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Peregrine Diamonds Ltd.

2009 BASELINE ENVIRONMENTAL PROGRAM CHIDLIAK PROJECT, SOUTH BAFFIN ISLAND, NUNAVUT

November 2009
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CHIDLIAK PROJECT, SOUTH BAFFIN ISLAND, NUNAVUT

Y22101098

November 2009

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We must thank Mr. Daniel Akpalialuk from Pangnirtung for his assistance conducting the 2009 baseline environmental studies. His friendly and knowledgeable conversations while in the field were greatly appreciated.

EXECUTIVE SUMMARY

Peregrine Diamonds Ltd. (Peregrine) retained EBA Engineering Consultants Ltd. (EBA) to carry out the 2009 Baseline Environmental Program at the Chidliak Project site, Baffin Island, Nunavut. The Chidliak Project site is situated on Hall Peninsula, southeast Baffin Island and is approximately 75 kilometres (km) east of Iqaluit. The 2009 baseline environmental study area covers an area approximately 1,600 square kilometres (km^2) and is roughly centered on Peregrine's 2009 development sites.

The objective of the field program was to establish baseline environmental conditions within the study area, and map key or sensitive environmental areas to avoid or minimize environmental effects. Baseline water quality, stream flow, wildlife habitat, breeding birds, waterfowl, raptors, caribou, and carnivores (including species at risk) were the primary focus of the 2009 program.

Baseline water quality sampling, stream flow measurements, breeding bird, waterfowl/waterbird, raptor, caribou, and carnivore surveys were carried out between June 30 to July 2 and August 29 to 30, 2009. During the first field event, snow conditions across the study area averaged approximately 75 per cent (%) coverage, with large valleys and some ridge tops open. By the August field event, site conditions were generally overcast with scattered rain and snow showers with patches of fog.

A total of five water quality stations were sampled during the June/July sampling event, and seven water quality stations were sampled in August for routines, nutrients, total metals, total organic carbon, and oil and grease. In general, the water quality within the study area is pristine, and represents natural background conditions. The June/July and August water quality results indicated that the majority of analytes sampled were at/or below laboratory detection limits, and all parameters were within the Canadian Council of Ministers of the Environment (CCME) Freshwater Aquatic Life (FAL) guidelines at all water quality stations, except pH and aluminum.

Preliminary stream flow was measured at two locations downstream of kimberlite pipes CH-1 and CH-2 during the June/July sampling event (hydrology stations Hydro1 and Hydro2), and at a single location (Hydro9) downstream of the Hydro1 and Hydro2 confluence during the August sampling event. In June/July, stream flow was measured at 0.344 cubic metres per second (m^3/s) and 0.485 m^3/s at hydrology stations Hydro1 and Hydro2, respectively. Both of these streams were characterized by cobble bottom substrates and gently sloping to relatively flat stream banks. By August, Hydro1 and Hydro2 stream channels were dry; however, stream flow at Hydro9 was 0.088 m^3/s. The stream channel at Hydro9 was described as bouldery and gently sloping to almost flat near the shorelines.

Wildlife habitat surrounding the camps and CH-1 and CH-2 do not support high wildlife densities, and no sensitive wildlife habitats were delineated during the field events. "Bare Soil with Cryptogam

Crust" habitat dominates much of the area surrounding the camps and CH-1 and CH-2. This habitat type was characterized by unconsolidated barren surfaces (*i.e.* boulders and cobbles) with 10% or less vegetation cover. Small discrete patches of "Moist to Dry Non-Tussock Graminoid /Dwarf Shrub Tundra" habitat were also present in the study area, particularly in drainage areas and along streams. This habitat included 50-70% vegetation cover.

A total of 16 breeding bird point-count stations were completed during the June/July survey event. A total of 16 Snow Buntings, the only species observed on station, were recorded. An additional 17 Snow Buntings were recorded as incidentals. The relative density of Snow Bunting territories was 0.83 territories per point-count station. Baird's Sandpiper, Semipalmated Sandpiper, Horned Lark, and Rock Ptarmigan were also documented as incidentals. No sensitive breeding bird habitats were identified in 2009 near the exploration or camp sites during the breeding bird survey.

Six species of waterfowl and waterbirds were documented within the study area during the 2009 survey events. Evidence of breeding within the study area was detected for one species: Red-throated Loon. Waterfowl and waterbirds occupied lakes, small ponds, and the McKeand River and its larger tributaries (and the adjacent uplands) in low densities. Based on our survey results, population densities and distributions of waterfowl and waterbirds were likely restricted by a lack of suitable habitat. No Harlequin Ducks or other species of special conservation status were recorded during the 2009 environmental baseline studies, and no sensitive waterfowl and waterbird habitats were identified near the exploration or camp sites.

Five species of raptors were observed within the study area: Peregrine Falcon, Gyrfalcon, Rough-legged Hawk, Snowy Owl, and Common Raven (a functional raptor). Evidence of four potential raptor nesting territories (a Peregrine Falcon, Gyrfalcon, Snowy Owl, and a Common Raven) was documented in the eastern portion of the study area. Additional habitat suitable for cliff-nesting raptors likely exists outside the study area near the coastline. These four potential nest sites were identified as sensitive areas, and a conservative buffer zone of 1.5 kilometre (km) from the area was recommended, particularly during the breeding season (early May to mid August).

Two systematic aerial caribou surveys were conducted, one during the June/July survey event and the second during the August event. During the June/July survey, a single group of three caribou were observed, and two caribou were observed during the August survey. The estimated caribou abundance during the June/July survey indicated 11 caribou (plus or minus (±) standard error (SE) of 27) were within the study area, and seven caribou (± 12 SE) were within the study area during the August survey event. Since few caribou were observed during the June/July and August sampling events, sensitive caribou habitats near the exploration or camp sites were not delineated. However, caribou collared data indicate a few caribou occupy the study area in the spring, summer, and fall.

Carnivore and carnivore den surveys were conducted in association with the caribou aerial surveys. No carnivore dens were observed during the June/July and August field events, and available denning habitat observed during the June/July and August surveys was considered poor. No sensitive carnivore habitats were identified near the 2009 exploration or camp sites.

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1.0 INTRODUCTION

Peregrine Diamonds Ltd. (Peregrine) retained EBA Engineering Consultants Ltd. (EBA) to carry out the 2009 Baseline Environmental Program at the Chidliak Project site, Baffin Island, Nunavut (Figure 1). The Chidliak Project site is situated on Hall Peninsula, southeast Baffin Island and is approximately 75 kilometres (km) east of Iqaluit (distance from the most south westerly corner of the Chidliak project block).

These environmental studies will facilitate understanding of the baseline environmental conditions within the study area, which will function as a key management tool for planning development activities and avoiding or minimizing impacts to the surrounding environment.

The baseline environmental study area covers an area approximately 1,600 square kilometres (km^2) within the Chidliak project block and is roughly centered on the 2009 proposed development (Figure 1). The study area lies entirely inland and includes portions of two glaciers and the McKeand River and its tributaries.

1.1 PROJECT BACKGROUND

Peregrine is primarily exploring for diamonds and secondarily for metal deposits on the Chidliak property, an area consisting of approximately 984,000 hectares (ha). Peregrine's newly acquired lands to the north, east, and south of the Chidliak property were not part of the 2009 baseline studies. Peregrine began exploring the Chidliak Project site in the summer of 2008 following receipt of their permits and licences. By ground-checking geophysical anomalies, three diamondiferous kimberlite pipes were discovered (CH-1, CH-2, and CH-3). Based on these results, Peregrine began a drilling program within CH-1 and erected a second camp (Sunrise Camp) in 2009 (Figure 1).

Prior to these 2009 baseline environmental surveys, no environmental desktop or field studies had been completed within the Chidliak project block.

1.2 OBJECTIVES

The objective of this 2009 field program was to establish baseline environmental conditions for the potential development at the Chidliak Project and map key or sensitive environmental areas to avoid or minimize environmental effects. Baseline water quality, stream flow, wildlife habitat, breeding birds, waterfowl, raptors, caribou, and carnivores (including species at risk) were the primary focus of the 2009 baseline program. This baseline data will also form the foundation for future regulatory applications and monitoring programs associated with project implementation and operation.

The objectives for each baseline condition (water quality, stream flow, wildlife habitat, breeding bird, waterfowl, raptor, caribou, and carnivore, including species at risk) are discussed in their associated sections below.

This report describes baseline environmental conditions based on two field events conducted in the summer of 2009.

2.0 METHODS

Two field events were undertaken during the 2009 baseline environmental program: the first occurring from June 30 to July 2 (herein referred to as the June/July field event), and the second occurring from August 29 to 30, 2009. The timing of the two field events was determined by helicopter sharing opportunities.

Ms. Karla Langlois, B.Sc., P.Biol. of EBA, and Mr. Daniel Akpalialuk, a field assistant from Pangnirtung, conducted the 2009 baseline environmental surveys. The methods employed during each of the surveys are provided below.

2.1 SURFACE WATER QUALITY

The objectives of the water quality survey were to collect surface water grab samples to document baseline water quality conditions near the proposed 2009 development sites.

Water quality samples were collected during both field events (June/July and August) at predetermined locations in relation to known project footprints and in consultation with Peregrine. Sampling stations were positioned along lakes and streams both upstream and downstream of known project footprints, as well as outside the proposed project's zone of influence.

All water quality bottles, preservatives, and de-ionized water were supplied by ALS Laboratory Group (ALS) (an accredited environmental laboratory), and all water quality samples were shipped to ALS in Edmonton for analysis.

Once on site, water quality stations were located using a Global Positioning System (GPS), and water quality samples were collected for standard analytical parameters selected by Peregrine including routine parameters, nutrients, total metals, total organic carbon (TOC), electrical conductivity, and oil and grease. Peregrine advised EBA during the planning of the water-quality sampling program that parameters sampled were to be in consonance with the Nunavut Water Board (NWB) Type B Licence #2BE-CHI0813 Amendment 1, which sets out parameters and methodology for monitoring and effluent on the Chidliak Project.

In the field, disposable nitrile sampling gloves were worn during handling of the bottles and equipment to minimize potential contamination. Water quality samples were collected off shore as much as possible without disturbing the bottom sediment. All of the sample bottles were triple rinsed with the source water prior to water collection, and each water sample was collected towards the current at stations with flowing water.

Samples collected were preserved with an appropriate formula of acids provided by ALS or by maintaining sample temperatures to 4 degrees Celsius (ºC). Water quality samples collected for nutrient analysis were preserved with 1 millilitre (mL) of 1:1 sulphuric acid,

total metals were preserved using 1 mL 1:1 nitric acid, total organic carbon samples were preserved with 1 mL of 1:1 sulphuric acid, and oil and grease samples were preserved with 1 mL of 1:1 hydrochloric acid.

All samples were transported in sealed laboratory issued portable coolers with ice packs to ensure samples remained at 4 ºC. A chain-of-custody form was completed and shipped with the samples to ALS.

As part of the quality assurance/quality control (QA/QC) program, a duplicate water quality sample[1] and a field blank[2] sample were collected on site to represent the full suite of parameters analysed during both field programs. Methods used to collect the duplicate and field blank sample were similar to those for the field water quality samples. In addition, a set of trip blank samples[3] accompanied the sample bottles to the site, were kept intact, and were returned to the laboratory with the water quality samples for each field program. These QA/QC samples were also analysed for routine parameters, nutrients, total metals, TOC, electrical conductivity, and oil and grease.

Trip blanks were prepared by the laboratory to test for possible contamination that might arise during the handling, transport or storage of the samples; while field blanks were used to test for contamination arising from the sampling equipment, handling, or from the general conditions during sampling. A duplicate sample was collected to test the validity of sampling procedures and laboratory methodology. Each quality control sample represented the full suite of parameters collected across site.

In August, select parameters including pH, water temperature, and electrical conductivity were measured in the field using Multi-Parameter 35 Series probe.

2.2 PRELIMINARY STREAM FLOW

The objective of the preliminary hydrology assessment was to collect stream flow data at the outflows of the kimberlite footprints during two daily sampling periods (morning and mid-afternoon) in response to diurnal glacial melt water cycles. However, once on site, it was apparent the streams immediately adjacent to CH-1 and CH-2 were not directly influenced by the glacier and multiple daily sampling periods were not necessary.

An anchored tagline (a tape measure strung across the stream and secured at opposite shorelines) was established to facilitate sampling points along the cross-section of each stream. Where necessary, boulders obstructing the metering station were removed.

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[1] A duplicate water quality sample is a replicate of a field sample using the same collection, preservation, and transportation methods employed for the field water quality sample.

[2] A field blank sample is prepared at a field sampling station by filling water quality bottles with laboratory issued de-ionized water and using the same preservation and transportation methods employed for the field water quality sample.

[3] A trip blank sample is prepared by the laboratory by filling water quality bottles with de-ionized water, sealed, and transported with sample bottles.

Velocity measurements were taken at 11 to 12 locations equally spaced along the tape measure. Based on the total stream width, each section of stream did not constitute more than 10 percent (%) of the total volume of flow. At each equally spaced station along the tagline, water depth was recorded. Using a Swoffer meter, flow velocities at 60 %, 20 %, and 80 % depths from the water surface were recorded at each equally spaced station.

Flow velocities were recorded on dedicated datasheets, along with a description of the stream banks, channel characteristics including wetted width, GPS location, date and time, sampling personnel, swoffer meter calibration, photographs, and any other comments at each tagline station.

2.3 WILDLIFE AND WILDLIFE HABITAT

2.3.1 Preliminary Wildlife Habitat

The objective of the preliminary habitat assessment was to identify wildlife habitat and/or sensitive habitats at or immediately adjacent to the project footprint. The scope of the preliminary habitat assessment included a preliminary aerial reconnaissance to identify general habitat types and sensitive habitats at or immediately adjacent to the project footprint.

This component included a preliminary assessment of available land cover mapping and a general field reconnaissance. At the initiation of the project, a literature review was conducted of relevant vegetation mapping in the region. Habitat types were characterized using existing literature for the region, as well as both ground and aerial reconnaissance surveys on site. Ground surveys involved walking transects to document dominant vegetation species and species compositions within habitats encountered.

2.3.2 Breeding Birds

The objective of the breeding bird survey was to document breeding bird species present and species-community associations within the zone of influence of the camps and known kimberlite pipes, as well as outside the zone of influence (control sites greater than 2 km distance). To do so, a point-count sampling program was conducted in late June/early July, a time period that coincided with helicopter sharing opportunities. Bird species, including passerines, shorebirds, and other upland birds were identified visually and/or by territorial calls at each point-count station. Incidental bird observations were also recorded outside formal surveys.

The sampling program was initially designed to survey habitats proportional to their coverage within the study area; however, it was altered to accommodate for the snow conditions remaining across the majority of habitats and limited helicopter availability.

Surveys were carried out between 0400 – 1000 hours. Standard point-count and data recording procedures were followed, including: all birds seen and/or heard in the plot were recorded, and all data sheets were reviewed upon survey completion as part of an internal

quality assurance and quality control program. Any additional observations were discussed amongst the surveyors prior to leaving each station.

Surveyors accessed all point-count stations on foot. All point-count stations were to be positioned at least 100 metres (m) from a habitat edge, wherever possible. Stations that included two different habitat types were reported as a habitat complex. Once on station, observers waited at least two minutes prior to starting the survey to allow birds to resume their normal behaviour. Prior to commencing a survey, the date, GPS plot location, weather conditions, crew members, and start time were recorded on designated datasheets. At each point-count station, all birds heard and seen were recorded as either within 0 – 50 m, 50 – 100 m, or greater than 100 m from station centre, as well as at temporal intervals of 0 – 5 minutes (min) and 5 – 10 min after the survey commenced.

Six types of data were recorded for each bird observation, which included the following: an observation number, time of observation, number of individual birds, species (sex where possible), habitat type, and behavioural activity. All incidental wildlife observations (including sign) were recorded during breeding bird surveys, including caribou pellets.

2.3.3 Waterfowl and Waterbirds

The objective of the waterfowl and waterbird[4] surveys was to document waterfowl and water bird species occurring within the study area and report species distributions and relative abundance. These surveys were sufficient to document species with special conservation status, such as Harlequin Duck, which has the potential to occupy the fast flowing streams near the glaciers.

Original survey design included aerial surveys to be conducted along the perimeter of large lakes and rivers particularly along the toe of the glaciers, as well as on two transect blocks: 1) centred on the project footprint; and 2) in a representative habitat outside the zone of influence from the project footprint (*i.e.* active-exploration block and control block). Each survey block was to include six transects, each 20 km in length. However, once on site in June/July the majority (average 75%) of the study area was covered with snow and waterfowl block transects were considered less effective. By August once the snow cleared, a negligible amount of wetland habitat was observed across the study area; therefore, block transects were again omitted from the field program. To compensate for excluding the transect block surveys from the field programs, all waterfowl and water birds and their occupied habitats, observed during the caribou transect surveys were recorded throughout the entire study area.

Therefore, waterfowl and waterbirds were documented during the aerial caribou transect surveys and during the aerial waterfowl/water bird surveys along the shorelines of selected lakes and rivers at or near the proposed footprint in both June/July and in August. A pre-determined survey route following lakes, ponds, and rivers was planned using a 1:20,000

[4] In this report, the term water bird is used to define gulls and terns.

National Topographic System (NTS) map prior to the field survey. Additional ponds and streams outside this pre-determined route were surveyed as encountered opportunistically during the survey. A helicopter was used to fly the route at a speed of approximately 80 – 100 kilometres per hour (km/hr) at an altitude of 45 m above ground level (agl). All waterfowl and waterbirds observed and their occupied habitats were recorded.

2.3.4 Raptors

The objective of the raptor surveys was to record raptor species presence and distribution within the study area and report nesting areas that are sensitive to disturbance. This includes surveying raptor species with special conservation status, including Peregrine Falcons and Short-eared Owls.

Gyrfalcons, Peregrine Falcons, Rough-legged Hawks, and Common Ravens[5] and their nests were documented by flying aerial surveys in areas with appropriate nesting topographic relief (*i.e.* cliffs). Owls, which nest on the ground, were recorded in transit to cliff nests and incidentally during the caribou and waterfowl/waterbird surveys.

Prior to the field surveys, 1:20,000 NTS maps covering the study area were reviewed and potential cliff nesting habitat was delineated. Once in the field, aerial surveys involved a "Look-See" method where potential cliff nesting sites (previously delineated) were flown in search of raptors and/or a nest. The helicopter remained at least 30 m from the cliff face.

All raptors, raptor nests (both active and inactive), and perch observation locations were recorded using a GPS and entered into a data sheet. Proof of an occupied nest includes seeing at least one adult bird near the nest site, two adults together, finding a nest containing eggs or young, flushing an adult from a nest, and/or seeing adults carrying food to young birds. Photographs were taken of each occupied nest. Additional information on active nests was recorded including cliff aspect, general surrounding habitat type, and approximate distance above ground.

An aerial raptor survey was conducted in June/July along all potential cliff nesting raptor habitat in conjunction with the waterfowl/waterbird aerial survey. In August, an aerial raptor survey was flown to observe nests or potential nesting sites documented during previous surveys.

All incidental raptor observations during all other environmental surveys were recorded.

[5] Ravens are passerines, but have been called "functional raptors" (Poole and Bromley 1988a) and are included in this section. Ravens commonly nest on cliffs, which may preclude falcons from using those sites. Conversely, raven stick nests may be used by Gyrfalcons and Rough-legged Hawks.

2.3.5 Caribou

The objective of the caribou surveys was to determine caribou distribution, relative density, group composition, and possible sensitive areas (such as calving areas) across the study area in June/July and August in relation to the proposed project activities. Density estimates were calculated using Jolly's Method[6] (Jolly 1969).

Systematic caribou surveys were flown in June/July and August. The survey area was divided into 11 north – south transects, each 40 km long and spaced 4 km apart (Figure 2). Prior to each survey, weather conditions were documented and helicopter windows were calibrated to the transect strip width of 400 m. Flight altitude and ground speed averaged 150 m agl and 120-160 km/hr, respectively. Aerial surveys covered approximately 22 % of the study area. All caribou within and outside the 400 m boundary on either side of the helicopter were counted.

Caribou summer pelage blends easily with the tundra habitats. To minimize the possibility of overlooking caribou on transect during the survey, the helicopter windows were calibrated to represent a 400 m boundary for an aircraft flying at 150 m agl. Aerial surveys covered approximately 22 % of the study area. The application of calibrating the windows assists with improving the distance accuracy of visual counting. All caribou within and outside the 400 m boundary on either side of the helicopter were counted.

Since caribou are highly mobile, each aerial survey was completed in its entirety once the survey began to reduce double counting.

Observations included GPS location, number of caribou observed, activity, general habitat type, and herd composition (if possible without further disruption of the animal(s)). Incidental observations of other species were also made during the caribou survey, including raptors, and were to include carnivores and carnivore dens, had they been present.

2.3.6 Carnivores

The objective of the carnivore survey was to identify the presence and location of sensitive carnivore areas (*i.e.* carnivore dens) in relation to the proposed project activities.

Prior to field mobilization, potential denning habitat (*e.g.* areas of hummocky glacial sandy-till) for foxes and wolves was reviewed within the study area using 1:20,000 NTS maps and

[6] Jolly (1969) established aerial survey protocols and density estimate calculations for surveying wildlife populations, that provide the baseline for contemporary surveys. The systematic aerial surveys carried out in the study area follow these same basic principals established by Jolly (1969), including a constant survey height and speed, fixed survey widths, and parallel transects. Density estimates were calculated using Jolly's Method 1 using equal sized sample units. This method includes calculates a population estimate based on the sum of animals counted in each transect and the area of each transect. These are then used to estimate a population variance, which is used to estimate the standard error of total population and the 95% confidence limits on the total population size.

consultations with on-site Peregrine staff. Due to the limited amount of suitable denning habitat potentially available in the study area, the carnivore and carnivore den survey was completed in conjunction with the aerial caribou survey. These areas and other potential denning areas such as stream banks and lakeshores were surveyed, as encountered during the aerial caribou surveys.

A specific den assessment, including general habitat characterization, GPS location, aspect, estimated distance to the nearest waterbody, and the activity status (active vs. inactive) were to be recorded for all dens, if encountered.

3.0 RESULTS

Baseline water quality sampling, stream flow measurements, breeding bird, waterfowl/waterbird, raptor, caribou, and carnivore surveys were carried out between June 30 to July 2, 2009 and August 29 to 30, 2009. During the first field event, snow conditions across the study area averaged approximately 75 %, with large valleys and some ridge tops open. By the end of the first sampling event, the snow was melting and coverage averaged 50 % with several upland areas snow-free. Several components of the field program, including the water quality, stream flow, preliminary habitat assessment, and waterfowl surveys were modified as a result of the prevailing snow conditions. Details of the changes to the field event components are provided in the appropriate sections below.

During the August sampling event baseline water quality sampling, stream flow measurements, preliminary wildlife habitat, and waterfowl, raptor, caribou, and carnivore aerial surveys were completed. Site conditions were generally overcast with scattered rain and snow showers with patches of fog.

3.1 SURFACE WATER QUALITY

During the June/July sampling event, ice had just begun melting from the lake shores and water sampling stations were limited to areas of open water. Helicopter availability and time constraints limited the number of water quality stations sampled. A total of five water quality stations (Table 1) were sampled in June/July for routines, nutrients, total metals, total organic carbon, and oil and grease (Figure 3).

TABLE 1 WATER QUALITY SAMPLING, CHIDLIAK PROGRAM , 2009			
Water Quality Station	Location Description	Field Event Sample Collection	
		June/July	August
Hydro 1	Unnamed stream downstream of the kimberlite CH-1 2009 bulk sample site.	Yes	No since the stream was dry
Hydro 2	Unnamed stream downstream of kimberlite CH-2.	Yes	No since the stream was dry
Hydro 9	Unnamed stream downstream of CH-1 and CH-2 streams confluence.	-	Yes
WQ 3	Unnamed lake south of CH-3 and upstream from known project footprints. Located within a separate water basin than known project footprints.	-	Yes
WQ 4	Sunrise Camp Lake near kimberlite CH-3.	Yes	Yes
WQ 5	At Sunrise Camp Lake outlet.	Yes	Yes
WQ 6	McKeand River immediately downstream from the confluence of Discovery Camp stream.	Yes	Yes
WQ 7	McKeand River downstream from known project footprints.	-	Yes
WQ 8	Unnamed stream within a separate water basin north of known project footprints.	-	Yes

Water quality sampling stations from the June/July sampling event were replicated, wherever possible during the August sampling event; plus, additional sampling stations were added where time permitted. A total of seven water quality stations (Table 1) were sampled in August and analysed for routines, nutrients, total metals, total organic carbon, and oil and grease (Figure 3). Water quality stations Hydro 1 and Hydro 2 were both dry at the time of the August sampling event and, therefore, were not sampled.

A list of specific parameters analysed and their respective detection limits are presented in Table 2 (see Table Section).

3.1.1 Quality Assurance / Quality Control

Results from the water quality control samples (both field and trip blanks) during June/July and August sampling events were below detection limits (Table 3; see Table Section), therefore, the methods employed during the collection, transportation, and analysis did not lead to the introduction of potential contaminants. A relative per cent difference assessment was also completed to assess the reliability of the duplicate samples. This assessment compared the relative difference between the duplicate and the field samples. The duplicate samples that have a relative per cent difference less than 20% were

considered reliable. This relative per cent difference assessment indicated that the duplicate samples for both the June/July and August sampling events were reliable, and the sampling and analytical methods employed were acceptable (Tables 4 and 5, respectively; see Table Section).

Laboratory results for the June/July and August sampling events are provided in Appendix A and B, respectively.

Internal laboratory QC analysis and replicate sampling using Method Blanks, Lab Control Samples, and Matrix Spikes for both the June/July and August sampling events indicated that the tests performed were valid and accurate (Appendix A and B, respectively).

3.1.2 Field Samples

The June/July laboratory water quality results indicated the majority of analytes sampled were at or below laboratory detection limits, including major ions, nutrients, inorganics, oil and grease, and total metals. These results are summarized in Table 7 (see Tables Section). Results indicated that all parameters were within the Canadian Council of Ministers of the Environment (CCME) Freshwater Aquatic Life (FAL) guidelines (December 2007), except pH values of the field samples and of the trip and field blanks. The average laboratory-measured sample pH was 5.75 (not including duplicate sample results); below the CCME FAL guideline range of 6.5 to 9.0. As well, aluminum values were slightly above CCME FAL guidelines in all field samples. The average aluminum value was 0.030 mg/L (not including duplicate sample results) compared to the CCME FAL guideline of 0.005 mg/L.

Temperature, pH, and electrical conductivity (EC) were measured in the field during the August sampling event. Basic field water quality results are provided in Table 6 below. In the field-measured samples, electrical conductivity ranged from 3.0 to 13.0 micro-Siemens per centimetre (µS/cm), temperatures ranged from 1.8 to 6.7 degrees Celsius (ºC), and pH ranged from 6.8 to 7.3.

TABLE 6. FIELD-MEASURED WATER QUALITY RESULTS, AUGUST 2009			
Water Quality Station[1]	pH	Temperature (ºC)	Electrical Conductivity (µS/cm)
Hydro 9	7.3	6.7	8.0
WQ 3	7.2	4.4	3.0
WQ 4	n/a	1.8	13.0
WQ 5	n/a	4.8	5.0
WQ 6	6.8	6.1	5.0
WQ 7	7.0	5.4	5.0
WQ 8	6.9	5.5	11.0
Average	7.04	4.96	7.14

1. Water quality was not collected at Hydro 1 and Hydro 2 stations since they were dry at the time of the August sampling event.

n/a = not available due to equipment malfunction.

During the August sampling event, the laboratory water quality results indicated that the majority of analytes sampled were at/or below laboratory detection limits (Table 8; see Tables Section). Water quality results were similar to those observed during the June/July sampling event. August results indicated that all parameters were within the CCME FAL guidelines, except pH and aluminum at all seven water quality stations. The average laboratory-measured sample pH was 5.81 (not including duplicate sample results). However, field-measured pH values of samples averaged 7.04, and were all within CCME FAL guidelines. The discrepancy between the laboratory issued and field measured pH values is a function of water temperature changes from the source water to the laboratory[7]. The average laboratory aluminum value was 0.0725 mg/L (not including duplicate sample results) compared to the CCME FAL guideline of 0.005 mg/L.

See Section 5 below for discussion of results.

3.2 PRELIMINARY STREAM FLOW

During the June/July sampling event, lakes remained frozen with limited amount of open shoreline, and many streams and rivers retained ice cover along their banks and were flooding, too deep, or flowing too fast to safely forge to complete the preliminary stream flow program. However, by August, a few of these streams were dry.

Preliminary flow velocities were measured at two locations downstream of CH-1 and CH-2 during the June/July sampling event (Figure 3). Immediately downstream of CH-1 the wetted width of the stream (hydrology station Hydro1) was approximately 15 m and stream

[7] Water temperatures influence pH, electrical conductivity, and dissolved oxygen values. These parameters should be measured in the field (as well as the laboratory) since pH, electrical conductivity, and dissolved oxygen can not be preserved to maintain their precise natural state prior to laboratory analysis.

flow was measured at 0.344 cubic metres per second (m^3/s). Cobbles dominated the bottom substrate and the channel was described as relatively flat. Water depths across the Hydro1 sampling station ranged from 2 to 13 cm.

Downstream of CH-2, the stream (hydrology station Hydro2) was approximately 12 m (wetted width) wide and was experiencing 0.485 m^3/s stream flow (Photograph 1). Cobbles dominated the bottom substrate and the stream banks were described as gently sloping. Water depths ranged from less than 0.5 cm near the shoreline to 27 cm in the thalweg[8].

By August, Hydro1 and Hydro2 stream channels were dry. As a result, stream flow measurements were collected at station Hydro9 located downstream of the Hydro1 and Hydro2 confluence (Figure 3). The measured stream flow at Hydro9 was 0.088 m^3/s. During the stream flow measurements, the wind gusted to Beaufort Level 4 (approximately 20-28 km/hr) which may have influenced near surface water flow measurements. The stream channel at Hydro9 was described as bouldery and gently sloping to almost flat near the shorelines (Photograph 2). The total wetted width of station Hydro9 was approximately 13 m, and water depths ranged from less than 1 cm at the stream banks to 16 cm in the thalweg. A shallow backwater pool, approximately 4 m in width, was present at the left bank.

3.3 WILDLIFE AND WILDLIFE HABITAT

3.3.1 Preliminary Wildlife Habitat

Due to existing snow conditions during the June/July event, the preliminary habitat assessment was postponed to the August field event. During the August field event, a preliminary aerial survey was conducted to observe and photograph existing habitat conditions at CH-1, CH-2, Discovery Camp, and Sunrise Camp. Additional foot transects and vegetation typing at Discovery Camp were completed during August. A total of 17 plant species were identified during the foot transects (Table 9 below).

TABLE 9. SUMMARY OF PLANT SPECIES OBSERVED NEAR DISCOVERY CAMP, 2009

Common Name	Scientific Name	NU Conservation Status[1]
Lichen		
Rock Lichen species	-	-
Reindeer Lichen species	*Cladonia* species	-
Moss		
Moss species	*Dicranum* species	-
Fir Clubmoss	*Huperzia selago (Lycopodium selago)*	Secure
Grass and Grass-Like		

[8] Thalweg refers to the lowest part of the stream bed and runs along the length of stream.

TABLE 9. SUMMARY OF PLANT SPECIES OBSERVED NEAR DISCOVERY CAMP, 2009		
Common Name	Scientific Name	NU Conservation Status[1]
Alpine Bluegrass	*Poa alpina*	Secure
Broad-leaf Arctic-bent	*Arctagrostis latifolia*	Secure
Narrow False Oat	*Trisetum spicatum*	Secure
Bigelow's Sedge	*Carex bigelowii*	Secure
Tussock Cotton-grass	*Eriophorum vaginatum*	Secure
Arctic Woodrush	*Luzula arctica*	Secure
Northern Woodrush	*Luzula confusa*	Secure
Dwarf Shrubs		
Arctic Willow	*Salix arctica*	Secure
Northern Willow	*Salix arctophila*	Secure
Snowbed Willow	*Salix herbacea*	Secure
Net-veined Willow	*Salix reticulata*	Secure
Herb		
Mountain Sorrel*	*Oxyria digyna*	Secure
Moss Campion	*Silene acaulis*	Secure
Arctic Poppy	*Papaver radicatum*	Undetermined
Ottertail Pass Saxifrage	*Saxifraga tenuis*	Secure
Arctic White Heather	*Cassiope tetragona*	Secure

1. Canadian Endangered Species Conservation Council (CESCC) (2006) and NT Department of Environment and Natural Resources (2009).
* Also named Qunguli in Inuktitut (Akpalialuk, D. pers. comm.. 2009).

The Natural Resources Canada (2008) Northern Land Cover of Canada mapping (circa 2000) was consulted in determining land cover types across the study area. The dominant land cover type across the study area was "Sparsely Vegetated Bedrock" habitat (Figure 4). This habitat was characterized by consolidated bedrock surface sparsely vegetated (2-10% cover) by graminoid and dwarf shrubs (Natural Resources Canada 2008).

Besides "Ice and Snow" habitats within the study area, Natural Resources Canada (2008) mapped the second most common habitat type as "Barren". This habitat was described as having less than 2% vegetation cover and was most common near the glaciers in the east, southwest of McKeand River, and near CH-1 and CH-2 (Figure 4). Narrow discrete belts of "Moist to Dry Non-Tussock Graminoid /Dwarf Shrub Tundra" were also mapped throughout the study area (Figure 4).

From the preliminary field investigation, "Bare Soil with Cryptogam Crust" habitat dominates much of the area surrounding the camps and CH-1 and CH-2 (Photograph 3). This habitat type is dominated by unconsolidated barren surfaces (*i.e.* boulders and cobbles) having experienced significant cryoturbation (Natural Resources Canada 2008). Approximately 90% or more of the ground cover was dominated by cobbles and bare soil and vegetation covered 10% or less. Plant compositions within this habitat type included

less than 2% reindeer lichen, 5% moss species, 5% graminoid plants, and less than 1% herbs. This habitat type varied slightly throughout the area with the inclusion of boulders and/or till material.

Small discrete patches of "Moist to Dry Non-Tussock Graminoid /Dwarf Shrub Tundra" habitat were also present, particularly in drainage areas and along streams (Photograph 4). This habitat included 50-70% vegetation cover including grass and grass-like species, dwarf shrubs, lichen, and mosses, and included a few boulder fields. A total of three "Moist to Dry Non-Tussock Graminoid /Dwarf Shrub Tundra" habitats were assessed on the ground. On average, these habitats included approximately 60% grass and grass-like species or moss, less than 2% reindeer lichen cover, and restricted cover of willow and herbs.

3.3.2 Breeding Birds

A total of 16 breeding bird point-count stations were completed during the June/July survey event. Due to the existing snow cover at the time of the field event, breeding bird survey stations were selected in areas with the least amount of snow cover. Nine of these point-count stations surveyed were within walking distance of Sunrise Camp and seven stations were surveyed approximately 10 km southwest of Sunrise Camp (location selected due to low snow cover) (Figure 5). Four of the 16 breeding bird stations were surveyed during wind conditions greater than 13 – 19 km/hr or above Beaufort Scale 3, which is outside the breeding bird survey protocol[9]. These four stations have been removed from the analysis (as per standard protocol); however, birds recorded on these stations were recorded as incidentals.

Snow Buntings were the only species documented on the breeding bird stations (Photograph 5). A total of 16 Snow Buntings were recorded, and an additional 17 individuals were recorded as incidentals (either outside the survey plot, observed outside the survey interval, or recorded on stations during high wind conditions). The relative density of Snow Bunting territories was 0.83 territories per point-count station. Since only a single species was recorded, a species richness and diversity index was not calculated. In addition, due to the low number of sampling stations in each habitat type, any community-level analysis would be considered unreliable. Snow Buntings were recorded in habitats described as "Bare Soil with Cryptogam Crust" and "Moist to Dry Non-Tussock Graminoid /Dwarf Shrub Tundra" with 0 – 60% snow cover.

Additional species recorded as incidentals during the breeding bird surveys included one Baird's Sandpiper, one Horned Lark, one Semipalmated Sandpiper, and one Rock Ptarmigan. These species were all detected in the "Moist to Dry Non-Tussock Graminoid /Dwarf Shrub Tundra" habitat. Nine additional Rock Ptarmigan were observed (in groups of one to three individuals) throughout the study area during the aerial surveys (Figure 5).

[9] Poor weather including high winds can inhibit bird behaviour and surveyors ability to detect birds. Winds above Beaufort Scale 3 are considered unacceptable weather conditions for songbird studies (Resources Inventory Committee 1999).

During the August sampling event, three observations of Snow Buntings (individuals and in groups of two and 20 individuals) were also recorded as incidentals during the aerial caribou survey. No other songbirds and/or shorebirds were recorded as incidentals during this event.

3.3.3 Waterfowl and Waterbirds

In June/July, the waterfowl and waterbird survey was conducted in concert with the aerial raptor survey. This combined survey focused on open water habitats as well as potential cliff nesting sites particularly within the eastern portion of the study area where the majority of the lakes, streams, and cliffs occur, including possible Harlequin Duck habitat. The combined aerial waterfowl and waterbird and raptor survey was conducted in 2.75 hours.

During the June/July waterfowl survey, three species of waterfowl were recorded including Red-throated Loon, Canada Goose, and Snow Goose. A total of five separate observations of Red-throated Loons (totalling seven individuals) were documented, each likely representing a single breeding territory. Red-throated Loons were observed occupying small ponds in proximity to the glacier (eastern portion of the study area) as well in small ponds along the eastern portions of the McKeand River and its tributaries (Figure 6). Two Canada Geese were observed feeding along the McKeand River, and a single Snow Goose was recorded on the river. In addition, a pair of Iceland Gulls was also observed on the river during the June/July surveys.

An additional 21 incidental Canada geese (the majority of observations were of geese flying in a north and northeast direction) and seven Snow geese (on the shoreline of a lake) were also recorded as incidentals during other June/July survey programs. Incidental observations of goose grazing areas were negligible in snow-free mesic to wet habitats such as the "Moist Non-Tussock Graminoid /Dwarf Shrub Tundra" habitats.

In August, a total of 20 Canada geese (two observations of ten individuals each) were observed within or immediately adjacent to creeks, and an unidentified duck species was also recorded (Figure 6). Three Herring Gulls and two Glaucous Gulls were also observed in the study area in August. No Harlequin Ducks or other species of special conservation status were recorded during the 2009 environmental baseline studies.

Block transects were not flown due to a negligible amount of wetlands across the study area. In addition, the number of birds observed during the surveys along the perimeter of lakes and rivers were too few to justify additional transects (*i.e.* block transects). Since only a few observations of waterfowl and waterbirds were recorded during the lake/river perimeter surveys and as incidentals, species richness and population indexes calculations were not possible. All of the bird observations were reported in a qualitative manner (*i.e.* the total number of observations).

3.3.4 Raptors

In June/July, the aerial raptor survey was conducted in conjunction with the waterfowl and waterbird survey. This combined survey was conducted primarily in the eastern portion of the study area where potential cliff nesting raptor habitat exists, as well as open water habitats for waterfowl, waterbird, and possibly Harlequin Ducks. The combined aerial raptor, waterfowl, and waterbird survey was conducted in 2.75 hours.

During the June/July raptor survey, an adult Gyrfalcon (white colour phase) was flushed from a cliff face (an assumed nesting territory) and remained in the vicinity while the helicopter was in the area (Figure 6). No active scrape was observed in this immediate area; however, this likely represents a probable nesting territory. An adult Peregrine Falcon was also flushed from a cliff site (Figure 6). Although there was evidence of old and recent raptor use of this cliff with whitewash and orange lichen (evidence of old whitewash) (Photograph 6) an active scrape was not observed. This cliff and its immediate area were considered a probable nesting territory for this Peregrine Falcon. In addition, a pair of Common Ravens[10] and their probable nesting territory was observed at a cliff site (Figure 6).

At most, two flight passes were conducted along the probable nesting cliff faces to minimize stress to the adults; however, this limited the surveyor's ability to establish the location of any active nests/scrapes.

A male Snowy Owl was also incidentally observed during the caribou survey within the northeast portion of the study area near an unnamed lake. This observation may also indicate a potential nesting territory in the area.

In August, the aerial raptor survey focused on these probable nesting territories. No raptors were observed (adults or fledglings) near the potential nesting territories in August. Although no raptors were observed during the aerial raptor survey, a single adult Gyrfalcon (white colour phase) and an adult Rough-legged Hawk were recorded as incidentals during the caribou survey (Figure 6). The Gyrfalcon and Rough-legged Hawk were observed flying the length of a McKeand River tributary.

3.3.5 Caribou

Two systematic aerial caribou surveys were conducted, one during the June/July survey event and the second during the August event. Each survey consisted of 11 transects and covered approximately 22 % of the study area.

During the June/July events aerial survey, fog conditions along the most southerly section of the final two transects (over parts of the glacier) resulted in minor deviations off of the transect route. However, a single group of three female caribou were observed grazing in an upland cobblestone dominated area with approximately 70-80 % snow cover during the

[10] Common Ravens are not raptors, but are considered as such for the purposes of this report.

caribou survey (Figure 7). The calculated relative caribou density within the study area during the June/July survey event was 0.007 caribou per km^2, with an estimated abundance of 11 caribou (plus or minus (±) standard error (SE) of 27) across the study area.

An additional three caribou were observed as incidentals during other aerial and ground surveys (Figure 7). These three caribou observations included a pair of males occupying a wet meadow habitat (likely a "Moist Non-Tussock Graminoid/Dwarf Shrub Tundra" habitat types), and a single adult at the top of a hill near Sunrise Camp.

A total of six caribou pellet groups were also observed while conducting the breeding bird surveys in "Moist to Dry Non-Tussock Graminoid/Dwarf Shrub Tundra" habitats (Photograph 7).

During the August surveys, scattered showers and low light conditions were present during the caribou survey, and the most eastern transect over the glacier was excluded from the survey due to poor light conditions. A total of two caribou (a lone female and male, respectively) were observed during the aerial caribou survey, and three observations of caribou sign (track, pellet group, and an antler) were also documented during the August field program (Figure 7). Both caribou were observed occupying "Bare Soil with Cryptogam Crust" habitat with boulders/cobbles. The estimated abundance of caribou within the study area during the August survey event was seven caribou (± 12 SE); approximately, 0.05 caribou per km^2.

3.3.6 Carnivores

The carnivore survey was conducted in association with the aerial caribou survey during the June/July and August field events. Sites that possess potential carnivore denning habitat were surveyed, as encountered, including sand deposits and gravel ridges, particularly near a waterbody or potential look-out point. A few areas along the McKeand River and its tributaries included satisfactory carnivore denning habitat due to large sandy areas with some "look-out" potential. However, no eskers, the most favoured wolf and fox denning substrate, were observed within the study area during either survey event. Primary search areas included glacial outwash areas along the McKeand River and its tributaries (Photograph 8).

No carnivore dens were observed during the June/July and August field events, and available denning habitat was considered poor. A single fox track was recorded while conducting the aerial raptor survey in June/July, approximately 3 km southeast of CH-3.

No species of special conservation status were recorded during the 2009 environmental baseline studies. However, a few weeks prior to EBA's arrival in August, the pilot observed a female polar bear with a cub approximately 5 km northeast of Discovery Camp. This observation as well as others by camp personnel is discussed in Section 4.0 below.

4.0 SUMMARY OF INCIDENTAL CAMP WILDLIFE SIGHTING LOGS

Peregrine has requested all wildlife sighted by on-site personnel be documented on designated Incidental Wildlife Sighting Log posted at the Discovery and Sunrise camps. Reports of wildlife sightings began in mid-May and continued until the end of August. Of particular interest:

- A female polar bear with a cub was observed in August approximately 30 km inland;
- Caribou sightings were reported from May to August, with the largest number of reported sightings recorded in July;
- Carnivores, such as wolf and fox, were reported in July and August; and
- Geese were first recorded in May.

A summary of the 2009 incidental wildlife log information is provided in Table 10 below.

TABLE 10. SUMMARY OF THE 2009 DISCOVERY AND SUNRISE CAMP WILDLIFE SIGHTING LOGS			
Species	Sighting Month	Observation(s)	Location of Observation(s)
Unspecified Goose Species	May	Two observations of 12 geese flying in a north northeast direction	• 9 km northwest of CH-2 • 1.8 km southwest of Sunrise camp
Canada Goose	May	Three observations of 75 Canada geese flying both north and south	• East of Discovery Camp • At Sunrise Camp • At Sunrise Camp
Common Raven	May	One observation of 1 raven flying	• Mini bulk sample site
Ptarmigan	May	One observation of 1 ptarmigan flying northeast	• 2 km northeast of Discovery Camp
Ptarmigan	June	One observation of 1 ptarmigan nesting with 5 eggs	• At Sunrise Camp
Loon Species	August	One observation of 2 loons	• On lake next to Sunrise Camp
White Owl	August	One observation of 1 owl	In between Discovery and Sunrise camps
Caribou	May	One observation of 5 caribou grazing	• At Sunrise Camp
Caribou	June	One observation of 1 caribou	• 30 km northwest of Sunrise Camp
Caribou	July	Ten observations of 29 caribou	• West of Sunrise Camp • 2 km east northeast of Discovery Camp • 1 km northwest of Discovery Camp • 1 km west northwest of Discovery Camp • 500 m north northeast of Discovery Camp • 300 m west of Discovery Camp • 1 km northwest of Discovery Camp • 2 km south of Discovery Camp
Caribou	August	Two observations of 2 caribou	• 2.5 km northeast of Sunrise Camp • 200 m from Discovery Camp
Wolf	July	Two observations of 3 wolves	• south of CH50 drillsite • north of drill
Wolf	August	One observation of 1 wolf travelling southeast	• 1 km east of Discovery Camp
Fox	August	Three observations of 3 foxes travelling or hunting lemmings	• In or near Sunrise Camp
Polar Bear	August	One observation of 2 polar bears (female with cub)	• 6 km northeast of Discovery Camp

5.0 DISCUSSION

5.1 SURFACE WATER QUALITY

Based on the results observed during the June/July and August sampling events, the surface water quality within the study area is considered to have naturally low nutrients, low pH, and low total metals, except aluminum.

The relative per cent difference assessment indicated the duplicate samples for both the June/July and August sampling events were reliable and, therefore, the sampling and analytical methods employed were acceptable. In addition, internal laboratory QC analysis and replicate sampling for both the June/July and August sampling events indicated that the tests performed were valid and accurate.

Since the water quality results were similar at all water quality stations, including those well outside the project's zone of influence, it can be concluded that surface water quality of the samples collected represents natural background conditions. The surrounding ecology and geology, as well as other biotic and abiotic factors influence the quality of surface water in a local area. Low nutrient levels commonly occur in northern waters with watersheds dominated by bedrock, and naturally elevated levels of aluminum, copper, and mercury can be observed in waters with naturally low pH values (EMAN North 2005).

Besides the surface water quality collected in the study area in 2009, limited information exists on the water quality of the area.

5.2 PRELIMINARY HYDROLOGY

Preliminary stream flow velocities were measured while on site during the June/July and August field events. To date, this preliminary information is the only known stream flow information in the region.

Preliminary flow velocities were measured at two ephemeral streams downstream of CH-1 and CH-2 during the June/July sampling event; stream flows of 0.344 and 0.485 m^3/s respectively, were recorded. By August, these two steams at the sampling stations were dry, and their downstream reach was experiencing stream flows markedly slower at 0.088 m^3/s.

Due to their shallow depths, these streams presumably freeze to the bottom substrate and have no winter flow. These smaller headwater streams likely experience a sudden peak in flow in response to spring freshet and rain events since their watersheds consist mainly of bedrock with limited soil and vegetation cover, and little to no storage capacity in the form of wetlands and lakes (EMAN North 2005). Streams such as these experience the greatest flow during spring freshet, and flow diminishes by the fall and winter.

5.3 WILDLIFE AND WILDLIFE HABITAT

5.3.1 Preliminary Wildlife Habitat

Multiple abiotic factors influence plant growth and distribution across Arctic landscapes, including soil temperature, moisture and nutrient regimes, and the duration of the snow-free period (Eriksen *et al.* 2003). Many of these factors are a function of local topography.

The majority of the habitats within and immediately adjacent to the Discovery and Sunrise camps, CH-1, and CH-2 were characterized by "Bare Soil with Cryptogam Crust" habitats, with small inclusions of "Moist to Dry Non-Tussock Graminoid/Dwarf Shrub Tundra". The "Moist Non-Tussock Graminoid/Dwarf Shrub Tundra" habitat types found in small pockets within drainage channels and along rivers and large tributaries have the greatest plant coverage.

Similar plant compositions and habitat types found during the August field event were also described in Auyuittuq National Park (on Cumberland Peninsula, north of the study area) from 1985 – 1987 (Hines and Moore 1988). Hines and Moore (1988) reported "Wet Tundra" habitat types with similar species and species compositions as the "Moist to Dry Non-Tussock Graminoid/Dwarf Shrub Tundra" described in the study area. In addition, "High Elevation Barren" habitats described in Auyuittuq National Park included similar plant species and structures as the "Bare Soil with Cryptogam Crust" habitats identified in the study area. These areas were considered to support low wildlife densities and had low wildlife diversity (Hines *et al.* 1988b).

No sensitive wildlife habitats were identified in 2009 near the exploration or camp sites during the preliminary habitat assessment.

5.3.2 Breeding Birds

Snow Buntings were the only breeding bird species recorded on the breeding bird stations during the June/July sampling event; however, Baird's Sandpiper, Semipalmated Sandpiper, Horned Lark, and Rock Ptarmigan were also documented as incidentals. The breeding bird results could be a function of the survey timing. Watson (1953) reported territorial breeding bird behaviour was either lacking or insignificant in comparison with more temperate regions of Canada, and indicated breeding bird territorial singing on Cumberland Peninsula (north of the study area) dropped markedly by early July. The majority of songbirds reportedly migrated out of Cumberland Sound at the end of July to early August (Watson 1953).

Other research in the region reported Snow Buntings as the most common breeding bird in the interior of southern Baffin Island (Soper 1946). Hines *et al.* 1988b, indicated Snow Buntings were widely distributed across Auyuittuq National Park, were observed in a variety of habitat types, and were the most abundant breeding bird documented in the park. Territorial singing was reported to commence in early June and peak approximately June 20 (Soper 1946). These birds were reported to occupy a variety of habitat types including

"Bare Soil with Cryptogam Crust" and "Moist to Dry Non-Tussock Graminoid/Dwarf Shrub Tundra".

Other researchers have also reported Baird's Sandpipers occurring at low densities across southern Baffin Island. Hines *et al.* (1988b) reported a single observation of a Baird's Sandpiper in Auyuittuq National Park, and Watson (1963) observed a pair occupying "dry grassy flats" habitat on Cumberland Peninsula.

Although Semipalmated Sandpipers were not documented in Auyuittuq National Park (Hines *et al.* 1988b), they have been documented in southwest Baffin Island (Soper 1946).

In Auyuittuq National Park, Horned Larks were observed by Hines *et al.* (1988b), but no evidence of breeding was reported; however, this may have been a function of the survey timing. Soper (1946) reported nesting Horned Larks across southern Baffin Island in early spring before complete snow melt.

Soper (1946) documented Rock Ptarmigan "almost anywhere" in the interior of Baffin Island on a year round basis, with fewer observations during the winter. In addition, Rock Ptarmigan were reported in Auyuittuq National Park, but they reportedly occurred at low population densities (Hines *et al.* 1988b).

No sensitive breeding bird habitats were identified in 2009 near the exploration or camp sites during the breeding bird survey.

5.3.3 Waterfowl and Waterbirds

Six species of waterfowl and waterbirds were documented within the study area during the 2009 survey events. Waterfowl and waterbirds occupied lakes, small ponds, and the McKeand River and its larger tributaries (and the adjacent uplands) in low densities. Based on our initial waterfowl and waterbird surveys results, population densities and distribution of waterfowl and waterbirds were likely restricted by a lack of suitable habitat. Waterbodies in general appear to be oligotrophic (*i.e.* nutrient poor and relatively unproductive) in condition with limited suitable upland habitat.

Although few waterfowl and waterbirds were detected within the study area, Riewe (1992) mapped sensitive waterfowl and waterbird areas throughout the coastal area, east northeast of the study area (located within the Canadian Wildlife Service Western Cumberland Sound Archipelago Key Migratory Bird Terrestrial Habitat Site), as well as further inland near Amadjuak Lake (approximately 180 km from the study area).

Red-throated Loons were infrequently observed by Hines *et al.* (1988b) throughout Auyuittuq National Park; however, both Canada and Snow geese were common in wetland complexes. Abundant goose droppings were also documented in many upland grass/sedge dominated sites across the Park. Similar wetland complex habitats were not observed near the exploration or camp sites during the baseline surveys.

Glaucous and Herring gulls were commonly observed distributed across southeastern Baffin Island, including Auyuittuq National Park; however, Iceland Gulls were not documented during these former surveys (Soper 1946; Hines *et al.* 1988b).

Harlequin Ducks are listed by the Species at Risk Act (SARA) as Special Concern (Government of Canada 2009). By definition this species is sensitive to human activities or natural events due to its biological characteristics (*i.e.* low reproductive rate). No Harlequin Ducks were observed within the study area or in the regional area (Hines *et al.* 1988b; Soper 1946; Watson 1953). Fast flowing, nutrient poor streams near the glacier were considered to have low habitat potential for Harlequin Ducks.

No sensitive waterfowl/waterbird habitats were identified in 2009 near the exploration or camp sites during the baseline surveys.

5.3.4 Raptors

In 2007, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) re-assessed the status of all Peregrine Falcons in Canada, and merged *anatum* and *tundrius* into one entity and downlisted the Peregrine Falcon (*anatum*/*tundrius*) to Special Concern. This new status has yet to be reviewed/accepted by the SARA council.

Five species of raptors were observed within the study area: Peregrine Falcon, Gyrfalcon, Rough-legged Hawk, Snowy Owl, and Common Raven (a functional raptor). Evidence of a Peregrine Falcon, Gyrfalcon, Snowy Owl, and a Common Raven potentially nesting in the study area was documented. A limited amount of potential cliff nesting habitat exists within the eastern edge of the study area. Additional habitat likely exists outside the study area near the coastline. These four potential nest sites were identified as sensitive areas, and a conservative buffer zone of 1.5 km from the area is recommended, particularly during the breeding season (early May to mid August). Raptors show nest site fidelity, actively guard their nesting ranges, and are sensitive to disturbances during the nesting season.

Sensitive cliff-nesting raptor habitat, particularly for Gyrfalcons, was identified by Riewe (1992) northeast of the study area along the coast of Cumberland Sound. Hines *et al.* (1988b) reported one Peregrine Falcon, three observations of Gyrfalcons, including two active Gyrfalcon scrapes, and a Snowy Owl (and a probable nesting territory) in and around Auyuittuq National Park. Peregrine Falcons, Gyrfalcons, Snowy Owls, and Rough-legged Hawks were occasionally observed across southern Baffin Island, and were considered breeders in the region (Soper 1946).

Short-eared Owls have been assessed by COSEWIC as Special Concern, and are considered "probable" occupants of southern Baffin Island (Holt and Leasure 2006). No Short-eared Owls were documented during the 2009 baseline studies.

5.3.5 Caribou

Ferguson *et al.* (1998) reported Inuit traditional knowledge regarding the long-term caribou populations on southern Baffin Island. According to the Inuit knowledge shared in the report, caribou populations on south Baffin Island peaked around the early 1900s, reached their lows in the 1940s, and peaked again in the 1990s (Ferguson *et al.* 1998). Caribou on Hall Peninsula were common along the coast and islands from approximately 1900 to 1928, but by 1929 to 1960 only a few remained in "special caribou areas" in the interior, including the upper McKeand River (Ferguson *et al.* 1998). By 1965, caribou were again occupying coastal areas along Hall Peninsula when their populations peaked in the early 1990s (Ferguson *et al.* 1998). During this time, caribou were observed feeding on small islands several kilometres off of Baffin Island; an observation commonly documented by Inuit traditional knowledge prior to population declines (Ferguson *et al.* 1998).

Caribou occur on Hall Peninsula year round and reportedly calve along the west coast of Cumberland Sound and possibly in the interior on the McKeand River plateau (within the study area) (Riewe 1992). From June 8 – 14, 1979 (peak calving period), Chowns and Popko (1980) conducted a survey to delineate calving areas on the Hall Peninsula, including the study area. Calves were observed in the study area at this time. During the summer, caribou occupy the interior plains, particularly south and southwest of Chidliak Bay (including the study area), and migrate north and northwest for the winter (Riewe 1992). However, Chowns (1980) reported caribou occupying coastal areas and a few locations inland, including Qamanaqjuaq Lake (approximately 100 km from the study area) and on McKeand River Plateau from September to November.

During periods of population highs, traditional knowledge reports caribou-range shifts[11], expansions[12], and drifts[13]; however, during population declines and lows, caribou distributions were scattered and unpredictable (Ferguson *et al.* 1998). However, during periods of population lows, caribou could still be found in a few "special caribou areas". No "special caribou areas" are known within the study area.

Government of Nunavut longitudinal satellite-collar data suggests collared caribou have occupied the study area in the spring, summer, and fall, and have spent winters approximately 10 km west of the study area (Figure 7) (compilation data released to Peregrine by D. Jenkins 2009).

Due to the low numbers of caribou counted on transect during the 2009 baseline caribou surveys (total n=5), the standard error for the estimated caribou abundance was high. "Standard error" is considered directly related to the number of caribou counted and their distribution within a study area. If a large number of caribou were counted and they were distributed more evenly across the study area, one would have had a smaller standard error.

[11] Range shifts were described as emigration to new ranges.
[12] Range expansions were described as an increase in the area occupied by caribou.
[13] Range drift was described as an increase in range in one direction and a simultaneous decrease in range in another.

Based on our results, caribou exist at very low population densities in the study area. Since few caribou were observed during the June/July and August sampling events, sensitive caribou habitats near the exploration or camp sites cannot be delineated at this time.

Riewe (1992) identified that the majority of what is now considered as the Chidliak Project study area lies within an area occasionally hunted by Pangnirtung hunters, with only small portions of the mostly northerly and northeasterly corners of the study area lying within an intensively used hunting area bordering the coastline (hunted in the late fall, winter, and early spring).

Hines *et al.* (1988b) reported that a few caribou were observed in and around Auyuittuq National Park, and indicated caribou existed at low population densities in the park.

5.3.6 Carnivores

Polar bears and wolverines have been assessed by COSEWIC as species of Special Concern. Polar bears, wolves, wolverine, arctic fox, and red foxes are key predators in southern Baffin Island. Fox and wolves were occasionally observed within the study area, as noted in the camp wildlife logs. In addition, a single observation of a polar bear and her cub was also reported in the wildlife logs.

Polar bears within the subject property belong to the Davis Strait population who reside along the eastern side of Baffin Island in the summer. The approximate annual ice-free period near the study area begins between early to mid July, leaving polar bears to fast on land until freezeup in approximately November. Polar bears were expected to occur on or near the study area during this time. Riewe (1992) documented polar bears occurring in moderate densities along the coast, east of the study area, and indicated the resident bears show a high degree of fidelity to their wintering and spring feeding areas.

Wolves and foxes have a fidelity to den sites, and are sensitive to disturbances during breeding season. Both wolves and foxes require suitable denning substrate commonly found on eskers and other accumulations of glaciofluvial materials. Available denning habitat was considered poor in the study area, and no wolf and fox dens were observed during the baseline surveys. No sensitive carnivore habitats were identified in 2009 near the exploration or camp sites during the baseline surveys.

Hines *et al.* (1988b) occasionally observed fox tracks and scat, and indicated Arctic foxes were widely distributed across Auyuittuq National Park in low densities. However, Watson (1963) reported seeing no evidence of fox in the Penny Highlands of Cumberland Peninsula. No wolf observations were reported by either Hines *et al.* (1988b) or Watson (1963); however, wolves occur wherever caribou are found. Riewe (1992) reported wolf and Arctic fox (including fox dens) in moderate densities west of the study area (approximately 180 km) near Amadjuak Lake.

6.0 CONCLUSION

The study area is considered a pristine environment. Concluding statements regarding the 2009 baseline studies are presented here:

- The quality of the surface water sampled was characteristic of oligotrophic waterbodies, which exhibit low nutrients and pH values, and represented natural conditions.
- Small ephemeral streams sampled near the exploration and camp sites have little storage capacity in the way of wetlands and lakes, and were strongly influenced by freshet and heavy rain events.
- A single habitat type, "Bare Soil Cryptogam Crust", dominates the areas near the exploration and camp sites; however, small isolated pockets of a more productive habitat, "Moist to Dry Non-Tussock Graminoid/Dwarf Shrub Tundra' habitats exist in drainage areas and along rivers and large streams. No sensitive habitats were identified in 2009 surveys.
- Overall, the available habitat for the majority of breeding bird species was considered unproductive, which was reflected in the low numbers of species detected (Snow Bunting, Baird's Sandpiper, Horned Lark, Semipalmated Sandpiper, and Rock Ptarmigan) and the small number of observations. With the addition of incidental observations, "Moist to Dry Non-Tussock Graminoid/Dwarf Shrub Tundra' habitats were more productive than "Bare Soil Cryptogam Crust" habitats.
- Six species of waterfowl and waterbirds were documented within the study area during the 2009 survey events. No species with special conservation status were observed. Waterfowl and waterbirds were widely distributed across the study area and occupied lakes, small ponds, and the McKeand River and its larger tributaries (and the adjacent uplands) in low densities. No waterfowl or waterbird sensitive areas were identified.
- Five species of raptors (including Common Raven) were observed within the study area, including a Peregrine Falcon (a species assessed by COSEWIC as Special Concern). Evidence of Peregrine Falcon, Gyrfalcon, Snowy Owl, and Common Raven potential nest sites was documented; the sites were identified as sensitive areas.
- Few caribou were observed during the June/July and August survey events. Based on our results, caribou exist at very low population densities in the study area during this time, and no sensitive caribou habitats near the exploration and camp sites were delineated.
- No carnivores, carnivore dens or carnivore sign were identified during the 2009 baseline surveys, except for a single fox track. No sensitive carnivore areas were identified near the exploration and camp sites.

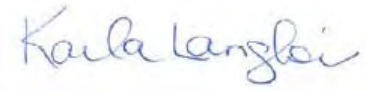
7.0 LIMITATIONS OF REPORT

This report and its contents are intended for the sole use of Peregrine Diamonds Ltd. and their agents. EBA does not accept any responsibility for the accuracy of any of the data, the analysis or the recommendations contained or referenced in the report when the report is used or relied upon by any Party other than Peregrine Diamonds Ltd., or for any Project other than the proposed development at the subject site. Any such unauthorized use of this report is at the sole risk of the user. Use of this report is subject to the terms and conditions stated in EBA's Services Agreement and in the General Conditions provided in Appendix C of this report.

8.0 CLOSURE

We trust this report meets your present requirements. Should you have any questions or comments, please contact the undersigned at your convenience.

Sincerely,
EBA Engineering Consultants Ltd.



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TABLES

Peregrine Diamonds Ltd. Chidliak Property

Table 2. Water Quality Parameter Detection Limits

Analyte	UNITS	Detection Limit
Major Ions, Nutrients, and Inorganics		
Calcium (Ca)-Total	mg/L	0.5
Phosphorus, Total	mg/L	0.02
Potassium (K)-Total	mg/L	0.5
Sodium (Na)-Total	mg/L	1
Hardness (as $CaCO_3$)	mg/L	n/a
Nitrate and Nitrite as N	mg/L	0.071
Nitrate (as N)	mg/L	0.05
Nitrite (as N)	mg/L	0.05
Nitrogen, Total	mg/L	0.2
Total Kjeldahl Nitrogen	mg/L	0.2
pH	pH	0.1
Electrical Conductivity (EC)	uS/cm	0.2
Ammonia-N	mg/L	0.005
Total Organic Carbon	mg/L	1
Total Suspended Solids	mg/L	3
Turbidity	NTU	0.1
Organics		
Oil and Grease	mg/L	n/a
Total Metals		
Aluminum (Al)	mg/L	0.005
Antimony (Sb)	mg/L	0.0004
Arsenic (As)	mg/L	0.0004
Barium (Ba)	mg/L	0.003
Beryllium (Be)	mg/L	0.001
Boron (B)	mg/L	0.05
Cadmium (Cd)	mg/L	0.00001
Chromium (Cr)	mg/L	0.001
Cobalt (Co)	mg/L	0.002
Copper (Cu)	mg/L	0.001
Iron (Fe)	mg/L	0.03
Lead (Pb)	mg/L	0.0001
Lithium (Li)	mg/L	0.01
Magnesium (Mg)	mg/L	0.1
Manganese (Mn)	mg/L	0.005
Mercury (Hg)	mg/L	0.00002
Molybdenum (Mo)	mg/L	0.005
Nickel (Ni)	mg/L	0.002
Selenium (Se)	mg/L	0.0004
Silver (Ag)	mg/L	0.0001
Thallium (Tl)	mg/L	0.0001
Tin (Sn)	mg/L	0.05
Titanium (Ti)	mg/L	0.001
Uranium (U)	mg/L	0.0001
Vanadium (V)	mg/L	0.001
Zinc (Zn)	mg/L	0.004

Legend

n/a denotes No Detection Limit

Peregrine Diamonds Ltd. Chidliak Property

Table 3. 2009 Water Quality QA/QC Results

Analyte	June/July Sampling Event		August Sampling Event		UNITS	Detection Limit
	Trip Blank	Field Blank	Trip Blank	Field Blank		
Major Ions, Nutrients, and Inorganics						
Calcium (Ca)-Total	<0.50	<0.50	<0.50	<0.50	mg/L	0.5
Phosphorus, Total	<0.020	<0.020	<0.020	<0.020	mg/L	0.02
Potassium (K)-Total	<0.50	<0.50	<0.50	<0.50	mg/L	0.5
Sodium (Na)-Total	<1.0	<1.0	<1.0	<1.0	mg/L	1
Hardness (as CaCO3)	<1.3	<1.3	<1.3	<1.3	mg/L	n/a
Nitrate and Nitrite as N	<0.071	<0.071	<0.071	<0.071	mg/L	0.071
Nitrate (as N)	<0.050	<0.050	<0.050	<0.050	mg/L	0.05
Nitrite (as N)	<0.050	<0.050	<0.050	<0.050	mg/L	0.05
Nitrogen, Total	<0.20	<0.20	<0.20	<0.20	mg/L	0.2
Total Kjeldahl Nitrogen	<0.20	<0.20	<0.20	<0.20	mg/L	0.2
pH	5.75	6.10	5.41	5.99	pH	0.1
Electrical Conductivity (EC)	<0.20	<0.20	<0.20	<0.20	uS/cm	0.2
Ammonia-N	<0.0050	<0.0050	<0.0050	<0.0050	mg/L	0.005
Total Organic Carbon	<1.0	<1.0	<1.0	<1.0	mg/L	1
Total Suspended Solids	<3.0	<3.0	<3.0	<3.0	mg/L	3
Turbidity	<0.10	<0.10	<0.10	<0.10	NTU	0.1
Organics						
Oil and Grease	<1.0	<1.0	No visible sheen	No visible sheen	mg/L	n/a
Total Metals						
Aluminum (Al)	<0.0050	<0.0050	<0.0050	<0.0050	mg/L	0.005
Antimony (Sb)	<0.00040	<0.00040	<0.00040	<0.00040	mg/L	0.0004
Arsenic (As)	<0.00040	<0.00040	<0.00040	<0.00040	mg/L	0.0004
Barium (Ba)	<0.0030	<0.0030	<0.0030	<0.0030	mg/L	0.003
Beryllium (Be)	<0.0010	<0.0010	<0.0010	<0.0010	mg/L	0.001
Boron (B)	<0.050	<0.050	<0.050	<0.050	mg/L	0.05
Cadmium (Cd)	<0.000010	<0.000010	<0.000010	<0.000010	mg/L	0.00001
Chromium (Cr)	<0.0010	<0.0010	<0.0010	<0.0010	mg/L	0.001
Cobalt (Co)	<0.0020	<0.0020	<0.0020	<0.0020	mg/L	0.002
Copper (Cu)	<0.0010	<0.0010	<0.0010	<0.0010	mg/L	0.001
Iron (Fe)	<0.030	<0.030	<0.030	<0.030	mg/L	0.03
Lead (Pb)	<0.00010	<0.00010	<0.00010	<0.00010	mg/L	0.0001
Lithium (Li)	<0.010	<0.010	<0.010	<0.010	mg/L	0.01
Magnesium (Mg)	<0.10	<0.10	<0.10	<0.10	mg/L	0.1
Manganese (Mn)	<0.0050	<0.0050	<0.0050	<0.0050	mg/L	0.005
Mercury (Hg)	<0.000020	<0.000020	<0.000020	<0.000020	mg/L	0.00002
Molybdenum (Mo)	<0.0050	<0.0050	<0.0050	<0.0050	mg/L	0.005
Nickel (Ni)	<0.0020	<0.0020	<0.0020	<0.0020	mg/L	0.002
Selenium (Se)	<0.00040	<0.00040	<0.00040	<0.00040	mg/L	0.0004
Silver (Ag)	<0.00010	<0.00010	<0.00010	<0.00010	mg/L	0.0001
Thallium (Tl)	<0.00010	<0.00010	<0.00010	<0.00010	mg/L	0.0001
Tin (Sn)	<0.050	<0.050	<0.050	<0.050	mg/L	0.05
Titanium (Ti)	<0.0010	<0.0010	<0.0010	<0.0010	mg/L	0.001
Uranium (U)	<0.00010	<0.00010	<0.00010	<0.00010	mg/L	0.0001
Vanadium (V)	<0.0010	<0.0010	<0.0010	<0.0010	mg/L	0.001
Zinc (Zn)	<0.0040	<0.0040	<0.0040	<0.0040	mg/L	0.004

Legend

n/a denotes No Detection Limit
Above Detection Limit

Peregrine Diamonds Ltd. Chidliak Property

Table 4. June/July Water Quality Duplicate Assessment (Relative Percent Difference)

Analyte	Hydro 2	Hydro 2 Duplicate	UNITS	Detection Limit	Applicability[1]			RPD[2] (%)	Reliable Duplicate[3] Yes (RPD <20%)/No
					Hydro 2	Hydro 2 Duplicate	Yes/No		
Major Ions, Nutrients, and Inorganics									
Calcium (Ca)	<0.50	<0.50	mg/L	0.5	-	-	-	-	-
Phosphorus, Total	<0.020	<0.020	mg/L	0.02	-	-	-	-	-
Potassium (K)-Total	<0.50	<0.50	mg/L	0.5	-	-	-	-	-
Sodium (Na)-Total	<1.0	<1.0	mg/L	1	-	-	-	-	-
Hardness (as CaCO3)	<1.3	<1.3	mg/L	n/a	-	-	-	-	-
Nitrate and Nitrite as N	<0.071	<0.071	mg/L	0.071	-	-	-	-	-
Nitrate (as N)	<0.050	<0.050	mg/L	0.05	-	-	-	-	-
Nitrite (as N)	<0.050	<0.050	mg/L	0.05	-	-	-	-	-
Nitrogen, Total	<0.20	<0.20	mg/L	0.2	-	-	-	-	-
Total Kjeldahl Nitrogen	<0.20	<0.20	mg/L	0.2	-	-	-	-	-
pH	5.73	5.84	pH	0.1	57.3	58.4	√	2	√
Electrical Conductivity (EC)	2.33	2.20	uS/cm	0.2	11.7	11.0	√	6	√
Ammonia-N	<0.0050	<0.0050	mg/L	0.005	-	-	-	-	-
Total Organic Carbon	<1.0	<1.0	mg/L	1	-	-	-	-	-
Total Suspended Solids	<3.0	<3.0	mg/L	3	-	-	-	-	-
Turbidity	0.94	1.04	NTU	0.1	9.4	10.4	√	10	√
Organics									
Oil and Grease	<1.0	<1.0	mg/L	n/a	-	-	-	-	-
Total Metals									
Aluminum (Al)	0.0510	0.0477	mg/L	0.005	10.2	9.5	√	7	√
Antimony (Sb)	<0.00040	<0.00040	mg/L	0.0004	-	-	-	-	-
Arsenic (As)	<0.00040	<0.00040	mg/L	0.0004	-	-	-	-	-
Barium (Ba)	<0.0030	<0.0030	mg/L	0.003	-	-	-	-	-
Beryllium (Be)	<0.0010	<0.0010	mg/L	0.001	-	-	-	-	-
Boron (B)	<0.050	<0.050	mg/L	0.05	-	-	-	-	-
Cadmium (Cd)	<0.000010	<0.000010	mg/L	0.00001	-	-	-	-	-
Chromium (Cr)	<0.0010	<0.0010	mg/L	0.001	-	-	-	-	-
Cobalt (Co)	<0.0020	<0.0020	mg/L	0.002	-	-	-	-	-
Copper (Cu)	<0.0010	<0.0010	mg/L	0.001	-	-	-	-	-
Iron (Fe)	0.041	0.036	mg/L	0.03	1.4	1.2	x	-	---
Lead (Pb)	<0.00010	<0.00010	mg/L	0.0001	-	-	-	-	-
Lithium (Li)	<0.010	<0.010	mg/L	0.01	-	-	-	-	-
Magnesium (Mg)	<0.10	<0.10	mg/L	0.1	-	-	-	-	-
Manganese (Mn)	<0.0050	<0.0050	mg/L	0.005	-	-	-	-	-
Mercury (Hg)	<0.000020	<0.000020	mg/L	0.00002	-	-	-	-	-
Molybdenum (Mo)	<0.0050	<0.0050	mg/L	0.005	-	-	-	-	-
Nickel (Ni)	<0.0020	<0.0020	mg/L	0.002	-	-	-	-	-
Selenium (Se)	<0.00040	<0.00040	mg/L	0.0004	-	-	-	-	-
Silver (Ag)	<0.00010	<0.00010	mg/L	0.0001	-	-	-	-	-
Thallium (Tl)	<0.00010	<0.00010	mg/L	0.0001	-	-	-	-	-
Tin (Sn)	<0.050	<0.050	mg/L	0.05	-	-	-	-	-
Titanium (Ti)	0.0032	0.0030	mg/L	0.001	3.2	3.0	x	-	---
Uranium (U)	<0.00010	<0.00010	mg/L	0.0001	-	-	-	-	-
Vanadium (V)	<0.0010	<0.0010	mg/L	0.001	-	-	-	-	-
Zinc (Zn)	<0.0040	<0.0040	mg/L	0.004	-	-	-	-	-

Legend

n/a denotes No Detection Limit

[1] Applicability to the Relative Percent Difference (RPD) Assessment requires that results be at least 5 x the detection limit since analytical error increases near the detection limit. The symbol "√" is used to depict results greater than 5 x the detection limit (applicable results); whereas, the symbol "x" depicts results less than 5 x the detection limit. Since the values of the results demarkated with an "x" are close to the detection limit, there is an increased probability of analytical error and were not used in the reliability assessment.

[2] RPD (%) = 200 x ABS (x - y) / (x + y), where ABS = Absolute difference, x = the concentration of the original sample, y = the concentration of the blind field duplicate sample

[3] Duplicate samples are reliable when their RPD is less than 20%

- = not available since the result(s) are below the detection limit

--- = not available since the applicability is less than 5 x the detection limit.

Peregrine Diamonds Ltd. Chidliak Property

Table 5. August Water Quality Duplicate Assessment (Relative Percent Difference)

Analyte	Hydro 9	Hydro 9 Duplicate	UNITS	Detection Limit	Applicability[1]			RPD[2] (%)	Reliable Duplicate[3] Yes (RPD <20%)/No
					Hydro 9	Hydro 9 Duplicate	Yes/No		
Major Ions, Nutrients, and Inorganics									
Calcium (Ca)	<0.50	<0.50	mg/L	0.5	-	-	-	-	-
Phosphorus, Total	<0.020	<0.020	mg/L	0.02	-	-	-	-	-
Potassium (K)-Total	<0.50	<0.50	mg/L	0.5	-	-	-	-	-
Sodium (Na)-Total	1	<1.0	mg/L	1	1.0	-	x	-	---
Hardness (as CaCO3)	<1.3	<1.3	mg/L	n/a	-	-	-	-	-
Nitrate and Nitrite as N	0.378	0.377	mg/L	0.071	5.3	5.3	√	0	√
Nitrate (as N)	0.378	0.377	mg/L	0.05	7.6	7.5	√	0	√
Nitrite (as N)	<0.050	<0.050	mg/L	0.05	-	-	-	-	-
Nitrogen, Total	0.38	0.38	mg/L	0.2	1.9	1.9	x	-	---
Total Kjeldahl Nitrogen	<0.20	<0.20	mg/L	0.2	-	-	-	-	-
pH	5.47	5.49	pH	0.1	54.7	54.9	√	0	√
Electrical Conductivity (EC)	6.45	6.43	uS/cm	0.2	32.3	32.2	√	0	√
Ammonia-N	0.0057	<0.0050	mg/L	0.005	1.1	-	x	-	---
Total Organic Carbon	<1.0	<1.0	mg/L	1	-	-	-	-	-
Total Suspended Solids	<3.0	<3.0	mg/L	3	-	-	-	-	-
Turbidity	2.2	2.23	NTU	0.1	22.0	22.3	√	1	√
Organics									
Oil and Grease	No visible sheen	No visible sheen	mg/L	n/a	-	-	-	-	-
Total Metals									
Aluminum (Al)	0.0671	0.0665	mg/L	0.005	13.4	13.3	√	1	√
Antimony (Sb)	<0.00040	<0.00040	mg/L	0.0004	-	-	-	-	-
Arsenic (As)	<0.00040	<0.00040	mg/L	0.0004	-	-	-	-	-
Barium (Ba)	0.0034	0.0035	mg/L	0.003	1.1	1.2	x	-	---
Beryllium (Be)	<0.0010	<0.0010	mg/L	0.001	-	-	-	-	-
Boron (B)	<0.050	<0.050	mg/L	0.05	-	-	-	-	-
Cadmium (Cd)	0.00001	<0.000010	mg/L	0.00001	1.0	-	x	-	---
Chromium (Cr)	<0.0010	<0.0010	mg/L	0.001	-	-	-	-	-
Cobalt (Co)	<0.0020	<0.0020	mg/L	0.002	-	-	-	-	-
Copper (Cu)	<0.0010	<0.0010	mg/L	0.001	-	-	-	-	-
Iron (Fe)	0.047	0.046	mg/L	0.03	1.6	1.5	x	-	---
Lead (Pb)	<0.00010	<0.00010	mg/L	0.0001	-	-	-	-	-
Lithium (Li)	<0.010	<0.010	mg/L	0.01	-	-	-	-	-
Magnesium (Mg)	0.17	0.15	mg/L	0.1	1.7	1.5	x	-	---
Manganese (Mn)	<0.0050	<0.0050	mg/L	0.005	-	-	-	-	-
Mercury (Hg)	<0.000020	<0.000020	mg/L	0.00002	-	-	-	-	-
Molybdenum (Mo)	<0.0050	<0.0050	mg/L	0.005	-	-	-	-	-
Nickel (Ni)	<0.0020	<0.0020	mg/L	0.002	-	-	-	-	-
Selenium (Se)	<0.00040	<0.00040	mg/L	0.0004	-	-	-	-	-
Silver (Ag)	<0.00010	<0.00010	mg/L	0.0001	-	-	-	-	-
Thallium (Tl)	<0.00010	<0.00010	mg/L	0.0001	-	-	-	-	-
Tin (Sn)	<0.050	<0.050	mg/L	0.05	-	-	-	-	-
Titanium (Ti)	0.0032	0.0031	mg/L	0.001	3.2	3.1	x	-	---
Uranium (U)	<0.00010	<0.00010	mg/L	0.0001	-	-	-	-	-
Vanadium (V)	<0.0010	<0.0010	mg/L	0.001	-	-	-	-	-
Zinc (Zn)	<0.0040	<0.0040	mg/L	0.004	-	-	-	-	-

Legend

n/a denotes No Detection Limit

[1] Applicability to the Relative Percent Difference (RPD) Assessment requires that results be at least 5 x the detection limit since analytical error increases near the detection limit. The symbol "√" is used to depict results greater than 5 x the detection limit (applicable results); whereas, the symbol "x" depicts results less than 5 x the detection limit. Since the values of the results demarkated with an "x" are close to the detection limit, there is an increased probability of analytical error and were not used in the reliability assessment.

[2] RPD (%) = 200 x ABS (x - y) / (x + y), where ABS = Absolute difference, x = the concentration of the original sample, y = the concentration of the blind field duplicate sample

[3] Duplicate samples are reliable when their RPD is less than 20%

- = not available since the result(s) are below the detection limit

--- = not available since the applicability is less than 5 x the detection limit.

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Table 7. June/July 2009 Water Quality Results

Analyte	Trip Blank	Field Blank	Hydro 1	Hydro 2	Hydro 2 Duplicate	WQ4	WQ5	WQ6	UNITS	Detection Limit	CCME Guideline
Major Ions, Nutrients, and Inorganics											
Calcium (Ca)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	mg/L	0.5	---
Phosphorus, Total	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	mg/L	0.02	---
Potassium (K)-Total	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	mg/L	0.5	---
Sodium (Na)-Total	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	mg/L	1	---
Hardness (as CaCO3)	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	mg/L	n/a	---
Nitrate and Nitrite as N	<0.071	<0.071	<0.071	<0.071	<0.071	<0.071	<0.071	<0.071	mg/L	0.071	---
Nitrate (as N)	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	mg/L	0.05	2.9
Nitrite (as N)	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	mg/L	0.05	0.06
Nitrogen, Total	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	mg/L	0.2	---
Total Kjeldahl Nitrogen	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	mg/L	0.2	---
pH	5.75	6.10	5.91	5.73	5.84	5.61	5.63	5.86	pH	0.1	6.5 - 9
Electrical Conductivity (EC)	<0.20	<0.20	1.49	2.33	2.20	1.39	3.53	2.31	uS/cm	0.2	---
Ammonia-N	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	mg/L	0.0050	122.4*
Total Organic Carbon	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.3	mg/L	1	---
Total Suspended Solids	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	mg/L	3	---
Turbidity	<0.10	<0.10	0.44	0.94	1.04	0.24	0.28	0.49	NTU	0.1	---
Organics											
Oil and Grease	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	mg/L	n/a	---
Total Metals											
Aluminum (Al)	<0.0050	<0.0050	0.0275	0.0510	0.0477	0.0192	0.0247	0.0291	mg/L	0.005	0.005**
Antimony (Sb)	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	mg/L	0.0004	---
Arsenic (As)	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	mg/L	0.0004	0.005
Barium (Ba)	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	mg/L	0.003	---
Beryllium (Be)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	mg/L	0.001	---
Boron (B)	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	mg/L	0.05	---
Cadmium (Cd)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	mg/L	0.00001	0.00001***
Chromium (Cr)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	mg/L	0.001	0.001
Cobalt (Co)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	mg/L	0.002	---
Copper (Cu)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	mg/L	0.001	0.002****
Iron (Fe)	<0.030	<0.030	<0.030	0.041	0.036	<0.030	<0.030	<0.030	mg/L	0.03	0.3
Lead (Pb)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	mg/L	0.0001	0.001****
Lithium (Li)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	mg/L	0.01	---
Magnesium (Mg)	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	mg/L	0.1	---
Manganese (Mn)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	mg/L	0.005	---
Mercury (Hg)	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	mg/L	0.00002	0.000026
Molybdenum (Mo)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	mg/L	0.005	0.073
Nickel (Ni)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	mg/L	0.002	0.025****
Selenium (Se)	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	mg/L	0.0004	0.001
Silver (Ag)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	mg/L	0.0001	0.0001
Thallium (Tl)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	mg/L	0.0001	0.0008
Tin (Sn)	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	mg/L	0.05	---
Titanium (Ti)	<0.0010	<0.0010	0.0015	0.0032	0.0030	<0.0010	<0.0010	<0.0010	mg/L	0.001	---
Uranium (U)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	mg/L	0.0001	---
Vanadium (V)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	mg/L	0.001	---
Zinc (Zn)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	mg/L	0.004	0.03

Legend

^ Canadian Council of Ministers of the Environment - Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life (December 2007).

Outside CCME Guidelines

Detection Limit above CCME Guidelines

< denotes result below detection level

n/a denotes No Detection Limit

--- No CCME Guideline

* CCME guideline for Ammonia-N (Total Ammonia) is pH and water temperature dependent. The guideline value presented here for Ammonia is specific to the average pH (6.0) (measured by the laboratory) and the estimated temperature (5 °C) of the water.

** CCME guideline for Aluminum is pH dependent. The guideline presented here for Aluminum is specific to the pH of the water at this site during this particular sampling event.

*** CCME guideline for Cadmium is dependent on hardness of the water and is calculated using the formula: Cd guideline = 10 exp{0.86[log(hardness)]-3.2}. The CCME guideline for Cadmium is specific to the average hardness of the water at this site during this particular sampling event. The value 1.3 mg/L was used for the maximum average hardness concentration.

**** CCME guideline dependent on hardness of the water and is specific to the average hardness of the water at this site during this particular sampling event.

Peregrine Diamonds Ltd. Chidliak Property

Table 8. August 2009 Water Quality Results

Analyte	Trip Blank	Field Blank	Hydro 9	Duplicate	WQ3	WQ4	WQ5	WQ6	WQ7	WQ8	UNITS	Detection Limit	CCME Guideline
Major Ions, Nutrients, and Inorganics													
Calcium (Ca)	<0.50	<0.50	<0.50	<0.50	<0.50	0.71	<0.50	<0.50	<0.50	<0.50	mg/L	0.5	---
Phosphorus, Total	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	mg/L	0.02	---
Potassium (K)-Total	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	mg/L	0.5	---
Sodium (Na)-Total	<1.0	<1.0	1	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	1	mg/L	1	---
Hardness (as CaCO3)	<1.3	<1.3	<1.3	<1.3	<1.3	3.1	<1.3	<1.3	<1.3	<1.3	mg/L	-	---
Nitrate and Nitrite as N	<0.071	<0.071	0.378	0.377	<0.071	0.313	<0.071	<0.071	<0.071	0.226	mg/L	0.071	---
Nitrate (as N)	<0.050	<0.050	0.378	0.377	<0.050	0.313	<0.050	<0.050	<0.050	0.226	mg/L	0.05	2.9
Nitrite (as N)	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	mg/L	0.05	0.06
Nitrogen, Total	<0.20	<0.20	0.38	0.38	<0.20	0.31	<0.20	<0.20	<0.20	0.23	mg/L	0.2	---
Total Kjeldahl Nitrogen	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	mg/L	0.2	---
pH	5.41	5.99	5.47	5.49	5.62	6.24	5.84	5.68	5.86	5.98	pH	0.1	6.5 - 9
Electrical Conductivity (EC)	<0.20	<0.20	6.45	6.43	1.97	10.2	3.41	2.97	4.04	9.41	uS/cm	0.2	---
Ammonia-N	<0.0050	<0.0050	0.0057	<0.0050	<0.0050	0.0215	<0.0050	<0.0050	<0.0050	<0.0050	mg/L	0.005	12.24*
Total Organic Carbon	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	mg/L	1	---
Total Suspended Solids	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	mg/L	3	---
Turbidity	<0.10	<0.10	2.2	2.23	0.17	4.12	0.36	0.37	0.66	1.34	NTU	0.1	---
Organics													
Oil and Grease	No visible sheen	No visible sheen	No visible sheen	No visible sheen	No visible sheen	No visible sheen	No visible sheen	No visible sheen	No visible sheen	No visible sheen	mg/L	-	---
Total Metals													
Aluminum (Al)	<0.0050	<0.0050	0.0671	0.0665	0.0068	0.252	0.0127	0.0222	0.0792	0.0675	mg/L	0.005	0.005**
Antimony (Sb)	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	mg/L	0.0004	---
Arsenic (As)	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	mg/L	0.0004	0.005
Barium (Ba)	<0.0030	<0.0030	0.0034	0.0035	<0.0030	0.0078	<0.0030	<0.0030	<0.0030	0.005	mg/L	0.003	---
Beryllium (Be)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	mg/L	0.001	---
Boron (B)	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	mg/L	0.05	---
Cadmium (Cd)	<0.000010	<0.000010	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	mg/L	0.00001	0.00001***
Chromium (Cr)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	mg/L	0.001	0.001
Cobalt (Co)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	mg/L	0.002	---
Copper (Cu)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	mg/L	0.001	0.002****
Iron (Fe)	<0.030	<0.030	0.047	0.046	<0.030	0.274	<0.030	<0.030	0.078	0.063	mg/L	0.03	0.3
Lead (Pb)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	mg/L	0.0001	0.001****
Lithium (Li)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	mg/L	0.01	---
Magnesium (Mg)	<0.10	<0.10	0.17	0.15	<0.10	0.33	0.1	<0.10	0.14	0.28	mg/L	0.1	---
Manganese (Mn)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.006	<0.0050	<0.0050	<0.0050	<0.0050	mg/L	0.005	---
Mercury (Hg)	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	mg/L	0.00002	0.000026
Molybdenum (Mo)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	mg/L	0.005	0.073
Nickel (Ni)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	mg/L	0.002	0.025****
Selenium (Se)	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	mg/L	0.0004	0.001
Silver (Ag)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	mg/L	0.0001	0.0001
Thallium (Tl)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	mg/L	0.0001	0.0008
Tin (Sn)	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	mg/L	0.05	---
Titanium (Ti)	<0.0010	<0.0010	0.0032	0.0031	<0.0010	0.0188	<0.0010	<0.0010	0.0059	0.0047	mg/L	0.001	---
Uranium (U)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	mg/L	0.0001	---
Vanadium (V)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	mg/L	0.001	---
Zinc (Zn)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	mg/L	0.004	0.03

Legend

^ Canadian Council of Ministers of the Environment - Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life (December 2007).

Outside CCME Guidelines

Detection Limit above CCME Guidelines

< denotes result below detection level

n/a denotes No Detection Limit

--- No CCME Guideline

* CCME guideline for Ammonia-N (Total Ammonia) is pH and water temperature dependent. The guideline value presented here for Ammonia is specific to the average pH (7.0) and the average temperature (5°C) of the water measured in the field.

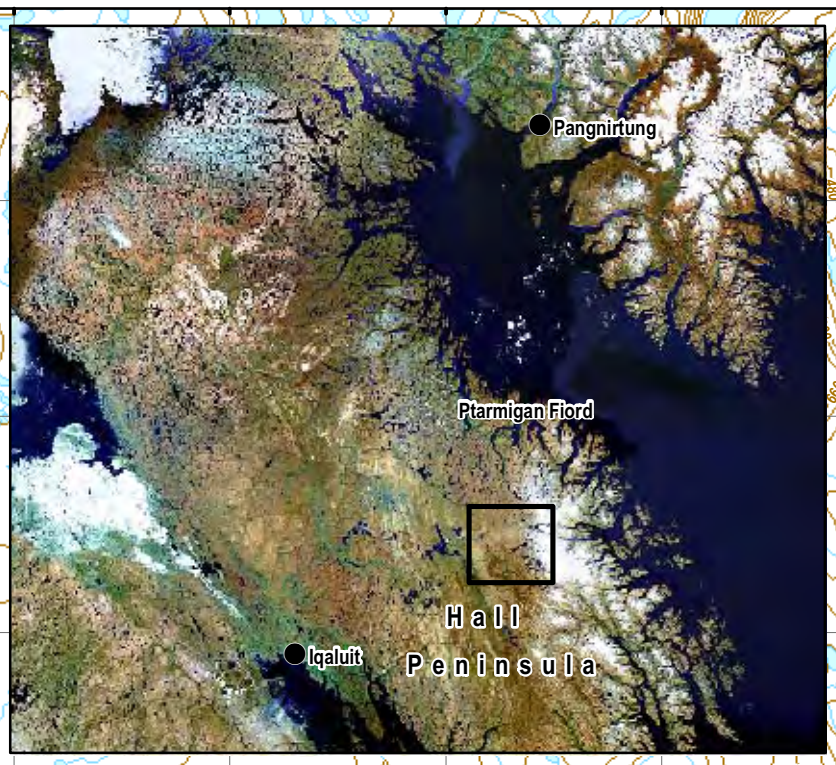
** CCME guideline for Aluminum is pH dependent. The guideline presented here for Aluminum is specific to the pH of the water at this site during this particular sampling event.

*** CCME guideline for Cadmium is dependent on hardness of the water and is calculated using the formula: Cd guideline = 10 exp{0.86[log(hardness)]-3.2}. The CCME guideline for Cadmium is specific to the average hardness of the water at this site during this particular sampling event. The value 1.5 mg/L was used for the maximum average hardness concentration.

**** CCME guideline dependent on hardness of the water and is specific to the average hardness of the water at this site during this particular sampling event.

FIGURES

Q:\Vancouver\GIS\ENVIRONMENTAL\Y221\Y22101098\Maps\Y22101098_Figure01_Site.mxd



612000 617000 622000 627000 632000 637000 642000 647000 652000

7160000 7155000 7150000 7145000 7140000 7135000 7130000 7125000 7120000 7115000 7110000

Zone 19
Zone 20

N W E S

CH-2
CH-1
SUNRISE CAMP
DISCOVERY CAMP
CH-3
McKeand River

LEGEND

- Study Area
- Kimberlite Sites (CH#)
- Contour (60m)
- UTM Zone Boundary
- Permanent Snow and Ice
- Sand
- Watercourse
- Waterbody
- Wetland

NOTES
Base Data Source: 1:250,000 NTS

ISSUED FOR USE

CHIDLIAK BASELINE STUDIES 2009

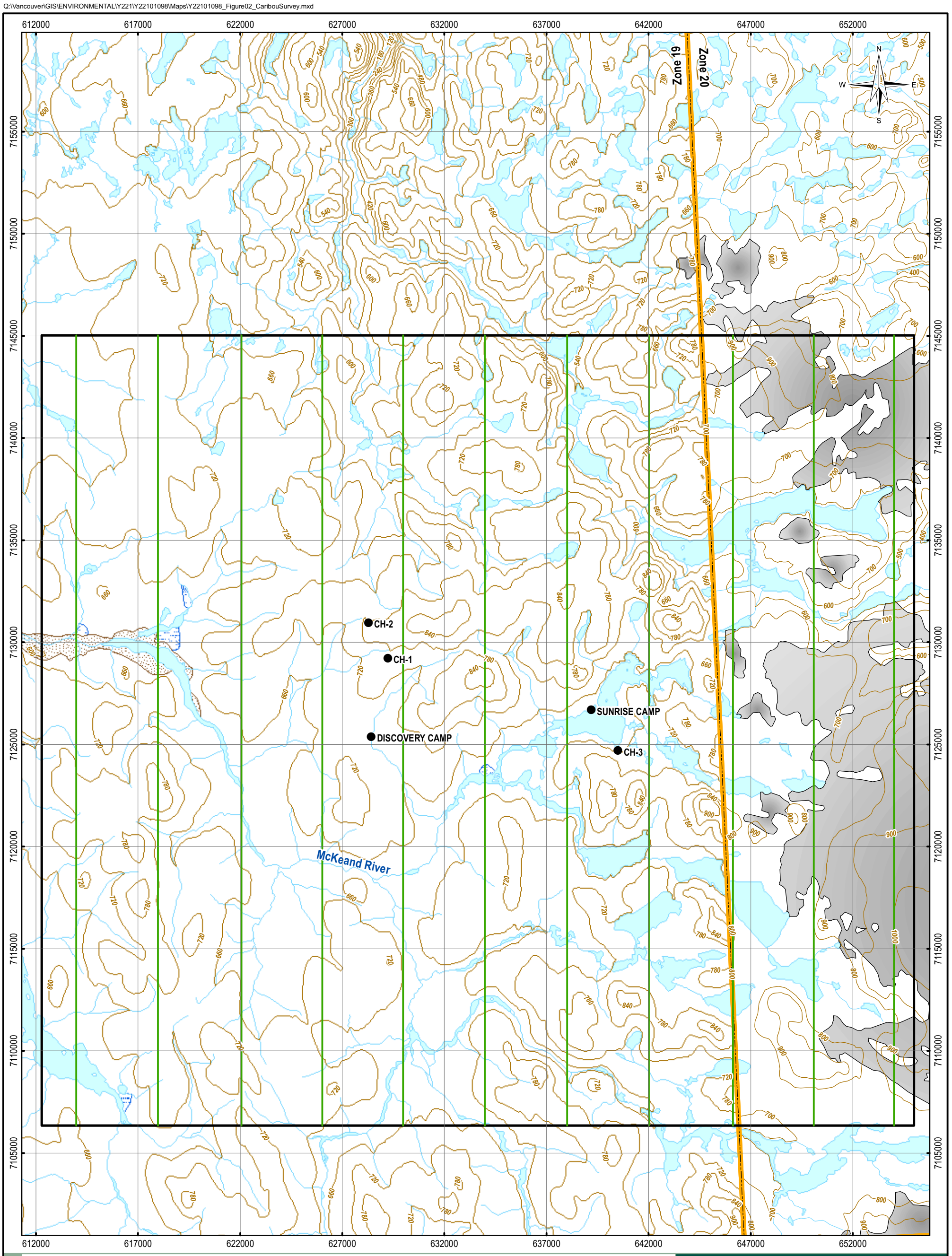
Site Location Plan

PROJECTION: UTM Zone 19	DATUM: NAD83
Scale: 1:175,000 (2 1 0 2 Kilometres)	
FILE NO.: Y22101098_Figure01_Site.mxd	
PROJECT NO.: Y22101098	DWN: MEZ / CKD: KL / REV: 1
OFFICE: EBA-VANC	DATE: November 30, 2009

PEREGRINE DIAMONDS LTD.
EBA Engineering Consultants Ltd.

Figure 1

Q:\Vancouver\GIS\ENVIRONMENTAL\Y221\Y22101098\Maps\Y22101098_Figure02_CaribouSurvey.mxd



LEGEND

- Study Area
- Kimberlite Sites (CH#)
- Caribou Survey Transect
- Contour (60m)
- UTM Zone Boundary
- Permanent Snow and Ice
- Sand
- Watercourse
- Waterbody
- Wetland

NOTES

Base Data Source: 1:250,000 NTS

ISSUED FOR USE

CHIDLIAK BASELINE STUDIES 2009

Caribou Survey Transects

PROJECTION: UTM Zone 19	DATUM: NAD83		
Scale: 1:175,000 (2 1 0 2 Kilometres)			
FILE NO.: Y22101098_Figure02_CaribouSurvey.mxd			
PROJECT NO.: Y22101098	DWN: MEZ	CKD: KL	REV: 0
OFFICE: EBA-VANC	DATE: November 27, 2009		

PEREGRINE DIAMONDS LTD.

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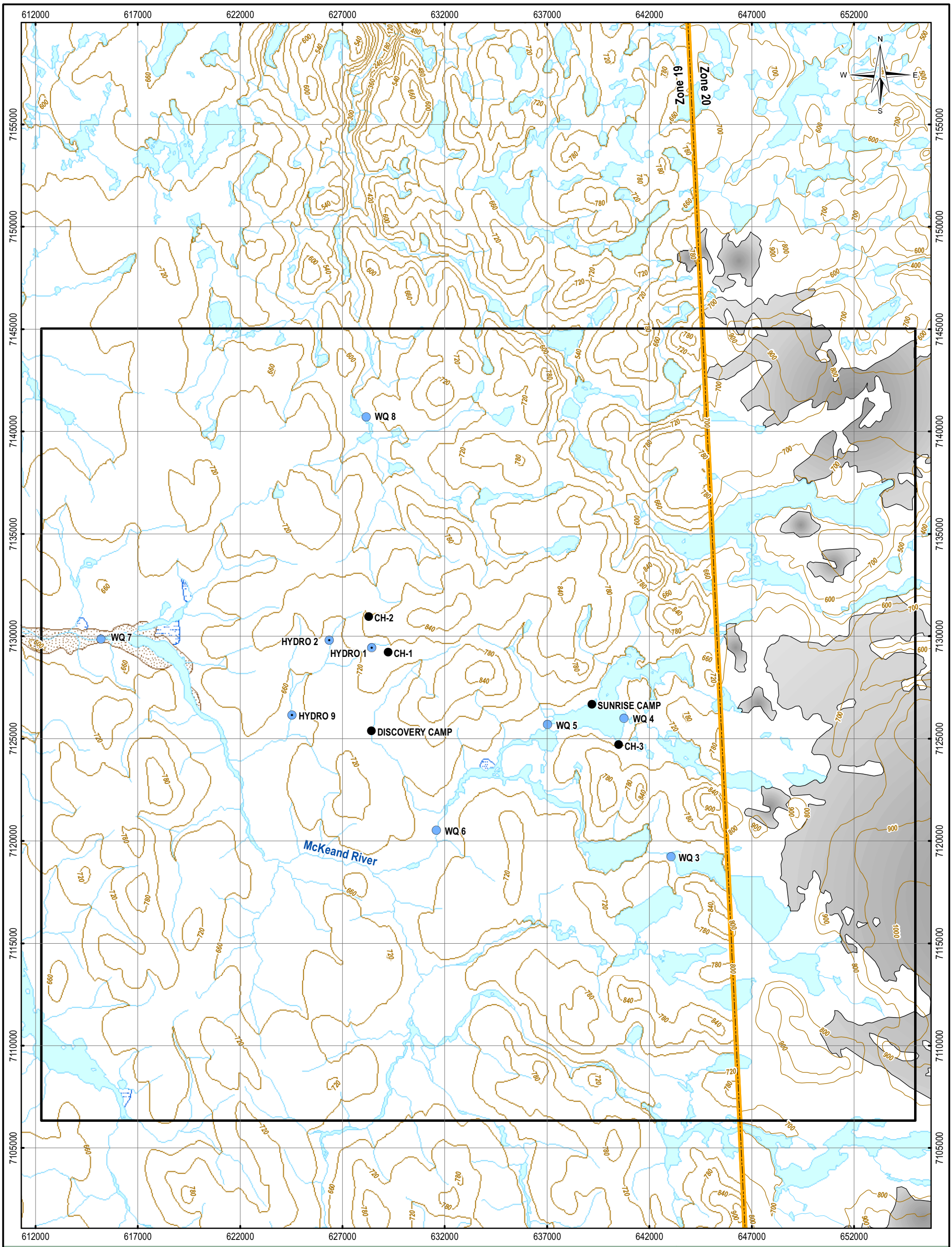
Figure 2

Q:\Vancouver\GIS\ENVIRONMENTAL\Y221\Y22101098\Maps\Y22101098_Figure03_Water.mxd



LEGEND

- Study Area
- Kimberlite Sites (CH#)
- Contour (60m)
- UTM Zone Boundary
- Permanent Snow and Ice
- Sand
- Watercourse
- Waterbody
- Wetland
- 2009 Surface Water Quality and Hydrology Station
- 2009 Surface Water Quality Station

NOTES

Base Data Source: 1:250,000 NTS

ISSUED FOR USE

CHIDLIAK BASELINE STUDIES 2009

Surface Water Quality and Preliminary Hydrology Sampling Locations

PROJECTION	DATUM
UTM Zone 19	NAD83

Scale: 1:175,000

2 1 0 2

Kilometres

FILE NO. Y22101098_Figure03_Water.mxd

PROJECT NO.	DWN	CKD	REV
Y22101098	MEZ	KL	0

OFFICE	DATE
EBA-VANC	November 27, 2009

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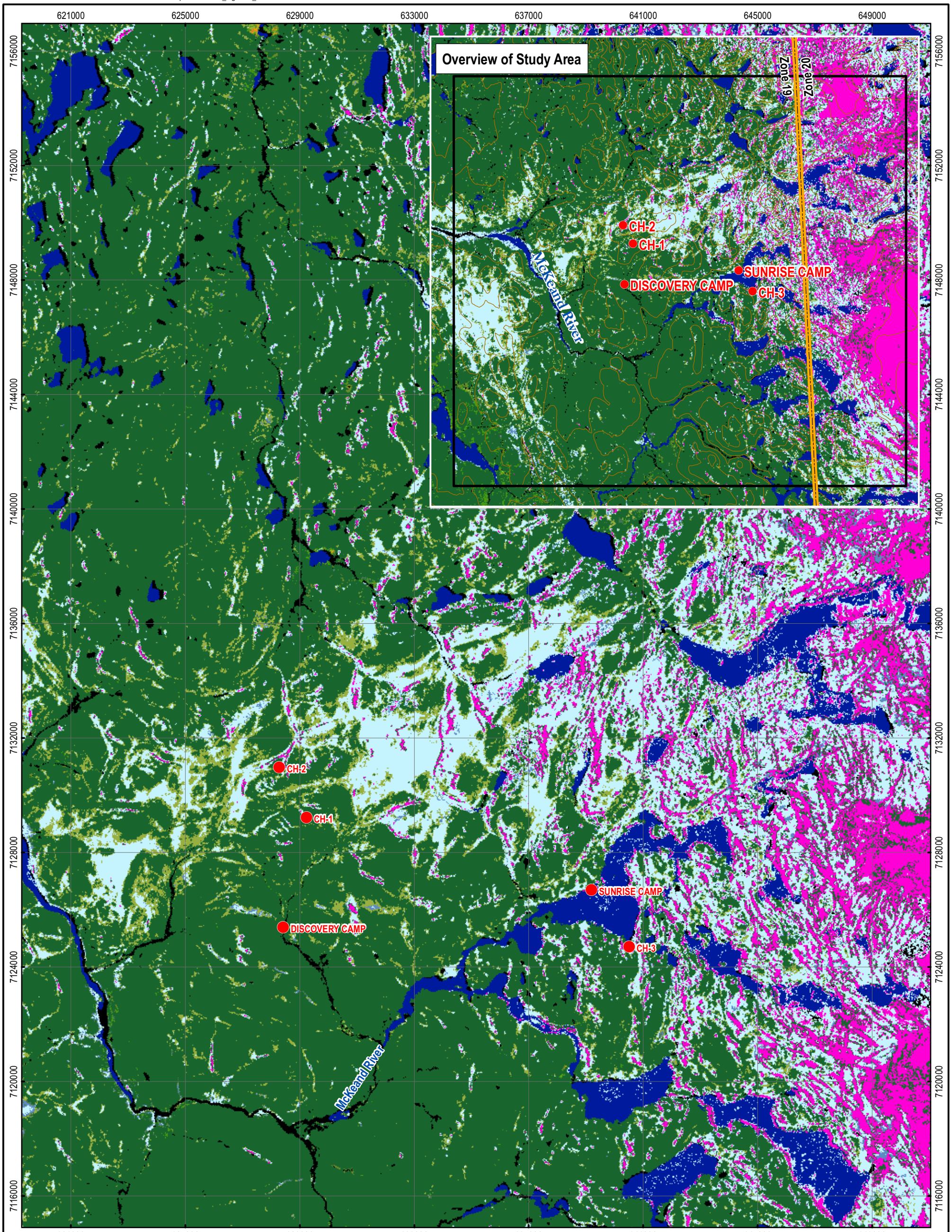
EBA Engineering Consultants Ltd.

Figure 3

Q:\Vancouver\GIS\ENVIRONMENTAL\Y221\Y22101098\Maps\Y22101098_Figure04_PrelimHabitat.mxd



LEGEND

- Study Area
- Kimberlite Sites (CH#)
- UTM Zone Boundary
- No Data
- Tussock graminoid tundra
- Wet sedge
- Moist to dry non-tussock graminoid/dwarf shrub tundra
- Dry graminoid prostrate dwarf shrub tundra
- Low shrub
- Tall shrub
- Prostrate dwarf shrub
- Sparsely vegetated bedrock
- Sparsely vegetated till-colluvium
- Bare soil with cryptogam crust - frost boils
- Wetlands
- Barren
- Ice / snow
- Water

N W E S

NOTES

Base Data Source: Natural Resources Canada (2008)
Northern Land Cover of Canada, Circa 2000

ISSUED FOR USE

CHIDLIAK BASELINE STUDIES 2009

Habitat Types Available near the Proposed Development Activity Sites

PROJECTION	DATUM
UTM Zone 19	NAD83

Scale: 1:125,000
2 1 0 2
Kilometres

FILE NO.: Y22101098_Figure04_PrelimHabitat.mxd

PROJECT NO.	DWN	CKD	REV
Y22101098	MEZ	KL	0

OFFICE	DATE
EBA-VANC	November 27, 2009

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Figure 4

Q:\Vancouver\GIS\ENVIRONMENTAL\Y221\Y22101098\Maps\Y22101098_Figure05_BB.mxd

621000 625000 629000 633000 637000 641000 645000 649000

7152000 7148000 7144000 7140000 7136000 7132000 7128000 7124000 7120000 7116000 7112000

CH-2
CH-1
SUNRISE CAMP
DISCOVERY CAMP
CH-3
McKeand River

LEGEND

- Breeding Bird Station
- Rock Ptarmigan, incidental
- Kimberlite Sites (CH#)
- No Data
- Tussock graminoid tundra
- Wet sedge
- Moist to dry non-tussock graminoid/dwarf shrub tundra
- Dry graminoid prostrate dwarf shrub tundra
- Low shrub
- Tall shrub
- Prostrate dwarf shrub
- Sparsely vegetated bedrock
- Sparsely vegetated till-colluvium
- Bare soil with cryptogam crust - frost boils
- Wetlands
- Barren
- Ice / snow
- Water

N W E S

NOTES

Base Data Source: Natural Resources Canada (2008)
Northern Land Cover of Canada, Circa 2000

ISSUED FOR USE

CHIDLIAK BASELINE STUDIES 2009

Breeding Bird Station Locations

PROJECTION	DATUM
UTM Zone 19	NAD83

Scale: 1:125,000
2 1 0 2
Kilometres

FILE NO. Y22101098_Figure05_BB.mxd

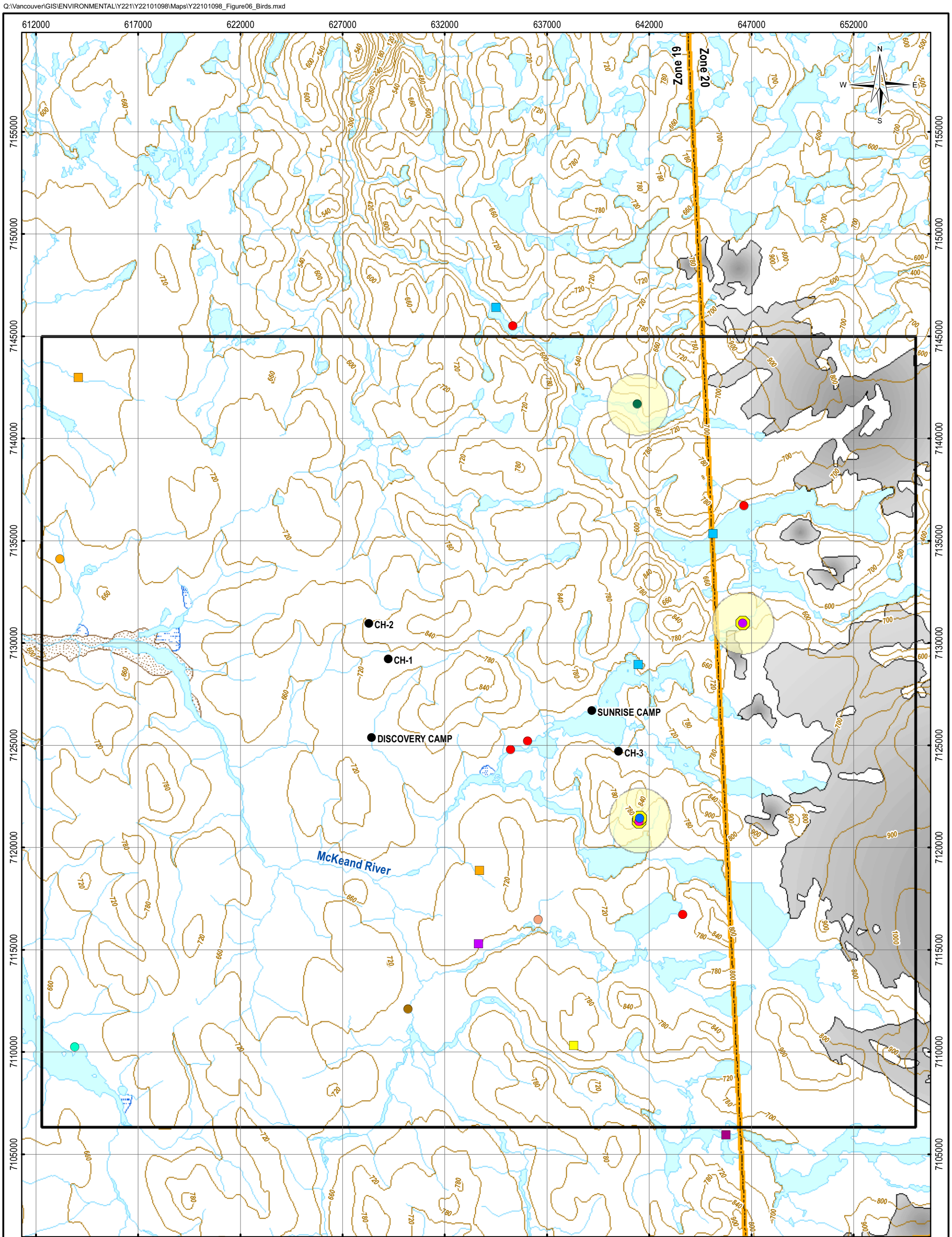
PROJECT NO.	DWN	CKD	REV
Y22101098	MEZ	KL	0

OFFICE	DATE
EBA-VANC	November 27, 2009

PEREGRINE DIAMONDS LTD.
EBA Engineering Consultants Ltd. eba

Figure 5

Q:\Vancouver\GIS\ENVIRONMENTAL\Y221\Y22101098\Maps\Y22101098_Figure06_Birds.mxd



LEGEND

- Study Area
- Kimberlite Sites (CH#)
- Contour (60m)
- UTM Zone Boundary
- Permanent Snow and Ice
- Sand
- Watercourse
- Waterbody
- Wetland

June/July Field Results

- Common Raven
- Gyrfalcon
- Peregrine Falcon
- Snowy Owl
- Canada Goose
- Canada Goose and Snow Goose
- Red-throated Loon
- Snow Goose
- Iceland Gull

August Field Results

- Canada Goose
- Herring Gull
- Glaucous Gull
- Gyrfalcon
- Rough-legged Hawk

- Raptor, Potential Nest
- Potentially Sensitive Habitats

NOTES

Base Data Source: 1:250,000 NTS

ISSUED FOR USE

CHIDLIAK BASELINE STUDIES 2009

Summary of Waterfowl, Waterbird, and Raptor Observation Locations

PROJECTION: UTM Zone 19			DATUM: NAD83
Scale: 1:175,000 (2 1 0 2 Kilometres)			
FILE NO.: Y22101098_Figure06_Birds.mxd			
PROJECT NO.: Y22101098	DWN: MEZ	CKD: KL	REV: 0
OFFICE: EBA-VANC	DATE: November 27, 2009		

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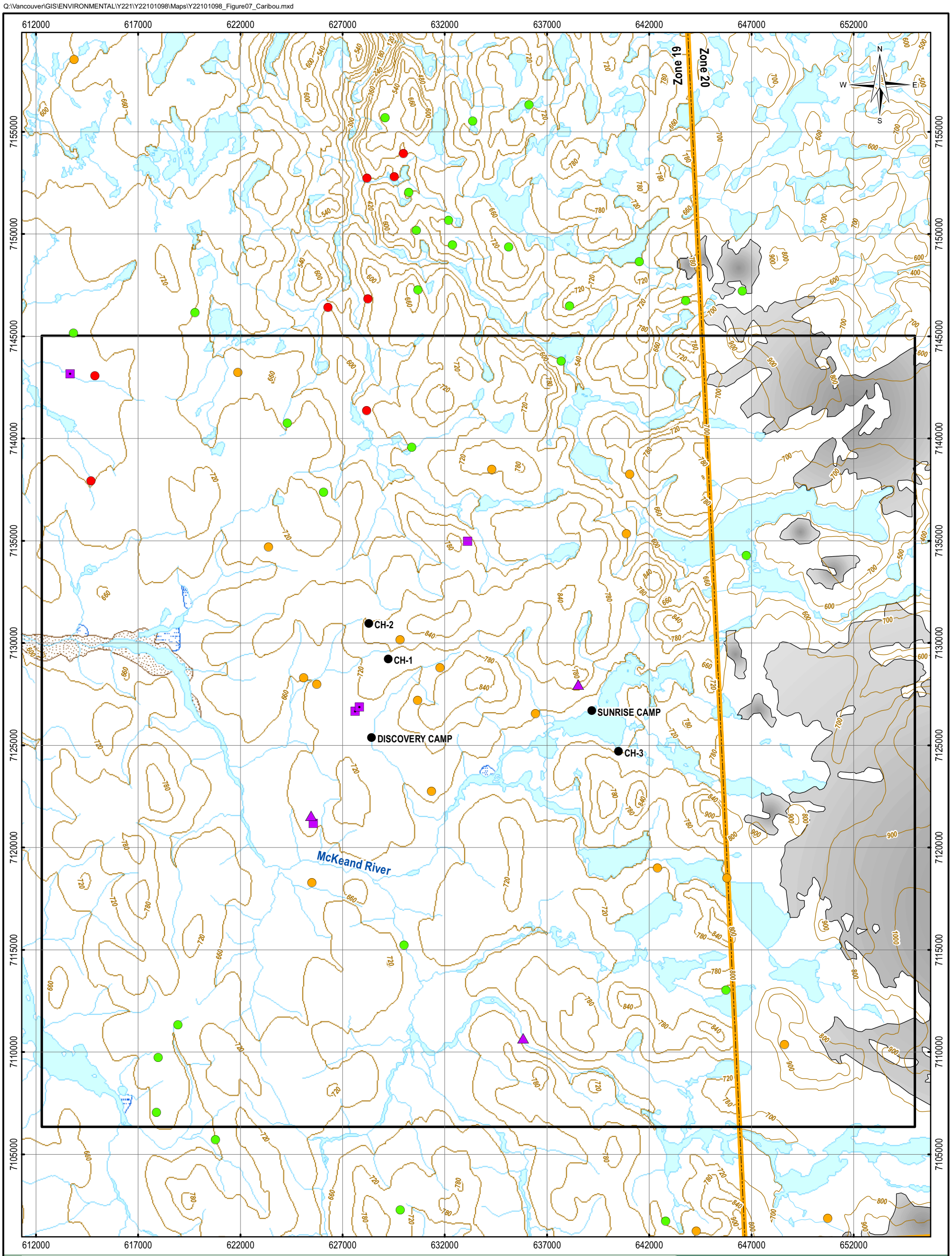
EBA Engineering Consultants Ltd.

Figure 6

Q:\Vancouver\GIS\ENVIRONMENTAL\Y221\Y22101098\Maps\Y22101098_Figure07_Caribou.mxd



LEGEND

- Study Area
- Kimberlite Sites (CH#)
- Contour (60m)
- UTM Zone Boundary
- Permanent Snow and Ice
- Sand
- Watercourse
- Waterbody
- Wetland

June/July Field Results

- Caribou, Visual

August Field Results

- Caribou, Visual
- Caribou, Sign

Caribou Collaring Data

- Winter (December, January February)[1]
- Spring (March, April, May)
- Summer (June, July, August)
- Fall (September, October, November)

NOTES

Base Data Sources: 1:250,000 NTS,
Government of Nunavut caribou collaring data provided by D. Jenkins, 2009

ISSUED FOR USE

CHIDLIAK BASELINE STUDIES 2009

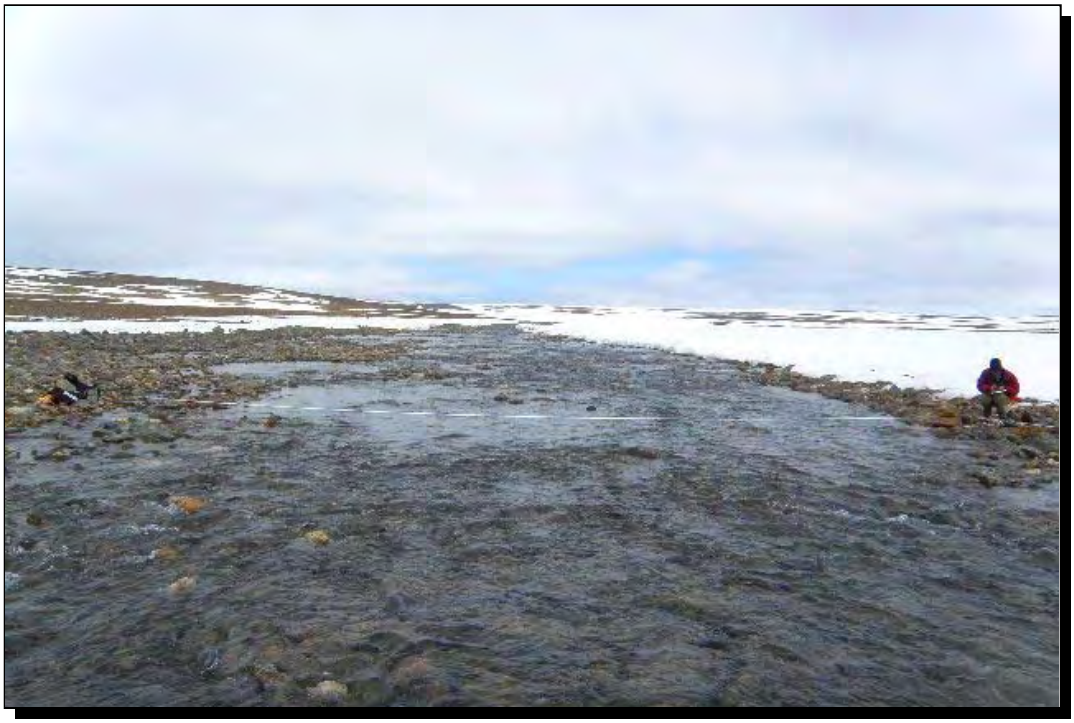
Summary of Caribou Observation Locations

PROJECTION: UTM Zone 19	DATUM: NAD83		
Scale: 1:175,000 (2 1 0 2 Kilometres)			
FILE NO.: Y22101098_Figure07_Caribou.mxd			
PROJECT NO.: Y22101098	DWN: MEZ	CKD: KL	REV: 1
OFFICE: EBA-VANC	DATE: November 30, 2009		

PEREGRINE DIAMONDS LTD.
EBA Engineering Consultants Ltd.

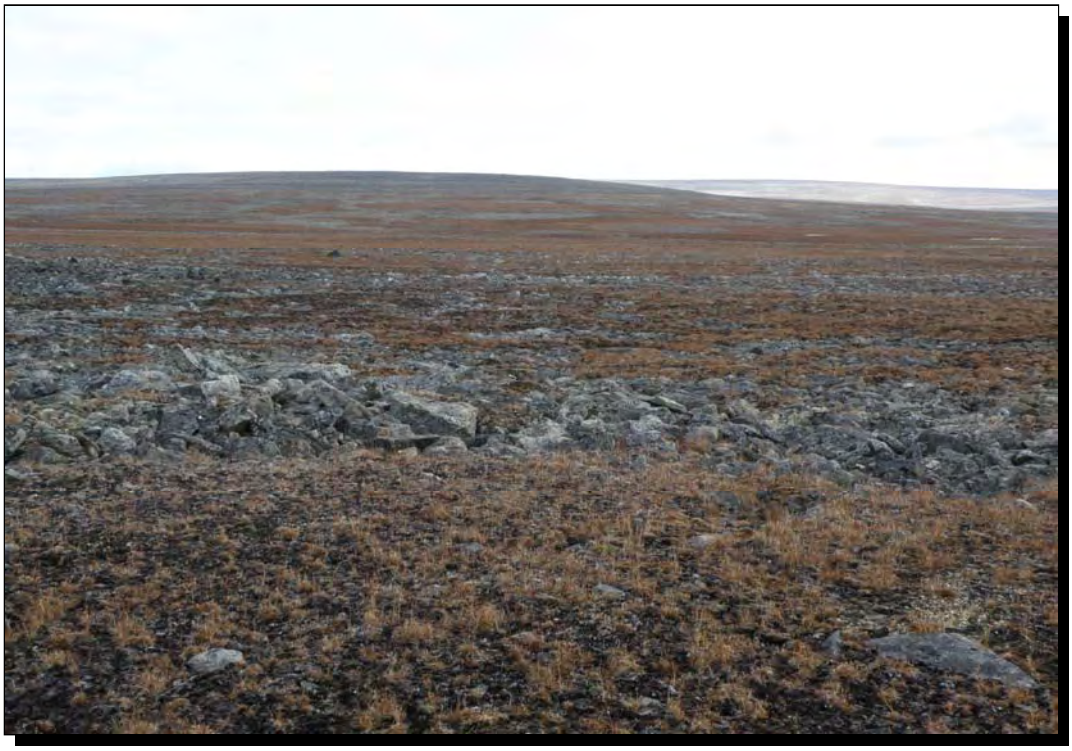
Figure 7

PHOTOGRAPHS



Photograph 1
Stream flow station Hydro 2 conditions at the time of the June/July survey event.

Photograph 2
View of the Hydro 9 stream flow station during the August survey event.



Photograph 3
Bare Soil with Cryptogam Crust habitat was the dominant habitat type found near the Discovery Camp, and CH-1 and CH-2.

Photograph 4
Moist to Dry Non-Tussock Graminoid/Dwarf Shrub Tundra habitat includes 50-70% vegetation cover and commonly occurred in drainage areas and along streams.

Photograph 5
A pair (male and female) Snow Buntings, the most common bird species recorded during the breeding bird surveys.

Photograph 6
From where an adult Peregrine Falcon was flushed, a potential inactive scrape was observed.

Photograph 7
A few caribou pellet groups were detected across the study area.

Photograph 8
Glacial outwash areas, like these along the McKeand River, were surveyed for carnivore dens.

APPENDIX A

APPENDIX A JUNE/JULY WATER QUALITY LABORATORY ANALYSIS

Certificate of Analysis

EBA ENG CONSULTANTS LTD
ATTN: KARLA LANGLOIS
201- 4916 49 STREET
PO BOX 2244
YELLOWKNIFE NT X1A 2P7

Report Date: 30-JUL-09 14:59 (MT)
Version: FINAL REV. 2

Lab Work Order #: **L787611** **Date Received:** **06-JUL-09**

Project P.O. #: NOT SUBMITTED
Job Reference: Y22101098
Legal Site Desc:
CofC Numbers: 08-073919

Other Information:

Comments: ADDITIONAL 27-JUL-09 10:24

Revised Report: Low Level Ammonia added.

Geraldlyn Gouthro
Client Services Manager

ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L787611-1 HYDRO 2							
Sampled By: K.LANGLOIS on 01-JUL-09							
Matrix: WATER							
TOT Metals CCME Fresh Water Aquatic Life							
Hardness (from Total Ca and Mg)							
Hardness (as CaCO3)	<1.3			mg/L		08-JUL-09	
Mercury (Hg)							
Mercury (Hg)-Total	<0.000020		0.000020	mg/L		08-JUL-09	R859785
Total Al in Water by ICPMS (CCME - FAL)							
Aluminum (Al)-Total	0.0510	RRV	0.0050	mg/L		10-JUL-09	R861710
Total Cd in Water by ICPMS (CCME - FAL)							
Cadmium (Cd)-Total	<0.000010		0.000010	mg/L		09-JUL-09	R859767
Total Metals in Water by ICPMS (Low)							
Antimony (Sb)-Total	<0.00040		0.00040	mg/L		09-JUL-09	R859767
Arsenic (As)-Total	<0.00040		0.00040	mg/L		09-JUL-09	R859767
Barium (Ba)-Total	<0.0030		0.0030	mg/L		09-JUL-09	R859767
Beryllium (Be)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Boron (B)-Total	<0.050		0.050	mg/L		09-JUL-09	R859767
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Cobalt (Co)-Total	<0.0020		0.0020	mg/L		09-JUL-09	R859767
Copper (Cu)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Lead (Pb)-Total	<0.00010		0.00010	mg/L		09-JUL-09	R859767
Lithium (Li)-Total	<0.010		0.010	mg/L		09-JUL-09	R859767
Molybdenum (Mo)-Total	<0.0050		0.0050	mg/L		09-JUL-09	R859767
Nickel (Ni)-Total	<0.0020		0.0020	mg/L		09-JUL-09	R859767
Selenium (Se)-Total	<0.00040		0.00040	mg/L		09-JUL-09	R859767
Silver (Ag)-Total	<0.00010		0.00010	mg/L		09-JUL-09	R859767
Thallium (Tl)-Total	<0.00010		0.00010	mg/L		09-JUL-09	R859767
Tin (Sn)-Total	<0.050		0.050	mg/L		09-JUL-09	R859767
Titanium (Ti)-Total	0.0032	RRV	0.0010	mg/L		10-JUL-09	R861710
Uranium (U)-Total	<0.00010		0.00010	mg/L		09-JUL-09	R859767
Vanadium (V)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Zinc (Zn)-Total	<0.0040		0.0040	mg/L		09-JUL-09	R859767
Total Metals in Water by ICPOES							
Calcium (Ca)-Total	<0.50		0.50	mg/L		07-JUL-09	R858935
Iron (Fe)-Total	0.041	RRV	0.030	mg/L		07-JUL-09	R858935
Magnesium (Mg)-Total	<0.10		0.10	mg/L		07-JUL-09	R858935
Manganese (Mn)-Total	<0.0050		0.0050	mg/L		07-JUL-09	R858935
Potassium (K)-Total	<0.50		0.50	mg/L		07-JUL-09	R858935
Sodium (Na)-Total	<1.0		1.0	mg/L		07-JUL-09	R858935
Miscellaneous Parameters							
Ammonia-N	<0.050		0.050	mg/L		07-JUL-09	R856543
Ammonia-N	<0.0050		0.0050	mg/L		29-JUL-09	R886479
Oil and Grease	<1.0		1.0	mg/L		09-JUL-09	R860336
Phosphorus, Total	<0.020		0.020	mg/L	08-JUL-09	08-JUL-09	R859804
Total Kjeldahl Nitrogen	<0.20		0.20	mg/L	07-JUL-09	07-JUL-09	R858365
Total Organic Carbon	<1.0	SPL	1.0	mg/L		08-JUL-09	R859619
Total Suspended Solids	<3.0		3.0	mg/L		09-JUL-09	R860298
Turbidity	0.94	RRV	0.10	NTU		09-JUL-09	R860465
pH and Conductivity							
pH	5.73		0.10	pH		07-JUL-09	R858543
Conductivity (EC)	2.33		0.20	uS/cm		07-JUL-09	R858543
Total Nitrogen							
Nitrate as N by IC							
Nitrate (as N)	<0.050		0.050	mg/L		07-JUL-09	R859214

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

ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L787611-1 HYDRO 2							
Sampled By: K.LANGLOIS on 01-JUL-09							
Matrix: WATER							
Nitrate+Nitrite							
Nitrate and Nitrite as N	<0.071		0.071	mg/L		08-JUL-09	
Nitrite as N by IC							
Nitrite (as N)	<0.050		0.050	mg/L		07-JUL-09	R859214
Nitrogen, Total							
Nitrogen, Total	<0.20		0.20	mg/L		08-JUL-09	
L787611-2 HYDRO 2 DUP							
Sampled By: K.LANGLOIS on 01-JUL-09							
Matrix: WATER							
TOT Metals CCME Fresh Water Aquatic Life							
Hardness (from Total Ca and Mg)							
Hardness (as CaCO3)	<1.3			mg/L		08-JUL-09	
Mercury (Hg)							
Mercury (Hg)-Total	<0.000020		0.000020	mg/L		08-JUL-09	R859785
Total Al in Water by ICPMS (CCME - FAL)							
Aluminum (Al)-Total	0.0477	RRV	0.0050	mg/L		10-JUL-09	R861710
Total Cd in Water by ICPMS (CCME - FAL)							
Cadmium (Cd)-Total	<0.000010		0.000010	mg/L		09-JUL-09	R859767
Total Metals in Water by ICPMS (Low)							
Antimony (Sb)-Total	<0.00040		0.00040	mg/L		09-JUL-09	R859767
Arsenic (As)-Total	<0.00040		0.00040	mg/L		09-JUL-09	R859767
Barium (Ba)-Total	<0.0030		0.0030	mg/L		09-JUL-09	R859767
Beryllium (Be)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Boron (B)-Total	<0.050		0.050	mg/L		09-JUL-09	R859767
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Cobalt (Co)-Total	<0.0020		0.0020	mg/L		09-JUL-09	R859767
Copper (Cu)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Lead (Pb)-Total	<0.00010		0.00010	mg/L		09-JUL-09	R859767
Lithium (Li)-Total	<0.010		0.010	mg/L		09-JUL-09	R859767
Molybdenum (Mo)-Total	<0.0050		0.0050	mg/L		09-JUL-09	R859767
Nickel (Ni)-Total	<0.0020		0.0020	mg/L		09-JUL-09	R859767
Selenium (Se)-Total	<0.00040		0.00040	mg/L		09-JUL-09	R859767
Silver (Ag)-Total	<0.00010	RRV	0.00010	mg/L		10-JUL-09	R861710
Thallium (Tl)-Total	<0.00010		0.00010	mg/L		09-JUL-09	R859767
Tin (Sn)-Total	<0.050		0.050	mg/L		09-JUL-09	R859767
Titanium (Ti)-Total	0.0030	RRV	0.0010	mg/L		10-JUL-09	R861710
Uranium (U)-Total	<0.00010		0.00010	mg/L		09-JUL-09	R859767
Vanadium (V)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Zinc (Zn)-Total	<0.0040		0.0040	mg/L		09-JUL-09	R859767
Total Metals in Water by ICPOES							
Calcium (Ca)-Total	<0.50		0.50	mg/L		07-JUL-09	R858935
Iron (Fe)-Total	0.036	RRV	0.030	mg/L		07-JUL-09	R858935
Magnesium (Mg)-Total	<0.10		0.10	mg/L		07-JUL-09	R858935
Manganese (Mn)-Total	<0.0050		0.0050	mg/L		07-JUL-09	R858935
Potassium (K)-Total	<0.50		0.50	mg/L		07-JUL-09	R858935
Sodium (Na)-Total	<1.0		1.0	mg/L		07-JUL-09	R858935
Miscellaneous Parameters							
Ammonia-N	<0.050		0.050	mg/L		07-JUL-09	R856543
Ammonia-N	<0.0050		0.0050	mg/L		29-JUL-09	R886479
Oil and Grease	<1.0		1.0	mg/L		09-JUL-09	R860336
Phosphorus, Total	<0.020		0.020	mg/L	08-JUL-09	08-JUL-09	R859804
Total Kjeldahl Nitrogen	<0.20		0.20	mg/L	07-JUL-09	07-JUL-09	R858365

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

ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L787611-2 HYDRO 2 DUP							
Sampled By: K.LANGLOIS on 01-JUL-09							
Matrix: WATER							
Total Organic Carbon	<1.0	SPL	1.0	mg/L		08-JUL-09	R859619
Total Suspended Solids	<3.0		3.0	mg/L		09-JUL-09	R860298
Turbidity	1.04	RRV	0.10	NTU		09-JUL-09	R860465
pH and Conductivity							
pH	5.84	RRV	0.10	pH		07-JUL-09	R858543
Conductivity (EC)	2.20		0.20	uS/cm		07-JUL-09	R858543
Total Nitrogen							
Nitrate as N by IC							
Nitrate (as N)	<0.050		0.050	mg/L		07-JUL-09	R859214
Nitrate+Nitrite							
Nitrate and Nitrite as N	<0.071		0.071	mg/L		08-JUL-09	
Nitrite as N by IC							
Nitrite (as N)	<0.050		0.050	mg/L		07-JUL-09	R859214
Nitrogen, Total							
Nitrogen, Total	<0.20		0.20	mg/L		08-JUL-09	
L787611-3 HYDRO 1							
Sampled By: K.LANGLOIS on 02-JUL-09							
Matrix: WATER							
TOT Metals CCME Fresh Water Aquatic Life							
Hardness (from Total Ca and Mg)							
Hardness (as CaCO3)	<1.3			mg/L		08-JUL-09	
Mercury (Hg)							
Mercury (Hg)-Total	<0.000020		0.000020	mg/L		08-JUL-09	R859785
Total Al in Water by ICPMS (CCME - FAL)							
Aluminum (Al)-Total	0.0275	RRV	0.0050	mg/L		10-JUL-09	R861710
Total Cd in Water by ICPMS (CCME - FAL)							
Cadmium (Cd)-Total	<0.000010		0.000010	mg/L		09-JUL-09	R859767
Total Metals in Water by ICPMS (Low)							
Antimony (Sb)-Total	<0.00040		0.00040	mg/L		09-JUL-09	R859767
Arsenic (As)-Total	<0.00040		0.00040	mg/L		09-JUL-09	R859767
Barium (Ba)-Total	<0.0030		0.0030	mg/L		09-JUL-09	R859767
Beryllium (Be)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Boron (B)-Total	<0.050		0.050	mg/L		09-JUL-09	R859767
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Cobalt (Co)-Total	<0.0020		0.0020	mg/L		09-JUL-09	R859767
Copper (Cu)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Lead (Pb)-Total	<0.00010		0.00010	mg/L		09-JUL-09	R859767
Lithium (Li)-Total	<0.010		0.010	mg/L		09-JUL-09	R859767
Molybdenum (Mo)-Total	<0.0050		0.0050	mg/L		09-JUL-09	R859767
Nickel (Ni)-Total	<0.0020		0.0020	mg/L		09-JUL-09	R859767
Selenium (Se)-Total	<0.00040		0.00040	mg/L		09-JUL-09	R859767
Silver (Ag)-Total	<0.00010		0.00010	mg/L		09-JUL-09	R859767
Thallium (Tl)-Total	<0.00010		0.00010	mg/L		09-JUL-09	R859767
Tin (Sn)-Total	<0.050		0.050	mg/L		09-JUL-09	R859767
Titanium (Ti)-Total	0.0015	RRV	0.0010	mg/L		10-JUL-09	R861710
Uranium (U)-Total	<0.00010		0.00010	mg/L		09-JUL-09	R859767
Vanadium (V)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Zinc (Zn)-Total	<0.0040		0.0040	mg/L		09-JUL-09	R859767
Total Metals in Water by ICPOES							
Calcium (Ca)-Total	<0.50		0.50	mg/L		07-JUL-09	R858935
Iron (Fe)-Total	<0.030		0.030	mg/L		07-JUL-09	R858935
Magnesium (Mg)-Total	<0.10		0.10	mg/L		07-JUL-09	R858935

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

ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L787611-3 HYDRO 1							
Sampled By: K.LANGLOIS on 02-JUL-09							
Matrix: WATER							
Total Metals in Water by ICPOES							
Manganese (Mn)-Total	<0.0050		0.0050	mg/L		07-JUL-09	R858935
Potassium (K)-Total	<0.50		0.50	mg/L		07-JUL-09	R858935
Sodium (Na)-Total	<1.0		1.0	mg/L		07-JUL-09	R858935
Miscellaneous Parameters							
Ammonia-N	<0.050		0.050	mg/L		07-JUL-09	R856543
Ammonia-N	<0.0050		0.0050	mg/L		29-JUL-09	R886479
Oil and Grease	<1.0		1.0	mg/L		09-JUL-09	R860336
Phosphorus, Total	<0.020		0.020	mg/L	08-JUL-09	08-JUL-09	R859804
Total Kjeldahl Nitrogen	<0.20		0.20	mg/L	07-JUL-09	07-JUL-09	R858365
Total Organic Carbon	<1.0	SPL	1.0	mg/L		08-JUL-09	R859619
Total Suspended Solids	<3.0		3.0	mg/L		09-JUL-09	R860298
Turbidity	0.44	RRV	0.10	NTU		09-JUL-09	R860465
pH and Conductivity							
pH	5.91	RRV	0.10	pH		07-JUL-09	R858543
Conductivity (EC)	1.49		0.20	uS/cm		07-JUL-09	R858543
Total Nitrogen							
Nitrate as N by IC							
Nitrate (as N)	<0.050		0.050	mg/L		07-JUL-09	R859214
Nitrate+Nitrite							
Nitrate and Nitrite as N	<0.071		0.071	mg/L		08-JUL-09	
Nitrite as N by IC							
Nitrite (as N)	<0.050		0.050	mg/L		07-JUL-09	R859214
Nitrogen, Total							
Nitrogen, Total	<0.20		0.20	mg/L		08-JUL-09	
L787611-4 WQ4							
Sampled By: K.LANGLOIS on 02-JUL-09							
Matrix: WATER							
TOT Metals CCME Fresh Water Aquatic Life							
Hardness (from Total Ca and Mg)							
Hardness (as CaCO3)	<1.3			mg/L		08-JUL-09	
Mercury (Hg)							
Mercury (Hg)-Total	<0.000020		0.000020	mg/L		08-JUL-09	R859785
Total Al in Water by ICPMS (CCME - FAL)							
Aluminum (Al)-Total	0.0192	RRV	0.0050	mg/L		10-JUL-09	R861710
Total Cd in Water by ICPMS (CCME - FAL)							
Cadmium (Cd)-Total	<0.000010		0.000010	mg/L		09-JUL-09	R859767
Total Metals in Water by ICPMS (Low)							
Antimony (Sb)-Total	<0.00040		0.00040	mg/L		09-JUL-09	R859767
Arsenic (As)-Total	<0.00040		0.00040	mg/L		09-JUL-09	R859767
Barium (Ba)-Total	<0.0030		0.0030	mg/L		09-JUL-09	R859767
Beryllium (Be)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Boron (B)-Total	<0.050		0.050	mg/L		09-JUL-09	R859767
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Cobalt (Co)-Total	<0.0020		0.0020	mg/L		09-JUL-09	R859767
Copper (Cu)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Lead (Pb)-Total	<0.00010		0.00010	mg/L		09-JUL-09	R859767
Lithium (Li)-Total	<0.010		0.010	mg/L		09-JUL-09	R859767
Molybdenum (Mo)-Total	<0.0050		0.0050	mg/L		09-JUL-09	R859767
Nickel (Ni)-Total	<0.0020		0.0020	mg/L		09-JUL-09	R859767
Selenium (Se)-Total	<0.00040		0.00040	mg/L		09-JUL-09	R859767
Silver (Ag)-Total	<0.00010		0.00010	mg/L		09-JUL-09	R859767

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

ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L787611-4 WQ4							
Sampled By: K.LANGLOIS on 02-JUL-09							
Matrix: WATER							
Total Metals in Water by ICPMS (Low)							
Thallium (Tl)-Total	<0.00010		0.00010	mg/L		09-JUL-09	R859767
Tin (Sn)-Total	<0.050		0.050	mg/L		09-JUL-09	R859767
Titanium (Ti)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Uranium (U)-Total	<0.00010		0.00010	mg/L		09-JUL-09	R859767
Vanadium (V)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Zinc (Zn)-Total	<0.0040		0.0040	mg/L		09-JUL-09	R859767
Total Metals in Water by ICPOES							
Calcium (Ca)-Total	<0.50		0.50	mg/L		07-JUL-09	R858935
Iron (Fe)-Total	<0.030		0.030	mg/L		07-JUL-09	R858935
Magnesium (Mg)-Total	<0.10		0.10	mg/L		07-JUL-09	R858935
Manganese (Mn)-Total	<0.0050		0.0050	mg/L		07-JUL-09	R858935
Potassium (K)-Total	<0.50		0.50	mg/L		07-JUL-09	R858935
Sodium (Na)-Total	<1.0		1.0	mg/L		07-JUL-09	R858935
Miscellaneous Parameters							
Ammonia-N	<0.050		0.050	mg/L		07-JUL-09	R856543
Ammonia-N	<0.0050		0.0050	mg/L		29-JUL-09	R886479
Oil and Grease	<1.0		1.0	mg/L		09-JUL-09	R860336
Phosphorus, Total	<0.020		0.020	mg/L	08-JUL-09	08-JUL-09	R859804
Total Kjeldahl Nitrogen	<0.20		0.20	mg/L	07-JUL-09	07-JUL-09	R858365
Total Organic Carbon	<1.0	SPL	1.0	mg/L		08-JUL-09	R859619
Total Suspended Solids	<3.0		3.0	mg/L		09-JUL-09	R860298
Turbidity	0.24	RRV	0.10	NTU		09-JUL-09	R860465
pH and Conductivity							
pH	5.61	RRV	0.10	pH		07-JUL-09	R858543
Conductivity (EC)	1.39		0.20	uS/cm		07-JUL-09	R858543
Total Nitrogen							
Nitrate as N by IC							
Nitrate (as N)	<0.050		0.050	mg/L		07-JUL-09	R859214
Nitrate+Nitrite							
Nitrate and Nitrite as N	<0.071		0.071	mg/L		08-JUL-09	
Nitrite as N by IC							
Nitrite (as N)	<0.050		0.050	mg/L		07-JUL-09	R859214
Nitrogen, Total							
Nitrogen, Total	<0.20		0.20	mg/L		08-JUL-09	
L787611-5 WQ5							
Sampled By: K.LANGLOIS on 02-JUL-09							
Matrix: WATER							
TOT Metals CCME Fresh Water Aquatic Life							
Hardness (from Total Ca and Mg)							
Hardness (as CaCO3)	<1.3			mg/L		08-JUL-09	
Mercury (Hg)							
Mercury (Hg)-Total	<0.000020		0.000020	mg/L		08-JUL-09	R859785
Total Al in Water by ICPMS (CCME - FAL)							
Aluminum (Al)-Total	0.0247	RRV	0.0050	mg/L		10-JUL-09	R861710
Total Cd in Water by ICPMS (CCME - FAL)							
Cadmium (Cd)-Total	<0.000010		0.000010	mg/L		09-JUL-09	R859767
Total Metals in Water by ICPMS (Low)							
Antimony (Sb)-Total	<0.00040		0.00040	mg/L		09-JUL-09	R859767
Arsenic (As)-Total	<0.00040		0.00040	mg/L		09-JUL-09	R859767
Barium (Ba)-Total	<0.0030		0.0030	mg/L		09-JUL-09	R859767
Beryllium (Be)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767

* 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
L787611-5 WQ5							
Sampled By: K.LANGLOIS on 02-JUL-09							
Matrix: WATER							
Total Metals in Water by ICPMS (Low)							
Boron (B)-Total	<0.050		0.050	mg/L		09-JUL-09	R859767
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Cobalt (Co)-Total	<0.0020		0.0020	mg/L		09-JUL-09	R859767
Copper (Cu)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Lead (Pb)-Total	<0.00010		0.00010	mg/L		09-JUL-09	R859767
Lithium (Li)-Total	<0.010		0.010	mg/L		09-JUL-09	R859767
Molybdenum (Mo)-Total	<0.0050		0.0050	mg/L		09-JUL-09	R859767
Nickel (Ni)-Total	<0.0020		0.0020	mg/L		09-JUL-09	R859767
Selenium (Se)-Total	<0.00040		0.00040	mg/L		09-JUL-09	R859767
Silver (Ag)-Total	<0.00010		0.00010	mg/L		09-JUL-09	R859767
Thallium (Tl)-Total	<0.00010		0.00010	mg/L		09-JUL-09	R859767
Tin (Sn)-Total	<0.050		0.050	mg/L		09-JUL-09	R859767
Titanium (Ti)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Uranium (U)-Total	<0.00010		0.00010	mg/L		09-JUL-09	R859767
Vanadium (V)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Zinc (Zn)-Total	<0.0040		0.0040	mg/L		09-JUL-09	R859767
Total Metals in Water by ICPOES							
Calcium (Ca)-Total	<0.50		0.50	mg/L		07-JUL-09	R858935
Iron (Fe)-Total	<0.030		0.030	mg/L		07-JUL-09	R858935
Magnesium (Mg)-Total	<0.10		0.10	mg/L		07-JUL-09	R858935
Manganese (Mn)-Total	<0.0050		0.0050	mg/L		07-JUL-09	R858935
Potassium (K)-Total	<0.50		0.50	mg/L		07-JUL-09	R858935
Sodium (Na)-Total	<1.0		1.0	mg/L		07-JUL-09	R858935
Miscellaneous Parameters							
Ammonia-N	<0.050		0.050	mg/L		07-JUL-09	R856543
Ammonia-N	<0.0050		0.0050	mg/L		29-JUL-09	R886479
Oil and Grease	1.1		1.0	mg/L		09-JUL-09	R860336
Phosphorus, Total	<0.020		0.020	mg/L	08-JUL-09	08-JUL-09	R859804
Total Kjeldahl Nitrogen	<0.20		0.20	mg/L	07-JUL-09	07-JUL-09	R858365
Total Organic Carbon	<1.0	SPL	1.0	mg/L		08-JUL-09	R859619
Total Suspended Solids	<3.0		3.0	mg/L		09-JUL-09	R860298
Turbidity	0.28	RRV	0.10	NTU		09-JUL-09	R860465
pH and Conductivity							
pH	5.63	RRV	0.10	pH		07-JUL-09	R858543
Conductivity (EC)	3.53		0.20	uS/cm		07-JUL-09	R858543
Total Nitrogen							
Nitrate as N by IC							
Nitrate (as N)	<0.050		0.050	mg/L		07-JUL-09	R859214
Nitrate+Nitrite							
Nitrate and Nitrite as N	<0.071		0.071	mg/L		08-JUL-09	
Nitrite as N by IC							
Nitrite (as N)	<0.050		0.050	mg/L		07-JUL-09	R859214
Nitrogen, Total							
Nitrogen, Total	<0.20		0.20	mg/L		08-JUL-09	
L787611-6 WQ6							
Sampled By: K.LANGLOIS on 02-JUL-09							
Matrix: WATER							
TOT Metals CCME Fresh Water Aquatic Life							
Hardness (from Total Ca and Mg)							
Hardness (as CaCO3)	<1.3			mg/L		08-JUL-09	
Mercury (Hg)							

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

ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L787611-6 WQ6							
Sampled By: K.LANGLOIS on 02-JUL-09							
Matrix: WATER							
Mercury (Hg)							
Mercury (Hg)-Total	<0.000020		0.000020	mg/L		08-JUL-09	R859785
Total Al in Water by ICPMS (CCME - FAL)							
Aluminum (Al)-Total	0.0291	RRV	0.0050	mg/L		10-JUL-09	R861710
Total Cd in Water by ICPMS (CCME - FAL)							
Cadmium (Cd)-Total	<0.000010		0.000010	mg/L		09-JUL-09	R859767
Total Metals in Water by ICPMS (Low)							
Antimony (Sb)-Total	<0.00040		0.00040	mg/L		09-JUL-09	R859767
Arsenic (As)-Total	<0.00040		0.00040	mg/L		09-JUL-09	R859767
Barium (Ba)-Total	<0.0030		0.0030	mg/L		09-JUL-09	R859767
Beryllium (Be)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Boron (B)-Total	<0.050		0.050	mg/L		09-JUL-09	R859767
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Cobalt (Co)-Total	<0.0020		0.0020	mg/L		09-JUL-09	R859767
Copper (Cu)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Lead (Pb)-Total	<0.00010		0.00010	mg/L		09-JUL-09	R859767
Lithium (Li)-Total	<0.010		0.010	mg/L		09-JUL-09	R859767
Molybdenum (Mo)-Total	<0.0050		0.0050	mg/L		09-JUL-09	R859767
Nickel (Ni)-Total	<0.0020		0.0020	mg/L		09-JUL-09	R859767
Selenium (Se)-Total	<0.00040		0.00040	mg/L		09-JUL-09	R859767
Silver (Ag)-Total	<0.00010		0.00010	mg/L		09-JUL-09	R859767
Thallium (Tl)-Total	<0.00010		0.00010	mg/L		09-JUL-09	R859767
Tin (Sn)-Total	<0.050		0.050	mg/L		09-JUL-09	R859767
Titanium (Ti)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Uranium (U)-Total	<0.00010		0.00010	mg/L		09-JUL-09	R859767
Vanadium (V)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Zinc (Zn)-Total	<0.0040		0.0040	mg/L		09-JUL-09	R859767
Total Metals in Water by ICPOES							
Calcium (Ca)-Total	<0.50		0.50	mg/L		07-JUL-09	R858935
Iron (Fe)-Total	<0.030		0.030	mg/L		07-JUL-09	R858935
Magnesium (Mg)-Total	<0.10		0.10	mg/L		07-JUL-09	R858935
Manganese (Mn)-Total	<0.0050		0.0050	mg/L		07-JUL-09	R858935
Potassium (K)-Total	<0.50		0.50	mg/L		07-JUL-09	R858935
Sodium (Na)-Total	<1.0		1.0	mg/L		07-JUL-09	R858935
Miscellaneous Parameters							
Ammonia-N	<0.050		0.050	mg/L		07-JUL-09	R856543
Ammonia-N	<0.0050		0.0050	mg/L		29-JUL-09	R886479
Oil and Grease	<1.0		1.0	mg/L		09-JUL-09	R860336
Phosphorus, Total	<0.020		0.020	mg/L	08-JUL-09	08-JUL-09	R859804
Total Kjeldahl Nitrogen	<0.20		0.20	mg/L	07-JUL-09	07-JUL-09	R858365
Total Organic Carbon	1.3	SPL	1.0	mg/L		08-JUL-09	R859619
Total Suspended Solids	<3.0		3.0	mg/L		09-JUL-09	R860298
Turbidity	0.49	RRV	0.10	NTU		09-JUL-09	R860465
pH and Conductivity							
pH	5.86	RRV	0.10	pH		07-JUL-09	R858543
Conductivity (EC)	2.31		0.20	uS/cm		07-JUL-09	R858543
Total Nitrogen							
Nitrate as N by IC							
Nitrate (as N)	<0.050		0.050	mg/L		07-JUL-09	R859214
Nitrate+Nitrite							
Nitrate and Nitrite as N	<0.071		0.071	mg/L		08-JUL-09	
Nitrite as N by IC							

* 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
L787611-6 WQ6							
Sampled By: K.LANGLOIS on 02-JUL-09							
Matrix: WATER							
Nitrite as N by IC							
Nitrite (as N)	<0.050		0.050	mg/L		07-JUL-09	R859214
Nitrogen, Total							
Nitrogen, Total	<0.20		0.20	mg/L		08-JUL-09	
L787611-7 TRAVEL BLANK							
Sampled By: K.LANGLOIS							
Matrix: WATER							
TOT Metals CCME Fresh Water Aquatic Life							
Hardness (from Total Ca and Mg)							
Hardness (as CaCO3)	<1.3			mg/L		08-JUL-09	
Mercury (Hg)							
Mercury (Hg)-Total	<0.000020		0.000020	mg/L		08-JUL-09	R859785
Total Al in Water by ICPMS (CCME - FAL)							
Aluminum (Al)-Total	<0.0050		0.0050	mg/L		09-JUL-09	R859767
Total Cd in Water by ICPMS (CCME - FAL)							
Cadmium (Cd)-Total	<0.000010		0.000010	mg/L		09-JUL-09	R859767
Total Metals in Water by ICPMS (Low)							
Antimony (Sb)-Total	<0.00040		0.00040	mg/L		09-JUL-09	R859767
Arsenic (As)-Total	<0.00040		0.00040	mg/L		09-JUL-09	R859767
Barium (Ba)-Total	<0.0030		0.0030	mg/L		09-JUL-09	R859767
Beryllium (Be)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Boron (B)-Total	<0.050		0.050	mg/L		09-JUL-09	R859767
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Cobalt (Co)-Total	<0.0020		0.0020	mg/L		09-JUL-09	R859767
Copper (Cu)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Lead (Pb)-Total	<0.00010		0.00010	mg/L		09-JUL-09	R859767
Lithium (Li)-Total	<0.010		0.010	mg/L		09-JUL-09	R859767
Molybdenum (Mo)-Total	<0.0050		0.0050	mg/L		09-JUL-09	R859767
Nickel (Ni)-Total	<0.0020		0.0020	mg/L		09-JUL-09	R859767
Selenium (Se)-Total	<0.00040		0.00040	mg/L		09-JUL-09	R859767
Silver (Ag)-Total	<0.00010		0.00010	mg/L		09-JUL-09	R859767
Thallium (Tl)-Total	<0.00010		0.00010	mg/L		09-JUL-09	R859767
Tin (Sn)-Total	<0.050		0.050	mg/L		09-JUL-09	R859767
Titanium (Ti)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Uranium (U)-Total	<0.00010		0.00010	mg/L		09-JUL-09	R859767
Vanadium (V)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Zinc (Zn)-Total	<0.0040		0.0040	mg/L		09-JUL-09	R859767
Total Metals in Water by ICPOES							
Calcium (Ca)-Total	<0.50		0.50	mg/L		07-JUL-09	R858935
Iron (Fe)-Total	<0.030		0.030	mg/L		07-JUL-09	R858935
Magnesium (Mg)-Total	<0.10		0.10	mg/L		07-JUL-09	R858935
Manganese (Mn)-Total	<0.0050		0.0050	mg/L		07-JUL-09	R858935
Potassium (K)-Total	<0.50		0.50	mg/L		07-JUL-09	R858935
Sodium (Na)-Total	<1.0		1.0	mg/L		07-JUL-09	R858935
Miscellaneous Parameters							
Ammonia-N	<0.050		0.050	mg/L		07-JUL-09	R856543
Ammonia-N	<0.0050		0.0050	mg/L		29-JUL-09	R886479
Oil and Grease	<1.0		1.0	mg/L		09-JUL-09	R860336
Phosphorus, Total	<0.020		0.020	mg/L	08-JUL-09	08-JUL-09	R859804
Total Kjeldahl Nitrogen	<0.20		0.20	mg/L	07-JUL-09	07-JUL-09	R858365
Total Organic Carbon	<1.0	SPL	1.0	mg/L		08-JUL-09	R859619
Total Suspended Solids	<3.0		3.0	mg/L		09-JUL-09	R860298

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

ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L787611-7 TRAVEL BLANK							
Sampled By: K.LANGLOIS							
Matrix: WATER							
Turbidity	<0.10		0.10	NTU		08-JUL-09	R859942
pH and Conductivity							
pH	5.75	RRV	0.10	pH		07-JUL-09	R858543
Conductivity (EC)	<0.20		0.20	uS/cm		07-JUL-09	R858543
Total Nitrogen							
Nitrate as N by IC							
Nitrate (as N)	<0.050		0.050	mg/L		07-JUL-09	R859214
Nitrate+Nitrite							
Nitrate and Nitrite as N	<0.071		0.071	mg/L		08-JUL-09	
Nitrite as N by IC							
Nitrite (as N)	<0.050		0.050	mg/L		07-JUL-09	R859214
Nitrogen, Total							
Nitrogen, Total	<0.20		0.20	mg/L		08-JUL-09	
L787611-8 FIELD BLANK							
Sampled By: K.LANGLOIS on 02-JUL-09							
Matrix: WATER							
TOT Metals CCME Fresh Water Aquatic Life							
Hardness (from Total Ca and Mg)							
Hardness (as CaCO3)	<1.3			mg/L		08-JUL-09	
Mercury (Hg)							
Mercury (Hg)-Total	<0.000020		0.000020	mg/L		08-JUL-09	R859785
Total Al in Water by ICPMS (CCME - FAL)							
Aluminum (Al)-Total	<0.0050		0.0050	mg/L		09-JUL-09	R859767
Total Cd in Water by ICPMS (CCME - FAL)							
Cadmium (Cd)-Total	<0.000010		0.000010	mg/L		09-JUL-09	R859767
Total Metals in Water by ICPMS (Low)							
Antimony (Sb)-Total	<0.00040		0.00040	mg/L		09-JUL-09	R859767
Arsenic (As)-Total	<0.00040		0.00040	mg/L		09-JUL-09	R859767
Barium (Ba)-Total	<0.0030		0.0030	mg/L		09-JUL-09	R859767
Beryllium (Be)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Boron (B)-Total	<0.050		0.050	mg/L		09-JUL-09	R859767
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Cobalt (Co)-Total	<0.0020		0.0020	mg/L		09-JUL-09	R859767
Copper (Cu)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Lead (Pb)-Total	<0.00010		0.00010	mg/L		09-JUL-09	R859767
Lithium (Li)-Total	<0.010		0.010	mg/L		09-JUL-09	R859767
Molybdenum (Mo)-Total	<0.0050		0.0050	mg/L		09-JUL-09	R859767
Nickel (Ni)-Total	<0.0020		0.0020	mg/L		09-JUL-09	R859767
Selenium (Se)-Total	<0.00040		0.00040	mg/L		09-JUL-09	R859767
Silver (Ag)-Total	<0.00010		0.00010	mg/L		09-JUL-09	R859767
Thallium (Tl)-Total	<0.00010		0.00010	mg/L		09-JUL-09	R859767
Tin (Sn)-Total	<0.050		0.050	mg/L		09-JUL-09	R859767
Titanium (Ti)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Uranium (U)-Total	<0.00010		0.00010	mg/L		09-JUL-09	R859767
Vanadium (V)-Total	<0.0010		0.0010	mg/L		09-JUL-09	R859767
Zinc (Zn)-Total	<0.0040		0.0040	mg/L		09-JUL-09	R859767
Total Metals in Water by ICPOES							
Calcium (Ca)-Total	<0.50		0.50	mg/L		07-JUL-09	R858935
Iron (Fe)-Total	<0.030		0.030	mg/L		07-JUL-09	R858935
Magnesium (Mg)-Total	<0.10		0.10	mg/L		07-JUL-09	R858935
Manganese (Mn)-Total	<0.0050		0.0050	mg/L		07-JUL-09	R858935
Potassium (K)-Total	<0.50		0.50	mg/L		07-JUL-09	R858935

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

ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L787611-8 FIELD BLANK							
Sampled By: K.LANGLOIS on 02-JUL-09							
Matrix: WATER							
Total Metals in Water by ICPOES							
Sodium (Na)-Total	<1.0		1.0	mg/L		07-JUL-09	R858935
Miscellaneous Parameters							
Ammonia-N	<0.050		0.050	mg/L		07-JUL-09	R856543
Ammonia-N	<0.0050		0.0050	mg/L		29-JUL-09	R886479
Oil and Grease	<1.0		1.0	mg/L		09-JUL-09	R860336
Phosphorus, Total	<0.020		0.020	mg/L	08-JUL-09	08-JUL-09	R859804
Total Kjeldahl Nitrogen	<0.20		0.20	mg/L	07-JUL-09	07-JUL-09	R858365
Total Organic Carbon	<1.0	SPL	1.0	mg/L		08-JUL-09	R859619
Total Suspended Solids	<3.0		3.0	mg/L		09-JUL-09	R860298
Turbidity	<0.10		0.10	NTU		08-JUL-09	R859942
pH and Conductivity							
pH	6.10		0.10	pH		07-JUL-09	R858543
Conductivity (EC)	<0.20		0.20	uS/cm		07-JUL-09	R858543
Total Nitrogen							
Nitrate as N by IC							
Nitrate (as N)	<0.050		0.050	mg/L		07-JUL-09	R859214
Nitrate+Nitrite							
Nitrate and Nitrite as N	<0.071		0.071	mg/L		08-JUL-09	
Nitrite as N by IC							
Nitrite (as N)	<0.050		0.050	mg/L		07-JUL-09	R859214
Nitrogen, Total							
Nitrogen, Total	<0.20		0.20	mg/L		08-JUL-09	

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

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Total Organic Carbon	MS-B	L787611-1, -2, -3, -4, -5, -6, -7, -8
Matrix Spike	Total Organic Carbon	MS-B	L787611-1, -2, -3, -4, -5, -6, -7, -8
Duplicate	Ammonia-N	SPL	L787611-1, -2, -3, -4, -5, -6, -7, -8

Qualifiers for Sample Submission Listed:

Qualifier	Description
SPL	TOC - Sample was Preserved at the laboratory

Sample Parameter Qualifier Key:

Qualifier	Description
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RRV	Reported Result Verified By Repeat Analysis
SPL	Sample was Preserved at the laboratory

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
AL-T-CCME-FAL-MS-ED	Water	Total Al in Water by ICPMS (CCME - FAL)	APHA 3125-ICP-MS
C-TOT-ORG-ED	Water	Total Organic Carbon	APHA 5310 B-Instrumental
CD-T-CCME-FAL-MS-ED	Water	Total Cd in Water by ICPMS (CCME - FAL)	APHA 3125-ICP-MS
ETL-HARDNESS-TOT-ED	Water	Hardness (from Total Ca and Mg)	APHA 2340 B-Calculation
ETL-N-TOT-CALC-ED	Water	Nitrogen, Total	APHA 4500 N-Calculated
HG-T-L-CVAA-ED	Water	Mercury (Hg)	EPA 245.7 / EPA 245.1
MET-T-ICP-ED	Water	Total Metals in Water by ICPOES	APHA 3120 B-ICP-OES
MET-T-L-MS-ED	Water	Total Metals in Water by ICPMS (Low)	SW 846 - 6020-ICPMS
N-TOTKJ-ED	Water	Total Kjeldahl Nitrogen	APHA 4500N-C -Dig.-Auto-Colorimetry
NH4-ED	Water	Ammonia-N	APHA4500NH3F Colorimetry
NH4-LOW-ED	Water	Ammonia-N Low Level	APHA 4500 NH3F-Colorimetry
NO2+NO3-CALC-ED	Water	Nitrate+Nitrite	CALCULATION
NO2-IC-ED	Water	Nitrite as N by IC	APHA 4110 B-ION CHROMATOGRAPHY
NO3-IC-ED	Water	Nitrate as N by IC	APHA 4110 B-ION CHROMATOGRAPHY
OGG-ED	Water	Oil and Grease-Gravimetric	APHA 5520 G HEXANE MTBE EXT. GRAVIME
P-TOTAL-ED	Water	Phosphorus, Total	APHA 4500 P B,E-Auto-Colorimetry
PH/EC-ED	Water	pH and Conductivity	APHA 4500-H, 2510
SOLIDS-TOTSUS-ED	Water	Total Suspended Solids	APHA 2540 D-Gravimetric
TURBIDITY-ED	Water	Turbidity	APHA 2130 B-Nephelometer

** 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 LABORATORY GROUP - EDMONTON, ALBERTA, CANADA

Chain of Custody Numbers:

08-073919

Reference Information

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
mk/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.

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

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

COC # **08-073919**

Page 1 of 1

Report to:	**Report Format / Distribution**	**Service Requested:** (rush - subject to availability)
Company: EBA Engineering Consultants Ltd.	Standard: ✓ Other:	✓ Regular (Default)
Contact: Karla Langlois	Select: PDF ✓ Excel ✓ Digital	Priority (2-3 Business Days) - 50% Surcharge
Address: PO Box 2244, #201, 4916-49 Street	Email 1: klanglois@eba.ca	Emergency (1 Business Day) - 100% Surcharge
Yellowknife NT X1A 2P7	Email 2: smoore@eba.ca	For Emergency < 1 Day, ASAP or Weekend - Contact ALS
Phone: 867.920-2287 Fax: 867.873.3324		
Invoice To: Same as Report ? Yes / (No)	**Client / Project Information:**	**Analysis Request**
Company: Peregrine Diamonds	Job #: Y22101098	(Indicate Filtered or Preserved, F/P)
Contact: Shirley Standafer-Pfister	PO / AFE:	
Address:	Legal Site Description:	
shirley@pdiam.com		
Phone: 604.408.8880 Fax:	Quote #: 10176	
Lab Work Order # (lab use only): L787611	ALS Contact: G.Gouthro	Sampler: K.Langlois

Sample #	Sample Identification (This description will appear on the report)	Date	Time	Sample Type	Total metals	Nutrients	Routine	TOC	Oil + Grease	Number of Containers
	Hydro 2	July 1/09		Water	✓	✓	✓	✓	✓	
	Hydro 2 Dup	July 1/09		Water	✓	✓	✓	✓	✓	
	Hydro 1	July 2/09		Water	✓	✓	✓	✓	✓	
	WQ4	July 2/09		Water	✓	✓	✓	✓	✓	
	WQ5	July 2/09		Water	✓	✓	✓	✓	✓	
	WQ6	July 2/09		Water	✓	✓	✓	✓	✓	
	Travel Blank			Water	✓	✓	✓	✓	✓	
	Field Blank	July 2/09		Water	✓	✓	✓	✓	✓	

Special Instructions / Regulations / Hazardous Details

TOC's were not preserved in the field, since I assumed the bottles were pre-charged based on the bottle request.

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 attach SIF
Karla Langlois	July 4/09 11:30	Rad	06-Jul-09	12:26	3.6°C			

APPENDIX B

APPENDIX B AUGUST WATER QUALITY LABORATORY ANALYSIS

Certificate of Analysis

EBA ENG CONSULTANTS LTD
ATTN: KARLA LANGLOIS
201 - 4916 49 STREET
PO BOX 2244
YELLOWKNIFE NT X1A 2P7

Report Date: 18-NOV-09 16:09 (MT)
Version: FINAL REV. 2

Lab Work Order #: **L812702** **Date Received:** **01-SEP-09**

Project P.O. #: NOT SUBMITTED
Job Reference: Y22101098
Legal Site Desc:
CofC Numbers: 09-002196

Other Information:

Comments:
Revised Report: Cr LOR revised.

Geraldlyn Gouthro
Client Services Manager

ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L812702-1 HYDRO 9							
Sampled By: KL on 29-AUG-09							
Matrix: WATER							
TOT Metals CCME Fresh Water Aquatic Life							
Hardness (from Total Ca and Mg)							
Hardness (as CaCO3)	<1.3			mg/L		04-SEP-09	
Mercury (Hg)							
Mercury (Hg)-Total	<0.000020		0.000020	mg/L		10-SEP-09	R940780
Total Al in Water by ICPMS (CCME - FAL)							
Aluminum (Al)-Total	0.0671		0.0050	mg/L		05-SEP-09	R934870
Total Cd in Water by ICPMS (CCME - FAL)							
Cadmium (Cd)-Total	0.000010		0.000010	mg/L		05-SEP-09	R934870
Total Metals in Water by ICPMS (Low)							
Antimony (Sb)-Total	<0.00040		0.00040	mg/L		05-SEP-09	R934870
Arsenic (As)-Total	<0.00040		0.00040	mg/L		05-SEP-09	R934870
Barium (Ba)-Total	0.0034		0.0030	mg/L		05-SEP-09	R934870
Beryllium (Be)-Total	<0.0010		0.0010	mg/L		05-SEP-09	R934870
Boron (B)-Total	<0.050		0.050	mg/L		05-SEP-09	R934870
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		05-SEP-09	R934870
Cobalt (Co)-Total	<0.0020		0.0020	mg/L		05-SEP-09	R934870
Copper (Cu)-Total	<0.0010		0.0010	mg/L		05-SEP-09	R934870
Lead (Pb)-Total	<0.00010		0.00010	mg/L		05-SEP-09	R934870
Lithium (Li)-Total	<0.010		0.010	mg/L		05-SEP-09	R934870
Molybdenum (Mo)-Total	<0.0050		0.0050	mg/L		05-SEP-09	R934870
Nickel (Ni)-Total	<0.0020		0.0020	mg/L		05-SEP-09	R934870
Selenium (Se)-Total	<0.00040		0.00040	mg/L		05-SEP-09	R934870
Silver (Ag)-Total	<0.00010		0.00010	mg/L		05-SEP-09	R934870
Thallium (Tl)-Total	<0.00010		0.00010	mg/L		05-SEP-09	R934870
Tin (Sn)-Total	<0.050		0.050	mg/L		05-SEP-09	R934870
Titanium (Ti)-Total	0.0032		0.0010	mg/L		05-SEP-09	R934870
Uranium (U)-Total	<0.00010		0.00010	mg/L		05-SEP-09	R934870
Vanadium (V)-Total	<0.0010		0.0010	mg/L		05-SEP-09	R934870
Zinc (Zn)-Total	<0.0040		0.0040	mg/L		05-SEP-09	R934870
Total Metals in Water by ICPOES							
Calcium (Ca)-Total	<0.50		0.50	mg/L		03-SEP-09	R932584
Iron (Fe)-Total	0.047		0.030	mg/L		03-SEP-09	R932584
Magnesium (Mg)-Total	0.17		0.10	mg/L		03-SEP-09	R932584
Manganese (Mn)-Total	<0.0050		0.0050	mg/L		03-SEP-09	R932584
Potassium (K)-Total	<0.50		0.50	mg/L		03-SEP-09	R932584
Sodium (Na)-Total	1.0		1.0	mg/L		03-SEP-09	R932584
Miscellaneous Parameters							
Ammonia-N	0.0057		0.0050	mg/L		05-SEP-09	R935905
Oil And Grease (Visible Sheen)	no visible sheen					02-SEP-09	R929756
Phosphorus, Total	<0.020		0.020	mg/L	02-SEP-09	02-SEP-09	R930463
Total Organic Carbon	<1.0		1.0	mg/L		11-SEP-09	R940634
Total Suspended Solids	<3.0		3.0	mg/L		03-SEP-09	R932683
Turbidity	2.20		0.10	NTU		02-SEP-09	R930764
Total Nitrogen							
Nitrogen, Total							
Nitrogen, Total	0.38		0.20	mg/L		04-SEP-09	
Total Kjeldahl Nitrogen							
Total Kjeldahl Nitrogen	<0.20		0.20	mg/L	03-SEP-09	03-SEP-09	R932023
Routine Water Analysis							
Dissolved Metals in Water by ICPOES							
Calcium (Ca)-Dissolved	<0.50		0.50	mg/L		02-SEP-09	R929864

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

ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L812702-1 HYDRO 9							
Sampled By: KL on 29-AUG-09							
Matrix: WATER							
Dissolved Metals in Water by ICPOES							
Magnesium (Mg)-Dissolved	0.17		0.10	mg/L		02-SEP-09	R929864
Potassium (K)-Dissolved	<0.50		0.50	mg/L		02-SEP-09	R929864
Sodium (Na)-Dissolved	<1.0		1.0	mg/L		02-SEP-09	R929864
Nitrate as N by IC							
Nitrate (as N)	0.378		0.050	mg/L		02-SEP-09	R929903
Nitrate+Nitrite							
Nitrate and Nitrite as N	0.378		0.071	mg/L		03-SEP-09	
Nitrite as N by IC							
Nitrite (as N)	<0.050		0.050	mg/L		02-SEP-09	R929903
pH, Conductivity and Total Alkalinity							
pH	5.47		0.10	pH		02-SEP-09	R929620
Conductivity (EC)	6.45		0.20	uS/cm		02-SEP-09	R929620
Bicarbonate (HCO3)	<5.0		5.0	mg/L		02-SEP-09	R929620
Carbonate (CO3)	<5.0		5.0	mg/L		02-SEP-09	R929620
Hydroxide (OH)	<5.0		5.0	mg/L		02-SEP-09	R929620
Alkalinity, Total (as CaCO3)	<5.0		5.0	mg/L		02-SEP-09	R929620
L812702-2 DUPLICATE							
Sampled By: KL on 29-AUG-09							
Matrix: WATER							
TOT Metals CCME Fresh Water Aquatic Life							
Hardness (from Total Ca and Mg)							
Hardness (as CaCO3)	<1.3			mg/L		04-SEP-09	
Mercury (Hg)							
Mercury (Hg)-Total	<0.000020		0.000020	mg/L		10-SEP-09	R940780
Total Al in Water by ICPMS (CCME - FAL)							
Aluminum (Al)-Total	0.0665		0.0050	mg/L		05-SEP-09	R934870
Total Cd in Water by ICPMS (CCME - FAL)							
Cadmium (Cd)-Total	<0.000010		0.000010	mg/L		05-SEP-09	R934870
Total Metals in Water by ICPMS (Low)							
Antimony (Sb)-Total	<0.00040		0.00040	mg/L		05-SEP-09	R934870
Arsenic (As)-Total	<0.00040		0.00040	mg/L		05-SEP-09	R934870
Barium (Ba)-Total	0.0035		0.0030	mg/L		05-SEP-09	R934870
Beryllium (Be)-Total	<0.0010		0.0010	mg/L		05-SEP-09	R934870
Boron (B)-Total	<0.050		0.050	mg/L		05-SEP-09	R934870
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		05-SEP-09	R934870
Cobalt (Co)-Total	<0.0020		0.0020	mg/L		05-SEP-09	R934870
Copper (Cu)-Total	<0.0010		0.0010	mg/L		05-SEP-09	R934870
Lead (Pb)-Total	<0.00010		0.00010	mg/L		05-SEP-09	R934870
Lithium (Li)-Total	<0.010		0.010	mg/L		05-SEP-09	R934870
Molybdenum (Mo)-Total	<0.0050		0.0050	mg/L		05-SEP-09	R934870
Nickel (Ni)-Total	<0.0020		0.0020	mg/L		05-SEP-09	R934870
Selenium (Se)-Total	<0.00040		0.00040	mg/L		05-SEP-09	R934870
Silver (Ag)-Total	<0.00010		0.00010	mg/L		05-SEP-09	R934870
Thallium (Tl)-Total	<0.00010		0.00010	mg/L		05-SEP-09	R934870
Tin (Sn)-Total	<0.050		0.050	mg/L		05-SEP-09	R934870
Titanium (Ti)-Total	0.0031		0.0010	mg/L		05-SEP-09	R934870
Uranium (U)-Total	<0.00010		0.00010	mg/L		05-SEP-09	R934870
Vanadium (V)-Total	<0.0010		0.0010	mg/L		05-SEP-09	R934870
Zinc (Zn)-Total	<0.0040		0.0040	mg/L		05-SEP-09	R934870
Total Metals in Water by ICPOES							
Calcium (Ca)-Total	<0.50		0.50	mg/L		03-SEP-09	R932584

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

ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L812702-2 DUPLICATE							
Sampled By: KL on 29-AUG-09							
Matrix: WATER							
Total Metals in Water by ICPOES							
Iron (Fe)-Total	0.046		0.030	mg/L		03-SEP-09	R932584
Magnesium (Mg)-Total	0.15		0.10	mg/L		03-SEP-09	R932584
Manganese (Mn)-Total	<0.0050		0.0050	mg/L		03-SEP-09	R932584
Potassium (K)-Total	<0.50		0.50	mg/L		03-SEP-09	R932584
Sodium (Na)-Total	<1.0		1.0	mg/L		03-SEP-09	R932584
Miscellaneous Parameters							
Ammonia-N	<0.0050		0.0050	mg/L		05-SEP-09	R935905
Oil And Grease (Visible Sheen)	no visible sheen					02-SEP-09	R929756
Phosphorus, Total	<0.020		0.020	mg/L	02-SEP-09	02-SEP-09	R930463
Total Organic Carbon	<1.0		1.0	mg/L		11-SEP-09	R940634
Total Suspended Solids	<3.0		3.0	mg/L		03-SEP-09	R932683
Turbidity	2.23		0.10	NTU		02-SEP-09	R930764
Total Nitrogen							
Nitrogen, Total							
Nitrogen, Total	0.38		0.20	mg/L		04-SEP-09	
Total Kjeldahl Nitrogen							
Total Kjeldahl Nitrogen	<0.20		0.20	mg/L	03-SEP-09	03-SEP-09	R932023
Routine Water Analysis							
Dissolved Metals in Water by ICPOES							
Calcium (Ca)-Dissolved	<0.50		0.50	mg/L		02-SEP-09	R929864
Magnesium (Mg)-Dissolved	0.16		0.10	mg/L		02-SEP-09	R929864
Potassium (K)-Dissolved	<0.50		0.50	mg/L		02-SEP-09	R929864
Sodium (Na)-Dissolved	<1.0		1.0	mg/L		02-SEP-09	R929864
Nitrate as N by IC							
Nitrate (as N)	0.377		0.050	mg/L		02-SEP-09	R929903
Nitrate+Nitrite							
Nitrate and Nitrite as N	0.377		0.071	mg/L		03-SEP-09	
Nitrite as N by IC							
Nitrite (as N)	<0.050		0.050	mg/L		02-SEP-09	R929903
pH, Conductivity and Total Alkalinity							
pH	5.49		0.10	pH		02-SEP-09	R929620
Conductivity (EC)	6.43		0.20	uS/cm		02-SEP-09	R929620
Bicarbonate (HCO3)	<5.0		5.0	mg/L		02-SEP-09	R929620
Carbonate (CO3)	<5.0		5.0	mg/L		02-SEP-09	R929620
Hydroxide (OH)	<5.0		5.0	mg/L		02-SEP-09	R929620
Alkalinity, Total (as CaCO3)	<5.0		5.0	mg/L		02-SEP-09	R929620
L812702-3 WQ4							
Sampled By: KL on 30-AUG-09							
Matrix: WATER							
TOT Metals CCME Fresh Water Aquatic Life							
Hardness (from Total Ca and Mg)							
Hardness (as CaCO3)	3.1			mg/L		04-SEP-09	
Mercury (Hg)							
Mercury (Hg)-Total	<0.000020		0.000020	mg/L		10-SEP-09	R940780
Total Al in Water by ICPMS (CCME - FAL)							
Aluminum (Al)-Total	0.252		0.0050	mg/L		05-SEP-09	R934870
Total Cd in Water by ICPMS (CCME - FAL)							
Cadmium (Cd)-Total	<0.000010		0.000010	mg/L		05-SEP-09	R934870
Total Metals in Water by ICPMS (Low)							
Antimony (Sb)-Total	<0.00040		0.00040	mg/L		05-SEP-09	R934870
Arsenic (As)-Total	<0.00040		0.00040	mg/L		05-SEP-09	R934870

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

ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L812702-3 WQ4							
Sampled By: KL on 30-AUG-09							
Matrix: WATER							
Total Metals in Water by ICPMS (Low)							
Barium (Ba)-Total	0.0078		0.0030	mg/L		05-SEP-09	R934870
Beryllium (Be)-Total	<0.0010		0.0010	mg/L		05-SEP-09	R934870
Boron (B)-Total	<0.050		0.050	mg/L		05-SEP-09	R934870
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		05-SEP-09	R934870
Cobalt (Co)-Total	<0.0020		0.0020	mg/L		05-SEP-09	R934870
Copper (Cu)-Total	<0.0010		0.0010	mg/L		05-SEP-09	R934870
Lead (Pb)-Total	<0.00010		0.00010	mg/L		05-SEP-09	R934870
Lithium (Li)-Total	<0.010		0.010	mg/L		05-SEP-09	R934870
Molybdenum (Mo)-Total	<0.0050		0.0050	mg/L		05-SEP-09	R934870
Nickel (Ni)-Total	<0.0020		0.0020	mg/L		05-SEP-09	R934870
Selenium (Se)-Total	<0.00040		0.00040	mg/L		05-SEP-09	R934870
Silver (Ag)-Total	<0.00010		0.00010	mg/L		05-SEP-09	R934870
Thallium (Tl)-Total	<0.00010		0.00010	mg/L		05-SEP-09	R934870
Tin (Sn)-Total	<0.050		0.050	mg/L		05-SEP-09	R934870
Titanium (Ti)-Total	0.0188		0.0010	mg/L		05-SEP-09	R934870
Uranium (U)-Total	<0.00010		0.00010	mg/L		05-SEP-09	R934870
Vanadium (V)-Total	<0.0010		0.0010	mg/L		05-SEP-09	R934870
Zinc (Zn)-Total	<0.0040		0.0040	mg/L		05-SEP-09	R934870
Total Metals in Water by ICPOES							
Calcium (Ca)-Total	0.71		0.50	mg/L		03-SEP-09	R932584
Iron (Fe)-Total	0.274		0.030	mg/L		03-SEP-09	R932584
Magnesium (Mg)-Total	0.33		0.10	mg/L		03-SEP-09	R932584
Manganese (Mn)-Total	0.0060		0.0050	mg/L		03-SEP-09	R932584
Potassium (K)-Total	<0.50		0.50	mg/L		03-SEP-09	R932584
Sodium (Na)-Total	1.2		1.0	mg/L		03-SEP-09	R932584
Miscellaneous Parameters							
Ammonia-N	0.0215		0.0050	mg/L		05-SEP-09	R935905
Oil And Grease (Visible Sheen)	no visible sheen					02-SEP-09	R929756
Phosphorus, Total	<0.020		0.020	mg/L	02-SEP-09	02-SEP-09	R930463
Total Organic Carbon	<1.0		1.0	mg/L		11-SEP-09	R940634
Total Suspended Solids	<3.0		3.0	mg/L		03-SEP-09	R932683
Turbidity	4.12		0.10	NTU		02-SEP-09	R930764
Total Nitrogen							
Nitrogen, Total							
Nitrogen, Total	0.31		0.20	mg/L		04-SEP-09	
Total Kjeldahl Nitrogen							
Total Kjeldahl Nitrogen	<0.20		0.20	mg/L	03-SEP-09	03-SEP-09	R932023
Routine Water Analysis							
Dissolved Metals in Water by ICPOES							
Calcium (Ca)-Dissolved	0.74		0.50	mg/L		02-SEP-09	R929864
Magnesium (Mg)-Dissolved	0.30		0.10	mg/L		02-SEP-09	R929864
Potassium (K)-Dissolved	<0.50		0.50	mg/L		02-SEP-09	R929864
Sodium (Na)-Dissolved	<1.0		1.0	mg/L		02-SEP-09	R929864
Nitrate as N by IC							
Nitrate (as N)	0.313		0.050	mg/L		02-SEP-09	R929903
Nitrate+Nitrite							
Nitrate and Nitrite as N	0.313		0.071	mg/L		03-SEP-09	
Nitrite as N by IC							
Nitrite (as N)	<0.050		0.050	mg/L		02-SEP-09	R929903
pH, Conductivity and Total Alkalinity							
pH	6.24		0.10	pH		02-SEP-09	R929620

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

ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L812702-3 WQ4							
Sampled By: KL on 30-AUG-09							
Matrix: WATER							
pH, Conductivity and Total Alkalinity							
Conductivity (EC)	10.2		0.20	uS/cm		02-SEP-09	R929620
Bicarbonate (HCO3)	<5.0		5.0	mg/L		02-SEP-09	R929620
Carbonate (CO3)	<5.0		5.0	mg/L		02-SEP-09	R929620
Hydroxide (OH)	<5.0		5.0	mg/L		02-SEP-09	R929620
Alkalinity, Total (as CaCO3)	<5.0		5.0	mg/L		02-SEP-09	R929620
L812702-4 WQ3							
Sampled By: KL on 30-AUG-09							
Matrix: WATER							
TOT Metals CCME Fresh Water Aquatic Life							
Hardness (from Total Ca and Mg)							
Hardness (as CaCO3)	<1.3			mg/L		03-SEP-09	
Mercury (Hg)							
Mercury (Hg)-Total	<0.000020		0.000020	mg/L		10-SEP-09	R940780
Total Al in Water by ICPMS (CCME - FAL)							
Aluminum (Al)-Total	0.0068		0.0050	mg/L		03-SEP-09	R930366
Total Cd in Water by ICPMS (CCME - FAL)							
Cadmium (Cd)-Total	<0.000010		0.000010	mg/L		03-SEP-09	R930366
Total Metals in Water by ICPMS (Low)							
Antimony (Sb)-Total	<0.00040		0.00040	mg/L		03-SEP-09	R930366
Arsenic (As)-Total	<0.00040		0.00040	mg/L		03-SEP-09	R930366
Barium (Ba)-Total	<0.0030		0.0030	mg/L		03-SEP-09	R930366
Beryllium (Be)-Total	<0.0010		0.0010	mg/L		03-SEP-09	R930366
Boron (B)-Total	<0.050		0.050	mg/L		03-SEP-09	R930366
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		03-SEP-09	R930366
Cobalt (Co)-Total	<0.0020		0.0020	mg/L		03-SEP-09	R930366
Copper (Cu)-Total	<0.0010		0.0010	mg/L		03-SEP-09	R930366
Lead (Pb)-Total	<0.00010		0.00010	mg/L		03-SEP-09	R930366
Lithium (Li)-Total	<0.010		0.010	mg/L		03-SEP-09	R930366
Molybdenum (Mo)-Total	<0.0050		0.0050	mg/L		03-SEP-09	R930366
Nickel (Ni)-Total	<0.0020		0.0020	mg/L		03-SEP-09	R930366
Selenium (Se)-Total	<0.00040		0.00040	mg/L		03-SEP-09	R930366
Silver (Ag)-Total	<0.00010		0.00010	mg/L		03-SEP-09	R930366
Thallium (Tl)-Total	<0.00010		0.00010	mg/L		03-SEP-09	R930366
Tin (Sn)-Total	<0.050		0.050	mg/L		03-SEP-09	R930366
Titanium (Ti)-Total	<0.0010		0.0010	mg/L		03-SEP-09	R930366
Uranium (U)-Total	<0.00010		0.00010	mg/L		03-SEP-09	R930366
Vanadium (V)-Total	<0.0010		0.0010	mg/L		03-SEP-09	R930366
Zinc (Zn)-Total	<0.0040		0.0040	mg/L		03-SEP-09	R930366
Total Metals in Water by ICPOES							
Calcium (Ca)-Total	<0.50		0.50	mg/L		03-SEP-09	R932584
Iron (Fe)-Total	<0.030		0.030	mg/L		03-SEP-09	R932584
Magnesium (Mg)-Total	<0.10		0.10	mg/L		03-SEP-09	R932584
Manganese (Mn)-Total	<0.0050		0.0050	mg/L		03-SEP-09	R932584
Potassium (K)-Total	<0.50		0.50	mg/L		03-SEP-09	R932584
Sodium (Na)-Total	<1.0		1.0	mg/L		03-SEP-09	R932584
Miscellaneous Parameters							
Ammonia-N	<0.0050		0.0050	mg/L		05-SEP-09	R935905
Oil And Grease (Visible Sheen)	no visible sheen					02-SEP-09	R929756
Phosphorus, Total	<0.020		0.020	mg/L	02-SEP-09	02-SEP-09	R930463
Total Organic Carbon	<1.0		1.0	mg/L		11-SEP-09	R940634
Total Suspended Solids	<3.0		3.0	mg/L		03-SEP-09	R932683

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

ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L812702-4 WQ3							
Sampled By: KL on 30-AUG-09							
Matrix: WATER							
Turbidity	0.17		0.10	NTU		04-SEP-09	R935586
Total Nitrogen							
Nitrogen, Total							
Nitrogen, Total	<0.20		0.20	mg/L		04-SEP-09	
Total Kjeldahl Nitrogen							
Total Kjeldahl Nitrogen	<0.20		0.20	mg/L	03-SEP-09	03-SEP-09	R932023
Routine Water Analysis							
Dissolved Metals in Water by ICPOES							
Calcium (Ca)-Dissolved	<0.50		0.50	mg/L		02-SEP-09	R929864
Magnesium (Mg)-Dissolved	<0.10		0.10	mg/L		02-SEP-09	R929864
Potassium (K)-Dissolved	<0.50		0.50	mg/L		02-SEP-09	R929864
Sodium (Na)-Dissolved	<1.0		1.0	mg/L		02-SEP-09	R929864
Nitrate as N by IC							
Nitrate (as N)	<0.050		0.050	mg/L		02-SEP-09	R929903
Nitrate+Nitrite							
Nitrate and Nitrite as N	<0.071		0.071	mg/L		03-SEP-09	
Nitrite as N by IC							
Nitrite (as N)	<0.050		0.050	mg/L		02-SEP-09	R929903
pH, Conductivity and Total Alkalinity							
pH	5.62		0.10	pH		02-SEP-09	R929620
Conductivity (EC)	1.97		0.20	uS/cm		02-SEP-09	R929620
Bicarbonate (HCO3)	<5.0		5.0	mg/L		02-SEP-09	R929620
Carbonate (CO3)	<5.0		5.0	mg/L		02-SEP-09	R929620
Hydroxide (OH)	<5.0		5.0	mg/L		02-SEP-09	R929620
Alkalinity, Total (as CaCO3)	<5.0		5.0	mg/L		02-SEP-09	R929620
L812702-5 WQ5							
Sampled By: KL on 30-AUG-09							
Matrix: WATER							
TOT Metals CCME Fresh Water Aquatic Life							
Hardness (from Total Ca and Mg)							
Hardness (as CaCO3)	<1.3			mg/L		03-SEP-09	
Mercury (Hg)							
Mercury (Hg)-Total	<0.000020		0.000020	mg/L		10-SEP-09	R940780
Total Al in Water by ICPMS (CCME - FAL)							
Aluminum (Al)-Total	0.0127	RRVAP	0.0050	mg/L		03-SEP-09	R930366
Total Cd in Water by ICPMS (CCME - FAL)							
Cadmium (Cd)-Total	<0.000010		0.000010	mg/L		03-SEP-09	R930366
Total Metals in Water by ICPMS (Low)							
Antimony (Sb)-Total	<0.00040		0.00040	mg/L		03-SEP-09	R930366
Arsenic (As)-Total	<0.00040		0.00040	mg/L		03-SEP-09	R930366
Barium (Ba)-Total	<0.0030		0.0030	mg/L		03-SEP-09	R930366
Beryllium (Be)-Total	<0.0010		0.0010	mg/L		03-SEP-09	R930366
Boron (B)-Total	<0.050		0.050	mg/L		03-SEP-09	R930366
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		03-SEP-09	R930366
Cobalt (Co)-Total	<0.0020		0.0020	mg/L		03-SEP-09	R930366
Copper (Cu)-Total	<0.0010		0.0010	mg/L		03-SEP-09	R930366
Lead (Pb)-Total	<0.00010		0.00010	mg/L		03-SEP-09	R930366
Lithium (Li)-Total	<0.010		0.010	mg/L		03-SEP-09	R930366
Molybdenum (Mo)-Total	<0.0050		0.0050	mg/L		03-SEP-09	R930366
Nickel (Ni)-Total	<0.0020		0.0020	mg/L		03-SEP-09	R930366
Selenium (Se)-Total	<0.00040		0.00040	mg/L		03-SEP-09	R930366
Silver (Ag)-Total	<0.00010		0.00010	mg/L		03-SEP-09	R930366

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

ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L812702-5 WQ5							
Sampled By: KL on 30-AUG-09							
Matrix: WATER							
Total Metals in Water by ICPMS (Low)							
Thallium (Tl)-Total	<0.00010		0.00010	mg/L		03-SEP-09	R930366
Tin (Sn)-Total	<0.050		0.050	mg/L		03-SEP-09	R930366
Titanium (Ti)-Total	<0.0010		0.0010	mg/L		03-SEP-09	R930366
Uranium (U)-Total	<0.00010		0.00010	mg/L		03-SEP-09	R930366
Vanadium (V)-Total	<0.0010		0.0010	mg/L		03-SEP-09	R930366
Zinc (Zn)-Total	<0.0040		0.0040	mg/L		03-SEP-09	R930366
Total Metals in Water by ICPOES							
Calcium (Ca)-Total	<0.50		0.50	mg/L		03-SEP-09	R932584
Iron (Fe)-Total	<0.030		0.030	mg/L		03-SEP-09	R932584
Magnesium (Mg)-Total	0.10		0.10	mg/L		03-SEP-09	R932584
Manganese (Mn)-Total	<0.0050		0.0050	mg/L		03-SEP-09	R932584
Potassium (K)-Total	<0.50		0.50	mg/L		03-SEP-09	R932584
Sodium (Na)-Total	<1.0		1.0	mg/L		03-SEP-09	R932584
Miscellaneous Parameters							
Ammonia-N	<0.0050		0.0050	mg/L		12-SEP-09	R941077
Oil And Grease (Visible Sheen)	no visible sheen					02-SEP-09	R929756
Phosphorus, Total	<0.020		0.020	mg/L	02-SEP-09	02-SEP-09	R930463
Total Organic Carbon	<1.0		1.0	mg/L		11-SEP-09	R940634
Total Suspended Solids	<3.0		3.0	mg/L		03-SEP-09	R932683
Turbidity	0.36		0.10	NTU		04-SEP-09	R935586
Total Nitrogen							
Nitrogen, Total							
Nitrogen, Total	<0.20		0.20	mg/L		04-SEP-09	
Total Kjeldahl Nitrogen							
Total Kjeldahl Nitrogen	<0.20		0.20	mg/L	03-SEP-09	03-SEP-09	R932023
Routine Water Analysis							
Dissolved Metals in Water by ICPOES							
Calcium (Ca)-Dissolved	<0.50		0.50	mg/L		02-SEP-09	R929864
Magnesium (Mg)-Dissolved	0.10	RRV	0.10	mg/L		04-SEP-09	R932586
Potassium (K)-Dissolved	<0.50		0.50	mg/L		02-SEP-09	R929864
Sodium (Na)-Dissolved	<1.0		1.0	mg/L		02-SEP-09	R929864
Nitrate as N by IC							
Nitrate (as N)	<0.050		0.050	mg/L		02-SEP-09	R929903
Nitrate+Nitrite							
Nitrate and Nitrite as N	<0.071		0.071	mg/L		03-SEP-09	
Nitrite as N by IC							
Nitrite (as N)	<0.050		0.050	mg/L		02-SEP-09	R929903
pH, Conductivity and Total Alkalinity							
pH	5.84		0.10	pH		02-SEP-09	R929620
Conductivity (EC)	3.41		0.20	uS/cm		02-SEP-09	R929620
Bicarbonate (HCO3)	<5.0		5.0	mg/L		02-SEP-09	R929620
Carbonate (CO3)	<5.0		5.0	mg/L		02-SEP-09	R929620
Hydroxide (OH)	<5.0		5.0	mg/L		02-SEP-09	R929620
Alkalinity, Total (as CaCO3)	<5.0		5.0	mg/L		02-SEP-09	R929620
L812702-6 WQ6							
Sampled By: KL on 30-AUG-09							
Matrix: WATER							
TOT Metals CCME Fresh Water Aquatic Life							
Hardness (from Total Ca and Mg)							
Hardness (as CaCO3)	<1.3			mg/L		03-SEP-09	
Mercury (Hg)							

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

ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L812702-6 WQ6							
Sampled By: KL on 30-AUG-09							
Matrix: WATER							
Mercury (Hg)							
Mercury (Hg)-Total	<0.000020		0.000020	mg/L		10-SEP-09	R940780
Total Al in Water by ICPMS (CCME - FAL)							
Aluminum (Al)-Total	0.0222	RRVAP	0.0050	mg/L		03-SEP-09	R930366
Total Cd in Water by ICPMS (CCME - FAL)							
Cadmium (Cd)-Total	<0.000010		0.000010	mg/L		03-SEP-09	R930366
Total Metals in Water by ICPMS (Low)							
Antimony (Sb)-Total	<0.00040		0.00040	mg/L		03-SEP-09	R930366
Arsenic (As)-Total	<0.00040		0.00040	mg/L		03-SEP-09	R930366
Barium (Ba)-Total	<0.0030		0.0030	mg/L		03-SEP-09	R930366
Beryllium (Be)-Total	<0.0010		0.0010	mg/L		03-SEP-09	R930366
Boron (B)-Total	<0.050		0.050	mg/L		03-SEP-09	R930366
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		03-SEP-09	R930366
Cobalt (Co)-Total	<0.0020		0.0020	mg/L		03-SEP-09	R930366
Copper (Cu)-Total	<0.0010		0.0010	mg/L		03-SEP-09	R930366
Lead (Pb)-Total	<0.00010		0.00010	mg/L		03-SEP-09	R930366
Lithium (Li)-Total	<0.010		0.010	mg/L		03-SEP-09	R930366
Molybdenum (Mo)-Total	<0.0050		0.0050	mg/L		03-SEP-09	R930366
Nickel (Ni)-Total	<0.0020		0.0020	mg/L		03-SEP-09	R930366
Selenium (Se)-Total	<0.00040		0.00040	mg/L		03-SEP-09	R930366
Silver (Ag)-Total	<0.00010		0.00010	mg/L		03-SEP-09	R930366
Thallium (Tl)-Total	<0.00010		0.00010	mg/L		03-SEP-09	R930366
Tin (Sn)-Total	<0.050		0.050	mg/L		03-SEP-09	R930366
Titanium (Ti)-Total	<0.0010		0.0010	mg/L		03-SEP-09	R930366
Uranium (U)-Total	<0.00010		0.00010	mg/L		03-SEP-09	R930366
Vanadium (V)-Total	<0.0010		0.0010	mg/L		03-SEP-09	R930366
Zinc (Zn)-Total	<0.0040		0.0040	mg/L		03-SEP-09	R930366
Total Metals in Water by ICPOES							
Calcium (Ca)-Total	<0.50		0.50	mg/L		03-SEP-09	R932584
Iron (Fe)-Total	<0.030		0.030	mg/L		03-SEP-09	R932584
Magnesium (Mg)-Total	<0.10		0.10	mg/L		03-SEP-09	R932584
Manganese (Mn)-Total	<0.0050		0.0050	mg/L		03-SEP-09	R932584
Potassium (K)-Total	<0.50		0.50	mg/L		03-SEP-09	R932584
Sodium (Na)-Total	<1.0		1.0	mg/L		03-SEP-09	R932584
Miscellaneous Parameters							
Ammonia-N	<0.0050		0.0050	mg/L		05-SEP-09	R935905
Oil And Grease (Visible Sheen)	no visible sheen					02-SEP-09	R929756
Phosphorus, Total	<0.020		0.020	mg/L	02-SEP-09	02-SEP-09	R930463
Total Organic Carbon	<1.0		1.0	mg/L		11-SEP-09	R940634
Total Suspended Solids	<3.0		3.0	mg/L		03-SEP-09	R932683
Turbidity	0.37		0.10	NTU		04-SEP-09	R935586
Total Nitrogen							
Nitrogen, Total							
Nitrogen, Total	<0.20		0.20	mg/L		04-SEP-09	
Total Kjeldahl Nitrogen							
Total Kjeldahl Nitrogen	<0.20		0.20	mg/L	03-SEP-09	03-SEP-09	R932023
Routine Water Analysis							
Dissolved Metals in Water by ICPOES							
Calcium (Ca)-Dissolved	<0.50		0.50	mg/L		02-SEP-09	R929864
Magnesium (Mg)-Dissolved	<0.10		0.10	mg/L		02-SEP-09	R929864
Potassium (K)-Dissolved	<0.50		0.50	mg/L		02-SEP-09	R929864
Sodium (Na)-Dissolved	<1.0		1.0	mg/L		02-SEP-09	R929864

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

ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L812702-6 WQ6							
Sampled By: KL on 30-AUG-09							
Matrix: WATER							
Nitrate as N by IC							
Nitrate (as N)	<0.050		0.050	mg/L		02-SEP-09	R929903
Nitrate+Nitrite							
Nitrate and Nitrite as N	<0.071		0.071	mg/L		03-SEP-09	
Nitrite as N by IC							
Nitrite (as N)	<0.050		0.050	mg/L		02-SEP-09	R929903
pH, Conductivity and Total Alkalinity							
pH	5.68		0.10	pH		02-SEP-09	R929620
Conductivity (EC)	2.97		0.20	uS/cm		02-SEP-09	R929620
Bicarbonate (HCO3)	<5.0		5.0	mg/L		02-SEP-09	R929620
Carbonate (CO3)	<5.0		5.0	mg/L		02-SEP-09	R929620
Hydroxide (OH)	<5.0		5.0	mg/L		02-SEP-09	R929620
Alkalinity, Total (as CaCO3)	<5.0		5.0	mg/L		02-SEP-09	R929620
L812702-7 WQ7							
Sampled By: KL on 30-AUG-09							
Matrix: WATER							
TOT Metals CCME Fresh Water Aquatic Life							
Hardness (from Total Ca and Mg)							
Hardness (as CaCO3)	<1.3			mg/L		03-SEP-09	
Mercury (Hg)							
Mercury (Hg)-Total	<0.000020		0.000020	mg/L		10-SEP-09	R940780
Total Al in Water by ICPMS (CCME - FAL)							
Aluminum (Al)-Total	0.0792	RRVAP	0.0050	mg/L		03-SEP-09	R930366
Total Cd in Water by ICPMS (CCME - FAL)							
Cadmium (Cd)-Total	<0.000010		0.000010	mg/L		03-SEP-09	R930366
Total Metals in Water by ICPMS (Low)							
Antimony (Sb)-Total	<0.00040		0.00040	mg/L		03-SEP-09	R930366
Arsenic (As)-Total	<0.00040		0.00040	mg/L		03-SEP-09	R930366
Barium (Ba)-Total	<0.0030		0.0030	mg/L		03-SEP-09	R930366
Beryllium (Be)-Total	<0.0010		0.0010	mg/L		03-SEP-09	R930366
Boron (B)-Total	<0.050		0.050	mg/L		03-SEP-09	R930366
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		03-SEP-09	R930366
Cobalt (Co)-Total	<0.0020		0.0020	mg/L		03-SEP-09	R930366
Copper (Cu)-Total	<0.0010		0.0010	mg/L		03-SEP-09	R930366
Lead (Pb)-Total	<0.00010		0.00010	mg/L		03-SEP-09	R930366
Lithium (Li)-Total	<0.010		0.010	mg/L		03-SEP-09	R930366
Molybdenum (Mo)-Total	<0.0050		0.0050	mg/L		03-SEP-09	R930366
Nickel (Ni)-Total	<0.0020		0.0020	mg/L		03-SEP-09	R930366
Selenium (Se)-Total	<0.00040		0.00040	mg/L		03-SEP-09	R930366
Silver (Ag)-Total	<0.00010		0.00010	mg/L		03-SEP-09	R930366
Thallium (Tl)-Total	<0.00010		0.00010	mg/L		03-SEP-09	R930366
Tin (Sn)-Total	<0.050		0.050	mg/L		03-SEP-09	R930366
Titanium (Ti)-Total	0.0059	RRVAP	0.0010	mg/L		03-SEP-09	R930366
Uranium (U)-Total	<0.00010		0.00010	mg/L		03-SEP-09	R930366
Vanadium (V)-Total	<0.0010		0.0010	mg/L		03-SEP-09	R930366
Zinc (Zn)-Total	<0.0040		0.0040	mg/L		03-SEP-09	R930366
Total Metals in Water by ICPOES							
Calcium (Ca)-Total	<0.50		0.50	mg/L		03-SEP-09	R932584
Iron (Fe)-Total	0.078		0.030	mg/L		03-SEP-09	R932584
Magnesium (Mg)-Total	0.14		0.10	mg/L		03-SEP-09	R932584
Manganese (Mn)-Total	<0.0050		0.0050	mg/L		03-SEP-09	R932584
Potassium (K)-Total	<0.50		0.50	mg/L		03-SEP-09	R932584

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

ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L812702-7 WQ7							
Sampled By: KL on 30-AUG-09							
Matrix: WATER							
Total Metals in Water by ICPOES							
Sodium (Na)-Total	<1.0		1.0	mg/L		03-SEP-09	R932584
Miscellaneous Parameters							
Ammonia-N	<0.0050		0.0050	mg/L		12-SEP-09	R941077
Oil And Grease (Visible Sheen)	no visible sheen					02-SEP-09	R929756
Phosphorus, Total	<0.020		0.020	mg/L	02-SEP-09	02-SEP-09	R930463
Total Organic Carbon	<1.0		1.0	mg/L		11-SEP-09	R940634
Total Suspended Solids	<3.0		3.0	mg/L		03-SEP-09	R932683
Turbidity	0.66	RRV	0.10	NTU		04-SEP-09	R935586
Total Nitrogen							
Nitrogen, Total							
Nitrogen, Total	<0.20		0.20	mg/L		04-SEP-09	
Total Kjeldahl Nitrogen							
Total Kjeldahl Nitrogen	<0.20		0.20	mg/L	03-SEP-09	03-SEP-09	R932023
Routine Water Analysis							
Dissolved Metals in Water by ICPOES							
Calcium (Ca)-Dissolved	<0.50		0.50	mg/L		02-SEP-09	R929864
Magnesium (Mg)-Dissolved	0.12		0.10	mg/L		04-SEP-09	R932586
Potassium (K)-Dissolved	<0.50		0.50	mg/L		02-SEP-09	R929864
Sodium (Na)-Dissolved	<1.0		1.0	mg/L		02-SEP-09	R929864
Nitrate as N by IC							
Nitrate (as N)	<0.050		0.050	mg/L		02-SEP-09	R929903
Nitrate+Nitrite							
Nitrate and Nitrite as N	<0.071		0.071	mg/L		04-SEP-09	
Nitrite as N by IC							
Nitrite (as N)	<0.050		0.050	mg/L		02-SEP-09	R929903
pH, Conductivity and Total Alkalinity							
pH	5.86		0.10	pH		02-SEP-09	R929620
Conductivity (EC)	4.04		0.20	uS/cm		02-SEP-09	R929620
Bicarbonate (HCO3)	<5.0		5.0	mg/L		02-SEP-09	R929620
Carbonate (CO3)	<5.0		5.0	mg/L		02-SEP-09	R929620
Hydroxide (OH)	<5.0		5.0	mg/L		02-SEP-09	R929620
Alkalinity, Total (as CaCO3)	<5.0		5.0	mg/L		02-SEP-09	R929620
L812702-8 WQ8							
Sampled By: KL on 30-AUG-09							
Matrix: WATER							
TOT Metals CCME Fresh Water Aquatic Life							
Hardness (from Total Ca and Mg)							
Hardness (as CaCO3)	<1.3			mg/L		04-SEP-09	
Mercury (Hg)							
Mercury (Hg)-Total	<0.000020		0.000020	mg/L		10-SEP-09	R940780
Total Al in Water by ICPMS (CCME - FAL)							
Aluminum (Al)-Total	0.0675		0.0050	mg/L		05-SEP-09	R934870
Total Cd in Water by ICPMS (CCME - FAL)							
Cadmium (Cd)-Total	<0.000010		0.000010	mg/L		05-SEP-09	R934870
Total Metals in Water by ICPMS (Low)							
Antimony (Sb)-Total	<0.00040		0.00040	mg/L		05-SEP-09	R934870
Arsenic (As)-Total	<0.00040		0.00040	mg/L		05-SEP-09	R934870
Barium (Ba)-Total	0.0050		0.0030	mg/L		05-SEP-09	R934870
Beryllium (Be)-Total	<0.0010		0.0010	mg/L		05-SEP-09	R934870
Boron (B)-Total	<0.050		0.050	mg/L		05-SEP-09	R934870
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		05-SEP-09	R934870

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

ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L812702-8 WQ8							
Sampled By: KL on 30-AUG-09							
Matrix: WATER							
Total Metals in Water by ICPMS (Low)							
Cobalt (Co)-Total	<0.0020		0.0020	mg/L		05-SEP-09	R934870
Copper (Cu)-Total	<0.0010		0.0010	mg/L		05-SEP-09	R934870
Lead (Pb)-Total	<0.00010		0.00010	mg/L		05-SEP-09	R934870
Lithium (Li)-Total	<0.010		0.010	mg/L		05-SEP-09	R934870
Molybdenum (Mo)-Total	<0.0050		0.0050	mg/L		05-SEP-09	R934870
Nickel (Ni)-Total	<0.0020		0.0020	mg/L		05-SEP-09	R934870
Selenium (Se)-Total	<0.00040		0.00040	mg/L		05-SEP-09	R934870
Silver (Ag)-Total	<0.00010		0.00010	mg/L		05-SEP-09	R934870
Thallium (Tl)-Total	<0.00010		0.00010	mg/L		05-SEP-09	R934870
Tin (Sn)-Total	<0.050		0.050	mg/L		05-SEP-09	R934870
Titanium (Ti)-Total	0.0047		0.0010	mg/L		05-SEP-09	R934870
Uranium (U)-Total	<0.00010		0.00010	mg/L		05-SEP-09	R934870
Vanadium (V)-Total	<0.0010		0.0010	mg/L		05-SEP-09	R934870
Zinc (Zn)-Total	<0.0040		0.0040	mg/L		05-SEP-09	R934870
Total Metals in Water by ICPOES							
Calcium (Ca)-Total	<0.50		0.50	mg/L		03-SEP-09	R932584
Iron (Fe)-Total	0.063		0.030	mg/L		03-SEP-09	R932584
Magnesium (Mg)-Total	0.28		0.10	mg/L		03-SEP-09	R932584
Manganese (Mn)-Total	<0.0050		0.0050	mg/L		03-SEP-09	R932584
Potassium (K)-Total	<0.50		0.50	mg/L		03-SEP-09	R932584
Sodium (Na)-Total	1.0		1.0	mg/L		03-SEP-09	R932584
Miscellaneous Parameters							
Ammonia-N	<0.0050		0.0050	mg/L		05-SEP-09	R935905
Oil And Grease (Visible Sheen)	no visible sheen					02-SEP-09	R929756
Phosphorus, Total	<0.020		0.020	mg/L	02-SEP-09	02-SEP-09	R930463
Total Organic Carbon	<1.0		1.0	mg/L		11-SEP-09	R940634
Total Suspended Solids	<3.0		3.0	mg/L		03-SEP-09	R932683
Turbidity	1.34		0.10	NTU		02-SEP-09	R930764
Total Nitrogen							
Nitrogen, Total							
Nitrogen, Total	0.23		0.20	mg/L		04-SEP-09	
Total Kjeldahl Nitrogen							
Total Kjeldahl Nitrogen	<0.20		0.20	mg/L	03-SEP-09	03-SEP-09	R932023
Routine Water Analysis							
Dissolved Metals in Water by ICPOES							
Calcium (Ca)-Dissolved	0.53		0.50	mg/L		02-SEP-09	R929864
Magnesium (Mg)-Dissolved	0.30		0.10	mg/L		02-SEP-09	R929864
Potassium (K)-Dissolved	<0.50		0.50	mg/L		02-SEP-09	R929864
Sodium (Na)-Dissolved	<1.0		1.0	mg/L		02-SEP-09	R929864
Nitrate as N by IC							
Nitrate (as N)	0.226		0.050	mg/L		02-SEP-09	R929903
Nitrate+Nitrite							
Nitrate and Nitrite as N	0.226		0.071	mg/L		03-SEP-09	
Nitrite as N by IC							
Nitrite (as N)	<0.050		0.050	mg/L		02-SEP-09	R929903
pH, Conductivity and Total Alkalinity							
pH	5.98		0.10	pH		02-SEP-09	R929620
Conductivity (EC)	9.41		0.20	uS/cm		02-SEP-09	R929620
Bicarbonate (HCO3)	<5.0		5.0	mg/L		02-SEP-09	R929620
Carbonate (CO3)	<5.0		5.0	mg/L		02-SEP-09	R929620
Hydroxide (OH)	<5.0		5.0	mg/L		02-SEP-09	R929620

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

ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L812702-8 WQ8							
Sampled By: KL on 30-AUG-09							
Matrix: WATER							
pH, Conductivity and Total Alkalinity							
Alkalinity, Total (as CaCO3)	<5.0		5.0	mg/L		02-SEP-09	R929620
L812702-9 FIELD BLANK							
Sampled By: KL on 30-AUG-09							
Matrix: WATER							
TOT Metals CCME Fresh Water Aquatic Life							
Hardness (from Total Ca and Mg)							
Hardness (as CaCO3)	<1.3			mg/L		03-SEP-09	
Mercury (Hg)							
Mercury (Hg)-Total	<0.000020		0.000020	mg/L		10-SEP-09	R940780
Total Al in Water by ICPMS (CCME - FAL)							
Aluminum (Al)-Total	<0.0050		0.0050	mg/L		02-SEP-09	R930366
Total Cd in Water by ICPMS (CCME - FAL)							
Cadmium (Cd)-Total	<0.000010		0.000010	mg/L		02-SEP-09	R930366
Total Metals in Water by ICPMS (Low)							
Antimony (Sb)-Total	<0.00040		0.00040	mg/L		02-SEP-09	R930366
Arsenic (As)-Total	<0.00040		0.00040	mg/L		02-SEP-09	R930366
Barium (Ba)-Total	<0.0030		0.0030	mg/L		02-SEP-09	R930366
Beryllium (Be)-Total	<0.0010		0.0010	mg/L		02-SEP-09	R930366
Boron (B)-Total	<0.050		0.050	mg/L		02-SEP-09	R930366
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		02-SEP-09	R930366
Cobalt (Co)-Total	<0.0020		0.0020	mg/L		02-SEP-09	R930366
Copper (Cu)-Total	<0.0010		0.0010	mg/L		02-SEP-09	R930366
Lead (Pb)-Total	<0.00010		0.00010	mg/L		02-SEP-09	R930366
Lithium (Li)-Total	<0.010		0.010	mg/L		02-SEP-09	R930366
Molybdenum (Mo)-Total	<0.0050		0.0050	mg/L		02-SEP-09	R930366
Nickel (Ni)-Total	<0.0020		0.0020	mg/L		02-SEP-09	R930366
Selenium (Se)-Total	<0.00040		0.00040	mg/L		02-SEP-09	R930366
Silver (Ag)-Total	<0.00010		0.00010	mg/L		02-SEP-09	R930366
Thallium (Tl)-Total	<0.00010		0.00010	mg/L		02-SEP-09	R930366
Tin (Sn)-Total	<0.050		0.050	mg/L		02-SEP-09	R930366
Titanium (Ti)-Total	<0.0010		0.0010	mg/L		02-SEP-09	R930366
Uranium (U)-Total	<0.00010		0.00010	mg/L		02-SEP-09	R930366
Vanadium (V)-Total	<0.0010		0.0010	mg/L		02-SEP-09	R930366
Zinc (Zn)-Total	<0.0040		0.0040	mg/L		02-SEP-09	R930366
Total Metals in Water by ICPOES							
Calcium (Ca)-Total	<0.50		0.50	mg/L		03-SEP-09	R932584
Iron (Fe)-Total	<0.030		0.030	mg/L		03-SEP-09	R932584
Magnesium (Mg)-Total	<0.10		0.10	mg/L		03-SEP-09	R932584
Manganese (Mn)-Total	<0.0050		0.0050	mg/L		03-SEP-09	R932584
Potassium (K)-Total	<0.50		0.50	mg/L		03-SEP-09	R932584
Sodium (Na)-Total	<1.0		1.0	mg/L		03-SEP-09	R932584
Miscellaneous Parameters							
Ammonia-N	<0.0050		0.0050	mg/L		05-SEP-09	R935905
Oil And Grease (Visible Sheen)	no visible sheen					02-SEP-09	R929756
Phosphorus, Total	<0.020		0.020	mg/L	02-SEP-09	02-SEP-09	R930463
Total Organic Carbon	<1.0		1.0	mg/L		11-SEP-09	R940634
Total Suspended Solids	<3.0		3.0	mg/L		03-SEP-09	R932683
Turbidity	<0.10		0.10	NTU		04-SEP-09	R935586
Total Nitrogen							
Nitrogen, Total							
Nitrogen, Total	<0.20		0.20	mg/L		04-SEP-09	

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

ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L812702-9 FIELD BLANK							
Sampled By: KL on 30-AUG-09							
Matrix: WATER							
Total Kjeldahl Nitrogen							
Total Kjeldahl Nitrogen	<0.20		0.20	mg/L	03-SEP-09	03-SEP-09	R932023
Routine Water Analysis							
Dissolved Metals in Water by ICPOES							
Calcium (Ca)-Dissolved	<0.50		0.50	mg/L		02-SEP-09	R929864
Magnesium (Mg)-Dissolved	<0.10		0.10	mg/L		02-SEP-09	R929864
Potassium (K)-Dissolved	<0.50		0.50	mg/L		02-SEP-09	R929864
Sodium (Na)-Dissolved	<1.0		1.0	mg/L		02-SEP-09	R929864
Nitrate as N by IC							
Nitrate (as N)	<0.050		0.050	mg/L		02-SEP-09	R929903
Nitrate+Nitrite							
Nitrate and Nitrite as N	<0.071		0.071	mg/L		03-SEP-09	
Nitrite as N by IC							
Nitrite (as N)	<0.050		0.050	mg/L		02-SEP-09	R929903
pH, Conductivity and Total Alkalinity							
pH	5.99		0.10	pH		02-SEP-09	R929620
Conductivity (EC)	<0.20		0.20	uS/cm		02-SEP-09	R929620
Bicarbonate (HCO3)	<5.0		5.0	mg/L		02-SEP-09	R929620
Carbonate (CO3)	<5.0		5.0	mg/L		02-SEP-09	R929620
Hydroxide (OH)	<5.0		5.0	mg/L		02-SEP-09	R929620
Alkalinity, Total (as CaCO3)	<5.0		5.0	mg/L		02-SEP-09	R929620
L812702-10 TRIP BLANK							
Sampled By: KL on 30-AUG-09							
Matrix: WATER							
TOT Metals CCME Fresh Water Aquatic Life							
Hardness (from Total Ca and Mg)							
Hardness (as CaCO3)	<1.3			mg/L		03-SEP-09	
Mercury (Hg)							
Mercury (Hg)-Total	<0.000020		0.000020	mg/L		10-SEP-09	R940780
Total Al in Water by ICPMS (CCME - FAL)							
Aluminum (Al)-Total	<0.0050		0.0050	mg/L		02-SEP-09	R930366
Total Cd in Water by ICPMS (CCME - FAL)							
Cadmium (Cd)-Total	<0.000010		0.000010	mg/L		02-SEP-09	R930366
Total Metals in Water by ICPMS (Low)							
Antimony (Sb)-Total	<0.00040		0.00040	mg/L		02-SEP-09	R930366
Arsenic (As)-Total	<0.00040		0.00040	mg/L		02-SEP-09	R930366
Barium (Ba)-Total	<0.0030		0.0030	mg/L		02-SEP-09	R930366
Beryllium (Be)-Total	<0.0010		0.0010	mg/L		02-SEP-09	R930366
Boron (B)-Total	<0.050		0.050	mg/L		02-SEP-09	R930366
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		02-SEP-09	R930366
Cobalt (Co)-Total	<0.0020		0.0020	mg/L		02-SEP-09	R930366
Copper (Cu)-Total	<0.0010		0.0010	mg/L		02-SEP-09	R930366
Lead (Pb)-Total	<0.00010		0.00010	mg/L		02-SEP-09	R930366
Lithium (Li)-Total	<0.010		0.010	mg/L		02-SEP-09	R930366
Molybdenum (Mo)-Total	<0.0050		0.0050	mg/L		02-SEP-09	R930366
Nickel (Ni)-Total	<0.0020		0.0020	mg/L		02-SEP-09	R930366
Selenium (Se)-Total	<0.00040		0.00040	mg/L		02-SEP-09	R930366
Silver (Ag)-Total	<0.00010		0.00010	mg/L		02-SEP-09	R930366
Thallium (Tl)-Total	<0.00010		0.00010	mg/L		02-SEP-09	R930366
Tin (Sn)-Total	<0.050		0.050	mg/L		02-SEP-09	R930366
Titanium (Ti)-Total	<0.0010		0.0010	mg/L		02-SEP-09	R930366
Uranium (U)-Total	<0.00010		0.00010	mg/L		02-SEP-09	R930366

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

ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L812702-10 TRIP BLANK							
Sampled By: KL on 30-AUG-09							
Matrix: WATER							
Total Metals in Water by ICPMS (Low)							
Vanadium (V)-Total	<0.0010		0.0010	mg/L		02-SEP-09	R930366
Zinc (Zn)-Total	<0.0040		0.0040	mg/L		02-SEP-09	R930366
Total Metals in Water by ICPOES							
Calcium (Ca)-Total	<0.50		0.50	mg/L		03-SEP-09	R932584
Iron (Fe)-Total	<0.030		0.030	mg/L		03-SEP-09	R932584
Magnesium (Mg)-Total	<0.10		0.10	mg/L		03-SEP-09	R932584
Manganese (Mn)-Total	<0.0050		0.0050	mg/L		03-SEP-09	R932584
Potassium (K)-Total	<0.50		0.50	mg/L		03-SEP-09	R932584
Sodium (Na)-Total	<1.0		1.0	mg/L		03-SEP-09	R932584
Miscellaneous Parameters							
Ammonia-N	<0.0050		0.0050	mg/L		05-SEP-09	R935905
Oil And Grease (Visible Sheen)	no visible sheen					02-SEP-09	R929756
Phosphorus, Total	<0.020		0.020	mg/L	02-SEP-09	02-SEP-09	R930463
Total Organic Carbon	<1.0		1.0	mg/L		11-SEP-09	R940634
Total Suspended Solids	<3.0		3.0	mg/L		03-SEP-09	R932683
Turbidity	<0.10		0.10	NTU		02-SEP-09	R930764
Total Nitrogen							
Nitrogen, Total							
Nitrogen, Total	<0.20		0.20	mg/L		04-SEP-09	
Total Kjeldahl Nitrogen							
Total Kjeldahl Nitrogen	<0.20		0.20	mg/L	03-SEP-09	03-SEP-09	R932023
Routine Water Analysis							
Dissolved Metals in Water by ICPOES							
Calcium (Ca)-Dissolved	<0.50		0.50	mg/L		02-SEP-09	R929864
Magnesium (Mg)-Dissolved	<0.10		0.10	mg/L		02-SEP-09	R929864
Potassium (K)-Dissolved	<0.50		0.50	mg/L		02-SEP-09	R929864
Sodium (Na)-Dissolved	<1.0		1.0	mg/L		02-SEP-09	R929864
Nitrate as N by IC							
Nitrate (as N)	<0.050		0.050	mg/L		02-SEP-09	R929903
Nitrate+Nitrite							
Nitrate and Nitrite as N	<0.071		0.071	mg/L		03-SEP-09	
Nitrite as N by IC							
Nitrite (as N)	<0.050		0.050	mg/L		02-SEP-09	R929903
pH, Conductivity and Total Alkalinity							
pH	5.41		0.10	pH		02-SEP-09	R929620
Conductivity (EC)	<0.20		0.20	uS/cm		02-SEP-09	R929620
Bicarbonate (HCO3)	<5.0		5.0	mg/L		02-SEP-09	R929620
Carbonate (CO3)	<5.0		5.0	mg/L		02-SEP-09	R929620
Hydroxide (OH)	<5.0		5.0	mg/L		02-SEP-09	R929620
Alkalinity, Total (as CaCO3)	<5.0		5.0	mg/L		02-SEP-09	R929620

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

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
RRV	Reported Result Verified By Repeat Analysis
RRVAP	Reported Result Verified by Alternate Process

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
AL-T-CCME-FAL-MS-ED	Water	Total Al in Water by ICPMS (CCME - FAL)	APHA 3125-ICP-MS
C-TOT-ORG-ED	Water	Total Organic Carbon	APHA 5310 B-Instrumental
CD-T-CCME-FAL-MS-ED	Water	Total Cd in Water by ICPMS (CCME - FAL)	APHA 3125-ICP-MS
ETL-HARDNESS-TOT-ED	Water	Hardness (from Total Ca and Mg)	APHA 2340 B-Calculation
ETL-N-TOT-CALC-ED	Water	Nitrogen, Total	APHA 4500 N-Calculated
HG-T-L-CVAA-ED	Water	Mercury (Hg)	EPA 245.7 / EPA 245.1
MET-D-ICP-ED	Water	Dissolved Metals in Water by ICPOES	APHA 3120 B-ICP-OES
MET-T-ICP-ED	Water	Total Metals in Water by ICPOES	APHA 3120 B-ICP-OES
MET-T-L-MS-ED	Water	Total Metals in Water by ICPMS (Low)	SW 846 - 6020-ICPMS
N-TOTKJ-ED	Water	Total Kjeldahl Nitrogen	APHA 4500N-C -Dig.-Auto-Colorimetry
NH4-LOW-ED	Water	Ammonia-N Low Level	APHA 4500 NH3F-Colorimetry
NO2+NO3-CALC-ED	Water	Nitrate+Nitrite	CALCULATION
NO2-IC-ED	Water	Nitrite as N by IC	APHA 4110 B-ION CHROMATOGRAPHY
NO3-IC-ED	Water	Nitrate as N by IC	APHA 4110 B-ION CHROMATOGRAPHY
OGG-VISIBLE-SHEEN-ED	Water	Oil and Grease - Visible Sheen	Alberta Environment Regs. (Ind. Runoff)
P-TOTAL-ED	Water	Phosphorus, Total	APHA 4500 P B,E-Auto-Colorimetry
PH/EC/ALK-ED	Water	pH, Conductivity and Total Alkalinity	APHA 4500-H, 2510, 2320
SOLIDS-TOTSUS-ED	Water	Total Suspended Solids	APHA 2540 D-Gravimetric
TURBIDITY-ED	Water	Turbidity	APHA 2130 B-Nephelometer

** 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 LABORATORY GROUP - EDMONTON, ALBERTA, CANADA

Chain of Custody Numbers:

09-002196

Reference Information

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
mk/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.

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

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

L812702

COC # 09-002196
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Report To		Report Format / Distribution		Service Requested: (Rush subject to availability)
Company:	EBA Engineering	Standard: ✓ Other (specify):		✓ Regular (Standard Turnaround Times))
Contact:	Karla Langlois	Select: PDF ✓ Excel ✓ Digital Fax		Priority, Date Req'd: (Surcharges apply)
Address:	#201, 4916-49 St Yellowknife, NT	Email 1:	klangloisaeba.ca	Emergency (1 Business Day) - 100% Surcharge
		Email 2:	Smoore@eba.ca	For Emergency < 1 Day, ASAP or Weekend - Contact ALS
Phone:	867-920-2287 Fax: 867-873-3324			Analysis Request
Invoice To	Same as Report ? (circle) Yes or No (if No, provide details)	Client / Project Information		(Indicate Filtered or Preserved, F/P)
	Copy of Invoice with Report? (circle) Yes or (No)	Job #:	422101098	
Company:	Peregrine Diamonds	PO / AFE:		
Contact:	Shirley Standafer-Pfister	LSD:		
Address:				
Phone:	Fax:	Quote #:	Q20909	
Lab Work Order # (lab use only)	L81702	ALS Contact: Geraldlyn	Sampler: KL	

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Routine	Nutrients - Low level Ammonia	Total Metals	TOC	Oil & Grease	Number of Containers
	Hydro 9	29-Aug-09		Water	✓	✓	✓	✓	✓	
	Duplicate	29-Aug-09		"	✓	✓	✓	✓	✓	
	WQ4	30-Aug/09		"	✓	✓	✓	✓	✓	
	WQ3	"		"	✓	✓	✓	✓	✓	
	WQ5	"		"	✓	✓	✓	✓	✓	
	WQ6	"		"	✓	✓	✓	✓	✓	
	WQ7	"		"	✓	✓	✓	✓	✓	
	WQ8	"		"	✓	✓	✓	✓	✓	
	Field Blank	"		"	✓	✓	✓	✓	✓	
	Trip Blank			"	✓	✓	✓	✓	✓	

Special Instructions / Regulations / Hazardous Details

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
Karla Langlois	Sept/09	8:35		Sept/09	8:35	°C				

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

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APPENDIX C

APPENDIX C EBA'S GENERAL CONDITIONS

GEO-ENVIRONMENTAL REPORT – GENERAL CONDITIONS

This report incorporates and is subject to these "General Conditions".

1.0 USE OF REPORT AND OWNERSHIP

This report pertains to a specific site, a specific development, and a specific scope of work. It is not applicable to any other sites, nor should it be relied upon for types of development other than those to which it refers. Any variation from the site or proposed development would necessitate a supplementary investigation and assessment.

This report and the assessments and recommendations contained in it are intended for the sole use of EBA's client. EBA does not accept any responsibility for the accuracy of any of the data, the analysis or the recommendations contained or referenced in the report when the report is used or relied upon by any party other than EBA's Client unless otherwise authorized in writing by EBA. Any unauthorized use of the report is at the sole risk of the user.

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2.0 ALTERNATE REPORT FORMAT

Where EBA submits both electronic file and hard copy versions of reports, drawings and other project-related documents and deliverables (collectively termed EBA's instruments of professional service), only the signed and/or sealed versions shall be considered final and legally binding. The original signed and/or sealed version archived by EBA shall be deemed to be the original for the Project.

Both electronic file and hard copy versions of EBA's instruments of professional service shall not, under any circumstances, no matter who owns or uses them, be altered by any party except EBA. The Client warrants that EBA's instruments of professional service will be used only and exactly as submitted by EBA.

Electronic files submitted by EBA have been prepared and submitted using specific software and hardware systems. EBA makes no representation about the compatibility of these files with the Client's current or future software and hardware systems.

3.0 NOTIFICATION OF AUTHORITIES

In certain instances, the discovery of hazardous substances or conditions and materials may require that regulatory agencies and other persons be informed and the client agrees that notification to such bodies or persons as required may be done by EBA in its reasonably exercised discretion.