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00071	<0.10	<0.25
MW09-05	MW09-05 PW	L1198412-3	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00071	<0.10	<0.25
MW09-06	MW09-06 PW	L1198412-4	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00071	<0.10	<0.25
MW09-07	MW09-07 PW	L1198412-5	0.0594	**1.81**	**0.329**	1.17	2.44	3.61	7.34	1.43
Unnamed River	DUP-1	L1198412-6	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00071	<0.10	<0.25
Unnamed River	UNNAMED RIVER	L1198412-7	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00071	<0.10	<0.25
Landfill B	LANDFILLB-A	L1198412-8	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00071	<0.10	<0.25
NA	TB	L1198412-9	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00071	<0.10	<0.25

Notes:
All concentrations in mg/L (milligrams per litre)
Values in **bold** and yellow highlights are in exceedance of guideline values
NG: no guideline
NA: not applicable
TB: travel blank

Table 4: Summary of 2012 Soil Sampling at Johnson Point

Sampling Location	Sample ID	Notes	Coordinates[1]
Landfill A	LFA-A-12-01	Surface sample at stained area (0-10 cm).	450727E / 8075851N
Landfill A	LFA-A-12-02	Same location as LFA-A-12-01 (10-20 cm).	450727E / 8075851N
Landfill A	LFA-A-12-03	Erosion channel located south of Landfill A, preferential flow.	450746E / 8075763N
Landfill B	LFA-B-12-01	Collected adjacent to the ponded water by Landfill B.	450468E / 8075905N
Landfill B	LFA-B-12-02	Collected in an erosion channel near the ponded water by Landfill B.	450468E / 8075893N
Landfill D	LFA-D-12-01	Composite sample collected from an erosion channel at the lowest toe of Landfill D.	449741E / 8075698N
Former Tankfarm	TANKFARM A[2]	Stained soils and water (sheen) located east of the Tankfarm Pad.	450799E / 8075928N

Notes:
[1] Datum: NAD 83, Universal Transverse Mercator 11X
[2] Coordinates reported in the Progress Report are incorrect

Table 5: Summary of 2012 Soil Sample Analytical Data at Johnson Point (mg/kg)

Location	Golder Sample ID	ALS Sample ID	Depth (m)	Upgradient / Downgradient	Hydrocarbons											PCBs	Metals							
					F1 (C6-C10)	F2 (C10-C16)	F3 (C16-C34)	F4 (C34-C50)	TPH[1] (C5-C30)	Benzene	Toluene	Ethyl-benzene	o-Xylene	m & p-Xylene	Xylenes	Total PCBs	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Cobalt (Co)	Copper (Cu)	Lead (Pb)	Nickel (Ni)	Zinc (Zn)
DEW Line Clean Up Criteria (DCC) Soil Tier II					**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**5**	**30**	**5**	**250**	**50**	**100**	**500**	**100**	**500**
DEW Line Clean Up Criteria (DCC) Soil Tier I					**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**1**	**NG**	**NG**	**NG**	**NG**	**NG**	**200**	**NG**	**NG**
INAC Abandoned Military Site Remediation Protocol (AMSRP; Protection of Freshwater Aquatic Life)					**1290**	**330** [2]	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**
Johnson Point Site Specific Target Level for risk to ecological receptors (for use where Protection of Freshwater Aquatic Life does not apply)					**NG**	**NG**	**NG**	**NG**	**4570**	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**	**NG**
Former Tankfarm Pad	TANK FARM A	L1198412-10	Surface	Downgradient	<10	22	<20	<20	NA	<0.0050	<0.050	<0.015	<0.050	<0.050	<0.10	<0.050	2.50	<0.50	5.85	3.4	6.4	<5.0	9.7	16
Landfill A	LFA-A-12-01	L1198412-11	Surface (0 to 0.10 m)	Downgradient	<10	471 [2]	34800	2580	**30116**	<0.0050	<0.050	<0.015	<0.050	<0.050	<0.10	<0.050	3.91	<0.50	9.28	4.1	9.3	13.4	13.5	144
	LFA-A-12-02	L1198412-12	0.10 to 0.20 m	Downgradient	181	59	25700	1250	**22546**	<0.0050	<0.050	<0.015	<0.050	<0.050	<0.10	<0.050	3.97	<0.50	7.68	4.1	9.1	<5.0	10.4	65
	LFA-A-12-03	L1198412-13	Surface	Downgradient	<10	<20	<20	<20	NA	<0.0050	<0.050	<0.015	<0.050	<0.050	<0.10	<0.050	2.51	<0.50	9.22	4.0	6.3	<5.0	9.7	17
Landfill B	LFA-B-12-01	L1198412-14	Surface	Downgradient	<10	<20	25	<20	NA	<0.0050	<0.050	<0.015	<0.050	<0.050	<0.10	<0.050	2.43	<0.50	7.86	3.2	6.6	<5.0	8.0	16
	LFA-B-12-02	L1198412-15	Surface	Downgradient	<10	<20	<20	<20	NA	<0.0050	<0.050	<0.015	<0.050	<0.050	<0.10	<0.050	2.31	<0.50	8.24	3.7	6.6	<5.0	9.0	17
Landfill D	LFA-D-12-01	L1198412-16	Composite (0.02 to 0.15 m)	Downgradient	<10	<20	<20	<20	NA	<0.0050	<0.050	<0.015	<0.050	<0.050	<0.10	<0.050	2.32	<0.50	8.45	3.6	7.4	<5.0	13.4	16

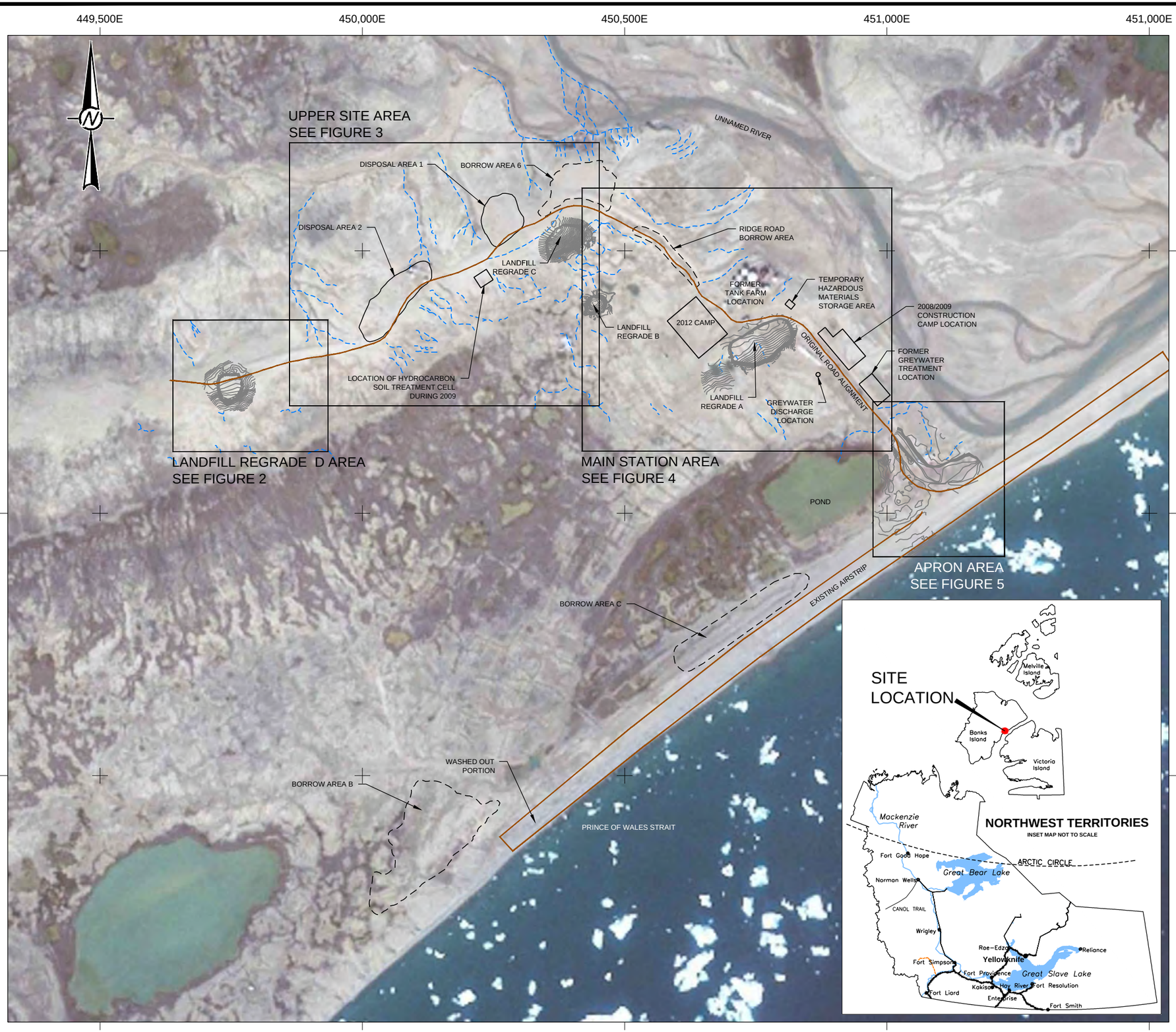
Notes:
All concentrations in mg/kg (milligrams per kilograms)
NG: no guideline
NA: not analyzed
[1] TPH: total petroleum hydrocarbons
[2] INAC AMSRP guideline does not apply because the soil sample was not collected within 30 metres of a water body.
Values in **bold** and yellow highlights are in exceedance of guideline values

Table 6: Johnson Point Water Quality Duplicates Results and RPDs

Sampling Location	Sample ID	ALS Sample ID	Benzene	Toluene	Ethyl-benzene	o-Xylene	m & p-Xylene	Xylenes	PHC F1 less BTEX	PHC F2 (>C10-C16)
		Detection Limit (mg/L)	**0.00050**	**0.00050**	**0.00050**	**0.00050**	**0.00050**	**0.00071**	**0.10**	**0.25**
		CCME Protection of Freshwater Aquatic Life (mg/L)	**0.37**	**0.002**	**0.09**	**NG**	**NG**	**NG**	**NG**	**NG**
		CCME Protection of Marine Life (mg/L)	**0.11**	**0.215**	**0.025**	**NG**	**NG**	**NG**	**NG**	**NG**
Unnamed River	DUP-1	L1198412-6	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00071	<0.10	<0.25
Unnamed River	UNNAMED RIVER	L1198412-7	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00071	<0.10	<0.25
RPD			0%	0%	0%	0%	0%	0%	0%	0%
NA	TB	L1198412-9	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00071	<0.10	<0.25

Notes:
All concentrations in mg/L (milligrams per litre)
TB: travel blank
RPD: Relative Percentage Difference
PHC F1: Petroleum hydrocarbon Fraction 1

FIGURES



LEGEND

- EXISTING DRAINAGE CHANNEL
- ROAD
- BORROW AREA
- DISPOSAL AREA

NOTES

1. FOR DETAIL OF LANDFILL REGRADE D AREA SEE FIGURE 2.
2. FOR DETAIL OF UPPER SITE AREA SEE FIGURE 3.
3. FOR DETAIL OF MAIN STATION AREA SEE FIGURE 4.
4. FOR DETAIL OF APRON AREA SEE FIGURE 5.
5. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.

REFERENCE

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PROJECT
JOHNSON POINT 2012 MONITORING PROGRAM

TITLE
JOHNSON POINT REMEDIATION PROJECT OVERALL SITE PLAN

Golder Associates

PROJECT No.	12.1328.0036.4000		FILE No.	12132800364000A001	
DESIGN	SM	25/10/2012	SCALE	AS SHOWN	
CADD	JJB	04/12/2012			
CHECK	SM	21/02/2013			
REVIEW	DC	21/02/2013			

FIGURE 1

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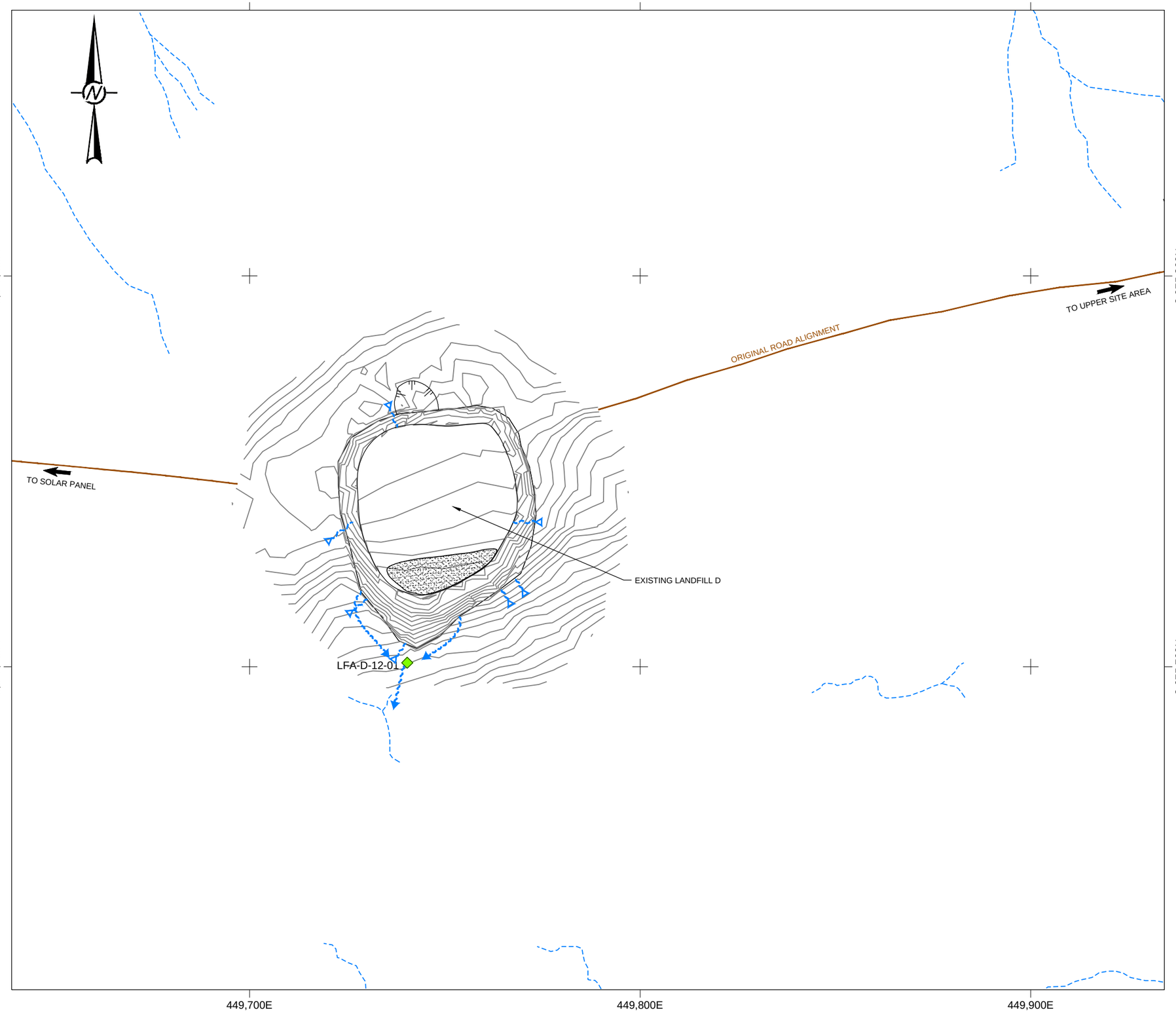

LEGEND

- 2012 SOIL/WATER SAMPLE
- AREA OF SETTLEMENT
- EROSION CHANNEL
- EROSION CHANNEL AND DEPOSIT FAN
- EXISTING CONTOUR
- EXISTING DRAINAGE CHANNEL
- ROAD
- AREA OF MOIST GROUND

NOTES

1. FOR OVERALL SITE PLAN SEE FIGURE 1.
2. ALL DIMENSIONS IN METRES UNLESS OTHERWISE NOTED.

REFERENCE

CREATED FROM AECOM FIGURE NO.: 003 PROJECT NO.: 2977-371-00
DATE: DECEMBER 2010 ORIGINAL SCALE: 1:400
DATUM: NAD83 PROJECTION: UTM ZONE 11

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SCALE

PROJECT

JOHNSON POINT 2012 MONITORING PROGRAM

TITLE

JOHNSON POINT REMEDIATION PROJECT LANDFILL REGRADE D AREA

Golder Associates

PROJECT No.	12.1328.0036.4000		FILE No.	12132800364000A002
DESIGN	SM	25/10/2012	SCALE	AS SHOWN
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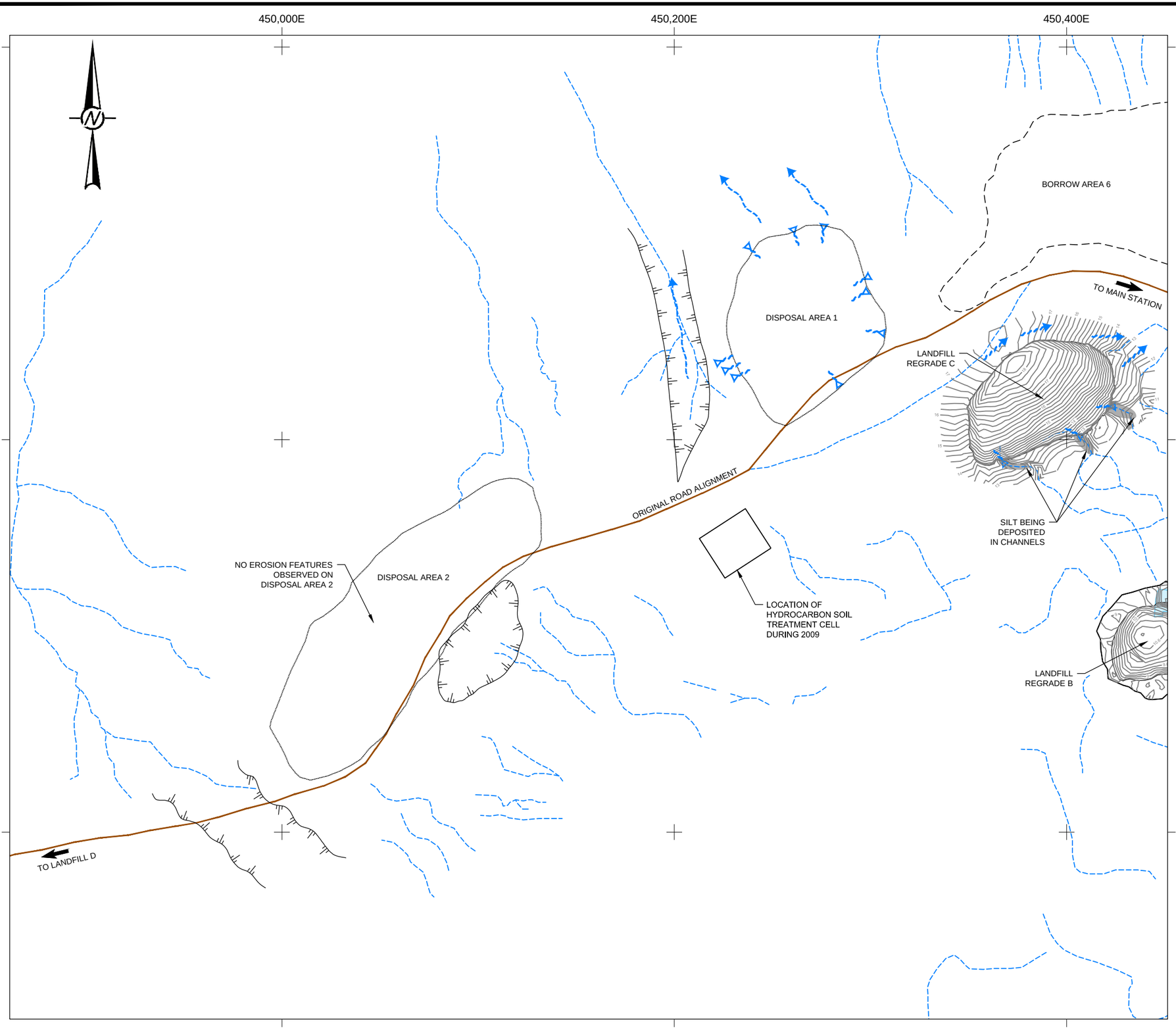
CHECK	SM	21/02/2013		FIGURE 2
REVIEW	DC	21/02/2013		



LEGEND

- AREA OF SETTLEMENT
- EROSION CHANNEL AND DEPOSIT FAN
- EROSION CHANNEL
- EXISTING CONTOUR
- EXISTING DRAINAGE CHANNEL
- ROAD
- BORROW AREA
- DISPOSAL AREA
- OPEN WATER
- SILT DEPOSITION

NOTES

1. FOR OVERALL SITE PLAN SEE FIGURE 1.
2. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.

REFERENCE

CREATED FROM AECOM FIGURE NO.: 004 PROJECT NO.: 2977-371-00
DATE: DECEMBER 2010 ORIGINAL SCALE: 1:750
DATUM: NAD83 PROJECTION: UTM ZONE 11

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SCALE

PROJECT
JOHNSON POINT 2012 MONITORING PROGRAM

TITLE
JOHNSON POINT REMEDIATION PROJECT UPPER SITE AREA

Golder Associates

PROJECT No.	12.1328.0036.4000		FILE No.	12132800364000A003
DESIGN	SM	25/10/2012	SCALE	AS SHOWN
CADD	JJB	04/12/2012		
CHECK	SM	21/02/2013		FIGURE 3
REVIEW	DC	21/02/2013		

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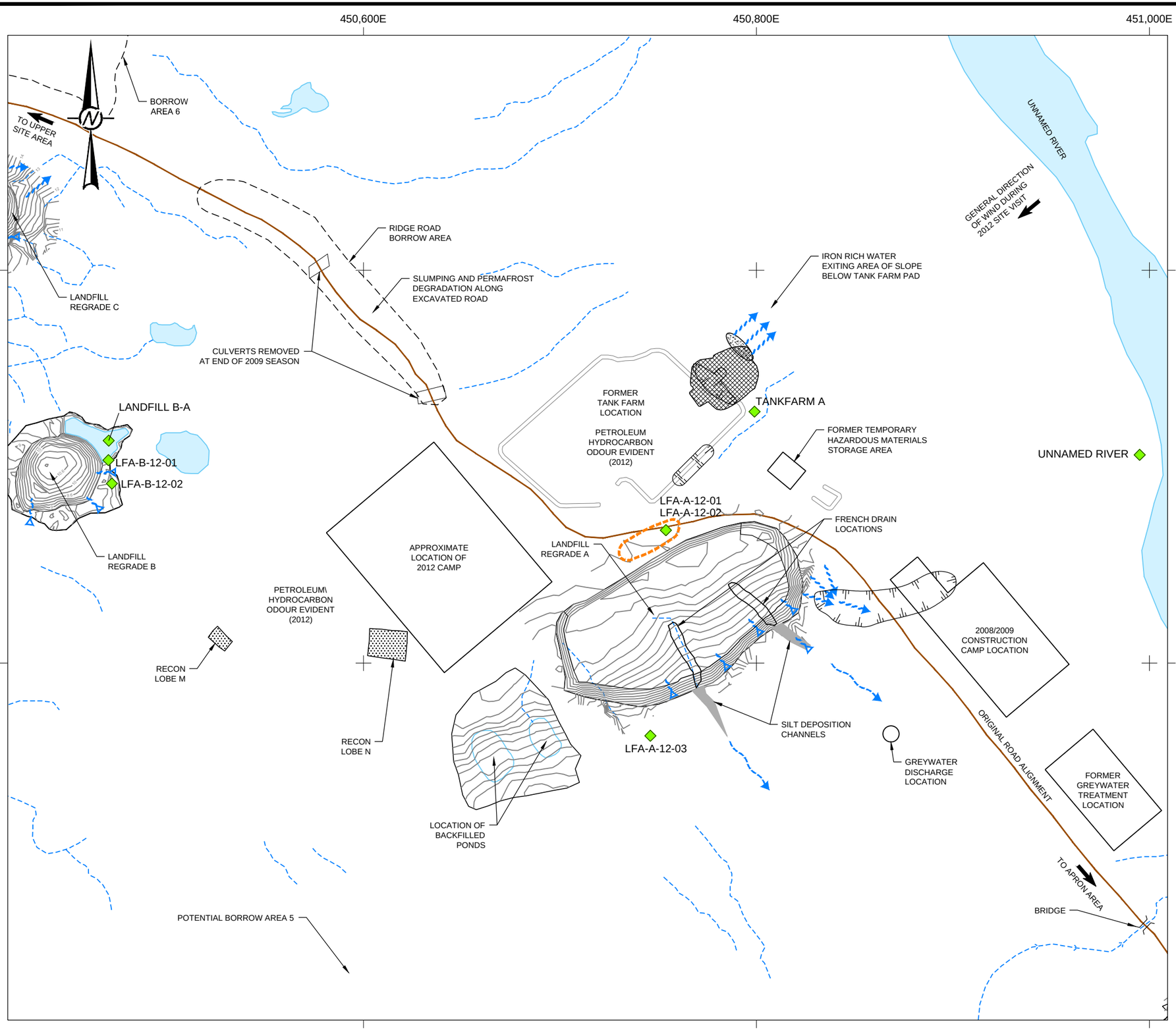

LEGEND

- 2012 SOIL/WATER SAMPLE
- BRIDGE
- AREA OF SETTLEMENT
- EROSION CHANNEL
- EROSION CHANNEL AND DEPOSIT FAN
- EXISTING CONTOUR
- EXISTING DRAINAGE CHANNEL
- ROAD
- AREA OF MOIST GROUND
- BORROW AREA
- BURIED DEBRIS EXCAVATION
- HYDROCARBON SOIL EXCAVATION
- OPEN WATER
- SILT DEPOSITION
- SURFACE STAINING

NOTES

1. FOR OVERALL SITE PLAN SEE FIGURE 1.
2. ALL DIMENSIONS IN METRES UNLESS OTHERWISE NOTED.

REFERENCE

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DATE: DECEMBER 2010 ORIGINAL SCALE: 1:750
DATUM: NAD83 PROJECTION: UTM ZONE 11

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PROJECT
JOHNSON POINT 2012 MONITORING PROGRAM

TITLE
JOHNSON POINT REMEDIATION PROJECT MAIN STATION AREA

Golder Associates

PROJECT No.	12.1328.0036.4000		FILE No.	12132800364000A004	
DESIGN	SM	25/10/2012	SCALE	AS SHOWN	
CADD	JJB	15/02/2013	**FIGURE 4**		
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REVIEW	DC	21/02/2013			

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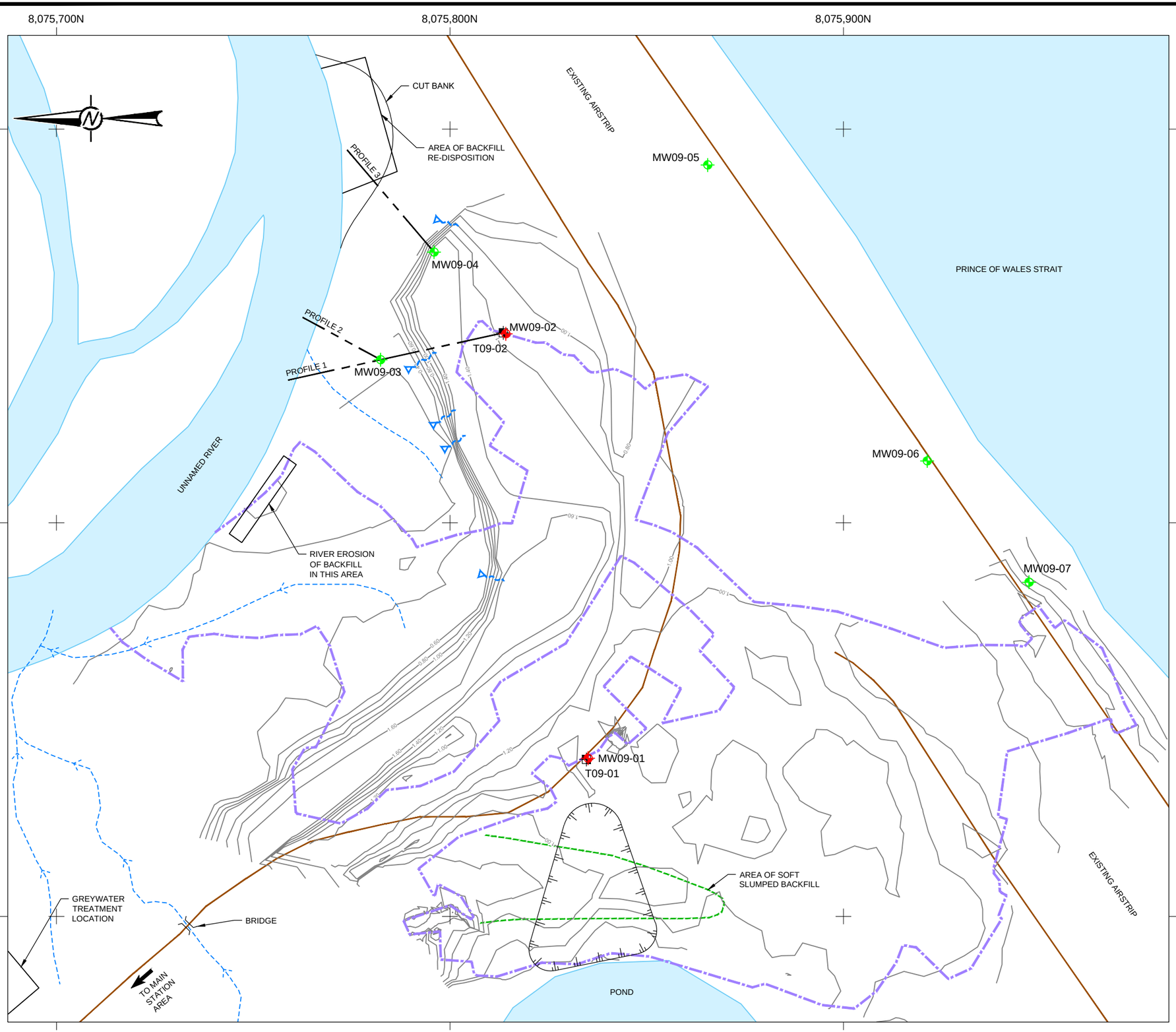

LEGEND

- MONITORING THERMISTOR
- MONITORING WELL (SAMPLED IN 2012)
- MONITORING WELL (NOT SAMPLED IN 2012)
- AREA OF SETTLEMENT
- EROSION CHANNEL AND DEPOSIT FAN
- EXISTING CONTOUR
- EXISTING DRAINAGE CHANNEL
- ROAD
- AREA OF SOFT SLUMPED BACKFILL
- BORROW AREA
- EXTENT OF HYDROCARBON CONTAMINATED SOIL EXCAVATION
- OPEN WATER

NOTES

1. FOR OVERALL SITE PLAN SEE FIGURE 1.
2. FOR PROFILE VIEW OF PROFILES 1, 2, AND 3 REFER TO FIGURE 6.
3. ALL DIMENSIONS IN METRES UNLESS OTHERWISE NOTED.

REFERENCE

CREATED FROM AECOM FIGURE NO.: 006 PROJECT NO.: 2977-371-00
DATE: DECEMBER 2010 ORIGINAL SCALE: 1:400
DATUM: NAD83 PROJECTION: UTM ZONE 11

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PROJECT
JOHNSON POINT 2012 MONITORING PROGRAM

TITLE
JOHNSON POINT REMEDIATION PROJECT APRON AREA

Golder Associates

PROJECT No.	12.1328.0036.4000		FILE No.	12132800364000A005	
DESIGN	SM	25/10/2012	SCALE	AS SHOWN	
CADD	JJB	15/02/2013	FIGURE 5		
CHECK	SM	21/02/2013			
REVIEW	DC	21/02/2013			

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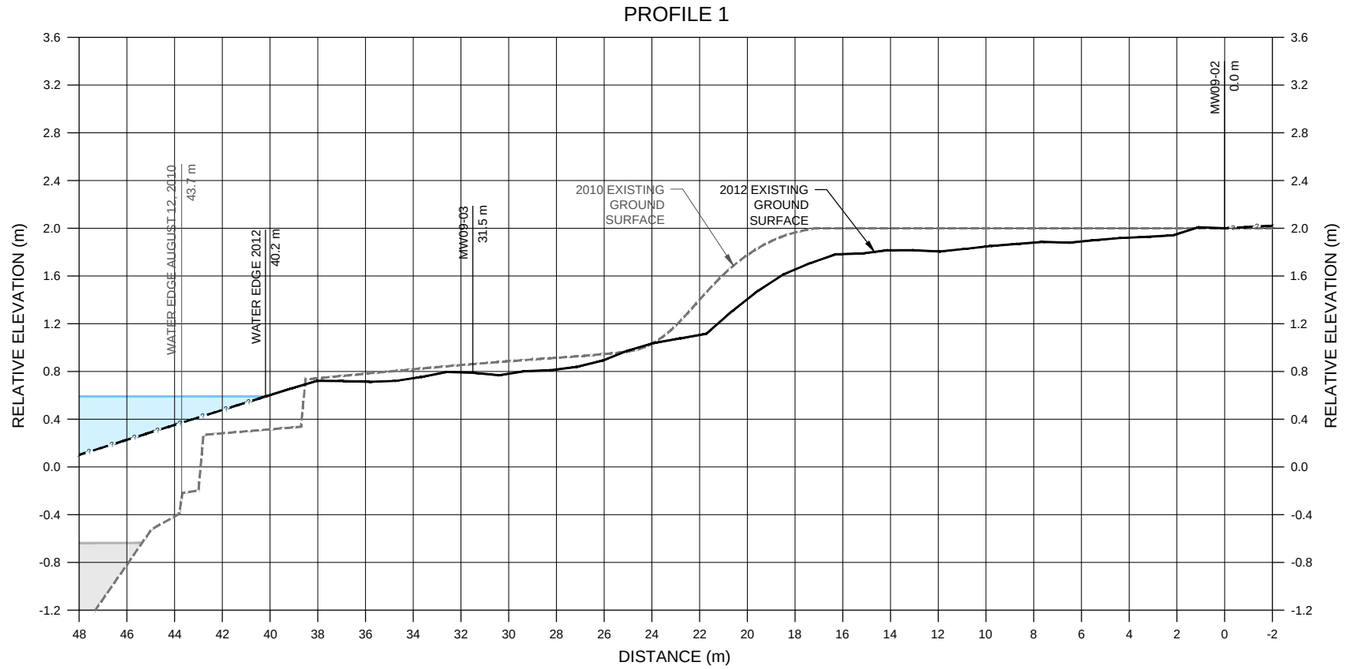
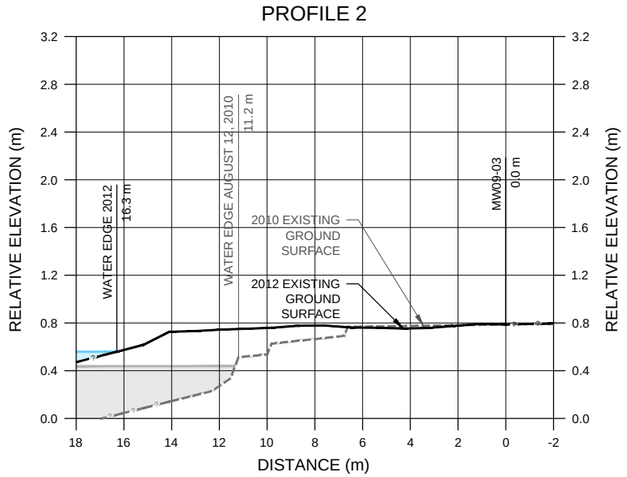
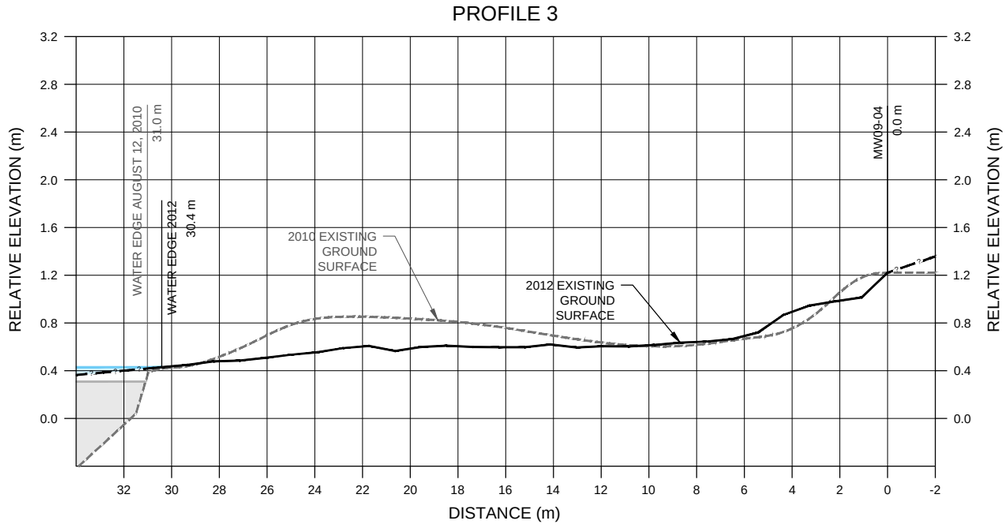




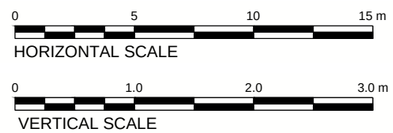


LEGEND

- 2012 EXISTING GROUND SURFACE
- 2012 EXISTING GROUND SURFACE (ESTIMATED)
- 2010 EXISTING GROUND SURFACE
- 2010 EXISTING GROUND SURFACE (ESTIMATED)
- 2012 OPEN WATER
- 2010 OPEN WATER

NOTES

1. FOR LOCATION OF PROFILES 1, 2, AND 3 REFER TO FIGURE 5.
2. 2012 CROSS-SECTION DATA FROM CORRECTED 2012 SURVEY NOTES.
3. 2010 CROSS-SECTION DATA DIGITIZED FROM PDF OF AECOM FIGURE No. 007 PROJECT No. 2977-371-00 DATE: DECEMBER 2010. PDF NOTED THAT VERTICAL DIMENSIONS ARE NOT TO SCALE
4. ALL DIMENSIONS IN METRES UNLESS OTHERWISE NOTED.
5. GROUND SURFACE DISTANCES APPROXIMATED BASED ON AVAILABLE DATA.



PROJECT

JOHNSON POINT 2012 MONITORING PROGRAM

TITLE

JOHNSON POINT REMEDIATION PROJECT APRON AREA PROFILES

Golder Associates

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DESIGN	SM	25/10/2012	SCALE	AS SHOWN
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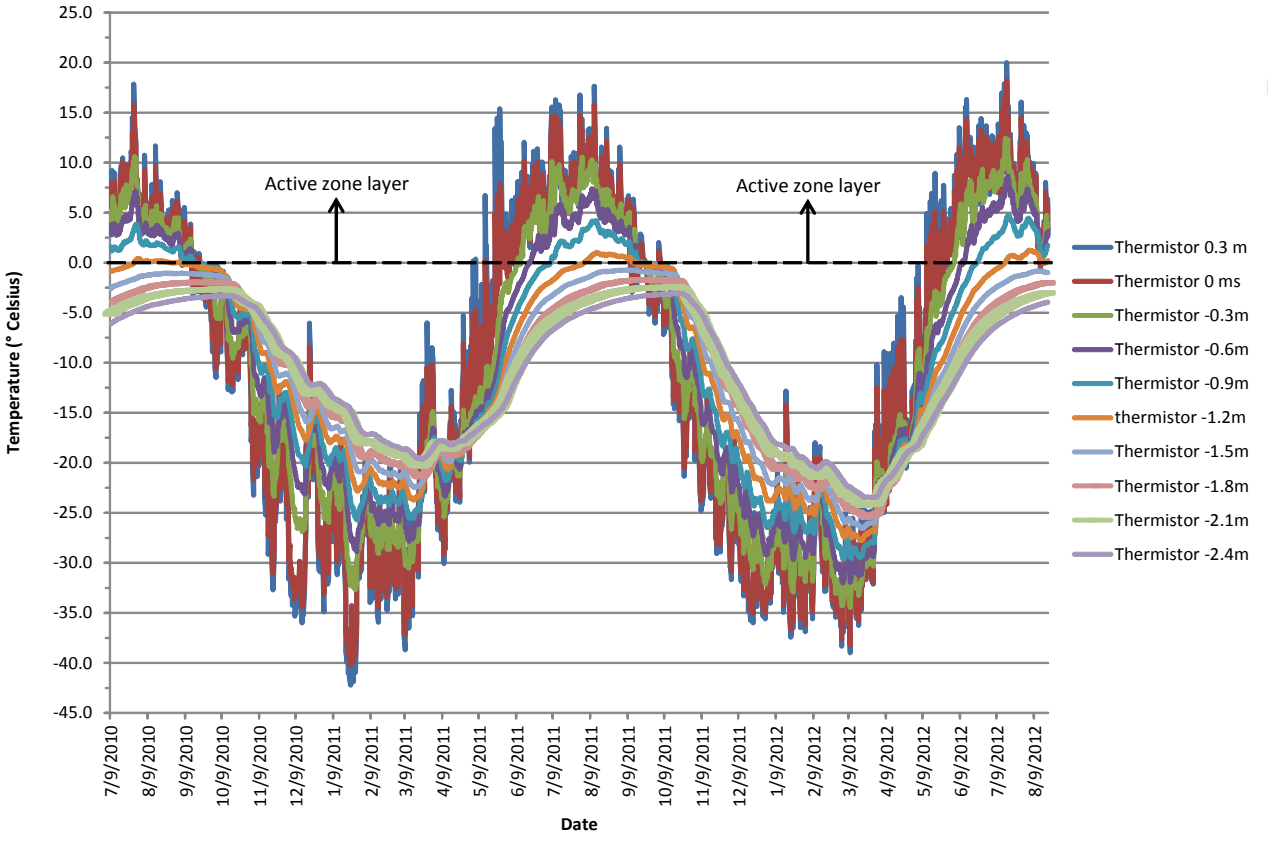
CHECK	SM	21/02/2013		
REVIEW	DC	21/02/2013		

FIGURE 6



NOTES

1. FOR LOCATION OF T09-01 REFER TO FIGURE 5.

PROJECT

JOHNSON POINT 2012 MONITORING PROGRAM

TITLE

DAILY THERMISTOR DATA FOR T09-01

Golder Associates

PROJECT No.	12.1328.0036.4000		FILE No.	12132800364000A007
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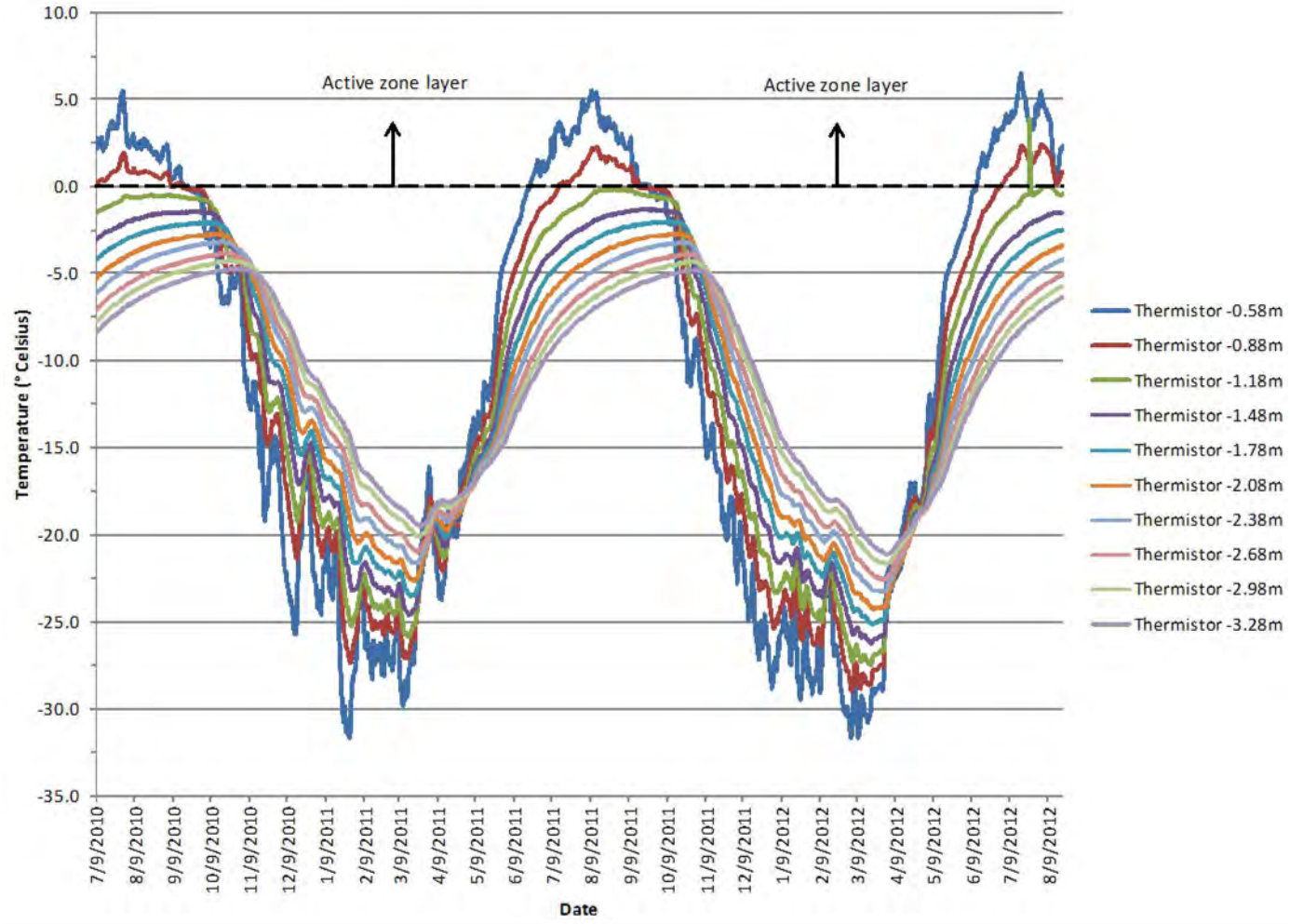
CHECK	SM	21/02/2013		
REVIEW	DC	21/02/2013		

FIGURE 7



NOTES

1. FOR LOCATION OF T09-02 REFER TO FIGURE 5.

PROJECT

JOHNSON POINT 2012 MONITORING PROGRAM

TITLE

DAILY THERMISTOR DATA FOR T09-02

Golder Associates

PROJECT No.	12.1328.0036.4000		FILE No.	12132800364000A008
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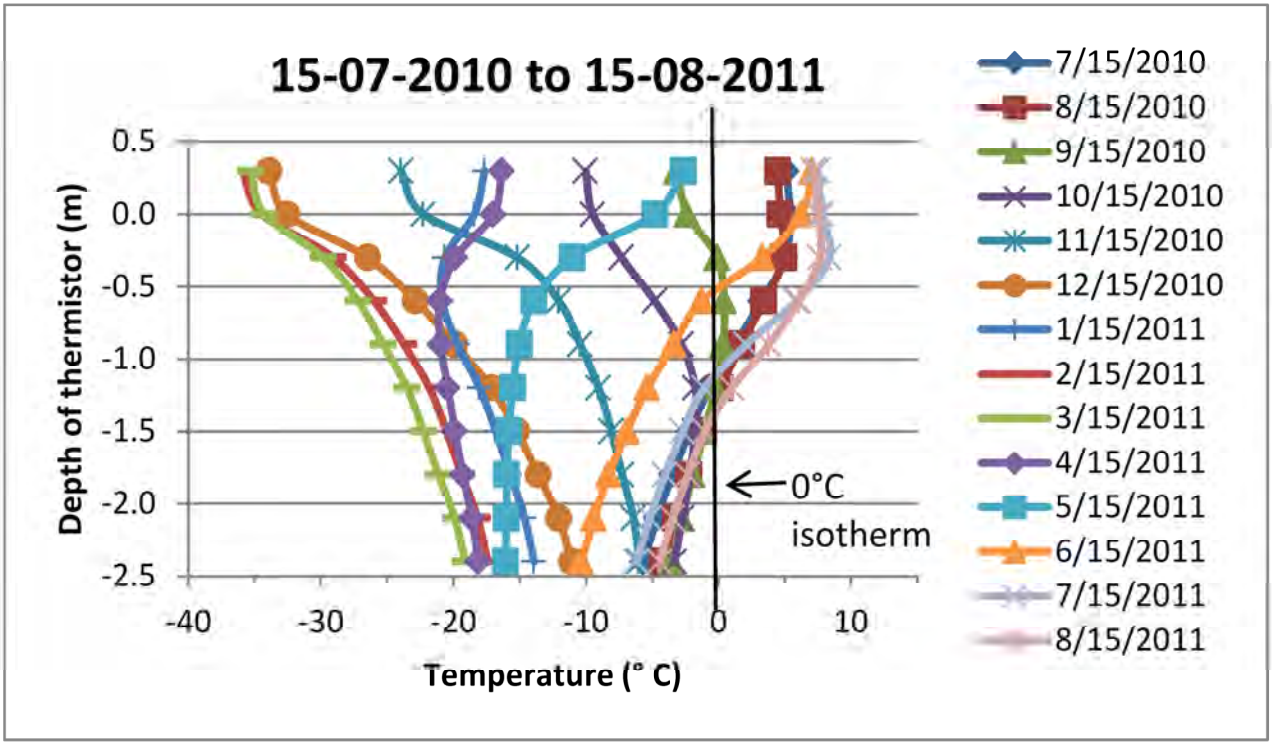
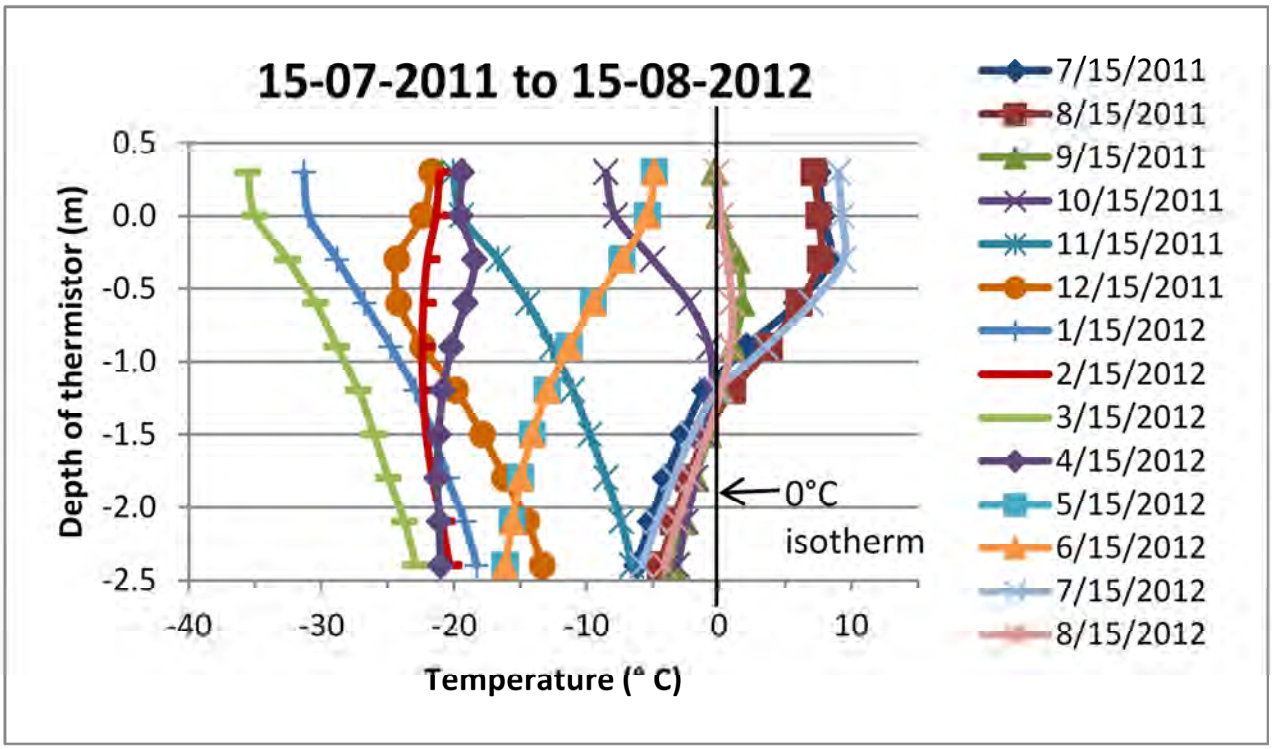
CHECK	SM	21/02/2013		
REVIEW	DC	21/02/2013		

FIGURE 8





NOTES

1. FOR LOCATION OF T09-01 REFER TO FIGURE 5.
2. GROUND ELEVATION IS CONSIDERED TO BE AT 0 METRE.

PROJECT

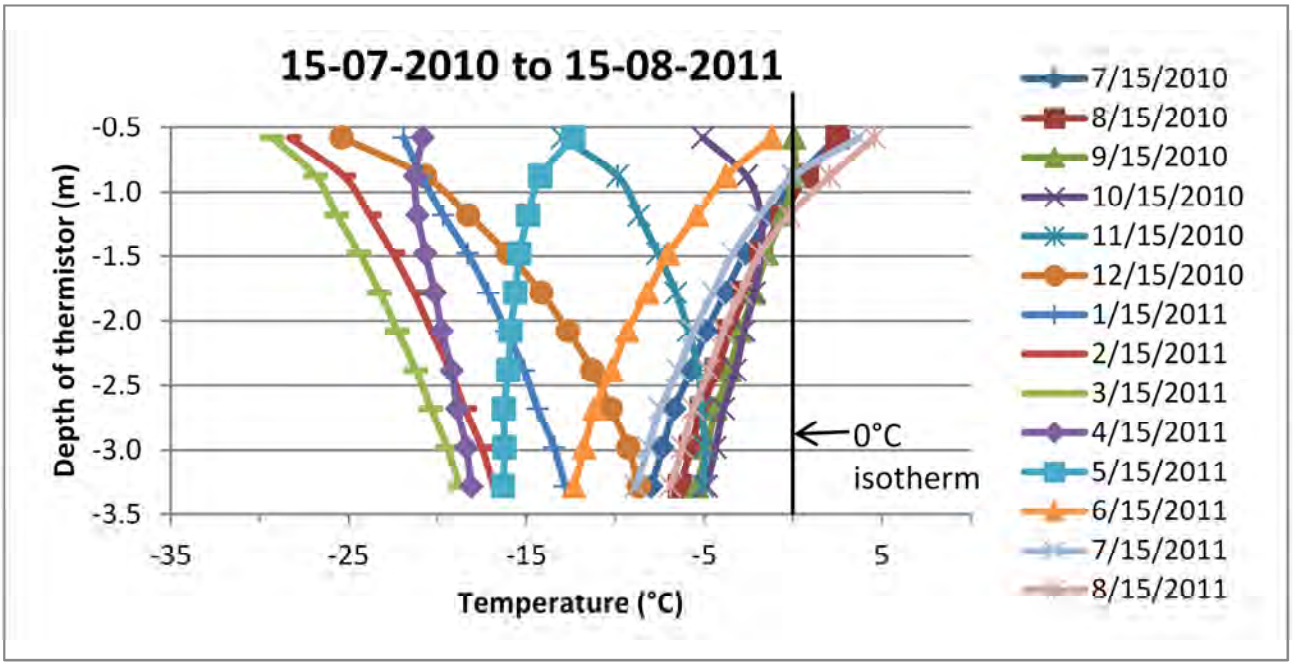
JOHNSON POINT 2012 MONITORING PROGRAM

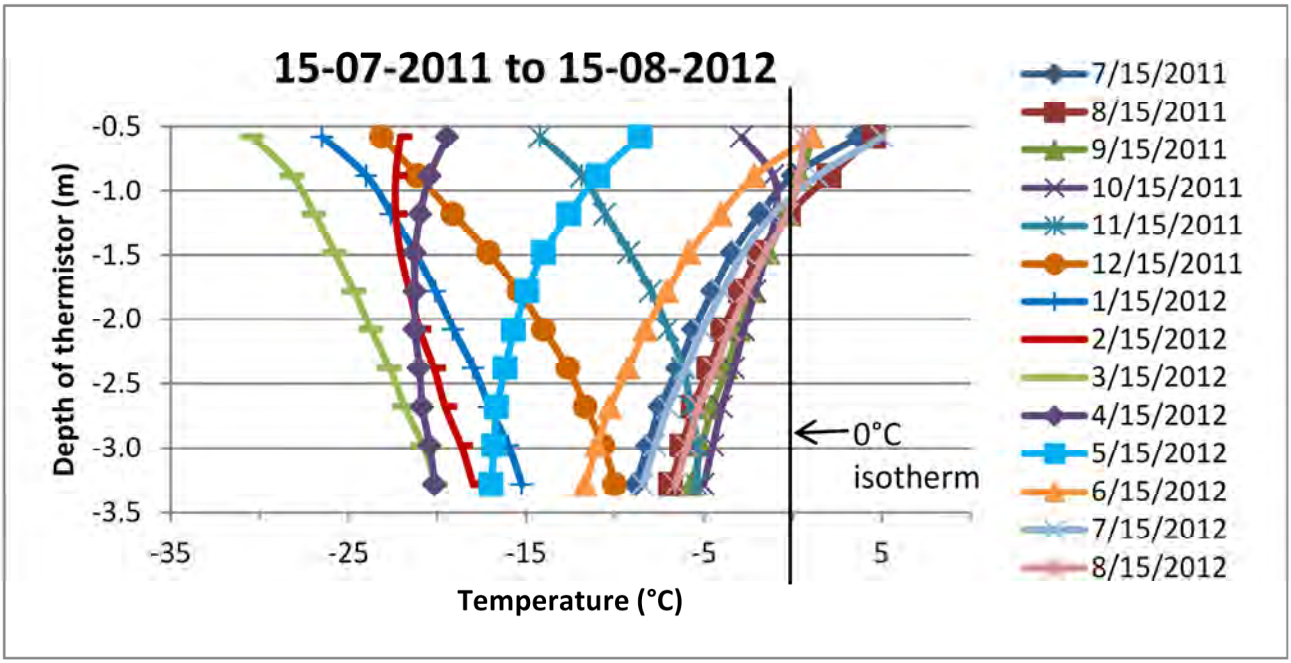
TITLE

TEMPERATURE VERSUS DEPTH FOR T09-01

Golder Associates

PROJECT No.	12.1328.0036.4000		FILE No.	12132800364000A009
DESIGN	SM	07/12/2012	SCALE	AS SHOWN
CADD	JJB	15/02/2013		
CHECK	SM	21/02/2013		**FIGURE 9**
REVIEW	DC	21/02/2013		





NOTES

1. FOR LOCATION OF T09-02 REFER TO FIGURE 5.
2. GROUND ELEVATION IS CONSIDERED TO BE AT 0 METRE.

PROJECT

JOHNSON POINT 2012 MONITORING PROGRAM

TITLE

TEMPERATURE VERSUS DEPTH FOR T09-02

Golder Associates

PROJECT No.	12.1328.0036.4000		FILE No.	12132800364000A010
DESIGN	SM	07/12/2012	SCALE	AS SHOWN
CADD	JJB	15/02/2013		
CHECK	SM	21/02/2013		**FIGURE 10**
REVIEW	DC	21/02/2013		

APPENDIX A

Site Monitoring Plan, Health and Safety Plan, and Site Investigation Progress Report

February 2013
Report No. 12-1328-0036

Golder Associates

July 27, 2012

SITE MONITORING PLAN

2012 Monitoring Program for Johnson Point and Bar-E Horton River: Site Monitoring Plan

Submitted to:
Contaminants and Remediation Directorate
Aboriginal Affairs and Northern Development Canada
3rd Floor - Waldron Building

ATTN: Stanley Yee

REPORT

Report Number: 12-1328-0036 and 12-1328-0043

Golder Associates

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TABLES

FIGURES

No table of figures entries found.

APPENDICES

1.0 INTRODUCTION

Golder Associates Ltd. (Golder), in conjunction with its Inuvialuit-owned partner IMG-Golder Corporation (IMG-Golder), has been contracted by the Contaminants and Remediation Directorate (CARD) of Aboriginal Affairs and Northern Development Canada (AANDC) to complete the 2012 Monitoring Program at Johnson Point and BAR-E Horton River Distant Early Warning (DEW) Line Site (hereafter referred to as the "Project"). The AANDC file number for the Project is A1632-11/00-05-6003-9.

The Project will include a site investigation of both locations. Golder has developed a Site Monitoring Plan (hereafter referred to as the "Monitoring Plan") that details the Scope of Work for the site investigations. The Monitoring Plan is described in this document.

2.0 BACKGROUND

Johnson Point is located on the east coast of Banks Island, approximately 270 kilometres (km) northeast of Sachs Harbour at latitude 72° 45' North and longitude 118° 30' West, within the zone of continuous permafrost. Johnson Point was originally constructed as a staging area and base for oil and gas exploration activities in the 1970s, and was actively used until the early 1980s. Since that time, several companies have used the airstrip at Johnson Point as an alternate landing location, and the site has been used as a staging area for exploration activities further inland. The site was remediated by AANDC between 2006 and 2007 and is now at Year 3 of its monitoring phase.

The BAR-E Horton River DEW Line Site is located on Canada's Arctic Coastline at latitude 70° 0' 50" North and longitude 126° 57' 7" West. The purpose of the site was to provide radar surveillance to detect northern military advances. The site became obsolete and was abandoned in the 1960s. It was remediated in 1994 by AANDC, at which time a landfill was built. Soil and non-hazardous waste were placed into the landfill and the site is now at Year 15 of its monitoring phase.

3.0 MONITORING PLAN OBJECTIVES

The Monitoring Plan provides a detailed description of the Scope of Work for the site investigations. Other considerations such as logistics, schedule and budget are also provided.

3.1 Health and Safety

Golder's corporate Health Safety and Environment Policy is a commitment to provide the time and resources necessary to ensure the safety of all employees. Golder values the health and safety of all of our Project Team members and contractors. We are committed to providing the time and resources necessary to enable them to perform their work in a safe and healthy manner during project work for CARD's 2012 Project.

As part of our Monitoring Plan, site-specific health and safety plans will be developed for this project and submitted to CARD at least five working days prior to the site investigations. The plans will address the following aspects:

- the potential health and safety hazards inherent with the assessment activities at the site, including working near water and contacting contaminated soil and other materials and/or hazardous materials;

- working at a remote northern site, with the potential for wildlife encounters, environmental stress (cold, exposure);
- potential for grounding (and a prolonged stay) due to weather at the site;
- Medivac requirements and distance to the nearest first aid facility (it is understood that the plane will remain at each site for the duration of site activities);
- appropriate personal protective equipment (PPE);
- decontamination procedures; and
- exclusion and safe working zones.

In addition, field level hazard assessments and tailgate meetings will be conducted daily by the field crew.

The field crew will use appropriate PPE to prevent harmful exposure to potentially hazardous materials when working with or near such materials, and appropriate PPE for the site activities conducted. Through the development of our health and safety program we have developed *Best Practices* for such things as performing site investigations to ensure that employee, contractor and client safety is maintained at all times.

All Project Team members will be responsible for using and taking care of PPE, following safe work procedures and instructions, becoming familiar with relevant Occupational Health and Safety Regulations and the Golder Health and Safety Policy, and complying with any other applicable Health and Safety Program.

We will observe and enforce safety measures of Workers' Safety & Compensation Commission (WSCC), Canada Labour Code, National Fire Code of Canada, and applicable Health and Safety Legislation. In addition, we will comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labeling and provision of material safety sheets acceptable to Labour Canada and Health and Welfare Canada.

Golder is registered with the NWT/Nunavut WSCC and carries comprehensive general insurance, including bodily injury, property damage, and third party liability coverage for activities performed during the course of our activities. Golder also carries professional liability insurance against errors and omissions.

4.0 SITE MONITORING PLAN

The Project includes two site investigations. There will be one in Johnson Point and the other will be at the BAR-E Horton River DEW Line Site. The specific tasks that will be completed at the sites are described in detail in this section. The Monitoring Plan will be finalized in a meeting with CARD prior to commencing the site investigations.

4.1 Site Investigation at Johnson Point

The Johnson Point site investigation (12-1328-0036-3100) includes a number of sub-tasks:

- Task 3110 – Specific Work Instructions (SWI) Preparation;
- Task 3120 – Wildlife Monitor and Sachs Harbour Elder;

- Task 3130 – Preparation, Travel Time and De-Mob Time;
- Task 3140 – Geotechnical Monitoring and Visual Inspection;
- Task 3150 – Groundwater and Surface Sampling for the Apron Area;
- Task 3160 – Soil Sampling; and
- Task 3170 – Thermal Monitoring.

The site investigation will be completed in one day and is scheduled to occur on August 14, 2012. A total of five (5) people will participate in the investigation:

- three Golder / IMG-Golder staff;
- one Wildlife Monitor from Inuvik; and
- one Inuvialuit Elder from Sachs Harbour.

In addition, the flight crew will be present, possibly along with a client representative or inspector.

Our methodology for completing each of these tasks is described in the following sub-sections. In addition, our Health and Safety, and Quality Assurance and Quality Control (QA/QC) protocols are provided in Sections 3.1 and 4.3, respectively.

4.1.1 Task 3110: SWI Preparation

The preparation of SWI Procedures is part of Golder's Standard Operating Procedures. The SWIs are reviewed by senior level personnel and give detailed procedures on the field-related activities. While the Monitoring Plan provides an overall description of the field work that will be performed for the Project, the specific SWIs serve as in in-field references and guides for field staff. The SWIs will be completed after CARD has approved the Monitoring Plan.

4.1.2 Task 3120: Wildlife Monitor and Sachs Harbour Elder

The Johnson Point investigation will include a Wildlife Monitor from Inuvik and an Inuvialuit Elder from Sachs Harbour, who will observe the work completed by field staff. We have arranged for the services of a Wildlife Monitor who is experienced in bear safety and has a valid Possession and Acquisition Licence (PAL) and firearm safety training. Documentation to support the Wildlife Monitor's qualifications will be submitted to meet the CARD requirements. Donna Keogak, manager of the Sachs Harbour Community Corp. has been contacted to assist us with retaining an Inuvialuit Elder (e.g., from the Lucas family).

4.1.3 Task 3130: Preparation, Travel Time and De-mob Time

One field team member will travel to Inuvik from Yellowknife and another will travel from Calgary and will bring all necessary field equipment with them. The field equipment required to complete the site investigations is described in Table 1.

Table 1: Field Equipment for Johnson Point Field Investigation

Task	Equipment	Function
Geotechnical Monitoring and Visual Inspection	Permafrost Probe	Measure soil active zone thickness
	Clinometer, Total Station, 30 m Tape	Measure 3 slope profiles in the Apron Area
	Camera	Photographic record
	GPS	Record locations
	Consumables (e.g., notebooks)	Notes
Groundwater and Surface Water Sampling for the Apron Area	Waterra and foot valve (backup sampling equipment will be available)	Groundwater sampling
	Sampling jars	Contain water samples
	Coolers with ice packs and heat packs (to be used as necessary)	Sample jar containment
	Consumables (e.g., notebooks, nitrile gloves)	Notes and personal protection
	GPS	Record locations
	Camera	Photographic record
Soil Sampling	Shovel (and associated decontamination equipment)	Soil sampling
	Hand auger	Soil sampling
	Sampling jars	Contain soil samples
	Coolers with ice packs (to be used as necessary)	Sample jar containment
	Consumables (e.g., notebooks, nitrile gloves)	Notes and personal protection
	GPS	Record locations
	Camera	Photographic record
Thermal Monitoring	Prolog Datalogger software, laptop, and user manual	Download data from thermistors
	Communication cable	Download data from thermistors
	Thermistor batteries	Provide power to thermistors
	Consumables (e.g., notebooks)	Notes
	GPS	Record locations
	Camera	Photographic record

4.1.4 Task 3140: Geotechnical Monitoring and Visual Inspection

This task will consist of geotechnical monitoring and visual inspection of the following: Landfills A, B, C, and D; Apron Area; Soil Disposal areas; Former Tankfarm Pad; Former Construction Camp location; Airstrip; Barge Landing Area; and Borrow areas.

The objectives of the geotechnical monitoring of these areas are to:

- measure the slope profiles in the Apron Area as referred to in Figures 6 and 7 in AECOM's 2010 Post-Construction Monitoring Program Report; and
- using a permafrost probe, measure the soil active zone thickness of the Apron Area and adjacent background areas.

The objectives of the visual, qualitative inspection of these areas are to:

- visually identify any changes that have occurred, such as settlement, erosion, frost action, sloughing and cracking, and seepage points or ponded water;
- examine the state of re-vegetation, percentage of vegetation cover and any sign of vegetation stress (e.g., discoloration);
- record potential animal burrows (including GPS location and photograph);
- identify areas with soil or water staining, odours, and/or exposed debris;
- record any other features which may compromise the integrity of the landfill; and
- describe the condition of monitoring instruments at the site.

Our field crew will keep detailed photographic records with scale reference, GPS location and directional view point in support of comprehensive field notes that describe general conditions of the site. Identified issues/features will be mapped in scaled and annotated drawings.

A checklist of the work that will be completed during this task is provided in Table 2. Work that will be completed is assigned a "√", work that will not be completed is labelled with a "x".

Table 2: Checklist for Johnson Point Geotechnical Monitoring and Visual Inspection

Location	Slope Profiles	Soil Active Zone Thickness	Visual Inspection
Airstrip	X	X	√
Apron Area	√	√	√
Barge Landing Area	X	X	√
Borrow areas	X	X	√
Former Construction Camp location	X	X	√
Former Tankfarm Pad	X	X	√

Location	Slope Profiles	Soil Active Zone Thickness	Visual Inspection
Landfill A	X	X	√
Landfill B	X	X	√
Landfill C	X	X	√
Landfill D	X	X	√
Soil Disposal areas	X	X	√

4.1.5 Task 3150: Groundwater and Surface Water Sampling for the Apron Area

Groundwater samples will be collected from standpipe wells MW09-01, MW09-02, MW09-03, MW09-04, MW09-05, MW09-06 and MW09-07 using a Waterra foot valve system discharging into laboratory supplied bottles. It has been noted that the recharge rate is potentially slow; therefore, purged water and recharge water after purging will be collected, although only one will be submitted for analysis. One surface water sample will be collected from the Unnamed River downstream of the Former Tankfarm Location into laboratory supplied bottles. If water staining and/or odour should be encountered in surface water elsewhere, exact notes (including GPS locations and photographs) and additional samples will be taken.

A minimum of ten water samples have been estimated, where two are QA/QC samples. Field staff will bring the samples back to Inuvik, where they will be packed in coolers and shipped by air to ALS Laboratories in Edmonton. Golder will coordinate with ALS Laboratories (e.g., bottle order and sample submission) to ensure that samples meet submission standards.

All samples will be analyzed for Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) and petroleum hydrocarbons Fraction 1 and Fraction 2 (PHC F1-F2). Analytical results for the groundwater and surface water samples will be compared with the (Canadian Council of Ministers of the Environment) CCME Guidelines for the Protection of Freshwater Aquatic Life and the Protection of Marine Life, as well as the results of previous studies.

A checklist of sampling locations and parameters is provided in Table 3.

Table 3: Checklist for Johnson Point Groundwater and Surface Water Sampling

Location	Parameters		
	BTEX	PHC F1	PHC F2
MW09-01	√	√	√
MW09-02	√	√	√
MW09-03	√	√	√
MW09-04	√	√	√
MW09-05	√	√	√
MW09-06	√	√	√

Location	Parameters		
MW09-07	√	√	√
Unnamed River	√	√	√
QA/QC Sample #1	√	√	√
QA/QC Sample #2	√	√	√

4.1.6 Task 3160: Soil Sampling

Soil samples will be collected from identified seepages or stains during the inspection of Landfill A, C, and D and at the location of the Former Tankfarm that corresponds with the surface disturbance created during Rio Tinto's camp exploration setup. Should stained areas be encountered in other areas, exact notes (including GPS locations and photographs) and additional samples will be taken.

A total of ten soil samples have been estimated, including a duplicate sample, and will be brought back to Inuvik by field staff. The soil samples will be packed in coolers and shipped by air to ALS Laboratories in Edmonton, with whom Golder will coordinate (e.g., jar order and sample submission). The samples will be analysed for PCBs, PHC F1-F3, and metals (arsenic, cadmium, chromium, cobalt, lead, nickel, copper, and zinc). Analytical results will be compared against site remediation criteria set for Johnson Point (Site Specific Target Level, Abandoned Military Site Remediation Protocol Criteria for the Protection of Freshwater Aquatic Life) and to concentrations from baseline monitoring.

Table 4 provides a checklist of soil sampling locations (as required) and testing parameters.

Table 4: Checklist for Johnson Point Soil Sampling

Location	Parameters				
	PCBs	PHC F1	PHC F2	PHC F3	Metals*
Landfill A	√	√	√	√	√
Landfill C	√	√	√	√	√
Landfill D	√	√	√	√	√
Former Tankfarm	√	√	√	√	√

* Metals: arsenic, cadmium, chromium, cobalt, lead, nickel, copper, and zinc

4.1.7 Task 3170: Thermal Monitoring

We understand that the required *Prolog Datalogger* software, the applicable communication cable and a user manual will be made available by CARD. Our team is familiar with a variety of different programs used in thermal monitoring (e.g., Data Dolphin) and will take the time to get familiar with the required equipment and software to be used at the site.

As per CARD's requirements, we will exchange the (supplied) batteries in the two thermistor strings at the Johnson Point Site and will update the downloaded frequencies according to CARD's instructions. Our field crew will perform the thermal monitoring of the two Prolog Datalogger thermistor strings (T09-01 and T09-02) located at the Apron Area and will sample recorded temperatures from the two strings with the provided equipment.

Upon return from the site, our team will organize the data and proceed with the thermal data analysis, evaluation, and presentation. Results will include a comparison to data from the post construction monitoring program and to available baseline monitoring associated with freeze-back. It is assumed that these electronic data will be made available by CARD.

A checklist for this task is presented in Table 5.

Table 5: Checklist for Thermal Monitoring at Johnson Point

Location	Task		
	Download Thermal Data	Replace Batteries	Update Sampling Frequency
T09-01	√	√	√
T09-02	√	√	√

4.2 Site Investigation at BAR-E Horton River DEW Line Site

The site investigation at BAR-E Horton River DEW Line Site (12-1328-0043-3200) includes a number of sub-tasks:

- Task 3210 – SWI Preparation;
- Task 3220 – Wildlife Monitor;
- Task 3230 – Preparation, Travel Time and De-Mob Time;
- Task 3240 – Geotechnical Monitoring and Visual Inspection;
- Task 3250 – Groundwater and Leachate Sampling; and
- Task 3260 – Soil Sampling.

The site investigation will be completed in one day and is schedule to occur on August 15, 2012. A total of four (4) people will participate in the investigation:

- three Golder and IMG-Golder staff; and
- one Wildlife Monitor.

In addition, the flight crew will be present, possibly along with a client representative or inspector.

Our methodology for completing each of these tasks is described in the following sub-sections. In addition, our Health and Safety, and Quality Assurance and Quality Control (QA/QC) protocols are provided in Sections 3.1 and 4.3, respectively.

4.2.1 Task 3210: SWI Preparation

The preparation of SWI Procedures is part of Golder's Standard Operating Procedures. The task specific SWIs are reviewed by senior personnel and give detailed procedures and guidelines on the field-related activities.

While the Monitoring Plan provides an overall description of the field work that will be performed for the Project, the SWIs serve as in in-field reference for field staff. The SWIs will be completed after CARD has approved the Monitoring Plan.

4.2.2 Task 3220: Wildlife Monitor

The BAR-E Horton River DEW Line Site investigation will include a Wildlife Monitor from Inuvik who will observe and report wildlife sign and prevent wildlife encounters. The Wildlife Monitor that has been contracted is experienced in bear safety and has a valid PAL along firearm safety training. Documentation to support the Wildlife Monitor's qualifications will be submitted to meet the CARD requirements.

4.2.3 Task 3230: Preparation, Travel Time and De-Mob Time

One field team member will travel to Inuvik from Yellowknife and another will travel from Calgary and will bring all necessary field equipment with them. The field equipment required to complete the site investigations is described in Table 6.

Table 6: Field Equipment for BAR-E Horton River DEW Line Site Field Investigation

Task	Equipment	Function
Geotechnical Monitoring and Visual Inspection of Landfills	Permafrost Probe	Measure soil active zone thickness
	Total Station	Survey Pin alignments and Benchmark locations
	Camera	Photographic record
	GPS	Record locations
	Consumables (e.g., notebooks)	Notes
Groundwater and Leachate Sampling	Waterra and foot valve (backup sampling equipment will be available)	Groundwater sampling
	Sampling jars	Contain water samples
	Coolers with ice packs and heat packs (to be used as necessary)	Sample jar containment
	Consumables (e.g., notebooks, nitrile gloves)	Notes and personal protection
	GPS	Record locations
	Camera	Photographic record
Soil Sampling	Shovel (and associated decontamination equipment)	Soil sampling
	Hand auger	Soil sampling
	Sampling jars	Contain soil samples
	Coolers with ice packs (to be used as necessary)	Sample jar containment
	Consumables (e.g., notebooks, nitrile gloves)	Notes and personal protection

Task	Equipment	Function
	GPS	Record locations
	Camera	Photographic record

4.2.4 Task 3240 – Geotechnical Monitoring and Visual Inspection

This task will consist of geotechnical monitoring and visual inspection of the landfill at the BAR-E Horton River DEW Line Site. The objectives of the geotechnical monitoring of this area is to:

- measure the soil active zone thickness of the landfill and adjacent background areas with a permafrost probe.

The objectives of the visual, quantitative inspection of the landfill cap are to:

- visually identify any changes that have occurred, such as settlement, erosion, frost action, sloughing and cracking and seepage points or ponded water;
- examine the state of re-vegetation, percentage of vegetation cover and any sign of vegetation stress (e.g., discoloration);
- record potential animal burrows (including GPS location and photograph);
- identify areas with exposed debris;
- record any other features which may compromise the integrity of the landfill;
- describe the condition of monitoring instruments at the site;
- inspect the existing Pin alignments and survey the Pin alignments using a Total Station, and
- inspect the existing Benchmark locations and perform a Total Station survey of the Benchmark locations;

Our field team will keep detailed photographic records with scale reference, GPS location and directional view point in support of comprehensive field notes that describe general conditions of the site. Identified issues/features will be mapped in scaled and annotated drawings.

4.2.5 Task 3250: Groundwater and Leachate Sampling

Groundwater samples will be taken from wells MW1, MW2, MW3 and MW4 using a Waterra foot valve system discharging into laboratory supplied bottles. It has been noted that the recharge rate is potentially slow therefore, purged water and recharge water after purging will be collected, although only one will be submitted for analysis. Leachate samples will be collected from standpipes SP1 and SP2 using a Waterra foot valve system discharging into laboratory supplied bottles.

A total of six water samples and two QA/QC samples have been estimated for these tasks. The field staff will bring the samples to Inuvik where they will be prepared for air shipment to ALS Laboratories in Edmonton, with whom Golder will coordinate bottle order and sample submission. The samples will be transported and shipped in a cooler. Samples will be analyzed for total extractable hydrocarbons, BTEX, PHC F1-F2, PCBs, total suspended solids, major ions and routine parameters. Analytical results for the groundwater and surface water

samples will be compared with historical water and leachate sampling results at the BAR-E Horton River, the Abandoned Military Site Remediation Protocol original DEW Line Clean-Up Criteria guidelines, and CCME Guidelines for the Protection of Freshwater Aquatic Life and the for the Protection of Agriculture Water Uses.

A checklist of sampling locations and parameters is provided in Table 7.

Table 7: Checklist for BAR-E Horton River DEW Line Site Groundwater Sampling

Location	Parameters								
	BTEX	Leachate	PHC F1	PHC F2	PCBs	Total Extractable Hydrocarbons	Total Suspended Solids	Major Ions	Routine
MW1	√	X	√	√	√	√	√	√	√
MW2	√	X	√	√	√	√	√	√	√
MW3	√	X	√	√	√	√	√	√	√
MW4	√	X	√	√	√	√	√	√	√
SP1	√	√	√	√	√	√	√	√	√
SP2	√	√	√	√	√	√	√	√	√
QA/QC Sample #1	√	X	√	√	√	√	√	√	√
QA/QC Sample #2	√	X	√	√	√	√	√	√	√

4.2.6 Task 3260: Soil Sampling

Five soil samples will be collected at the Site. Three samples will be taken downgradient of the landfill and two upgradient of the landfill. Soil samples will be collected using a hand auger which will be decontaminated between each sampling event. Should stained areas be observed in other areas, they will be identified in the field notes (including GPS locations and photographs) and additional samples will be taken.

A total of five soil samples have been estimated for these tasks. Field staff will bring the samples in a cooler with them to Inuvik, where they will be prepared for shipment. The samples will be shipped by air to ALS Laboratories in Edmonton for analysis. Golder will coordinate with the laboratory regarding jars order and sample submission. Samples will be analyzed for BTEX, F1-F4, PCBs and CCME metals. Analytical results for the soil samples will be compared with historical soil sampling results at the BAR-E Horton River, the Abandoned Military Site Remediation Protocol original DEW Line Clean-Up Criteria guidelines, in addition to CCME Environmental Quality Guidelines for the Protection of Environmental and Human Health for Parkland and Industrial Land Use Sites, Canada Wide Standards for Petroleum Hydrocarbons.

A checklist of sampling locations and parameters is provided in Table 9.

Table 8: Checklist for Soil Sampling at BAR-E Horton River DEW Line Site

Location	Parameters						
	BTEX	PHC F1	PHC F2	PHC F3	PHC F4	PCBs	CCME Metals*
Landfill-1	√	√	√	√	√	√	√
Landfill-2	√	√	√	√	√	√	√
Landfill-3	√	√	√	√	√	√	√
Landfill-4	√	√	√	√	√	√	√
Landfill-5	√	√	√	√	√	√	√

* CCME Metals: antimony, arsenic, barium, beryllium, boron, cadmium, chromium (total and hexavalent), cobalt, copper, lead, mercury, molybdenum, nickel, silver, thallium, tin, uranium, vanadium and zinc.

4.3 QA/QC Program

Surface water and groundwater Quality Assurance / Quality Control (QA/QC) procedures include sampling and analytical practices that are followed to limit the introduction of error into analytical data. QA/QC procedures include appropriate training of sampling personnel, use of standard operating procedures when collecting the samples, appropriate sample handling and storage, use of accredited analytical laboratories, and data management systems. Quality control procedures are designed to assess data quality including potential laboratory and field contamination through use of blanks, replicates, and spiked or reference materials.

QA procedures that will be followed during this project include:

- wearing polyethylene or nitrile gloves during sampling to prevent cross-contamination;
- decontaminating equipment between sampling locations using laboratory-grade detergent;
- using certified sample containers provided by the analytical laboratory;
- preserving the samples according to standard methods; and
- maintaining sample integrity by storing the samples in coolers with ice (as appropriate) and shipping them to the analytical laboratory as soon as possible after sampling.

Water chemistry samples will be collected in accordance with applicable Golder Technical Procedures, which are consistent with industry standards and include collection, preservation, storage, and shipping protocols. Field personnel also use Specific Work Instructions (SWI), which detail project-specific sampling instructions. Samples will be submitted to an accredited analytical laboratory (i.e., ALS Laboratory Group, Edmonton, Alberta for analysis).

Appropriate QC samples will be included in this study:

- Duplicate field samples will be collected to detect variability at a site and verify field-sampling methods.

- A field blank will be included to detect sample contamination during the collection, shipping, and analysis of samples. A field blank is a sample prepared in the field using ultra-pure water.
- A trip blank will be included to detect sample contamination during transport and pre-sampling bottle contamination.
- The total number of QC samples (duplicate samples, field blanks, and travel blanks) will equal at least 10% of test samples.

Data Management: If data entry is required, data will be checked against the original data sheets on completion of entry to the database. An organized, consistent system of data control and filing will be used for this project.

Document Review: All documents will undergo Senior Technical Review. The draft report will be provided to CARD for review, and comments will be incorporated, as appropriate. A final review will be done by the Golder Project Manager and the Senior Technical Reviewer, and the final document will be submitted to CARD.

4.4 Reporting

Based on the results of the site investigations, we will prepare a short Site Investigation Progress Report for each site that contains pertinent information and will include:

- Summary of relevant observations;
- Site plan showing planned sample locations, actual sample locations and site features;
- Summary of sample collections;
- Limitations, and
- Budget Update.

The Johnson Point 2012 Monitoring Report will include:

- Executive Summary;
- An introduction with study objectives and scope of work;
- A list of background information reviewed, including a synopsis of previous monitoring investigations, including identification of data gaps;
- 2012 Monitoring Program at Johnson Point:
  - A description of field and laboratory investigation;
  - Geotechnical Monitoring and Visual Inspection results;
  - Surface water and groundwater analytical results;
  - Soil analytical results;
  - Detailed supporting photographic record;
  - Results of QA/QC Program; and

  - A brief discussion of the 2012 data in the context of data from previous years.
- Conclusions;
- Recommendations;
- Drawings, and
- Appendices:
  - Photographs;
  - Field Notes; and
  - Laboratory Results.

The BAR-E Horton River DEW Line 2012 Monitoring Report will include:

- Executive Summary
- An introduction with study objectives and scope of work;
- A list of background information reviewed, including a synopsis of previous monitoring investigations, including identification of data gaps;
- 2012 Monitoring Program at BAR-E Horton River DEW Line
  - A description of field and laboratory investigation;
  - Geotechnical Monitoring and Visual Inspection results;
  - Groundwater and Leachate Sampling;
  - Soil analytical results;
  - Detailed supporting photographic record;
  - Results of QA/QC Program; and
  - A brief discussion of the 2012 data in the context of data from previous years.
- Conclusions;
- Recommendations;
- Drawings, and
- Appendices:
  - Photographs;
  - Field Notes; and
  - Laboratory Results

5.0 SCHEDULE

We have designed a schedule to meet the objectives and dates provided by CARD for the 2012 Project, as provided in Tables 8 and 9 below.

The site investigations are scheduled for two days during the second week in August, which will require Golder staff to stay in Inuvik for three nights.

The reporting phase has been sub-divided into tasks consistent with the site investigation. We have included submission of the draft Monitoring Program to CARD on or before December 1st, 2012 and have allowed two weeks for client review.

Incorporating client comments, we will complete the final 2012 Monitoring Program for submission 2 weeks following receipt of CARD comments.

Table 9: Schedule for Johnson Point

Johnson Point	Timing
Kick-off	Week of July 23, 2012
Draft Site Monitoring Plan	July 27, 2012
Site Specific Health and Safety Plan	Week of August 6, 2012
Site Investigation	August 14, 2012
Site Investigation Progress Report	Week of August 27, 2012
Draft Monitoring Report	Week of November 26, 2012
Final Monitoring Report	2 weeks after receipt of CARD comments

Table 10: Schedule for BAR-E Horton River DEW Line

BAR-E Horton River Dew Line	Timing
Kick-off	Week of July 23, 2012
Draft site Monitoring Plan	July 27, 2012
Site Specific Health and Safety Plan	Week of August 6, 2012
Site Investigation	August 15, 2012
Site Investigation Progress Report	Week of August 27, 2012
Draft Monitoring Report	Week of November 26, 2012
Final Monitoring Report	2 weeks after receipt of CARD comments

6.0 BUDGET

Based on the scope of work discussed above, Golder estimates that the cost to conduct the Project is $48,926, plus GST for Johnson Point and $42,040 plus GST for Horton River. These figures are consistent with the total cost stated in our final proposal to complete the Project: *2012 Monitoring Program of Johnson point (NM079) and BAR-E Horton River DEW Line Site (NM041) – Revision 2*, dated July 2012. A detailed cost breakdown is included as Appendix A.

The level of effort and cost estimate has been based on several assumptions, including:

- Analytical requirements as per the ToR. It is assumed that the total number of samples included duplicate analyses. The number of samples required will be reviewed and confirmed with CARD.

- Analyses of potential extra samples have not been included in this budget. If additional samples are taken, subsequent procedure will be discussed with CARD.
- Site visit will be conducted within one day for each site. Both sites will be visited on consecutive days.
- A field crew of three (3) Golder and IMG-Golder staff, one (1) Wildlife Monitor and one (1) Inuvialuit Elder from Sachs Harbour will conduct the site investigation at Johnson Point.
- A field crew of three (3) Golder staff and one (1) Wildlife Monitor will conduct the site investigation at the BAR-E Horton River DEW Line Site.
- No provisions have been made for bad weather or other circumstances that may delay the Monitoring Program. If any such delay should occur we will notify CARD and will discuss additional charges that may apply.
- The specialized field equipment and laboratory cost estimates may be overestimated. If that is the case, the total budget amounts in these phases will not be used.
- As agreed under Standing Offer Agreement 00-05-6003-9, there is no mark-up on labour fees or disbursements.
- All hourly rates are based on the agreed upon rate schedule under Standing Offer Agreement 00-05-6003-9.
- All electronic versions of previous reports, CAD drawings, and GPS coordinates will be provided to the Golder team.
- Appropriate software and cables to download the thermistors data will be provided by CARD.
- A research license from the Aurora Research Institute is not required for the monitoring work at both Sites.
- A land use permit application for the BAR-E Horton River DEW Line Site is not required.

Report Signature Page

We trust that this Monitoring Plan meets the Project requirements of CARD. Please direct any questions to the undersigned.

GOLDER ASSOCIATES LTD.

Suzi Martin, B.Sc., P.Eng. (Alberta)
Environmental Engineer

Grant Clarke, M.A.
Managing Associate, Yellowknife

SM/GC

\\yel1-s-filesrv1\data\active\year 2012\12-1328-0036 aandc johnson point\reporting\final\rpt_johnson point and horton river site monitoring plan july 27 2012.docx

APPENDIX A

Detailed Cost Estimate

2012 Monitoring Program at Johnson Point	Labour											Disbursement at Cost											
	Dave Caughill- Senior Geotechnical Engineer	Julia Krizan - Project Field Manager	Suzanne Martin - Project Manager/ Field Engineer	Eva Stephani - Field Staff Alternate	Anne Croteau - Field Engineer	Christopher Cunada - Field Staff	Duy Linh Nguyen - Project support	Kevin Mindus - GIS Drafting	Karin Lintner- Word Processing	Total Labour Hours	Total Labour Cost	Travel	Accommodation \Food	On-Site Food	Inuvik Airport Drop-Off/Pickup	Lab Fees	Wildlife monitor	Elder	Production Costs	Field Equipment including probes	Sat Phone/ Camera /GPS	Total Disbursements	Total Cost
Task Description	$ 185	$ 163	$ 110	$ 110	$ 128	$ 99	$ 99	$ 99	$ 70														
COSTS TO BE INCURRED																							
Health and Safety																							
Preparation of H&S Plan						2	2			4.0	$ 396	$ -	$ -	$ -	$ -	$ -	$ -	$ -	**$ -**	$ -	$ -	$ -	$396
												$ -	$ -	$ -	$ -	$ -	$ -	$ -	**$ -**	$ -	$ -	$ -	$0
Project Management	3	5	13							21.0	$ 2,800	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$2,800
Project Meetings, coordination, office support for field		8	2		2					12.0	$ 1,780	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$1,780
External Meetings (4)			3		3		3			9.0	$ 1,011	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$1,011
																						$ -	$0
Field Work - Johnson Point												$ 2,900	$ 960	$ 75	$ 120	$ -	$ -	$ 300	$ -	$ 1,373	$ 81	$ 5,808	$5,808
	1		8		8					17.0	$ 2,089	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$2,089
Wildlife Monitor and Sachs Harbour Elder						2											$ 500					$ 500	$500
Preparation, Travel Time and De-Mob Time			24		24	12				60.0	$ 6,900	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$6,900
Geotechnical Monitoring and Visual Inspection			7		7	7				21.0	$ 2,359	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$2,359
Groundwater and Surface Sampling for the Apron area			2		2	2				6.0	$ 674	$ -	$ -	$ -	$ -	$ 1,255	$ -	$ -	$ -	$ -	$ -	$ 1,255	$1,929
Soil Sampling			2		2	2				6.0	$ 674	$ -	$ -	$ -	$ -	$ 1,800	$ -	$ -	$ -	$ -	$ -	$ 1,800	$2,474
Thermal Monitoring			1		1	1				3.0	$ 337	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$337
Reporting - Johnson Point																							
Draft Site Monitoring Plan			4		4	2		4		14.0	$ 1,546	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$1,546
Site Investigation Progress Report			6		6	2		4		18.0	$ 2,022	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$2,022
Review of Previous Years' Data + Data entry			10	4	6	10				30.0	$ 3,298	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$3,298
Draft Monitoring Report	1	1	20	4	6	20	10	8	4	74.0	$ 7,798	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$7,798
Final Monitoring Report	2	2	8	2	5	8		4	4	35.0	$ 3,904	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$3,904
Final Review	3	2	3	1	2	2				13.0	$ 1,775	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 200	$ -	$ -	$ 200	$1,975
TOTAL	**10.00**	**18.00**	**113.00**	**11.00**	**78.00**	**72.00**	**15.00**	**20.00**	**8.00**	**343.0**	**$39,363**	**$2,900**	**$960**	**$75**	**$120**	**$3,055**	**$500**	**$300**	**$200**	**$1,373**	**$81**	**$9,563**	**$48,926**

2012 Monitoring Program at BAR-E Horton River DEW Line Site	Labour												Disbursement at Cost											
	Dave Caughill- Senior Geotechnical Engineer	Julia Krizan - Project Field Manager	Suzanne Martin - Project Manager/ Field Engineer	Eva Stephani - Field Staff Alternate	Anne Croteau - Field Engineer	Christopher Cunada - Field Staff	Duy Linh Nguyen - Project support	Kevin Mindus - GIS Drafting	Karin Lintner- Word Processing	Total Labour Hours	Total Labour Cost	Travel	Accommodation \Food	On-Site Food	Inuvik Airport Drop-Off/Pickup	Lab Fees	Wildlife monitor	Elder	Production Costs	Field Equipment including probes	Sat Phone/ Camera /GPS	Total Disbursements	Total Cost
Task Description	$ 185	$ 163	$ 110	$ 110	$ 128	$ 99	$ 99	$ 99	$ 70															
COSTS TO BE INCURRED																								
Health and Safety																								
Preparation of H&S Plan						2	2			4.0	$ 396	$ -	$ -	$ -	$ -	$ -	$ -	$ -	**$ -**	$ -	$ -	$ -	$ -	$396
												$ -	$ -	$ -	$ -	$ -	$ -	$ -	**$ -**	$ -	$ -	$ -	$ -	$0
Project Management	3	5	13							21.0	$ 2,800	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$2,800
Project Meetings, coordination, office support for field		8	2		2					12.0	$ 1,780	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$1,780
External Meetings (4)			3		3		3			9.0	$ 1,011	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$1,011
																							$ -	$0
Field Work - BAR-E Horton River DEW Line												$ -	$ 480	$ 75	$ 120	$ -		$ -	$ -	$ -	$ 788	$ 81	$ 1,543	$1,543
Specific Work Instructions (SWI) Preparation	1		8		8					17.0	$ 2,089	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$2,089
Wildlife Monitor						2											$ 500						$ 500	$500
Preparation, Travel Time and De-Mob Time			10		10	12				32.0	$ 3,568	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$3,568
Geotechnical Monitoring and Visual Inspection of landfills			7		7	7				21.0	$ 2,359	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$2,359
Groundwater and leachate sampling			2		2	2				6.0	$ 674	$ -	$ -	$ -	$ -	$ 2,700	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,700	$3,374
Soil Sampling			2		2	2				6.0	$ 674	$ -	$ -	$ -	$ -	$ 1,350	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,350	$2,024
Reporting - BAR-E Horton River DEW Line																								
Draft Site Monitoring Plan			4		4	2		4		14.0	$ 1,546	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$1,546
Site Investigation Progress Report			6		6	2		4		18.0	$ 2,022	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$2,022
Review of Previous Years' Data + Data entry			10	4	6	10				30.0	$ 3,298	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$3,298
Draft Monitoring Report	1	1	20	4	6	20	10	8	4	74.0	$ 7,798	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$7,798
Final Monitoring Report	2	2	8	2	5	8		4	4	35.0	$ 3,904	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$3,904
Final Review	3	3	2	1	2	2				13.0	$ 1,828	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 200	$ -	$ -	$ 200	$2,028
TOTAL	**10.00**	**19.00**	**97.00**	**11.00**	**63.00**	**71.00**	**15.00**	**20.00**	**8.00**	**312.0**	**$35,747**	**$0**	**$480**	**$75**	**$120**	**$4,050.0**	**$500**	**$0**	**$200**	**$788**	**$81**	**$6,293**	**$42,040**

At Golder Associates we strive to be the most respected global company providing consulting, design, and construction services in earth, environment, and related areas of energy. Employee owned since our formation in 1960, our focus, unique culture and operating environment offer opportunities and the freedom to excel, which attracts the leading specialists in our fields. Golder professionals take the time to build an understanding of client needs and of the specific environments in which they operate. We continue to expand our technical capabilities and have experienced steady growth with employees who operate from offices located throughout Africa, Asia, Australasia, Europe, North America, and South America.

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Golder Associates

1.0 CONTACTS LIST SUMMARY

1.1 Emergency Contacts

Contact	Number
Ambulance	867-777-4444
Fire	Not applicable.
Police	867-669-5100
Golder Crisis Hotline (from outside Canada)	xxx-403-775-1041
Golder Crisis Hotline (from within Canada)	1-866-249-0439
Golder Media Relations	(604) 296-6845
Spills Reporting	(867) 920-8130
Aklak Air (Charter Flights)	(867) 777-3555

Hospital name	Address	Phone	Level of Care Available
Inuvik Hospital (Beaufort-Delta)	289 Mackenzie Road Inuvik	1-867-777-8000	

1.2 Golder contacts

Contacts	Name	Office	Cell	Home
Project Manager	Suzi Martin	1-403-267-6331	1-403-880-7608	N/A
Project Director	Julia Krizan	1-867-777-5997	1-867-620-0056	1-867-777-2140
Client	Stanley Yee, AANDC - (867) 669-2452			

1.3 Missed Check-in Contacts

Contacts	Name	Phone	Cell
Project Manager	Suzi Martin	1-403-267-6331	1-403-880-7608
Project Director	Julia Krizan	1-867-777-5997	1-867-620-0056
Other	Charter Flight Company - Aklak Air	(867) 777-3555	########
Other	Stanley Yee (client)	(867) 669-2452	(867) 445-5232 (Patti Garbutt, logistics coordinator)

1.4 Client and Site Contacts

Contacts	Number
Site field cell phone	+1 403 880 7608
Site satellite phone	011881 631 46 6046

Contacts	Name	Number
Contact person on site	Stanley Yee	(867) 669-2452
Client safety contact	Stanley Yee	(867) 669-2452
Company Golder reports to	Aboriginal Affairs and Northern Development Canada	(867) 669-2452
Personnel reporting to Golder	Wildlife Monitor	(867) 777-4037
Golder overall site supervisor:	Suzi Martin	Office: +1 403 267 6331 Cell: +1 403 880 7608 Satellite Phone: 011881 631 46 6046
Golder overall site supervisor alternate:	Anne Croteau	Office: +1 (867) 873 6319 Cell: Satellite Phone: 011881 631 46 6046
Personnel reporting to Golder	Sachs Harbour Inuvialuit Elder	(867) 690-4009

1.5 Subcontractor Contacts

Name	Subcontractor key staff	Phone
Lakes & Rivers	Miles Dillon	867-777-4037
Lakes & Rivers	Rachel Hansen	867-777-4037
John Lucas, Sr.	John Lucas, Sr.	867-690-4009

It is company policy to complete a HaSEP form including a task-based Health, Safety and Environment (HSE) risk assessment for every project that includes site work, working alone or international travel.

To get an updated table of contents, please right-click the table of contents below and choose 'Update Field'

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You have the right to refuse any work you feel is unsafe, or that you are not trained to do. No job is so urgent that we cannot do it without meeting our HSE obligations

2.0 PROJECT PROPOSAL DETAILS

Project/Proposal Number	12-1328-0036/12-1328-0043	**Start Date**	Aug 18, 2012	**End Date**	Aug 24, 2012
Project Title	Horton River and Johnson Point				
Project Manager (PM)	Suzi Martin				
PM's phone - Office	1-403-267-6331	**Home**	N/A	**Cell**	1-403-880-7608
Project Director	Julia Krizan				
PD's phone - Office	1-867-777-5997	**Home**	1-867-777-2140	**Cell**	1-867-620-0056
Client name	Stanley Yee, AANDC - (867) 669-2452				

Brief description of project and scope of works (include any hazardous activities, if known)

Field component consists of flying to Inuvik (Anne and Suzi), loading/unloading equipment, flying by charter plane to each Site, monitoring and sampling groundwater and surface water (using waterra and/or a pump system), collecting soil samples using shovels and hand augers, collecting data using a permafrost probe surveying, downloading thermistor data and changing batteries, and recording visual data.

3.0 GOLDER TEAM

Name	Office	Contact number (cell phone)	Role
Suzi Martin	Calgary	+1 403 880 7608	Field Crew
Anne Croteau	Yellowknife	1-867-873-6319 (office)	Field Crew
Christopher Cunada	Inuvik	1-867-777-5997 (office)	Field Crew
Linh Nguyen	Yellowknife	1-867-873-6319 (office)	Logistics/Coordinator
Julia Krizan	Inuvik	1-867-777-5997 (office)	Project Director

Project Manager (PM)

You have the right to refuse any work you feel is unsafe, or that you are not trained to do. No job is so urgent that we cannot do it without meeting our HSE obligations

- Appoint a competent site supervisor and alternate. For sites with multiple Golder projects/disciplines at work, coordinate with the overall site supervisor
- Oversee/develop hazard controls including work instructions and
- Assign only adequately trained and competent employees to the project

Site Supervisor

- The site supervisor is responsible for the safety of all Golder employees, subcontractors, visitors and public on the parts of the site under Golder control.
- Communicate all site hazards to affected parties, in real time, as hazards, conditions and employees change.
- Ensure that work is undertaken in accordance with the hazard controls included in this HaSEP.

Contractor

- All plant and equipment is maintained in a safe working condition
- All plant and equipment are to be registered/licensed and electrical equipment tagged and tested
- Potential hazards are to be controlled (e.g., cage over rotating parts)
- You will report any identified hazards to the Golder Associates field staff member

Field Staff

- Inspect your worksite and equipment before starting work
- Apply the controls outlined in this HaSEP
- Look out for the safety of yourself and others
- Report unsafe acts, conditions and incidents to the site supervisor

4.0 CLIENT/SITE DETAILS

4.1 Client/Site Details

Project location map (paste URL here)	**Error! Hyperlink reference not valid.**

4.1.1 Site Hierarchy

Role	Name	Phone
Contact person on site	Stanley Yee	(867) 669-2452

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Client safety contact	Stanley Yee	(867) 669-2452
Company Golder reports to	Aboriginal Affairs and Northern Development Canada	(867) 669-2452
Personnel reporting to Golder	Wildlife Monitor	(867) 777-4037
Golder overall site supervisor:	Suzi Martin	Office: +1 403 267 6331 Cell: +1 403 880 7608 Satellite Phone: 011881 631 46 6046
Golder overall site supervisor alternate:	Anne Croteau	Office: +1 (867) 873 6319 Cell: Satellite Phone: 011881 631 46 6046
Personnel reporting to Golder	Sachs Harbour Inuvialuit Elder	(867) 690-4009

4.1.2 Site description

If the project is near another Golder Office, has the local Office been notified of the work? ☒Yes ☐No

Site Name	Johnson Point		**Address**			
Coordinates	72 deg 45' N and 118 deg 30' west					
Description	270 km NE of Sachs Harbor on Banks Island, NWT.					
Access info	Access by charter flight. Landing strip available.					
Previous land uses	Staging area for exploration.					
Site Receptors that maybe impacted by the proposed work	Arctic wildlife and vegetation, surface water bodies.					
Additional Info						
HSE Induction / orientation provider	☒Golder		☐Client		☐Contractor	
Site Contact Numbers	**Field cell phone**	+1 403 880 7608	**Satellite phone**	011881 631 46 6046	**Other**	
Nearest Golder office	Canada - Inuvik	**Address**	Suite 206, 125 Mackenzie Road, Box 2340, Inuvik, Northwest Territories, Canada X0E 0T0		**Phone**	+1 (867) 777 5997
Fax	+1 (867) 777 5992	**Email**	**Error! Hyperlink reference not valid.**		**Opening days and hours**	8:30am to 5:00pm Monday to Friday
Google Maps						
Site Name	Horton River		**Address**			

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Coordinates	70 deg 0' 50" N and 126 deg 57' 7"					
Description	Located on the coastline between Tuktoyaktuk and Paulatuk					
Access info	Access by charter flight. Landing strip available.					
Previous land uses	BAR-E Distant Early Warning Line					
Site Receptors that maybe impacted by the proposed work	Arctic wildlife and vegetation, surface water bodies.					
Additional Info						
HSE Induction / orientation provider	☒Golder		☐Client		☐Contractor	
Site Contact Numbers	**Field cell phone**	+1 403 880 7608	**Satellite phone**	011881 631 46 6046	**Other**	
Nearest Golder office	Canada - Inuvik	**Address**	Suite 206, 125 Mackenzie Road, Box 2340, Inuvik, Northwest Territories, Canada X0E 0T0		**Phone**	+1 (867) 777 5997
Fax	+1 (867) 777 5992	**Email**	**Error! Hyperlink reference not valid.**		**Opening days and hours**	8:30am to 5:00pm Monday to Friday
Google Maps						

4.2 Subcontractor Details

Has Golder been assigned the role of Principal Contractor? * ☒Yes ☐No

Name	Subcontractor key staff	Phone	Subcontractor activities	Risk Assessment Supplied	Method Statement Supplied	Approved Golder subcontractor ?
Lakes & Rivers	Miles Dillon	867-777-4037	Wildlife Monitor	☐	☐	☒
Lakes & Rivers	Rachel Hansen	867-777-4037	Wildlife Monitor	☐	☐	☒
John Lucas, Sr.	John Lucas, Sr.	867-690-4009	Sachs Harbour Inuvialuit Elder	☐	☐	☐

4.3 Welfare / Hygiene Facilities

The following issues should be considered when planning welfare provision including: the work to be carried out; the associated health risks; duration and number of different locations;
number of people working at different locations and distances from welfare facilities.

Describe the project's welfare facilities below:

Facility	Yes	No	Describe alternate arrangements:
Toilets available?	☐	☒	Bring toilet paper to the Site. Bring honey bucket with appropriate bags to contain waste. Identify a suitable location on-Site to set up honey bucket if required.
Rest areas available?	☒	☐	
Washing facilities available?	☐	☒	Bring water to wash hands with. Showering facilities available at the hotel at night.
Drinking water available?	☐	☒	Bring drinking water to the Site. Bring sufficient water to last a minimum of three days (two jugs).
Area for changing and storing clothes available?	☒	☐	
Mode of transportation to site available?	☒	☐	
Smoking permitted on site?	☒	☐	
Location where smoking is permitted	No smoking on air plane and near sampling areas on-Site. No smoking near fuel storage.		

5.0 ENVIRONMENTAL PERMITS AND APPROVALS

☐Are permits and approvals required for this project? (e.g Client supplied Permit, Hot Works Permit, Mobile Treatment Permit etc.)

6.0 CHECK-IN SYSTEM

6.1 Check-in contacts

	Name	Phone/Email	Check-in frequency*	By phone	By email	By SMS	On site
Primary	Grant Clarke	Office: +1 867 873 6319	On-Site, Leaving-Site, and arrived in	☒	☐	☐	☐

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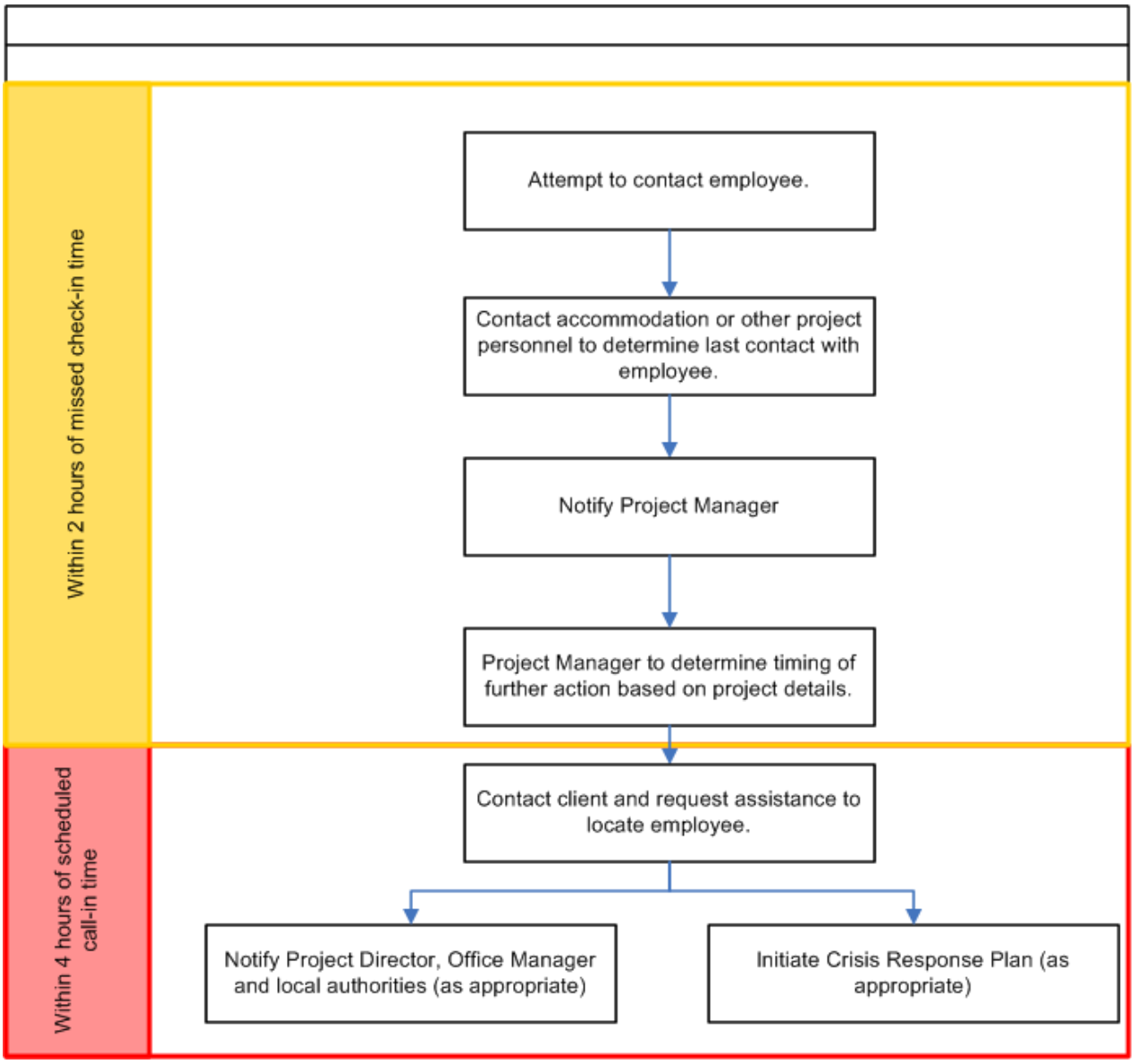
		Cell: +1 867 446 0329	Inuvik				
Primary	Patti Garbutt (client)	Cell: +1 (867) 445-5232	On-Site, Leaving-Site, arrived in Inuvik, and if there are weather delays or concerns regarding pilot	☒	☐	☐	☐
Secondary	Violet Tudu	Office: +1 (867) 873 6319		☒	☐	☐	☐

6.2 Missed Check-in Procedure

Missed check-in procedure flowchart:



☒Does missed check-in procedure for this project deviate from the flowchart?

If yes, please provide details of project procedures.

1) Attempt to contact employees by Satellite Phone. 2) Contact charter flight company to obtain available details. 3) Contact Client. 4) Initiate emergency response.

Missed check-in contact information:

	Name	Phone	Cell/Mobile
Project Manager	Suzi Martin	1-403-267-6331	1-403-880-7608
Project Director	Julia Krizan	1-867-777-5997	1-867-620-0056
Other	Charter Flight Company - Aklak Air	(867) 777-3555	#######
Other	Patti Garbutt, AANDC Logistics Coordinator	(867) 445-5232	(867) 445-5232
Other			

7.0 ACCOMMODATION

☒Overnight accommodation required

Start Date	End Date	Accommodation	Address	Phone
Aug 19, 2012	Aug 22, 2012	NOVA Inn and Suites	Inuvik	(867) 777-6682

8.0 TRAVEL ITINERARY

Travel Itinerary to be sent to **trips@golder.com**.

Field trip travel itinerary will be sent to Patti Garbutt (patti.garbutt@aandc.gc.ca), AANDC Logistics Coordinator.

Country Risk Ratings – The country risk ratings can be found in the link below -–
Medex Threat Levels

http://golderportal/Cws/CorporateServices/HealthAndSafety2/International%20Travel2/Forms/AllItems.aspx

If you are unable to access GoldNet go to:**MEDEX Global Solutions**and enter 330081 as your policy number and then proceed to create your user profile

8.1 Travel Details

Traveler's name	Travel itinerary stored in TSM?	Travel itinerary has been provided to:
Suzi Martin	☒	

Enter Travel Itinerary Details (Optional) ...

Departure city	Departure date-time	Arrival city	Arrival date-time	Mode of transportation	Visa required?	Airline name	Flight number
Edmonton, AB	August 19, 8:00 am	Inuvik	August 19, 13:03 PM	Flight, commercial	☐	Canadian North	5T 0444
Inuvik	August 22, 1:43 pm	Calgary	August 22, 8:21 pm	Flight, Commercial	☐	Air Canada/ Canadian North	5T 0445 / AC 8157

Traveler's name	Travel itinerary stored in TSM?	Travel itinerary has been provided to:
Anne Croteau	☒	

Enter Travel Itinerary Details (Optional) ...

Departure city	Departure date-time	Arrival city	Arrival date-time	Mode of transportation	Visa required?	Airline name	Flight number
Yellowknife	August 19, 10:25 am	Inuvik	August 19, 1:03 pm	Flight, commercial	☐	Canadian North	5T 0444

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Inuvik	August 22, 1:43 pm	Yellowknife	August 22, 4:16 pm	Flight, Commercial	☐	Canadian North	5T 0445

8.2 Golder Office Information

☒

Office Name	Address	Phone	Fax	Email	Opening days and hours	Google Maps
Canada - Inuvik	Suite 206, 125 Mackenzie Road, Box 2340, Inuvik, Northwest Territories, Canada X0E 0T0	+1 (867) 777 5997	+1 (867) 777 5992			

9.0 CHEMICALS AND CONTAMINANTS

9.1 Possible Contaminants or Chemical Exposures

☒Are any contaminants likely to be encountered during this project (consider previous land uses)

Contaminant Name		Hydrocarbons (fuel)				
Exposure routes	Inhalation, direct contact,					
Flash point					**Odour threshold**	
Explosive limits	8 hr Occupational Exposure Limit (e.g. TWA)		STEL		LEL	
☐**Monitoring of contaminant required**						
Risk controls	No smoking or ignition source near fuel storage or contaminated soil/groundwater. Wear gloves when handling fuel or contaminated materials.					
Additional medical surveillance (if required)	Monitor for signs of irritation to eyes, skin, nose, respiratory system; dizziness, headache, nausea, staggered gait.					

Additional Info	If symptoms occur, evacuate to clean air, wash affected areas with soap and water.					

10.0 RISK REGISTER

Risk Factor	Hazard	Persons Affected	Initial Consequence	Initial Likelihood	Risk Factor	Controls	Residual Consequence	Residual Likelihood	Residual Risk	Additional controls
Wild/feral animals	Bears and other wild animals	Employees	5	2	10	Where exposure to bears is likely, do not work alone. Never feed or approach bears. Reduce or eliminate odours that attract bears. Avoid fish smells. Store food in air tight containers in your vehicle or alternate storage. Store garbage in the same way as the food. Do not bury garbage or throw it into pit toilets. Reduce the chance of surprising a bear by: checking ahead for bears in the distance; If spotted, take a wide detour and leave the area immediately; make warning noises and loud sounds; watch for bear sign such as tracks, droppings, overturned rocks, rotten trees torn apart, clawed or bitten trees, bear trails, fresh diggings or trampled vegetation. Stay clear of dead wildlife. If you encounter a carcass, leave the area immediately. If you spot a bear nearby or approaching, walk towards your	4	1	4	If a bear or other potentially hazardous wildlife is spotted, the wildlife monitor and crew should be notified immediately.

						vehicle, do not run, keep an eye on the animal, take refuge in your vehicle and wait for the bear to leave.				
Contaminated water or soil and Exposure to potentially toxic chemicals	Handling contaminant, Acute or chronic effects, inhalation, ingestion, dermal	Employee	5	3	15	Understand the hazards of the contaminants present. Consult MSDS, labels and other available information. Determine material compatibilities. Label all containers as per WHMIS regulations. Develop procedures for work around the contaminants. Minimize manual handling of the contaminant. Provide training specific to the contaminant present. Stay out of areas where contaminant is present or chemicals are used if possible. • Know where first aid and emergency response equipment is (shower/eyewash). Participate in the medical surveillance program based on the type of contact, and the extent of potential exposure (concentration, frequency and duration). Use PPE that is appropriate for the type of chemical and task being done such as body coverings, gloves, boots, goggles, face shield, respirator.	4	2	8	
Flammable/Combustible liquids	Fire, burns	Employee	5	3	15	In addition to above, consult TDG regulations before transporting. Minimize quantities stored and in use. Minimize manual handling of the chemical. Provide training on the safe handling of the specific chemical in use. Control the generation of vapours by: enclosing the process, keeping lids closed, minimizing spills, providing and maintaining a ventilation system and monitoring airborne concentrations using an LEL meter. Do	3	1	3	

						not enter the work area if the LEL is greater than 10%. Know where the fire extinguishers are located. No smoking when using a flammable/combustible chemical. Keep away from sparks and open flames. Bond and ground containers when transferring flammable liquids. Verify area classification and equipment for use with flammable/combustible liquids (electrical ratings).				
Spills	Spills	Employee	4	3	12	Develop a chemical specific spill response plan. Keep a spill kit on-site stocked with appropriate materials to contain, collect, neutralize and decontaminate the chemical. Assess the contents of the spill kit prior to the start of the project and periodically to ensure adequate spill response supplies are available.	3	1	3	
Manual Handling (samples, equipment)	Manual handling	Employee	4	3	12	Do not lift loads that are too heavy or awkward. Keep weights of items or loads as low as possible. Avoid bending your back and twisting when lifting, lowering and carrying. Hold the load close to your body to reduce the force required to lift. Lift with feet shoulder width apart, keep natural curve of spine, use leg muscles to lift, do not hunch or twist. Store heavy items at waist level to avoid bending or reaching - most lifting strength is in this zone. Use trolleys and other mechanical lifting aids. Divide the load between containers and/or ask for help and use a two person lift and carry. Stretch before handling loads.	3	2	6	

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Fitness for Duty	Effects of alcohol and drugs	Employee	4	2	8	Field crew to review and understand the Golder Alcohol and Drug policy. Employees are not to begin work if impaired in any way due to alcohol or drug ingestion. Employees will report side effects from any form of over-the-counter(OTC) or prescription medication that may impede their ability to work safely to their manager.	4	2	8	
Fitness for Duty	Medical conditions such as pregnancy , allergies, diabetes, epilepsy, limiting physical conditions and psychological factors.	Employee	4	2	8	PM to confidentially discuss with crew any issues, medical or otherwise, that might be mitigated by the awareness of their fellow team members. The condition may have to be discussed with a medical expert before an affected person can travel or work on a site. Development of prescribed working conditions may be required for the person to safely work on-site. On a case-by-case basis, the prescribed working conditions, and contingencies (what to do if...) are understood by the crew.	3	1	3	
Stress	Stress / Fatigue (hunger/irritability)	Employee	3	4	12	· Supervisor to communicate expectations and receive feedback from staff regarding workload. Supervisor to monitor the employee during the completion of the project, for signs of stress (i.e. anxiety, inability to concentrate, irritability, depression, sleeplessness). Identify options to provide rest and food to staff. Provide additional support as required.	3	2	6	
Remote Work	Emergency Response	Employee	5	3	15	Establish a means of communication (for example radio, satellite or cell phone). Carry back-up communication equipment,	3	1	3	Air medi-vac not required as the charter plane will remain on-Site.

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						such as batteries. Test the communication equipment before traveling to the remote location. Conduct a daily check of communication devices. Develop a check-in plan which includes, contact names, phone numbers, planned routes of travel, frequency of check-in and daily activities. Develop an emergency response procedure outlining the nearest health care facility location and means of transport to that location. Carry a first aid kit and where appropriate, a survival kit. All employees must be first aid trained. Additional training may be required based on the additional hazards present, the distance from a health care facility, and the overall risk assessment. This training may include Wilderness Survival training. When meeting other parties, meet before traveling to the remote location when possible. First aid and emergency response training is required. Check that air-medic services are available and how to call if required.				
Slips, trips and falls	Slips, trips and falls	Employee	4	3	12	Use care and attention when walking. Establish level pedestrian footpaths where possible. Level out work areas where possible. Choose a route free of obstacles and slippery or soft ground. Walk, don't run, in a controlled manner. Avoid making sudden changes in direction and speed. · Wear appropriate construction safety boots that offer good support and have a good tread. In snowy and icy conditions, clear snow and control ice with melting	3	3	9	

						agents. Consider boot cleats for added traction. Relay hazard to others, clear or mark and report the potential hazard. Keep your workspace clean, tidy and free of slipping hazards. If any equipment or materials need to be stored, designate pre-approved locations, out of traffic areas.				
Using hand tools and portable equipment	Correct tool used incorrectly	Employee	2	2	4	Read operating manual before using a tool. Verify manufacturer's safe operating pressures for hydraulic hoses, valves, pipes, and filters. If unsure how to use a piece of equipment, seek advice from your Project Manager or Site Supervisor.	2	2	4	
Using hand tools and portable equipment	Damaged tools	Employee	4	3	12	Check handles and heads on hammers, sledges, shovels, picks, mattocks, and other such tools for splinters, soundness, and adequate sharpness. Remove from service and tag all tools having defects that will impair their strength or render them unsafe.	2	2	4	
Using hand tools and portable equipment	Entanglement	Employee	3	2	6	Where a tool has rotating parts, do not wear loose or frayed clothing, dangling jewellery, rings, chains that could become caught in the moving parts. Check that guards are in place before using. Tie long hair back.	3	2	6	
Using hand tools and portable equipment	Flying objects	Employee	3	2	6	Wear safety glasses or goggles when using equipment that has the potential to eject particles or substances. This may include non powered hand tools where there is a risk of flying rock fragments.	2	2	4	
Using hand tools and	Manual handling	Employee	3	3	9	Consider your posture when using and carrying tools. Where possible keep the	3	2	6	

portable equipment						load close to your body with it's weight distributed evenly across the body (i.e. held in two hands). If load is too heavy, ask for help. Where the work is physically demanding: - Avoid exclusively using one hand or muscle group when using tools. - Rotate different people through the task. - Break the task up over the day.				
Using hand tools and portable equipment	Use of incorrect tool	Employee	3	2	6	Before starting work, determine the risk associated with using the incorrect tool. Obtain the correct tool wherever possible. Do not attempt to modify a tool to undertake a task that it was not designed to do.	2	2	4	
Cold	Frostbite, hypothermia, sunburn, snow blindness	Employee	5	3	15	Check daily weather reports. Assess physical demands of the work. Provide equipment that will reduce the physical demands, to reduce sweating. Work in sheltered areas, or provide barriers to give shelter from the wind. Provide a warm, sheltered place to take breaks. Work in pairs whenever practical to reduce exposure time. The buddy system will allow for frequent checks for frostbite (e.g. white or black spots on skin) and hypothermia. Lone work can only be performed if adequate controls are in place to monitor the employee (e.g. other people on-site). Make sure to have food and drink available. Drink plenty of fluids, not caffeine or alcohol. Wear clothing appropriate for the weather conditions. Wear multiple layers. Foot, hand and facial protection is essential. Eye protection is required against ice particles,	2	2	4	

						snow and sun. Survival kit to include hot packs, blankets and spare clothing.				
Groundwater sampling	Bailer/Waterra/Pump	Employee	2	2	4	Beware of splashes when emptying the bailer. Take care when handling the bailer cord to minimize tangling and other objects potentially falling into the well. When using a pump, be aware of potential pinch points.	2	1	2	
Groundwater sampling	Compressed gases (low flow method)	Employee	3	3	9	Ensure that all cylinders are secured upright during transport and use. Prior to use ensure fittings are properly attached and not leaking. Do not use any leaking cylinder in a confined area as the leaking gas may displace oxygen. Ensure all valves are closed before adjusting any fittings as a fast discharge of gas may be cold and cause injury. Ensure all hoses have whip protection fitted as a fast discharge of gas may cause loose hoses to whip and strike an operator or equipment	2	3	6	
Groundwater sampling	Contaminants	Employee	3	3	9	Review the chemicals of concern that you are sampling for. Understand the chemical exposure limits, whether monitoring is required and the necessary PPE you should be wearing. Full length clothing, safety glasses and nitrile gloves (under leather gloves if required to protect against shard edges) shall be worn prior to opening the well until analysis is complete. When opening wells avoid placing your face near the opening of the well. Dispose of bailed water away from yourself and avoid splashing on yourself	2	3	6	

						or equipment.				
Groundwater sampling	Contamination	Employee	3	3	9	It may be necessary to place a sheet of plastic on the ground and fill samples over a bucket to ensure significantly contaminated water does not contact the ground. Do not dispose of any contaminated water in an area where it could enter a waterway. If there is no suitable place to dispose of water and other waste products (filters, gloves) on site, arrange with the client to dispose of it off-site in accordance with local requirements.	2	2	4	
Groundwater sampling	Electricity	Employee	3	3	9	For sampling where electricity is used to power a pump or compressor the following controls shall be implemented: 1. Apply hot work procedures if you are working near a source of flammable vapour (N.B. the contents of the well may be a source of flammable vapour) 2. Ground the generator. 3. Use residual current devices / ground fault interrupters on equipment and ensure all electrical equipment is tested and tagged. 4. Do not place electrical equipment on wet surfaces or use when raining. 5. Ensure the leads to the battery are placed so they are not subject to damage. When using batteries or jumper packs with controllers and pumps, ensure they are turned off before connecting to avoid sparks. Set up equipment to avoid water splashing onto controller, battery or pump connection.	2	2	4	
Groundwater	Hazardous substance	Employee	3	2	6	Nitric acid is considered a hazardous substance, primarily due to eye or skin	2	1	2	

sampling	s					contact. Wear safety glasses and nitrile glove and open the sample container at arm's length to minimize splashing.				
Groundwater sampling	Manual handling	Employee	3	3	9	If the well lid is trafficable (e.g. gatic cover) use appropriate tools to remove the lid. Hammers, screwdrivers etc shall not be used for this task. Position your work vehicle close to the well location to minimize carrying of equipment. Position yourself in a way that minimizes bending of your lower back. A collapsible stool may be used if the well location is near ground level. Use a pump if large volumes of water need to be removed. A tripod should be used to lower the pump down the well if the pump and lines are heavy or awkward to position. If using a hand pump, alternate hands to minimize the risk of injury and fatigue.	3	2	6	
Groundwater sampling	Sharp edges	Employee	3	3	9	Wear leather gloves (or similar) when opening the lid of the well. Use hand tools if the lid is 'trafficable' (i.e. gatic cover designed to be walked on).	2	2	4	
Surface water sampling	Contaminants	Employee	3	3	9	Review the chemicals of concern that you are sampling for. Understand the chemical exposure limits, whether monitoring is required and the necessary PPE you should be wearing. Full length clothing, safety glasses and nitrile gloves Dispose of bailed water away from yourself and avoid splashing on yourself or equipment. All waste (gloves etc) shall be removed from site and disposed of correctly.	2	3	6	
Surface water	Other	Employee	4	3	12	Assess what other activities are going on	3	3	9	

sampling	activities					around you. Consider the potential for others to access your work area and delineate the area appropriately.				
Surface water sampling	Work near water	Employee	3	3	9	Carry only equipment necessary for the task. If bags or belts are used they should be designed for quick release. Do not wear waders or similar clothing near fast flowing water as these can increase the risk of drowning. Consider emergency response processes. This may consist of a rope and a 'buddy' positioned on the shoreline (this is mandatory when sampling in fast flowing water sources) Personal floatation devices (e.g. life jackets) shall be worn near fast flowing water or where there is a sudden drop of more than 1.5m into the water. Monitor weather conditions and avoid entering waterways if significant rain has fallen in the catchment area.	2	3	6	
Use of light aircraft (including helicopter)	Dangerous goods	Employee	5	2	10	Do not transport dangerous goods such as acids, flammable substances and aerosols on a light plane. If unsure of the safety of any item, check with the pilot prior to boarding.	5	1	5	
Use of light aircraft (including helicopter)	Fatigue	Employee	5	2	10	Certified air operators shall be used as there is a requirement for pilot to complete fatigue management plan. Tasks scheduled to limit the need for an employee to work shifts in excess of 12 hours (including travel). If you have any concerns regarding the fitness for duty of the pilot or crew, do not board the aircraft.	5	1	5	
Use of light	Inclement	Employee	5	2	10	Prior to departure, seek assurance from	5	1	5	

aircraft (including helicopter)	weather					the pilot that the weather conditions are suitable. Travel only in good weather. Travel only in daylight. Log a flight plan. Follow all instructions given by pilot. Do not undertake the flight if you feel uncomfortable about the weather conditions.				
Use of light aircraft (including helicopter)	Mechanical breakdown	Employee	5	3	15	· Verify charter company has functioning inspection and maintenance program. Check function of cell phone, satellite phone or radios daily. Secure carry-on luggage. Review emergency procedures before take-off. Wear seatbelt during take-off, flight and landing.	5	1	5	
Use of light aircraft (including helicopter)	Overloaded aircraft	Employee	5	2	10	Notify the operator of passenger and baggage weight prior to departure. This will assist the pilot to ensure the aircraft is correctly balanced	5	1	5	
Use of light aircraft (including helicopter)	Use of certified air operators	Employee	5	2	10	Certified air operators (holders of a current Air Operator's Certificate) shall be used. Certified air operator shall be registered with CASA to undertake the work being performed (e.g. aerial surveying, sling load operations). Seek confirmation from pilot that daily inspection has been performed. Ensure you receive a safety briefing in the aircraft. The briefing should include: - Emergency procedures; - Location and use of emergency equipment; - Where the first aid kit and water is kept; and - Communications during flight.	5	1	5	
Walking surfaces	Cuts, punctures,	Employee	3	4	12	All employees working on a landfill to have up to date inoculations (at minimum	2	2	4	

	disease					tetanus). Wear boots, clothing and gloves that provide protection against wires and sharp objects. Look for wires and sharp objects when walking on the pile.				
Walking surfaces	Slippery surfaces	Employee	4	3	12	Create level walking paths wherever possible. Consider ground condition when planning work. It may be too muddy and slippery for heavy equipment on slopes. Plan work accordingly. Wear steel toed footwear that provides good grip in muddy or snowy conditions.	3	2	6	
Unknown site conditions	Unknown site conditions	Employee	5	3	15	Conduct pre-site visit hazard assessment. · Site contact to be aware of visit and to provide information on hazards. · Check-in on-site upon arrival. · Talk to site supervisor about hazards present. Conduct a Field Level Hazard Assessment (FLHA) to identify any uncontrolled hazards (i.e. hazards not included in the original hazard assessment, or for which conditions are different than assumed in the original hazard assessment).Call PM to review hazards identified in the HaSEP versus what is found on-site.	3	2	6	
Working near water	Inclement weather	Employee	3	3	9	Assess weather and marine forecast the day prior and on the morning of work. Postpone the activity if weather forecast is not favourable. Remain vigilant at all times and continually re-assess weather conditions and associated risks. Monitor weather conditions and do not enter vicinity of streams if raining in catchment area.	3	2	6	

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Working near water	Remote or isolated work	Employee	4	3	12	Two forms of communication with the Project Manager or local office shall be available. Verify function of communication devices daily. Agreed call in system with buddy or Project Manager (e.g. on arrival at site, prior to leaving site and on safe return from site) Project Manager shall maintain the following information: - Estimated sampling locations, - Details of other contacts on site (e.g. client), - Estimated time of departure and arrival.	4	2	8	
Working near water	Slips and trips	Employee	3	2	6	Select appropriate path of travel avoiding slippery surfaces and other hazards where possible. Wear footwear appropriate for the task and surrounding hazards. Wear PFD.	3	2	6	
Working near water	Still or slow moving water	Employee	2	3	6	Minimize time adjacent to or in water. Carry only equipment needed to complete each task. If bags or belts are used to carry equipment, these should be designed to allow for quick release. Personal Floatation Device should be worn for activity near a watercourse where there is a sudden drop of greater than 1 meter from the sampling location or any realistic risk of drowning. Consider emergency response processes. This may consist of a rope ladder or similar if the river bank is steep. Lifebuoys or a bouyant heaving line must be provided for emergency rescue use. Consideration shall also be given to first aid and emergency provisions if contaminants are likely to be present in the water body	2	2	4	

Working on a contaminated site	Contaminants - general	Employee	3	2	6	Where exposure to chemicals may occur, use monitoring devices to quantify the exposure (i.e. a photoionisation detector to monitor for vapour exposure). Avoid unnecessary contact with chemicals and contaminated materials. Personal protective equipment including nitrite gloves shall be worn when handling soils or ground water. Where other gloves are required nitrile gloves shall be worn under these. Ensure facilities with soap and detergent is available for regular hand washing. Ensure environmentally safe disposal of all contaminated soils, water and/or contaminated clothing and PPE (e.g. into barrels for treatment and disposal). Refer local legislation or Environmental Group for more information. A minimum of one first aid trained person shall be on site at all times work is being undertaken. Ensure emergency access and egress is maintained at all times. As some gases are heavier than air, entry into all excavations deeper than 1.2 m is strictly prohibited due to it being classified a potential confined space.	2	2	4	
Working on a contaminated site	Contaminants - ground penetrating work	Employee	3	4	12	Create an exclusion zone to ensure non-essential staff and members of the public do not enter the area. Avoid excessive plant / vehicle movements as this can disperse and spread potential contamination. Where water restrictions permit, dampen the soil during earthworks to reduce dust and odour generation.	3	2	6	

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						Where possible, stand and work upwind from earthworks. Should respirators be required, they shall be selected and used in accordance with CSA Z94.4-02 Selection, use and maintenance of respiratory protective equipment. This will include: - Assessment of likely oxygen levels - Selection of respirator cartridges - Facial fit test - Training for employees required to use respirators.				
Working on a contaminated site	Flammable / combustible gases and liquids	Employee	4	3	12	All hazardous areas, defined as areas where flammable atmospheres are likely to be present must be designated and identified on a site plan. Review this plan on entry to the site. All employees working in hazardous areas (as defined by the site) must be an approved Contractor. Electrical and battery-powered equipment and equipment capable of producing a local source of ignition (e.g. flame, static electricity, friction, heat, spark, exhaust) are not permitted unless approved by the permit and certified as intrinsically safe (documented evidence required). Some examples of such equipment are power tools, portable radios, mobile phones, pagers, calculators and water quality meters. As some gases are heavier than air, entry into all excavations deeper than 1.2 m is strictly prohibited due to it being classified a potential confined space. Monitoring of flammable gases in ambient air (the breathing zone) will be undertaken where ground penetrating work is being performed or where any work is	4	2	8	

						undertaken in enclosed areas. Work shall cease if vapour concentration exceeds 20% LEL. All personnel to evacuate at least 30m upwind. Contact Project Manager for advice. Flame retardant clothing shall be worn. Synthetic clothing such as vests, raincoats, polar fleece jumpers must not be worn as they can produce a spark.				

11.0 PERSONAL PROTECTIVE EQUIPMENT

Item	Required	Provided by Golder	Provided by Client	Specific Requirement
Cold Weather Gear	☒	☐	☐	
Wet Weather Gear	☒	☐	☐	
Gloves				
Disposable	☒	☒	☐	Nitrile
Cut resistant	☒	☒	☐	
Thermal protection	☒	☒	☐	
Other	☒	☒	☐	Leather, for handling equipment
Head Protection				
Other	☒	☐	☐	Thermal protection.
Hearing Protection				
Disposable foam ear plugs	☒	☒	☐	Provided by charter flight company
High Visibility Clothing				
Yellow	☒	☒	☐	All personnel should have reflective clothing while on-Site.
Safety Footwear				
Safety boots	☒	☒	☐	
Safety gumboots	☒	☒	☐	Not required by all field crew.
Eye Protection				
Impact resistant safety goggles or glasses	☒	☒	☐	Required while collecting water samples.
General Protection				
Sun cream or block	☒	☒	☐	As required.
Insect repellent	☒	☒	☐	As required.
Hand warmers / Glove	☒	☒	☐	As required.
Other				
Sleeping Bag and extra clothing	☒	☒	☐	Sleeping bag and provisions for staying over night if required.
Medication	☒	☐	☐	As required, considering possible stay overnight for several nights.
Food	☒	☒	☐	Emergency rations.
Survival Kit	☒	☒	☐	Contains dry food for four people for 24hrs, stove and flashlights.

12.0 TRAINING

It is up to the Project Manager to arrange for the following training e.g. Confined Spaces.

Course Name	Employee Name or Role
No Site-specific training	

13.0 INCIDENT AND EMERGENCY MANAGEMENT

13.1 ☐Additional Client/Site Reporting Procedures

Hand-held radios on-Site to facilitate communication on-Site.

13.2 Emergency contacts

Contact	Number
Ambulance	867-777-4444
Fire	Not applicable.
Police	867-669-5100
Golder Crisis Hotline (from outside Canada)	xxx-403-775-1041
Golder Crisis Hotline (from within Canada)	1-866-249-0439
Golder Media Relations	(604) 296-6845
Spills Reporting	(867) 920-8130
Aklak Air (Charter Flights)	(867) 777-3555

13.3 Hospital

Hospital name	Address	Phone	Level of Care Available
Inuvik Hospital (Beaufort-Delta)	289 Mackenzie Road Inuvik	1-867-777-8000	

13.4 Site emergency

☒Site emergency procedures available

☐Site owner will provide emergency procedures induction/site induction

☐Medivac procedures in place (medivac arrangements must be confirmed on site)

14.0 WORKPLACE CONDUCT

Golder's Values and Code of Conduct describe the behaviours we desire in our workplace. At Golder the health and safety of our people is paramount. Golder is committed to treating our employees with honesty, fairness and respect and we expect our people to behave at all times in a manner that upholds our reputation and demonstrates our commitment to our Values.

As described in Golder's Harassment & Violence in the Workplace Policy, every staff member, subcontractor and visitor has the right to work in a violence-free, respectful environment that protects him or her from verbal, physical or psychological abuse. Any conduct that a reasonable person would consider offensive, abusive, or humiliating will not be tolerated. Harassment and violence violates fundamental rights and personal dignity.

Employees experiencing acts of harassment or violence have access to the assistance they may require in order to bring forward a complaint and that moreover, substantiated claims will receive full support of Human Development and management.

Any violent and/or harassment incident that occurs on-site shall be reported to the Golder Site Supervisor immediately who will determine the appropriate on-site resolution to the incident. Upon return from site, the Site Supervisor will complete an incident report and notify Human Development and management who will determine the appropriate disciplinary response to the incident.

15.0 EMERGENCY PROVISIONS

Given the remote nature of the work, the field crew will bring a survival kit to the sites. The survival kit will include dry food for up to 6 people for 24 hrs, stove, and flashlights. Additionally, a 20 litre (L) jug of water will be brought to the sites. Members of the field crew will be responsible for brining their own sleeping bags and extra clothing suitable for cold weather environments.

Emergency shelter is not readily available at either site. In the event that emergency shelter is required, the field crew will use the Twin Otter airplane that transported the crew to the site for shelter. The field crew will consult with the pilot of the airplane to ensure it is safe for use as shelter.

16.0 HSE PLAN CONTROL

It is the responsibility of the Project Manager to ensure that this HaSEP is prepared and the contents communicated at the pre-start / toolbox meeting to all project staff, Golder or subcontractor, with a copy held on site.The HaSEP has been reviewed or prepared by the Project Manager.

If the project site is remote from the home office, this HaSEP is to be reviewed and approved by the local Golder office whether in another country, province or city.

Role	Name (printed)	Date	Signature
Prepared by	Suzi Martin	July 31, 2012	
Reviewed by	Christopher Cunada	August 1, 2012	
Reviewed by	Anne Croteau	August 9, 2012	
Approved by	Julia Krizan		

16.1 Golder sign-off

Signing below indicates you have read and agree to comply with the information contained in this document.

Date	Name	Company	Signature

You have the right to refuse any work you feel is unsafe, or that you are not trained to do. No job is so urgent that we cannot do it without meeting our HSE obligations

17.0 OTHER DOCUMENTATION

When reading this HaSEP please refer to the following documentation from clients etc., as required:

Document	Link to Document

18.0 ONSITE CHANGES AND REVIEW

Date	Change or modification	How was it communicated?

You have the right to refuse any work you feel is unsafe, or that you are not trained to do. No job is so urgent that we cannot do it without meeting our HSE obligations

19.0 INSPECTIONS AND SITE VISITS

19.1 Inspections

Nature	Frequency	Person Responsible
On-site HaSEP verification with call to PM	Before work begins	Site Supervisor

19.2 Inspections and Site Visits

Date	Area	Name

20.0 REVISION HISTORY

Version	Author	Date	Amendments, hazards associated with	Reviewed and communicated	Approved by

You have the right to refuse any work you feel is unsafe, or that you are not trained to do. No job is so urgent that we cannot do it without meeting our HSE obligations

			amendments & controls	to all parties	
V1	Chris Cunada	August 13, 2012	- Section 1.3: phone contact for Patti Gurbutt was added - Section 6.1: phone contact for Patti Gurbutt was added - Section 6.2: phone contact for Patti Gurbutt was added - Section 11: Survival Kit was added to list of personal protective equipment - Section 14 Workplace Conduct: new section - Section 15 Emergency Provisions: new section		
V2	Chris Cunada	August 14, 2012	- Section 1.5: Rachel Hansen added as Wildlife Monitor for Johnson Point investigation - Section 4.2: Rachel Hansen added as Wildlife Monitor for Johnson Point investigation		
V3	Chris Cunada	August 15, 2012	- Section 6.2: Stanley Yee was replaced with Patti Garbutt as AANDC missed check-in contact - Section 8: Golder will provide Patti Garbutt with field trip travel itinerary		

September 5, 2012 Project No. 12-1328-0036-3100

Stanley Yee, Environmental Management Scientist
AANDC - CARD
Waldron Building 5103-48th St.
P.O. Box 1500
Yellowknife, NT X1A 2R3
Phone: (867) 669-2452
Fax: (867) 669-2721
Email: Stanley.Yee@aandc-aadnc.gc.ca

SITE INVESTIGATION PROGRESS REPORT: JOHNSON POINT

Dear Mr. Yee,

The investigation of Johnson Point (the Site) for the 2012 Johnson Point Monitoring Program was completed by Golder Associates Ltd. (Golder), with partner IMG-Golder Corp. (IMG-Golder) on **August 20, 2012**, by a 5-person field crew consisting of 2 Golder staff, 1 IMG-Golder staff and 2 Wildlife Monitors. In addition, an inspector from Aboriginal Affairs and Northern Development Canada (AANDC) joined the field crew at the Site. The Site investigation was completed following methodology as outlined in *2012 Monitoring Program for Johnson Point and BAR-E Horton River: Site Monitoring Plan* (the Monitoring Plan), submitted to AANDC – Contaminants and Remediation Directorate (CARD) on July 27, 2012, and the *Johnson Point and Horton River Priority List 2012* provided by AANDC–CARD to Golder on August 16, 2012.

This Site Investigation Progress Report is submitted to summarize the work accomplished during the August 2012, Site investigation. The following information is provided herein:

- Summary of Geotechnical Observations;
- Summary of Groundwater, Surface Water, Pond Water, and Soils Sample Collections;
- Site Plan;
- Limitations; and
- Budget Update.

1.0 SUMMARY OF GEOTECHNICAL OBSERVATIONS

Geotechnical monitoring and visual inspection was conducted as outlined in the Monitoring Plan. Table 1 lists the work completed on-Site. Work that was completed is assigned a "√" and work that was not completed is labelled with an "x". Work assigned an "NR" was not required for this program.

Table 1: Johnson Point Geotechnical Monitoring and Visual Inspection

Location	Slope Profile Alignments*	Soil Active Zone Thickness*	Visual Inspection
Airstrip	NR	NR	√
Apron Area	√	√	√
Barge Landing Area	NR	NR	√
Borrow areas	NR	NR	X
Former Construction Camp location	NR	NR	√
Former Tankfarm Pad	NR	NR	√
Landfill A	NR	NR	√
Landfill B	NR	NR	√
Landfill C	NR	NR	√
Landfill D	NR	NR	√
Soil Disposal areas	NR	NR	√

* As outlined in the Monitoring Plan, slope profile alignments and measuring of soil active zone thickness was only required for the Apron Area.

The slope profile alignment measurements were surveyed at one meter intervals using a level and rod. The visual inspection included looking for items such as settlement, erosion, frost action, sloughing and cracking, animal borrows, vegetation re-establishment and percentage cover, vegetation stress, soil or water staining, odours, seepage points or ponded water, exposed debris and the condition of the monitoring instruments. The borrow area at the south end of the airstrip was not inspected due to time constraints and its relative distance from other Site features. A complete summary of the results of the visual inspection of Site locations will be provided in the 2012 Johnson Point Monitoring Report, which is scheduled to be completed by Golder in November 2012.

2.0 SUMMARY OF SAMPLE COLLECTIONS

2.1 Groundwater and Surface Water Sampling

The field crew collected five groundwater samples, one river water sample, one pond water sample, and two quality assurance and quality control (QA/QC) samples using a peristaltic pump and new waterra tubing. The samples were placed in appropriate laboratory supplied containers. Water sampling is summarized in Table 2. The Pond and Surface water sampling locations were recorded in Universal Transverse Mercator (UTM) using a GPS 60 Garmin GPS unit.

Table 2: Summary of Groundwater and Surface Water Sampling at Johnson Point

Sampling Location	Sample ID	Type of Water	Notes	GPS Coordinates*
MW09-01	-	-	Frozen: ice observed at end of probe	451040E / 8075565N
MW09-02	-	-	Frozen: ice observed at end of probe	451149E / 8075586N

Sampling Location	Sample ID	Type of Water	Notes	GPS Coordinates*
MW09-03	MW09-03-PW	Groundwater	Collected purged water	451142E / 8075618N
MW09-04	MW09-04-PW	Groundwater	Collected purged water	451169E / 8075604N
MW09-05	MW09-03-PW	Groundwater	Collected purged water	451192E / 8075535N
MW09-06	MW09-04-PW	Groundwater	Collected purged water	451116E / 8075479N
MW09-07	MW09-03-PW	Groundwater	Collected purged water	451085E / 8075453N
Unnamed River	Unnamed River	Surface water	Collected from shore	450995E / 8075906N
Landfill B	Landfill B	Pond water	Collected from pond located on eastern toe of Landfill B	450465E / 8075908N
QA/QC				
Duplicate	DUP-1	Surface water	Collected from shore of Unnamed River	450995E / 8075906N
Travel Blank	TB	Undetermined	-	-

* Datum: NAD 83, Universal Transverse Mercator 11X

All water samples have been shipped to ALS Laboratories in Edmonton where they will be tested for:

- Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX);
- petroleum hydrocarbon (PHC) Fraction 1 (F1) – BTEX; and
- PHC F2.

The results of laboratory analyses for the above parameters will be compared against the Canadian Council of Ministers of the Environment (CCME) Guidelines for the Protection of Freshwater Aquatic Life and the Protection of Marine Life, as well as the results of previous studies. At the time of writing this letter, Golder had not received the laboratory's results.

2.2 Soil Sampling

The field crew collected seven soil samples in laboratory supplied containers on-Site. Soil sampling is summarized in Table 3. The soil sampling locations were recorded in UTM using a GPS 60 Garmin GPS unit.

Table 3: Summary of Soil Sampling at Johnson Point

Sampling Location	Sample ID	Notes	GPS Coordinates*
Landfill A	LFA-A-12-01	Surface sample at stained area (0-10 cm)	450727E / 8075851N
Landfill A	LFA-A-12-02	Same location as LFA-A-12-01 (10-20 cm)	450727E / 8075851N
Landfill A	LFA-A-12-03	Erosion channel located south of Landfill A, preferential flow	450799E / 8075928N
Landfill B	LFA-B-12-01	Collected adjacent to the ponded water by Landfill B.	450468E / 8075905N
Landfill B	LFA-B-12-02	Collected in an erosion channel near the ponded water by Landfill B.	450468E / 8075893N
Landfill D	LFA-D-12-01	Composite sample collected from an erosion channel at the lowest toe of Landfill D.	449741E / 8075698N
Former Tank Farm	Tank Farm A	Stained soils and water located east of the Tankfarm Pad	450746E / 8075763N

* Datum: NAD 83, UTM 11X

All soil samples have been shipped to ALS Laboratories in Edmonton where they will be tested for:

- Polychlorinated biphenyls (PCBs);
- PHC F1-F3; and
- metals (arsenic, cadmium, chromium, cobalt, lead, nickel, copper and zinc).

The results of laboratory analyses for the above parameters will be compared against site remediation criteria set for Johnson Point (Site Specific Target Level, Abandoned Military Site Remediation Protocol Criteria for the Protection of Freshwater Aquatic Life) and to concentrations from baseline monitoring. At the time of writing this letter, Golder had not received the laboratory's results.

2.3 Thermal Monitoring

As detailed in the Monitoring Plan, thermal data was downloaded from T09-01 and T09-02, the batteries were changed and the sampling frequency was updated. The thermistors were set to record on a 12 hour frequency. At this setting, their storage memory will be full on January 4, 2015. Thermal data analysis, evaluation and presentation will be provided in the 2012 Johnson Point Monitoring Report, which is scheduled to be completed by Golder in November 2012. Table 4 summarizes thermal monitoring completed by the field crew during the Site investigation.

Table 4: Summary of Thermal Monitoring at Johnson Point

Location	Task		
	Download Thermal Data	Replace Batteries	Update Sampling Frequency
T09-01	√	√	√
T09-02	√	√	√

3.0 SITE PLAN

A site plan showing planned sample locations, actual sample locations and site features is presented in Figure 1. More detailed plans will be included in the 2012 Johnson Point Monitoring Report, which is scheduled to be completed by Golder in November 2012.

4.0 LIMITATIONS

Wells MW09-01 and MW09-02 were frozen and could not be sampled. Purged water was collected from wells MW09-03 to MW09-07 as time constraints on-Site did not allow the field crew to collect the recharge water. Time constraints as well as the relative distance from other site features made it unfeasible to include the borrow area at the end of the airstrip during the inspection.

This document, including all text, data, tables, plans, figures, drawings and other documents contained herein, has been prepared by Golder for the sole benefit of AANDC-CARD. It represents Golder's experience based on the knowledge and information available at the time of completion. Golder is not responsible for any unauthorized use or modification of this document. All third parties relying on this document do so at their own risk.

5.0 BUDGET UPDATE

As of August 31, 2012, approximately 47% of the total budget has been spent. Not all charges for shipping samples and equipment have been accounted for at this time. The first milestone invoice has been prepared and is for approximately 4% of the total budget. The second milestone invoice will be prepared and delivered following the delivery of this post-field summary.

6.0 ADDITIONAL INFORMATION REGARDING THE FIELD PROGRAM

- It was originally planned for an Inuvialuit Elder from Sachs Harbour to accompany the field crew to the Site. However, due to airplane weight restrictions and on-Site time restrictions it was determined unfeasible to include the Elder on this Site investigation. The Elder was compensated for inconveniences due to the change in plan.
- A second Wildlife Monitor was added to the field crew in place of the Elder to allow the Golder field crew to split up on-Site and complete the field investigation with more flexibility while remaining safe.

7.0 CLOSING

If AANDC–CARD has any questions or concerns regarding the progress of the 2012 Johnson Point Monitoring Program, please contact the undersigned.

GOLDER ASSOCIATES LTD.

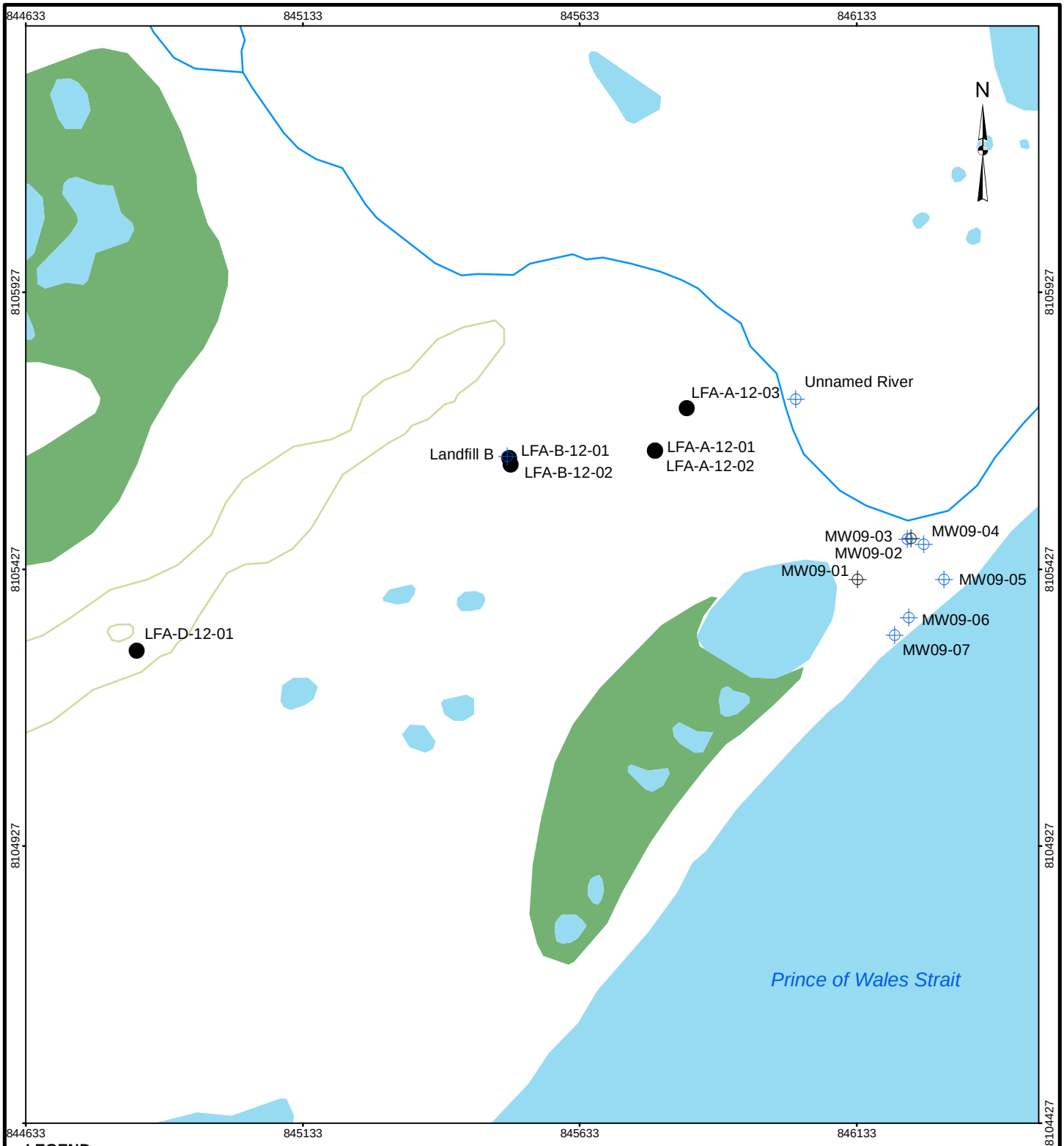
Suzi Martin, B.Sc., P.Eng. (Alberta)
Environmental Engineer

Dave Caughill, P.Eng.
Associate, Geotechnical Engineer

Anne Croteau, M.Sc., P.Eng.
Environmental Engineer

SM/AC/DC/cc

Attachments: Figure 1: Soil, Groundwater & Surface Water Sampling Locations, August 2012



LEGEND

- SOIL SAMPLE LOCATION
- WATER SAMPLE LOCATION
- FROZEN WELLS
- WATERCOURSE
- CONTOUR LINE
- WETLAND
- WATERBODY

200 0 200

SCALE 1:10,000 METRES

REFERENCE

Basedata: Canvec 1:50000 obtained from Geogratis.
DATUM: NAD83 PROJECTION: UTM ZONE 11

PROJECT

JOHNSON POINT - SITE INVESTIGATION
POST FIELD PROGRESS REPORT

TITLE

SOIL, GROUNDWATER & SURFACE WATER SAMPLING LOCATIONS, AUGUST 2012

Golder Associates
Yellowknife, Northwest Territories

PROJECT	12 1328 0036		FILE No.	
DESIGN	AC	30 Aug. 2012	SCALE AS SHOWN	REV. 0
GIS	KM	30 Aug. 2012		
CHECK	SM	31 Aug. 2012		
REVIEW	DC	04 Sep. 2012		

FIGURE: 1

N:\Active\GIS\2012\12_1328_0036_JohnsonPoint\Mapping\mxd

APPENDIX B

Photographs

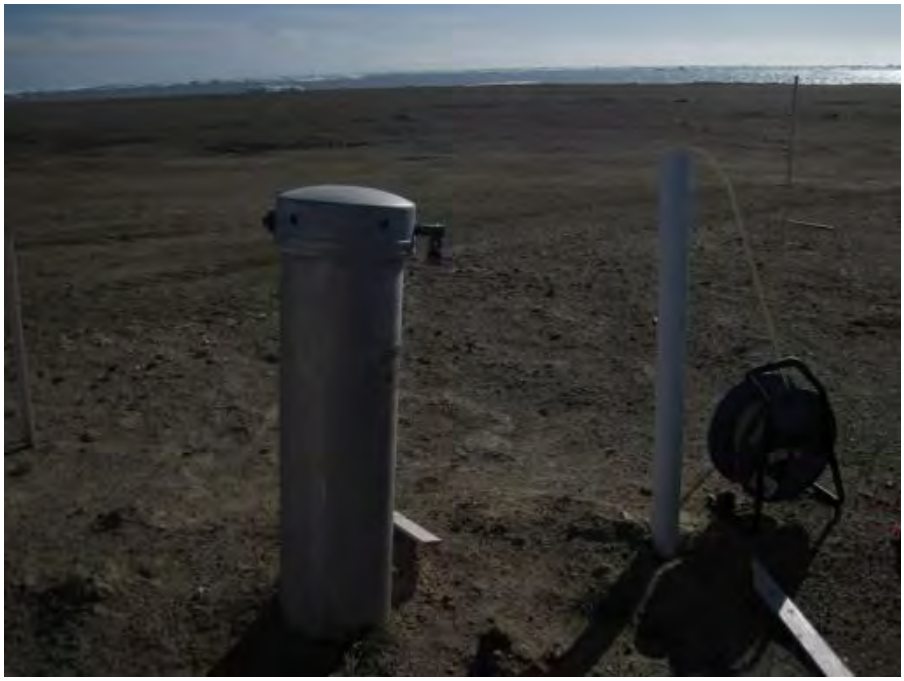
Photograph 1 – View of Airstrip, looking south (Section 3.1.1).

Photograph 2 – View of Apron Area, looking north. MW09-01 and Thermistor on left. MW09-02, MW09-03, and MW09-04 ahead (Section 3.1.2).

Photograph 3 – Erosion west of MW09-03 and MW09-02.
The Unnamed River is off the photograph to the right. People are standing at MW09-01 (Section 3.1.2).

Photograph 4 – MW09-04, looking east with the Unnamed River on the left and the Prince of Wales Straight on the right and in the background (Section 3.1.2).

Photograph 5 – MW09-04, looking north. Cap (at bottom of the picture) was not secured on the well (Section 3.1.2.3).



Photograph 6 – MW09-01 and thermistor T09-01, looking east (Section 3.1.2.3).

Photograph 7 – Apron Area. Thermistor T09-02, MW09-01, MW09-02, MW09-03, and MW09-04, looking north (Section 3.1.2.3).

Photograph 8 – Looking north, northwest across tank farm area. Muskox in distance along river bed (Section 3.1.6).

Photograph 9 – Settlement in the Former Tank Farm Pad. Hydrocarbon odours were evident in this area and on the other side of the camp; however, the source could not be identified due to the wind (Section 3.1.6).

Photograph 10 – Signs of settlement on the east side of Landfill A (Section 3.1.7).

Photograph 11 – Erosion channel on the east side of Landfill A, up-slope from the settlement (Section 3.1.7).

Photograph 12 – Erosion channel on the south side of Landfill A (Section 3.1.7).

Photograph 13 – Signs of erosion near the southwest corner of Landfill A, looking toward the Prince of Wales Straight. A seasonal drainage channel is evident downslope (Section 3.1.7).

Photograph 14 – Northern, unarmored slope of Landfill A.
Hydrocarbon staining is evident just off the landfill cap (Section 3.1.7).

Photograph 15 – Landfill B, looking south. Rippled sand visible bottom right –by pond (Section 3.1.8).

Photograph 16 – Water body adjacent to Landfill B. Water sample LANDFILLB-A was collected here, as well as soil sample LFA-B-12-01 (Section 3.1.8).

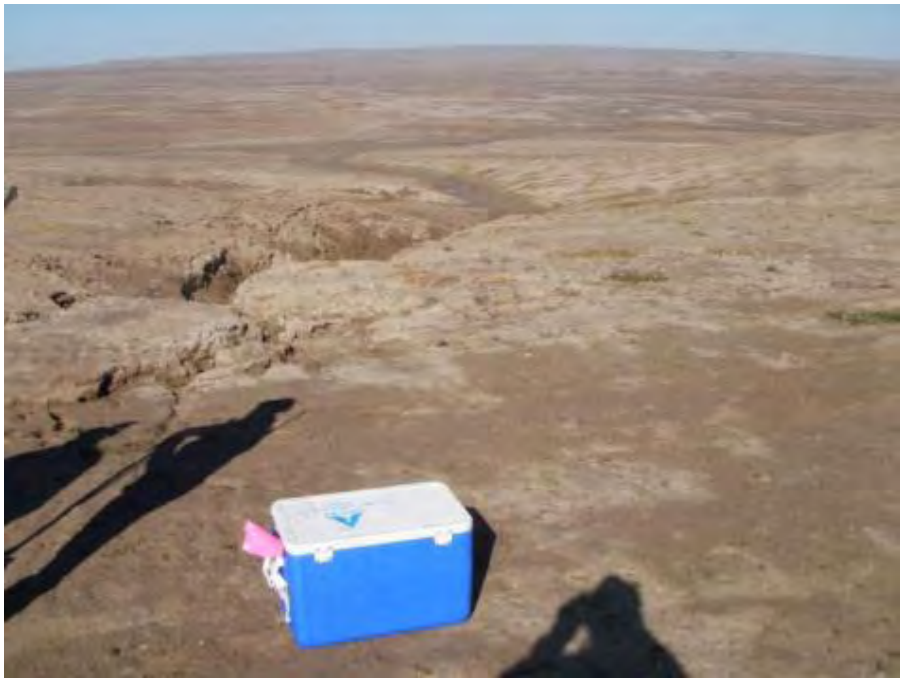
Photograph 17 – Southern side of Landfill C, looking north (Section 3.1.9).

Photograph 18 – From Landfill C, looking southeast. Landfill B is on the right. The 2012 camp is in the centre. The former Tank Farm Pad is on the left (Section 3.1.9).

Photograph 19 – Landfill D – The 2010 report indicated that water was ponded in this area on the cap (Section 3.1.10).

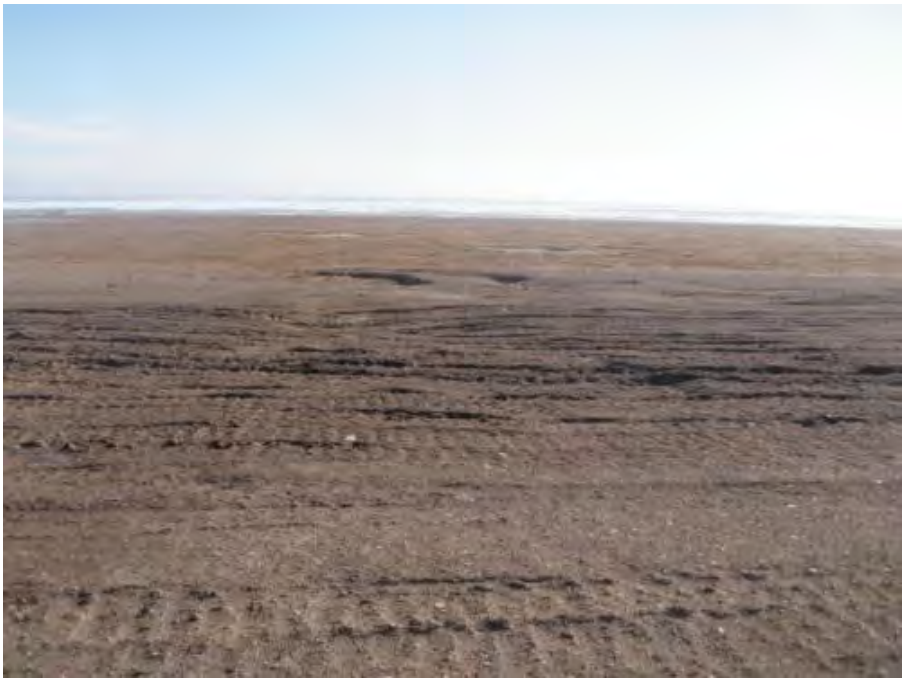
Photograph 20 – Location of soil sample LFA-D-12-01 (Section 3.1.10).

Photograph 21 – Straight-side of Disposal Area 1 by Landfill C. Erosion channels visible (Section 3.1.11).



Photograph 22 – Drainage/Erosion channel west of Disposal Area 1.
Mr. Arey indicated that erosion had occurred in this area (Section 3.1.11).

Photograph 23 – Approaching Disposal Area 2 from Disposal Area 1 (Section 3.1.11).



Photograph 24 – Area of settlement south of Disposal Area 2 (Section 3.1.11).

APPENDIX C

Analytical Laboratory Report

February 2013
Report No. 12-1328-0036

Golder Associates

GOLDER ASSOCIATES LTD
ATTN: SUZI MARTIN
102 - 2535 3 Avenue SE
Calgary AB T2A 7W5

Date Received: 23-AUG-12
Report Date: 06-SEP-12 16:10 (MT)
Version: FINAL

Client Phone: 403-267-6631

Certificate of Analysis

Lab Work Order #: L1198412

Project P.O. #: NOT SUBMITTED
Job Reference: 12-1328-0036
C of C Numbers: 10-185309
Legal Site Desc:

Shannon Akkerman
Senior Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1198412-1 MW09-03 PW							
Sampled By: SM/AC/CC on 20-AUG-12							
Matrix: WATER							
BTEX, F1 (C6-C10) and F2 (>C10-C16)							
BTEX and F1 (C6-C10)							
Benzene	<0.00050	RWHS	0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
Toluene	<0.00050	RWHS	0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
Ethylbenzene	<0.00050	RWHS	0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
o-Xylene	<0.00050	RWHS	0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
m+p-Xylene	<0.00050	RWHS	0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
F1(C6-C10)	<0.10	RWHS	0.10	mg/L	24-AUG-12	27-AUG-12	R2423200
F1-BTEX	<0.10	RWHS	0.10	mg/L	24-AUG-12	27-AUG-12	R2423200
Xylenes	<0.00071	RWHS	0.00071	mg/L	24-AUG-12	27-AUG-12	R2423200
F2 (>C10-C16)							
F2 (>C10-C16)	<0.25		0.25	mg/L	24-AUG-12	24-AUG-12	R2423981
Surrogate: 2-Bromobenzotrifluoride	104.6		65-135	%	24-AUG-12	24-AUG-12	R2423981
L1198412-2 MW09-04 PW							
Sampled By: SM/AC/CC on 20-AUG-12							
Matrix: WATER							
BTEX, F1 (C6-C10) and F2 (>C10-C16)							
BTEX and F1 (C6-C10)							
Benzene	<0.00050		0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
Toluene	<0.00050		0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
Ethylbenzene	<0.00050		0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
o-Xylene	<0.00050		0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
m+p-Xylene	<0.00050		0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
F1(C6-C10)	<0.10		0.10	mg/L	24-AUG-12	27-AUG-12	R2423200
F1-BTEX	<0.10		0.10	mg/L	24-AUG-12	27-AUG-12	R2423200
Xylenes	<0.00071		0.00071	mg/L	24-AUG-12	27-AUG-12	R2423200
F2 (>C10-C16)							
F2 (>C10-C16)	<0.25		0.25	mg/L	24-AUG-12	24-AUG-12	R2423981
Surrogate: 2-Bromobenzotrifluoride	102.2		65-135	%	24-AUG-12	24-AUG-12	R2423981
L1198412-3 MW09-05 PW							
Sampled By: SM/AC/CC on 20-AUG-12							
Matrix: WATER							
BTEX, F1 (C6-C10) and F2 (>C10-C16)							
BTEX and F1 (C6-C10)							
Benzene	<0.00050		0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
Toluene	<0.00050		0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
Ethylbenzene	<0.00050		0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
o-Xylene	<0.00050		0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
m+p-Xylene	<0.00050		0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
F1(C6-C10)	<0.10		0.10	mg/L	24-AUG-12	27-AUG-12	R2423200
F1-BTEX	<0.10		0.10	mg/L	24-AUG-12	27-AUG-12	R2423200
Xylenes	<0.00071		0.00071	mg/L	24-AUG-12	27-AUG-12	R2423200
F2 (>C10-C16)							
F2 (>C10-C16)	<0.25		0.25	mg/L	24-AUG-12	24-AUG-12	R2423981
Surrogate: 2-Bromobenzotrifluoride	104.9		65-135	%	24-AUG-12	24-AUG-12	R2423981
L1198412-4 MW09-06 PW							
Sampled By: SM/AC/CC on 20-AUG-12							
Matrix: WATER							
BTEX, F1 (C6-C10) and F2 (>C10-C16)							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1198412-4 MW09-06 PW							
Sampled By: SM/AC/CC on 20-AUG-12							
Matrix: WATER							
BTEX and F1 (C6-C10)							
Benzene	<0.00050		0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
Toluene	<0.00050		0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
Ethylbenzene	<0.00050		0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
o-Xylene	<0.00050		0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
m+p-Xylene	<0.00050		0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
F1(C6-C10)	<0.10		0.10	mg/L	24-AUG-12	27-AUG-12	R2423200
F1-BTEX	<0.10		0.10	mg/L	24-AUG-12	27-AUG-12	R2423200
Xylenes	<0.00071		0.00071	mg/L	24-AUG-12	27-AUG-12	R2423200
F2 (>C10-C16)							
F2 (>C10-C16)	<0.25		0.25	mg/L	24-AUG-12	24-AUG-12	R2423981
Surrogate: 2-Bromobenzotrifluoride	96.3		65-135	%	24-AUG-12	24-AUG-12	R2423981
L1198412-5 MW09-07 PW							
Sampled By: SM/AC/CC on 20-AUG-12							
Matrix: WATER							
BTEX, F1 (C6-C10) and F2 (>C10-C16)							
BTEX and F1 (C6-C10)							
Benzene	0.0594		0.00050	mg/L	24-AUG-12	29-AUG-12	R2423200
Toluene	1.81		0.00050	mg/L	24-AUG-12	29-AUG-12	R2423200
Ethylbenzene	0.329		0.00050	mg/L	24-AUG-12	29-AUG-12	R2423200
o-Xylene	1.17		0.00050	mg/L	24-AUG-12	29-AUG-12	R2423200
m+p-Xylene	2.44		0.00050	mg/L	24-AUG-12	29-AUG-12	R2423200
F1(C6-C10)	13.1		0.10	mg/L	24-AUG-12	29-AUG-12	R2423200
F1-BTEX	7.34		0.10	mg/L	24-AUG-12	29-AUG-12	R2423200
Xylenes	3.61		0.00071	mg/L	24-AUG-12	29-AUG-12	R2423200
F2 (>C10-C16)							
F2 (>C10-C16)	1.43		0.25	mg/L	24-AUG-12	24-AUG-12	R2423981
Surrogate: 2-Bromobenzotrifluoride	125.0		65-135	%	24-AUG-12	24-AUG-12	R2423981
L1198412-6 DUP-1							
Sampled By: SM/AC/CC on 20-AUG-12							
Matrix: WATER							
BTEX, F1 (C6-C10) and F2 (>C10-C16)							
BTEX and F1 (C6-C10)							
Benzene	<0.00050		0.00050	mg/L	24-AUG-12	29-AUG-12	R2423200
Toluene	<0.00050		0.00050	mg/L	24-AUG-12	29-AUG-12	R2423200
Ethylbenzene	<0.00050		0.00050	mg/L	24-AUG-12	29-AUG-12	R2423200
o-Xylene	<0.00050		0.00050	mg/L	24-AUG-12	29-AUG-12	R2423200
m+p-Xylene	<0.00050		0.00050	mg/L	24-AUG-12	29-AUG-12	R2423200
F1(C6-C10)	<0.10		0.10	mg/L	24-AUG-12	29-AUG-12	R2423200
F1-BTEX	<0.10		0.10	mg/L	24-AUG-12	29-AUG-12	R2423200
Xylenes	<0.00071		0.00071	mg/L	24-AUG-12	29-AUG-12	R2423200
F2 (>C10-C16)							
F2 (>C10-C16)	<0.25		0.25	mg/L	24-AUG-12	24-AUG-12	R2423981
Surrogate: 2-Bromobenzotrifluoride	104.2		65-135	%	24-AUG-12	24-AUG-12	R2423981
L1198412-7 UNNAMED RIVER							
Sampled By: SM/AC/CC on 20-AUG-12							
Matrix: WATER							
BTEX, F1 (C6-C10) and F2 (>C10-C16)							
BTEX and F1 (C6-C10)							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1198412-7 UNNAMED RIVER							
Sampled By: SM/AC/CC on 20-AUG-12							
Matrix: WATER							
BTEX and F1 (C6-C10)							
Benzene	<0.00050		0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
Toluene	<0.00050		0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
Ethylbenzene	<0.00050		0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
o-Xylene	<0.00050		0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
m+p-Xylene	<0.00050		0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
F1(C6-C10)	<0.10		0.10	mg/L	24-AUG-12	27-AUG-12	R2423200
F1-BTEX	<0.10		0.10	mg/L	24-AUG-12	27-AUG-12	R2423200
Xylenes	<0.00071		0.00071	mg/L	24-AUG-12	27-AUG-12	R2423200
F2 (>C10-C16)							
F2 (>C10-C16)	<0.25		0.25	mg/L	24-AUG-12	24-AUG-12	R2423981
Surrogate: 2-Bromobenzotrifluoride	98.6		65-135	%	24-AUG-12	24-AUG-12	R2423981
L1198412-8 LANDFILLB-A							
Sampled By: SM/AC/CC on 20-AUG-12							
Matrix: WATER							
BTEX, F1 (C6-C10) and F2 (>C10-C16)							
BTEX and F1 (C6-C10)							
Benzene	<0.00050		0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
Toluene	<0.00050		0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
Ethylbenzene	<0.00050		0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
o-Xylene	<0.00050		0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
m+p-Xylene	<0.00050		0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
F1(C6-C10)	<0.10		0.10	mg/L	24-AUG-12	27-AUG-12	R2423200
F1-BTEX	<0.10		0.10	mg/L	24-AUG-12	27-AUG-12	R2423200
Xylenes	<0.00071		0.00071	mg/L	24-AUG-12	27-AUG-12	R2423200
F2 (>C10-C16)							
F2 (>C10-C16)	<0.25		0.25	mg/L	24-AUG-12	24-AUG-12	R2423981
Surrogate: 2-Bromobenzotrifluoride	99.2		65-135	%	24-AUG-12	24-AUG-12	R2423981
L1198412-9 TB							
Sampled By: SM/AC/CC on 20-AUG-12							
Matrix: WATER							
BTEX, F1 (C6-C10) and F2 (>C10-C16)							
BTEX and F1 (C6-C10)							
Benzene	<0.00050		0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
Toluene	<0.00050		0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
Ethylbenzene	<0.00050		0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
o-Xylene	<0.00050		0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
m+p-Xylene	<0.00050		0.00050	mg/L	24-AUG-12	27-AUG-12	R2423200
F1(C6-C10)	<0.10		0.10	mg/L	24-AUG-12	27-AUG-12	R2423200
F1-BTEX	<0.10		0.10	mg/L	24-AUG-12	27-AUG-12	R2423200
Xylenes	<0.00071		0.00071	mg/L	24-AUG-12	27-AUG-12	R2423200
F2 (>C10-C16)							
F2 (>C10-C16)	<0.25		0.25	mg/L	24-AUG-12	24-AUG-12	R2423981
Surrogate: 2-Bromobenzotrifluoride	94.7		65-135	%	24-AUG-12	24-AUG-12	R2423981
L1198412-10 TANK FARM A							
Sampled By: SM/AC/CC on 20-AUG-12							
Matrix: SOIL							
CCME BTEX, F1 TO F4							
BTEX and F1 (C6-C10)							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1198412-10 TANK FARM A							
Sampled By: SM/AC/CC on 20-AUG-12							
Matrix: SOIL							
BTEX and F1 (C6-C10)							
Benzene	<0.0050		0.0050	mg/kg	23-AUG-12	26-AUG-12	R2423123
Toluene	<0.050		0.050	mg/kg	23-AUG-12	26-AUG-12	R2423123
Ethylbenzene	<0.015		0.015	mg/kg	23-AUG-12	26-AUG-12	R2423123
o-Xylene	<0.050		0.050	mg/kg	23-AUG-12	26-AUG-12	R2423123
m+p-Xylene	<0.050		0.050	mg/kg	23-AUG-12	26-AUG-12	R2423123
Xylenes	<0.10		0.10	mg/kg	23-AUG-12	26-AUG-12	R2423123
CCME Total Extractable Hydrocarbons							
Surrogate: 2-Bromobenzotrifluoride	95.9		70-130	%	25-AUG-12	25-AUG-12	R2423935
Prep/Analysis Dates					25-AUG-12	25-AUG-12	R2423935
CCME Total Hydrocarbons							
F1 (C6-C10)	<10		10	mg/kg		27-AUG-12	
F1-BTEX	<10		10	mg/kg		27-AUG-12	
F2 (C10-C16)	22		20	mg/kg		27-AUG-12	
F3 (C16-C34)	<20		20	mg/kg		27-AUG-12	
F4 (C34-C50)	<20		20	mg/kg		27-AUG-12	
Total Hydrocarbons (C6-C50)	22		20	mg/kg		27-AUG-12	
Metals in Soil by ICPMS (CCME)							
Mercury in Soil by CVAAS							
Mercury (Hg)	<0.050		0.050	mg/kg	26-AUG-12	27-AUG-12	R2424659
Metals in Soil by ICPMS							
Antimony (Sb)	0.48		0.20	mg/kg		31-AUG-12	R2425638
Arsenic (As)	2.50		0.20	mg/kg		31-AUG-12	R2425638
Barium (Ba)	38.0		5.0	mg/kg		31-AUG-12	R2425638
Beryllium (Be)	<1.0		1.0	mg/kg		31-AUG-12	R2425638
Cadmium (Cd)	<0.50		0.50	mg/kg		31-AUG-12	R2425638
Chromium (Cr)	5.85		0.50	mg/kg		31-AUG-12	R2425638
Cobalt (Co)	3.4		1.0	mg/kg		31-AUG-12	R2425638
Copper (Cu)	6.4		2.0	mg/kg		31-AUG-12	R2425638
Lead (Pb)	<5.0		5.0	mg/kg		31-AUG-12	R2425638
Molybdenum (Mo)	<1.0		1.0	mg/kg		31-AUG-12	R2425638
Nickel (Ni)	9.7		2.0	mg/kg		31-AUG-12	R2425638
Selenium (Se)	<0.50		0.50	mg/kg		31-AUG-12	R2425638
Silver (Ag)	<1.0		1.0	mg/kg		31-AUG-12	R2425638
Thallium (Tl)	<0.50		0.50	mg/kg		31-AUG-12	R2425638
Tin (Sn)	<5.0		5.0	mg/kg		31-AUG-12	R2425638
Uranium (U)	<2.0		2.0	mg/kg		31-AUG-12	R2425638
Vanadium (V)	28.6		1.0	mg/kg		31-AUG-12	R2425638
Zinc (Zn)	16		10	mg/kg		31-AUG-12	R2425638
Miscellaneous Parameters							
% Moisture	15.5		0.10	%		23-AUG-12	R2423042
PCBs							
Aroclor 1016	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1221	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1232	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1242	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1248	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1254	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1260	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1262	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1268	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Total PCBs	<0.050		0.050	mg/kg	24-AUG-12	24-AUG-12	R2424318
Surrogate: Decachlorobiphenyl	89.7		65-130	%	24-AUG-12	24-AUG-12	R2424318

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1198412-10 TANK FARM A							
Sampled By: SM/AC/CC on 20-AUG-12							
Matrix: SOIL							
L1198412-11 LFA-A-12-01							
Sampled By: SM/AC/CC on 20-AUG-12							
Matrix: SOIL							
CCME BTEX, F1 TO F4							
BTEX and F1 (C6-C10)							
Benzene	<0.0050		0.0050	mg/kg	23-AUG-12	26-AUG-12	R2423123
Toluene	<0.050		0.050	mg/kg	23-AUG-12	26-AUG-12	R2423123
Ethylbenzene	<0.015		0.015	mg/kg	23-AUG-12	26-AUG-12	R2423123
o-Xylene	<0.050		0.050	mg/kg	23-AUG-12	26-AUG-12	R2423123
m+p-Xylene	<0.050		0.050	mg/kg	23-AUG-12	26-AUG-12	R2423123
Xylenes	<0.10		0.10	mg/kg	23-AUG-12	26-AUG-12	R2423123
CCME Total Extractable Hydrocarbons							
Surrogate: 2-Bromobenzotrifluoride	90.0		70-130	%	25-AUG-12	25-AUG-12	R2423935
Prep/Analysis Dates					25-AUG-12	25-AUG-12	R2423935
CCME Total Hydrocarbons							
F1 (C6-C10)	<10		10	mg/kg		30-AUG-12	
F1-BTEX	<10		10	mg/kg		30-AUG-12	
F2 (C10-C16)	471		20	mg/kg		30-AUG-12	
F3 (C16-C34)	34800		20	mg/kg		30-AUG-12	
F4 (C34-C50)	2580		20	mg/kg		30-AUG-12	
F4G-SG (GHH-Silica)	30400		500	mg/kg		30-AUG-12	
Total Hydrocarbons (C6-C50)	37900		20	mg/kg		30-AUG-12	
Metals in Soil by ICPMS (CCME)							
Mercury in Soil by CVAAS							
Mercury (Hg)	<0.050		0.050	mg/kg	26-AUG-12	27-AUG-12	R2424659
Metals in Soil by ICPMS							
Antimony (Sb)	0.36		0.20	mg/kg		31-AUG-12	R2425638
Arsenic (As)	3.91		0.20	mg/kg		31-AUG-12	R2425638
Barium (Ba)	380		5.0	mg/kg		31-AUG-12	R2425638
Beryllium (Be)	<1.0		1.0	mg/kg		31-AUG-12	R2425638
Cadmium (Cd)	<0.50		0.50	mg/kg		31-AUG-12	R2425638
Chromium (Cr)	9.28		0.50	mg/kg		31-AUG-12	R2425638
Cobalt (Co)	4.1		1.0	mg/kg		31-AUG-12	R2425638
Copper (Cu)	9.3		2.0	mg/kg		31-AUG-12	R2425638
Lead (Pb)	13.4		5.0	mg/kg		31-AUG-12	R2425638
Molybdenum (Mo)	<1.0		1.0	mg/kg		31-AUG-12	R2425638
Nickel (Ni)	13.5		2.0	mg/kg		31-AUG-12	R2425638
Selenium (Se)	<0.50		0.50	mg/kg		31-AUG-12	R2425638
Silver (Ag)	<1.0		1.0	mg/kg		31-AUG-12	R2425638
Thallium (Tl)	<0.50		0.50	mg/kg		31-AUG-12	R2425638
Tin (Sn)	<5.0		5.0	mg/kg		31-AUG-12	R2425638
Uranium (U)	<2.0		2.0	mg/kg		31-AUG-12	R2425638
Vanadium (V)	24.1		1.0	mg/kg		31-AUG-12	R2425638
Zinc (Zn)	144		10	mg/kg		31-AUG-12	R2425638
Miscellaneous Parameters							
% Moisture	5.64		0.10	%		23-AUG-12	R2423042
F4G Prep/Analysis Dates					23-AUG-12	29-AUG-12	R2427046
PCBs							
Aroclor 1016	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1221	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1232	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1242	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1198412-11 LFA-A-12-01							
Sampled By: SM/AC/CC on 20-AUG-12							
Matrix: SOIL							
PCBs							
Aroclor 1248	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1254	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1260	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1262	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1268	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Total PCBs	<0.050		0.050	mg/kg	24-AUG-12	24-AUG-12	R2424318
Surrogate: Decachlorobiphenyl	73.1		65-130	%	24-AUG-12	24-AUG-12	R2424318
L1198412-12 LFA-A-12-02							
Sampled By: SM/AC/CC on 20-AUG-12							
Matrix: SOIL							
CCME BTEX, F1 TO F4							
BTEX and F1 (C6-C10)							
Benzene	<0.0050		0.0050	mg/kg	23-AUG-12	26-AUG-12	R2423123
Toluene	<0.050		0.050	mg/kg	23-AUG-12	26-AUG-12	R2423123
Ethylbenzene	<0.015		0.015	mg/kg	23-AUG-12	26-AUG-12	R2423123
o-Xylene	<0.050		0.050	mg/kg	23-AUG-12	26-AUG-12	R2423123
m+p-Xylene	<0.050		0.050	mg/kg	23-AUG-12	26-AUG-12	R2423123
Xylenes	<0.10		0.10	mg/kg	23-AUG-12	26-AUG-12	R2423123
CCME Total Extractable Hydrocarbons							
Surrogate: 2-Bromobenzotrifluoride	104.7		70-130	%	25-AUG-12	25-AUG-12	R2423935
Prep/Analysis Dates					25-AUG-12	25-AUG-12	R2423935
CCME Total Hydrocarbons							
F1 (C6-C10)	181		10	mg/kg		30-AUG-12	
F1-BTEX	181		10	mg/kg		30-AUG-12	
F2 (C10-C16)	59		20	mg/kg		30-AUG-12	
F3 (C16-C34)	25700		20	mg/kg		30-AUG-12	
F4 (C34-C50)	1250		20	mg/kg		30-AUG-12	
F4G-SG (GHH-Silica)	18700		500	mg/kg		30-AUG-12	
Total Hydrocarbons (C6-C50)	27200		20	mg/kg		30-AUG-12	
Metals in Soil by ICPMS (CCME)							
Mercury in Soil by CVAAS							
Mercury (Hg)	<0.050		0.050	mg/kg	26-AUG-12	27-AUG-12	R2424659
Metals in Soil by ICPMS							
Antimony (Sb)	<0.20		0.20	mg/kg	05-SEP-12	05-SEP-12	R2430645
Arsenic (As)	3.97		0.20	mg/kg	05-SEP-12	05-SEP-12	R2430645
Barium (Ba)	116		5.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Beryllium (Be)	<1.0		1.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Cadmium (Cd)	<0.50		0.50	mg/kg	05-SEP-12	05-SEP-12	R2430645
Chromium (Cr)	7.68		0.50	mg/kg	05-SEP-12	05-SEP-12	R2430645
Cobalt (Co)	4.1		1.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Copper (Cu)	9.1		2.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Lead (Pb)	<5.0		5.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Molybdenum (Mo)	<1.0		1.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Nickel (Ni)	10.4		2.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Selenium (Se)	<0.50		0.50	mg/kg	05-SEP-12	05-SEP-12	R2430645
Silver (Ag)	<1.0		1.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Thallium (Tl)	<0.50		0.50	mg/kg	05-SEP-12	05-SEP-12	R2430645
Tin (Sn)	<5.0		5.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Uranium (U)	<2.0		2.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Vanadium (V)	33.7		1.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Zinc (Zn)	65		10	mg/kg	05-SEP-12	05-SEP-12	R2430645

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1198412-12 LFA-A-12-02							
Sampled By: SM/AC/CC on 20-AUG-12							
Matrix: SOIL							
Miscellaneous Parameters							
% Moisture	3.32		0.10	%		23-AUG-12	R2423042
F4G Prep/Analysis Dates					23-AUG-12	29-AUG-12	R2427046
PCBs							
Aroclor 1016	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1221	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1232	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1242	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1248	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1254	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1260	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1262	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1268	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Total PCBs	<0.050		0.050	mg/kg	24-AUG-12	24-AUG-12	R2424318
Surrogate: Decachlorobiphenyl	81.3		65-130	%	24-AUG-12	24-AUG-12	R2424318
L1198412-13 LFA-A-12-03							
Sampled By: SM/AC/CC on 20-AUG-12							
Matrix: SOIL							
CCME BTEX, F1 TO F4							
BTEX and F1 (C6-C10)							
Benzene	<0.0050		0.0050	mg/kg	23-AUG-12	26-AUG-12	R2423123
Toluene	<0.050		0.050	mg/kg	23-AUG-12	26-AUG-12	R2423123
Ethylbenzene	<0.015		0.015	mg/kg	23-AUG-12	26-AUG-12	R2423123
o-Xylene	<0.050		0.050	mg/kg	23-AUG-12	26-AUG-12	R2423123
m+p-Xylene	<0.050		0.050	mg/kg	23-AUG-12	26-AUG-12	R2423123
Xylenes	<0.10		0.10	mg/kg	23-AUG-12	26-AUG-12	R2423123
CCME Total Extractable Hydrocarbons							
Surrogate: 2-Bromobenzotrifluoride	101.2		70-130	%	25-AUG-12	25-AUG-12	R2423935
Prep/Analysis Dates					25-AUG-12	25-AUG-12	R2423935
CCME Total Hydrocarbons							
F1 (C6-C10)	<10		10	mg/kg		28-AUG-12	
F1-BTEX	<10		10	mg/kg		28-AUG-12	
F2 (C10-C16)	<20		20	mg/kg		28-AUG-12	
F3 (C16-C34)	<20		20	mg/kg		28-AUG-12	
F4 (C34-C50)	<20		20	mg/kg		28-AUG-12	
Total Hydrocarbons (C6-C50)	<20		20	mg/kg		28-AUG-12	
Metals in Soil by ICPMS (CCME)							
Mercury in Soil by CVAAS							
Mercury (Hg)	<0.050		0.050	mg/kg	26-AUG-12	27-AUG-12	R2424659
Metals in Soil by ICPMS							
Antimony (Sb)	<0.20		0.20	mg/kg	05-SEP-12	05-SEP-12	R2430645
Arsenic (As)	2.51		0.20	mg/kg	05-SEP-12	05-SEP-12	R2430645
Barium (Ba)	34.9		5.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Beryllium (Be)	<1.0		1.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Cadmium (Cd)	<0.50		0.50	mg/kg	05-SEP-12	05-SEP-12	R2430645
Chromium (Cr)	9.22		0.50	mg/kg	05-SEP-12	05-SEP-12	R2430645
Cobalt (Co)	4.0		1.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Copper (Cu)	6.3		2.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Lead (Pb)	<5.0		5.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Molybdenum (Mo)	<1.0		1.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Nickel (Ni)	9.7		2.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Selenium (Se)	<0.50		0.50	mg/kg	05-SEP-12	05-SEP-12	R2430645

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1198412-13 LFA-A-12-03							
Sampled By: SM/AC/CC on 20-AUG-12							
Matrix: SOIL							
Metals in Soil by ICPMS							
Silver (Ag)	<1.0		1.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Thallium (Tl)	<0.50		0.50	mg/kg	05-SEP-12	05-SEP-12	R2430645
Tin (Sn)	<5.0		5.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Uranium (U)	<2.0		2.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Vanadium (V)	28.5		1.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Zinc (Zn)	17		10	mg/kg	05-SEP-12	05-SEP-12	R2430645
Miscellaneous Parameters							
% Moisture	19.0		0.10	%		23-AUG-12	R2423042
PCBs							
Aroclor 1016	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1221	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1232	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1242	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1248	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1254	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1260	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1262	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1268	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Total PCBs	<0.050		0.050	mg/kg	24-AUG-12	24-AUG-12	R2424318
Surrogate: Decachlorobiphenyl	90.9		65-130	%	24-AUG-12	24-AUG-12	R2424318
L1198412-14 LFA-B-12-01							
Sampled By: SM/AC/CC on 20-AUG-12							
Matrix: SOIL							
CCME BTEX, F1 TO F4							
BTEX and F1 (C6-C10)							
Benzene	<0.0050		0.0050	mg/kg	23-AUG-12	26-AUG-12	R2423123
Toluene	<0.050		0.050	mg/kg	23-AUG-12	26-AUG-12	R2423123
Ethylbenzene	<0.015		0.015	mg/kg	23-AUG-12	26-AUG-12	R2423123
o-Xylene	<0.050		0.050	mg/kg	23-AUG-12	26-AUG-12	R2423123
m+p-Xylene	<0.050		0.050	mg/kg	23-AUG-12	26-AUG-12	R2423123
Xylenes	<0.10		0.10	mg/kg	23-AUG-12	26-AUG-12	R2423123
CCME Total Extractable Hydrocarbons							
Surrogate: 2-Bromobenzotrifluoride	100.7		70-130	%	25-AUG-12	25-AUG-12	R2423935
Prep/Analysis Dates					25-AUG-12	25-AUG-12	R2423935
CCME Total Hydrocarbons							
F1 (C6-C10)	<10		10	mg/kg		28-AUG-12	
F1-BTEX	<10		10	mg/kg		28-AUG-12	
F2 (C10-C16)	<20		20	mg/kg		28-AUG-12	
F3 (C16-C34)	25		20	mg/kg		28-AUG-12	
F4 (C34-C50)	<20		20	mg/kg		28-AUG-12	
Total Hydrocarbons (C6-C50)	25		20	mg/kg		28-AUG-12	
Metals in Soil by ICPMS (CCME)							
Mercury in Soil by CVAAS							
Mercury (Hg)	<0.050		0.050	mg/kg	26-AUG-12	27-AUG-12	R2424659
Metals in Soil by ICPMS							
Antimony (Sb)	<0.20		0.20	mg/kg	05-SEP-12	05-SEP-12	R2430645
Arsenic (As)	2.43		0.20	mg/kg	05-SEP-12	05-SEP-12	R2430645
Barium (Ba)	39.7		5.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Beryllium (Be)	<1.0		1.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Cadmium (Cd)	<0.50		0.50	mg/kg	05-SEP-12	05-SEP-12	R2430645
Chromium (Cr)	7.86		0.50	mg/kg	05-SEP-12	05-SEP-12	R2430645

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1198412-14 LFA-B-12-01							
Sampled By: SM/AC/CC on 20-AUG-12							
Matrix: SOIL							
Metals in Soil by ICPMS							
Cobalt (Co)	3.2		1.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Copper (Cu)	6.6		2.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Lead (Pb)	<5.0		5.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Molybdenum (Mo)	<1.0		1.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Nickel (Ni)	8.0		2.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Selenium (Se)	<0.50		0.50	mg/kg	05-SEP-12	05-SEP-12	R2430645
Silver (Ag)	<1.0		1.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Thallium (Tl)	<0.50		0.50	mg/kg	05-SEP-12	05-SEP-12	R2430645
Tin (Sn)	<5.0		5.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Uranium (U)	<2.0		2.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Vanadium (V)	21.0		1.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Zinc (Zn)	16		10	mg/kg	05-SEP-12	05-SEP-12	R2430645
% Moisture							
% Moisture	23.3		0.10	%	23-AUG-12	23-AUG-12	R2423042
% Moisture	23.3		0.10	%		23-AUG-12	R2423042
PCBs							
Aroclor 1016	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1221	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1232	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1242	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1248	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1254	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1260	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1262	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1268	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Total PCBs	<0.050		0.050	mg/kg	24-AUG-12	24-AUG-12	R2424318
Surrogate: Decachlorobiphenyl	91.1		65-130	%	24-AUG-12	24-AUG-12	R2424318
L1198412-15 LFA-B-12-02							
Sampled By: SM/AC/CC on 20-AUG-12							
Matrix: SOIL							
CCME BTEX, F1 TO F4							
BTEX and F1 (C6-C10)							
Benzene	<0.0050		0.0050	mg/kg	23-AUG-12	26-AUG-12	R2423123
Toluene	<0.050		0.050	mg/kg	23-AUG-12	26-AUG-12	R2423123
Ethylbenzene	<0.015		0.015	mg/kg	23-AUG-12	26-AUG-12	R2423123
o-Xylene	<0.050		0.050	mg/kg	23-AUG-12	26-AUG-12	R2423123
m+p-Xylene	<0.050		0.050	mg/kg	23-AUG-12	26-AUG-12	R2423123
Xylenes	<0.10		0.10	mg/kg	23-AUG-12	26-AUG-12	R2423123
CCME Total Extractable Hydrocarbons							
Surrogate: 2-Bromobenzotrifluoride	100.2		70-130	%	25-AUG-12	25-AUG-12	R2423935
Prep/Analysis Dates					25-AUG-12	25-AUG-12	R2423935
CCME Total Hydrocarbons							
F1 (C6-C10)	<10		10	mg/kg		28-AUG-12	
F1-BTEX	<10		10	mg/kg		28-AUG-12	
F2 (C10-C16)	<20		20	mg/kg		28-AUG-12	
F3 (C16-C34)	<20		20	mg/kg		28-AUG-12	
F4 (C34-C50)	<20		20	mg/kg		28-AUG-12	
Total Hydrocarbons (C6-C50)	<20		20	mg/kg		28-AUG-12	
Metals in Soil by ICPMS (CCME)							
Mercury in Soil by CVAAS							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1198412-15 LFA-B-12-02							
Sampled By: SM/AC/CC on 20-AUG-12							
Matrix: SOIL							
Mercury in Soil by CVAAS							
Mercury (Hg)	<0.050		0.050	mg/kg	26-AUG-12	27-AUG-12	R2424659
Metals in Soil by ICPMS							
Antimony (Sb)	<0.20		0.20	mg/kg	05-SEP-12	05-SEP-12	R2430645
Arsenic (As)	2.31		0.20	mg/kg	05-SEP-12	05-SEP-12	R2430645
Barium (Ba)	33.7		5.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Beryllium (Be)	<1.0		1.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Cadmium (Cd)	<0.50		0.50	mg/kg	05-SEP-12	05-SEP-12	R2430645
Chromium (Cr)	8.24		0.50	mg/kg	05-SEP-12	05-SEP-12	R2430645
Cobalt (Co)	3.7		1.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Copper (Cu)	6.6		2.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Lead (Pb)	<5.0		5.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Molybdenum (Mo)	<1.0		1.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Nickel (Ni)	9.0		2.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Selenium (Se)	<0.50		0.50	mg/kg	05-SEP-12	05-SEP-12	R2430645
Silver (Ag)	<1.0		1.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Thallium (Tl)	<0.50		0.50	mg/kg	05-SEP-12	05-SEP-12	R2430645
Tin (Sn)	<5.0		5.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Uranium (U)	<2.0		2.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Vanadium (V)	21.9		1.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Zinc (Zn)	17		10	mg/kg	05-SEP-12	05-SEP-12	R2430645
% Moisture							
% Moisture	16.5		0.10	%	23-AUG-12	23-AUG-12	R2423042
% Moisture	16.5		0.10	%		23-AUG-12	R2423042
PCBs							
Aroclor 1016	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1221	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1232	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1242	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1248	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1254	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1260	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1262	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1268	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Total PCBs	<0.050		0.050	mg/kg	24-AUG-12	24-AUG-12	R2424318
Surrogate: Decachlorobiphenyl	85.7		65-130	%	24-AUG-12	24-AUG-12	R2424318
L1198412-16 LFA-D-12-01							
Sampled By: SM/AC/CC on 20-AUG-12							
Matrix: SOIL							
CCME BTEX, F1 TO F4							
BTEX and F1 (C6-C10)							
Benzene	<0.0050		0.0050	mg/kg	23-AUG-12	26-AUG-12	R2423123
Toluene	<0.050		0.050	mg/kg	23-AUG-12	26-AUG-12	R2423123
Ethylbenzene	<0.015		0.015	mg/kg	23-AUG-12	26-AUG-12	R2423123
o-Xylene	<0.050		0.050	mg/kg	23-AUG-12	26-AUG-12	R2423123
m+p-Xylene	<0.050		0.050	mg/kg	23-AUG-12	26-AUG-12	R2423123
Xylenes	<0.10		0.10	mg/kg	23-AUG-12	26-AUG-12	R2423123
CCME Total Extractable Hydrocarbons							
Surrogate: 2-Bromobenzotrifluoride	100.9		70-130	%	25-AUG-12	25-AUG-12	R2423935
Prep/Analysis Dates					25-AUG-12	25-AUG-12	R2423935
CCME Total Hydrocarbons							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1198412-16 LFA-D-12-01							
Sampled By: SM/AC/CC on 20-AUG-12							
Matrix: SOIL							
CCME Total Hydrocarbons							
F1 (C6-C10)	<10		10	mg/kg		28-AUG-12	
F1-BTEX	<10		10	mg/kg		28-AUG-12	
F2 (C10-C16)	<20		20	mg/kg		28-AUG-12	
F3 (C16-C34)	<20		20	mg/kg		28-AUG-12	
F4 (C34-C50)	<20		20	mg/kg		28-AUG-12	
Total Hydrocarbons (C6-C50)	<20		20	mg/kg		28-AUG-12	
Metals in Soil by ICPMS (CCME)							
Mercury in Soil by CVAAS							
Mercury (Hg)	<0.050		0.050	mg/kg	26-AUG-12	27-AUG-12	R2424659
Metals in Soil by ICPMS							
Antimony (Sb)	<0.20		0.20	mg/kg	05-SEP-12	05-SEP-12	R2430645
Arsenic (As)	2.32		0.20	mg/kg	05-SEP-12	05-SEP-12	R2430645
Barium (Ba)	76.5		5.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Beryllium (Be)	<1.0		1.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Cadmium (Cd)	<0.50		0.50	mg/kg	05-SEP-12	05-SEP-12	R2430645
Chromium (Cr)	8.45		0.50	mg/kg	05-SEP-12	05-SEP-12	R2430645
Cobalt (Co)	3.6		1.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Copper (Cu)	7.4		2.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Lead (Pb)	<5.0		5.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Molybdenum (Mo)	<1.0		1.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Nickel (Ni)	13.4		2.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Selenium (Se)	<0.50		0.50	mg/kg	05-SEP-12	05-SEP-12	R2430645
Silver (Ag)	<1.0		1.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Thallium (Tl)	<0.50		0.50	mg/kg	05-SEP-12	05-SEP-12	R2430645
Tin (Sn)	<5.0		5.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Uranium (U)	<2.0		2.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Vanadium (V)	20.3		1.0	mg/kg	05-SEP-12	05-SEP-12	R2430645
Zinc (Zn)	16		10	mg/kg	05-SEP-12	05-SEP-12	R2430645
% Moisture							
% Moisture	7.74		0.10	%		23-AUG-12	R2423042
% Moisture	7.74		0.10	%	23-AUG-12	23-AUG-12	R2423042
PCBs							
Aroclor 1016	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1221	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1232	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1242	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1248	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1254	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1260	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1262	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Aroclor 1268	<0.010		0.010	mg/kg	24-AUG-12	24-AUG-12	R2424318
Total PCBs	<0.050		0.050	mg/kg	24-AUG-12	24-AUG-12	R2424318
Surrogate: Decachlorobiphenyl	94.1		65-130	%	24-AUG-12	24-AUG-12	R2424318

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
G	QC result did not meet ALS DQO. Refer to narrative comments for further information.
RWHS	Samples Received With Headspace

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BTX,F1-ED	Soil	BTEX and F1 (C6-C10)	CCME CWS-PHC Dec-2000 - Pub# 1310
BTX,F1-ED	Water	BTEX and F1 (C6-C10)	EPA 5021/8015&8260 GC-MS & FID
ETL-TVH,TEH-CCME-ED	Soil	CCME Total Hydrocarbons	CCME CWS-PHC Dec-2000 - Pub# 1310

Analytical methods used for analysis of CCME Petroleum Hydrocarbons have been validated and comply with the Reference Method for the CWS PHC.

Hydrocarbon results are expressed on a dry weight basis.

In cases where results for both F4 and F4G are reported, the greater of the two results must be used in any application of the CWS PHC guidelines and the gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.
In samples where BTEX and F1 were analyzed , F1-BTEX represents a value where the sum of Benzene, Toluene, Ethylbenzene and total Xylenes has been subtracted from F1.

In samples where PAHs, F2 and F3 were analyzed, F2-Naphth represents the result where Naphthalene has been subtracted from F2. F3-PAH represents a result where the sum of Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Phenanthrene, and Pyrene has been subtracted from F3.

Unless otherwise qualified, the following quality control criteria have been met for the F1 hydrocarbon range:
1. All extraction and analysis holding times were met.
2. Instrument performance showing response factors for C6 and C10 within 30% of the response factor for toluene.
3. Linearity of gasoline response within 15% throughout the calibration range.

Unless otherwise qualified, the following quality control criteria have been met for the F2-F4 hydrocarbon ranges:
1. All extraction and analysis holding times were met.
2. Instrument performance showing C10, C16 and C34 response factors within 10% of their average.
3. Instrument performance showing the C50 response factor within 30% of the average of the C10, C16 and C34 response factors.
4. Linearity of diesel or motor oil response within 15% throughout the calibration range.

F2-4-TMB-ED	Soil	CCME Total Extractable Hydrocarbons	CCME CWS-PHC Dec-2000 - Pub# 1310
F2-ED	Water	F2 (>C10-C16)	EPA 3510/CCME PHC CWS-GC-FID
F4G-TMB-ED	Soil	CCME Gravimetric Heavy Hydrocarbons (SG)	CCME CWS-PHC Dec-2000 - Pub# 1310
HG-200.2-CVAA-ED	Soil	Mercury in Soil by CVAAS	EPA 200.2/245.1

Test method is based on US EPA Method 200.2 "Sample Preparation Procedure for Spectrochemical Determination of Total Recoverable Elements", and meets all requirements of BC CSR Analytical Method 8 "Strong Acid Leachable Metals (SALM) in Soil", BC MOE, June 26, 2001. Soil is dried at <60°C and digested with nitric and hydrochloric acids, prior to analysis for mercury by cold vapour atomic absorption.

MET-200.2-MS-ED	Soil	Metals in Soil by ICPMS	EPA 200.2/6020A
PCB-ED	Soil	PCBs	EPA 3550/8082-GC-ECD
PREP-MOISTURE-ED	Soil	% Moisture	Oven dry 105C-Gravimetric

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
ED	ALS ENVIRONMENTAL - EDMONTON, ALBERTA, CANADA

Chain of Custody Numbers:

10-185309

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Workorder: L1198412 Report Date: 06-SEP-12

Client: GOLDER ASSOCIATES LTD
102 - 2535 3 Avenue SE
Calgary AB T2A 7W5
Contact: SUZI MARTIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BTX,F1-ED	**Water**							
Batch R2423200								
WG1533014-5 DUP		**L1198412-9**						
Benzene		<0.00050	<0.00050	RPD-NA	mg/L	N/A	30	27-AUG-12
Toluene		<0.00050	<0.00050	RPD-NA	mg/L	N/A	30	27-AUG-12
Ethylbenzene		<0.00050	<0.00050	RPD-NA	mg/L	N/A	30	27-AUG-12
o-Xylene		<0.00050	<0.00050	RPD-NA	mg/L	N/A	24	27-AUG-12
m+p-Xylene		<0.00050	<0.00050	RPD-NA	mg/L	N/A	24	27-AUG-12
F1(C6-C10)		<0.10	<0.10	RPD-NA	mg/L	N/A	30	27-AUG-12
WG1533014-2 LCS								
Benzene			86.4		%		70-130	24-AUG-12
Toluene			95.3		%		70-130	24-AUG-12
Ethylbenzene			86.0		%		70-130	24-AUG-12
o-Xylene			91.7		%		70-130	24-AUG-12
m+p-Xylene			87.3		%		70-130	24-AUG-12
WG1533014-3 LCS								
F1(C6-C10)			90.7		%		70-130	24-AUG-12
WG1533014-1 MB								
Benzene			<0.00050		mg/L		0.0005	24-AUG-12
Toluene			<0.00050		mg/L		0.0005	24-AUG-12
Ethylbenzene			<0.00050		mg/L		0.0005	24-AUG-12
o-Xylene			<0.00050		mg/L		0.0005	24-AUG-12
m+p-Xylene			<0.00050		mg/L		0.0005	24-AUG-12
F1(C6-C10)			<0.10		mg/L		0.1	24-AUG-12
WG1533014-6 MS		**L1198412-9**						
Benzene			75.1		%		50-150	27-AUG-12
Toluene			89.6		%		50-150	27-AUG-12
Ethylbenzene			78.9		%		50-150	27-AUG-12
o-Xylene			85.7		%		50-150	27-AUG-12
m+p-Xylene			80.8		%		50-150	27-AUG-12
WG1533014-7 MS		**L1198412-9**						
F1(C6-C10)			70.7		%		50-150	27-AUG-12
F2-ED	**Water**							
Batch R2423981								
WG1534162-2 LCS								
F2 (>C10-C16)			96.8		%		65-135	24-AUG-12
WG1534162-1 MB								
F2 (>C10-C16)			<0.25		mg/L		0.25	24-AUG-12

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F2-ED	**Water**							
Batch R2423981								
WG1534162-1 MB								
Surrogate: 2-Bromobenzotrifluoride			99.1		%		65-135	24-AUG-12
WG1534162-3 MS		**L1198400-2**						
F2 (>C10-C16)			94.2		%		50-150	24-AUG-12
BTX,F1-ED	**Soil**							
Batch R2423123								
WG1532824-2 LCS								
Benzene			106.8		%		70-130	24-AUG-12
Toluene			95.0		%		70-130	24-AUG-12
Ethylbenzene			92.8		%		70-130	24-AUG-12
o-Xylene			97.6		%		70-130	24-AUG-12
m+p-Xylene			95.6		%		70-130	24-AUG-12
WG1532824-3 LCS								
F1(C6-C10)			106.2		%		70-130	24-AUG-12
WG1532824-1 MB								
Benzene			<0.0050		mg/kg		0.005	24-AUG-12
Toluene			<0.050		mg/kg		0.05	24-AUG-12
Ethylbenzene			<0.015		mg/kg		0.015	24-AUG-12
o-Xylene			<0.050		mg/kg		0.05	24-AUG-12
m+p-Xylene			<0.050		mg/kg		0.05	24-AUG-12
F1(C6-C10)			<10		mg/kg		10	24-AUG-12
F2-4-TMB-ED	**Soil**							
Batch R2423935								
WG1534127-3 DUP		**L1198412-16**						
F2 (C10-C16)		<20	<20	RPD-NA	mg/kg	N/A	40	25-AUG-12
F3 (C16-C34)		<20	<20	RPD-NA	mg/kg	N/A	40	25-AUG-12
F4 (C34-C50)		<20	<20	RPD-NA	mg/kg	N/A	40	25-AUG-12
WG1534127-2 LCS								
F2 (C10-C16)			98.0		%		80-120	24-AUG-12
F3 (C16-C34)			99.2		%		80-120	24-AUG-12
F4 (C34-C50)			104.8		%		80-120	24-AUG-12
WG1534127-1 MB								
F2 (C10-C16)			<20		mg/kg		20	24-AUG-12
F3 (C16-C34)			<20		mg/kg		20	24-AUG-12
F4 (C34-C50)			<20		mg/kg		20	24-AUG-12
Surrogate: 2-Bromobenzotrifluoride			104.5		%		70-130	24-AUG-12

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-200.2-CVAA-ED	**Soil**							
Batch R2424659								
WG1534244-3 CRM		**TILL-1_SOIL**						
Mercury (Hg)			89.6		%		80-120	27-AUG-12
WG1534244-4 CRM		**PACS-2_SOIL**						
Mercury (Hg)			102.7		%		80-120	27-AUG-12
WG1534244-1 MB								
Mercury (Hg)			<0.050		mg/kg		0.05	27-AUG-12
WG1534244-2 MB								
Mercury (Hg)			<0.050		mg/kg		0.05	27-AUG-12
MET-200.2-MS-ED	**Soil**							
Batch R2425638								
WG1534244-3 CRM		**TILL-1_SOIL**						
Antimony (Sb)			115.0		%		70-130	01-SEP-12
Arsenic (As)			104.2		%		70-130	01-SEP-12
Barium (Ba)			104.6		%		70-130	01-SEP-12
Chromium (Cr)			102.0		%		70-130	01-SEP-12
Cobalt (Co)			107.9		%		70-130	01-SEP-12
Copper (Cu)			99.8		%		70-130	01-SEP-12
Lead (Pb)			96.8		%		70-130	01-SEP-12
Nickel (Ni)			98.7		%		70-130	01-SEP-12
Vanadium (V)			101.5		%		70-130	01-SEP-12
Zinc (Zn)			89.6		%		70-130	01-SEP-12
WG1534244-4 CRM		**PACS-2_SOIL**						
Antimony (Sb)			128.7		%		70-130	01-SEP-12
Arsenic (As)			104.6		%		70-130	01-SEP-12
Barium (Ba)			114.9		%		70-130	01-SEP-12
Cadmium (Cd)			108.5		%		70-130	01-SEP-12
Chromium (Cr)			100.7		%		70-130	01-SEP-12
Cobalt (Co)			107.5		%		70-130	01-SEP-12
Copper (Cu)			96.9		%		70-130	01-SEP-12
Lead (Pb)			97.6		%		70-130	01-SEP-12
Molybdenum (Mo)			131.1	G	%		70-130	01-SEP-12
Nickel (Ni)			101.1		%		70-130	01-SEP-12
Tin (Sn)			108.4		%		70-130	01-SEP-12
Vanadium (V)			100.4		%		70-130	01-SEP-12
Zinc (Zn)			86.3		%		70-130	01-SEP-12

COMMENTS: Mo recovery is 1% off.ok

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-MS-ED	**Soil**							
Batch R2425638								
WG1534244-1 MB								
Antimony (Sb)			<0.20		mg/kg		0.2	30-AUG-12
Arsenic (As)			<0.20		mg/kg		0.2	30-AUG-12
Barium (Ba)			<5.0		mg/kg		5	30-AUG-12
Beryllium (Be)			<1.0		mg/kg		1	30-AUG-12
Cadmium (Cd)			<0.50		mg/kg		0.5	30-AUG-12
Chromium (Cr)			<0.50		mg/kg		0.5	30-AUG-12
Cobalt (Co)			<1.0		mg/kg		1	30-AUG-12
Copper (Cu)			<2.0		mg/kg		2	30-AUG-12
Lead (Pb)			<5.0		mg/kg		5	30-AUG-12
Molybdenum (Mo)			<1.0		mg/kg		1	30-AUG-12
Nickel (Ni)			<2.0		mg/kg		2	30-AUG-12
Selenium (Se)			<0.50		mg/kg		0.5	30-AUG-12
Silver (Ag)			<1.0		mg/kg		1	30-AUG-12
Thallium (Tl)			<0.50		mg/kg		0.5	30-AUG-12
Tin (Sn)			<5.0		mg/kg		5	30-AUG-12
Uranium (U)			<2.0		mg/kg		2	30-AUG-12
Vanadium (V)			<1.0		mg/kg		1	30-AUG-12
Zinc (Zn)			<10		mg/kg		10	30-AUG-12
WG1534244-2 MB								
Antimony (Sb)			<0.20		mg/kg		0.2	30-AUG-12
Arsenic (As)			<0.20		mg/kg		0.2	30-AUG-12
Barium (Ba)			<5.0		mg/kg		5	30-AUG-12
Beryllium (Be)			<1.0		mg/kg		1	30-AUG-12
Cadmium (Cd)			<0.50		mg/kg		0.5	30-AUG-12
Chromium (Cr)			<0.50		mg/kg		0.5	30-AUG-12
Cobalt (Co)			<1.0		mg/kg		1	30-AUG-12
Copper (Cu)			<2.0		mg/kg		2	30-AUG-12
Lead (Pb)			<5.0		mg/kg		5	30-AUG-12
Molybdenum (Mo)			<1.0		mg/kg		1	30-AUG-12
Nickel (Ni)			<2.0		mg/kg		2	30-AUG-12
Selenium (Se)			<0.50		mg/kg		0.5	30-AUG-12
Silver (Ag)			<1.0		mg/kg		1	30-AUG-12
Thallium (Tl)			<0.50		mg/kg		0.5	30-AUG-12
Tin (Sn)			<5.0		mg/kg		5	30-AUG-12

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-MS-ED	**Soil**							
Batch R2425638								
WG1534244-2 MB								
Uranium (U)			<2.0		mg/kg		2	30-AUG-12
Vanadium (V)			<1.0		mg/kg		1	30-AUG-12
Zinc (Zn)			<10		mg/kg		10	30-AUG-12
Batch R2430645								
WG1539963-3 CRM		**TILL-1_SOIL**						
Antimony (Sb)			79.1		%		70-130	05-SEP-12
Arsenic (As)			96.6		%		70-130	05-SEP-12
Barium (Ba)			98.4		%		70-130	05-SEP-12
Chromium (Cr)			109.4		%		70-130	05-SEP-12
Cobalt (Co)			119.0		%		70-130	05-SEP-12
Copper (Cu)			99.4		%		70-130	05-SEP-12
Nickel (Ni)			114.0		%		70-130	05-SEP-12
Vanadium (V)			99.3		%		70-130	05-SEP-12
Zinc (Zn)			110.2		%		70-130	05-SEP-12
WG1539963-4 CRM		**PACS-2_SOIL**						
Antimony (Sb)			119.5		%		70-130	05-SEP-12
Arsenic (As)			107.6		%		70-130	05-SEP-12
Barium (Ba)			93.8		%		70-130	05-SEP-12
Chromium (Cr)			93.8		%		70-130	05-SEP-12
Cobalt (Co)			114.6		%		70-130	05-SEP-12
Copper (Cu)			92.8		%		70-130	05-SEP-12
Lead (Pb)			96.1		%		70-130	05-SEP-12
Molybdenum (Mo)			109.7		%		70-130	05-SEP-12
Nickel (Ni)			95.2		%		70-130	05-SEP-12
Tin (Sn)			105.0		%		70-130	05-SEP-12
Vanadium (V)			94.3		%		70-130	05-SEP-12
Zinc (Zn)			96.7		%		70-130	05-SEP-12
WG1539963-1 MB								
Antimony (Sb)			<0.20		mg/kg		0.2	05-SEP-12
Arsenic (As)			<0.20		mg/kg		0.2	05-SEP-12
Barium (Ba)			<5.0		mg/kg		5	05-SEP-12
Beryllium (Be)			<1.0		mg/kg		1	05-SEP-12
Cadmium (Cd)			<0.50		mg/kg		0.5	05-SEP-12
Chromium (Cr)			<0.50		mg/kg		0.5	05-SEP-12
Cobalt (Co)			<1.0		mg/kg		1	05-SEP-12

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-MS-ED	**Soil**							
Batch R2430645								
WG1539963-1 MB								
Copper (Cu)			<2.0		mg/kg		2	05-SEP-12
Lead (Pb)			<5.0		mg/kg		5	05-SEP-12
Molybdenum (Mo)			<1.0		mg/kg		1	05-SEP-12
Nickel (Ni)			<2.0		mg/kg		2	05-SEP-12
Selenium (Se)			<0.50		mg/kg		0.5	05-SEP-12
Silver (Ag)			<1.0		mg/kg		1	05-SEP-12
Thallium (Tl)			<0.50		mg/kg		0.5	05-SEP-12
Tin (Sn)			<5.0		mg/kg		5	05-SEP-12
Uranium (U)			<2.0		mg/kg		2	05-SEP-12
Vanadium (V)			<1.0		mg/kg		1	05-SEP-12
Zinc (Zn)			<10		mg/kg		10	05-SEP-12
WG1539963-2 MB								
Antimony (Sb)			<0.20		mg/kg		0.2	05-SEP-12
Arsenic (As)			<0.20		mg/kg		0.2	05-SEP-12
Barium (Ba)			<5.0		mg/kg		5	05-SEP-12
Beryllium (Be)			<1.0		mg/kg		1	05-SEP-12
Cadmium (Cd)			<0.50		mg/kg		0.5	05-SEP-12
Cobalt (Co)			<1.0		mg/kg		1	05-SEP-12
Copper (Cu)			<2.0		mg/kg		2	05-SEP-12
Lead (Pb)			<5.0		mg/kg		5	05-SEP-12
Molybdenum (Mo)			<1.0		mg/kg		1	05-SEP-12
Nickel (Ni)			<2.0		mg/kg		2	05-SEP-12
Selenium (Se)			<0.50		mg/kg		0.5	05-SEP-12
Silver (Ag)			<1.0		mg/kg		1	05-SEP-12
Thallium (Tl)			<0.50		mg/kg		0.5	05-SEP-12
Tin (Sn)			<5.0		mg/kg		5	05-SEP-12
Uranium (U)			<2.0		mg/kg		2	05-SEP-12
Vanadium (V)			<1.0		mg/kg		1	05-SEP-12
Zinc (Zn)			<10		mg/kg		10	05-SEP-12
PCB-ED	**Soil**							
Batch R2424318								
WG1533242-2 CRM		**CRM915-50**						
WG1533242-1 MB								
Aroclor 1016			<0.010		mg/kg		0.01	24-AUG-12
Aroclor 1221			<0.010		mg/kg		0.01	24-AUG-12

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-ED	**Soil**							
Batch R2424318								
WG1533242-1 MB								
Aroclor 1232			<0.010		mg/kg		0.01	24-AUG-12
Aroclor 1242			<0.010		mg/kg		0.01	24-AUG-12
Aroclor 1248			<0.010		mg/kg		0.01	24-AUG-12
Aroclor 1254			<0.010		mg/kg		0.01	24-AUG-12
Aroclor 1260			<0.010		mg/kg		0.01	24-AUG-12
Aroclor 1262			<0.010		mg/kg		0.01	24-AUG-12
Aroclor 1268			<0.010		mg/kg		0.01	24-AUG-12
Surrogate: Decachlorobiphenyl			93.7		%		65-130	24-AUG-12
PREP-MOISTURE-ED	**Soil**							
Batch R2423042								
WG1532812-2 LCS								
% Moisture			100.4		%		90-110	23-AUG-12
WG1532812-1 MB								
% Moisture			<0.10		%		0.1	23-AUG-12

Quality Control Report

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
G	QC result did not meet ALS DQO. Refer to narrative comments for further information.
J	Duplicate results and limits are expressed in terms of absolute difference.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

10-185309

ALS Environmental

Chain of Custody / Analytical Request Form
Canada Toll Free: 1 800 668 9878
www.alsglobal.com

Page 1 of 2

Report To		Report Format / Distribution		Service Request: (Rush subject to availability - Contact ALS to confirm TAT)
Company:	Golder Associates	Standard: ✓	Other (specify):	✓ Regular (Standard Turnaround Times - Business Days)
Contact:	Suzi Martin	Select: PDF ✓	Excel ✓ Digital Fax	Priority (2-4 Business Days)-50% surcharge - Contact ALS to confirm TAT
Address:	102, 2535 - 3rd Ave SE, Calgary, AB	Email 1:	Samartin@golder.com	Emergency (1-2 Business Days)-100% Surcharge - Contact ALS to confirm TAT
		Email 2:	acroteau@golder.com	Same Day or Weekend Emergency - Contact ALS to confirm TAT
Phone:	403-267-6331 Fax: 403-299-5606	#3:	ccunada@golder.com	
Invoice To	Same as Report ? (circle) Yes or No (if No, provide details)	Client / Project Information		Analysis Request
	Copy of Invoice with Report? (circle) Yes or No	Job #:	12-1328-0036	(Indicate Filtered or Preserved, F/P)
Company:		PO / AFE:		
Contact:		LSD:		
Address:				
Phone:	Fax:	Quote #:		
Lab Work Order # (lab use only)	L1198412	ALS Contact:	Sampler: SM/AC/CC	

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BTEX	F1 - BTEX	F2	PCB	PHC F1-F3	Metals*	Number of Containers
	MW09-03 PW	20-Aug-12		water	X	X	X				5
	MW09-04 PW	20-Aug-12		water	X	X	X				5
	MW09-05 PW	20-Aug-12		water	X	X	X				5
	MW09-06 PW	20-Aug-12		water	X	X	X				5
	MW09-07 PW	20-Aug-12		water	X	X	X				5
	DUP-1	20-Aug-12		water	X	X	X				5
	Unnamed River	20-Aug-12		water	X	X	X				5
	Landfill B-A	20-Aug-12		water	X	X	X				5
	TB	20-Aug-12		water	X	X	X				5
	Tank Farm A	20-Aug-12		soil				X	X	X	3
	LFA-A-12-01	20-Aug-12		soil				X	X	X	3
	LFA-A-12-02	20-Aug-12		soil				X	X	X	3

L1198412-COFC

Special Instructions / Regulation with water or land use (CCME- Freshwater Aquatic Life/BC CSR-Commercial/AB Tier 1-Natural/ETC) / Hazardous Details

*Metals required: arsenic, cadmium, chromium, cobalt, lead, nickel, copper, zinc.

** LFA-A-12-02 has one jar only ½ full - please don't use this jar for PHC analysis.

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.

By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date:	Time:	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
Suzi Martin	Aug 22/12	10:00 AM	K. Wanner	23-Aug-12	9:30	18 °C				

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION | WHITE - LABORATORY COPY | YELLOW - CLIENT COPY | GENF 18.01 Front

10-185310

ALS Environmental

Chain of Custody / Analytical Request Form
Canada Toll Free: 1 800 668 9878
www.alsglobal.com

Report To		Report Format / Distribution		Service Request: (Rush subject to availability - Contact ALS to confirm TAT)
Company:	Golder Associates Ltd	Standard: ✓	Other (specify):	✓ Regular (Standard Turnaround Times - Business Days)
Contact:	Suzi Martin	Select: PDF ✓	Excel ✓ Digital Fax	Priority (2-4 Business Days)-50% surcharge - Contact ALS to confirm TAT
Address:	102, 2535 - 3rd Ave SE	Email 1:	samartin@golder.com	Emergency (1-2 Business Days)-100% Surcharge - Contact ALS to confirm TAT
	Calgary AB	Email 2:	acroteau@golder.com	Same Day or Weekend Emergency - Contact ALS to confirm TAT
Phone:	403-267-6331 Fax: 403-299-5606		ccanada@golder.com	
Invoice To	Same as Report ? (circle) (Yes) or No (if No, provide details)	Client / Project Information		Analysis Request
	Copy of Invoice with Report? (circle) (Yes) or No	Job #:	12-1328-0036	(Indicate Filtered or Preserved, F/P)
Company:		PO / AFE:		
Contact:		LSD:		
Address:				
Phone:	Fax:	Quote #:		
Lab Work Order # (lab use only)		ALS Contact:	Sampler: AC/CC/SM	

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	PCB	PHC F1-F3	Metals *	Number of Containers
	LFA-A-12-03	20-Aug-12		Soil	X	X	X	3
	LFA-B-12-01	20-Aug-12		Soil	X	X	X	3
	LFA-B-12-02	20-Aug-12		Soil	X	X	X	3
	LFA-D-12-01	20-Aug-12		Soil	X	X	X	3

Special Instructions / Regulation with water or land use (CCME- Freshwater Aquatic Life/BC CSR-Commercial/AB T

* metals required: arsenic, cadmium, chromium, cobalt, lead, nickel, copper, zinc.

L1198412-COFC

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.

By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date:	Time:	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
Suzi Martin	Aug 22/12	10:00 AM				°C				

APPENDIX D

Thermal Data

Johnson Point 2012 Monitoring Program
Temperature downloaded from thermistor at T09-01

DATE	TIME	ANALOG 1	ANALOG 2	ANALOG 3	ANALOG 4	ANALOG 5	ANALOG 6	ANALOG 7	ANALOG 8	ANALOG 9	ANALOG 10
Relative elevation to final ground surface (m)		0.3	0	-0.3	-0.6	-0.9	-1.2	-1.5	-1.8	-2.1	-2.4
(MM/DD/YY)	(HH:MM:SS)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)
7/9/2010	0:00:00	4.3132	4.7074	5.1914	3.7740	1.5756	-0.8682	-2.6250	-3.9914	-5.1396	-6.1324
7/9/2010	12:00:00	4.4080	4.3331	3.9787	3.1944	1.4499	-0.8580	-2.5422	-3.9179	-5.1023	-6.0892
7/10/2010	0:00:00	5.1166	5.0367	4.2932	3.0393	1.2738	-0.8580	-2.5215	-3.8969	-5.0384	-6.0514
7/10/2010	12:00:00	9.2336	7.9460	4.6475	2.7742	1.1681	-0.8376	-2.4750	-3.8391	-5.0065	-6.0244
7/11/2010	0:00:00	8.4079	8.0664	6.5693	3.7540	1.2738	-0.7968	-2.4181	-3.7710	-4.9533	-5.9651
7/11/2010	12:00:00	7.0643	6.6643	5.1714	3.5142	1.4901	-0.7815	-2.3768	-3.7290	-4.9108	-5.9220
7/12/2010	0:00:00	5.3112	5.7353	5.9101	3.9138	1.5304	-0.7560	-2.3561	-3.7081	-4.8683	-5.8789
7/12/2010	12:00:00	9.0118	8.0463	5.4309	3.6092	1.5756	-0.7407	-2.3406	-3.6714	-4.8417	-5.8304
7/13/2010	0:00:00	5.1714	5.4708	5.4708	3.7540	1.5656	-0.7000	-2.3148	-3.6453	-4.8205	-5.8089
7/13/2010	12:00:00	5.7903	5.5756	4.5278	3.3093	1.5304	-0.7000	-2.2942	-3.6034	-4.7780	-5.7659
7/14/2010	0:00:00	3.0944	3.5892	4.1385	3.2144	1.4047	-0.7000	-2.2942	-3.6034	-4.7356	-5.7283
7/14/2010	12:00:00	4.2832	3.9687	3.1944	2.7341	1.3292	-0.6745	-2.2322	-3.5459	-4.6985	-5.6960
7/15/2010	0:00:00	5.1166	5.3710	5.0367	3.2344	1.2738	-0.6592	-2.1961	-3.5041	-4.6667	-5.6638
7/15/2010	12:00:00	4.6026	4.3681	3.6441	2.8142	1.2889	-0.6592	-2.1961	-3.4936	-4.6349	-5.6209
7/16/2010	0:00:00	5.2463	5.2313	4.7872	3.0744	1.2487	-0.6389	-2.1652	-3.4727	-4.5926	-5.5780
7/16/2010	12:00:00	6.0049	5.7254	4.3531	2.8743	1.2587	-0.6185	-2.1446	-3.4362	-4.5714	-5.5405
7/17/2010	0:00:00	6.1248	6.0848	5.2912	3.3743	1.3091	-0.6185	-2.1291	-3.4153	-4.5291	-5.5297
7/17/2010	12:00:00	8.7650	7.9911	5.3311	3.2144	1.4147	-0.5982	-2.1085	-3.3735	-4.5026	-5.5297
7/18/2010	0:00:00	9.7338	8.9916	6.7843	3.8888	1.4901	-0.5982	-2.1085	-3.3735	-4.4656	-5.4976
7/18/2010	12:00:00	8.8909	8.2070	6.0698	3.8089	1.6862	-0.5574	-2.0467	-3.3266	-4.4445	-5.4601
7/19/2010	0:00:00	10.4791	10.0376	6.9843	4.0736	1.7364	-0.5422	-2.0261	-3.3109	-4.4023	-5.4387
7/19/2010	12:00:00	8.1216	7.7504	6.0249	4.0486	1.8117	-0.5320	-2.0467	-3.3109	-4.3811	-5.3959
7/20/2010	0:00:00	8.9715	8.9110	7.3646	4.5278	1.8870	-0.5117	-2.0106	-3.2692	-4.3600	-5.3585
7/20/2010	12:00:00	7.8507	7.4798	5.9650	4.3132	2.0476	-0.4761	-1.9849	-3.2275	-4.3336	-5.3478
7/21/2010	0:00:00	5.9101	6.2896	6.6843	4.7274	2.0727	-0.4557	-1.9643	-3.2119	-4.2967	-5.3104
7/21/2010	12:00:00	7.5700	7.3847	5.4708	4.1285	2.0928	-0.4151	-1.9437	-3.1702	-4.2756	-5.2890
7/22/2010	0:00:00	9.7995	9.7135	7.7855	4.6874	2.0276	-0.4151	-1.9437	-3.1702	-4.2334	-5.2463
7/22/2010	12:00:00	6.8493	6.8243	6.0548	4.4280	2.1680	-0.3795	-1.8871	-3.1442	-4.2176	-5.2090
7/23/2010	0:00:00	7.8156	7.6552	6.5693	4.4729	2.1530	-0.3541	-1.8666	-3.1026	-4.1966	-5.1876
7/23/2010	12:00:00	9.0874	8.3878	6.0848	4.1534	2.1279	-0.3337	-1.8460	-3.0869	-4.1650	-5.1770
7/24/2010	0:00:00	7.6702	7.9259	7.1594	4.7623	2.1881	-0.3134	-1.8357	-3.0609	-4.1650	-5.1396
7/24/2010	12:00:00	8.0062	7.5499	6.0049	4.3132	2.2683	-0.2982	-1.8203	-3.0453	-4.1439	-5.1183
7/25/2010	0:00:00	6.9643	7.2645	6.8693	4.7623	2.2683	-0.2576	-1.7792	-3.0037	-4.1229	-5.0757
7/25/2010	12:00:00	8.9715	8.3124	6.0698	4.2932	2.3084	-0.2169	-1.7638	-2.9933	-4.1018	-5.0597
7/26/2010	0:00:00	9.0874	8.9110	7.8156	4.9968	2.3485	-0.2068	-1.7381	-2.9778	-4.0860	-5.0384
7/26/2010	12:00:00	11.1106	10.1542	7.3997	5.0118	2.5339	-0.2068	-1.7227	-2.9622	-4.0439	-5.0065
7/27/2010	0:00:00	10.5401	10.3775	9.2135	5.9300	2.7341	-0.1763	-1.7022	-2.9206	-4.0229	-4.9746
7/27/2010	12:00:00	14.5290	12.9618	8.7247	5.7254	2.9693	-0.1611	-1.6816	-2.9206	-4.0019	-4.9533
7/28/2010	0:00:00	12.7753	12.2745	10.0629	6.4444	3.0944	-0.1002	-1.7022	-2.8998	-3.9756	-4.9108
7/28/2010	12:00:00	17.8339	15.7810	9.9210	6.2346	3.3293	-0.0191	-1.6406	-2.8583	-3.9599	-4.8895
7/29/2010	0:00:00	13.7684	12.9618	10.6011	7.0293	3.5292	0.0620	-1.5995	-2.8324	-3.9179	-4.8683
7/29/2010	12:00:00	13.7266	12.6409	9.1176	6.5044	3.6541	0.1430	-1.5790	-2.8324	-3.8969	-4.8523
7/30/2010	0:00:00	12.0737	11.8066	10.3927	7.1444	3.6941	0.1836	-1.5995	-2.8324	-3.8759	-4.8417
7/30/2010	12:00:00	9.3901	9.2488	8.4079	6.6643	3.8339	0.2797	-1.5585	-2.8324	-3.8549	-4.8205
7/31/2010	0:00:00	6.0548	6.6043	7.6903	6.4844	3.7740	0.3404	-1.5226	-2.8064	-3.8286	-4.7780
7/31/2010	12:00:00	8.3677	7.6702	6.4844	5.6305	3.6441	0.4011	-1.4867	-2.7494	-3.8077	-4.7621
8/1/2010	0:00:00	5.6904	6.1647	6.7843	5.5657	3.3543	0.4011	-1.5124	-2.7494	-3.7710	-4.7356
8/1/2010	12:00:00	4.6675	4.8421	5.2313	4.9569	3.2344	0.4365	-1.4099	-2.6665	-3.7500	-4.7197
8/2/2010	0:00:00	2.5939	3.0093	3.9138	4.1684	2.8943	0.4011	-1.3894	-2.6561	-3.7290	-4.6985
8/2/2010	12:00:00	6.8493	6.1048	3.9787	3.3093	2.3735	0.3050	-1.4099	-2.6665	-3.6871	-4.6667
8/3/2010	0:00:00	5.6904	5.4509	4.4080	3.3293	2.1279	0.2595	-1.3536	-2.6250	-3.6714	-4.6508
8/3/2010	12:00:00	6.1997	5.3910	3.5142	2.9543	1.9674	0.1987	-1.3433	-2.5836	-3.6610	-4.6137
8/4/2010	0:00:00	6.0449	6.1647	5.3112	3.4892	1.8720	0.1430	-1.3536	-2.6043	-3.6453	-4.5926
8/4/2010	12:00:00	5.5108	4.7623	3.2494	2.8743	1.8971	0.1836	-1.2870	-2.5060	-3.6034	-4.5714
8/5/2010	0:00:00	4.1534	4.3331	4.2083	3.1544	1.7916	0.1278	-1.3280	-2.5629	-3.5616	-4.5291
8/5/2010	12:00:00	5.5257	5.3710	4.2083	3.0744	1.8117	0.1430	-1.2870	-2.5060	-3.5459	-4.5132
8/6/2010	0:00:00	5.8452	5.6505	4.5278	3.1344	1.7916	0.1278	-1.3075	-2.5215	-3.5250	-4.5026
8/6/2010	12:00:00	10.7486	9.2589	5.1016	3.0944	1.7916	0.1177	-1.3075	-2.5060	-3.5041	-4.4815
8/7/2010	0:00:00	5.3710	5.7903	5.7353	3.9787	1.9674	0.1278	-1.2870	-2.4957	-3.4936	-4.4445
8/7/2010	12:00:00	5.0367	5.0916	4.6475	3.7140	2.1881	0.1836	-1.2870	-2.4750	-3.4936	-4.4234
8/8/2010	0:00:00	3.3743	3.7540	4.2483	3.6291	2.1680	0.1987	-1.2870	-2.4750	-3.4727	-4.4234
8/8/2010	12:00:00	3.8089	3.7340	3.3743	3.0944	2.0577	0.2241	-1.2717	-2.4388	-3.4570	-4.3811
8/9/2010	0:00:00	3.8339	4.0885	3.9787	3.1544	1.8971	0.1836	-1.2308	-2.3974	-3.4362	-4.3600
8/9/2010	12:00:00	5.8851	5.5108	3.8739	2.8743	1.8117	0.1836	-1.2103	-2.3561	-3.4153	-4.3442
8/10/2010	0:00:00	3.4693	3.8339	4.1085	3.1794	1.7565	0.1278	-1.2461	-2.4181	-3.3944	-4.3336
8/10/2010	12:00:00	3.8339	3.8339	3.4343	2.8592	1.8117	0.1430	-1.2103	-2.3561	-3.3944	-4.3178
8/11/2010	0:00:00	4.2832	4.2932	3.8339	2.9143	1.7063	0.1278	-1.2461	-2.3768	-3.3735	-4.2967
8/11/2010	12:00:00	5.6106	5.3112	3.8189	2.7542	1.7063	0.1430	-1.1796	-2.3303	-3.3526	-4.2756
8/12/2010	0:00:00	6.7243	6.3645	5.1515	3.2494	1.6862	0.0975	-1.2103	-2.3561	-3.3370	-4.2598

DATE	TIME	ANALOG 1	ANALOG 2	ANALOG 3	ANALOG 4	ANALOG 5	ANALOG 6	ANALOG 7	ANALOG 8	ANALOG 9	ANALOG 10
Relative elevation to final ground surface (m)		0.3	0	-0.3	-0.6	-0.9	-1.2	-1.5	-1.8	-2.1	-2.4
(MM/DD/YY)	(HH:MM:SS)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)
8/12/2010	12:00:00	7.8306	6.5693	3.5692	2.7191	1.7264	0.1177	-1.2103	-2.3406	-3.3266	-4.2176
8/13/2010	0:00:00	6.3495	6.1248	5.1016	3.3743	1.7364	0.1278	-1.1796	-2.2942	-3.3370	-4.2334
8/13/2010	12:00:00	4.4479	4.2682	3.4493	2.9143	1.7916	0.1430	-1.1643	-2.2735	-3.3266	-4.2334
8/14/2010	0:00:00	2.8743	3.4693	4.2682	3.2494	1.7565	0.1430	-1.1643	-2.2735	-3.3109	-4.2176
8/14/2010	12:00:00	7.0844	6.1248	3.5892	2.6991	1.7364	0.1633	-1.1439	-2.2580	-3.3109	-4.1966
8/15/2010	0:00:00	4.4579	4.6675	4.9319	3.4343	1.7364	0.1278	-1.1439	-2.2580	-3.2692	-4.1755
8/15/2010	12:00:00	11.6784	9.6377	4.4280	2.8743	1.7565	0.1278	-1.1899	-2.2942	-3.2692	-4.1755
8/16/2010	0:00:00	5.7703	5.7353	5.6904	3.7340	1.8318	0.1278	-1.1796	-2.2735	-3.2536	-4.1650
8/16/2010	12:00:00	7.1444	6.3645	4.2682	3.2743	1.9924	0.1987	-1.1234	-2.2168	-3.2275	-4.1650
8/17/2010	0:00:00	4.0885	4.5078	4.9020	3.6541	1.9674	0.1836	-1.1234	-2.2168	-3.2275	-4.1439
8/17/2010	12:00:00	6.8493	6.0249	3.8189	3.0193	1.9322	0.1836	-1.1796	-2.2580	-3.2119	-4.1439
8/18/2010	0:00:00	4.9569	5.1166	4.9319	3.4992	1.8720	0.1430	-1.1796	-2.2580	-3.2119	-4.1229
8/18/2010	12:00:00	6.1248	5.3710	3.5292	2.9143	1.8720	0.1633	-1.1643	-2.2322	-3.1910	-4.1018
8/19/2010	0:00:00	4.3132	4.7074	4.6874	3.3943	1.8318	0.1836	-1.1081	-2.1755	-3.1702	-4.1018
8/19/2010	12:00:00	8.0865	6.9243	3.9138	2.8142	1.7716	0.1430	-1.1439	-2.2168	-3.1598	-4.0597
8/20/2010	0:00:00	5.5108	5.5108	4.8421	3.2743	1.7364	0.1430	-1.1439	-2.2168	-3.1598	-4.0597
8/20/2010	12:00:00	5.3112	5.0517	4.1534	3.1544	1.8519	0.1836	-1.0825	-2.1652	-3.1442	-4.0439
8/21/2010	0:00:00	3.7940	3.9488	3.7940	3.0193	1.8117	0.1836	-1.0825	-2.1446	-3.1234	-4.0229
8/21/2010	12:00:00	4.2483	4.1884	3.5492	2.7942	1.7364	0.1836	-1.0672	-2.1446	-3.1234	-4.0229
8/22/2010	0:00:00	3.3943	3.5692	3.4992	2.7542	1.6460	0.1633	-1.0672	-2.1291	-3.1026	-4.0019
8/22/2010	12:00:00	3.3943	3.4892	3.1544	2.5339	1.5656	0.1430	-1.0468	-2.1291	-3.1026	-3.9914
8/23/2010	0:00:00	3.0093	3.2743	3.2893	2.5589	1.4901	0.1278	-1.0468	-2.1291	-3.0869	-3.9914
8/23/2010	12:00:00	3.7140	3.6541	3.0193	2.3635	1.4348	0.1177	-1.0468	-2.1085	-3.1026	-3.9756
8/24/2010	0:00:00	3.4093	3.6541	3.5142	2.5138	1.4047	0.0975	-1.0468	-2.1085	-3.0453	-3.9599
8/24/2010	12:00:00	3.7140	3.6541	3.0744	2.3485	1.4047	0.0975	-1.0468	-2.1085	-3.0453	-3.9389
8/25/2010	0:00:00	4.1534	4.0885	3.3743	2.3735	1.3493	0.0620	-1.0825	-2.1291	-3.0453	-3.9389
8/25/2010	12:00:00	4.7723	4.4080	3.1144	2.2482	1.3292	0.0620	-1.0468	-2.0879	-3.0245	-3.9179
8/26/2010	0:00:00	2.4788	2.8743	3.1944	2.4788	1.3292	0.0620	-1.0468	-2.0879	-3.0245	-3.8969
8/26/2010	12:00:00	5.2563	4.4729	2.6991	2.1279	1.3091	0.0620	-1.0468	-2.0673	-3.0245	-3.8969
8/27/2010	0:00:00	2.6991	2.9543	3.1694	2.4186	1.2738	0.0367	-1.0468	-2.0673	-2.9933	-3.8759
8/27/2010	12:00:00	5.1016	4.2932	2.3735	1.8971	1.2285	0.0012	-1.1081	-2.1291	-2.9933	-3.8549
8/28/2010	0:00:00	2.2332	2.5739	2.9293	2.2683	1.1933	0.0012	-1.0468	-2.0467	-2.9778	-3.8549
8/28/2010	12:00:00	2.6140	2.6741	2.3735	1.9674	1.1933	0.0012	-1.0468	-2.0467	-2.9778	-3.8549
8/29/2010	0:00:00	1.4901	1.9674	2.6340	2.1680	1.1530	-0.0191	-1.0468	-2.0467	-2.9622	-3.8391
8/29/2010	12:00:00	6.2096	5.1166	2.4938	1.7565	1.0925	-0.0191	-1.0468	-2.0261	-2.9622	-3.8286
8/30/2010	0:00:00	4.4080	4.3531	3.6291	2.2482	1.0925	-0.0597	-1.1081	-2.1085	-2.9622	-3.8077
8/30/2010	12:00:00	5.7503	5.2563	3.6092	2.3485	1.1933	-0.0445	-1.0825	-2.0879	-2.9414	-3.8077
8/31/2010	0:00:00	5.9899	5.7104	4.4729	2.7942	1.3292	-0.0343	-1.1081	-2.0879	-2.9414	-3.7919
8/31/2010	12:00:00	5.4060	5.0367	3.7340	2.6340	1.4499	-0.0191	-1.1081	-2.0879	-2.9206	-3.7710
9/1/2010	0:00:00	3.8089	3.8888	3.6541	2.7191	1.4700	0.0214	-1.1081	-2.0673	-2.8998	-3.7710
9/1/2010	12:00:00	3.7740	3.7540	3.2344	2.4788	1.4499	0.0214	-1.1081	-2.0673	-2.8998	-3.7500
9/2/2010	0:00:00	4.2483	4.2283	3.7740	2.6340	1.4147	0.0012	-1.1081	-2.0673	-2.8998	-3.7500
9/2/2010	12:00:00	6.9843	6.1447	3.7340	2.5138	1.4348	0.0214	-1.0825	-2.0673	-2.8998	-3.7290
9/3/2010	0:00:00	5.1515	5.2762	4.5078	2.9543	1.4901	0.0214	-1.0672	-2.0467	-2.8791	-3.7081
9/3/2010	12:00:00	3.6541	3.6791	3.3293	2.6891	1.5656	0.0620	-1.0672	-2.0261	-2.8791	-3.7081
9/4/2010	0:00:00	3.2344	3.2494	3.0543	2.5339	1.5103	0.0620	-1.0672	-2.0261	-2.8791	-3.7290
9/4/2010	12:00:00	1.7063	1.8318	2.0276	2.0928	1.3493	0.0367	-1.0672	-2.0261	-2.8583	-3.6871
9/5/2010	0:00:00	0.7598	1.0925	1.6460	1.7364	1.1530	0.0012	-1.0672	-2.0261	-2.8583	-3.6871
9/5/2010	12:00:00	0.8859	0.8859	0.9313	1.2487	0.9464	-0.0343	-1.0672	-2.0261	-2.8427	-3.6714
9/6/2010	0:00:00	-0.1763	0.0620	0.5831	0.9666	0.7043	-0.0800	-1.0468	-2.0106	-2.8427	-3.6714
9/6/2010	12:00:00	-0.2728	-0.2068	0.1633	0.6033	0.5073	-0.1205	-1.0162	-1.9849	-2.8324	-3.6714
9/7/2010	0:00:00	0.8859	0.6033	0.7699	0.6134	0.3202	-0.2068	-1.0672	-2.0106	-2.8324	-3.6610
9/7/2010	12:00:00	5.2912	3.8739	0.6437	0.3607	0.2595	-0.2068	-1.0672	-2.0106	-2.8324	-3.6453
9/8/2010	0:00:00	0.6841	0.7043	1.0018	0.6639	0.2241	-0.2068	-1.0672	-2.0106	-2.8324	-3.6610
9/8/2010	12:00:00	5.5257	4.1534	0.7598	0.4011	0.2241	-0.2068	-1.0825	-2.0003	-2.8324	-3.6243
9/9/2010	0:00:00	1.8519	1.6711	1.7364	0.9867	0.2797	-0.2068	-1.0672	-1.9849	-2.8324	-3.6243
9/9/2010	12:00:00	1.7063	1.4348	0.8052	0.6285	0.3202	-0.2068	-1.0825	-2.0003	-2.8324	-3.6034
9/10/2010	0:00:00	1.6711	1.6460	1.2587	0.7901	0.3202	-0.2068	-1.0825	-1.9849	-2.8324	-3.5877
9/10/2010	12:00:00	3.2893	2.8342	1.5103	0.7901	0.3607	-0.2068	-1.0825	-1.9849	-2.8324	-3.5877
9/11/2010	0:00:00	2.5939	2.5439	1.9924	1.1127	0.4214	-0.2169	-1.0825	-1.9849	-2.8324	-3.5616
9/11/2010	12:00:00	3.0193	2.8142	1.9121	1.1933	0.5224	-0.2068	-1.0825	-1.9849	-2.8064	-3.5616
9/12/2010	0:00:00	1.6309	1.8318	1.9322	1.3694	0.5831	-0.2169	-1.1234	-2.0003	-2.8324	-3.5459
9/12/2010	12:00:00	2.4537	2.3735	1.7565	1.2738	0.6285	-0.2068	-1.1081	-1.9643	-2.8064	-3.5459
9/13/2010	0:00:00	3.8539	3.5292	2.3735	1.3493	0.6033	-0.2373	-1.1234	-1.9849	-2.8064	-3.5616
9/13/2010	12:00:00	2.5589	2.5138	2.0276	1.3896	0.6437	-0.2169	-1.1234	-1.9849	-2.7857	-3.5250
9/14/2010	0:00:00	0.7901	0.9061	1.2084	1.2487	0.6285	-0.2373	-1.1234	-1.9849	-2.7857	-3.5250
9/14/2010	12:00:00	-0.8835	-0.4964	0.3404	0.7901	0.5224	-0.2169	-1.1234	-1.9849	-2.7857	-3.5250
9/15/2010	0:00:00	-3.1702	-2.3561	-0.0800	0.4214	0.3404	-0.2169	-1.0825	-1.9437	-2.7857	-3.5250
9/15/2010	12:00:00	-0.2169	-0.4964	-0.2068	0.1430	0.1430	-0.2576	-1.1234	-1.9849	-2.7857	-3.5250
9/16/2010	0:00:00	1.0925	0.7244	-0.0445	-0.0191	0.0012	-0.2728	-1.1439	-1.9849	-2.7857	-3.5041
9/16/2010	12:00:00	0.5629	0.4668	-0.0445	-0.0800	-0.0445	-0.2728	-1.1234	-1.9849	-2.7649	-3.5041
9/17/2010	0:00:00	0.3809	0.3202	-0.0445	-0.1002	-0.1002	-0.3134	-1.1439	-1.9849	-2.7857	-3.5041
9/17/2010	12:00:00	0.2241	0.1836	-0.0597	-0.0800	-0.0800	-0.3134	-1.1643	-1.9849	-2.7649	-3.4936

DATE	TIME	ANALOG 1	ANALOG 2	ANALOG 3	ANALOG 4	ANALOG 5	ANALOG 6	ANALOG 7	ANALOG 8	ANALOG 9	ANALOG 10
Relative elevation to final ground surface (m)		0.3	0	-0.3	-0.6	-0.9	-1.2	-1.5	-1.8	-2.1	-2.4
(MM/DD/YY)	(HH:MM:SS)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)
9/18/2010	0:00:00	-0.8376	-0.5117	-0.0800	-0.0597	-0.0597	-0.3337	-1.1439	-1.9849	-2.7649	-3.4936
9/18/2010	12:00:00	-1.4867	-1.0008	-0.1611	-0.0800	-0.0800	-0.3541	-1.1796	-1.9849	-2.7494	-3.4936
9/19/2010	0:00:00	-2.7494	-2.1961	-0.3337	-0.0800	-0.0800	-0.3541	-1.1643	-1.9849	-2.7494	-3.4936
9/19/2010	12:00:00	-2.8998	-2.3303	-0.5320	-0.1002	-0.0800	-0.3541	-1.1643	-1.9643	-2.7494	-3.4936
9/20/2010	0:00:00	-0.3947	-0.4557	-0.2982	-0.1002	-0.1205	-0.3693	-1.1796	-1.9849	-2.7494	-3.4727
9/20/2010	12:00:00	0.9212	0.4668	-0.2068	-0.0800	-0.0800	-0.3693	-1.1643	-1.9643	-2.7494	-3.4727
9/21/2010	0:00:00	-0.2576	-0.2068	-0.1763	-0.1002	-0.1205	-0.3947	-1.1796	-1.9849	-2.7235	-3.4727
9/21/2010	12:00:00	-2.3406	-1.8203	-0.5117	-0.1205	-0.1408	-0.4151	-1.1899	-2.0003	-2.7235	-3.4570
9/22/2010	0:00:00	-2.7857	-2.2322	-0.6898	-0.1205	-0.1408	-0.4151	-1.1899	-2.0003	-2.7235	-3.4570
9/22/2010	12:00:00	-2.8324	-2.3406	-0.8580	-0.1611	-0.1408	-0.4354	-1.2103	-2.0003	-2.7235	-3.4570
9/23/2010	0:00:00	-3.5616	-2.9622	-1.0008	-0.1408	-0.1205	-0.3795	-1.1643	-1.9437	-2.7235	-3.4570
9/23/2010	12:00:00	-2.0261	-1.8460	-0.9447	-0.2068	-0.1611	-0.4557	-1.2103	-2.0003	-2.7079	-3.4362
9/24/2010	0:00:00	-2.9206	-2.4388	-1.0008	-0.2068	-0.1763	-0.4761	-1.2103	-2.0003	-2.7235	-3.4362
9/24/2010	12:00:00	-2.4181	-2.3768	-1.2461	-0.2068	-0.1408	-0.4354	-1.1796	-1.9437	-2.7079	-3.4153
9/25/2010	0:00:00	-3.7081	-3.1702	-1.2103	-0.2068	-0.1763	-0.4964	-1.2103	-1.9849	-2.7079	-3.4153
9/25/2010	12:00:00	-3.5250	-3.0245	-1.4509	-0.2169	-0.1763	-0.4964	-1.2308	-1.9849	-2.7079	-3.4153
9/26/2010	0:00:00	-4.4445	-3.8077	-1.4867	-0.2068	-0.1763	-0.4557	-1.1796	-1.9437	-2.7079	-3.4362
9/26/2010	12:00:00	-2.1961	-2.0879	-1.3433	-0.2728	-0.2068	-0.5117	-1.2308	-1.9849	-2.7079	-3.4153
9/27/2010	0:00:00	-1.0468	-1.0264	-0.8682	-0.2576	-0.2068	-0.5117	-1.2308	-1.9849	-2.7079	-3.3944
9/27/2010	12:00:00	-1.6714	-1.5585	-1.0825	-0.2982	-0.2068	-0.5422	-1.2461	-2.0003	-2.7079	-3.3944
9/28/2010	0:00:00	-2.1085	-1.8357	-1.0162	-0.2982	-0.2068	-0.5574	-1.2461	-2.0003	-2.7079	-3.3944
9/28/2010	12:00:00	-2.3974	-2.1755	-1.3075	-0.3134	-0.2068	-0.5422	-1.2461	-1.9849	-2.6872	-3.3944
9/29/2010	0:00:00	-2.2735	-1.9643	-1.0825	-0.3541	-0.2068	-0.5778	-1.2717	-2.0106	-2.7079	-3.3944
9/29/2010	12:00:00	-2.5422	-3.0245	-2.0261	-0.3795	-0.2068	-0.5574	-1.2717	-1.9849	-2.6872	-3.3735
9/30/2010	0:00:00	-5.8304	-5.1023	-2.1446	-0.3795	-0.2068	-0.5422	-1.2103	-1.9643	-2.6872	-3.3735
9/30/2010	12:00:00	-1.0468	-1.3536	-1.5124	-0.4354	-0.2068	-0.5778	-1.2717	-2.0003	-2.6872	-3.3735
10/1/2010	0:00:00	-8.9160	-7.6631	-2.6665	-0.4964	-0.2068	-0.5778	-1.2461	-1.9643	-2.7079	-3.3944
10/1/2010	12:00:00	-1.6714	-2.1652	-2.2168	-0.6389	-0.2169	-0.6185	-1.2870	-2.0003	-2.7079	-3.3735
10/2/2010	0:00:00	-3.2692	-2.8427	-1.7638	-0.6185	-0.2373	-0.6389	-1.3075	-2.0106	-2.6872	-3.3735
10/2/2010	12:00:00	-2.1652	-2.1961	-1.8357	-0.6745	-0.2576	-0.6389	-1.3075	-2.0106	-2.6872	-3.3526
10/3/2010	0:00:00	-6.3868	-5.5780	-2.6665	-0.7407	-0.2576	-0.6592	-1.3075	-2.0003	-2.6872	-3.3526
10/3/2010	12:00:00	-10.5236	-9.4616	-4.5291	-0.9447	-0.2169	-0.6185	-1.2717	-1.9643	-2.6406	-3.3370
10/4/2010	0:00:00	-11.4779	-10.5878	-5.2890	-1.3075	-0.2576	-0.6185	-1.2717	-1.9643	-2.6561	-3.3370
10/4/2010	12:00:00	-8.3253	-7.8182	-5.2730	-1.7792	-0.2982	-0.6389	-1.2870	-1.9849	-2.6872	-3.3526
10/5/2010	0:00:00	-10.1517	-9.2222	-5.5780	-2.0261	-0.3541	-0.6592	-1.3075	-1.9849	-2.6406	-3.3370
10/5/2010	12:00:00	-5.7659	-5.7659	-4.8683	-2.3406	-0.4354	-0.6898	-1.3280	-2.0106	-2.6665	-3.3370
10/6/2010	0:00:00	-6.3489	-5.9651	-4.5291	-2.2942	-0.4964	-0.6745	-1.3075	-1.9849	-2.6665	-3.3370
10/6/2010	12:00:00	-7.6410	-6.9205	-4.6773	-2.3974	-0.5982	-0.6745	-1.3075	-1.9849	-2.6872	-3.3370
10/7/2010	0:00:00	-8.4654	-7.7683	-5.1023	-2.5629	-0.7560	-0.6898	-1.3075	-1.9849	-2.6872	-3.3370
10/7/2010	12:00:00	-8.6227	-8.0183	-5.5994	-2.8791	-0.9243	-0.7000	-1.3280	-1.9849	-2.6872	-3.3370
10/8/2010	0:00:00	-8.9160	-8.1242	-5.5565	-3.0245	-1.1234	-0.7407	-1.3280	-1.9849	-2.6250	-3.3109
10/8/2010	12:00:00	-4.4656	-4.6508	-4.5714	-3.1234	-1.3536	-0.8376	-1.3536	-2.0261	-2.6665	-3.3109
10/9/2010	0:00:00	-2.1652	-2.7649	-3.5459	-2.8324	-1.4867	-0.8682	-1.3689	-2.0106	-2.6665	-3.3266
10/9/2010	12:00:00	-1.3280	-1.7381	-2.8324	-2.5215	-1.5124	-0.9651	-1.4099	-2.0467	-2.6872	-3.3266
10/10/2010	0:00:00	-0.8580	-1.3280	-2.3561	-2.2580	-1.5124	-1.0468	-1.4304	-2.0261	-2.6665	-3.3109
10/10/2010	12:00:00	-2.4595	-2.5836	-2.5629	-2.0879	-1.4867	-1.1081	-1.4509	-2.0261	-2.6665	-3.3109
10/11/2010	0:00:00	-1.8871	-2.0106	-2.3303	-2.0106	-1.4867	-1.1643	-1.4867	-2.0467	-2.6872	-3.3109
10/11/2010	12:00:00	-2.0879	-2.1291	-2.2942	-1.9849	-1.5124	-1.2461	-1.5124	-2.0879	-2.6872	-3.3109
10/12/2010	0:00:00	-3.4362	-3.1910	-2.5060	-1.9643	-1.5124	-1.2870	-1.5226	-2.0879	-2.6872	-3.3266
10/12/2010	12:00:00	-3.8391	-3.5877	-2.8324	-2.0673	-1.5226	-1.3536	-1.5995	-2.1291	-2.7079	-3.3109
10/13/2010	0:00:00	-7.6852	-6.9643	-4.0229	-2.2942	-1.5380	-1.3536	-1.5790	-2.0879	-2.6872	-3.3109
10/13/2010	12:00:00	-8.7804	-8.3365	-5.6638	-2.9778	-1.7227	-1.4304	-1.6406	-2.1085	-2.7079	-3.3266
10/14/2010	0:00:00	-11.3531	-10.7106	-6.5606	-3.6243	-2.0003	-1.5124	-1.6560	-2.1291	-2.6665	-3.2901
10/14/2010	12:00:00	-12.6961	-11.8543	-7.6244	-4.3178	-2.3561	-1.5995	-1.7022	-2.1652	-2.6872	-3.3109
10/15/2010	0:00:00	-10.0129	-9.4787	-7.3100	-4.8205	-2.7857	-1.7638	-1.7792	-2.1652	-2.7494	-3.3266
10/15/2010	12:00:00	-10.0996	-9.7767	-7.7850	-5.2090	-3.1234	-1.9849	-1.8666	-2.2168	-2.6872	-3.2901
10/16/2010	0:00:00	-10.5236	-9.9206	-7.6133	-5.3745	-3.4570	-2.1755	-1.9643	-2.2580	-2.6872	-3.2901
10/16/2010	12:00:00	-9.2563	-8.8707	-7.4642	-5.5297	-3.6871	-2.3974	-2.0673	-2.2942	-2.7857	-3.3370
10/17/2010	0:00:00	-12.9230	-12.0166	-8.4878	-5.7928	-3.9179	-2.6250	-2.1755	-2.3406	-2.7649	-3.3266
10/17/2010	12:00:00	-11.4482	-11.2760	-9.1426	-6.3706	-4.1966	-2.8324	-2.3303	-2.4181	-2.7857	-3.3266
10/18/2010	0:00:00	-12.8309	-12.2097	-9.5474	-6.7403	-4.5502	-3.0245	-2.4750	-2.4957	-2.8064	-3.3266
10/18/2010	12:00:00	-9.3874	-9.2563	-8.6621	-6.9205	-4.8683	-3.2692	-2.6250	-2.5629	-2.8427	-3.3735
10/19/2010	0:00:00	-11.2760	-10.4711	-8.4654	-6.7403	-5.0065	-3.4936	-2.7649	-2.6561	-2.8324	-3.3370
10/19/2010	12:00:00	-11.0337	-10.6989	-9.0575	-6.9807	-5.1610	-3.6714	-2.9206	-2.7649	-2.8791	-3.3526
10/20/2010	0:00:00	-8.3253	-8.3589	-8.1242	-6.9096	-5.2890	-3.8286	-3.0453	-2.8324	-2.9622	-3.4153
10/20/2010	12:00:00	-9.2222	-9.0009	-8.1019	-6.7294	-5.3104	-3.9914	-3.2119	-2.9414	-2.9933	-3.4362
10/21/2010	0:00:00	-11.0102	-10.4013	-8.1688	-6.6749	-5.3318	-4.0860	-3.3266	-3.0245	-3.0453	-3.4362
10/21/2010	12:00:00	-10.3083	-9.9668	-8.5327	-6.9096	-5.3959	-4.1650	-3.4362	-3.1234	-3.1026	-3.4570
10/22/2010	0:00:00	-8.7804	-8.6227	-8.0629	-6.9096	-5.4976	-4.2334	-3.5250	-3.2119	-3.1702	-3.4936
10/22/2010	12:00:00	-11.6687	-10.9630	-8.4878	-6.8877	-5.5297	-4.3336	-3.6243	-3.3109	-3.2275	-3.5041
10/23/2010	0:00:00	-7.7517	-7.8571	-7.7961	-6.8877	-5.5565	-4.4023	-3.7081	-3.3735	-3.3109	-3.5616
10/23/2010	12:00:00	-5.9381	-6.3272	-7.0464	-6.6314	-5.5780	-4.5291	-3.8549	-3.4936	-3.3526	-3.6034
10/24/2010	0:00:00	-4.7621	-5.2090	-6.3109	-6.2135	-5.4815	-4.5502	-3.9389	-3.5616	-3.4153	-3.6243

DATE	TIME	ANALOG 1	ANALOG 2	ANALOG 3	ANALOG 4	ANALOG 5	ANALOG 6	ANALOG 7	ANALOG 8	ANALOG 9	ANALOG 10
Relative elevation to final ground surface (m)		0.3	0	-0.3	-0.6	-0.9	-1.2	-1.5	-1.8	-2.1	-2.4
(MM/DD/YY)	(HH:MM:SS)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)
10/24/2010	12:00:00	-4.1018	-4.5026	-5.7659	-5.8089	-5.2890	-4.5291	-3.9756	-3.6243	-3.4936	-3.6714
10/25/2010	0:00:00	-5.0171	-5.1183	-5.4815	-5.4815	-5.0757	-4.5026	-4.0019	-3.6871	-3.5250	-3.6871
10/25/2010	12:00:00	-8.1409	-7.7683	-6.6749	-5.5994	-4.9533	-4.4023	-4.0019	-3.7290	-3.5877	-3.7500
10/26/2010	0:00:00	-9.2051	-8.8030	-7.3760	-6.0244	-5.0597	-4.4023	-4.0439	-3.7710	-3.6453	-3.8077
10/26/2010	12:00:00	-6.7131	-6.8276	-6.9096	-6.1756	-5.2463	-4.5026	-4.1018	-3.8391	-3.6714	-3.8286
10/27/2010	0:00:00	-6.1756	-6.2460	-6.4574	-6.0244	-5.3104	-4.5714	-4.1650	-3.9179	-3.7081	-3.8549
10/27/2010	12:00:00	-5.3104	-5.5780	-6.1540	-5.8304	-5.2303	-4.5926	-4.1650	-3.9389	-3.7710	-3.8969
10/28/2010	0:00:00	-7.7517	-7.5691	-6.4791	-5.7283	-5.1770	-4.6349	-4.2176	-3.9914	-3.8077	-3.9389
10/28/2010	12:00:00	-8.6227	-8.4878	-7.1342	-5.9220	-5.1770	-4.6137	-4.2176	-4.0019	-3.8759	-3.9914
10/29/2010	0:00:00	-6.6314	-6.5878	-6.4791	-5.9220	-5.2730	-4.6667	-4.2967	-4.0860	-3.9179	-4.0019
10/29/2010	12:00:00	-3.7919	-4.2334	-5.5297	-5.6799	-5.2463	-4.6985	-4.3336	-4.1439	-3.9599	-4.0597
10/30/2010	0:00:00	-5.2303	-5.3959	-5.6638	-5.5297	-5.1183	-4.6773	-4.3442	-4.1650	-4.0019	-4.1018
10/30/2010	12:00:00	-4.4023	-4.6508	-5.3104	-5.3745	-5.0384	-4.6667	-4.3600	-4.1650	-4.0439	-4.1229
10/31/2010	0:00:00	-4.7993	-4.8417	-5.1610	-5.1876	-4.9533	-4.6508	-4.3811	-4.1966	-4.0860	-4.1650
10/31/2010	12:00:00	-6.5606	-6.2135	-5.5780	-5.2090	-4.8683	-4.6137	-4.4023	-4.2334	-4.0860	-4.1650
11/1/2010	0:00:00	-5.1876	-5.3104	-5.1876	-5.1610	-4.8523	-4.5926	-4.3811	-4.2598	-4.1439	-4.1966
11/1/2010	12:00:00	-9.8055	-9.1654	-6.6532	-5.3745	-4.8417	-4.5502	-4.3600	-4.2598	-4.1650	-4.2334
11/2/2010	0:00:00	-14.0380	-12.8186	-8.1521	-5.9220	-5.0384	-4.6137	-4.4023	-4.2967	-4.1650	-4.2598
11/2/2010	12:00:00	-17.8338	-16.2465	-10.0303	-6.8877	-5.4173	-4.6985	-4.4445	-4.2967	-4.1650	-4.2756
11/3/2010	0:00:00	-16.0530	-15.0873	-10.6579	-7.7295	-5.9004	-4.8895	-4.5026	-4.3442	-4.1755	-4.2967
11/3/2010	12:00:00	-20.5405	-19.1185	-12.1674	-8.4261	-6.3489	-5.1023	-4.5926	-4.3600	-4.2334	-4.3442
11/4/2010	0:00:00	-23.2261	-21.6421	-14.0885	-9.5874	-6.9205	-5.3959	-4.7356	-4.4445	-4.2598	-4.3442
11/4/2010	12:00:00	-20.7929	-19.8252	-15.1133	-10.7751	-7.6631	-5.7068	-4.8895	-4.5132	-4.3178	-4.3811
11/5/2010	0:00:00	-17.8338	-17.1682	-14.2850	-11.2168	-8.3253	-6.1540	-5.1610	-4.6667	-4.3600	-4.4234
11/5/2010	12:00:00	-16.6976	-16.1663	-13.9623	-11.2879	-8.7127	-6.5389	-5.3959	-4.8205	-4.4445	-4.4656
11/6/2010	0:00:00	-16.2732	-15.7415	-13.6171	-11.2760	-8.9329	-6.8659	-5.6209	-4.9746	-4.5291	-4.5132
11/6/2010	12:00:00	-16.5421	-15.9267	-13.6171	-11.2760	-9.0575	-7.0684	-5.8681	-5.1396	-4.6508	-4.5714
11/7/2010	0:00:00	-21.3825	-20.2750	-15.1392	-11.6687	-9.2336	-7.2715	-6.0514	-5.2730	-4.7356	-4.6349
11/7/2010	12:00:00	-18.0304	-17.6105	-15.1392	-12.3065	-9.6390	-7.5028	-6.2460	-5.4601	-4.8417	-4.6773
11/8/2010	0:00:00	-18.8070	-18.0656	-14.9837	-12.2884	-9.8745	-7.7517	-6.4357	-5.5565	-4.9533	-4.7780
11/8/2010	12:00:00	-20.3809	-19.4699	-15.6558	-12.5984	-10.0765	-7.9627	-6.6314	-5.7283	-5.0597	-4.8417
11/9/2010	0:00:00	-19.9744	-19.1477	-15.8406	-12.8738	-10.3780	-8.2135	-6.8440	-5.9004	-5.1876	-4.9320
11/9/2010	12:00:00	-18.5986	-17.9811	-15.7415	-13.1201	-10.5878	-8.3981	-7.0081	-6.0406	-5.3104	-5.0065
11/10/2010	0:00:00	-19.3230	-18.5700	-15.9267	-13.2686	-10.8220	-8.6227	-7.2000	-6.2135	-5.4173	-5.1023
11/10/2010	12:00:00	-16.5218	-16.3805	-15.3541	-13.3616	-11.0337	-8.8425	-7.3981	-6.3706	-5.5297	-5.1770
11/11/2010	0:00:00	-13.9371	-14.1644	-14.2659	-13.0091	-11.0514	-9.0009	-7.5691	-6.5226	-5.6424	-5.2890
11/11/2010	12:00:00	-15.8208	-15.3019	-13.5609	-12.4036	-10.8983	-9.0745	-7.7074	-6.6749	-5.7659	-5.3745
11/12/2010	0:00:00	-14.8223	-14.4186	-13.3368	-12.1674	-10.7106	-9.0745	-7.8182	-6.8004	-5.8789	-5.4976
11/12/2010	12:00:00	-11.9925	-12.2399	-12.5740	-11.8243	-10.5469	-9.0575	-7.9015	-6.9096	-6.0028	-5.5297
11/13/2010	0:00:00	-14.4314	-14.1834	-12.6717	-11.5196	-10.3547	-9.0235	-7.9460	-6.9807	-6.1108	-5.6209
11/13/2010	12:00:00	-23.3853	-21.5869	-13.8867	-11.4958	-10.2444	-9.0009	-7.9738	-7.0684	-6.2135	-5.7283
11/14/2010	0:00:00	-25.2275	-23.3265	-14.8610	-11.8783	-10.2850	-8.9782	-7.9960	-7.1342	-6.2676	-5.8089
11/14/2010	12:00:00	-19.2133	-18.0304	-14.0885	-11.9925	-10.3780	-9.0009	-8.0183	-7.1781	-6.3489	-5.9004
11/15/2010	0:00:00	-23.9626	-22.2733	-15.1652	-12.0407	-10.4245	-9.0462	-8.0796	-7.2605	-6.4140	-5.9812
11/15/2010	12:00:00	-24.4474	-23.0595	-16.9765	-13.0707	-10.7106	-9.0972	-8.1242	-7.2880	-6.5008	-6.0514
11/16/2010	0:00:00	-18.2565	-17.7918	-15.8406	-13.5359	-11.2405	-9.3247	-8.2135	-7.3760	-6.5606	-6.0892
11/16/2010	12:00:00	-29.1506	-27.2673	-18.8287	-14.1391	-11.4482	-9.5474	-8.3253	-7.4422	-6.6096	-6.1919
11/17/2010	0:00:00	-27.9290	-26.5943	-20.3961	-15.4784	-12.0949	-9.7882	-8.4654	-7.5470	-6.7294	-6.2676
11/17/2010	12:00:00	-22.9104	-22.2088	-19.2937	-16.0263	-12.8186	-10.1980	-8.6958	-7.6852	-6.8276	-6.3272
11/18/2010	0:00:00	-10.6170	-12.0166	-15.4261	-15.2368	-12.9722	-10.5469	-8.9612	-7.8182	-6.9096	-6.4140
11/18/2010	12:00:00	-15.0419	-14.9061	-14.1834	-13.8615	-12.6167	-10.7106	-9.2051	-8.0350	-7.0245	-6.4791
11/19/2010	0:00:00	-25.0125	-23.7234	-17.4647	-14.0885	-12.2641	-10.6170	-9.2791	-8.1688	-7.1122	-6.5878
11/19/2010	12:00:00	-30.1731	-28.2820	-20.0343	-15.2368	-12.5496	-10.6346	-9.3418	-8.2805	-7.2605	-6.7131
11/20/2010	0:00:00	-32.6098	-30.8543	-22.1363	-16.6976	-13.2438	-10.8631	-9.4616	-8.3589	-7.3540	-6.7622
11/20/2010	12:00:00	-32.6958	-31.0363	-22.9932	-17.7918	-14.0190	-11.2760	-9.6161	-8.4654	-7.4422	-6.8659
11/21/2010	0:00:00	-29.6725	-28.6195	-23.3517	-18.5700	-14.6552	-11.6150	-9.8745	-8.6452	-7.5691	-6.9424
11/21/2010	12:00:00	-26.0036	-25.7729	-22.7293	-18.9443	-15.2368	-12.0708	-10.1980	-8.8594	-7.7074	-7.0684
11/22/2010	0:00:00	-23.2846	-22.9104	-20.9469	-18.3702	-15.3737	-12.4218	-10.4886	-9.0462	-7.8404	-7.1561
11/22/2010	12:00:00	-25.9111	-25.1108	-21.5869	-18.2920	-15.3541	-12.6167	-10.7106	-9.2336	-7.9960	-7.2880
11/23/2010	0:00:00	-23.9626	-23.5877	-21.0940	-18.2920	-15.4588	-12.7879	-10.8983	-9.4388	-8.1521	-7.4146
11/23/2010	12:00:00	-22.6965	-22.6965	-21.0088	-18.3204	-15.5047	-12.8738	-11.0691	-9.6161	-8.3253	-7.5470
11/24/2010	0:00:00	-18.0938	-18.5056	-18.9154	-17.6871	-15.4457	-12.9906	-11.2168	-9.7767	-8.4429	-7.6410
11/24/2010	12:00:00	-16.1663	-16.6231	-17.3748	-16.7179	-15.0873	-12.9906	-11.2879	-9.8976	-8.5552	-7.7683
11/25/2010	0:00:00	-14.7001	-15.5572	-16.8061	-16.1462	-14.6809	-12.8738	-11.3531	-10.0129	-8.7127	-7.8849
11/25/2010	12:00:00	-12.3065	-12.9230	-14.7772	-15.1912	-14.2659	-12.7451	-11.3116	-10.0996	-8.8030	-7.9960
11/26/2010	0:00:00	-14.8610	-14.8352	-14.7772	-14.5271	-13.7862	-12.5496	-11.2879	-10.1517	-8.9160	-8.1242
11/26/2010	12:00:00	-23.8342	-22.6555	-17.5757	-14.8610	-13.5359	-12.3369	-11.2760	-10.1517	-9.0009	-8.2135
11/27/2010	0:00:00	-22.1524	-21.2574	-17.7708	-15.4261	-13.6859	-12.2278	-11.2168	-10.1517	-9.0462	-8.3253
11/27/2010	12:00:00	-17.0859	-17.2232	-16.8878	-15.5309	-13.8364	-12.2641	-11.1931	-10.1401	-9.0575	-8.3253
11/28/2010	0:00:00	-14.9061	-15.2368	-15.7415	-15.0873	-13.7862	-12.2884	-11.1931	-10.1517	-9.0972	-8.3981
11/28/2010	12:00:00	-15.6295	-15.6295	-15.4457	-14.7322	-13.6046	-12.2641	-11.2168	-10.1980	-9.1199	-8.4429
11/29/2010	0:00:00	-16.4343	-16.0530	-15.1652	-14.4186	-13.4051	-12.2097	-11.2168	-10.2444	-9.1881	-8.5046
11/29/2010	12:00:00	-15.7679	-15.4457	-14.8352	-14.1644	-13.2067	-12.0708	-11.1754	-10.2444	-9.2222	-8.5552

DATE	TIME	ANALOG 1	ANALOG 2	ANALOG 3	ANALOG 4	ANALOG 5	ANALOG 6	ANALOG 7	ANALOG 8	ANALOG 9	ANALOG 10
Relative elevation to final ground surface (m)		0.3	0	-0.3	-0.6	-0.9	-1.2	-1.5	-1.8	-2.1	-2.4
(MM/DD/YY)	(HH:MM:SS)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)
11/30/2010	0:00:00	-21.6738	-20.4264	-15.3999	-13.9812	-13.0091	-11.9925	-11.1281	-10.2444	-9.2791	-8.6227
11/30/2010	12:00:00	-18.1998	-17.6592	-15.4784	-14.1138	-12.9722	-11.9023	-11.0691	-10.2154	-9.2791	-8.6621
12/1/2010	0:00:00	-23.5877	-22.1524	-16.6976	-14.3168	-12.9722	-11.8783	-11.0514	-10.2444	-9.3247	-8.6958
12/1/2010	12:00:00	-25.6264	-24.0744	-17.8688	-14.9061	-13.1881	-11.8783	-11.0102	-10.2154	-9.3418	-8.7578
12/2/2010	0:00:00	-22.4353	-21.5002	-17.8969	-15.4261	-13.4861	-11.9684	-11.0514	-10.2444	-9.3646	-8.8030
12/2/2010	12:00:00	-21.6263	-20.7009	-17.4440	-15.4261	-13.6421	-12.0708	-11.1045	-10.2618	-9.3874	-8.8255
12/3/2010	0:00:00	-28.6195	-26.9190	-18.9443	-15.6295	-13.7172	-12.1674	-11.1754	-10.3083	-9.4159	-8.8707
12/3/2010	12:00:00	-31.6384	-29.7048	-20.4264	-16.3268	-14.0190	-12.2641	-11.2405	-10.3373	-9.4388	-8.8933
12/4/2010	0:00:00	-29.8345	-28.2110	-21.0088	-17.0585	-14.4186	-12.4583	-11.2760	-10.4013	-9.5073	-8.9329
12/4/2010	12:00:00	-31.2660	-29.5865	-21.4060	-17.4994	-14.8223	-12.7206	-11.4244	-10.4886	-9.5474	-8.9782
12/5/2010	0:00:00	-33.3074	-31.4165	-22.0160	-17.8338	-15.1133	-12.9230	-11.5672	-10.5469	-9.5874	-9.0235
12/5/2010	12:00:00	-32.4145	-30.5279	-22.4029	-18.2920	-15.4588	-13.1881	-11.7584	-10.6989	-9.6619	-9.0575
12/6/2010	0:00:00	-33.2569	-31.5564	-23.4863	-18.9443	-15.8737	-13.4176	-11.9204	-10.8220	-9.7767	-9.1426
12/6/2010	12:00:00	-34.2256	-32.3175	-24.0056	-19.4405	-16.2732	-13.6671	-12.0708	-10.9395	-9.8285	-9.2051
12/7/2010	0:00:00	-34.2786	-32.5486	-24.5437	-19.9744	-16.6772	-13.9812	-12.2884	-11.0809	-9.9552	-9.2791
12/7/2010	12:00:00	-33.7164	-32.2209	-24.6932	-20.3809	-17.0311	-14.2659	-12.5009	-11.2760	-10.0591	-9.3874
12/8/2010	0:00:00	-32.9558	-31.4747	-24.5876	-20.6015	-17.3886	-14.5527	-12.7696	-11.3828	-10.1980	-9.4616
12/8/2010	12:00:00	-35.3241	-33.6134	-25.4171	-20.8852	-17.6105	-14.7772	-12.9476	-11.5434	-10.3083	-9.5703
12/9/2010	0:00:00	-34.4381	-32.8564	-25.6995	-21.2808	-17.8688	-15.0290	-13.1386	-11.7106	-10.4478	-9.6619
12/9/2010	12:00:00	-33.6649	-32.3902	-25.9481	-21.6263	-18.1998	-15.3019	-13.4051	-11.9204	-10.5703	-9.7767
12/10/2010	0:00:00	-33.4472	-32.0769	-26.0222	-21.8802	-18.5056	-15.5309	-13.6046	-12.0527	-10.7106	-9.8745
12/10/2010	12:00:00	-33.0057	-31.7915	-26.5659	-22.3380	-18.7782	-15.7943	-13.7862	-12.2278	-10.8866	-10.0129
12/11/2010	0:00:00	-32.7945	-31.5097	-26.1617	-22.4678	-19.1477	-16.0796	-14.0190	-12.4340	-11.0102	-10.1227
12/11/2010	12:00:00	-33.9630	-32.5486	-26.2364	-22.4029	-19.2133	-16.2465	-14.2025	-12.5984	-11.1459	-10.2444
12/12/2010	0:00:00	-30.8543	-29.8345	-25.5898	-22.3380	-19.2937	-16.4343	-14.4186	-12.7879	-11.2760	-10.3547
12/12/2010	12:00:00	-33.6649	-32.3175	-25.8465	-22.1766	-19.2937	-16.5218	-14.5271	-12.9230	-11.4006	-10.4886
12/13/2010	0:00:00	-32.6466	-31.2891	-25.6812	-22.1766	-19.3523	-16.6772	-14.7001	-13.0892	-11.5434	-10.6170
12/13/2010	12:00:00	-34.6663	-33.1812	-26.0036	-22.2410	-19.4037	-16.7315	-14.8223	-13.2190	-11.6687	-10.7282
12/14/2010	0:00:00	-35.9891	-34.3715	-26.6513	-22.5330	-19.5214	-16.8606	-14.9384	-13.3616	-11.8243	-10.8455
12/14/2010	12:00:00	-35.6469	-34.0677	-26.8710	-22.7621	-19.6840	-16.9560	-15.0614	-13.4861	-11.9504	-10.9866
12/15/2010	0:00:00	-33.9108	-32.5486	-26.4902	-22.8609	-19.8848	-17.1545	-15.2107	-13.6046	-12.0407	-11.0809
12/15/2010	12:00:00	-35.2546	-33.7552	-26.6513	-22.9270	-20.0043	-17.2782	-15.3215	-13.7360	-12.1915	-11.2168
12/16/2010	0:00:00	-32.9061	-31.6972	-26.5943	-23.1177	-20.1469	-17.4163	-15.4784	-13.8615	-12.2884	-11.2760
12/16/2010	12:00:00	-32.6958	-31.5097	-26.2926	-23.0180	-20.2146	-17.5479	-15.6097	-13.9812	-12.4036	-11.3531
12/17/2010	0:00:00	-26.7657	-26.6133	-25.1556	-22.9600	-20.3355	-17.6871	-15.7679	-14.1391	-12.5740	-11.4958
12/17/2010	12:00:00	-18.4842	-19.6692	-22.4678	-22.1042	-20.1168	-17.7429	-15.8737	-14.2659	-12.6717	-11.6150
12/18/2010	0:00:00	-17.4440	-18.2778	-20.4796	-20.8467	-19.6396	-17.6314	-15.9267	-14.3613	-12.8186	-11.7106
12/18/2010	12:00:00	-21.6263	-21.4688	-20.9469	-20.2146	-19.0894	-17.4440	-15.9002	-14.4186	-12.8738	-11.8423
12/19/2010	0:00:00	-23.4442	-22.9104	-21.1950	-19.9445	-18.7350	-17.2232	-15.8605	-14.4505	-12.9230	-11.9204
12/19/2010	12:00:00	-23.4442	-23.0595	-21.5869	-20.0043	-18.5700	-17.0585	-15.7943	-14.4505	-12.9906	-11.9925
12/20/2010	0:00:00	-13.4051	-14.8223	-18.8648	-19.4699	-18.4271	-16.9423	-15.7151	-14.4314	-13.0461	-12.0527
12/20/2010	12:00:00	-6.0406	-8.4261	-15.7151	-18.0515	-17.8688	-16.7858	-15.6295	-14.4186	-13.1201	-12.1432
12/21/2010	0:00:00	-9.0462	-10.4711	-14.6296	-16.7315	-17.0859	-16.4343	-15.4784	-14.3868	-13.1634	-12.2097
12/21/2010	12:00:00	-13.4861	-14.2850	-15.9466	-16.4074	-16.4814	-16.0796	-15.3215	-14.3358	-13.0892	-12.2097
12/22/2010	0:00:00	-12.7879	-13.3368	-15.2498	-16.0929	-16.1196	-15.7415	-15.1133	-14.2151	-13.0461	-12.2097
12/22/2010	12:00:00	-17.4163	-17.5202	-16.8878	-16.2197	-15.8737	-15.4457	-14.8868	-14.0885	-13.0214	-12.2399
12/23/2010	0:00:00	-17.1545	-17.1133	-16.7179	-16.2465	-15.8406	-15.2758	-14.7001	-14.0064	-12.9722	-12.2278
12/23/2010	12:00:00	-21.7054	-21.0630	-18.2920	-16.6231	-15.7679	-15.1133	-14.5271	-13.8364	-12.9476	-12.2399
12/24/2010	0:00:00	-18.4271	-18.1433	-17.5757	-16.7586	-15.9267	-15.0873	-14.4505	-13.7862	-12.8493	-12.2097
12/24/2010	12:00:00	-17.2438	-17.1957	-17.1339	-16.6502	-15.8737	-15.0419	-14.4186	-13.6859	-12.8186	-12.1915
12/25/2010	0:00:00	-16.2933	-16.4343	-16.7179	-16.4074	-15.7943	-15.0096	-14.3613	-13.6421	-12.7879	-12.1674
12/25/2010	12:00:00	-15.6295	-15.8605	-16.3537	-16.1663	-15.6295	-14.9061	-14.2850	-13.6046	-12.7879	-12.1432
12/26/2010	0:00:00	-14.8223	-15.1912	-16.0263	-15.9997	-15.4784	-14.8223	-14.2151	-13.5796	-12.7451	-12.1191
12/26/2010	12:00:00	-16.5218	-16.4074	-15.9997	-15.7679	-15.3215	-14.7001	-14.1644	-13.5110	-12.7206	-12.1191
12/27/2010	0:00:00	-24.1693	-23.4610	-18.1998	-16.0796	-15.2368	-14.5975	-14.0885	-13.4611	-12.6717	-12.0949
12/27/2010	12:00:00	-27.7993	-26.2926	-19.8252	-16.8061	-15.4588	-14.5975	-14.0380	-13.4362	-12.6472	-12.0949
12/28/2010	0:00:00	-30.7638	-29.1086	-21.7054	-17.8338	-15.8406	-14.6296	-14.0064	-13.3865	-12.6472	-12.1191
12/28/2010	12:00:00	-29.2456	-27.8591	-22.1363	-18.5413	-16.3537	-14.8223	-14.0190	-13.3368	-12.6167	-12.0708
12/29/2010	0:00:00	-28.9096	-27.6900	-22.6965	-19.1987	-16.8061	-15.0419	-14.1138	-13.3616	-12.6167	-12.0708
12/29/2010	12:00:00	-30.9110	-29.5436	-23.2846	-19.6100	-17.1957	-15.3541	-14.2850	-13.4362	-12.6289	-12.0949
12/30/2010	0:00:00	-30.3166	-29.1506	-23.9026	-20.2448	-17.6314	-15.6097	-14.4186	-13.5359	-12.6717	-12.1432
12/30/2010	12:00:00	-27.2673	-26.4902	-23.1927	-20.4568	-18.0093	-15.9002	-14.6167	-13.6421	-12.6961	-12.1191
12/31/2010	0:00:00	-28.8368	-27.6108	-23.2595	-20.4264	-18.1221	-16.0796	-14.7772	-13.7360	-12.8186	-12.1915
12/31/2010	12:00:00	-28.8160	-27.7694	-22.9104	-20.4264	-18.2565	-16.2732	-14.9384	-13.8615	-12.8309	-12.2278
1/1/2011	0:00:00	-34.8833	-33.1058	-24.8435	-20.9161	-18.4271	-16.4074	-15.0614	-14.0064	-12.9230	-12.2641
1/1/2011	12:00:00	-33.1058	-31.6619	-25.5534	-21.6263	-18.8070	-16.6231	-15.2368	-14.1138	-13.0214	-12.3550
1/2/2011	0:00:00	-31.5097	-30.4498	-25.5170	-21.9840	-19.1987	-16.8606	-15.3541	-14.2025	-13.0892	-12.3793
1/2/2011	12:00:00	-29.3304	-28.4450	-25.0482	-22.1363	-19.4405	-17.1133	-15.5309	-14.3358	-13.2067	-12.5009
1/3/2011	0:00:00	-25.1287	-24.8257	-23.6555	-21.8563	-19.6100	-17.3265	-15.7679	-14.4760	-13.2872	-12.5740
1/3/2011	12:00:00	-29.4794	-28.5064	-24.2820	-21.6263	-19.4699	-17.3886	-15.8737	-14.5975	-13.4176	-12.6717
1/4/2011	0:00:00	-31.2660	-30.1951	-25.1915	-21.9201	-19.5583	-17.4994	-16.0263	-14.7322	-13.4861	-12.6961
1/4/2011	12:00:00	-32.1248	-31.0821	-25.8005	-22.3057	-19.7434	-17.5966	-16.0929	-14.8352	-13.6046	-12.8186
1/5/2011	0:00:00	-31.5564	-30.5503	-25.9481	-22.5901	-19.9744	-17.7429	-16.1997	-14.9384	-13.6859	-12.8738

DATE	TIME	ANALOG 1	ANALOG 2	ANALOG 3	ANALOG 4	ANALOG 5	ANALOG 6	ANALOG 7	ANALOG 8	ANALOG 9	ANALOG 10
Relative elevation to final ground surface (m)		0.3	0	-0.3	-0.6	-0.9	-1.2	-1.5	-1.8	-2.1	-2.4
(MM/DD/YY)	(HH:MM:SS)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)
1/5/2011	12:00:00	-25.3628	-25.3357	-24.4824	-22.5574	-20.1845	-17.8969	-16.3537	-15.0614	-13.8050	-12.9906
1/6/2011	0:00:00	-23.7234	-23.7234	-23.3517	-22.0160	-20.1168	-18.0093	-16.5084	-15.1912	-13.8867	-13.0461
1/6/2011	12:00:00	-21.1639	-21.5002	-21.9520	-21.3433	-19.8252	-18.0093	-16.5421	-15.2498	-14.0064	-13.1634
1/7/2011	0:00:00	-21.3825	-21.5632	-21.6263	-20.8237	-19.5583	-17.9249	-16.5961	-15.3541	-14.0885	-13.2438
1/7/2011	12:00:00	-27.1022	-26.0872	-21.7689	-20.4568	-19.2937	-17.8338	-16.6231	-15.4457	-14.1834	-13.3368
1/8/2011	0:00:00	-27.8591	-26.7657	-22.5901	-20.6320	-19.1987	-17.7708	-16.5961	-15.4588	-14.2151	-13.4051
1/8/2011	12:00:00	-23.6216	-23.3265	-22.0480	-20.7009	-19.1987	-17.6871	-16.5421	-15.4588	-14.2850	-13.4611
1/9/2011	0:00:00	-24.5613	-23.9626	-21.7927	-20.5176	-19.1477	-17.7150	-16.5421	-15.4784	-14.2850	-13.4611
1/9/2011	12:00:00	-20.3961	-20.8237	-21.1639	-20.3052	-19.0313	-17.6314	-16.5218	-15.4784	-14.3613	-13.5609
1/10/2011	0:00:00	-19.2937	-19.5805	-20.1845	-19.8252	-18.8287	-17.5966	-16.5218	-15.4784	-14.3868	-13.5796
1/10/2011	12:00:00	-20.3809	-20.2448	-20.0043	-19.4993	-18.6273	-17.5202	-16.5218	-15.5309	-14.4186	-13.6171
1/11/2011	0:00:00	-26.6133	-25.6264	-21.5632	-19.5805	-18.4556	-17.3748	-16.4612	-15.5309	-14.4186	-13.6859
1/11/2011	12:00:00	-27.5713	-26.5659	-22.3057	-19.9744	-18.5413	-17.3265	-16.4074	-15.5047	-14.4186	-13.6671
1/12/2011	0:00:00	-31.1739	-29.8345	-23.8342	-20.6320	-18.7062	-17.3265	-16.3268	-15.4261	-14.4186	-13.6859
1/12/2011	12:00:00	-28.8680	-27.9691	-24.1434	-21.2184	-19.0604	-17.4163	-16.3537	-15.4261	-14.4314	-13.7360
1/13/2011	0:00:00	-24.1003	-23.9026	-22.8609	-21.2574	-19.3817	-17.6314	-16.4612	-15.4784	-14.4314	-13.7611
1/13/2011	12:00:00	-30.1951	-28.9096	-24.0744	-21.3668	-19.4257	-17.7708	-16.5691	-15.5309	-14.4760	-13.8050
1/14/2011	0:00:00	-29.3729	-28.3633	-24.6579	-21.8563	-19.6396	-17.8338	-16.6502	-15.5834	-14.5271	-13.8364
1/14/2011	12:00:00	-22.3380	-22.7293	-23.1177	-21.7689	-19.8252	-17.9530	-16.7179	-15.6558	-14.5975	-13.8615
1/15/2011	0:00:00	-17.6592	-18.4271	-20.6473	-20.8467	-19.6692	-18.0304	-16.8061	-15.7151	-14.6296	-13.9119
1/15/2011	12:00:00	-20.7929	-20.7009	-20.4568	-20.1469	-19.2937	-18.0093	-16.9150	-15.8406	-14.6809	-13.9623
1/16/2011	0:00:00	-24.2646	-23.6555	-21.4060	-20.1168	-19.0313	-17.8478	-16.8606	-15.8605	-14.7322	-14.0064
1/16/2011	12:00:00	-23.7404	-23.2846	-21.5869	-20.1619	-18.9660	-17.7918	-16.8401	-15.8737	-14.7515	-14.0380
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1/17/2011	12:00:00	-19.6692	-19.8848	-20.3052	-19.8549	-18.8648	-17.7150	-16.7858	-15.8737	-14.8223	-14.1138
1/18/2011	0:00:00	-28.9096	-27.5417	-21.8563	-19.7137	-18.6847	-17.6314	-16.7315	-15.8406	-14.8223	-14.1644
1/18/2011	12:00:00	-30.2834	-29.0351	-23.8684	-20.6703	-18.8287	-17.5966	-16.7179	-15.8406	-14.8610	-14.2025
1/19/2011	0:00:00	-34.1202	-32.4145	-24.9412	-21.3120	-19.2133	-17.6592	-16.6976	-15.8208	-14.8223	-14.2025
1/19/2011	12:00:00	-38.8415	-36.8706	-27.4532	-22.4923	-19.7657	-17.8688	-16.8061	-15.8737	-14.8352	-14.2151
1/20/2011	0:00:00	-39.8626	-37.8395	-28.5886	-23.5877	-20.4264	-18.1786	-16.9150	-15.9002	-14.8868	-14.2659
1/20/2011	12:00:00	-39.9327	-38.0932	-29.5008	-24.5174	-21.0940	-18.5199	-17.0859	-15.9997	-14.9578	-14.2850
1/21/2011	0:00:00	-38.2696	-36.6763	-29.5865	-25.1287	-21.6738	-18.9443	-17.3265	-16.1196	-14.9837	-14.3168
1/21/2011	12:00:00	-41.0152	-39.0415	-30.4498	-25.6812	-22.1766	-19.3230	-17.6314	-16.3067	-15.1133	-14.4186
1/22/2011	0:00:00	-41.2393	-39.2605	-30.9907	-26.1990	-22.6555	-19.6692	-17.8478	-16.5084	-15.2107	-14.4186
1/22/2011	12:00:00	-41.5042	-39.5850	-31.6384	-26.7657	-23.1177	-20.0643	-18.1433	-16.7179	-15.3215	-14.5271
1/23/2011	0:00:00	-42.2229	-40.2689	-32.0410	-27.2089	-23.5877	-20.4264	-18.4271	-16.9150	-15.4784	-14.6296
1/23/2011	12:00:00	-40.7205	-39.0415	-32.2692	-27.5713	-23.9626	-20.7315	-18.6847	-17.1133	-15.6690	-14.7772
1/24/2011	0:00:00	-40.0735	-38.3827	-32.0769	-27.8391	-24.3167	-21.0630	-18.9660	-17.3541	-15.8208	-14.8610
1/24/2011	12:00:00	-35.1992	-34.2786	-30.4053	-27.4925	-24.4474	-21.3668	-19.2133	-17.5479	-15.9997	-15.0096
1/25/2011	0:00:00	-41.9087	-39.9327	-31.9694	-27.6503	-24.4824	-21.5317	-19.4405	-17.7429	-16.1196	-15.1392
1/25/2011	12:00:00	-41.5042	-39.6541	-32.4145	-28.0897	-24.7285	-21.7054	-19.6396	-17.9249	-16.3067	-15.2758
1/26/2011	0:00:00	-40.4302	-38.8415	-32.5120	-28.4450	-25.0125	-21.9201	-19.8549	-18.1221	-16.4814	-15.4261
1/26/2011	12:00:00	-38.5780	-37.2342	-32.2209	-28.5886	-25.2635	-22.1524	-20.0643	-18.2920	-16.6502	-15.5309
1/27/2011	0:00:00	-36.3518	-35.4358	-31.7915	-28.5475	-25.4171	-22.3623	-20.2448	-18.4556	-16.8061	-15.6887
1/27/2011	12:00:00	-40.9411	-39.3113	-32.6466	-28.5886	-25.4806	-22.5330	-20.3961	-18.6273	-16.9423	-15.8406
1/28/2011	0:00:00	-36.5725	-35.7461	-32.1248	-28.8368	-25.6995	-22.6719	-20.6320	-18.8070	-17.1133	-15.9798
1/28/2011	12:00:00	-29.8345	-29.8888	-29.7480	-28.1503	-25.6538	-22.7950	-20.7009	-18.9154	-17.2782	-16.0796
1/29/2011	0:00:00	-31.1279	-30.6736	-29.2034	-27.4925	-25.3628	-22.8280	-20.8698	-19.1185	-17.3886	-16.2197
1/29/2011	12:00:00	-29.1717	-29.1506	-28.4860	-27.0249	-25.0482	-22.7293	-20.8852	-19.1695	-17.5202	-16.3268
1/30/2011	0:00:00	-29.7048	-29.3304	-28.0093	-26.5659	-24.8257	-22.6555	-20.9161	-19.2645	-17.6314	-16.4612
1/30/2011	12:00:00	-31.5564	-30.9451	-28.6195	-26.5943	-24.6579	-22.5901	-20.9161	-19.3523	-17.6871	-16.5421
1/31/2011	0:00:00	-26.0036	-26.7944	-27.5220	-26.3865	-24.5437	-22.5330	-20.9161	-19.4257	-17.8338	-16.6772
1/31/2011	12:00:00	-30.9451	-30.1731	-27.7694	-26.0222	-24.3515	-22.4678	-20.8852	-19.4257	-17.8478	-16.7586
2/1/2011	0:00:00	-30.6736	-29.9759	-27.7993	-26.0036	-24.2646	-22.3623	-20.8852	-19.4257	-17.9249	-16.8401
2/1/2011	12:00:00	-28.7849	-28.5475	-27.4140	-26.0036	-24.1693	-22.3380	-20.8698	-19.4405	-17.9530	-16.9150
2/2/2011	0:00:00	-26.8326	-26.9478	-26.7657	-25.6812	-24.0744	-22.3057	-20.8698	-19.4993	-17.9811	-16.9423
2/2/2011	12:00:00	-23.3265	-24.0056	-25.5534	-25.2275	-23.8684	-22.2088	-20.8467	-19.5214	-18.0093	-16.9560
2/3/2011	0:00:00	-26.4619	-26.1617	-25.1915	-24.5613	-23.5538	-22.1042	-20.8237	-19.5214	-18.0656	-17.0585
2/3/2011	12:00:00	-24.8257	-24.8790	-24.9412	-24.3777	-23.3265	-21.9201	-20.7315	-19.5214	-18.0656	-17.0859
2/4/2011	0:00:00	-22.8857	-23.3517	-24.1693	-23.9369	-23.0180	-21.7689	-20.6320	-19.4699	-18.0938	-17.1545
2/4/2011	12:00:00	-19.3817	-20.2448	-22.6228	-23.2595	-22.6719	-21.6263	-20.5405	-19.4257	-18.0938	-17.1545
2/5/2011	0:00:00	-21.4374	-21.8563	-22.7621	-22.7950	-22.2733	-21.3668	-20.4264	-19.3523	-18.0938	-17.1682
2/5/2011	12:00:00	-25.8465	-25.2635	-23.5200	-22.6555	-21.9840	-21.1639	-20.3052	-19.3230	-18.0656	-17.1682
2/6/2011	0:00:00	-27.2673	-26.5659	-24.0744	-22.7293	-21.8563	-21.0088	-20.1845	-19.2352	-18.0515	-17.1682
2/6/2011	12:00:00	-22.0480	-22.6555	-23.5538	-22.9104	-21.8563	-20.8467	-20.0043	-19.1477	-18.0093	-17.1957
2/7/2011	0:00:00	-21.0088	-21.1639	-21.9201	-22.2088	-21.6738	-20.7622	-19.9221	-19.0313	-17.9811	-17.1957
2/7/2011	12:00:00	-25.1108	-24.5613	-22.7293	-21.9840	-21.3825	-20.6320	-19.8252	-18.9805	-17.9249	-17.1545
2/8/2011	0:00:00	-31.5097	-30.1951	-25.0839	-22.5901	-21.4060	-20.4796	-19.7434	-18.9154	-17.8478	-17.1339
2/8/2011	12:00:00	-33.9630	-32.4632	-26.4619	-23.3853	-21.6421	-20.4796	-19.6840	-18.8287	-17.8338	-17.1339
2/9/2011	0:00:00	-33.7164	-32.4145	-27.2673	-24.1434	-22.0801	-20.6015	-19.6692	-18.8070	-17.8338	-17.1133
2/9/2011	12:00:00	-31.2660	-30.4944	-27.3064	-24.7638	-22.4923	-20.7622	-19.6840	-18.7782	-17.8338	-17.0859
2/10/2011	0:00:00	-28.9932	-28.4450	-26.3113	-24.5876	-22.6965	-20.9161	-19.7657	-18.7782	-17.8338	-17.0859
2/10/2011	12:00:00	-26.1244	-26.0036	-25.4443	-24.3515	-22.7621	-21.1173	-19.9071	-18.9154	-17.8338	-17.1133

DATE	TIME	ANALOG 1	ANALOG 2	ANALOG 3	ANALOG 4	ANALOG 5	ANALOG 6	ANALOG 7	ANALOG 8	ANALOG 9	ANALOG 10
Relative elevation to final ground surface (m)		0.3	0	-0.3	-0.6	-0.9	-1.2	-1.5	-1.8	-2.1	-2.4
(MM/DD/YY)	(HH:MM:SS)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)
2/11/2011	0:00:00	-29.1086	-28.4041	-25.8465	-24.0744	-22.5901	-21.0940	-19.9221	-18.8864	-17.8338	-17.1339
2/11/2011	12:00:00	-31.1279	-30.1731	-26.5280	-24.2820	-22.6228	-21.1173	-20.0043	-18.9660	-17.8338	-17.1339
2/12/2011	0:00:00	-32.5486	-31.3817	-27.2089	-24.6579	-22.7293	-21.1639	-20.0343	-19.0023	-17.8688	-17.1682
2/12/2011	12:00:00	-33.4472	-32.3175	-27.8591	-25.0482	-22.9600	-21.2808	-20.0943	-19.0313	-17.9249	-17.1957
2/13/2011	0:00:00	-31.1739	-30.3720	-27.5713	-25.3357	-23.2261	-21.3825	-20.1619	-19.0894	-18.0093	-17.2438
2/13/2011	12:00:00	-29.1717	-28.6195	-27.0249	-25.2996	-23.3853	-21.5317	-20.2750	-19.1477	-18.0515	-17.2782
2/14/2011	0:00:00	-32.7451	-31.5097	-27.6503	-25.2996	-23.3853	-21.6263	-20.3582	-19.2133	-18.0304	-17.3265
2/14/2011	12:00:00	-34.9379	-33.5878	-28.5064	-25.6538	-23.5200	-21.6738	-20.4264	-19.3230	-18.0938	-17.3541
2/15/2011	0:00:00	-35.9317	-34.4648	-29.0770	-26.0036	-23.7404	-21.8245	-20.5405	-19.3817	-18.1786	-17.4163
2/15/2011	12:00:00	-29.0770	-29.2034	-28.2110	-26.1617	-23.9884	-21.9201	-20.6015	-19.4257	-18.2565	-17.4647
2/16/2011	0:00:00	-23.9884	-24.6227	-26.0036	-25.5170	-23.9626	-22.1042	-20.7009	-19.5583	-18.2778	-17.4440
2/16/2011	12:00:00	-24.8790	-25.1915	-25.4443	-24.8257	-23.6555	-22.0801	-20.7929	-19.6396	-18.3702	-17.5757
2/17/2011	0:00:00	-32.2209	-31.2084	-27.0635	-24.8257	-23.3853	-21.9201	-20.7622	-19.6396	-18.4057	-17.6105
2/17/2011	12:00:00	-33.6134	-32.8193	-28.4860	-25.4806	-23.5200	-21.9201	-20.7929	-19.6692	-18.4556	-17.6592
2/18/2011	0:00:00	-29.4154	-29.1717	-27.6108	-25.7362	-23.7234	-21.9201	-20.7315	-19.6692	-18.5199	-17.7429
2/18/2011	12:00:00	-31.1739	-30.6399	-27.7297	-25.5898	-23.7660	-22.0480	-20.8237	-19.6840	-18.5056	-17.7150
2/19/2011	0:00:00	-30.0196	-29.6187	-27.6503	-25.7362	-23.8342	-22.1042	-20.8698	-19.7137	-18.5700	-17.7918
2/19/2011	12:00:00	-28.2820	-27.8890	-26.7657	-25.5170	-23.9026	-22.2088	-20.9701	-19.8252	-18.5986	-17.8338
2/20/2011	0:00:00	-25.5170	-25.7362	-25.7729	-25.1108	-23.7234	-22.1766	-20.9701	-19.8549	-18.6560	-17.8338
2/20/2011	12:00:00	-28.3328	-28.0495	-26.4147	-24.9412	-23.6216	-22.1363	-20.9701	-19.8848	-18.7062	-17.8478
2/21/2011	0:00:00	-27.8591	-27.3846	-26.0036	-24.8257	-23.5538	-22.1363	-21.0088	-19.9221	-18.7350	-17.9249
2/21/2011	12:00:00	-29.4794	-28.8680	-26.4902	-24.8257	-23.4189	-21.9840	-20.9469	-19.8848	-18.7494	-17.9530
2/22/2011	0:00:00	-34.7203	-33.2569	-27.5713	-25.0839	-23.4610	-21.9840	-20.9469	-19.9071	-18.7350	-17.9811
2/22/2011	12:00:00	-34.4381	-33.4472	-28.6195	-25.6812	-23.6809	-22.0480	-20.9469	-19.9071	-18.7494	-17.9811
2/23/2011	0:00:00	-33.1058	-32.0769	-28.4450	-25.9481	-23.9026	-22.1524	-21.0088	-19.9221	-18.7782	-18.0093
2/23/2011	12:00:00	-32.8564	-32.0171	-28.4860	-26.0036	-24.0744	-22.2733	-21.0630	-19.9445	-18.8070	-18.0304
2/24/2011	0:00:00	-32.8564	-31.9694	-28.6710	-26.1617	-24.2386	-22.4029	-21.1639	-20.0643	-18.8648	-18.0656
2/24/2011	12:00:00	-20.6015	-22.2088	-25.7362	-25.6995	-24.2386	-22.4678	-21.2184	-20.0943	-18.9154	-18.1221
2/25/2011	0:00:00	-20.0043	-21.5317	-24.4474	-24.7903	-23.8342	-22.4678	-21.2808	-20.1469	-18.9443	-18.1433
2/25/2011	12:00:00	-21.0630	-21.9520	-23.9026	-24.1003	-23.4610	-22.3057	-21.2184	-20.1619	-19.0023	-18.1998
2/26/2011	0:00:00	-26.2364	-25.8005	-24.2820	-23.7234	-23.1177	-22.1363	-21.1950	-20.1845	-19.0313	-18.2565
2/26/2011	12:00:00	-29.8888	-29.0351	-25.5898	-23.8684	-22.9104	-21.9201	-21.1173	-20.1619	-19.0604	-18.2920
2/27/2011	0:00:00	-31.2660	-30.2392	-26.5659	-24.3777	-22.9600	-21.8563	-21.0088	-20.1168	-18.9805	-18.2565
2/27/2011	12:00:00	-32.1248	-31.6972	-27.8890	-25.0839	-23.2261	-21.8563	-20.9469	-20.0643	-19.0023	-18.2778
2/28/2011	0:00:00	-30.1401	-29.7048	-27.3846	-25.3357	-23.4863	-21.9520	-20.9469	-20.0343	-19.0313	-18.3204
2/28/2011	12:00:00	-30.2392	-29.6187	-27.0249	-25.1915	-23.5877	-22.0480	-21.0088	-20.0343	-19.0313	-18.3204
3/1/2011	0:00:00	-33.5878	-32.5120	-28.1200	-25.4806	-23.6809	-22.1363	-21.0630	-20.1168	-19.0023	-18.3204
3/1/2011	12:00:00	-29.8345	-29.6187	-27.7694	-25.7729	-23.8684	-22.2088	-21.1173	-20.1469	-19.0604	-18.3488
3/2/2011	0:00:00	-30.8543	-30.1731	-27.6503	-25.7362	-23.9369	-22.3057	-21.1639	-20.1469	-19.1185	-18.4057
3/2/2011	12:00:00	-28.0897	-27.8890	-26.9190	-25.5898	-23.9626	-22.3623	-21.1950	-20.1845	-19.1185	-18.4057
3/3/2011	0:00:00	-31.6972	-30.7638	-27.2284	-25.4171	-23.9026	-22.3866	-21.2574	-20.2146	-19.1185	-18.3702
3/3/2011	12:00:00	-33.1435	-32.3175	-28.4450	-25.8005	-23.9884	-22.3866	-21.3120	-20.2750	-19.1695	-18.4271
3/4/2011	0:00:00	-29.6187	-29.2034	-27.5713	-25.8742	-24.1003	-22.4353	-21.3433	-20.3052	-19.2352	-18.5056
3/4/2011	12:00:00	-21.9840	-23.3517	-25.7362	-25.4171	-24.0400	-22.5330	-21.3825	-20.3355	-19.2645	-18.5199
3/5/2011	0:00:00	-24.9857	-24.9412	-25.0125	-24.6932	-23.7404	-22.4923	-21.4060	-20.3809	-19.2937	-18.5413
3/5/2011	12:00:00	-20.0043	-21.3120	-24.0400	-24.3167	-23.5538	-22.4029	-21.4374	-20.4568	-19.2937	-18.5413
3/6/2011	0:00:00	-22.8280	-23.0180	-23.5877	-23.6216	-23.1510	-22.2088	-21.3668	-20.3961	-19.3817	-18.6273
3/6/2011	12:00:00	-19.9744	-20.9161	-22.7950	-23.1760	-22.7950	-22.0160	-21.2574	-20.3809	-19.3523	-18.6273
3/7/2011	0:00:00	-26.3489	-25.7362	-23.5200	-22.8609	-22.4678	-21.7927	-21.1328	-20.3355	-19.3523	-18.6560
3/7/2011	12:00:00	-25.1287	-25.1556	-24.4213	-23.3517	-22.4353	-21.6421	-21.0320	-20.2750	-19.3230	-18.6560
3/8/2011	0:00:00	-31.9694	-30.8090	-25.9481	-23.6216	-22.4923	-21.6263	-20.9161	-20.1845	-19.2352	-18.5986
3/8/2011	12:00:00	-37.0971	-35.7745	-28.4860	-24.5876	-22.7621	-21.6263	-20.8698	-20.1619	-19.2133	-18.5986
3/9/2011	0:00:00	-38.6928	-37.1884	-29.8888	-25.6812	-23.3265	-21.7689	-20.8852	-20.1469	-19.1987	-18.5986
3/9/2011	12:00:00	-35.2963	-34.8560	-30.2392	-26.4619	-23.9026	-22.0160	-21.0088	-20.1469	-19.2133	-18.5986
3/10/2011	0:00:00	-34.5586	-33.6649	-29.5008	-26.6513	-24.3167	-22.3057	-21.1328	-20.1845	-19.1987	-18.5700
3/10/2011	12:00:00	-31.6032	-32.4145	-30.0196	-26.9863	-24.5613	-22.5330	-21.2808	-20.2750	-19.2133	-18.5986
3/11/2011	0:00:00	-36.5134	-35.2963	-30.1731	-27.0635	-24.8257	-22.7293	-21.4688	-20.3961	-19.2937	-18.6560
3/11/2011	12:00:00	-28.6710	-30.8543	-30.3720	-27.5220	-25.0482	-22.9104	-21.5869	-20.4568	-19.4037	-18.7350
3/12/2011	0:00:00	-36.5134	-35.3799	-30.5279	-27.5220	-25.2275	-23.1177	-21.7054	-20.6015	-19.4405	-18.7350
3/12/2011	12:00:00	-29.7048	-30.9907	-30.4053	-27.8591	-25.4806	-23.3265	-21.8802	-20.7009	-19.5583	-18.8070
3/13/2011	0:00:00	-28.7020	-28.9514	-28.8680	-27.4925	-25.5534	-23.4610	-21.9840	-20.8237	-19.6396	-18.8648
3/13/2011	12:00:00	-25.5170	-26.6513	-27.8591	-27.0249	-25.4171	-23.5538	-22.1524	-20.9161	-19.6840	-18.9154
3/14/2011	0:00:00	-32.7945	-31.9337	-28.4450	-26.5659	-25.1287	-23.4863	-22.1766	-21.0088	-19.7434	-18.9660
3/14/2011	12:00:00	-32.4632	-32.5120	-29.5865	-27.0249	-25.1556	-23.4610	-22.2088	-21.0630	-19.8252	-19.0023
3/15/2011	0:00:00	-35.2963	-34.2786	-29.8345	-27.2089	-25.2996	-23.5200	-22.2733	-21.1328	-19.9071	-19.1185
3/15/2011	12:00:00	-27.5417	-29.5865	-29.8888	-27.6108	-25.4806	-23.6216	-22.3380	-21.1950	-19.9445	-19.1695
3/16/2011	0:00:00	-28.8160	-28.9096	-28.5475	-27.2284	-25.5534	-23.6809	-22.3623	-21.1950	-20.0343	-19.2352
3/16/2011	12:00:00	-27.4532	-27.6900	-27.7297	-26.8710	-25.3990	-23.7234	-22.4678	-21.3120	-20.1168	-19.2937
3/17/2011	0:00:00	-26.0036	-26.1990	-26.6513	-26.2364	-25.1108	-23.6809	-22.4678	-21.3433	-20.1469	-19.3523
3/17/2011	12:00:00	-27.1410	-27.5417	-26.9190	-25.9111	-24.8257	-23.5877	-22.4678	-21.3825	-20.1469	-19.3817
3/18/2011	0:00:00	-29.4794	-29.0351	-27.3064	-25.9481	-24.6932	-23.4442	-22.4029	-21.3668	-20.2146	-19.4405
3/18/2011	12:00:00	-25.8465	-26.8326	-27.1410	-26.0036	-24.6932	-23.4189	-22.4029	-21.4060	-20.2448	-19.4699
3/19/2011	0:00:00	-30.7299	-30.0196	-27.2284	-25.8465	-24.5876	-23.3517	-22.3623	-21.3668	-20.2750	-19.5214

DATE	TIME	ANALOG 1	ANALOG 2	ANALOG 3	ANALOG 4	ANALOG 5	ANALOG 6	ANALOG 7	ANALOG 8	ANALOG 9	ANALOG 10
Relative elevation to final ground surface (m)		0.3	0	-0.3	-0.6	-0.9	-1.2	-1.5	-1.8	-2.1	-2.4
(MM/DD/YY)	(HH:MM:SS)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)
3/19/2011	12:00:00	-26.3865	-27.6900	-27.8391	-26.1244	-24.6227	-23.3265	-22.3057	-21.3668	-20.3052	-19.5583
3/20/2011	0:00:00	-31.4165	-30.7638	-27.6900	-26.0036	-24.6932	-23.3265	-22.3057	-21.3668	-20.2448	-19.4993
3/20/2011	12:00:00	-24.2820	-25.4171	-27.0635	-26.1990	-24.7903	-23.3853	-22.3623	-21.3825	-20.2750	-19.5583
3/21/2011	0:00:00	-20.3052	-21.5002	-24.7285	-25.3357	-24.5876	-23.3517	-22.3380	-21.3825	-20.2750	-19.5583
3/21/2011	12:00:00	-15.1133	-18.5056	-23.9626	-24.5876	-24.1003	-23.2261	-22.3380	-21.3825	-20.3052	-19.5805
3/22/2011	0:00:00	-23.7660	-23.8342	-23.4863	-23.7404	-23.6809	-22.9600	-22.1766	-21.3433	-20.3355	-19.6396
3/22/2011	12:00:00	-16.5421	-19.0604	-23.4863	-23.8001	-23.4189	-22.7293	-22.0801	-21.2808	-20.3052	-19.6100
3/23/2011	0:00:00	-21.0630	-21.7292	-23.0844	-23.4189	-23.1760	-22.5901	-21.9520	-21.2184	-20.2750	-19.6396
3/23/2011	12:00:00	-12.1915	-15.8605	-22.2410	-23.1760	-22.9270	-22.4029	-21.8563	-21.1639	-20.2750	-19.6396
3/24/2011	0:00:00	-11.7824	-14.2659	-20.1168	-22.2410	-22.5901	-22.2410	-21.7292	-21.0630	-20.2146	-19.6100
3/24/2011	12:00:00	-12.8738	-15.4784	-20.0043	-21.5002	-22.0160	-21.9520	-21.6263	-20.9701	-20.1619	-19.6100
3/25/2011	0:00:00	-22.8857	-22.6228	-21.1173	-21.2184	-21.6263	-21.6421	-21.4060	-20.8698	-20.0943	-19.5214
3/25/2011	12:00:00	-15.4784	-17.1957	-21.2184	-21.6263	-21.5632	-21.4060	-21.1950	-20.7315	-19.9744	-19.4699
3/26/2011	0:00:00	-16.2732	-17.4163	-20.0943	-21.1639	-21.4060	-21.2808	-21.0630	-20.6320	-19.9221	-19.4257
3/26/2011	12:00:00	-12.2641	-14.1834	-19.2645	-20.7929	-21.1328	-21.1173	-20.9161	-20.5176	-19.8848	-19.4257
3/27/2011	0:00:00	-13.0214	-14.8030	-18.4057	-20.0343	-20.7315	-20.8852	-20.7622	-20.3961	-19.7434	-19.2937
3/27/2011	12:00:00	-6.0244	-10.4886	-17.8338	-19.6692	-20.3809	-20.6473	-20.6320	-20.3052	-19.6840	-19.2937
3/28/2011	0:00:00	-14.9837	-16.0796	-18.0938	-19.2645	-20.0043	-20.3961	-20.3961	-20.1469	-19.6100	-19.1987
3/28/2011	12:00:00	-14.4186	-15.8406	-18.5199	-19.2937	-19.7657	-20.1469	-20.1845	-19.9744	-19.4993	-19.1185
3/29/2011	0:00:00	-17.7918	-17.9811	-18.5986	-19.1477	-19.6692	-19.9445	-20.0043	-19.8549	-19.4037	-19.0604
3/29/2011	12:00:00	-13.7360	-14.7515	-17.8969	-19.0023	-19.4699	-19.7137	-19.8252	-19.6692	-19.2645	-18.9660
3/30/2011	0:00:00	-11.0514	-12.5984	-16.6502	-18.4556	-19.2352	-19.6396	-19.6692	-19.5805	-19.2133	-18.9154
3/30/2011	12:00:00	-8.6002	-11.0102	-16.3805	-18.0656	-18.9443	-19.4257	-19.5805	-19.4699	-19.1185	-18.8070
3/31/2011	0:00:00	-10.9630	-12.0949	-15.5309	-17.4994	-18.5413	-19.1695	-19.3817	-19.3230	-18.9805	-18.7350
3/31/2011	12:00:00	-8.4878	-10.2154	-15.1392	-17.1339	-18.2282	-18.9443	-19.2133	-19.1987	-18.9154	-18.6847
4/1/2011	0:00:00	-9.6619	-11.2760	-14.8610	-16.6976	-17.8478	-18.6847	-19.0023	-19.0604	-18.7782	-18.5986
4/1/2011	12:00:00	-10.3083	-11.6150	-15.0614	-16.5421	-17.5966	-18.3702	-18.7494	-18.8287	-18.6560	-18.4842
4/2/2011	0:00:00	-19.7434	-19.1695	-16.8878	-16.7315	-17.4647	-18.1433	-18.5986	-18.7062	-18.5056	-18.3702
4/2/2011	12:00:00	-16.9765	-17.6105	-18.1221	-17.6314	-17.6314	-18.0304	-18.4057	-18.5199	-18.3702	-18.2778
4/3/2011	0:00:00	-21.3825	-20.9469	-18.8287	-17.9530	-17.8478	-18.0656	-18.2920	-18.4057	-18.2778	-18.1998
4/3/2011	12:00:00	-18.1998	-19.2133	-19.9445	-18.8070	-18.2282	-18.1433	-18.2778	-18.3204	-18.1786	-18.0938
4/4/2011	0:00:00	-23.9884	-23.3853	-20.1619	-18.9443	-18.5056	-18.2778	-18.2778	-18.2565	-18.0656	-18.0093
4/4/2011	12:00:00	-20.1619	-20.8467	-20.8852	-19.6692	-18.7782	-18.3702	-18.2778	-18.2282	-18.0093	-17.9249
4/5/2011	0:00:00	-26.6894	-25.9481	-21.5002	-19.8549	-19.0604	-18.5413	-18.3204	-18.1998	-17.9530	-17.8478
4/5/2011	12:00:00	-22.5901	-22.9104	-22.3866	-20.7315	-19.4405	-18.7350	-18.4271	-18.2282	-17.9249	-17.8338
4/6/2011	0:00:00	-20.3961	-20.5710	-20.9701	-20.5710	-19.6840	-18.9154	-18.5199	-18.2565	-17.8688	-17.8338
4/6/2011	12:00:00	-19.3230	-20.1845	-21.2574	-20.5710	-19.7137	-19.0313	-18.6273	-18.2920	-17.8969	-17.7918
4/7/2011	0:00:00	-26.7657	-25.7729	-22.0160	-20.5405	-19.7434	-19.0894	-18.7062	-18.3488	-17.9249	-17.7918
4/7/2011	12:00:00	-19.3230	-21.0320	-22.6555	-21.2184	-19.9744	-19.1987	-18.7350	-18.3702	-17.9249	-17.7918
4/8/2011	0:00:00	-27.6503	-27.1022	-22.7950	-21.1950	-20.2146	-19.3523	-18.8287	-18.4556	-17.9811	-17.7708
4/8/2011	12:00:00	-21.2808	-22.3380	-23.5200	-21.9520	-20.5176	-19.4993	-18.9443	-18.5056	-17.9811	-17.8338
4/9/2011	0:00:00	-27.2673	-26.8326	-23.3853	-21.8245	-20.7009	-19.6692	-19.0313	-18.5700	-18.0304	-17.7918
4/9/2011	12:00:00	-20.4796	-21.9840	-23.6809	-22.4029	-20.8852	-19.7657	-19.1477	-18.6273	-18.0515	-17.8338
4/10/2011	0:00:00	-30.0634	-29.1717	-24.5174	-22.3623	-21.0630	-19.9221	-19.2133	-18.6847	-18.0938	-17.8338
4/10/2011	12:00:00	-25.5534	-26.2645	-25.3990	-23.1760	-21.3825	-20.0943	-19.3817	-18.7494	-18.1433	-17.8338
4/11/2011	0:00:00	-28.6710	-27.8890	-24.9412	-23.1510	-21.6263	-20.3052	-19.4993	-18.8648	-18.1998	-17.8478
4/11/2011	12:00:00	-22.3057	-23.4610	-24.5613	-23.3517	-21.7689	-20.4568	-19.6396	-18.9443	-18.2778	-17.8969
4/12/2011	0:00:00	-25.0839	-24.7285	-23.4863	-22.7293	-21.7689	-20.6015	-19.7137	-19.0604	-18.2920	-17.9249
4/12/2011	12:00:00	-20.8467	-22.2088	-23.9626	-22.9104	-21.6738	-20.6015	-19.7657	-19.0894	-18.4057	-17.9811
4/13/2011	0:00:00	-24.8257	-24.4824	-23.3265	-22.5330	-21.6263	-20.6320	-19.8252	-19.1695	-18.4271	-18.0093
4/13/2011	12:00:00	-19.0313	-20.7929	-23.5538	-22.7293	-21.6263	-20.6320	-19.8848	-19.2133	-18.5056	-18.0515
4/14/2011	0:00:00	-21.9520	-21.9520	-22.3057	-22.1766	-21.5632	-20.6320	-19.9071	-19.2645	-18.5413	-18.1221
4/14/2011	12:00:00	-18.4842	-18.9154	-21.4688	-21.8245	-21.3433	-20.5710	-19.9071	-19.2937	-18.5986	-18.1433
4/15/2011	0:00:00	-16.3537	-16.9765	-19.8549	-21.0320	-20.9701	-20.4264	-19.8848	-19.2937	-18.5986	-18.1433
4/15/2011	12:00:00	-15.8737	-16.2732	-19.4037	-20.4568	-20.6015	-20.2750	-19.8252	-19.2937	-18.5986	-18.1786
4/16/2011	0:00:00	-16.0530	-16.5691	-18.6273	-19.8028	-20.1619	-20.0643	-19.7137	-19.2645	-18.6273	-18.2282
4/16/2011	12:00:00	-12.7696	-14.4186	-18.5413	-19.6100	-19.8549	-19.8252	-19.6396	-19.1987	-18.5986	-18.1786
4/17/2011	0:00:00	-16.7315	-17.0859	-18.0093	-19.0023	-19.5583	-19.6396	-19.4699	-19.1477	-18.5700	-18.1786
4/17/2011	12:00:00	-15.6097	-16.9560	-19.1695	-19.2133	-19.3230	-19.4037	-19.3230	-19.0313	-18.5199	-18.1433
4/18/2011	0:00:00	-21.7927	-21.5632	-19.4037	-19.0604	-19.2133	-19.2645	-19.1987	-18.9443	-18.4842	-18.1433
4/18/2011	12:00:00	-14.9384	-16.9150	-20.2146	-19.8252	-19.3817	-19.1987	-19.0894	-18.8648	-18.4271	-18.0938
4/19/2011	0:00:00	-17.1339	-17.7150	-18.9154	-19.4037	-19.3817	-19.1477	-18.9805	-18.7350	-18.3488	-18.0656
4/19/2011	12:00:00	-16.0796	-16.8401	-18.8070	-19.2937	-19.2645	-19.1185	-18.9660	-18.7350	-18.2778	-18.0304
4/20/2011	0:00:00	-23.8342	-22.9104	-20.0043	-19.2133	-19.1477	-19.0313	-18.9154	-18.6847	-18.2565	-18.0093
4/20/2011	12:00:00	-16.8061	-18.1998	-20.6473	-19.9221	-19.2645	-18.9660	-18.8070	-18.5986	-18.1998	-17.9530
4/21/2011	0:00:00	-22.3623	-22.2088	-20.3355	-19.6692	-19.3817	-19.0023	-18.7782	-18.5413	-18.1433	-17.9249
4/21/2011	12:00:00	-18.0304	-19.3817	-21.2808	-20.3582	-19.5583	-19.0313	-18.7782	-18.5199	-18.1221	-17.8969
4/22/2011	0:00:00	-20.9161	-20.7009	-20.3355	-20.0643	-19.6692	-19.1185	-18.8070	-18.5199	-18.0938	-17.8478
4/22/2011	12:00:00	-17.8338	-19.0023	-20.7929	-20.3052	-19.6692	-19.1477	-18.8070	-18.5199	-18.0656	-17.8338
4/23/2011	0:00:00	-23.9369	-23.4863	-20.9469	-20.0643	-19.6396	-19.1695	-18.8070	-18.5056	-18.0656	-17.8338
4/23/2011	12:00:00	-17.8338	-19.1987	-21.3120	-20.6320	-19.7434	-19.1987	-18.8070	-18.5056	-18.0515	-17.8338
4/24/2011	0:00:00	-19.0894	-19.2645	-20.0943	-20.1845	-19.7657	-19.2352	-18.8648	-18.5199	-18.0515	-17.8338
4/24/2011	12:00:00	-15.7151	-16.5218	-19.4037	-19.9445	-19.6692	-19.2352	-18.8864	-18.5413	-18.0515	-17.8338

DATE	TIME	ANALOG 1	ANALOG 2	ANALOG 3	ANALOG 4	ANALOG 5	ANALOG 6	ANALOG 7	ANALOG 8	ANALOG 9	ANALOG 10
Relative elevation to final ground surface (m)		0.3	0	-0.3	-0.6	-0.9	-1.2	-1.5	-1.8	-2.1	-2.4
(MM/DD/YY)	(HH:MM:SS)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)
4/25/2011	0:00:00	-16.6772	-16.9560	-18.2920	-19.2133	-19.4037	-19.1695	-18.8648	-18.5199	-18.0515	-17.8338
4/25/2011	12:00:00	-12.3065	-13.4051	-17.7429	-18.9154	-19.1185	-19.0023	-18.8070	-18.5056	-18.0515	-17.8338
4/26/2011	0:00:00	-10.6346	-11.9504	-15.9466	-17.9530	-18.7350	-18.8287	-18.7350	-18.4842	-18.0515	-17.8338
4/26/2011	12:00:00	-5.2890	-8.1019	-14.7322	-17.3265	-18.2565	-18.6273	-18.6273	-18.4057	-18.0093	-17.7918
4/27/2011	0:00:00	-17.1682	-17.0585	-16.5084	-16.9560	-17.8338	-18.3204	-18.4271	-18.2920	-17.9530	-17.7918
4/27/2011	12:00:00	-14.0380	-15.2107	-17.4994	-17.5966	-17.8338	-18.0938	-18.2920	-18.2282	-17.8688	-17.7429
4/28/2011	0:00:00	-18.2565	-17.8478	-17.1682	-17.3748	-17.7429	-17.9811	-18.1221	-18.0656	-17.8338	-17.7150
4/28/2011	12:00:00	-10.8866	-12.3793	-16.7179	-17.6105	-17.7708	-17.8688	-18.0093	-17.9811	-17.8338	-17.6592
4/29/2011	0:00:00	-16.8606	-16.7315	-16.5421	-17.1957	-17.6592	-17.8478	-17.9249	-17.8969	-17.7150	-17.5966
4/29/2011	12:00:00	-8.9160	-10.5236	-15.8605	-17.2989	-17.6105	-17.8338	-17.8688	-17.8478	-17.6592	-17.5479
4/30/2011	0:00:00	-17.2782	-16.9150	-16.0263	-16.6231	-17.3265	-17.6592	-17.8338	-17.7918	-17.5966	-17.4994
4/30/2011	12:00:00	-15.0419	-16.0796	-17.4440	-17.2438	-17.2989	-17.5757	-17.7429	-17.7429	-17.5202	-17.4163
5/1/2011	0:00:00	-19.9221	-19.4257	-17.5757	-17.1682	-17.3265	-17.5202	-17.6592	-17.6592	-17.4440	-17.3748
5/1/2011	12:00:00	-14.0064	-15.4457	-18.0938	-17.8478	-17.5202	-17.4994	-17.5757	-17.5757	-17.3748	-17.2989
5/2/2011	0:00:00	-12.6167	-13.5110	-16.3268	-17.3748	-17.5479	-17.5202	-17.5202	-17.5202	-17.3748	-17.2989
5/2/2011	12:00:00	-8.3253	-9.4388	-15.0096	-16.8606	-17.3541	-17.4994	-17.5479	-17.4994	-17.2989	-17.2232
5/3/2011	0:00:00	-14.0380	-14.4186	-15.0290	-16.0929	-16.9423	-17.3541	-17.4440	-17.4163	-17.2989	-17.2232
5/3/2011	12:00:00	-3.5250	-7.4863	-15.0290	-16.3805	-16.8061	-17.1957	-17.3748	-17.3886	-17.2232	-17.1545
5/4/2011	0:00:00	-12.7451	-14.4186	-14.5527	-15.7679	-16.6231	-17.0859	-17.2782	-17.3265	-17.1682	-17.1339
5/4/2011	12:00:00	0.1836	-5.1396	-14.8030	-16.3268	-16.5961	-16.9423	-17.1682	-17.2438	-17.1133	-17.0585
5/5/2011	0:00:00	-11.9023	-13.2190	-14.1644	-15.5047	-16.4612	-16.9150	-17.1133	-17.1682	-17.0585	-17.0038
5/5/2011	12:00:00	-7.4146	-9.3418	-14.4186	-15.8605	-16.3268	-16.7586	-17.0038	-17.0859	-16.9765	-16.9560
5/6/2011	0:00:00	-8.6958	-10.4245	-13.3865	-15.2107	-16.1462	-16.7179	-16.9423	-17.0311	-16.9423	-16.9150
5/6/2011	12:00:00	0.3607	-4.6349	-13.7862	-15.3215	-16.0263	-16.5691	-16.8878	-16.9560	-16.9150	-16.8878
5/7/2011	0:00:00	-12.0527	-13.0214	-13.7611	-14.8223	-15.8208	-16.4343	-16.7858	-16.9423	-16.8401	-16.8401
5/7/2011	12:00:00	-10.0591	-11.6329	-14.7322	-15.4261	-15.7943	-16.2933	-16.6502	-16.8061	-16.7586	-16.7858
5/8/2011	0:00:00	-16.4074	-16.3805	-15.0614	-15.2368	-15.7943	-16.2732	-16.5691	-16.7315	-16.6772	-16.7179
5/8/2011	12:00:00	-11.2760	-12.7879	-15.7943	-15.9267	-15.9002	-16.1997	-16.4814	-16.6772	-16.6502	-16.6976
5/9/2011	0:00:00	-13.5110	-13.8050	-14.7772	-15.5047	-15.9466	-16.1997	-16.4343	-16.5691	-16.5961	-16.6502
5/9/2011	12:00:00	-3.8969	-6.4791	-13.2190	-15.3019	-15.8737	-16.1663	-16.4074	-16.5218	-16.5421	-16.5691
5/10/2011	0:00:00	-8.3253	-9.3247	-12.4583	-14.5271	-15.5834	-16.0796	-16.3537	-16.5084	-16.4612	-16.5084
5/10/2011	12:00:00	-6.0028	-8.2805	-13.2438	-14.5783	-15.3215	-15.9466	-16.2732	-16.4343	-16.4074	-16.4612
5/11/2011	0:00:00	-10.0996	-11.8783	-13.3865	-14.3868	-15.1912	-15.8406	-16.1663	-16.3537	-16.3268	-16.4074
5/11/2011	12:00:00	-2.1652	-6.4140	-13.4176	-14.8223	-15.2368	-15.7415	-16.0796	-16.2933	-16.2933	-16.3537
5/12/2011	0:00:00	-14.4314	-14.6167	-14.3358	-14.6809	-15.2368	-15.6690	-16.0530	-16.2197	-16.2465	-16.3268
5/12/2011	12:00:00	-4.6137	-7.6852	-14.1644	-15.1392	-15.3215	-15.6558	-15.9798	-16.1462	-16.1663	-16.2465
5/13/2011	0:00:00	-12.0949	-13.1881	-13.9812	-14.7001	-15.2758	-15.6690	-15.9466	-16.0929	-16.0929	-16.1997
5/13/2011	12:00:00	-2.9622	-6.6967	-13.9623	-15.1133	-15.3215	-15.6295	-15.9002	-16.0796	-16.0796	-16.1663
5/14/2011	0:00:00	-10.5236	-12.0166	-13.7611	-14.7322	-15.3019	-15.6558	-15.9002	-16.0530	-16.0530	-16.0929
5/14/2011	12:00:00	6.7243	0.1987	-12.4340	-14.8352	-15.2498	-15.5834	-15.8605	-15.9997	-16.0263	-16.0796
5/15/2011	0:00:00	-2.6561	-4.8205	-11.0514	-13.9119	-15.0290	-15.5309	-15.8208	-15.9798	-15.9997	-16.0796
5/15/2011	12:00:00	1.6862	-1.5124	-10.4478	-13.4611	-14.6809	-15.3999	-15.7679	-15.9267	-15.9466	-16.0263
5/16/2011	0:00:00	-5.5297	-6.9096	-10.3373	-12.8186	-14.3613	-15.2107	-15.6558	-15.8605	-15.9002	-15.9997
5/16/2011	12:00:00	-3.4936	-5.7283	-11.1754	-12.9906	-14.1138	-15.0096	-15.5047	-15.7943	-15.8406	-15.9267
5/17/2011	0:00:00	-10.3257	-10.7751	-11.6150	-12.8186	-13.9812	-14.8610	-15.4261	-15.7151	-15.7943	-15.9002
5/17/2011	12:00:00	-7.7683	-9.4045	-12.6167	-13.3368	-13.9623	-14.7001	-15.2498	-15.5834	-15.6887	-15.8406
5/18/2011	0:00:00	-9.1654	-10.3547	-12.0708	-13.1881	-14.0190	-14.6809	-15.2107	-15.5047	-15.6558	-15.7943
5/18/2011	12:00:00	-4.6667	-7.0464	-12.4036	-13.5110	-14.0380	-14.6167	-15.1133	-15.4457	-15.6097	-15.7415
5/19/2011	0:00:00	-7.3760	-9.0009	-11.6329	-13.0892	-14.0064	-14.5975	-15.0614	-15.3737	-15.5047	-15.6690
5/19/2011	12:00:00	-2.2168	-5.0065	-11.6866	-13.2872	-13.9623	-14.5527	-15.0096	-15.3019	-15.4588	-15.6295
5/20/2011	0:00:00	-5.4976	-7.3540	-10.8455	-12.7206	-13.8050	-14.4760	-14.9578	-15.2368	-15.3999	-15.5834
5/20/2011	12:00:00	-1.7998	-4.4023	-10.9630	-12.8186	-13.6859	-14.4186	-14.8868	-15.2368	-15.3737	-15.5047
5/21/2011	0:00:00	-5.8520	-6.9096	-10.1401	-12.2399	-13.4861	-14.3358	-14.8223	-15.1652	-15.3019	-15.4784
5/21/2011	12:00:00	-2.8998	-5.1610	-10.6579	-12.3793	-13.3368	-14.2025	-14.7322	-15.0873	-15.2368	-15.3999
5/22/2011	0:00:00	-5.3745	-6.9424	-10.0303	-11.9023	-13.1634	-14.0632	-14.6167	-15.0096	-15.1912	-15.3737
5/22/2011	12:00:00	13.4189	4.9020	-9.3247	-12.0407	-13.0214	-13.9371	-14.5016	-14.9061	-15.1392	-15.3019
5/23/2011	0:00:00	-1.0468	-3.9914	-8.6846	-11.2760	-12.8186	-13.8364	-14.4186	-14.8223	-15.0419	-15.2368
5/23/2011	12:00:00	2.7341	-0.6745	-9.0575	-11.5196	-12.6961	-13.6859	-14.3613	-14.7515	-14.9837	-15.2107
5/24/2011	0:00:00	0.5224	-2.8064	-8.0350	-10.8866	-12.5009	-13.6046	-14.2659	-14.6552	-14.9061	-15.1392
5/24/2011	12:00:00	14.4816	6.6293	-7.6133	-11.0337	-12.3369	-13.4176	-14.1391	-14.5527	-14.8223	-15.0614
5/25/2011	0:00:00	5.9101	1.7063	-5.6424	-9.9898	-12.0407	-13.2872	-14.0190	-14.4760	-14.7515	-15.0096
5/25/2011	12:00:00	14.3974	6.8043	-6.4140	-10.1517	-11.7824	-13.0892	-13.9119	-14.4186	-14.6552	-14.9061
5/26/2011	0:00:00	-0.2728	-2.1291	-5.8089	-9.2962	-11.4779	-12.9230	-13.7862	-14.3358	-14.5975	-14.8610
5/26/2011	12:00:00	15.3705	7.8056	-5.6209	-9.5073	-11.2760	-12.7451	-13.6171	-14.2151	-14.5016	-14.8030
5/27/2011	0:00:00	6.8493	3.1694	-3.4936	-8.4261	-10.9630	-12.5313	-13.4861	-14.0885	-14.4186	-14.7322
5/27/2011	12:00:00	12.1355	6.5893	-4.1650	-8.1911	-10.5119	-12.2399	-13.3182	-13.9812	-14.4186	-14.6809
5/28/2011	0:00:00	3.2344	1.5656	-2.9933	-7.4642	-10.1517	-12.0166	-13.1201	-13.8364	-14.3168	-14.6167
5/28/2011	12:00:00	4.9319	2.6340	-3.2901	-7.0245	-9.7308	-11.7106	-12.9230	-13.6671	-14.2025	-14.5271
5/29/2011	0:00:00	1.3091	0.4466	-2.6406	-6.5389	-9.2962	-11.3828	-12.6961	-13.5110	-14.0380	-14.4186
5/29/2011	12:00:00	3.3543	1.7063	-2.6561	-6.1324	-8.8707	-11.1045	-12.4218	-13.3182	-13.9119	-14.3613
5/30/2011	0:00:00	-0.2068	-0.4964	-2.6043	-5.8304	-8.5159	-10.7985	-12.2097	-13.1634	-13.7611	-14.2405
5/30/2011	12:00:00	4.1385	2.5439	-2.4181	-5.5994	-8.2582	-10.5119	-11.9504	-12.9476	-13.6171	-14.1391
5/31/2011	0:00:00	0.8052	0.4466	-2.0879	-5.3318	-7.9460	-10.1980	-11.6687	-12.7451	-13.4362	-14.0064

DATE	TIME	ANALOG 1	ANALOG 2	ANALOG 3	ANALOG 4	ANALOG 5	ANALOG 6	ANALOG 7	ANALOG 8	ANALOG 9	ANALOG 10
Relative elevation to final ground surface (m)		0.3	0	-0.3	-0.6	-0.9	-1.2	-1.5	-1.8	-2.1	-2.4
(MM/DD/YY)	(HH:MM:SS)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)
5/31/2011	12:00:00	4.8820	3.0543	-2.0106	-5.0757	-7.6410	-9.9206	-11.4006	-12.5313	-13.3182	-13.9119
6/1/2011	0:00:00	-0.7204	-0.5422	-1.9026	-4.8417	-7.4146	-9.6849	-11.2760	-12.3369	-13.1201	-13.7611
6/1/2011	12:00:00	-0.3337	-1.1234	-2.6665	-4.7780	-7.1561	-9.4159	-11.0337	-12.1191	-12.9722	-13.6046
6/2/2011	0:00:00	-1.5380	-1.5124	-2.3768	-4.6137	-6.9643	-9.1881	-10.7751	-11.9504	-12.8186	-13.4861
6/2/2011	12:00:00	-0.3337	-1.1081	-2.9933	-4.7993	-6.8659	-9.0009	-10.5703	-11.7345	-12.6289	-13.3368
6/3/2011	0:00:00	-1.7998	-1.6201	-2.3974	-4.5714	-6.7403	-8.8255	-10.3780	-11.5672	-12.4826	-13.1881
6/3/2011	12:00:00	1.9523	1.3694	-2.2168	-4.5026	-6.5715	-8.6002	-10.1749	-11.3531	-12.3065	-13.0461
6/4/2011	0:00:00	0.5477	0.3202	-1.8460	-4.3178	-6.4357	-8.4654	-10.0129	-11.2760	-12.1432	-12.8984
6/4/2011	12:00:00	2.8943	1.7565	-1.8460	-4.1755	-6.2839	-8.3253	-9.8515	-11.1045	-11.9925	-12.7879
6/5/2011	0:00:00	4.3681	2.7341	-1.2461	-3.9914	-6.1540	-8.1911	-9.7078	-10.9395	-11.9023	-12.6961
6/5/2011	12:00:00	6.2096	3.6941	-1.3280	-3.8391	-5.9812	-8.0350	-9.5474	-10.7751	-11.7345	-12.5496
6/6/2011	0:00:00	1.0623	0.6841	-1.1796	-3.6610	-5.8304	-7.8571	-9.4045	-10.6346	-11.5672	-12.4036
6/6/2011	12:00:00	3.9787	2.6741	-1.1234	-3.4936	-5.6424	-7.6852	-9.2222	-10.4886	-11.4660	-12.2884
6/7/2011	0:00:00	-0.1763	-0.0800	-1.0162	-3.3370	-5.4976	-7.5470	-9.0575	-10.3257	-11.2879	-12.1191
6/7/2011	12:00:00	2.7542	1.9121	-1.0008	-3.1910	-5.3478	-7.3760	-8.9160	-10.1749	-11.2760	-12.0407
6/8/2011	0:00:00	1.1933	0.8859	-0.8172	-3.1026	-5.2090	-7.2385	-8.7804	-10.0591	-11.1045	-11.9204
6/8/2011	12:00:00	6.5493	4.5278	-0.6898	-2.9622	-5.0597	-7.0848	-8.6227	-9.8976	-10.9866	-11.8063
6/9/2011	0:00:00	2.2482	1.7264	-0.2728	-2.8324	-4.8895	-6.9096	-8.4654	-9.7767	-10.8455	-11.6866
6/9/2011	12:00:00	2.7341	2.3485	-0.2982	-2.6665	-4.7621	-6.7840	-8.3253	-9.6161	-10.7106	-11.5672
6/10/2011	0:00:00	2.8943	2.3284	0.0012	-2.4957	-4.6137	-6.6314	-8.2135	-9.4787	-10.5703	-11.4482
6/10/2011	12:00:00	8.1066	6.3095	0.4214	-2.3561	-4.4656	-6.5008	-8.1019	-9.3874	-10.4711	-11.3116
6/11/2011	0:00:00	2.3986	2.2332	0.3050	-2.1755	-4.2967	-6.3489	-7.9238	-9.2222	-10.3373	-11.2760
6/11/2011	12:00:00	2.0476	1.7716	0.0772	-2.0673	-4.1650	-6.1919	-7.7850	-9.0745	-10.2154	-11.1459
6/12/2011	0:00:00	0.5831	0.6033	-0.1611	-2.0106	-4.0439	-6.0514	-7.6410	-8.9782	-10.0996	-11.0337
6/12/2011	12:00:00	5.3910	4.6126	0.4668	-1.9283	-3.9179	-5.9004	-7.5028	-8.8425	-9.9552	-10.9160
6/13/2011	0:00:00	4.0885	3.5892	0.9212	-1.8203	-3.8077	-5.7659	-7.3981	-8.6958	-9.8285	-10.7985
6/13/2011	12:00:00	9.0118	7.3997	1.4147	-1.7381	-3.7290	-5.6799	-7.2715	-8.6002	-9.7480	-10.6989
6/14/2011	0:00:00	2.3284	2.1128	0.6285	-1.6201	-3.6034	-5.5405	-7.1122	-8.4654	-9.6161	-10.5703
6/14/2011	12:00:00	9.0874	7.3196	1.5103	-1.5226	-3.5041	-5.4976	-7.0245	-8.3365	-9.5073	-10.4886
6/15/2011	0:00:00	7.0643	6.2696	3.3093	-1.2717	-3.3944	-5.3745	-6.9096	-8.2805	-9.3874	-10.3547
6/15/2011	12:00:00	12.0326	10.1542	3.4093	-1.0825	-3.2275	-5.2463	-6.7840	-8.1409	-9.2791	-10.2618
6/16/2011	0:00:00	6.9643	6.2896	3.6441	-0.8172	-3.1026	-5.1183	-6.6967	-8.0350	-9.1881	-10.1749
6/16/2011	12:00:00	6.8893	6.1048	2.5589	-0.7204	-2.9206	-4.9905	-6.5606	-7.9015	-9.0575	-10.0591
6/17/2011	0:00:00	4.1884	4.0885	3.0944	-0.4964	-2.8324	-4.8417	-6.4140	-7.7850	-8.9612	-9.9379
6/17/2011	12:00:00	7.2445	6.4694	2.7341	-0.4964	-2.6872	-4.7356	-6.3272	-7.6852	-8.8594	-9.8285
6/18/2011	0:00:00	4.0885	4.0736	2.8492	-0.2982	-2.5422	-4.5926	-6.1919	-7.5691	-8.7353	-9.7767
6/18/2011	12:00:00	8.6141	7.5299	3.1944	-0.2728	-2.4595	-4.4815	-6.0676	-7.4642	-8.6452	-9.6619
6/19/2011	0:00:00	5.7703	5.6505	4.1285	0.0367	-2.3406	-4.3442	-5.9651	-7.3540	-8.5159	-9.5703
6/19/2011	12:00:00	6.0698	5.4509	2.9143	-0.0445	-2.2322	-4.2334	-5.8520	-7.2605	-8.4261	-9.4616
6/20/2011	0:00:00	1.5103	2.1680	2.3735	0.0620	-2.1446	-4.1650	-5.7283	-7.1342	-8.3253	-9.3646
6/20/2011	12:00:00	6.0449	5.6505	2.4938	-0.0445	-2.0467	-4.0439	-5.6209	-7.0245	-8.2582	-9.2563
6/21/2011	0:00:00	6.1048	5.7254	3.8739	0.3404	-1.9643	-3.9599	-5.5297	-6.9205	-8.1521	-9.1654
6/21/2011	12:00:00	7.6702	6.7443	3.3393	0.2595	-1.8871	-3.8391	-5.4815	-6.8440	-8.0629	-9.0745
6/22/2011	0:00:00	6.5893	6.2896	4.8272	0.9212	-1.7998	-3.7500	-5.3745	-6.7403	-7.9738	-9.0009
6/22/2011	12:00:00	9.7995	8.6291	4.1684	0.6285	-1.6816	-3.6610	-5.2730	-6.6314	-7.8571	-8.8933
6/23/2011	0:00:00	5.7254	5.5956	4.7274	1.2084	-1.6201	-3.5877	-5.1876	-6.5606	-7.7850	-8.8255
6/23/2011	12:00:00	11.1259	9.5720	4.5677	0.9212	-1.5124	-3.5041	-5.1023	-6.4574	-7.6852	-8.7127
6/24/2011	0:00:00	8.2672	7.7504	5.6505	1.6862	-1.4509	-3.4153	-5.0171	-6.3706	-7.6133	-8.6621
6/24/2011	12:00:00	10.3165	9.1328	5.0916	1.4499	-1.3536	-3.3370	-4.9320	-6.2839	-7.5470	-8.5777
6/25/2011	0:00:00	6.0698	6.1647	5.1166	1.8519	-1.2308	-3.2536	-4.8417	-6.2135	-7.4422	-8.4878
6/25/2011	12:00:00	7.3046	6.7643	3.9937	1.3292	-1.1439	-3.1442	-4.7621	-6.1324	-7.3760	-8.3981
6/26/2011	0:00:00	6.3745	6.2496	5.1515	1.9523	-1.0468	-3.0609	-4.6773	-6.0514	-7.2880	-8.3253
6/26/2011	12:00:00	11.3763	10.0376	5.3311	1.7565	-0.9651	-2.9778	-4.5926	-5.9651	-7.2000	-8.2973
6/27/2011	0:00:00	7.2845	7.1894	6.6293	2.7341	-0.8580	-2.8791	-4.5026	-5.8681	-7.1122	-8.2135
6/27/2011	12:00:00	9.1529	8.3878	5.0118	2.1680	-0.7560	-2.8324	-4.4445	-5.8089	-7.0684	-8.1409
6/28/2011	0:00:00	2.9293	3.2893	3.5892	2.0476	-0.6898	-2.7857	-4.3442	-5.7068	-6.9643	-8.0629
6/28/2011	12:00:00	3.3543	3.3743	2.7341	1.4499	-0.6389	-2.6872	-4.2598	-5.6424	-6.9096	-7.9627
6/29/2011	0:00:00	2.2683	2.6741	2.9543	1.5656	-0.5778	-2.6043	-4.1755	-5.5405	-6.8440	-7.9015
6/29/2011	12:00:00	2.8592	2.8943	2.3284	1.1328	-0.5778	-2.5422	-4.1650	-5.5297	-6.7622	-7.8404
6/30/2011	0:00:00	3.6541	3.7940	3.3943	1.5656	-0.5320	-2.4750	-4.0597	-5.4601	-6.7131	-7.7683
6/30/2011	12:00:00	10.0528	8.7650	4.2682	1.3896	-0.5422	-2.4595	-4.0229	-5.4173	-6.6314	-7.6852
7/1/2011	0:00:00	8.7751	8.0263	6.1997	2.6540	-0.4557	-2.3974	-3.9599	-5.3585	-6.5606	-7.6133
7/1/2011	12:00:00	9.0319	8.0664	5.0916	2.3084	-0.3795	-2.3406	-3.8969	-5.2730	-6.4791	-7.5691
7/2/2011	0:00:00	5.3112	5.4858	4.9319	2.5589	-0.3337	-2.3148	-3.8549	-5.2463	-6.4140	-7.4863
7/2/2011	12:00:00	3.7940	3.9787	3.4693	1.9674	-0.2982	-2.2580	-3.7919	-5.1610	-6.3706	-7.4311
7/3/2011	0:00:00	2.3735	2.8943	3.2743	1.9523	-0.2728	-2.1961	-3.7500	-5.1183	-6.3109	-7.3760
7/3/2011	12:00:00	4.5078	4.3681	3.0744	1.5304	-0.2982	-2.1652	-3.6871	-5.0597	-6.2243	-7.2880
7/4/2011	0:00:00	2.9543	3.2344	3.1694	1.7364	-0.2576	-2.1291	-3.6453	-5.0065	-6.1919	-7.2385
7/4/2011	12:00:00	7.3446	6.6943	3.7740	1.5656	-0.2728	-2.1085	-3.6034	-4.9533	-6.1324	-7.1781
7/5/2011	0:00:00	3.6941	4.0885	3.9937	2.1279	-0.2068	-2.0467	-3.5459	-4.8895	-6.0676	-7.1122
7/5/2011	12:00:00	5.6305	5.4060	3.7540	1.8519	-0.2068	-2.0261	-3.5041	-4.8417	-6.0244	-7.0684
7/6/2011	0:00:00	5.1016	5.3112	4.6326	2.3485	-0.2068	-2.0003	-3.4936	-4.8205	-5.9651	-7.0081
7/6/2011	12:00:00	8.6493	7.9109	4.8820	2.2332	-0.1611	-1.9849	-3.4570	-4.7780	-5.9220	-6.9643

DATE	TIME	ANALOG 1	ANALOG 2	ANALOG 3	ANALOG 4	ANALOG 5	ANALOG 6	ANALOG 7	ANALOG 8	ANALOG 9	ANALOG 10
Relative elevation to final ground surface (m)		0.3	0	-0.3	-0.6	-0.9	-1.2	-1.5	-1.8	-2.1	-2.4
(MM/DD/YY)	(HH:MM:SS)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)
7/7/2011	0:00:00	7.7654	7.8056	6.5344	3.1794	-0.0445	-1.9437	-3.4153	-4.7197	-5.8681	-6.9096
7/7/2011	12:00:00	12.6615	11.3763	6.5244	3.0393	0.0620	-1.9026	-3.3526	-4.6773	-5.8304	-6.8877
7/8/2011	0:00:00	15.5515	14.5659	10.0984	4.6126	0.3202	-1.8460	-3.3266	-4.6349	-5.7659	-6.8276
7/8/2011	12:00:00	6.2896	6.3295	6.0249	4.1085	0.5831	-1.7998	-3.2901	-4.5926	-5.7283	-6.7840
7/9/2011	0:00:00	3.0193	3.7940	5.4159	3.9288	0.6639	-1.7381	-3.2275	-4.5291	-5.6638	-6.7294
7/9/2011	12:00:00	5.0118	4.9319	4.2682	2.9893	0.6033	-1.6816	-3.1910	-4.5026	-5.6209	-6.6749
7/10/2011	0:00:00	4.8671	5.0716	4.9319	3.0543	0.5224	-1.6406	-3.1442	-4.4656	-5.5780	-6.6314
7/10/2011	12:00:00	13.8311	11.8066	5.8651	2.7742	0.5073	-1.5790	-3.0869	-4.4023	-5.5297	-6.5715
7/11/2011	0:00:00	15.7383	14.3816	9.3699	4.4080	0.7598	-1.5226	-3.0453	-4.3600	-5.5297	-6.5389
7/11/2011	12:00:00	16.2904	14.7347	8.9110	4.6326	1.0925	-1.5124	-2.9933	-4.3178	-5.5297	-6.5008
7/12/2011	0:00:00	11.1667	10.7283	9.1176	5.4509	1.3694	-1.4714	-2.9622	-4.2756	-5.4815	-6.4574
7/12/2011	12:00:00	12.8530	11.6579	7.9109	4.8671	1.4901	-1.3894	-2.9206	-4.2176	-5.4173	-6.3977
7/13/2011	0:00:00	9.5720	9.3901	8.6845	5.3910	1.5907	-1.3280	-2.8583	-4.1755	-5.3745	-6.3706
7/13/2011	12:00:00	13.8311	12.5427	8.3476	4.9768	1.7063	-1.2461	-2.8324	-4.1650	-5.3318	-6.3109
7/14/2011	0:00:00	12.9203	12.3621	9.7591	5.7353	1.7916	-1.2103	-2.8324	-4.1439	-5.2890	-6.2676
7/14/2011	12:00:00	15.7596	14.1873	9.2589	5.4159	1.9924	-1.1234	-2.7494	-4.0597	-5.2463	-6.2243
7/15/2011	0:00:00	7.4898	7.8306	8.3677	5.8651	2.0928	-1.0672	-2.7079	-4.0439	-5.1876	-6.2135
7/15/2011	12:00:00	15.1952	13.3981	8.1317	5.0916	2.1128	-1.0162	-2.6561	-3.9756	-5.1610	-6.1540
7/16/2011	0:00:00	6.2696	6.9093	7.8858	5.6505	2.1279	-0.9651	-2.6250	-3.9389	-5.1023	-6.1108
7/16/2011	12:00:00	9.6175	9.0118	6.9093	4.8820	2.1680	-0.8682	-2.5422	-3.8759	-5.0757	-6.0892
7/17/2011	0:00:00	8.3124	8.2873	7.8507	5.2762	2.0727	-0.8580	-2.5060	-3.8391	-5.0065	-6.0244
7/17/2011	12:00:00	9.3144	8.7751	6.7243	4.6675	2.0727	-0.8376	-2.4957	-3.8286	-4.9746	-5.9812
7/18/2011	0:00:00	6.5244	7.0293	7.3446	5.0916	2.0928	-0.7815	-2.4181	-3.7500	-4.9320	-5.9220
7/18/2011	12:00:00	3.8739	4.3132	5.0118	4.3681	2.0928	-0.7407	-2.3768	-3.7081	-4.8895	-5.8789
7/19/2011	0:00:00	5.5756	5.7503	5.3311	3.9787	1.8519	-0.7000	-2.3406	-3.6714	-4.8523	-5.8681
7/19/2011	12:00:00	9.2135	8.5688	5.8651	3.6541	1.6711	-0.7000	-2.3148	-3.6453	-4.8205	-5.8089
7/20/2011	0:00:00	8.1066	7.8707	6.4694	4.1884	1.7063	-0.6898	-2.2735	-3.6034	-4.7780	-5.7659
7/20/2011	12:00:00	7.9911	7.9259	6.3745	4.1534	1.7916	-0.6745	-2.2580	-3.5616	-4.7356	-5.7283
7/21/2011	0:00:00	7.4898	7.0043	5.3910	3.9288	1.7916	-0.6592	-2.2168	-3.5250	-4.6985	-5.6960
7/21/2011	12:00:00	6.8493	6.6843	5.3511	3.6791	1.7264	-0.6389	-2.1961	-3.4936	-4.6667	-5.6424
7/22/2011	0:00:00	4.9020	5.0367	4.9319	3.6441	1.6460	-0.6185	-2.1652	-3.4936	-4.6349	-5.6209
7/22/2011	12:00:00	7.7855	7.3196	5.2313	3.4093	1.5907	-0.6185	-2.1652	-3.4570	-4.5926	-5.5780
7/23/2011	0:00:00	5.5756	5.7703	5.5108	3.8089	1.6108	-0.5982	-2.1291	-3.4153	-4.5502	-5.5297
7/23/2011	12:00:00	7.8306	7.3446	5.2114	3.4343	1.6108	-0.5778	-2.1085	-3.3944	-4.5132	-5.5297
7/24/2011	0:00:00	6.7093	6.7243	6.2096	3.9937	1.6460	-0.5574	-2.0879	-3.3526	-4.4815	-5.5297
7/24/2011	12:00:00	10.6214	9.7439	6.3895	3.7940	1.7364	-0.5574	-2.0673	-3.3266	-4.4656	-5.4976
7/25/2011	0:00:00	8.0062	7.9911	7.3046	4.6675	1.8971	-0.5422	-2.0261	-3.3109	-4.4234	-5.4601
7/25/2011	12:00:00	10.6774	9.8755	6.9243	4.5876	2.1128	-0.5117	-2.0106	-3.2692	-4.4023	-5.4173
7/26/2011	0:00:00	8.7096	8.2321	6.7243	4.7473	2.1881	-0.4964	-2.0003	-3.2536	-4.3600	-5.3959
7/26/2011	12:00:00	11.0034	10.1187	6.9643	4.4080	2.1680	-0.4557	-1.9849	-3.2119	-4.3336	-5.3478
7/27/2011	0:00:00	7.0844	7.1244	7.1594	4.8820	2.2081	-0.4354	-1.9643	-3.1910	-4.3178	-5.3318
7/27/2011	12:00:00	9.0118	8.3677	6.2096	4.3930	2.2332	-0.4151	-1.9283	-3.1702	-4.2756	-5.2890
7/28/2011	0:00:00	7.5299	7.3847	6.9843	4.8072	2.2482	-0.3947	-1.9026	-3.1442	-4.2334	-5.2730
7/28/2011	12:00:00	10.9066	9.7793	6.3745	4.3681	2.2683	-0.3693	-1.8871	-3.1234	-4.2176	-5.2303
7/29/2011	0:00:00	6.1048	6.2096	6.2096	4.6026	2.2482	-0.3541	-1.8666	-3.1026	-4.1755	-5.1876
7/29/2011	12:00:00	8.6141	8.0463	5.8951	4.1684	2.2081	-0.3337	-1.8460	-3.0869	-4.1650	-5.1770
7/30/2011	0:00:00	5.5756	5.8052	5.8851	4.4080	2.1881	-0.3134	-1.8203	-3.0453	-4.1650	-5.1396
7/30/2011	12:00:00	10.6977	9.7439	6.1997	3.9937	2.1279	-0.2982	-1.7998	-3.0245	-4.1650	-5.1396
7/31/2011	0:00:00	9.5821	9.0874	8.1317	5.1016	2.2482	-0.2728	-1.7792	-2.9933	-4.1229	-5.1023
7/31/2011	12:00:00	16.7490	14.7558	8.1517	4.8272	2.3986	-0.2373	-1.7638	-2.9778	-4.1018	-5.0757
8/1/2011	0:00:00	12.2024	11.5349	9.5720	5.9650	2.6340	-0.2169	-1.7381	-2.9622	-4.0860	-5.0597
8/1/2011	12:00:00	14.3974	13.2109	8.6845	5.5956	2.8943	-0.2068	-1.7022	-2.9206	-4.0439	-5.0065
8/2/2011	0:00:00	14.3343	13.3461	10.5655	6.6843	3.0744	-0.2068	-1.7022	-2.9206	-4.0019	-4.9905
8/2/2011	12:00:00	12.0069	11.2485	8.5889	6.1248	3.2893	-0.1408	-1.6816	-2.8998	-4.0019	-4.9746
8/3/2011	0:00:00	8.3275	8.4531	8.6291	6.4444	3.3393	-0.0597	-1.6560	-2.8583	-3.9914	-4.9533
8/3/2011	12:00:00	10.1795	9.5972	7.4798	5.6305	3.2893	-0.0343	-1.6406	-2.8427	-3.9599	-4.9320
8/4/2011	0:00:00	10.3571	10.0629	8.9564	6.1447	3.2144	0.0214	-1.6201	-2.8324	-3.9179	-4.8683
8/4/2011	12:00:00	10.5197	9.9362	7.7855	5.7703	3.2743	0.0772	-1.5995	-2.8324	-3.8969	-4.8523
8/5/2011	0:00:00	9.2740	9.0874	8.7751	6.2496	3.3093	0.1278	-1.5380	-2.8324	-3.8759	-4.8417
8/5/2011	12:00:00	11.3660	10.5197	7.7654	5.6904	3.3293	0.1633	-1.5380	-2.8064	-3.8391	-4.8205
8/6/2011	0:00:00	9.7135	9.5366	8.8758	6.3495	3.3743	0.2241	-1.5124	-2.7649	-3.8286	-4.7780
8/6/2011	12:00:00	11.7656	10.9473	8.1066	5.7703	3.4093	0.2898	-1.5124	-2.7494	-3.7919	-4.7621
8/7/2011	0:00:00	10.8250	10.4791	9.2740	6.3645	3.4493	0.3404	-1.4714	-2.7079	-3.7710	-4.7197
8/7/2011	12:00:00	13.2681	12.3621	8.9413	6.1447	3.5492	0.3809	-1.4509	-2.6872	-3.7500	-4.6985
8/8/2011	0:00:00	9.1328	9.4103	8.9564	6.5893	3.6541	0.4365	-1.4099	-2.6665	-3.7081	-4.6773
8/8/2011	12:00:00	13.3773	12.3982	8.7650	6.1248	3.6541	0.4871	-1.3894	-2.6406	-3.6871	-4.6667
8/9/2011	0:00:00	11.8425	11.4581	10.0629	6.9093	3.7540	0.5224	-1.3536	-2.6043	-3.6714	-4.6349
8/9/2011	12:00:00	13.3461	12.5427	9.4558	6.6443	3.8888	0.6033	-1.3280	-2.5836	-3.6453	-4.6137
8/10/2011	0:00:00	11.3763	11.2331	10.2962	7.3847	4.0486	0.6437	-1.3075	-2.5629	-3.6034	-4.5714
8/10/2011	12:00:00	10.8913	10.5655	8.9110	6.8393	4.1684	0.7446	-1.2717	-2.5215	-3.6034	-4.5502
8/11/2011	0:00:00	9.5720	9.6377	9.0118	6.9493	4.1385	0.7901	-1.2308	-2.5060	-3.6453	-4.5714
8/11/2011	12:00:00	9.5720	9.2740	8.0463	6.4094	4.0885	0.8254	-1.2103	-2.4957	-3.5459	-4.5026
8/12/2011	0:00:00	10.6774	10.3927	9.2942	6.7643	4.0137	0.8455	-1.1796	-2.4595	-3.6034	-4.5291

DATE	TIME	ANALOG 1	ANALOG 2	ANALOG 3	ANALOG 4	ANALOG 5	ANALOG 6	ANALOG 7	ANALOG 8	ANALOG 9	ANALOG 10
Relative elevation to final ground surface (m)		0.3	0	-0.3	-0.6	-0.9	-1.2	-1.5	-1.8	-2.1	-2.4
(MM/DD/YY)	(HH:MM:SS)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)
8/12/2011	12:00:00	17.6364	15.7810	9.8755	6.4694	4.0137	0.8859	-1.1643	-2.4181	-3.4936	-4.4656
8/13/2011	0:00:00	10.4029	10.4587	9.8147	7.1694	4.1285	0.9061	-1.1234	-2.3974	-3.5250	-4.5026
8/13/2011	12:00:00	10.5553	10.0376	8.1718	6.5344	4.2083	0.9666	-1.0825	-2.3768	-3.5041	-4.4815
8/14/2011	0:00:00	7.4397	7.8858	8.2873	6.6843	4.1385	1.0018	-1.0672	-2.3406	-3.4936	-4.4656
8/14/2011	12:00:00	6.0698	6.0848	6.1647	5.7903	3.9937	1.0270	-1.0468	-2.3303	-3.4727	-4.4234
8/15/2011	0:00:00	7.1894	7.5299	7.6451	6.0449	3.7940	1.0018	-1.0162	-2.3148	-3.4727	-4.4234
8/15/2011	12:00:00	6.1997	6.1847	5.8951	5.3112	3.6541	0.9666	-1.0008	-2.2942	-3.4362	-4.3600
8/16/2011	0:00:00	5.9650	6.2696	6.5693	5.4060	3.4892	0.9313	-0.9855	-2.2735	-3.4153	-4.3600
8/16/2011	12:00:00	7.0844	6.8393	5.6106	4.7623	3.3093	0.9212	-0.9651	-2.2322	-3.3944	-4.3442
8/17/2011	0:00:00	6.5493	6.6043	5.9650	4.7274	3.0944	0.8455	-0.9447	-2.2168	-3.3526	-4.3178
8/17/2011	12:00:00	7.9460	7.5700	5.8951	4.4579	2.9893	0.8052	-0.9243	-2.1961	-3.3370	-4.2967
8/18/2011	0:00:00	7.9109	7.7654	6.8043	4.9220	2.9543	0.7699	-0.9039	-2.1652	-3.3266	-4.2598
8/18/2011	12:00:00	11.5605	10.5655	7.0143	4.7473	3.0093	0.7901	-0.9039	-2.1652	-3.3109	-4.2334
8/19/2011	0:00:00	7.4598	7.5900	7.2845	5.3511	3.1144	0.8052	-0.8835	-2.1652	-3.2692	-4.2176
8/19/2011	12:00:00	5.7353	5.8302	5.6305	4.9319	3.2144	0.8657	-0.8682	-2.1446	-3.2536	-4.1966
8/20/2011	0:00:00	4.9319	5.2563	5.7353	4.8820	3.1344	0.8657	-0.8682	-2.1291	-3.2275	-4.1755
8/20/2011	12:00:00	6.2096	5.6904	4.4280	4.0736	2.9893	0.8657	-0.8580	-2.1085	-3.2275	-4.1755
8/21/2011	0:00:00	7.1244	6.8693	5.7104	4.2682	2.7742	0.7901	-0.8580	-2.1085	-3.1910	-4.1650
8/21/2011	12:00:00	9.4103	8.9413	5.9101	4.0137	2.6540	0.7043	-0.9039	-2.1446	-3.1702	-4.1229
8/22/2011	0:00:00	8.6291	8.3124	6.7643	4.6126	2.7191	0.7446	-0.8376	-2.0673	-3.1598	-4.1018
8/22/2011	12:00:00	13.4346	12.1355	7.3196	4.5477	2.7542	0.7043	-0.9039	-2.1085	-3.1598	-4.0860
8/23/2011	0:00:00	7.1894	7.4898	7.2645	5.3112	2.9893	0.7598	-0.8835	-2.1085	-3.1442	-4.0597
8/23/2011	12:00:00	6.7443	6.6843	6.0249	4.8820	3.1344	0.8254	-0.8835	-2.0879	-3.1234	-4.0439
8/24/2011	0:00:00	9.2942	8.9564	7.1894	5.0118	3.0944	0.8455	-0.8835	-2.0673	-3.1026	-4.0229
8/24/2011	12:00:00	8.0263	7.6903	6.3295	4.8671	3.1144	0.8657	-0.8682	-2.0467	-3.0869	-4.0019
8/25/2011	0:00:00	4.8072	5.1515	5.4159	4.6675	3.0744	0.8657	-0.8580	-2.0467	-3.0609	-3.9914
8/25/2011	12:00:00	7.2845	6.7843	5.2762	4.2283	2.9293	0.8455	-0.8580	-2.0467	-3.0609	-3.9756
8/26/2011	0:00:00	6.2496	6.2896	5.6904	4.3331	2.8142	0.8052	-0.8580	-2.0261	-3.0609	-3.9756
8/26/2011	12:00:00	9.0975	8.4531	5.8951	4.1884	2.7341	0.7901	-0.8580	-2.0106	-3.0245	-3.9389
8/27/2011	0:00:00	6.8693	6.8043	6.3095	4.6475	2.7942	0.7699	-0.8580	-2.0003	-3.0037	-3.9179
8/27/2011	12:00:00	7.0643	6.8493	5.3710	4.2832	2.8492	0.7901	-0.8376	-1.9849	-2.9933	-3.8969
8/28/2011	0:00:00	4.6475	5.0367	5.4858	4.4579	2.8142	0.7901	-0.8376	-1.9849	-2.9933	-3.8759
8/28/2011	12:00:00	6.6843	6.1447	4.4479	3.8539	2.7341	0.8052	-0.8172	-1.9643	-2.9622	-3.8549
8/29/2011	0:00:00	4.3531	4.4878	5.0367	4.1385	2.6340	0.7699	-0.7968	-1.9437	-2.9622	-3.8391
8/29/2011	12:00:00	4.5278	4.2283	3.4343	3.3093	2.5138	0.7699	-0.7968	-1.9437	-2.9414	-3.8391
8/30/2011	0:00:00	5.4309	5.2912	4.9220	3.7140	2.3485	0.7244	-0.7968	-1.9283	-2.9206	-3.8286
8/30/2011	12:00:00	4.8671	4.6874	4.0137	3.3393	2.3084	0.6841	-0.7815	-1.9283	-2.9206	-3.8286
8/31/2011	0:00:00	4.2483	4.3531	4.2832	3.4493	2.2332	0.6437	-0.7815	-1.9026	-2.8998	-3.8077
8/31/2011	12:00:00	5.1515	4.8421	3.7540	3.1144	2.1680	0.6285	-0.7815	-1.8871	-2.8791	-3.7919
9/1/2011	0:00:00	5.2313	5.0716	4.5677	3.4693	2.1279	0.6033	-0.7815	-1.8871	-2.8583	-3.7710
9/1/2011	12:00:00	9.3699	8.1919	4.5078	3.0944	2.1279	0.6033	-0.7815	-1.8666	-2.8427	-3.7500
9/2/2011	0:00:00	6.3495	6.1647	5.2762	3.7340	2.1680	0.5831	-0.7815	-1.8666	-2.8583	-3.7500
9/2/2011	12:00:00	11.5452	9.8400	5.1166	3.3743	2.2182	0.6033	-0.7560	-1.8460	-2.8427	-3.7500
9/3/2011	0:00:00	6.2896	6.1248	5.8851	4.1884	2.3485	0.6285	-0.7560	-1.8460	-2.8324	-3.7290
9/3/2011	12:00:00	5.8951	5.7703	4.5876	3.6541	2.3986	0.6437	-0.7815	-1.8666	-2.8324	-3.7081
9/4/2011	0:00:00	4.6475	4.7872	4.5477	3.6541	2.3735	0.6841	-0.7560	-1.8357	-2.8324	-3.6871
9/4/2011	12:00:00	4.4878	4.3681	3.6541	3.1944	2.2683	0.6639	-0.7560	-1.8357	-2.8064	-3.6871
9/5/2011	0:00:00	4.9020	4.9220	4.3681	3.3543	2.1680	0.6285	-0.7407	-1.8357	-2.7857	-3.6453
9/5/2011	12:00:00	3.5292	3.6092	3.4093	3.0393	2.1279	0.6134	-0.7560	-1.8357	-2.7857	-3.6610
9/6/2011	0:00:00	4.4579	4.3331	3.7740	2.9893	2.0276	0.5831	-0.7407	-1.8203	-2.7494	-3.6243
9/6/2011	12:00:00	4.2932	4.1385	3.3393	2.7742	1.9322	0.5477	-0.7407	-1.8203	-2.7649	-3.6453
9/7/2011	0:00:00	5.3910	5.0916	3.9288	2.8342	1.8519	0.5073	-0.7407	-1.7998	-2.7494	-3.6034
9/7/2011	12:00:00	4.7872	4.6126	3.6541	2.7942	1.8117	0.4668	-0.7407	-1.7998	-2.7235	-3.5877
9/8/2011	0:00:00	3.9787	3.9937	3.6441	2.8743	1.8318	0.4668	-0.7204	-1.7998	-2.7235	-3.5877
9/8/2011	12:00:00	6.3745	5.9300	4.1285	2.7942	1.8117	0.4466	-0.7407	-1.7998	-2.7235	-3.5877
9/9/2011	0:00:00	6.4444	6.2496	4.9319	3.2344	1.8870	0.4466	-0.7407	-1.7792	-2.7235	-3.5616
9/9/2011	12:00:00	6.6843	6.2896	4.7723	3.3293	2.0075	0.4871	-0.7407	-1.7638	-2.7079	-3.5459
9/10/2011	0:00:00	5.3511	5.4708	5.0118	3.5492	2.0928	0.5224	-0.7407	-1.7638	-2.6872	-3.5459
9/10/2011	12:00:00	0.5224	0.7598	1.9674	2.8492	2.0928	0.5629	-0.7407	-1.7792	-2.6665	-3.5041
9/11/2011	0:00:00	-0.7560	-0.3541	1.2285	2.1128	1.7916	0.5073	-0.7407	-1.7792	-2.6665	-3.5250
9/11/2011	12:00:00	1.1127	1.0825	0.6033	1.4147	1.4147	0.4365	-0.7204	-1.7638	-2.6561	-3.4936
9/12/2011	0:00:00	-2.9778	-2.3148	0.0620	0.9867	1.0623	0.2898	-0.7407	-1.7381	-2.6561	-3.5041
9/12/2011	12:00:00	3.8089	2.6991	0.1278	0.5831	0.7446	0.1430	-0.7407	-1.7381	-2.6406	-3.4936
9/13/2011	0:00:00	3.4992	3.0393	1.3091	0.5629	0.5073	0.0620	-0.7407	-1.7381	-2.6406	-3.4936
9/13/2011	12:00:00	6.3495	5.5257	2.5739	1.0018	0.4871	-0.0191	-0.7560	-1.7381	-2.6406	-3.4727
9/14/2011	0:00:00	4.8820	4.4878	3.3543	1.7565	0.7244	-0.0191	-0.7815	-1.7227	-2.6250	-3.4727
9/14/2011	12:00:00	4.6874	4.2932	2.6991	1.6862	0.9212	0.0620	-0.7815	-1.7227	-2.6250	-3.4570
9/15/2011	0:00:00	-0.3541	0.0367	1.3896	1.7364	1.0270	0.0975	-0.7815	-1.7381	-2.6043	-3.4570
9/15/2011	12:00:00	-1.4509	-1.0008	0.1836	0.9867	0.9061	0.1177	-0.7968	-1.7381	-2.5836	-3.4362
9/16/2011	0:00:00	-2.3974	-1.8357	-0.1002	0.5224	0.6134	0.0367	-0.8172	-1.7381	-2.5836	-3.4153
9/16/2011	12:00:00	-1.5226	-1.2461	-0.3134	0.2392	0.3607	-0.0445	-0.8172	-1.7381	-2.5836	-3.4153
9/17/2011	0:00:00	-1.3433	-1.0162	-0.1205	0.0772	0.1836	-0.1205	-0.8376	-1.7381	-2.5629	-3.3944
9/17/2011	12:00:00	0.5073	0.1836	-0.2068	-0.0343	0.0772	-0.1763	-0.8376	-1.7381	-2.5836	-3.4153

DATE	TIME	ANALOG 1	ANALOG 2	ANALOG 3	ANALOG 4	ANALOG 5	ANALOG 6	ANALOG 7	ANALOG 8	ANALOG 9	ANALOG 10
Relative elevation to final ground surface (m)		0.3	0	-0.3	-0.6	-0.9	-1.2	-1.5	-1.8	-2.1	-2.4
(MM/DD/YY)	(HH:MM:SS)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)
9/18/2011	0:00:00	-0.8580	-0.7000	-0.2728	-0.1205	-0.0191	-0.2068	-0.8376	-1.7381	-2.5629	-3.3735
9/18/2011	12:00:00	0.0772	0.0012	-0.2373	-0.1611	-0.0597	-0.2169	-0.8580	-1.7227	-2.5629	-3.3735
9/19/2011	0:00:00	0.0214	0.0367	-0.1611	-0.1611	-0.1002	-0.2169	-0.8580	-1.7381	-2.5422	-3.3526
9/19/2011	12:00:00	2.8743	1.7716	-0.2169	-0.1611	-0.1002	-0.2169	-0.8580	-1.7381	-2.5629	-3.3735
9/20/2011	0:00:00	2.6140	1.9322	0.0214	-0.1611	-0.1002	-0.2169	-0.8580	-1.7381	-2.5629	-3.3526
9/20/2011	12:00:00	2.3735	1.7916	0.0975	-0.1611	-0.0800	-0.2169	-0.8580	-1.7381	-2.5422	-3.3526
9/21/2011	0:00:00	0.9867	0.7901	0.0214	-0.1611	-0.0800	-0.2169	-0.8682	-1.7381	-2.5422	-3.3370
9/21/2011	12:00:00	0.4011	0.3809	-0.0343	-0.1205	-0.0445	-0.2373	-0.8835	-1.7227	-2.5422	-3.3370
9/22/2011	0:00:00	0.2595	0.2595	-0.0343	-0.1002	-0.0445	-0.2373	-0.8835	-1.7381	-2.5422	-3.3266
9/22/2011	12:00:00	0.2898	0.3202	-0.0343	-0.0800	-0.0445	-0.2576	-0.9039	-1.7381	-2.5422	-3.3266
9/23/2011	0:00:00	0.0620	0.0975	-0.0445	-0.0597	-0.0343	-0.2576	-0.9039	-1.7381	-2.5215	-3.3266
9/23/2011	12:00:00	0.1430	0.1278	-0.0445	-0.0445	-0.0343	-0.2576	-0.9039	-1.7381	-2.5215	-3.3109
9/24/2011	0:00:00	-0.1763	-0.0597	-0.0597	-0.0597	-0.0343	-0.2728	-0.9243	-1.7381	-2.5215	-3.3109
9/24/2011	12:00:00	-0.2576	-0.2068	-0.0800	-0.0800	-0.0343	-0.2982	-0.9243	-1.7638	-2.5060	-3.3109
9/25/2011	0:00:00	-2.2735	-1.7792	-0.2068	-0.1002	-0.0445	-0.2982	-0.9447	-1.7638	-2.5060	-3.2901
9/25/2011	12:00:00	-1.8357	-1.6201	-0.4761	-0.1205	-0.0597	-0.2982	-0.9651	-1.7638	-2.4957	-3.2692
9/26/2011	0:00:00	-4.2176	-3.4936	-0.7204	-0.1205	-0.0445	-0.2068	-0.8682	-1.6714	-2.5060	-3.2692
9/26/2011	12:00:00	-5.1396	-4.1755	-1.1899	-0.1763	-0.0597	-0.3134	-0.9651	-1.7638	-2.4957	-3.2692
9/27/2011	0:00:00	-4.6773	-3.9599	-1.3280	-0.2068	-0.0597	-0.2169	-0.8835	-1.6816	-2.4957	-3.2692
9/27/2011	12:00:00	-3.4362	-3.0869	-1.4304	-0.2169	-0.0800	-0.3134	-0.9855	-1.7638	-2.4957	-3.2536
9/28/2011	0:00:00	-4.2176	-3.6714	-1.5124	-0.2068	-0.0597	-0.2169	-0.9039	-1.6816	-2.4957	-3.2536
9/28/2011	12:00:00	-4.0439	-3.7290	-2.0879	-0.3337	-0.1002	-0.3337	-1.0008	-1.7792	-2.4957	-3.2536
9/29/2011	0:00:00	-4.8417	-4.1755	-1.9283	-0.3541	-0.1205	-0.3541	-1.0162	-1.7792	-2.4957	-3.2536
9/29/2011	12:00:00	-2.4181	-2.5060	-1.8357	-0.3693	-0.1002	-0.3337	-0.9855	-1.7638	-2.4957	-3.2275
9/30/2011	0:00:00	-4.4656	-3.8969	-1.8871	-0.2982	-0.0800	-0.2373	-0.9243	-1.6816	-2.4957	-3.2275
9/30/2011	12:00:00	-2.3768	-2.5060	-2.0261	-0.4557	-0.1205	-0.3693	-1.0162	-1.7792	-2.4957	-3.2119
10/1/2011	0:00:00	-6.0406	-5.3104	-2.6043	-0.4151	-0.1002	-0.2728	-0.9447	-1.7022	-2.4957	-3.2275
10/1/2011	12:00:00	-4.1755	-4.0860	-2.7857	-0.6185	-0.1408	-0.3693	-1.0162	-1.7792	-2.4957	-3.2119
10/2/2011	0:00:00	-2.8324	-2.6250	-1.9849	-0.6185	-0.1611	-0.3947	-1.0264	-1.7792	-2.4957	-3.2119
10/2/2011	12:00:00	-2.2735	-2.2580	-1.7792	-0.6185	-0.1611	-0.3947	-1.0264	-1.7792	-2.4957	-3.2119
10/3/2011	0:00:00	-4.7621	-4.1229	-2.0261	-0.5422	-0.1408	-0.2982	-0.9651	-1.7022	-2.4957	-3.2119
10/3/2011	12:00:00	-2.1652	-2.5060	-2.1755	-0.7204	-0.1763	-0.4151	-1.0468	-1.7998	-2.4957	-3.1910
10/4/2011	0:00:00	-0.7407	-1.1643	-1.5226	-0.6898	-0.2068	-0.4151	-1.0468	-1.7792	-2.4957	-3.1910
10/4/2011	12:00:00	2.0075	1.1530	-0.9243	-0.6389	-0.1763	-0.4151	-1.0468	-1.7792	-2.4957	-3.1910
10/5/2011	0:00:00	0.8859	0.5073	-0.5982	-0.5574	-0.1763	-0.4151	-1.0468	-1.7792	-2.4957	-3.1910
10/5/2011	12:00:00	0.7598	0.4365	-0.5422	-0.5320	-0.2068	-0.4354	-1.0468	-1.7792	-2.4957	-3.1702
10/6/2011	0:00:00	-0.3337	-0.3134	-0.5422	-0.5320	-0.2068	-0.4557	-1.0672	-1.7998	-2.4957	-3.1910
10/6/2011	12:00:00	-0.0800	-0.1205	-0.5778	-0.5117	-0.2068	-0.4557	-1.0672	-1.7998	-2.4957	-3.1910
10/7/2011	0:00:00	-0.6898	-0.6898	-0.7204	-0.5320	-0.2068	-0.4761	-1.0825	-1.7998	-2.4957	-3.1702
10/7/2011	12:00:00	-3.9179	-3.4936	-1.6714	-0.5574	-0.2169	-0.4964	-1.1081	-1.8203	-2.4750	-3.1598
10/8/2011	0:00:00	-4.1650	-3.7290	-1.9643	-0.6389	-0.2169	-0.4964	-1.1081	-1.8203	-2.4750	-3.1598
10/8/2011	12:00:00	-7.1781	-6.2135	-2.9622	-0.7204	-0.2068	-0.3947	-1.0264	-1.7227	-2.4957	-3.1702
10/9/2011	0:00:00	-6.9424	-6.2135	-3.2901	-0.8682	-0.2068	-0.3947	-1.0264	-1.7227	-2.4957	-3.1598
10/9/2011	12:00:00	-6.6749	-5.9381	-3.6034	-1.1081	-0.2068	-0.4354	-1.0468	-1.7381	-2.4750	-3.1598
10/10/2011	0:00:00	-6.5389	-6.0676	-4.0439	-1.3433	-0.2068	-0.4354	-1.0468	-1.7381	-2.4750	-3.1598
10/10/2011	12:00:00	-5.1183	-5.3745	-4.4445	-1.5995	-0.2068	-0.4354	-1.0468	-1.7381	-2.4750	-3.1598
10/11/2011	0:00:00	-6.1919	-5.6424	-4.0229	-1.7022	-0.2373	-0.4557	-1.0672	-1.7381	-2.4750	-3.1598
10/11/2011	12:00:00	-3.8969	-3.9599	-3.5459	-1.8460	-0.3795	-0.5422	-1.1643	-1.8357	-2.4750	-3.1598
10/12/2011	0:00:00	-5.1610	-4.7780	-3.5250	-1.8357	-0.4354	-0.5574	-1.1643	-1.8357	-2.4750	-3.1598
10/12/2011	12:00:00	-3.5041	-3.5459	-3.2275	-1.8871	-0.4761	-0.5574	-1.1643	-1.8357	-2.4957	-3.1598
10/13/2011	0:00:00	-3.4727	-3.3526	-2.9414	-1.7792	-0.5320	-0.5574	-1.1439	-1.8203	-2.4595	-3.1442
10/13/2011	12:00:00	-3.9914	-3.6714	-2.8998	-1.7792	-0.5778	-0.5982	-1.1796	-1.8357	-2.4750	-3.1598
10/14/2011	0:00:00	-4.1650	-3.9179	-3.0869	-1.8357	-0.6592	-0.6185	-1.1796	-1.8357	-2.4595	-3.1442
10/14/2011	12:00:00	-5.5297	-5.1183	-3.6610	-1.9643	-0.7000	-0.6185	-1.1796	-1.8357	-2.4750	-3.1442
10/15/2011	0:00:00	-8.5327	-7.8182	-5.0171	-2.2735	-0.7407	-0.5574	-1.1081	-1.7638	-2.4957	-3.1442
10/15/2011	12:00:00	-11.4006	-10.4245	-6.5226	-2.8791	-0.8835	-0.5982	-1.1234	-1.7638	-2.4388	-3.0609
10/16/2011	0:00:00	-11.6687	-10.9395	-7.0245	-3.4936	-1.1439	-0.6389	-1.1439	-1.7638	-2.4181	-3.0609
10/16/2011	12:00:00	-14.1391	-13.4611	-8.8030	-4.2756	-1.5124	-0.7000	-1.1643	-1.7998	-2.4181	-3.0869
10/17/2011	0:00:00	-13.5110	-12.5984	-8.7353	-4.8417	-1.9283	-0.7968	-1.1796	-1.7998	-2.4181	-3.0609
10/17/2011	12:00:00	-14.5975	-13.7611	-9.4159	-5.3745	-2.3406	-0.9039	-1.1796	-1.7998	-2.4388	-3.0869
10/18/2011	0:00:00	-13.3182	-12.6289	-9.5474	-5.8789	-2.8064	-1.0672	-1.2103	-1.8203	-2.4388	-3.0609
10/18/2011	12:00:00	-12.1432	-11.4958	-9.0575	-6.0676	-3.1702	-1.2870	-1.2308	-1.7998	-2.4388	-3.0609
10/19/2011	0:00:00	-13.1386	-12.5740	-9.8976	-6.4791	-3.5250	-1.5380	-1.3075	-1.8357	-2.4181	-3.0453
10/19/2011	12:00:00	-10.0129	-9.9206	-9.0009	-6.6532	-3.8969	-1.8203	-1.3894	-1.8357	-2.4957	-3.1442
10/20/2011	0:00:00	-10.9160	-10.5236	-8.9160	-6.5389	-4.1018	-2.1085	-1.5124	-1.8460	-2.4388	-3.0453
10/20/2011	12:00:00	-13.3865	-12.9906	-10.3547	-7.0081	-4.3336	-2.3768	-1.6714	-1.9283	-2.4388	-3.0453
10/21/2011	0:00:00	-14.6167	-13.9371	-10.9630	-7.5304	-4.6773	-2.6406	-1.8357	-1.9643	-2.4595	-3.0609
10/21/2011	12:00:00	-15.7943	-14.9384	-11.7106	-8.1688	-5.1023	-2.8791	-2.0106	-2.0261	-2.4957	-3.0869
10/22/2011	0:00:00	-15.2498	-14.5783	-11.8063	-8.5159	-5.5297	-3.2119	-2.1961	-2.1291	-2.4957	-3.0609
10/22/2011	12:00:00	-9.9668	-10.1517	-10.1227	-8.3589	-5.7659	-3.4936	-2.3974	-2.1961	-2.5060	-3.0453
10/23/2011	0:00:00	-12.8186	-12.2884	-9.9206	-7.8571	-5.7498	-3.7500	-2.6250	-2.3303	-2.5629	-3.0869
10/23/2011	12:00:00	-15.4261	-14.8610	-11.0102	-8.0629	-5.7928	-3.8969	-2.8064	-2.4595	-2.6250	-3.1026
10/24/2011	0:00:00	-15.0614	-14.2659	-11.2879	-8.4654	-5.9812	-4.0597	-2.9206	-2.5629	-2.6406	-3.0869

DATE	TIME	ANALOG 1	ANALOG 2	ANALOG 3	ANALOG 4	ANALOG 5	ANALOG 6	ANALOG 7	ANALOG 8	ANALOG 9	ANALOG 10
Relative elevation to final ground surface (m)		0.3	0	-0.3	-0.6	-0.9	-1.2	-1.5	-1.8	-2.1	-2.4
(MM/DD/YY)	(HH:MM:SS)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)
10/24/2011	12:00:00	-15.3541	-14.5527	-11.4660	-8.6846	-6.2135	-4.2176	-3.0869	-2.6665	-2.7079	-3.1442
10/25/2011	0:00:00	-20.8698	-19.8848	-13.9623	-9.4388	-6.5008	-4.4023	-3.2275	-2.7857	-2.7649	-3.1598
10/25/2011	12:00:00	-21.3433	-20.5176	-15.5834	-10.6170	-7.0684	-4.6667	-3.4153	-2.8583	-2.8324	-3.1598
10/26/2011	0:00:00	-18.2282	-17.7918	-15.0096	-11.2760	-7.7074	-5.0171	-3.6243	-3.0037	-2.8583	-3.2119
10/26/2011	12:00:00	-15.8605	-15.5047	-13.8615	-11.2168	-8.1019	-5.3959	-3.8549	-3.1442	-2.9622	-3.2536
10/27/2011	0:00:00	-19.3230	-18.5056	-14.8223	-11.2760	-8.3253	-5.6638	-4.1018	-3.3109	-3.0245	-3.3109
10/27/2011	12:00:00	-17.9811	-17.3541	-14.5271	-11.4958	-8.5327	-5.9381	-4.3336	-3.4936	-3.1026	-3.3266
10/28/2011	0:00:00	-12.4036	-12.6289	-12.7879	-11.2760	-8.6958	-6.1756	-4.5502	-3.6453	-3.2275	-3.3735
10/28/2011	12:00:00	-13.7862	-13.0892	-11.9023	-10.5878	-8.5777	-6.3489	-4.7780	-3.8286	-3.3266	-3.4362
10/29/2011	0:00:00	-15.5834	-14.9061	-12.8186	-10.5878	-8.4429	-6.4140	-4.9533	-4.0019	-3.4727	-3.4936
10/29/2011	12:00:00	-12.5984	-12.5984	-12.0527	-10.5469	-8.4878	-6.5008	-5.1023	-4.1650	-3.5616	-3.5459
10/30/2011	0:00:00	-8.8933	-9.4787	-10.5878	-10.0303	-8.3813	-6.5606	-5.2090	-4.2598	-3.7290	-3.6714
10/30/2011	12:00:00	-8.3365	-8.7804	-9.7767	-9.4616	-8.1911	-6.5878	-5.3585	-4.4234	-3.8286	-3.7500
10/31/2011	0:00:00	-10.6813	-10.5119	-9.9379	-9.1199	-7.9238	-6.5606	-5.4387	-4.5502	-3.8759	-3.7710
10/31/2011	12:00:00	-11.2760	-10.9866	-9.9552	-8.9782	-7.7517	-6.4791	-5.4601	-4.6349	-4.0019	-3.8391
11/1/2011	0:00:00	-11.8783	-11.4006	-10.1749	-8.9329	-7.6631	-6.4574	-5.5297	-4.7197	-4.1018	-3.9389
11/1/2011	12:00:00	-11.4958	-11.2405	-9.8745	-8.8255	-7.6133	-6.4140	-5.5297	-4.7993	-4.1650	-3.9914
11/2/2011	0:00:00	-15.3215	-14.6552	-11.8063	-9.2563	-7.6410	-6.4357	-5.5297	-4.8683	-4.2598	-4.0860
11/2/2011	12:00:00	-13.1386	-12.6961	-11.2760	-9.5703	-7.8849	-6.5226	-5.5780	-4.9533	-4.3442	-4.1650
11/3/2011	0:00:00	-16.6976	-16.0530	-12.0407	-9.8515	-8.1242	-6.6532	-5.6799	-5.0065	-4.3811	-4.1755
11/3/2011	12:00:00	-19.7434	-18.8070	-14.2405	-10.6989	-8.3589	-6.7840	-5.7498	-5.0597	-4.4656	-4.2334
11/4/2011	0:00:00	-16.3268	-15.9997	-14.1138	-11.4006	-8.9160	-7.0081	-5.9004	-5.1876	-4.5502	-4.3336
11/4/2011	12:00:00	-13.2686	-12.8186	-12.2399	-11.1281	-9.1881	-7.2715	-6.0676	-5.2890	-4.6508	-4.4023
11/5/2011	0:00:00	-19.3230	-18.3702	-14.8352	-11.5911	-9.2791	-7.4422	-6.2135	-5.3959	-4.7356	-4.4656
11/5/2011	12:00:00	-17.1957	-16.7179	-14.6296	-12.0708	-9.6619	-7.6410	-6.3868	-5.5297	-4.8417	-4.5291
11/6/2011	0:00:00	-16.9150	-16.4074	-14.5016	-12.2278	-9.8976	-7.8849	-6.5606	-5.6424	-4.8895	-4.5926
11/6/2011	12:00:00	-19.0604	-18.2282	-14.5975	-12.1674	-10.0591	-8.1019	-6.7403	-5.7659	-5.0171	-4.6985
11/7/2011	0:00:00	-21.3825	-20.6320	-16.8061	-12.9722	-10.3083	-8.2805	-6.9096	-5.9220	-5.1396	-4.7993
11/7/2011	12:00:00	-22.8609	-21.8563	-17.2782	-13.6046	-10.7751	-8.4878	-7.0848	-6.0676	-5.2303	-4.8523
11/8/2011	0:00:00	-24.3515	-23.3517	-18.5986	-14.4186	-11.2760	-8.7804	-7.2715	-6.2135	-5.3585	-4.9320
11/8/2011	12:00:00	-24.7638	-23.8342	-19.4699	-15.2368	-11.8063	-9.1199	-7.5304	-6.3977	-5.4815	-5.0384
11/9/2011	0:00:00	-23.7234	-22.9104	-19.5805	-15.8208	-12.3369	-9.5073	-7.7517	-6.5715	-5.5780	-5.1396
11/9/2011	12:00:00	-24.2386	-23.4610	-19.8848	-16.1196	-12.7879	-9.8515	-8.0350	-6.7840	-5.7068	-5.2303
11/10/2011	0:00:00	-23.0844	-22.2410	-19.2937	-16.1997	-13.0892	-10.2154	-8.3253	-6.9807	-5.8789	-5.3585
11/10/2011	12:00:00	-20.8467	-20.5710	-18.8648	-16.1997	-13.2438	-10.4886	-8.5552	-7.2000	-6.0406	-5.4976
11/11/2011	0:00:00	-20.0943	-19.7137	-18.2282	-15.9267	-13.2872	-10.6989	-8.8255	-7.4146	-6.2135	-5.5405
11/11/2011	12:00:00	-18.8070	-18.7350	-17.8338	-15.8406	-13.3368	-10.8631	-9.0462	-7.6133	-6.3706	-5.6799
11/12/2011	0:00:00	-18.0656	-17.9530	-17.2438	-15.5834	-13.3368	-10.9866	-9.2051	-7.8182	-6.5606	-5.8304
11/12/2011	12:00:00	-18.8070	-18.5199	-17.1545	-15.2758	-13.2190	-11.0691	-9.3646	-7.9960	-6.7294	-5.9812
11/13/2011	0:00:00	-18.3204	-17.8688	-16.5961	-15.0419	-13.1386	-11.1045	-9.4787	-8.1521	-6.8659	-6.0892
11/13/2011	12:00:00	-12.8186	-13.4176	-15.0096	-14.6809	-13.0091	-11.1281	-9.5703	-8.2805	-6.9807	-6.2243
11/14/2011	0:00:00	-16.9765	-16.6231	-15.5047	-14.2405	-12.7879	-11.0809	-9.6619	-8.3365	-7.0958	-6.3489
11/14/2011	12:00:00	-16.5691	-16.3067	-15.5047	-14.2405	-12.6472	-11.0691	-9.7308	-8.4654	-7.2385	-6.4791
11/15/2011	0:00:00	-20.0643	-19.4405	-16.6772	-14.4186	-12.6167	-11.0337	-9.7480	-8.5327	-7.3540	-6.5715
11/15/2011	12:00:00	-22.0160	-21.2808	-17.8338	-14.9578	-12.8186	-11.0691	-9.7767	-8.6227	-7.4422	-6.7131
11/16/2011	0:00:00	-23.5538	-22.8857	-19.2645	-15.8406	-13.1881	-11.1931	-9.8055	-8.6621	-7.5470	-6.8276
11/16/2011	12:00:00	-22.1524	-21.6263	-19.1987	-16.3268	-13.6671	-11.4006	-9.9552	-8.8030	-7.6244	-6.9096
11/17/2011	0:00:00	-21.4374	-20.8467	-18.5056	-16.2732	-13.9119	-11.6568	-10.1227	-8.8933	-7.7295	-6.9807
11/17/2011	12:00:00	-21.4688	-21.2574	-19.3817	-16.7179	-14.1391	-11.8423	-10.3083	-9.0462	-7.8404	-7.0958
11/18/2011	0:00:00	-20.8467	-20.6015	-19.1477	-16.8606	-14.3613	-12.0407	-10.4711	-9.1654	-7.9738	-7.2000
11/18/2011	12:00:00	-21.6263	-21.1950	-19.2645	-16.9423	-14.5016	-12.2399	-10.6346	-9.3418	-8.1242	-7.3100
11/19/2011	0:00:00	-20.6320	-20.3582	-19.0313	-17.0038	-14.6552	-12.4036	-10.8220	-9.5073	-8.2582	-7.4311
11/19/2011	12:00:00	-19.4405	-19.4993	-18.8864	-17.0038	-14.7322	-12.5496	-10.9630	-9.6161	-8.3253	-7.5470
11/20/2011	0:00:00	-21.6263	-21.0940	-19.1695	-16.9765	-14.8030	-12.6717	-11.1045	-9.7767	-8.4654	-7.6410
11/20/2011	12:00:00	-27.5713	-26.3865	-20.9701	-17.4647	-14.9384	-12.7696	-11.2405	-9.8976	-8.5777	-7.7683
11/21/2011	0:00:00	-27.5220	-26.5659	-22.0160	-18.2282	-15.3215	-12.8984	-11.2879	-10.0129	-8.7127	-7.9015
11/21/2011	12:00:00	-29.0770	-28.1705	-23.1760	-18.9443	-15.7679	-13.1634	-11.4660	-10.1401	-8.8594	-8.0183
11/22/2011	0:00:00	-26.9863	-26.3489	-23.3265	-19.6692	-16.2933	-13.4861	-11.6687	-10.3257	-9.0009	-8.1521
11/22/2011	12:00:00	-25.0125	-24.5437	-22.4353	-19.6840	-16.6976	-13.8364	-11.9504	-10.5119	-9.1199	-8.2805
11/23/2011	0:00:00	-24.2646	-23.7660	-21.9520	-19.6100	-16.8878	-14.1391	-12.2097	-10.6989	-9.2336	-8.3253
11/23/2011	12:00:00	-26.3113	-25.6812	-22.6965	-19.7137	-16.9560	-14.3358	-12.4340	-10.8866	-9.4159	-8.4878
11/24/2011	0:00:00	-28.9096	-28.0897	-23.9369	-20.2750	-17.2232	-14.4760	-12.6167	-11.0809	-9.5874	-8.6227
11/24/2011	12:00:00	-27.1701	-26.5659	-24.0400	-20.7929	-17.6105	-14.7001	-12.7696	-11.2760	-9.7767	-8.7578
11/25/2011	0:00:00	-26.2645	-25.8742	-23.7660	-21.0088	-17.9249	-15.0419	-13.0214	-11.4244	-9.8976	-8.9160
11/25/2011	12:00:00	-26.3113	-25.8742	-23.8001	-21.1173	-18.1221	-15.2498	-13.2686	-11.6150	-10.0591	-9.0462
11/26/2011	0:00:00	-25.5170	-25.1556	-23.5877	-21.1328	-18.2778	-15.4784	-13.4861	-11.8063	-10.2444	-9.1881
11/26/2011	12:00:00	-22.2733	-22.4029	-22.3057	-20.8467	-18.3488	-15.6690	-13.6671	-12.0166	-10.4013	-9.3418
11/27/2011	0:00:00	-19.7657	-20.0343	-20.6320	-19.9744	-18.0938	-15.7151	-13.8050	-12.1191	-10.5469	-9.4787
11/27/2011	12:00:00	-20.3961	-20.3052	-20.1168	-19.3230	-17.7918	-15.6887	-13.9371	-12.3369	-10.7282	-9.6390
11/28/2011	0:00:00	-20.5405	-20.3961	-19.9221	-18.9443	-17.4440	-15.5834	-13.9812	-12.4583	-10.8866	-9.7767
11/28/2011	12:00:00	-19.8028	-19.8252	-19.5805	-18.6273	-17.1682	-15.4457	-13.9623	-12.5009	-11.0102	-9.9206
11/29/2011	0:00:00	-20.1619	-20.0043	-19.4257	-18.4556	-17.0038	-15.3541	-13.9371	-12.5740	-11.1045	-10.0129
11/29/2011	12:00:00	-23.2261	-22.7950	-20.6703	-18.5986	-16.9423	-15.3019	-13.9623	-12.6289	-11.2168	-10.1517

DATE	TIME	ANALOG 1	ANALOG 2	ANALOG 3	ANALOG 4	ANALOG 5	ANALOG 6	ANALOG 7	ANALOG 8	ANALOG 9	ANALOG 10
Relative elevation to final ground surface (m)		0.3	0	-0.3	-0.6	-0.9	-1.2	-1.5	-1.8	-2.1	-2.4
(MM/DD/YY)	(HH:MM:SS)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)
11/30/2011	0:00:00	-20.5405	-20.4796	-19.9445	-18.6560	-16.9560	-15.2368	-13.9371	-12.6289	-11.2760	-10.2850
11/30/2011	12:00:00	-21.5869	-21.3433	-20.2146	-18.6847	-16.9765	-15.2498	-13.9371	-12.6961	-11.2879	-10.3547
12/1/2011	0:00:00	-25.1287	-24.4474	-21.3120	-18.8287	-17.0311	-15.3019	-14.0064	-12.7696	-11.3531	-10.4245
12/1/2011	12:00:00	-27.1022	-26.2364	-22.7621	-19.6396	-17.2782	-15.3541	-13.9812	-12.7696	-11.4244	-10.5119
12/2/2011	0:00:00	-30.4053	-29.3729	-24.5876	-20.6015	-17.7708	-15.5309	-14.0885	-12.8186	-11.4482	-10.5703
12/2/2011	12:00:00	-30.3720	-29.4154	-25.3628	-21.5317	-18.3204	-15.8406	-14.2151	-12.8738	-11.5196	-10.6579
12/3/2011	0:00:00	-31.3817	-30.4498	-26.0872	-22.2410	-18.9443	-16.1663	-14.4186	-13.0214	-11.6568	-10.7516
12/3/2011	12:00:00	-31.6619	-30.8090	-26.6513	-22.9104	-19.5214	-16.5691	-14.6809	-13.2067	-11.7584	-10.8220
12/4/2011	0:00:00	-24.9145	-24.9857	-24.6932	-22.8609	-19.9071	-16.9423	-14.9384	-13.4051	-11.9023	-10.9630
12/4/2011	12:00:00	-25.3628	-25.3628	-24.4474	-22.4923	-19.9071	-17.1957	-15.2107	-13.6046	-12.0527	-11.0809
12/5/2011	0:00:00	-22.7950	-23.1510	-23.5877	-22.2733	-19.9071	-17.3541	-15.3999	-13.8050	-12.1915	-11.1931
12/5/2011	12:00:00	-16.9423	-17.8338	-20.6320	-21.1639	-19.6692	-17.4163	-15.5834	-14.0064	-12.3793	-11.2760
12/6/2011	0:00:00	-20.6473	-20.5405	-20.1845	-19.9221	-18.9805	-17.2989	-15.6690	-14.1391	-12.5496	-11.4244
12/6/2011	12:00:00	-22.8280	-22.5330	-21.1173	-19.8028	-18.5700	-17.0585	-15.6558	-14.2151	-12.6289	-11.5196
12/7/2011	0:00:00	-24.4474	-24.0056	-22.0160	-20.1168	-18.5056	-16.9423	-15.5834	-14.2405	-12.7696	-11.6687
12/7/2011	12:00:00	-27.8890	-27.2089	-24.1003	-20.9701	-18.7062	-16.8878	-15.5572	-14.2659	-12.8186	-11.7824
12/8/2011	0:00:00	-27.2284	-26.8710	-24.7638	-21.7927	-19.1695	-17.0038	-15.5572	-14.2659	-12.8493	-11.8543
12/8/2011	12:00:00	-26.4147	-26.0872	-24.5437	-22.1524	-19.6100	-17.2782	-15.7151	-14.3868	-12.9230	-11.9504
12/9/2011	0:00:00	-25.3357	-25.1556	-24.1693	-22.2088	-19.7657	-17.4994	-15.8406	-14.4186	-13.0091	-12.0407
12/9/2011	12:00:00	-27.8890	-27.3064	-24.8257	-22.2088	-19.8848	-17.6314	-15.9798	-14.5527	-13.1201	-12.0949
12/10/2011	0:00:00	-28.7849	-28.1503	-25.5170	-22.6555	-20.0943	-17.7918	-16.0929	-14.6552	-13.2190	-12.2097
12/10/2011	12:00:00	-29.6725	-28.9514	-26.0036	-23.0844	-20.3809	-17.8969	-16.2465	-14.8030	-13.2872	-12.2399
12/11/2011	0:00:00	-31.8388	-30.9451	-27.1701	-23.7234	-20.7009	-18.1221	-16.3805	-14.9061	-13.4051	-12.3793
12/11/2011	12:00:00	-30.1401	-29.5865	-27.0635	-24.0744	-21.1173	-18.3702	-16.5691	-15.0419	-13.5110	-12.4583
12/12/2011	0:00:00	-30.0196	-29.4794	-27.0249	-24.2386	-21.3825	-18.6560	-16.7586	-15.2107	-13.6171	-12.5984
12/12/2011	12:00:00	-29.0351	-28.5886	-26.7180	-24.2646	-21.5632	-18.8648	-16.9560	-15.3737	-13.8050	-12.7451
12/13/2011	0:00:00	-31.5097	-30.9907	-27.7694	-24.5613	-21.7054	-19.0604	-17.1545	-15.5309	-13.9119	-12.8186
12/13/2011	12:00:00	-33.3074	-32.6466	-29.0351	-25.2635	-22.0480	-19.2352	-17.2989	-15.6690	-14.0380	-12.9230
12/14/2011	0:00:00	-28.2110	-28.3633	-27.6108	-25.4443	-22.4029	-19.4699	-17.4994	-15.8208	-14.2151	-13.0707
12/14/2011	12:00:00	-27.7993	-27.7297	-26.9190	-25.0839	-22.4923	-19.6840	-17.7429	-16.0263	-14.3613	-13.1881
12/15/2011	0:00:00	-21.6738	-22.3623	-24.2820	-24.1693	-22.3380	-19.8549	-17.8478	-16.1663	-14.4760	-13.3182
12/15/2011	12:00:00	-22.3057	-22.6555	-23.5200	-23.2261	-21.7927	-19.7657	-17.9811	-16.3268	-14.6296	-13.4611
12/16/2011	0:00:00	-22.1766	-22.3866	-22.8609	-22.4923	-21.3668	-19.6100	-17.9811	-16.4343	-14.7515	-13.5796
12/16/2011	12:00:00	-28.7849	-28.0495	-24.4213	-22.3623	-20.9469	-19.4037	-17.8969	-16.4612	-14.8352	-13.6859
12/17/2011	0:00:00	-33.7552	-32.6098	-26.8710	-23.2595	-21.0630	-19.2937	-17.8688	-16.4814	-14.9384	-13.8050
12/17/2011	12:00:00	-34.7745	-33.5878	-28.0897	-24.1693	-21.5317	-19.3817	-17.8688	-16.5084	-15.0096	-13.8867
12/18/2011	0:00:00	-33.3074	-32.4145	-28.2515	-24.7903	-21.9201	-19.5583	-17.9249	-16.5218	-15.0290	-13.9371
12/18/2011	12:00:00	-34.7203	-33.7552	-28.8680	-25.2635	-22.3380	-19.7657	-18.0656	-16.6231	-15.1392	-14.0632
12/19/2011	0:00:00	-35.7745	-34.7203	-29.6725	-25.8465	-22.6965	-20.0343	-18.2282	-16.7315	-15.1912	-14.0885
12/19/2011	12:00:00	-33.1435	-32.4632	-29.4794	-26.1617	-23.0844	-20.2750	-18.4057	-16.8401	-15.2498	-14.1834
12/20/2011	0:00:00	-33.2064	-32.6098	-29.5008	-26.3489	-23.3853	-20.5405	-18.5986	-16.9560	-15.3737	-14.2850
12/20/2011	12:00:00	-35.2546	-34.4381	-30.1401	-26.6894	-23.6809	-20.7929	-18.8070	-17.1682	-15.5309	-14.4186
12/21/2011	0:00:00	-35.9891	-35.0338	-30.6736	-27.1022	-23.9026	-21.0088	-18.9805	-17.2989	-15.6558	-14.4760
12/21/2011	12:00:00	-32.8193	-32.5486	-30.2834	-27.3357	-24.2386	-21.2808	-19.2133	-17.5202	-15.8208	-14.6167
12/22/2011	0:00:00	-28.4041	-28.8368	-28.8368	-26.9863	-24.3167	-21.4688	-19.4037	-17.6592	-15.9798	-14.7515
12/22/2011	12:00:00	-24.9857	-25.4443	-26.5943	-26.0222	-24.0744	-21.5869	-19.5805	-17.8338	-16.0796	-14.8610
12/23/2011	0:00:00	-29.0770	-28.7020	-26.7657	-25.3357	-23.6809	-21.5002	-19.6692	-17.9249	-16.2197	-14.9837
12/23/2011	12:00:00	-33.8588	-33.0557	-29.0770	-25.8742	-23.5538	-21.4060	-19.6692	-18.0515	-16.3268	-15.1133
12/24/2011	0:00:00	-34.3715	-33.5878	-29.8345	-26.3865	-23.7404	-21.4374	-19.6840	-18.1221	-16.4612	-15.2368
12/24/2011	12:00:00	-28.9514	-28.8368	-27.9691	-26.2926	-23.9626	-21.5632	-19.7434	-18.1786	-16.5691	-15.3541
12/25/2011	0:00:00	-33.4090	-32.6466	-28.8160	-26.1244	-23.9026	-21.6263	-19.8549	-18.2778	-16.5961	-15.4261
12/25/2011	12:00:00	-29.8562	-29.8345	-28.4860	-26.3489	-23.9884	-21.6421	-19.9071	-18.3702	-16.6976	-15.4784
12/26/2011	0:00:00	-25.3628	-25.9111	-26.6894	-25.9111	-23.9369	-21.7054	-20.0043	-18.4556	-16.8061	-15.6295
12/26/2011	12:00:00	-27.5417	-27.3064	-26.1617	-25.0839	-23.6216	-21.6421	-20.0043	-18.5056	-16.9150	-15.7151
12/27/2011	0:00:00	-31.5097	-30.9110	-27.9691	-25.4443	-23.4610	-21.5869	-20.0043	-18.5413	-16.9560	-15.8208
12/27/2011	12:00:00	-32.7451	-32.0410	-29.2034	-26.1617	-23.7234	-21.6263	-20.0343	-18.5986	-16.9765	-15.8605
12/28/2011	0:00:00	-32.6098	-32.0769	-29.5436	-26.7180	-24.0744	-21.7054	-20.0643	-18.6273	-17.0859	-15.9466
12/28/2011	12:00:00	-33.0557	-32.5120	-29.9759	-27.0635	-24.3777	-21.8962	-20.1845	-18.7062	-17.1339	-15.9997
12/29/2011	0:00:00	-35.3241	-34.5050	-30.7299	-27.5220	-24.6932	-22.1363	-20.3355	-18.8070	-17.2232	-16.0796
12/29/2011	12:00:00	-34.3316	-33.7552	-31.1739	-28.0495	-25.0482	-22.3380	-20.4796	-18.9154	-17.2989	-16.1462
12/30/2011	0:00:00	-34.4381	-33.8588	-31.2891	-28.3328	-25.3628	-22.5901	-20.6320	-19.0313	-17.4163	-16.2465
12/30/2011	12:00:00	-35.1025	-34.4648	-31.7915	-28.6195	-25.6812	-22.8280	-20.8467	-19.1987	-17.5202	-16.3268
12/31/2011	0:00:00	-35.2546	-34.6663	-31.9694	-28.9096	-26.0036	-23.0595	-21.0320	-19.3523	-17.6592	-16.4814
12/31/2011	12:00:00	-35.5904	-34.9926	-32.1728	-29.1717	-26.1244	-23.2595	-21.1950	-19.4993	-17.7708	-16.5218
1/1/2012	0:00:00	-33.0057	-32.8193	-31.5564	-29.2034	-26.3113	-23.4863	-21.4060	-19.6692	-17.8478	-16.6772
1/1/2012	12:00:00	-33.3455	-33.0557	-31.4747	-29.1506	-26.4147	-23.6809	-21.6263	-19.8252	-17.9811	-16.7586
1/2/2012	0:00:00	-33.6134	-33.2064	-31.4747	-29.0770	-26.4147	-23.7234	-21.7054	-19.9221	-18.1433	-16.9423
1/2/2012	12:00:00	-29.8345	-30.1951	-30.4053	-28.9096	-26.4619	-23.8342	-21.8563	-20.0943	-18.2778	-17.0038
1/3/2012	0:00:00	-28.6195	-28.6710	-28.7434	-27.9691	-26.1617	-23.8342	-21.9201	-20.1845	-18.4271	-17.1682
1/3/2012	12:00:00	-30.7299	-30.4498	-29.1506	-27.6108	-25.9111	-23.7404	-21.9840	-20.3052	-18.5056	-17.2438
1/4/2012	0:00:00	-34.0283	-33.4472	-30.6736	-28.0495	-25.8465	-23.7234	-22.0160	-20.3961	-18.6560	-17.3886
1/4/2012	12:00:00	-30.9907	-30.9907	-30.1072	-28.2515	-26.0036	-23.7234	-21.9840	-20.3961	-18.7350	-17.4994
1/5/2012	0:00:00	-33.0557	-32.5486	-30.4498	-28.2820	-26.0222	-23.7660	-22.0801	-20.5176	-18.7494	-17.5757

DATE	TIME	ANALOG 1	ANALOG 2	ANALOG 3	ANALOG 4	ANALOG 5	ANALOG 6	ANALOG 7	ANALOG 8	ANALOG 9	ANALOG 10
Relative elevation to final ground surface (m)		0.3	0	-0.3	-0.6	-0.9	-1.2	-1.5	-1.8	-2.1	-2.4
(MM/DD/YY)	(HH:MM:SS)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)
1/5/2012	12:00:00	-26.2364	-26.9478	-28.6195	-28.1503	-26.1244	-23.8342	-22.1363	-20.6015	-18.8648	-17.6592
1/6/2012	0:00:00	-25.8005	-26.1244	-26.5943	-26.8326	-25.7362	-23.8001	-22.1766	-20.6320	-18.9660	-17.7708
1/6/2012	12:00:00	-30.4944	-30.1951	-28.6710	-26.9190	-25.3628	-23.7234	-22.1766	-20.6473	-18.9805	-17.8338
1/7/2012	0:00:00	-29.7912	-29.8345	-28.5886	-26.9863	-25.3357	-23.5877	-22.1042	-20.6473	-19.0313	-17.8338
1/7/2012	12:00:00	-24.8257	-25.4806	-26.6894	-26.4619	-25.1915	-23.4863	-22.0801	-20.6703	-19.1185	-17.9249
1/8/2012	0:00:00	-28.8368	-28.5064	-27.1701	-26.0036	-24.8435	-23.3853	-22.0160	-20.6473	-19.1695	-18.0093
1/8/2012	12:00:00	-27.8591	-27.8591	-27.3064	-26.1617	-24.7903	-23.2595	-21.9520	-20.6473	-19.1987	-18.0515
1/9/2012	0:00:00	-25.9111	-26.1244	-26.5659	-26.0036	-24.6932	-23.1760	-21.8962	-20.6473	-19.1987	-18.0656
1/9/2012	12:00:00	-25.3990	-25.6812	-26.0222	-25.6264	-24.4824	-23.0595	-21.8245	-20.6320	-19.1987	-18.0656
1/10/2012	0:00:00	-20.7009	-21.4374	-23.7404	-24.6579	-24.1003	-22.9104	-21.7689	-20.6015	-19.1987	-18.1221
1/10/2012	12:00:00	-26.6133	-26.3489	-25.2275	-24.3777	-23.7234	-22.6965	-21.6738	-20.6015	-19.1987	-18.1433
1/11/2012	0:00:00	-29.8888	-29.4154	-26.6894	-24.8257	-23.6216	-22.5330	-21.5869	-20.4796	-19.1695	-18.1433
1/11/2012	12:00:00	-31.0363	-30.5503	-28.2110	-25.7362	-23.8342	-22.4678	-21.4688	-20.3961	-19.1477	-18.1433
1/12/2012	0:00:00	-29.8888	-29.6725	-28.1705	-26.1617	-24.2820	-22.6228	-21.4688	-20.3961	-19.1185	-18.1786
1/12/2012	12:00:00	-29.2880	-29.1506	-28.1503	-26.3489	-24.5174	-22.6965	-21.5002	-20.3582	-19.1477	-18.1998
1/13/2012	0:00:00	-24.7638	-25.1915	-26.0872	-25.9111	-24.5437	-22.8609	-21.6263	-20.3961	-19.1477	-18.1998
1/13/2012	12:00:00	-29.7912	-29.3304	-26.8998	-25.4806	-24.2386	-22.7950	-21.6263	-20.4568	-19.1477	-18.1998
1/14/2012	0:00:00	-30.9110	-30.4053	-28.1503	-26.0036	-24.2646	-22.7293	-21.6263	-20.4264	-19.1695	-18.2282
1/14/2012	12:00:00	-32.0171	-31.4165	-28.7434	-26.3489	-24.5174	-22.7950	-21.6263	-20.4796	-19.1987	-18.2778
1/15/2012	0:00:00	-31.3354	-30.9451	-28.8160	-26.7657	-24.7638	-22.9104	-21.6263	-20.4796	-19.2133	-18.2778
1/15/2012	12:00:00	-34.9379	-34.2786	-30.5279	-27.3064	-25.0482	-23.0844	-21.7292	-20.5710	-19.2645	-18.3204
1/16/2012	0:00:00	-32.9061	-32.4632	-30.5279	-27.9290	-25.4443	-23.2846	-21.8245	-20.6320	-19.2645	-18.3488
1/16/2012	12:00:00	-30.7299	-30.4944	-29.4154	-27.7297	-25.6812	-23.5200	-21.9520	-20.6703	-19.3523	-18.4271
1/17/2012	0:00:00	-23.0844	-24.0744	-26.9190	-27.2089	-25.6812	-23.6555	-22.1363	-20.8237	-19.4257	-18.4556
1/17/2012	12:00:00	-12.8186	-14.2151	-20.8852	-24.8257	-24.9412	-23.5877	-22.1766	-20.8852	-19.5214	-18.5056
1/18/2012	0:00:00	-16.6976	-17.4163	-20.3582	-22.6719	-23.6216	-23.1177	-22.1042	-20.9469	-19.5805	-18.5700
1/18/2012	12:00:00	-23.1927	-23.0595	-21.8962	-22.1363	-22.6555	-22.5574	-21.8802	-20.8852	-19.6396	-18.6273
1/19/2012	0:00:00	-25.7362	-25.3990	-23.9626	-22.8280	-22.4029	-22.1042	-21.6263	-20.7622	-19.6100	-18.6847
1/19/2012	12:00:00	-19.7434	-20.3961	-22.4353	-22.9600	-22.4923	-21.8802	-21.3668	-20.6015	-19.4993	-18.6560
1/20/2012	0:00:00	-30.3720	-29.6187	-25.0839	-22.9104	-22.3380	-21.7689	-21.1950	-20.4568	-19.4405	-18.6560
1/20/2012	12:00:00	-35.5904	-34.5050	-28.7434	-24.6579	-22.7293	-21.7054	-21.0940	-20.3809	-19.3817	-18.6273
1/21/2012	0:00:00	-37.0971	-36.2059	-30.9907	-26.4147	-23.6809	-21.9201	-21.0940	-20.3052	-19.3230	-18.5986
1/21/2012	12:00:00	-37.4185	-36.6318	-32.0410	-27.7993	-24.5876	-22.3623	-21.1639	-20.2448	-19.2645	-18.5700
1/22/2012	0:00:00	-36.3518	-35.7035	-32.3902	-28.6195	-25.4171	-22.8609	-21.4060	-20.3355	-19.2645	-18.5199
1/22/2012	12:00:00	-36.3518	-35.7745	-32.6958	-29.1717	-26.0036	-23.3265	-21.6738	-20.5176	-19.2937	-18.5413
1/23/2012	0:00:00	-36.4692	-35.8744	-32.9061	-29.5436	-26.4619	-23.7234	-21.9520	-20.6473	-19.4037	-18.5700
1/23/2012	12:00:00	-33.9108	-33.6649	-32.1248	-29.6725	-26.8326	-24.0400	-22.2733	-20.8698	-19.5214	-18.6847
1/24/2012	0:00:00	-32.4145	-32.2692	-31.2660	-29.4154	-26.9190	-24.3167	-22.5330	-21.0940	-19.6692	-18.7350
1/24/2012	12:00:00	-31.3817	-31.2660	-30.4053	-28.8680	-26.8326	-24.4824	-22.7293	-21.2808	-19.8028	-18.8287
1/25/2012	0:00:00	-28.8680	-29.0351	-29.1717	-28.4041	-26.5943	-24.5437	-22.8609	-21.4060	-19.9221	-18.9660
1/25/2012	12:00:00	-26.9190	-27.2089	-28.0093	-27.7297	-26.3489	-24.5437	-22.9600	-21.6263	-20.0643	-19.0313
1/26/2012	0:00:00	-24.7638	-25.1915	-26.6133	-26.8710	-25.9481	-24.3515	-22.9600	-21.6263	-20.1619	-19.1695
1/26/2012	12:00:00	-23.0844	-23.5200	-25.0839	-25.9111	-25.3990	-24.1434	-22.9270	-21.6421	-20.2448	-19.2352
1/27/2012	0:00:00	-20.2750	-21.0088	-23.6555	-24.9145	-24.7638	-23.8342	-22.7950	-21.6263	-20.3052	-19.3230
1/27/2012	12:00:00	-24.2646	-24.2040	-23.7234	-23.9884	-24.0744	-23.5200	-22.6555	-21.6263	-20.3355	-19.3817
1/28/2012	0:00:00	-33.5493	-32.6466	-27.6503	-24.7903	-23.8001	-23.1760	-22.4678	-21.5317	-20.3052	-19.4037
1/28/2012	12:00:00	-32.5486	-31.9337	-28.3633	-25.6812	-24.1003	-23.0595	-22.3057	-21.4060	-20.2750	-19.4257
1/29/2012	0:00:00	-36.2933	-35.3241	-29.9759	-26.6513	-24.5613	-23.1510	-22.2088	-21.3433	-20.1845	-19.4037
1/29/2012	12:00:00	-36.4692	-35.5904	-31.1279	-27.5713	-25.1287	-23.3517	-22.2410	-21.3120	-20.1845	-19.4257
1/30/2012	0:00:00	-32.4632	-32.2209	-30.4498	-27.9290	-25.5898	-23.5877	-22.3380	-21.3120	-20.1619	-19.3817
1/30/2012	12:00:00	-32.6958	-32.2692	-30.2392	-27.9691	-25.8465	-23.7660	-22.4923	-21.3825	-20.1845	-19.4037
1/31/2012	0:00:00	-31.1739	-30.8883	-29.7912	-27.9691	-26.0036	-23.9369	-22.6228	-21.4374	-20.2146	-19.4037
1/31/2012	12:00:00	-35.6469	-34.7203	-30.5503	-27.9691	-26.0036	-24.0744	-22.7293	-21.5632	-20.3052	-19.4699
2/1/2012	0:00:00	-34.6124	-34.0022	-31.0821	-28.4860	-26.1990	-24.2040	-22.8280	-21.6263	-20.3582	-19.5214
2/1/2012	12:00:00	-31.9337	-31.5097	-30.0196	-28.4041	-26.3865	-24.3777	-22.9270	-21.7054	-20.4264	-19.5805
2/2/2012	0:00:00	-36.8706	-36.1479	-31.8862	-28.7849	-26.5280	-24.5174	-23.0844	-21.8245	-20.5176	-19.6396
2/2/2012	12:00:00	-33.1812	-33.1435	-31.6972	-29.4474	-26.8998	-24.6932	-23.1927	-21.8962	-20.5710	-19.6692
2/3/2012	0:00:00	-30.1951	-30.1401	-29.7912	-28.7434	-26.9478	-24.8435	-23.3517	-22.0160	-20.6320	-19.7137
2/3/2012	12:00:00	-32.9061	-32.4145	-30.2392	-28.4860	-26.7657	-24.8790	-23.4442	-22.1042	-20.7315	-19.8028
2/4/2012	0:00:00	-31.7915	-31.6384	-30.5279	-28.7020	-26.7944	-24.9145	-23.4863	-22.2088	-20.8467	-19.8848
2/4/2012	12:00:00	-32.2692	-31.9337	-30.5279	-28.7020	-26.8710	-24.9412	-23.5877	-22.2733	-20.8852	-19.9445
2/5/2012	0:00:00	-30.5279	-30.4498	-29.8345	-28.5475	-26.8710	-25.0125	-23.6555	-22.3623	-20.9469	-19.9744
2/5/2012	12:00:00	-27.2284	-27.8890	-28.8368	-28.2820	-26.7944	-25.0482	-23.7234	-22.4353	-21.0630	-20.0943
2/6/2012	0:00:00	-24.8257	-25.4171	-27.2089	-27.4925	-26.4902	-24.9857	-23.7234	-22.4678	-21.1173	-20.1619
2/6/2012	12:00:00	-24.4474	-24.9857	-26.0872	-26.5659	-26.0036	-24.8257	-23.6809	-22.4678	-21.1639	-20.2146
2/7/2012	0:00:00	-31.4747	-30.9451	-28.3633	-26.6133	-25.6812	-24.5876	-23.5877	-22.4923	-21.1639	-20.2448
2/7/2012	12:00:00	-34.2256	-33.6134	-30.2392	-27.4925	-25.8465	-24.4824	-23.4863	-22.4678	-21.1950	-20.3052
2/8/2012	0:00:00	-35.5904	-34.8152	-31.2660	-28.4450	-26.2364	-24.5876	-23.4863	-22.4678	-21.1950	-20.3355
2/8/2012	12:00:00	-34.8152	-34.4381	-31.8388	-29.0770	-26.7180	-24.7903	-23.5538	-22.4678	-21.2184	-20.3582
2/9/2012	0:00:00	-30.4944	-30.7299	-30.5279	-29.0770	-26.9863	-24.9857	-23.6555	-22.4678	-21.2574	-20.3809
2/9/2012	12:00:00	-25.6995	-26.8710	-28.9932	-28.6195	-27.0635	-25.1287	-23.7404	-22.5574	-21.2808	-20.3961
2/10/2012	0:00:00	-17.9811	-19.4699	-24.6227	-26.9863	-26.5943	-25.1556	-23.8342	-22.6555	-21.3668	-20.4568
2/10/2012	12:00:00	-21.0088	-22.0801	-24.3777	-25.6812	-25.7729	-24.8790	-23.8001	-22.6719	-21.4060	-20.5176

DATE	TIME	ANALOG 1	ANALOG 2	ANALOG 3	ANALOG 4	ANALOG 5	ANALOG 6	ANALOG 7	ANALOG 8	ANALOG 9	ANALOG 10
Relative elevation to final ground surface (m)		0.3	0	-0.3	-0.6	-0.9	-1.2	-1.5	-1.8	-2.1	-2.4
(MM/DD/YY)	(HH:MM:SS)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)
2/11/2012	0:00:00	-22.8280	-23.4442	-24.9412	-25.3628	-25.1556	-24.5437	-23.7234	-22.6555	-21.4374	-20.5405
2/11/2012	12:00:00	-20.7622	-21.3433	-23.4863	-24.6932	-24.7638	-24.1693	-23.4863	-22.5901	-21.4374	-20.5710
2/12/2012	0:00:00	-21.1950	-21.5869	-23.0180	-23.9884	-24.2386	-23.9026	-23.3265	-22.4678	-21.4374	-20.6015
2/12/2012	12:00:00	-22.4353	-22.5901	-23.1510	-23.5877	-23.7404	-23.6216	-23.1177	-22.3623	-21.3668	-20.5710
2/13/2012	0:00:00	-21.0940	-21.5869	-22.9600	-23.5200	-23.4863	-23.2846	-22.8857	-22.2088	-21.3120	-20.5405
2/13/2012	12:00:00	-19.6840	-20.4568	-22.3057	-23.0595	-23.2261	-23.0180	-22.6555	-22.0480	-21.1950	-20.4796
2/14/2012	0:00:00	-18.3702	-19.5214	-21.8245	-22.6719	-22.9104	-22.7950	-22.4678	-21.8962	-21.1173	-20.4568
2/14/2012	12:00:00	-19.6840	-20.3355	-21.7927	-22.4353	-22.6555	-22.5901	-22.3057	-21.7689	-21.0088	-20.3809
2/15/2012	0:00:00	-21.0940	-21.3668	-22.0160	-22.3057	-22.4029	-22.3380	-22.1042	-21.6263	-20.9161	-20.3582
2/15/2012	12:00:00	-27.1022	-26.5280	-23.4442	-22.3866	-22.2410	-22.1363	-21.8962	-21.5317	-20.7929	-20.2750
2/16/2012	0:00:00	-30.4053	-29.5436	-24.9145	-23.1177	-22.4029	-22.0480	-21.7927	-21.3825	-20.6703	-20.1619
2/16/2012	12:00:00	-30.9110	-30.1731	-26.0872	-23.9026	-22.6965	-22.0480	-21.6738	-21.2808	-20.6320	-20.0943
2/17/2012	0:00:00	-29.3304	-28.6195	-25.8465	-24.1693	-23.0180	-22.1524	-21.6421	-21.1950	-20.5405	-20.0643
2/17/2012	12:00:00	-25.5170	-25.5534	-25.1556	-24.3167	-23.2261	-22.2733	-21.6738	-21.1950	-20.5176	-20.0043
2/18/2012	0:00:00	-31.3817	-30.8090	-27.3357	-24.8257	-23.4189	-22.3623	-21.7054	-21.1328	-20.4264	-19.9221
2/18/2012	12:00:00	-32.8564	-32.3175	-29.1086	-26.0036	-23.8684	-22.5574	-21.7689	-21.1639	-20.3809	-19.8848
2/19/2012	0:00:00	-32.7945	-32.2692	-29.5436	-26.7180	-24.5174	-22.8280	-21.8962	-21.2184	-20.3961	-19.9071
2/19/2012	12:00:00	-30.5951	-30.6736	-29.4794	-27.2089	-25.0125	-23.1510	-22.0801	-21.2808	-20.3809	-19.8549
2/20/2012	0:00:00	-30.1401	-29.9323	-28.9514	-27.2089	-25.3357	-23.4863	-22.3057	-21.4060	-20.4568	-19.8848
2/20/2012	12:00:00	-25.6538	-26.3865	-27.8890	-27.2089	-25.4806	-23.6809	-22.4678	-21.5632	-20.5710	-19.9445
2/21/2012	0:00:00	-28.9096	-28.7434	-27.6108	-26.5280	-25.2996	-23.7404	-22.6228	-21.6263	-20.6320	-19.9744
2/21/2012	12:00:00	-30.1401	-29.9323	-28.5886	-26.8326	-25.2996	-23.8001	-22.6965	-21.7292	-20.6473	-20.0043
2/22/2012	0:00:00	-30.1072	-29.8888	-28.7434	-27.0635	-25.4171	-23.8342	-22.7621	-21.7927	-20.7622	-20.0943
2/22/2012	12:00:00	-30.0634	-30.1401	-29.1086	-27.2673	-25.6264	-23.9884	-22.8857	-21.8802	-20.8237	-20.1168
2/23/2012	0:00:00	-30.1951	-30.0634	-29.0770	-27.4140	-25.7362	-24.0400	-22.9270	-21.9201	-20.8467	-20.1469
2/23/2012	12:00:00	-30.0196	-30.1951	-29.4794	-27.6900	-25.9111	-24.1693	-23.0180	-22.0160	-20.8852	-20.1845
2/24/2012	0:00:00	-32.4632	-32.1248	-30.0196	-27.8890	-26.0036	-24.3167	-23.1510	-22.1042	-21.0088	-20.3052
2/24/2012	12:00:00	-33.7552	-33.4090	-31.2084	-28.4860	-26.2926	-24.4824	-23.2261	-22.1766	-21.0940	-20.3355
2/25/2012	0:00:00	-34.4381	-33.9108	-31.3817	-28.8368	-26.6133	-24.6932	-23.3853	-22.2733	-21.1328	-20.3961
2/25/2012	12:00:00	-30.0196	-31.1739	-31.3354	-29.2034	-26.9478	-24.9145	-23.5877	-22.4029	-21.2574	-20.4796
2/26/2012	0:00:00	-33.9630	-33.4982	-31.5564	-29.3304	-27.1701	-25.1108	-23.7234	-22.4923	-21.3120	-20.5176
2/26/2012	12:00:00	-31.7443	-32.3902	-31.8388	-29.6187	-27.3846	-25.2996	-23.8342	-22.6555	-21.4060	-20.6320
2/27/2012	0:00:00	-35.4358	-34.9379	-32.3538	-29.8562	-27.5713	-25.4806	-24.0056	-22.7950	-21.5317	-20.7009
2/27/2012	12:00:00	-33.8588	-34.3715	-33.0557	-30.3720	-27.8591	-25.6812	-24.1693	-22.9104	-21.6263	-20.7622
2/28/2012	0:00:00	-34.2256	-34.0283	-32.6466	-30.4944	-28.1503	-25.9111	-24.3167	-23.0595	-21.7054	-20.8698
2/28/2012	12:00:00	-34.0022	-34.1202	-32.8564	-30.6399	-28.3328	-26.0036	-24.4824	-23.1760	-21.7927	-20.9161
2/29/2012	0:00:00	-33.9108	-33.6134	-32.4145	-30.6399	-28.4450	-26.1990	-24.6227	-23.3265	-21.8962	-21.0320
2/29/2012	12:00:00	-32.3902	-32.3538	-31.6972	-30.2834	-28.4860	-26.2926	-24.8257	-23.4610	-22.0801	-21.1639
3/1/2012	0:00:00	-34.2786	-33.9630	-32.0410	-30.1072	-28.3328	-26.3113	-24.8790	-23.5877	-22.1524	-21.2184
3/1/2012	12:00:00	-33.1812	-33.5493	-32.6958	-30.4944	-28.4041	-26.3865	-24.9857	-23.7234	-22.2410	-21.3120
3/2/2012	0:00:00	-36.2933	-35.7745	-33.1435	-30.6736	-28.5064	-26.4902	-25.0482	-23.7234	-22.3380	-21.3825
3/2/2012	12:00:00	-32.4145	-33.3455	-33.2064	-31.0821	-28.7020	-26.5943	-25.1108	-23.7660	-22.4353	-21.5002
3/3/2012	0:00:00	-38.3341	-37.6669	-34.0677	-31.2660	-28.9096	-26.7944	-25.2635	-23.9026	-22.5330	-21.5869
3/3/2012	12:00:00	-31.7915	-33.3074	-34.2786	-31.7915	-29.2034	-26.9190	-25.3628	-23.9884	-22.6555	-21.6421
3/4/2012	0:00:00	-36.9911	-36.5134	-34.2256	-31.8862	-29.5008	-27.2089	-25.5534	-24.1434	-22.6719	-21.7054
3/4/2012	12:00:00	-33.8588	-34.2786	-34.0283	-32.0171	-29.6187	-27.2673	-25.6812	-24.2646	-22.7950	-21.7927
3/5/2012	0:00:00	-34.1728	-34.0022	-33.0557	-31.5564	-29.6187	-27.4140	-25.8465	-24.3777	-22.9104	-21.8802
3/5/2012	12:00:00	-29.5436	-30.1072	-31.2891	-31.0363	-29.4474	-27.4532	-26.0036	-24.5174	-23.0180	-21.9840
3/6/2012	0:00:00	-28.3633	-28.7434	-29.9759	-30.1072	-29.0351	-27.3357	-26.0036	-24.5876	-23.1177	-22.0801
3/6/2012	12:00:00	-25.0125	-25.9111	-28.4860	-29.2034	-28.5064	-27.2089	-26.0036	-24.6579	-23.1927	-22.1524
3/7/2012	0:00:00	-28.9096	-29.1506	-29.0770	-28.5886	-28.0093	-26.9190	-25.9111	-24.6579	-23.2261	-22.2410
3/7/2012	12:00:00	-27.5417	-28.4450	-29.3304	-28.5886	-27.7694	-26.6513	-25.7362	-24.6227	-23.2846	-22.3057
3/8/2012	0:00:00	-32.9061	-32.5486	-30.4498	-28.8368	-27.7297	-26.5659	-25.6538	-24.5613	-23.2595	-22.3380
3/8/2012	12:00:00	-33.0557	-33.0557	-31.5097	-29.4474	-27.8591	-26.4902	-25.5534	-24.5174	-23.2595	-22.3623
3/9/2012	0:00:00	-36.5134	-35.8744	-32.2209	-29.8562	-28.1503	-26.5943	-25.5170	-24.4824	-23.2261	-22.3623
3/9/2012	12:00:00	-35.1025	-35.6469	-33.7164	-30.8090	-28.4860	-26.6894	-25.5898	-24.4824	-23.2846	-22.4029
3/10/2012	0:00:00	-38.9746	-38.2053	-34.3316	-31.2660	-28.8368	-26.8710	-25.6264	-24.5174	-23.2595	-22.4029
3/10/2012	12:00:00	-34.4381	-35.1025	-34.4648	-31.9337	-29.3729	-27.1701	-25.7729	-24.5613	-23.3265	-22.4353
3/11/2012	0:00:00	-31.6619	-32.0769	-32.6466	-31.5097	-29.5436	-27.3846	-25.9481	-24.6579	-23.3853	-22.4678
3/11/2012	12:00:00	-27.8391	-28.5064	-30.5951	-30.6736	-29.3729	-27.4925	-26.0036	-24.7903	-23.4610	-22.5574
3/12/2012	0:00:00	-29.2880	-29.4794	-29.9323	-29.7480	-28.8368	-27.4140	-26.0872	-24.8790	-23.5200	-22.6228
3/12/2012	12:00:00	-25.5534	-27.7297	-30.8090	-29.8345	-28.5475	-27.2673	-26.0872	-24.9145	-23.6555	-22.6555
3/13/2012	0:00:00	-32.8564	-32.6466	-31.1739	-29.7048	-28.4860	-27.1701	-26.0222	-24.9412	-23.6555	-22.6965
3/13/2012	12:00:00	-30.3166	-31.0363	-31.4747	-30.0634	-28.4860	-27.1022	-26.0036	-24.9145	-23.6809	-22.7293
3/14/2012	0:00:00	-33.1058	-32.8193	-31.3817	-29.9323	-28.5475	-27.1410	-26.0036	-24.9145	-23.6809	-22.7621
3/14/2012	12:00:00	-30.3166	-31.2891	-32.0171	-30.4498	-28.6710	-27.1410	-26.0036	-24.9412	-23.7234	-22.8280
3/15/2012	0:00:00	-35.5481	-35.0338	-32.5486	-30.4498	-28.8160	-27.2089	-26.0222	-24.9412	-23.7234	-22.8857
3/15/2012	12:00:00	-28.1503	-30.2834	-32.5486	-31.0363	-29.0351	-27.2673	-26.0500	-24.9857	-23.7234	-22.8609
3/16/2012	0:00:00	-34.1728	-33.9108	-32.4632	-30.8543	-29.1506	-27.4140	-26.1244	-25.0125	-23.7404	-22.9104
3/16/2012	12:00:00	-30.6399	-31.3817	-32.1728	-30.8883	-29.1506	-27.4140	-26.1617	-25.0839	-23.8001	-22.9270
3/17/2012	0:00:00	-36.2350	-35.7745	-32.8564	-30.8543	-29.2034	-27.5417	-26.2926	-25.1287	-23.8342	-22.9932
3/17/2012	12:00:00	-33.6649	-33.9630	-33.2569	-31.2891	-29.3304	-27.5417	-26.2926	-25.1556	-23.9026	-23.0180
3/18/2012	0:00:00	-33.4090	-33.3074	-32.4145	-31.0821	-29.4154	-27.6503	-26.3489	-25.1915	-23.9369	-23.0595

DATE	TIME	ANALOG 1	ANALOG 2	ANALOG 3	ANALOG 4	ANALOG 5	ANALOG 6	ANALOG 7	ANALOG 8	ANALOG 9	ANALOG 10
Relative elevation to final ground surface (m)		0.3	0	-0.3	-0.6	-0.9	-1.2	-1.5	-1.8	-2.1	-2.4
(MM/DD/YY)	(HH:MM:SS)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)
3/18/2012	12:00:00	-28.8680	-30.0196	-32.0171	-31.1279	-29.4474	-27.7297	-26.4147	-25.2996	-24.0056	-23.1510
3/19/2012	0:00:00	-34.7745	-34.4648	-32.2209	-30.6399	-29.2880	-27.7694	-26.4902	-25.3628	-24.0400	-23.1760
3/19/2012	12:00:00	-23.7660	-26.7657	-32.0769	-31.1739	-29.4154	-27.7297	-26.4902	-25.3990	-24.1003	-23.1927
3/20/2012	0:00:00	-32.3538	-32.3175	-31.4747	-30.5503	-29.3304	-27.7694	-26.5280	-25.4171	-24.1434	-23.2595
3/20/2012	12:00:00	-25.3357	-26.5943	-30.0634	-30.2392	-29.1717	-27.7694	-26.5659	-25.4443	-24.1693	-23.3265
3/21/2012	0:00:00	-28.5475	-28.8160	-29.2034	-29.3304	-28.7434	-27.5713	-26.5280	-25.4806	-24.2386	-23.3853
3/21/2012	12:00:00	-26.0036	-27.3357	-29.8888	-29.4794	-28.4860	-27.4532	-26.4902	-25.4806	-24.2646	-23.4189
3/22/2012	0:00:00	-30.7638	-30.6736	-29.8888	-29.1086	-28.3633	-27.2673	-26.3489	-25.4443	-24.2386	-23.4189
3/22/2012	12:00:00	-24.7638	-26.6133	-29.9323	-29.4154	-28.3328	-27.2089	-26.3113	-25.3990	-24.2646	-23.4442
3/23/2012	0:00:00	-31.6972	-31.5564	-30.0634	-29.0351	-28.2110	-27.1701	-26.2926	-25.3990	-24.2040	-23.4442
3/23/2012	12:00:00	-24.8257	-26.7944	-30.4053	-29.5436	-28.2515	-27.1022	-26.1990	-25.3357	-24.2386	-23.4442
3/24/2012	0:00:00	-30.9907	-31.0363	-30.0634	-29.1717	-28.2515	-27.1410	-26.1990	-25.2996	-24.1693	-23.4189
3/24/2012	12:00:00	-29.2456	-29.6187	-30.1731	-29.3304	-28.1705	-27.0249	-26.0872	-25.2635	-24.1693	-23.4442
3/25/2012	0:00:00	-31.0363	-30.8883	-30.0634	-29.1086	-28.1705	-27.0249	-26.0872	-25.2275	-24.2040	-23.4610
3/25/2012	12:00:00	-28.6195	-29.1717	-30.0196	-29.2456	-28.1503	-26.9863	-26.0872	-25.2635	-24.1693	-23.4442
3/26/2012	0:00:00	-30.8543	-30.7299	-29.7480	-28.8368	-28.0093	-26.9190	-26.0500	-25.2275	-24.1434	-23.4442
3/26/2012	12:00:00	-28.0897	-28.7020	-29.9323	-29.1506	-28.0093	-26.8998	-26.0222	-25.2275	-24.1693	-23.4442
3/27/2012	0:00:00	-30.9110	-30.7638	-29.6187	-28.7020	-27.8890	-26.8710	-26.0036	-25.1556	-24.1434	-23.4442
3/27/2012	12:00:00	-24.8257	-26.3113	-29.7480	-29.1506	-27.9691	-26.8326	-26.0036	-25.1556	-24.1693	-23.4442
3/28/2012	0:00:00	-31.8388	-31.6032	-29.7912	-28.6195	-27.8391	-26.8326	-26.0036	-25.1556	-24.1003	-23.4442
3/28/2012	12:00:00	-27.5417	-28.3633	-30.1072	-29.2034	-27.8890	-26.7657	-26.0036	-25.1287	-24.1003	-23.4442
3/29/2012	0:00:00	-32.1248	-31.9337	-30.1401	-28.8680	-27.9290	-26.8326	-26.0036	-25.1287	-24.1003	-23.4610
3/29/2012	12:00:00	-28.4860	-29.1506	-30.3166	-29.3729	-28.0093	-26.7944	-26.0036	-25.1287	-24.1003	-23.4442
3/30/2012	0:00:00	-26.0036	-26.5280	-28.3633	-28.6710	-27.9691	-26.8998	-26.0036	-25.1287	-24.0744	-23.4442
3/30/2012	12:00:00	-16.8878	-18.6273	-25.1108	-27.4925	-27.4925	-26.7180	-26.0036	-25.1287	-24.1003	-23.4189
3/31/2012	0:00:00	-19.3817	-20.4264	-23.6555	-25.7729	-26.5659	-26.3865	-25.9111	-25.1108	-24.1003	-23.4442
3/31/2012	12:00:00	-16.1462	-17.2782	-21.7927	-24.6579	-25.8005	-26.0036	-25.6812	-25.0125	-24.0744	-23.4442
4/1/2012	0:00:00	-16.4612	-17.3748	-20.7622	-23.4442	-24.8790	-25.5170	-25.3990	-24.8435	-24.0400	-23.4189
4/1/2012	12:00:00	-10.1980	-12.5009	-19.8848	-22.6719	-24.1434	-24.9145	-25.0125	-24.6579	-24.0056	-23.4189
4/2/2012	0:00:00	-18.6273	-19.0604	-20.5176	-22.0480	-23.5538	-24.4474	-24.6932	-24.4474	-23.7660	-23.2595
4/2/2012	12:00:00	-18.8287	-19.1987	-20.8852	-22.0801	-23.1510	-23.9884	-24.3167	-24.1693	-23.6809	-23.1927
4/3/2012	0:00:00	-20.5176	-20.5405	-21.0088	-21.8563	-22.8857	-23.7234	-23.9884	-23.9369	-23.4610	-23.0595
4/3/2012	12:00:00	-19.1695	-19.5805	-21.1328	-21.9520	-22.6965	-23.4189	-23.7234	-23.7234	-23.2846	-22.9270
4/4/2012	0:00:00	-22.0480	-22.0480	-21.3825	-21.7292	-22.5330	-23.1760	-23.4863	-23.4610	-23.1510	-22.8280
4/4/2012	12:00:00	-16.3268	-17.7150	-21.6263	-22.3057	-22.5330	-22.9600	-23.2261	-23.2595	-22.9270	-22.6719
4/5/2012	0:00:00	-19.6100	-19.8252	-20.7622	-21.7292	-22.4353	-22.9104	-23.1177	-23.1177	-22.7950	-22.5574
4/5/2012	12:00:00	-19.1185	-19.4993	-20.9469	-21.7292	-22.2733	-22.7293	-22.9600	-22.9600	-22.6555	-22.4029
4/6/2012	0:00:00	-23.4863	-23.2595	-21.4374	-21.4688	-22.0480	-22.5901	-22.7950	-22.7950	-22.5330	-22.3380
4/6/2012	12:00:00	-19.5583	-20.3809	-22.4029	-22.2733	-22.1363	-22.4029	-22.6555	-22.6555	-22.3866	-22.1766
4/7/2012	0:00:00	-24.9857	-24.7903	-22.9932	-22.2088	-22.2410	-22.3866	-22.5330	-22.5330	-22.2733	-22.1042
4/7/2012	12:00:00	-8.8933	-12.7206	-22.1363	-22.9104	-22.4678	-22.3866	-22.4353	-22.3866	-22.2410	-22.0801
4/8/2012	0:00:00	-22.9104	-23.0180	-22.0801	-22.1042	-22.4029	-22.4678	-22.4353	-22.3623	-22.0480	-21.8962
4/8/2012	12:00:00	-16.1196	-17.8688	-22.5901	-22.7621	-22.4029	-22.3623	-22.3623	-22.2733	-21.9520	-21.7927
4/9/2012	0:00:00	-24.1434	-24.1693	-22.3623	-22.1766	-22.3866	-22.3866	-22.3380	-22.2088	-21.8802	-21.7054
4/9/2012	12:00:00	-9.0745	-12.7206	-21.9201	-22.8609	-22.4353	-22.3057	-22.2733	-22.1363	-21.8962	-21.7292
4/10/2012	0:00:00	-21.7927	-22.0160	-21.7689	-22.0801	-22.3623	-22.3623	-22.2733	-22.1363	-21.7689	-21.6263
4/10/2012	12:00:00	-19.1185	-19.8252	-22.1363	-22.3866	-22.2410	-22.2088	-22.1766	-22.0480	-21.7054	-21.5869
4/11/2012	0:00:00	-22.6555	-22.8280	-21.7689	-21.7689	-22.0801	-22.1524	-22.1363	-21.9840	-21.6738	-21.5632
4/11/2012	12:00:00	-17.3265	-18.5986	-22.0480	-22.3623	-22.1042	-22.0480	-22.0480	-21.8962	-21.6263	-21.4688
4/12/2012	0:00:00	-19.5214	-19.8549	-20.7622	-21.6263	-21.9840	-22.0480	-22.0160	-21.8802	-21.6263	-21.4374
4/12/2012	12:00:00	-9.0462	-11.4244	-19.2352	-21.5632	-21.7689	-21.8802	-21.8962	-21.7689	-21.5869	-21.3825
4/13/2012	0:00:00	-15.8208	-16.2197	-18.1786	-20.1469	-21.3433	-21.7292	-21.8245	-21.7054	-21.5002	-21.3433
4/13/2012	12:00:00	-11.3353	-13.0892	-18.5199	-20.1168	-20.8698	-21.5002	-21.6738	-21.6263	-21.4060	-21.2574
4/14/2012	0:00:00	-19.5214	-19.6100	-18.7350	-19.3523	-20.4796	-21.2574	-21.5317	-21.5632	-21.3433	-21.1950
4/14/2012	12:00:00	-9.8285	-12.1674	-18.8648	-20.0643	-20.3961	-20.9701	-21.3433	-21.4060	-21.2808	-21.1328
4/15/2012	0:00:00	-19.4257	-19.4993	-18.4556	-19.1477	-20.1845	-20.8467	-21.1639	-21.2808	-21.1173	-21.0088
4/15/2012	12:00:00	-8.0350	-10.5703	-18.4057	-19.8549	-20.1619	-20.7009	-21.0630	-21.1639	-21.0630	-20.9701
4/16/2012	0:00:00	-17.7918	-18.2565	-17.6314	-18.6273	-19.8028	-20.5176	-20.8467	-21.0088	-20.8852	-20.8467
4/16/2012	12:00:00	-8.3253	-10.8220	-17.3886	-19.1987	-19.7434	-20.3961	-20.7929	-20.9469	-20.8698	-20.8237
4/17/2012	0:00:00	-19.2133	-19.2937	-17.6592	-18.1998	-19.4037	-20.1845	-20.6320	-20.7622	-20.6703	-20.6703
4/17/2012	12:00:00	-8.6452	-10.9395	-17.6105	-18.9443	-19.3523	-19.9445	-20.3961	-20.6320	-20.6320	-20.6320
4/18/2012	0:00:00	-17.5202	-18.1221	-16.7586	-17.8338	-19.0604	-19.8848	-20.2750	-20.5176	-20.4568	-20.4796
4/18/2012	12:00:00	-5.3478	-8.5327	-16.7858	-18.5413	-19.0313	-19.7137	-20.1619	-20.3961	-20.4264	-20.4264
4/19/2012	0:00:00	-15.8406	-16.3067	-16.1663	-17.4440	-18.7350	-19.6100	-20.0343	-20.2750	-20.2146	-20.2750
4/19/2012	12:00:00	-8.4654	-10.3373	-15.8208	-17.7918	-18.5986	-19.4257	-19.9221	-20.1845	-20.1845	-20.2448
4/20/2012	0:00:00	-14.0885	-14.3168	-15.1912	-16.6976	-18.1221	-19.1695	-19.7137	-20.0043	-20.0043	-20.0943
4/20/2012	12:00:00	-12.0407	-13.0892	-15.6887	-16.9423	-17.8478	-18.9154	-19.5583	-19.8549	-19.9071	-20.0043
4/21/2012	0:00:00	-18.6273	-18.4556	-16.5084	-16.6976	-17.7918	-18.7350	-19.4037	-19.7137	-19.8028	-19.9221
4/21/2012	12:00:00	-3.4936	-7.7074	-15.9002	-17.3541	-17.8478	-18.6560	-19.2352	-19.6692	-19.7434	-19.8549
4/22/2012	0:00:00	-19.4699	-19.2645	-16.7858	-16.6976	-17.6871	-18.5199	-19.1185	-19.4699	-19.5805	-19.6840
4/22/2012	12:00:00	-8.6621	-11.2879	-17.0859	-17.7429	-17.8478	-18.4842	-19.0023	-19.4037	-19.5583	-19.6692
4/23/2012	0:00:00	-17.3265	-17.5966	-16.3537	-16.8878	-17.7918	-18.4057	-18.8864	-19.2133	-19.4037	-19.5583
4/23/2012	12:00:00	-4.4445	-7.7517	-15.9002	-17.5479	-17.8478	-18.3702	-18.8648	-19.1987	-19.3230	-19.4405

DATE	TIME	ANALOG 1	ANALOG 2	ANALOG 3	ANALOG 4	ANALOG 5	ANALOG 6	ANALOG 7	ANALOG 8	ANALOG 9	ANALOG 10
Relative elevation to final ground surface (m)		0.3	0	-0.3	-0.6	-0.9	-1.2	-1.5	-1.8	-2.1	-2.4
(MM/DD/YY)	(HH:MM:SS)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)
4/24/2012	0:00:00	-17.9811	-17.7708	-16.1196	-16.5691	-17.6314	-18.2920	-18.7494	-19.0604	-19.1987	-19.3523
4/24/2012	12:00:00	-15.8208	-16.5421	-17.6314	-17.4994	-17.6105	-18.1786	-18.6847	-18.9805	-19.1185	-19.2645
4/25/2012	0:00:00	-20.5405	-19.8252	-17.8688	-17.3541	-17.7150	-18.1786	-18.5986	-18.8864	-18.9805	-19.1695
4/25/2012	12:00:00	-15.6097	-16.4814	-18.2920	-18.1998	-17.8969	-18.1786	-18.5413	-18.8070	-18.9154	-19.0894
4/26/2012	0:00:00	-19.1477	-18.9154	-17.7429	-17.6592	-17.9811	-18.2778	-18.5413	-18.7782	-18.8287	-19.0023
4/26/2012	12:00:00	-15.7415	-16.5421	-18.2778	-18.2778	-18.0515	-18.2565	-18.5199	-18.7350	-18.8070	-18.9660
4/27/2012	0:00:00	-18.8648	-18.7350	-17.8338	-17.7918	-18.0656	-18.3204	-18.5413	-18.7350	-18.7350	-18.8864
4/27/2012	12:00:00	-17.3886	-17.8969	-18.7350	-18.4057	-18.1433	-18.3204	-18.5199	-18.7062	-18.7350	-18.8648
4/28/2012	0:00:00	-19.0894	-18.8070	-17.9249	-17.9530	-18.1998	-18.4057	-18.5413	-18.7062	-18.7062	-18.8070
4/28/2012	12:00:00	-18.1433	-18.4842	-18.9443	-18.5056	-18.2565	-18.3488	-18.5413	-18.6847	-18.6847	-18.7494
4/29/2012	0:00:00	-17.5966	-17.5757	-17.6105	-18.0093	-18.2778	-18.4057	-18.5199	-18.6560	-18.6273	-18.7350
4/29/2012	12:00:00	-15.8208	-16.3805	-17.8338	-18.1433	-18.1786	-18.3702	-18.5199	-18.6560	-18.6273	-18.7350
4/30/2012	0:00:00	-16.8606	-16.9423	-17.0585	-17.5966	-18.0304	-18.3204	-18.5056	-18.5986	-18.5986	-18.6847
4/30/2012	12:00:00	-12.8186	-13.7360	-16.7586	-17.8338	-17.9530	-18.2565	-18.4842	-18.5986	-18.5199	-18.5986
5/1/2012	0:00:00	-17.2989	-17.3265	-16.3805	-16.8606	-17.7150	-18.1433	-18.4057	-18.5413	-18.5199	-18.5986
5/1/2012	12:00:00	-12.4583	-13.5609	-16.4343	-17.2989	-17.5966	-17.9811	-18.3204	-18.4842	-18.4842	-18.5700
5/2/2012	0:00:00	-17.0585	-16.9765	-15.6690	-16.2197	-17.2782	-17.8688	-18.2282	-18.4271	-18.4271	-18.5199
5/2/2012	12:00:00	-12.1915	-13.4176	-16.1997	-16.9423	-17.1957	-17.7708	-18.0938	-18.3204	-18.3488	-18.4271
5/3/2012	0:00:00	-14.8223	-14.8223	-14.5783	-15.7415	-16.9423	-17.6871	-18.0304	-18.2565	-18.2920	-18.4271
5/3/2012	12:00:00	-7.7850	-9.0462	-13.6046	-15.7943	-16.6976	-17.4647	-17.9811	-18.2565	-18.3204	-18.4271
5/4/2012	0:00:00	-8.4654	-8.9782	-11.2168	-14.0632	-16.0796	-17.2782	-17.8338	-18.1433	-18.2565	-18.3702
5/4/2012	12:00:00	-1.5226	-3.6453	-10.1517	-13.4861	-15.4261	-16.8878	-17.6105	-18.0304	-18.1786	-18.2920
5/5/2012	0:00:00	-6.5389	-7.2220	-9.0462	-12.0949	-14.7001	-16.5084	-17.3748	-17.8478	-18.0515	-18.2565
5/5/2012	12:00:00	-0.2728	-2.4595	-8.9160	-11.9504	-14.0885	-15.9798	-17.0311	-17.6105	-17.9530	-18.1433
5/6/2012	0:00:00	-7.6852	-7.8404	-8.6227	-11.0514	-13.6046	-15.6295	-16.7586	-17.4163	-17.7918	-18.0515
5/6/2012	12:00:00	-4.4656	-5.8304	-9.4787	-11.4244	-13.2686	-15.2368	-16.4814	-17.1957	-17.6105	-17.8969
5/7/2012	0:00:00	-14.1391	-13.6671	-10.7985	-11.1281	-13.0091	-14.9061	-16.1462	-16.9423	-17.4163	-17.7918
5/7/2012	12:00:00	-12.1432	-12.7206	-13.0214	-12.6717	-13.2438	-14.7001	-15.9267	-16.7315	-17.2232	-17.6314
5/8/2012	0:00:00	-15.4261	-14.7772	-12.9722	-12.6961	-13.5796	-14.7322	-15.7679	-16.5691	-17.0859	-17.5202
5/8/2012	12:00:00	-9.6390	-10.6989	-13.2686	-13.7611	-13.9812	-14.8352	-15.7151	-16.4814	-16.9560	-17.3886
5/9/2012	0:00:00	-10.6813	-10.5703	-11.3531	-12.8186	-13.9371	-14.8352	-15.6295	-16.2732	-16.8606	-17.2782
5/9/2012	12:00:00	-7.3540	-8.1019	-11.2405	-12.8309	-13.8364	-14.8610	-15.6558	-16.3067	-16.7315	-17.1545
5/10/2012	0:00:00	-11.4006	-10.8866	-10.5236	-11.8063	-13.4176	-14.6809	-15.5309	-16.1462	-16.6502	-17.0859
5/10/2012	12:00:00	-9.0235	-9.6849	-11.6329	-12.4340	-13.3616	-14.5783	-15.4784	-16.1196	-16.5691	-16.9765
5/11/2012	0:00:00	-9.1654	-9.2563	-10.3373	-11.8543	-13.2190	-14.4760	-15.3541	-16.0263	-16.4814	-16.9150
5/11/2012	12:00:00	-4.6773	-5.5565	-9.4159	-11.6150	-13.0091	-14.3358	-15.2368	-15.9002	-16.3537	-16.7858
5/12/2012	0:00:00	-4.8683	-5.4815	-8.1911	-10.7985	-12.6717	-14.1391	-15.0873	-15.7679	-16.2732	-16.6976
5/12/2012	12:00:00	4.9020	1.7716	-6.9205	-10.5119	-12.3793	-13.9623	-14.9578	-15.6690	-16.1997	-16.6231
5/13/2012	0:00:00	-4.4023	-4.9533	-6.5226	-9.4045	-11.9023	-13.6859	-14.8223	-15.5572	-16.0796	-16.5218
5/13/2012	12:00:00	-1.0008	-2.8064	-7.6410	-9.9379	-11.6568	-13.4176	-14.6167	-15.3999	-15.9798	-16.4343
5/14/2012	0:00:00	-6.0514	-6.2135	-7.0245	-9.2222	-11.4244	-13.2190	-14.4186	-15.2368	-15.8406	-16.3268
5/14/2012	12:00:00	-3.7081	-4.9108	-8.3981	-9.9206	-11.3353	-13.0461	-14.2659	-15.1133	-15.7151	-16.2465
5/15/2012	0:00:00	-4.8683	-5.4173	-7.3100	-9.4616	-11.2879	-12.9230	-14.0885	-14.9578	-15.6097	-16.1196
5/15/2012	12:00:00	6.1048	2.7341	-5.9812	-9.4045	-11.1931	-12.8186	-14.0064	-14.8352	-15.4784	-15.9997
5/16/2012	0:00:00	0.4011	-0.7968	-4.3442	-8.2805	-10.8220	-12.6472	-13.8615	-14.7322	-15.3541	-15.9002
5/16/2012	12:00:00	6.9243	3.7540	-4.1018	-7.9238	-10.4013	-12.4218	-13.7172	-14.6167	-15.2368	-15.7943
5/17/2012	0:00:00	-2.6250	-2.8998	-4.3178	-7.3540	-10.0129	-12.1915	-13.5609	-14.4760	-15.1652	-15.6887
5/17/2012	12:00:00	1.7565	0.2241	-4.5291	-7.4146	-9.7480	-11.9204	-13.3368	-14.3358	-15.0290	-15.6097
5/18/2012	0:00:00	-1.7381	-2.1291	-3.7710	-6.8659	-9.4616	-11.6687	-13.1386	-14.1391	-14.8868	-15.5047
5/18/2012	12:00:00	6.8493	3.4093	-4.0019	-6.9424	-9.2563	-11.4660	-12.9476	-14.0064	-14.7772	-15.3737
5/19/2012	0:00:00	-0.0191	-0.5320	-2.8427	-6.3489	-9.0235	-11.2760	-12.7879	-13.8364	-14.6552	-15.2758
5/19/2012	12:00:00	8.9413	5.0916	-3.3266	-6.5008	-8.8030	-11.0691	-12.5984	-13.6671	-14.4760	-15.1392
5/20/2012	0:00:00	-3.1442	-3.3370	-3.5877	-6.1324	-8.6846	-10.8983	-12.4218	-13.5609	-14.3613	-15.0290
5/20/2012	12:00:00	-1.2308	-2.4957	-5.3585	-6.8877	-8.6621	-10.7516	-12.2884	-13.4051	-14.2151	-14.9061
5/21/2012	0:00:00	-3.5250	-3.8969	-4.1755	-6.4140	-8.6621	-10.6813	-12.1432	-13.2438	-14.0885	-14.8030
5/21/2012	12:00:00	5.7703	2.8492	-4.4815	-7.0081	-8.6846	-10.5703	-12.0407	-13.1386	-14.0064	-14.6809
5/22/2012	0:00:00	-0.2068	-0.9243	-3.2901	-6.3109	-8.6002	-10.5236	-11.9504	-13.0091	-13.8615	-14.5783
5/22/2012	12:00:00	2.6540	1.4147	-3.0869	-6.0676	-8.3365	-10.4245	-11.8423	-12.8984	-13.7611	-14.4505
5/23/2012	0:00:00	-4.2756	-4.1650	-3.8759	-5.8681	-8.1521	-10.2850	-11.7106	-12.8186	-13.6421	-14.3868
5/23/2012	12:00:00	1.2084	-0.2068	-4.2756	-6.3109	-8.1019	-10.1401	-11.5911	-12.6717	-13.5609	-14.2405
5/24/2012	0:00:00	-3.8286	-3.7919	-4.0860	-5.9812	-8.0629	-10.0765	-11.4958	-12.5984	-13.4362	-14.1834
5/24/2012	12:00:00	6.1997	3.3093	-3.5459	-6.1919	-7.9960	-9.9552	-11.3828	-12.4583	-13.3368	-14.0380
5/25/2012	0:00:00	-3.1910	-3.0037	-3.4936	-5.7498	-7.9015	-9.8976	-11.2879	-12.4036	-13.2438	-14.0064
5/25/2012	12:00:00	0.7244	-0.2982	-3.7919	-5.8789	-7.7683	-9.7767	-11.1931	-12.2884	-13.1634	-13.8615
5/26/2012	0:00:00	-0.8172	-1.2717	-2.9206	-5.4815	-7.6410	-9.6390	-11.0691	-12.1432	-13.0461	-13.7862
5/26/2012	12:00:00	7.7253	5.1515	-2.4595	-5.4815	-7.5470	-9.5703	-10.9866	-12.0527	-12.9476	-13.6671
5/27/2012	0:00:00	0.7699	0.4214	-1.6201	-4.9533	-7.3540	-9.4159	-10.8866	-11.9684	-12.8493	-13.6171
5/27/2012	12:00:00	3.8739	2.5589	-1.7792	-4.7356	-7.1122	-9.2962	-10.7751	-11.8543	-12.7879	-13.5110
5/28/2012	0:00:00	1.4147	0.9666	-1.4304	-4.4815	-6.9096	-9.1199	-10.6346	-11.7584	-12.6717	-13.4362
5/28/2012	12:00:00	4.1684	3.0093	-1.3433	-4.2967	-6.7131	-8.9612	-10.5119	-11.6568	-12.5740	-13.3368
5/29/2012	0:00:00	-0.4557	-0.1611	-1.2717	-4.0860	-6.5226	-8.8030	-10.3780	-11.5434	-12.4583	-13.2438
5/29/2012	12:00:00	3.4892	2.3735	-1.3433	-3.9756	-6.3489	-8.6621	-10.2444	-11.4244	-12.3550	-13.1634
5/30/2012	0:00:00	0.8254	0.7043	-1.0825	-3.7710	-6.1540	-8.4654	-10.0765	-11.2760	-12.2399	-13.0461

DATE	TIME	ANALOG 1	ANALOG 2	ANALOG 3	ANALOG 4	ANALOG 5	ANALOG 6	ANALOG 7	ANALOG 8	ANALOG 9	ANALOG 10
Relative elevation to final ground surface (m)		0.3	0	-0.3	-0.6	-0.9	-1.2	-1.5	-1.8	-2.1	-2.4
(MM/DD/YY)	(HH:MM:SS)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)
5/30/2012	12:00:00	4.3930	3.0193	-1.0468	-3.6453	-5.9812	-8.3253	-9.9379	-11.1931	-12.1432	-12.9476
5/31/2012	0:00:00	2.7341	1.8519	-0.6389	-3.4570	-5.8304	-8.1409	-9.7767	-11.0514	-12.0407	-12.8309
5/31/2012	12:00:00	3.0193	2.3485	-0.7407	-3.3109	-5.6638	-7.9627	-9.6161	-10.8983	-11.9023	-12.7451
6/1/2012	0:00:00	1.0270	0.7901	-0.7000	-3.1598	-5.4815	-7.7961	-9.4616	-10.7516	-11.7824	-12.6289
6/1/2012	12:00:00	5.4309	4.2083	-0.5117	-3.0869	-5.3478	-7.6410	-9.3418	-10.6346	-11.6568	-12.5313
6/2/2012	0:00:00	1.5103	1.1681	-0.5117	-2.9414	-5.1770	-7.4863	-9.1654	-10.4886	-11.5434	-12.4218
6/2/2012	12:00:00	4.3331	3.4892	-0.3795	-2.8427	-5.0757	-7.3540	-9.0462	-10.3547	-11.4244	-12.3065
6/3/2012	0:00:00	1.7916	1.5907	-0.2169	-2.7235	-4.9533	-7.2385	-8.8933	-10.2154	-11.2879	-12.2097
6/3/2012	12:00:00	4.6326	3.8888	-0.0445	-2.6250	-4.8417	-7.0848	-8.7578	-10.1227	-11.2168	-12.0949
6/4/2012	0:00:00	2.6540	2.1279	0.0367	-2.4750	-4.6773	-6.9424	-8.6452	-9.9668	-11.0809	-11.9925
6/4/2012	12:00:00	8.7247	7.1894	0.8657	-2.3303	-4.5291	-6.8004	-8.4878	-9.8285	-10.9395	-11.8543
6/5/2012	0:00:00	3.1794	2.7742	0.6437	-2.1652	-4.4023	-6.6749	-8.3365	-9.7308	-10.8631	-11.7824
6/5/2012	12:00:00	7.4898	6.3495	1.3694	-2.0106	-4.2598	-6.5389	-8.2358	-9.5874	-10.7282	-11.6568
6/6/2012	0:00:00	4.7723	4.1285	1.8870	-1.7381	-4.1018	-6.3977	-8.0796	-9.4388	-10.6170	-11.5434
6/6/2012	12:00:00	10.8250	9.1731	2.6140	-1.5995	-3.9179	-6.2135	-7.9460	-9.3247	-10.5119	-11.4779
6/7/2012	0:00:00	7.4247	6.6643	3.3743	-1.2103	-3.7500	-6.0676	-7.7961	-9.2051	-10.3780	-11.3353
6/7/2012	12:00:00	10.6214	9.2135	3.1794	-1.1234	-3.5616	-5.9220	-7.6410	-9.0462	-10.2850	-11.2760
6/8/2012	0:00:00	6.9493	6.5344	3.9288	-0.7407	-3.3944	-5.7659	-7.5028	-8.9329	-10.1401	-11.1754
6/8/2012	12:00:00	13.4971	11.4991	4.5876	-0.6185	-3.2119	-5.6209	-7.3760	-8.8030	-10.0303	-11.0514
6/9/2012	0:00:00	10.8913	9.9565	5.8851	-0.1408	-3.0453	-5.4815	-7.2605	-8.6846	-9.9206	-10.9395
6/9/2012	12:00:00	5.0118	4.8421	2.8743	-0.2373	-2.8427	-5.2890	-7.0848	-8.5327	-9.7882	-10.8455
6/10/2012	0:00:00	2.4186	2.8743	2.7742	-0.1408	-2.7079	-5.1610	-6.9424	-8.3981	-9.6849	-10.7282
6/10/2012	12:00:00	9.2135	8.0664	3.3393	-0.2068	-2.6250	-5.0384	-6.8276	-8.2973	-9.5874	-10.6346
6/11/2012	0:00:00	2.2482	3.0193	3.6441	0.2241	-2.4750	-4.8523	-6.6532	-8.1409	-9.4616	-10.5236
6/11/2012	12:00:00	3.6291	3.3093	1.8117	-0.1205	-2.3561	-4.7356	-6.5389	-8.0183	-9.3247	-10.4013
6/12/2012	0:00:00	3.3393	3.5692	2.9543	0.1278	-2.2580	-4.6137	-6.3977	-7.9015	-9.2222	-10.3083
6/12/2012	12:00:00	9.6781	8.3878	3.5492	0.0214	-2.1961	-4.5291	-6.2839	-7.7961	-9.0745	-10.1749
6/13/2012	0:00:00	5.9500	5.8951	4.2932	0.5073	-2.1446	-4.4445	-6.1919	-7.6631	-9.0009	-10.0996
6/13/2012	12:00:00	15.5675	13.4606	5.8951	0.6033	-2.0261	-4.3336	-6.0676	-7.5691	-8.8594	-9.9668
6/14/2012	0:00:00	9.0975	8.6694	6.1048	1.3694	-1.9283	-4.2334	-5.9651	-7.4422	-8.7804	-9.8745
6/14/2012	12:00:00	16.3119	14.2923	6.8493	1.3091	-1.8203	-4.1439	-5.8681	-7.3540	-8.6846	-9.7767
6/15/2012	0:00:00	10.1187	9.8957	7.3046	2.2182	-1.6560	-4.0229	-5.7659	-7.2605	-8.5552	-9.6619
6/15/2012	12:00:00	11.3763	10.4791	6.2896	1.8318	-1.5124	-3.9179	-5.6638	-7.1561	-8.4878	-9.5874
6/16/2012	0:00:00	9.5720	9.0521	6.8393	2.4788	-1.3433	-3.8286	-5.5565	-7.0464	-8.3813	-9.4787
6/16/2012	12:00:00	10.0984	9.2589	5.8052	2.0075	-1.1899	-3.6871	-5.4815	-6.9424	-8.2805	-9.4045
6/17/2012	0:00:00	12.5169	11.4991	8.2070	3.1344	-1.0264	-3.5616	-5.3585	-6.8440	-8.1521	-9.2791
6/17/2012	12:00:00	12.2024	11.1872	6.8493	2.6991	-0.8682	-3.4727	-5.2463	-6.7403	-8.0629	-9.2051
6/18/2012	0:00:00	9.6175	9.3144	7.9259	3.7140	-0.6745	-3.3266	-5.1396	-6.6314	-7.9627	-9.1199
6/18/2012	12:00:00	8.3275	8.4431	6.7643	3.2743	-0.5320	-3.1910	-5.0171	-6.5606	-7.8849	-9.0462
6/19/2012	0:00:00	3.7340	4.0885	4.8072	3.0543	-0.4151	-3.0869	-4.9320	-6.4357	-7.7961	-8.9329
6/19/2012	12:00:00	6.4294	5.9300	3.9787	2.2081	-0.3795	-2.9778	-4.8205	-6.3489	-7.6852	-8.8425
6/20/2012	0:00:00	2.2482	2.6991	3.6441	2.2482	-0.3541	-2.8583	-4.7197	-6.2460	-7.6133	-8.7353
6/20/2012	12:00:00	11.5605	10.4232	5.1315	1.9322	-0.3541	-2.7649	-4.6137	-6.1540	-7.5304	-8.6846
6/21/2012	0:00:00	6.0249	6.2496	6.4444	3.1794	-0.2169	-2.7079	-4.5291	-6.0514	-7.4311	-8.6002
6/21/2012	12:00:00	7.0443	6.7643	5.0916	2.7341	-0.2068	-2.6406	-4.4656	-5.9651	-7.3320	-8.5046
6/22/2012	0:00:00	10.5807	10.0528	6.7843	3.0193	-0.1205	-2.5629	-4.3600	-5.8681	-7.2605	-8.4261
6/22/2012	12:00:00	9.5568	9.1529	6.3645	2.9893	-0.0445	-2.5060	-4.3178	-5.8089	-7.1781	-8.3253
6/23/2012	0:00:00	5.8951	6.3095	6.6643	3.8339	0.1278	-2.4595	-4.2334	-5.7498	-7.0958	-8.2582
6/23/2012	12:00:00	10.0376	9.3144	6.5344	3.3543	0.1633	-2.3974	-4.1650	-5.6799	-7.0245	-8.1688
6/24/2012	0:00:00	5.8651	6.2896	6.3295	3.8189	0.3050	-2.3148	-4.0860	-5.5780	-6.9205	-8.1019
6/24/2012	12:00:00	13.7109	12.2951	7.1244	3.4892	0.3809	-2.2322	-4.0229	-5.5297	-6.8877	-8.0350
6/25/2012	0:00:00	7.6301	8.2873	8.4733	4.8421	0.6134	-2.1652	-3.9599	-5.4601	-6.8276	-7.9627
6/25/2012	12:00:00	8.7751	8.3677	6.6943	4.1884	0.7699	-2.1085	-3.8759	-5.3745	-6.7294	-7.9015
6/26/2012	0:00:00	8.1066	8.1718	7.7504	4.6475	0.8859	-2.0106	-3.8286	-5.3104	-6.6749	-7.8182

DATE	TIME	ANALOG 1	ANALOG 2	ANALOG 3	ANALOG 4	ANALOG 5	ANALOG 6	ANALOG 7	ANALOG 8	ANALOG 9	ANALOG 10
Relative elevation to final ground surface (m)		0.3	0	-0.3	-0.6	-0.9	-1.2	-1.5	-1.8	-2.1	-2.4
(MM/DD/YY)	(HH:MM:SS)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)
6/26/2012	12:00:00	14.3974	13.3097	8.4883	4.5078	0.9867	-1.9437	-3.7500	-5.2463	-6.5878	-7.7683
6/27/2012	0:00:00	9.6781	9.8400	9.3295	5.5657	1.2084	-1.8871	-3.7081	-5.2090	-6.5389	-7.6852
6/27/2012	12:00:00	10.3368	9.8147	7.6552	4.9319	1.3896	-1.8203	-3.6243	-5.1396	-6.4791	-7.6133
6/28/2012	0:00:00	6.3295	7.0043	7.5900	5.1515	1.4499	-1.7022	-3.5250	-5.0384	-6.3977	-7.5691
6/28/2012	12:00:00	8.1317	7.6101	6.0449	4.1884	1.4147	-1.6201	-3.4727	-4.9746	-6.3489	-7.4863
6/29/2012	0:00:00	6.5344	7.1244	7.1694	4.6126	1.3896	-1.5585	-3.4153	-4.9320	-6.2676	-7.4311
6/29/2012	12:00:00	9.4962	8.9110	6.5893	4.1534	1.4147	-1.5124	-3.3370	-4.8417	-6.2135	-7.3540
6/30/2012	0:00:00	7.7103	7.9911	7.4598	4.7473	1.4499	-1.4509	-3.2692	-4.7993	-6.1540	-7.2880
6/30/2012	12:00:00	13.6900	12.5995	8.1317	4.5278	1.5304	-1.4099	-3.2275	-4.7356	-6.0892	-7.2385
7/1/2012	0:00:00	7.7103	8.0664	7.8056	5.1166	1.6862	-1.3433	-3.1702	-4.6773	-6.0244	-7.1781
7/1/2012	12:00:00	11.4991	10.7843	7.9109	4.7872	1.7364	-1.3075	-3.1442	-4.6137	-5.9651	-7.1122
7/2/2012	0:00:00	7.2645	7.8156	7.8858	5.2912	1.8720	-1.2461	-3.0609	-4.5714	-5.8789	-7.0464
7/2/2012	12:00:00	10.5401	9.9362	7.4898	4.8072	1.8971	-1.1796	-3.0037	-4.5026	-5.8520	-6.9807
7/3/2012	0:00:00	6.8243	7.3296	7.5900	5.2463	1.9523	-1.1439	-2.9622	-4.4656	-5.7928	-6.9205
7/3/2012	12:00:00	11.3763	10.5807	7.5499	4.7274	1.9523	-1.1081	-2.9206	-4.4023	-5.7283	-6.8877
7/4/2012	0:00:00	8.1317	8.4079	7.8507	5.2563	2.0276	-1.0468	-2.8583	-4.3442	-5.6960	-6.8276
7/4/2012	12:00:00	12.2178	11.3763	8.0865	4.9319	2.0577	-1.0162	-2.8324	-4.3178	-5.6209	-6.7622
7/5/2012	0:00:00	9.3144	9.5568	8.7751	5.6904	2.1881	-0.9855	-2.7857	-4.2598	-5.5565	-6.7131
7/5/2012	12:00:00	12.6926	11.8631	8.4883	5.3311	2.3284	-0.9243	-2.7235	-4.2176	-5.5297	-6.6532
7/6/2012	0:00:00	11.0698	10.8913	9.2589	5.9899	2.4186	-0.8835	-2.7079	-4.1755	-5.4976	-6.5878
7/6/2012	12:00:00	11.7656	11.1259	8.6141	5.6705	2.5589	-0.8376	-2.6406	-4.1229	-5.4173	-6.5606
7/7/2012	0:00:00	7.1444	7.7103	8.2321	5.9500	2.6140	-0.7968	-2.6043	-4.0860	-5.3745	-6.5226
7/7/2012	12:00:00	9.1328	8.6291	7.1044	5.2313	2.5939	-0.7204	-2.5422	-4.0229	-5.3318	-6.4574
7/8/2012	0:00:00	8.0463	8.2321	7.7253	5.5108	2.5138	-0.6898	-2.4957	-3.9756	-5.2890	-6.3977
7/8/2012	12:00:00	12.0532	11.2689	8.0664	5.1515	2.4938	-0.6592	-2.4750	-3.9179	-5.2463	-6.3706
7/9/2012	0:00:00	7.0293	7.6301	8.0463	5.7104	2.5589	-0.6185	-2.4181	-3.8759	-5.1770	-6.3109
7/9/2012	12:00:00	10.0376	9.4962	7.4898	5.1714	2.6140	-0.5778	-2.3768	-3.8286	-5.1610	-6.2460
7/10/2012	0:00:00	9.5821	9.5164	8.5688	5.7703	2.6340	-0.5574	-2.3561	-3.8286	-5.1183	-6.2135
7/10/2012	12:00:00	13.8572	12.5995	8.6694	5.6305	2.7542	-0.5320	-2.3148	-3.7710	-5.0597	-6.1919
7/11/2012	0:00:00	10.7639	10.5401	9.0521	6.1248	2.8592	-0.5117	-2.2942	-3.7500	-5.0065	-6.1108
7/11/2012	12:00:00	11.8631	11.2331	8.5889	5.8052	2.9543	-0.4354	-2.2580	-3.7081	-4.9746	-6.0892
7/12/2012	0:00:00	6.1447	6.8493	7.8858	6.1048	3.0193	-0.3795	-2.1961	-3.6453	-4.9320	-6.0406
7/12/2012	12:00:00	12.6254	11.4172	7.8156	5.4858	2.9893	-0.3541	-2.1755	-3.6243	-4.8895	-6.0028
7/13/2012	0:00:00	9.7591	9.6175	8.7952	6.1048	3.0093	-0.3134	-2.1652	-3.5877	-4.8523	-5.9651
7/13/2012	12:00:00	16.9603	15.0944	9.2589	5.8302	3.0393	-0.2982	-2.1291	-3.5459	-4.8417	-5.9220
7/14/2012	0:00:00	11.2689	11.0034	9.7995	6.6293	3.1944	-0.2373	-2.0879	-3.5041	-4.7993	-5.8681
7/14/2012	12:00:00	16.3550	15.2217	10.2759	6.3895	3.3393	-0.2068	-2.0467	-3.4936	-4.7356	-5.8520
7/15/2012	0:00:00	9.0118	9.2589	9.3901	6.9643	3.5292	-0.1205	-2.0106	-3.4362	-4.6985	-5.8089
7/15/2012	12:00:00	17.8998	16.3765	10.4232	6.6043	3.6092	-0.0445	-1.9849	-3.3944	-4.6667	-5.7659
7/16/2012	0:00:00	16.6354	15.6528	12.4395	7.8156	3.8089	0.0012	-1.9437	-3.3735	-4.6508	-5.7283
7/16/2012	12:00:00	16.7490	15.7222	11.3098	7.5900	4.0885	0.1177	-1.9283	-3.3370	-4.6137	-5.6960
7/17/2012	0:00:00	11.8066	12.0223	11.7809	8.4531	4.3132	0.1836	-1.8666	-3.2901	-4.5502	-5.6424
7/17/2012	12:00:00	20.0001	18.1918	11.8220	7.8507	4.5078	0.3202	-1.8357	-3.2536	-4.5291	-5.5994
7/18/2012	0:00:00	13.0447	13.3461	12.2951	8.6694	4.6126	0.3809	-1.8357	-3.2536	-4.5026	-5.5565
7/18/2012	12:00:00	15.7222	14.5870	10.6621	7.9109	4.7274	0.5073	-1.7792	-3.1910	-4.4815	-5.5405
7/19/2012	0:00:00	7.7855	8.5084	10.0173	8.1718	4.7274	0.6033	-1.7227	-3.1598	-4.4234	-5.5297
7/19/2012	12:00:00	11.7091	10.7283	8.7449	7.2645	4.6126	0.6285	-1.6816	-3.1234	-4.3811	-5.4815
7/20/2012	0:00:00	8.7650	8.9413	8.9916	7.3646	4.4579	0.6639	-1.6560	-3.1026	-4.3442	-5.4601
7/20/2012	12:00:00	12.8530	12.0943	9.0874	6.7093	4.2932	0.7043	-1.6201	-3.0609	-4.3178	-5.3959
7/21/2012	0:00:00	8.7449	9.0975	9.0975	7.1444	4.2083	0.6841	-1.5790	-3.0037	-4.2967	-5.3585
7/21/2012	12:00:00	8.7751	8.9312	8.2974	6.6293	4.1684	0.7244	-1.5380	-2.9933	-4.2598	-5.3478
7/22/2012	0:00:00	7.1444	7.3847	8.5688	6.8393	4.1085	0.7446	-1.5124	-2.9622	-4.1966	-5.2890
7/22/2012	12:00:00	6.2096	6.2346	6.3295	5.8951	3.9787	0.7446	-1.4867	-2.9206	-4.1755	-5.2730
7/23/2012	0:00:00	9.9058	9.6377	7.9460	5.9101	3.7140	0.7043	-1.4509	-2.8791	-4.1650	-5.2303
7/23/2012	12:00:00	7.2845	7.1694	6.3495	5.2762	3.5292	0.6639	-1.4304	-2.8583	-4.1229	-5.1876
7/24/2012	0:00:00	7.8306	7.8156	6.8493	5.2463	3.3393	0.6437	-1.4099	-2.8324	-4.0860	-5.1770
7/24/2012	12:00:00	7.7855	7.7654	6.4444	4.9020	3.1694	0.6033	-1.3689	-2.8064	-4.0597	-5.1610
7/25/2012	0:00:00	4.7723	5.3311	6.0698	4.9319	3.0944	0.6033	-1.3536	-2.7649	-4.0229	-5.1183
7/25/2012	12:00:00	6.3745	6.1997	4.9319	4.1884	2.9143	0.5629	-1.3536	-2.7494	-3.9914	-5.0757
7/26/2012	0:00:00	6.3295	6.4294	5.8452	4.3681	2.7191	0.4871	-1.3280	-2.7235	-3.9756	-5.0384
7/26/2012	12:00:00	8.8909	8.5084	5.9650	4.1684	2.6540	0.4466	-1.3280	-2.7079	-3.9389	-5.0171
7/27/2012	0:00:00	7.0143	7.0643	6.2346	4.5278	2.6891	0.4466	-1.3280	-2.6872	-3.9179	-4.9905
7/27/2012	12:00:00	7.1694	6.8893	5.2114	4.1534	2.6991	0.4466	-1.3075	-2.6561	-3.8759	-4.9746
7/28/2012	0:00:00	5.0118	5.5457	6.1997	4.7074	2.7191	0.4466	-1.2870	-2.6406	-3.8549	-4.9320
7/28/2012	12:00:00	12.1098	11.0545	6.3495	4.2932	2.7341	0.4466	-1.2717	-2.6250	-3.8286	-4.8895
7/29/2012	0:00:00	12.6254	11.8733	8.9312	5.4708	2.8592	0.4466	-1.2870	-2.6250	-3.8286	-4.8523
7/29/2012	12:00:00	16.0487	14.4816	8.7952	5.4060	3.1544	0.5477	-1.2461	-2.5836	-3.8077	-4.8417
7/30/2012	0:00:00	7.3847	7.9259	8.7247	6.4844	3.4693	0.6134	-1.2461	-2.5629	-3.7710	-4.8205
7/30/2012	12:00:00	7.4247	7.2645	6.8493	5.7254	3.6541	0.7446	-1.2308	-2.5422	-3.7500	-4.7993
7/31/2012	0:00:00	6.0449	6.3095	7.0043	5.8302	3.6291	0.7598	-1.2308	-2.5422	-3.7081	-4.7356

DATE	TIME	ANALOG 1	ANALOG 2	ANALOG 3	ANALOG 4	ANALOG 5	ANALOG 6	ANALOG 7	ANALOG 8	ANALOG 9	ANALOG 10
Relative elevation to final ground surface (m)		0.3	0	-0.3	-0.6	-0.9	-1.2	-1.5	-1.8	-2.1	-2.4
(MM/DD/YY)	(HH:MM:SS)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)	(deg. C)
7/31/2012	12:00:00	13.7266	12.1715	7.4397	5.2313	3.4992	0.7699	-1.2103	-2.5215	-3.7081	-4.7356
8/1/2012	0:00:00	10.2455	9.7591	8.8909	6.2496	3.5692	0.7699	-1.1796	-2.5060	-3.6610	-4.6985
8/1/2012	12:00:00	12.8374	11.8887	8.4079	5.8452	3.6791	0.8052	-1.1796	-2.4957	-3.6610	-4.6773
8/2/2012	0:00:00	11.9863	11.4581	9.9362	6.8393	3.8539	0.8657	-1.1796	-2.4957	-3.6453	-4.6508
8/2/2012	12:00:00	12.9981	12.1355	8.9916	6.4094	4.0137	0.9313	-1.1643	-2.4750	-3.6243	-4.6349
8/3/2012	0:00:00	11.4172	11.1667	10.3368	7.3646	4.2083	1.0270	-1.1439	-2.4595	-3.5877	-4.6137
8/3/2012	12:00:00	12.6926	11.9247	9.2589	6.8693	4.3930	1.1127	-1.1234	-2.4388	-3.5616	-4.5714
8/4/2012	0:00:00	7.8507	8.2070	8.9413	7.1694	4.4479	1.1681	-1.0825	-2.4181	-3.5459	-4.5502
8/4/2012	12:00:00	10.5553	10.1389	8.1517	6.5244	4.4080	1.2285	-1.0672	-2.3768	-3.5250	-4.5291
8/5/2012	0:00:00	8.7751	8.9413	8.3124	6.5893	4.2932	1.2487	-1.0264	-2.3561	-3.4936	-4.5132
8/5/2012	12:00:00	10.0629	9.7793	7.8507	6.1847	4.1884	1.2587	-1.0008	-2.3406	-3.4936	-4.5026
8/6/2012	0:00:00	6.1048	6.5893	7.3446	6.2346	4.0885	1.2084	-1.0008	-2.3303	-3.4936	-4.5026
8/6/2012	12:00:00	9.6175	9.3295	7.4598	5.7503	3.9787	1.2084	-0.9855	-2.3148	-3.4570	-4.4656
8/7/2012	0:00:00	5.9500	6.3645	6.7643	5.8052	3.8888	1.1933	-0.9447	-2.2735	-3.4362	-4.4445
8/7/2012	12:00:00	7.7654	7.6301	6.6293	5.4060	3.7540	1.1530	-0.9243	-2.2580	-3.4153	-4.4234
8/8/2012	0:00:00	7.9259	7.7253	6.8693	5.4509	3.6441	1.1328	-0.9039	-2.2322	-3.3735	-4.3811
8/8/2012	12:00:00	9.9362	9.0521	6.3095	4.9968	3.5142	1.0925	-0.8835	-2.2322	-3.3526	-4.3600
8/9/2012	0:00:00	6.8693	6.9493	6.6943	5.2563	3.4343	1.0825	-0.8682	-2.1961	-3.3370	-4.3442
8/9/2012	12:00:00	6.4694	6.2496	5.5457	4.8072	3.3543	1.0623	-0.8682	-2.1755	-3.3266	-4.3336
8/10/2012	0:00:00	7.4598	7.4598	6.5344	4.9319	3.2494	1.0270	-0.8580	-2.1652	-3.3109	-4.3178
8/10/2012	12:00:00	8.9413	8.6694	6.5044	4.7872	3.2144	1.0018	-0.8376	-2.1446	-3.2901	-4.2967
8/11/2012	0:00:00	3.8739	4.1534	5.1714	4.7872	3.1794	0.9666	-0.8580	-2.1652	-3.2692	-4.2598
8/11/2012	12:00:00	3.3743	3.4343	3.5892	3.8539	3.0193	0.9867	-0.8376	-2.1291	-3.2275	-4.2334
8/12/2012	0:00:00	1.4147	1.8117	3.0744	3.4093	2.6540	0.8455	-0.8580	-2.1446	-3.2275	-4.2334
8/12/2012	12:00:00	1.7364	1.8318	2.1128	2.6991	2.3284	0.7699	-0.8376	-2.0879	-3.1910	-4.1966
8/13/2012	0:00:00	0.6841	1.0422	2.0577	2.4788	1.9924	0.6285	-0.8376	-2.0879	-3.1910	-4.1755
8/13/2012	12:00:00	2.2182	2.0727	1.7264	1.8971	1.6862	0.4871	-0.8376	-2.0673	-3.1702	-4.1650
8/14/2012	0:00:00	-0.7815	-0.3337	0.9464	1.7063	1.4348	0.4011	-0.8376	-2.0467	-3.1598	-4.1650
8/14/2012	12:00:00	0.3050	0.4011	0.5073	1.1127	1.1530	0.2797	-0.8580	-2.0467	-3.1598	-4.1439
8/15/2012	0:00:00	-0.1205	0.1177	0.6285	0.9666	0.8657	0.1278	-0.8580	-2.0467	-3.1598	-4.1229
8/15/2012	12:00:00	0.8859	0.8052	0.4871	0.7043	0.7043	0.0772	-0.8682	-2.0261	-3.1234	-4.1018
8/16/2012	0:00:00	1.3292	1.4047	1.4147	0.9666	0.5831	-0.0343	-0.9039	-2.0467	-3.1026	-4.0597
8/16/2012	12:00:00	3.3093	2.9293	1.4901	0.8657	0.5831	-0.0597	-0.9039	-2.0261	-3.1026	-4.0597
8/17/2012	0:00:00	2.0928	2.1279	2.2683	1.4901	0.7043	-0.0445	-0.9039	-2.0261	-3.0869	-4.0439
8/17/2012	12:00:00	4.1534	3.8189	2.2683	1.3896	0.8052	-0.0343	-0.9447	-2.0261	-3.0869	-4.0229
8/18/2012	0:00:00	3.1344	3.1694	2.6540	1.7264	0.9061	-0.0191	-0.9447	-2.0261	-3.0609	-4.0019
8/18/2012	12:00:00	8.0263	7.0293	3.6791	1.8519	1.0018	0.0012	-0.9651	-2.0261	-3.0609	-3.9914
8/19/2012	0:00:00	5.2463	5.2762	4.7274	2.9143	1.2889	0.0620	-0.9447	-2.0106	-3.0453	-3.9756
8/19/2012	12:00:00	5.8452	5.5457	4.0137	2.7942	1.5656	0.1177	-0.9855	-2.0261	-3.0453	-3.9756
8/20/2012	0:00:00	2.7542	3.2344	3.8089	3.0944	1.7264	0.1430	-1.0008	-2.0261	-3.0245	-3.9599
8/20/2012	12:00:00	6.3495	5.6305	3.6092	2.5939	1.7264	0.1987	-1.0008	-2.0261	-3.0245	-3.9389

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