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CHIDLIAK 2010 BASELINE ENVIRONMENTAL PROGRAM SUMMARY

Peregrine Diamonds Ltd. (Peregrine) retained EBA Engineering Consultants Ltd. (EBA) to carry out the 2010 Baseline Environmental Program at the Chidliak Project site, Baffin Island, Nunavut. The Chidliak Project site is located on Hall Peninsula, southeast Baffin Island and is approximately 75 kilometres (km) east of Iqaluit. The study area is approximately 1,950 square kilometres (km^2) and is roughly centered on Peregrine's 2010 development sites.

The objective of the 2010 environmental program was to continue documenting baseline environmental conditions within the study area. In addition, any sensitive environmental areas were to be identified and mapped so that development activities may be planned to avoid or minimize environmental effects. A total of four field events were carried out in 2010: April 5 to 12, June 2, July 8 to 12, and July 26 to 29. During these field programs ten baseline environmental studies were completed including: a winter lake-based drilling water quality sampling program, summer surface water quality sampling, stream flow measurements, potable water collection, aerial caribou and carnivore surveys, aerial waterfowl, raptor, and species at risk surveys, and preliminary fish and fish habitat studies.

Winter Water Quality Sampling

In compliance with Peregrine's Nunavut Water Board Type B Water Licence *#2BE-CHI0813*, amendment condition Part J, Item #7, the objective of the winter water quality program was to conduct baseline water quality sampling at each lake-based drill target to record possible changes in lake water quality as a result of drilling activities. To meet this objective, winter water quality sampling program was initiated immediately before drilling commenced and after drilling ceased. A sampling event during drilling was scheduled; however, no water quality samples were collected due to weather and logistical problems on site.

A total of ten lakes were sampled (at two or three sample depths depending upon lake depth) from April 5 to 12, 2010 prior to drilling activities (Figure 1). Following sampling, lake-based drilling activities were carried out on two lakes (Figure 1). Once drilling ceased, water quality from both lakes were re-sampled (water quality stations WWQ7 and WWQ10) at the same locations and water depths as the pre-drilling sampling program (Figure 1). Dissolved oxygen and water temperatures were also collected at 1 and 2 m depths. Both dissolved oxygen and water temperatures were similar during the pre-and post-drilling sampling events.

Water quality samples from both field events were analyzed for routine parameters, nutrients, total metals, dissolved metals, and total organic carbon. The winter water quality samples were considered to represent natural background conditions. Results from the pre- and post-drilling sampling events indicated that all parameters were within acceptable levels of the Canadian Council of Ministers of the Environment (CCME) Freshwater Aquatic Life (FAL) guidelines (December 2008), except pH, total and dissolved aluminum, total and dissolved cadmium, and total and dissolved copper. In general, it appeared the analytical results observed in the pre- and post-drilling sampling events were similar, suggesting no apparent changes in the water quality as a result of drilling activities.

Analytical results from the QA/QC program (trip and field blanks, and duplicate samples) indicates the methods employed during the field collection, transportation, and analysis did not lead to the introduction of potential contaminants.

Summer Surface Water Quality

The objectives of the surface water quality program were to conduct baseline surface water grab sampling, with particular focus near the development sites (*i.e.* bulk sampling and drill sites). A total of twelve water quality stations were sampled for routine, nutrients, total metals, total organic carbon, and oil and grease during open water conditions (early July and late July field events) (Figure 2). The laboratory results from both field programs indicated that all parameters were within the CCME FAL guidelines at all sampling stations, except pH and aluminum. In general, the water quality within the study area is pristine, and represents natural background conditions. Although pH and aluminum were outside CCME FAL guidelines at all sampling stations, including those well outside the disturbance zone of the 2009 and 2010 activities, it is assumed that these levels are natural background levels.

Analytical results from the QA/QC sample blanks indicate the methods employed during the field collection, transportation, and analysis did not lead to the introduction of potential contaminants.

Potable Water Quality

Potable water quality sampling was conducted at Sunrise camp during the April event (the only camp in operation at the time of the field program) and from both Sunrise and Discovery camps during the early July event. All samples were submitted to ALS Laboratory Group (ALS) in Yellowknife, NT within 12 hours of sample collection and were analyzed for total coliforms, fecal coliforms, and *Escherichia* coliforms (*E. coli*). In general, the potable water quality samples from both camps were considered within the appropriate health criteria.

Potable water quality samples at Sunrise camp were collected from taps located in the kitchen tent, toilet tent, the dry tent, and at the intake pump from the unnamed lake (raw water source). Laboratory results from the potable water quality samples collected at Sunrise camp from both field events indicated all parameters were below laboratory detection limits (<1 units/100 mL).

At Discovery camp, potable water quality samples were collected from taps in the kitchen tent, dry tents, toilet tent, and at the intake pump at the stream (raw water source). Samples were submitted to both ALS and the Nunavut Research Institute's (NRI's) laboratory for analysis. Both laboratory results indicated all parameters were below laboratory detection limits (<1 units/100 mL), except at the raw water source, therefore suggesting that the bleaching system used at the Discovery Camp is an effective disinfectant.

Results from the QA/QC blanks indicated the methods employed during the field collection, transportation, and analysis did not lead to the introduction of potential contaminants.

Stream Flow

Stream flow was measured using a Swoffer Model 2100 during the open water season. In early July, five streams (stream stations Hydro 1, -2, -9, -10, and -11) located downstream from development activity sites CH1, CH2, CH6, CH7, and Discovery Camp was surveyed Figure 2). Stream flow velocities during the early July field program ranged from 0.0167 cubic metres per second (m^3/s) to 1.148 m^3/s. During the late July field event, stream flow stations Hydro 1 and -2 sampled in early July were dry; however, stream flow was re-measured at Hydro 9, -10, and 11 and had decreased by late July. Stream flow velocities measured during the late July field program ranged from dry to 0.065 m^3/s.

Aerial Caribou Surveys

The main objective of the aerial caribou survey was to determine the distribution and abundance of caribou within the study area in relation to the proposed mine development area during the survey periods. Two systematic aerial caribou surveys were conducted on July 9 and 27 along nine transects. On July 9, a single caribou track was documented during the survey near Ptarmigan Fiord; and on July 27, four caribou were observed on transect while two were off transect and recorded as incidentals (Figure 2). Each observation on transect included a single cow or a cow / calf pair on small snow patches. The incidental caribou observations included a single caribou.

Aerial Carnivore Survey

An aerial carnivore survey was carried-out in conjunction with the aerial caribou surveys in both early and late July. As encountered, sites that possess potential carnivore denning habitat were surveyed. No carnivores or carnivore dens were observed during the July field events; however, four observations of fox tracks were documented during the early July caribou survey (Figure 2). No sensitive carnivore habitats were identified near the 2009 exploration or camp sites.

Aerial Raptor Survey

The objective of the aerial raptor survey was to document potential cliff nesting sites for occupancy (*i.e.* raptors and/or nests) to document species presence and breeding territories. An aerial raptor survey was carried out during the early July field event. One active Peregrine Falcon nest site was observed approximately 27 km northwest of Sunrise Camp (Figure 2). In addition, an active Rough-legged Hawk nest was recorded 6 km southeast of Sunrise Camp (Figure 2). Raptors are sensitive to disturbance at their nest sites during nesting season and a conservative 1.5 km buffer was recommended near known raptor nests from early May to mid August.

In addition, two incidental Peregrine Falcon observations were noted outside the raptor survey. A Peregrine Falcon was observed (likely hunting) during the early July caribou survey approximately 12.5 km northwest of Sunrise Camp and a Peregrine Falcon was repeatedly observed by Peregrine's field staff at the northern most lake-based drill target (approximately 49 km northwest of Sunrise Camp). Although no active nest was found, the reoccurring observation of a Peregrine Falcon near the northern lake-based drill target suggests a territory.

Aerial Waterfowl Survey

Aerial surveys for waterfowl and water birds (*e.g.* gulls) were conducted by flying the perimeter of lakes, ponds, McKeand River, and streams during the early July field event. During the waterfowl survey, seven waterfowl and water bird species were recorded. These species are all expected breeders within the study area; however, no nests or chicks were observed. Waterfowl and water birds occupied lakes, small ponds, and the McKeand River and its larger tributaries in low densities (Figure 2). Based on our survey results, population densities and distributions of waterfowl and water birds were likely restricted by a lack of suitable habitat. No sensitive waterfowl and water bird habitats were identified near the exploration or camp sites.

Aerial Surveys for Species with Special Conservation Status

Peregrine Falcons were already surveyed during the aerial raptor surveys, and Short-eared Owls can be detected over the larger study area during aerial caribou surveys. However, an additional Harlequin Duck survey around the perimeters of glacial streams and lakes was initiated in association with the aerial waterfowl and raptor survey in early July. No Harlequin Ducks or other species with special conservation status (except for Peregrine Falcon) were observed during this survey or any other field survey. Sensitive habitats for Peregrine Falcon were discussed in the Raptor section above.

Fish and Fish Habitat Survey

The objective of the fish and fish habitat survey was to document fish presence and habitats downstream from the proposed development sites (*i.e.* CH1, -2, -6, -7, and both camps). Fish and fish habitat surveys using electrofishing, minnow trapping, and angling were conducted at four streams and the unnamed lake used as the water source for Sunrise camp during the late July program (Figure 2). A total of 15 juvenile Arctic Char were captured or observed at the sampled streams, and three adult Arctic Char were captured at the lake near camp. Since Arctic Char were captured or observed at all sampling sites, all of the rivers, streams, and the associated lakes within the study area are likely to provide appropriate habitat for Arctic Char during one or more of their life history stages.

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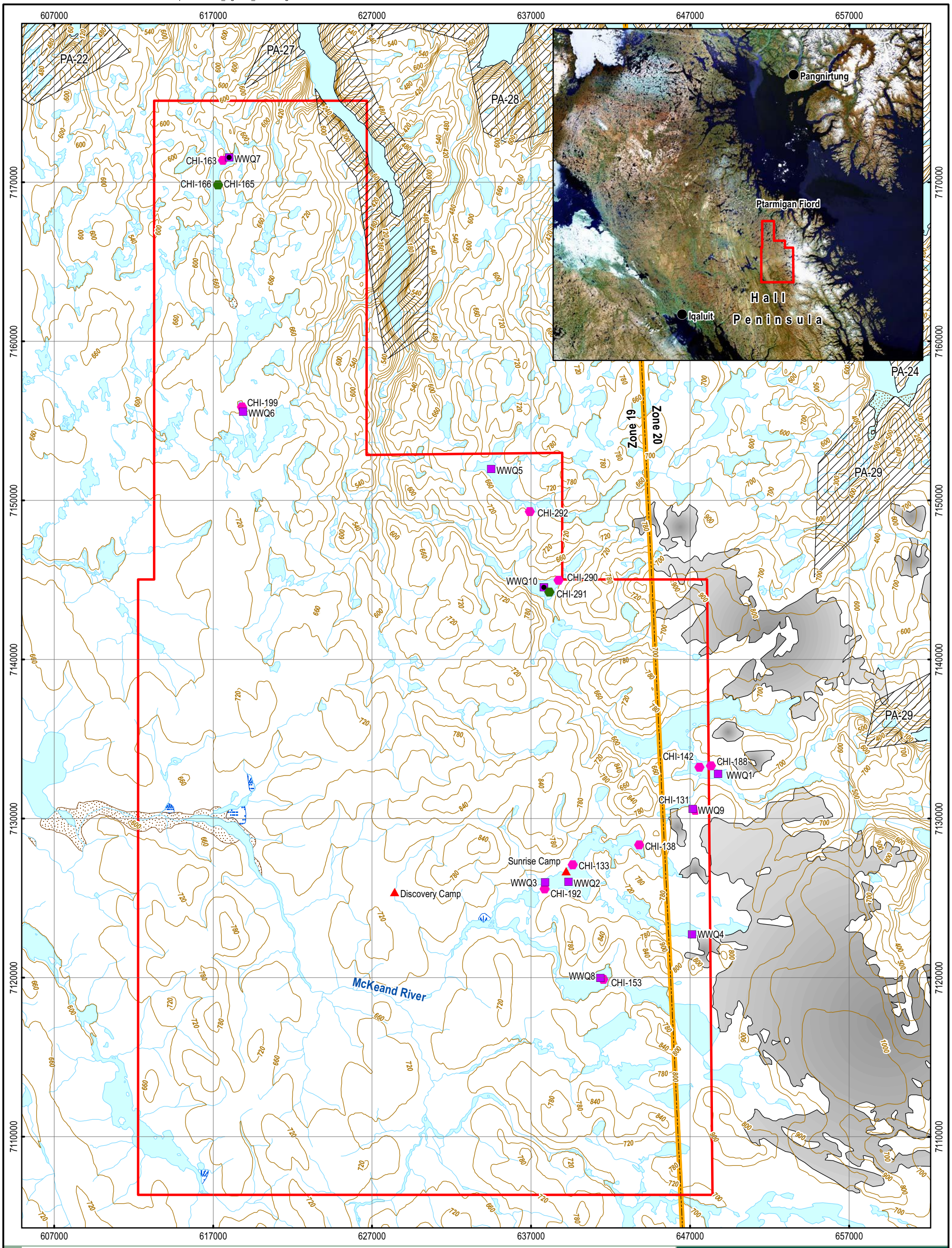

LEGEND

- 2010 Study Area
- Camp
- Pre-Drilling Winter Water Quality Station
- Proposed Lake Based Drill Target
- Post-Drilling Winter Water Quality Station
- 2010 Active Drill Target
- Contour (60m)
- Permanent Snow and Ice
- Sand
- Watercourse
- Waterbody
- Wetland
- UTM Zone Boundary
- Inuit-Owned Lands (IOLs)

N W E S

NOTES
Base Data Source: 1:250,000 NTS

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CHIDLIAK BASELINE STUDIES 2010

Post-Drilling Winter Water Quality Sampling Event

PROJECTION	DATUM
UTM Zone 19	NAD83

Scale: 1:225,000
4 2 0 4
Kilometres

FILE NO.: Y22101137_Figure01_PostDrilling.mxd

PROJECT NO.	DWN	CKD	REV
Y22101137	MEZ	KL	0

OFFICE	DATE
EBA-VANC	July 9, 2010

PEREGRINE DIAMONDS LTD.
EBA Engineering Consultants Ltd.

Figure 1

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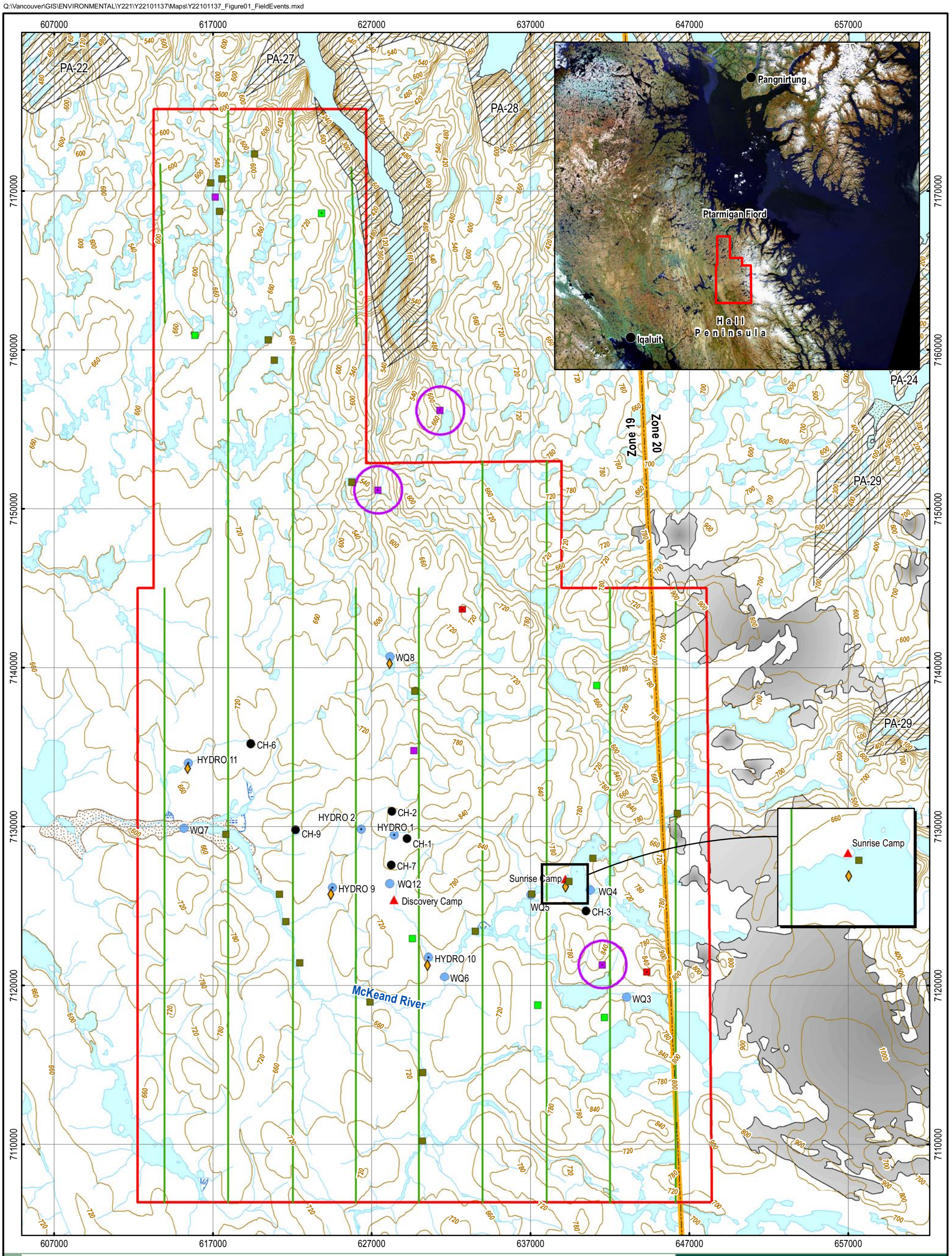

LEGEND

- 2010 Study Area
- 2010 Caribou Survey Transects
- Camp
- Kimberlite Sites (CH#)
- Surface Water Quality and Hydrology Station
- Surface Water Quality Station
- Caribou Observation (Visual)
- Caribou Observation (Sign)
- Carnivore Observation (Sign)
- Raptor Observation (Visual)
- Raptor Observation (Nest)
- Waterfowl/Waterbird Observation (Visual)
- Fish and Fish Habitat Survey Location
- Sensitive Habitat
- Contour (60m)
- Permanent Snow and Ice
- Sand
- Watercourse
- Waterbody
- Wetland
- UTM Zone Boundary
- Inuit-Owned Lands (IOLs)

N W E S

NOTES
Base Data Source: 1:250,000 NTS

ISSUED FOR USE

CHIDLIAK BASELINE STUDIES 2010

Summary of July 2010 Field Events

PROJECTION: UTM Zone 19		DATUM: NAD83	
Scale: 1:225,000 (4 2 0 4 Kilometres)			
FILE NO.: Y22101137_Figure01_FieldEvents.mxd			
PROJECT NO.: Y22101137	DWN: MEZ	CKD: KL	REV: 1
OFFICE: EBA-VANC	DATE: September 15, 2010		

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Figure2