BHP Billiton Canada Inc.
Operator of the EKATI Diamond Mine

BHP Billiton Canada Inc.
#1102 4920-52nd Street
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bhpbilliton.com

June 4, 2012

Distribution List:

- Geoff Clark – Director of Lands, Environment, and Resources, Kitikmeot Inuit Association
- Sheryl Grieve – Environmental Manager, North Slave Métis Alliance
- Kerri Garner – A/Director, Lands Protection, Tlicho Government.
- Jody Snortland, Executive Director, Wek'èezhìi Renewable Resource Board.
- Mike Tollis – Manager, Wildlife Lands & Environment, Lutsel K'e Dene First Nation
- Randy Freeman – Manager, Lands & Environment, Yellowknives Dene First Nation
- Kevin O'Reilly – Manager, Independent Environmental Monitoring Agency
- Mark Fenwick – Executive Director, Environmental Monitoring Advisory Board
- Fred Mandeville –Superintendent, North Slave Region, Department of Environment and Natural Resources

Attn: Distribution list

Re: Application for NWT Wildlife Research Permit for 2012 Wildlife Monitoring at the EKATI Diamond Mine

Dear all,

The purpose of this letter is to provide your community or government/organisation with information regarding BHP Billiton's application for a NWT Wildlife Research Permit issued by the Department of Environment and Natural Resources (ENR). This application seeks approval for the Wildlife Effects Monitoring Program (WEMP) activities that are used at the EKATI Diamond Mine site under the Environmental Agreement. The monitoring program is designed to observe effects of the EKATI Diamond Mine on Valued Ecosystem Component (VEC) species, including caribou, grizzly bears, wolves, wolverines, upland breeding birds, and falcons.

Wildlife monitoring activities have taken place every year since 1997, and this permit application is for the continuation of most of these activities during 2012. We would like to highlight some initiatives for 2012 that resulted from the guidance we received during previous consultation workshops, and as normal adaptive changes to the monitoring program.

The type of monitoring activity varies for each VEC species and the details for each can be found in the application itself. Of significance are the following additional initiatives for 2012:

1. Increasing the focus of our caribou monitoring on behaviour studies, both near and far from the mine.

2. Expanding the use of motion/infrared detection wildlife cameras to monitor wildlife interactions with roads and other infrastructure.
3. Aerial caribou surveys are planned for 2012 in collaboration with Diavik. We will evaluate the use of surveillance cameras for caribou (and other VEC species) along our haul roads and other key areas around the mine to augment our survey data.
4. We are actively seeking Traditional Knowledge from Aboriginal community members to parallel our scientific surveys.

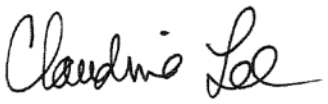
The 2012 application is attached, with complete monitoring program details for your further review. Should you have any questions concerning this application, please contact Harry O'Keefe at (867)-880-2290 (harry.o'keefe@bhpbilliton.com) or Claudine Lee (undersigned). Since 2009, we have completed several workshops and hosted field trips at the mine site, dedicated to describing, demonstrating and consulting on improvements to our wildlife program. We would be pleased to meet with you to discuss this permit application or the monitoring program in greater detail.

After you have reviewed the application and if you have no further questions, **we ask that you complete that attached Recommendation Form and return it to the ENR office at the number provided on the form**.

Thank you for your consideration of this matter.

Sincerely,

BHP Billiton Canada Inc.



Claudine Lee
Superintendent – Environmental Operations
EKATI Diamond Mine

BHP Billiton
#1102 4920 – 52nd Street
Yellowknife, NT X1A 3T1, CANADA
Email: claudine.a.lee@bhpbilliton.com
Internet: http://www.bhpbilliton.com
Phone: 1.867.880.2232
Fax: 1.867.880.4012

Attachments:

1. Recommendation Form
2. NWT Wildlife Research Permit – Application

Recommendation Form
Wildlife Research Permit – Application

The terms Committee or Board mean a "Hunter's and Trappers' Association" as defined in the Wildlife Act.

The Committee or Board

Name:_____ of Community:_____

[ ] SUPPORTS **or** **[ ]** DOES NOT SUPPORT

the application of:
BHP Billiton Canada Inc.
1102 4920-52nd Street, Yellowknife, NT, X1A 3T1
Fax: 867-669-9293
for the issue (or renewal or amendment) of a Wildlife Research Permit:

Signature _____ **Date: / /**
of President, Committee or Board.

Title of project: ***2012 Wildlife Effects Monitoring Project for the EKATI Diamond Mine***

Recommended Terms and Conditions:

Reasons for decision:

(Use more space as required)

Please fax this form to (867) 873-6230:
Attention: Mr. Fred J Mandeville
Superintendent, North Slave Region
Department of Environment and Natural Resources

N.W.T. WILDLIFE RESEARCH PERMIT

APPLICATION

NEW PROJECT [_] ONGOING PROJECT X

APPLICANT: Claudine Lee, Superintendent – Environmental Operations.

ADDRESS: BHP Billiton Canada Inc.
#1102, 4920 – 52nd Street
Yellowknife, NT, X1A 3T1
Phone: 867 880 2232
Fax: 867 880 4012
Email: claudine.a.lee@bhpbilliton.com

SPONSOR(S): None

FUNDING SOURCES (S): BHP Billiton Canada Inc. (BHP)

ADDITIONAL LICENCES REQUIRED: None in connection with wildlife monitoring.

PROJECT TITLE: Wildlife Effects Monitoring Program (WEMP)

RATIONALE: The requirement for wildlife effects monitoring at the BHP Billiton Canada Inc. EKATI Diamond Mine (EKATI) is described in the Environmental Agreement between Canada (DIAND), the Government of the Northwest Territories, Environment and Natural Resources (ENR) and BHP Billiton (January 1997). Wildlife effects monitoring has taken place every year since 1997. This application is for the continuation of this program from July 15 2012 to July 15 2013.

The tasks of the program summarized in this document are the results of a long-term continuing consultation and planning process involving numerous stakeholders. The aim of consultation is to identify wildlife monitoring priorities and cause no negative impact on wildlife. The objective of the WEMP is to use the monitoring results to evaluate the effectiveness of mitigation measures. If required, mitigation will be adjusted in a timely manner.

TIME PERIOD: 2012 JULY15 to 2013 JULY15

LOCATION: The WEMP will occur on the EKATI property, approximately 300 km northeast of Yellowknife. The WEMP will focus on the 1600 km^2 monitoring study area

surrounding the mine (64° 40’ N, 110° 43’ W). The nearest community to EKATI is Wekweeti. Figure 1.1-1 and 1.1-2.

SPECIES: Caribou, grizzly bears, wolves, wolverine, foxes, upland breeding birds, falcons.

PROJECT LEADER: Claudine Lee, Superintendent – Environmental Operations

PROJECT PERSONNEL:

- Wildlife Technicians, EKATI Environment Dept.
- Environment Specialists, EKATI Environment Dept.
- Environment Advisor – Wildlife, EKATI Environment Dept.
- Environment Advisor – Traditional Knowledge, BHP Billiton Yellowknife
- Team Leaders - Compliance, EKATI Environment Dept.
- Consultant Wildlife Biologists from Rescan Environmental Services Ltd.
- Community members

OBJECTIVES: To test impact predictions and efficacy of mitigation measures for the following species.

- **Caribou.** The objective is to monitor the potential effects of the following mine activities: potential collisions with vehicles, incidents involving aircraft, general disturbance from the mine, roads as potential barriers, incidents at pits and the Long Lake Containment Facility.
- **Grizzly bears.** The objective is to monitor the potential effects of the following mine activities: potential collisions with vehicles, disturbance possibly affecting bear activity level, and the mine possibly attracting bears.
- **Wolves.** The objective is to monitor the potential effects of the following mine activities: potential collisions with vehicles, disturbance possibly affecting den use, and the mine possibly attracting wolves.
- **Wolverine.** The objective is to monitor the potential effects of the following mine activities: potential collisions with vehicles, disturbance possibly affecting their presence near the mine, and the mine possibly attracting wolverine.
- **Upland breeding birds.** The objective is to obtain a species count by conducting the North American Breeding Bird Survey (NABBS), and maintaining incidental records of upland breeding birds, shorebirds, and waterfowl.
- **Falcons.** The objective is to monitor the potential effects of the following mine activities: disturbance possibly affecting occupancy and productivity.

METHODS: Methods proposed for the 2012 WEMP are as follows:

- **Caribou:** EKATI Environment staff will continue to record caribou observations and incidents, conduct behaviour observations on caribou groups within the EKATI claim block, and conduct behavioural scans along the Misery and Fox haul roads, and also the Long Lake Containment Facility (LLCF).

- *Behavioural focal and scan surveys*: Currently occur up to several times per week during the field season (approximately late April to end-October) when caribou are present within the study area. Two observers record caribou activity, GPS location, group composition, number of animals, and level of insect harassment.

  During a scan survey, observers wait four minutes before conducting and recording the first scan. This is repeated every four minutes for a maximum of eight scans (assuming no stressor for each group). If a stressor is introduced during scan sampling, the observers note the time and record the response of caribou to the stressor/s. The reaction of the majority of the group is recorded. Insect harassment is recorded after watching one focal animal for two minutes during the scan.

  During a focal survey, observers record behaviours of a single individual during a 30-60 minute observation period. The priority is to observe females with calves, lone females, and bulls. Time permitting, juveniles will also be observed. One observer will call out changes in behavior (e.g., feeding, walking, bedding, alert, or running), and a recorder will note the behavior along with a time stamp so the total duration of each behavior can be calculated. If a stressor event occurs during the observation, the time and type of stressor (e.g., helicopter, light vehicle, blast, etc.) is recorded, along with the animal's response to the stressor. Focal samples will be conducted in conjunction with scan samples at varying distances from the mine.

  The scan survey provides a frequency distribution of general behaviours over time, whereas the focal method provides detailed activity budgets of individuals as they pass through site. The behavioural survey methodologies described above will be maintained in 2012, with continued collaboration between Diavik Diamond Mine Inc. (DDMI) and EKATI to improve data collection further from mine infrastructure. This recognises that due to the close geographic proximity to each other, the mines footprints overlap to some extent.

  EKATI Environment staff will continue to conduct behavioural scan surveys of caribou herds <2 km from mine infrastructure when animals are reported by mine personnel. Road surveys along the Misery and Fox haul roads and LLCF will occur weekly. These surveys, coupled with regular Misery Camp inspections, ensure frequent opportunities to locate caribou groups. ENR-collared animals will be used as an aid to identify times when caribou are likely to be present at or near the EKATI mine site.

  Continued cooperation between EKATI and DDMI will have DDMI focusing its efforts on collecting data further from mine infrastructure and sharing helicopter use with EKATI to survey herds greater than 14 km from the nearest point of either EKATI or DDMI infrastructure. It is understood that data will be jointly shared between DDMI and EKATI.

As a new initiative in 2012, and consistent with efforts to expand the focus on behavior data, additional caribou behavioral surveys are planned to be conducted opportunistically by wildlife technicians if caribou are observed further than 2 km from infrastructure (up to the boundary of the EKATI claim area) and a helicopter is available on-site (for example, during the pilot grizzly bear hair snagging study sessions).

- *Remote Camera Surveys*: *This was a new initiative in 2011, and will be expanded in 2012*. Fifty remote motion sensor cameras were incorporated into the monitoring program for caribou (and possibly other wildlife). Motion sensor cameras were strategically placed along Misery Road, Sable Road, fencing structures where applicable (airport, Pigeon Pit), and along well known movement paths on the tundra (in the vicinity of the mine). The objectives were to record caribou (and other wildlife) activity and to monitor their movements and their interactions with mine infrastructure. In 2012, an additional 40 cameras (for a total of 90) will be deployed. The use of cameras (in combination with intensive behavioural studies) is intended to replace aerial and road-side surveys as a mechanism for onsite monitoring of caribou (and other wildlife). When available, cameras could be in operation 24 hours a day between April 1 and November 30, and are mounted on a support post.

- *Aerial surveys*: EKATI will collaborate with Diavik to conduct aerial surveys during the 2012 WEMP period. A review of the combined caribou aerial survey data is pending completion (per the June 28, 2010 Technical Workshop). Further investigation of the need for and design of aerial surveys to meet WEMP Objectives is planned with the stakeholders in 2012.

- **Grizzly bears:** EKATI environment staff will continue to record grizzly bear observations and incidents, conduct landfill and waste bin monitoring, and participate in the active deterrence of grizzly bears from personnel and camp infrastructure. A regional grizzly bear DNA program is planned in collaboration with DDMI.

- **Wolves:** EKATI environment staff will continue to record all wolf observations and incidents, incidental observations during helicopter flights, and conduct landfill and waste bin monitoring. Information regarding wolves will continue to be shared with ENR biologists and to assistance will be provided to ENR with aerial surveys for den occupancy and pup productivity surveys if needed.

- **Wolverines:** In 2012, the recording of all observations and incidents, fencing and skirting surveys, as well as landfill and waste bin monitoring will continue.

- **Upland Breeding Birds:** As in 2011, EKATI will continue to participate with the North American Breeding Bird Survey (NABBS), and record incidental observations of upland breeding birds, shorebirds, and waterfowl. This survey occurs one day per year, usually mid-June.

- **Falcons:** EKATI personnel will continue to record all observations and incidents, and conduct pit wall surveys for nesting raptors.

COMMUNITY CONSULTATION PLAN: An important aspect of the program continues to be community consultation to discuss the WEMP, ensuring the involvement of Aboriginal people and concerned stakeholders. Discussions with all groups are on-going.

PROPOSED USE OF LOCAL KNOWLEDGE: As noted in the Environmental Agreement and as outlined in the WEMP, BHP Billiton utilizes Traditional Knowledge (TK) in the design, revision and implementation of the WEMP. The use of TK is reviewed annually to improve the WEMP. An Environmental Advisor – Traditional Knowledge position is staffed in the BHP Billiton Yellowknife office to facilitate the incorporation of TK into the WEMP.

OPPORTUNITIES FOR LOCAL PARTICIPATION: The Environmental Advisor - Traditional Knowledge position is responsible for disseminating information to and from the communities, and for inviting participation by community members in the various programs occurring at EKATI. The intent for 2012 is to involve both youth and Elders from the various communities to participate in caribou behavioural surveys (primary goal), to work with the setup and maintenance of a regional grizzly bear DNA program (research permit under separate review), and to work with other on-going programs. It is anticipated that community members will be involved in the field programs on a bi-weekly basis between May and November, 2012.

EKATI will continue to employ four Wildlife Technicians, an Environmental Advisor dedicated to wildlife, and a consultant Wildlife Biologist (to guide, manage and implement the 2012 WEMP programs). Currently 3 of the Technicians are aboriginal and all live locally in the NWT. In addition, the EKATI Environment Department will continue to provide aboriginal post-secondary students with the opportunity to work during the summer field season.

2012 WEMP SUMMARY: Mitigation strategies continue to be implemented and improved upon at EKATI. These are in place to promote the natural state of wildlife behaviour on and adjacent to the mine site, and to maximise safety for wildlife and personnel. The 2012 WEMP is summarised comprehensively in a report that is intended for distribution to the following list by the end of April 2013:

- Tlicho Government
- Yellowknives Dene First Nation

- Lutsel K'e Dene First Nation
- Kitikmeot Inuit Association
- North Slave Métis Alliance
- Wek'eezhii Renewable Resources Board
- Environment and Natural Resources, GNWT
- Independent Environmental Monitoring Agency
- Environment Canada
- Indian and Northern Affairs Canada

A summary of the 2011 WEMP is provided in brief as follows:

- **Caribou:** Caribou monitoring was addressed by focusing upon 5 areas: incidental observations; behaviour; distribution relative to roads; road permeability; and use of the LLCF.

  EKATI personnel reported 191 incidental observations in 2011, the most since 2007 (193).

  Aerial surveys were not flown in 2011. Timing of the northern migration through the EKATI study area has shown little variation from 1997 to 2006, with most peaks occurring around May. The majority (13,011 or 88%) of all 14,766 caribou were seen during the fall (October 4 to 12, 2010). Only 628 caribou were observed passing through site during the fall of 2011, demonstrating the highly variable presence of caribou during their annual migration. Over 500 caribou were also observed near site during post-calving in 2011, lower than the 1,700 observed near site during post-calving in 2010.

  During 2011, focal behaviour observations were conducted on 46 individual caribou, with 27 observed for more than 20 minutes (2 cows with calves, 12 lone cows, 11 bulls, and 2 juveniles). Overall, caribou spent most of their time feeding (males 46%; females 53%), walking (males 23%; females 18%) or bedded down (males 16%; females 15%). There was no significant difference between males and females.

  Small particle processed kimberlite (sand sized and smaller) is deposited in the LLCF. Concern has been expressed that caribou may either become trapped in the processed kimberlite, or ingest it. The LLCF was surveyed on 65 occasions between October 1, 2010 and December 31, 2011. The survey has been conducted since 1999, and no caribou have been observed getting stuck in the kimberlite and currently there is very little vegetation in the basins. In 2011, caribou were seen in the vicinity of the LLCF on 5 occasions, all were individuals, and tracks were observed once. Another 5 individuals and a group of 16 were also incidentally recorded in the vicinity of the LLCF. Caribou have been surveyed and noted resting on the frozen LLCF cells during their northern migration.

- **Grizzly bears:** Recording grizzly bear occurrence relative to mining infrastructure is an objective of the WEMP addressed by recording incidental sightings. In the 2011 WEMP, 70 incidental sightings of grizzly bears were recorded, for a total of 117 total bears. A total of 33 family groups were observed, the most since record collection started in 2001. Deterrent actions were required on 5 occasions to move grizzly bears away from camp and/or personnel, compared to 18 deterrent actions required in 2010. A helicopter was used in all these occasions. Neither bears nor personnel were injured during these incidents.

  A preliminary DNA hair snagging study was continued in 2011 between June and August. Barbed-wire posts were distributed in 13 10x10km cells surrounding the EKATI mine site. Site selection focused on high quality grizzly bear habitat. Five hair collection sessions were conducted, and the posts were moved between sessions. A different lure was introduced during each session. A total of 218 hair samples were collected in 2011, in addition to the 39 that were collected in 2010. All 257 samples from both years were submitted for DNA analyses. Overall, 15 individuals were identified, 9 males and 6 females.

- **Wolves:** Mine personnel recorded incidental sightings of wolves near mine infrastructure and ENR conducted regional den occupancy and productivity surveys. There were 41 incidental sightings of wolves. There were 2 incidents involving wolves near personnel in 2011, 1 deterred by a bear banger and the other by helicopter. Fourteen of the incidental sightings recorded multiple wolves; the largest a group of 13. Den surveys conducted by ENR found 4 active dens within the EKATI claim block, and none were productive.

- **Wolverines:** Mine personnel recorded incidental observations of wolverine near mine infrastructure in 2011. There were 12 observations recorded on 11 separate days. Eleven of the sightings were of solitary individuals, and the other sighting was of a pair of wolverines walking near Misery Road. None of the observations were close enough to work crews and/or the camp to require use of deterrents.

  BHP Billiton participated in the 2011 wolverine DNA program conducted by ENR under a Wildlife Research Permit held by Robert Mulders. Final results are pending. The EKATI study area contains 184 barbed-wire posts, but due to poor snow conditions only 111 were sampled. 498 samples were submitted for DNA analysis, yielding 98 good samples that could be used for DNA extraction. In the 2011 study, 13 males and 12 females were identified, including 13 recaptures from previous work in the study area, 9 that matched animals sampled in the DDMI study area, 7 recaptures from Daring Lake. Altogether, 63 individuals (35M: 28F) have been identified in the EKATI study area over 4 years of sample collection.

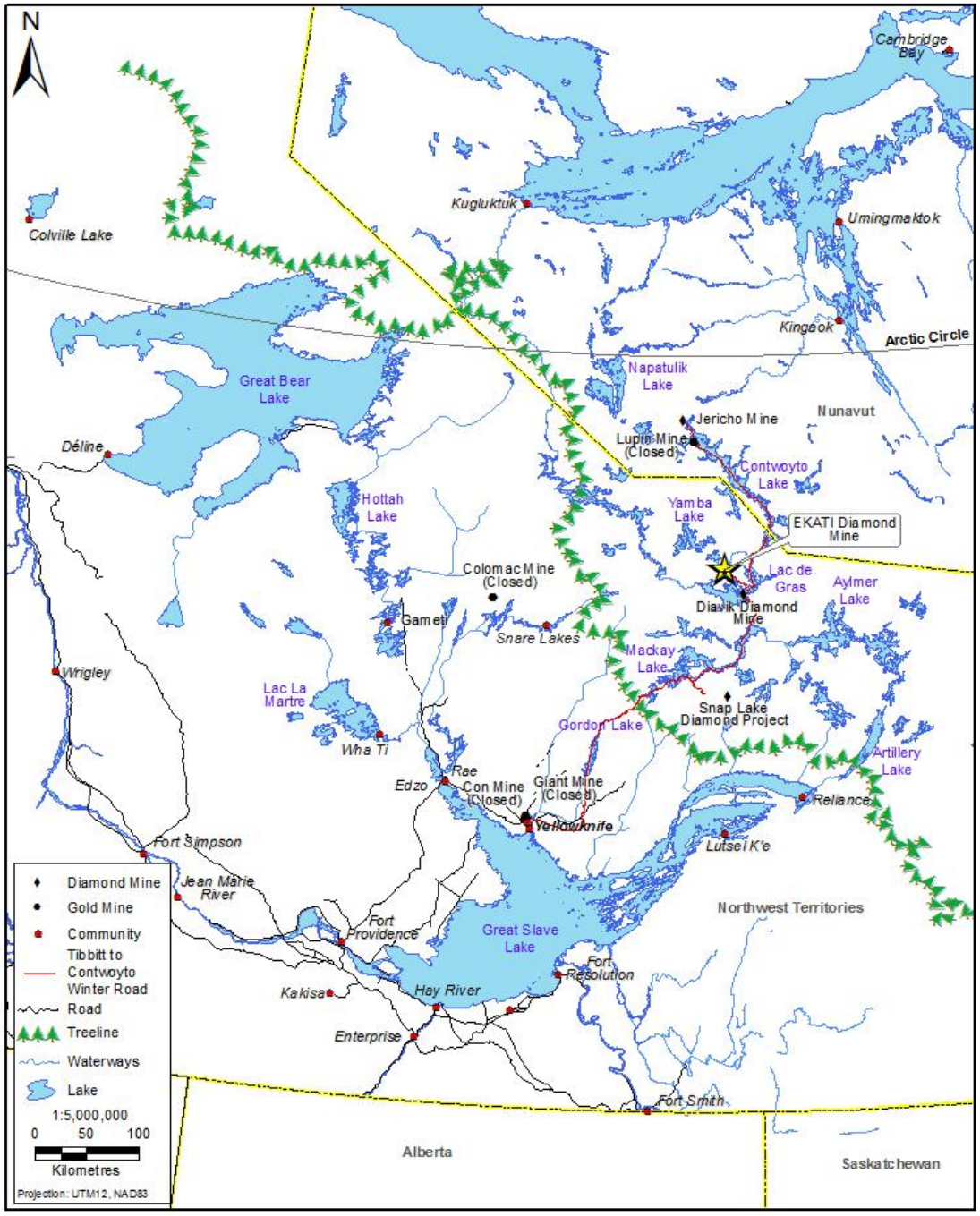
- **Foxes:** Mine personnel recorded incidental observations of Arctic and red foxes near mine infrastructure in 2011. There were 61 incidental sightings of 66

individual red foxes over 55 separate days. Only 2 Arctic fox have been sighted since 2009. There were 2 incidents involving red foxes involving access to a waste bin and into a building, but deterrents were not required.

- **Upland breeding birds:** The North American Breeding Bird Survey (NABBS) was conducted at EKATI on June 15, 2011. Thirty species were identified with 371 individuals observed, compared to 23 species and 237 individuals observed in 2010. This is the first year that snowy owl and northern harrier have been observed during the survey, and the first year since 2006 that semi-palmated plover and stilt sandpiper have been recorded. Black scoter, listed as sensitive in the NWT, was observed in 2010 and again in 2011.

- **Falcons:** Pit walls and other infrastructure have the potential to provide nesting habitat for cliff-nesting birds. Surveys of all open pits at EKATI, as well as Fox Fuel Farm and Long Lake Road power station, were conducted from early April to late August, 2011 to identify nesting activity. Raptors nested and successfully fledged from Beartooth Pit (Rough-legged hawks; 4 fledglings) and Misery Pit (peregrine falcon with 3 fledglings; common raven with 3 fledglings). A common raven nest was additional observed on the new incinerator building and produced 3 fledglings.

gis no. EKA-23-035 Job no. 0648-089-01 March 8, 2011



bhpbilliton
resourcing the future

Location of the EKATI Diamond Mine, Northwest Territories

FIGURE 1.1-1

Rescan

gis no. EKA-23-126 Job no. 0648-120-01 February 27, 2012

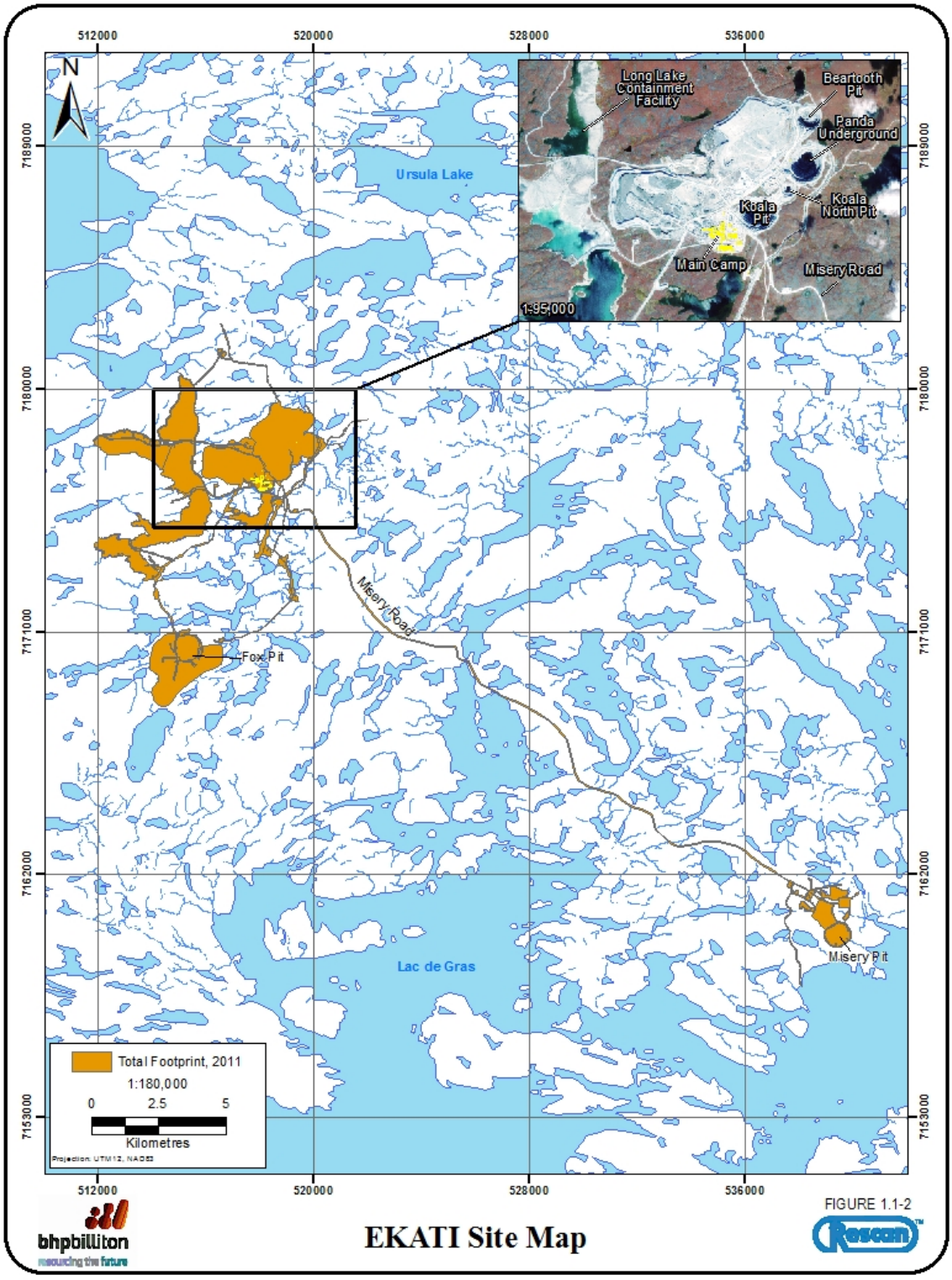


FIGURE 1.1-2

EKATI Site Map