

# LET'S TALK *about*

## Where is the proposed Gahcho Kué Diamond Mine?

### Location of the Proposed Gahcho Kué Diamond Mine



- The proposed Gahcho Kué Diamond Mine and our current exploration camp are located at Kennady Lake, about 280 kilometres northeast of Yellowknife
- 80 km southeast of Snap Lake Mine; 108 km southeast of Diavik Mine; 160 km southeast of EKATI Mine
- Kennady Lake is 793 hectares in size and flows into the Lockhart Drainage System
- 1,200 hectare project footprint, approximately the same size as the Yellowknife Airport

#### LEGEND

- Gahcho Kué Project
- Existing Mine
- Territorial Capital
- Populated Place
- Highway
- Existing Winter Road
- Tibbitt-to-Contwoyto Winter Road
- Winter Access Road
- Watercourse
- Waterbody
- Territorial/Provincial Boundary

### Distances from NWT Communities to the Proposed Gahcho Kué Diamond Mine

Lutsel K'e .....	140 km
Wekweeti .....	258 km
Yellowknife .....	280 km
Fort Resolution .....	342 km
Behchoko .....	351 km
Whati .....	404 km
Gameti .....	406 km
Hay River .....	540 km



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## What we propose to build



### Gahcho Kué Mine Site

1. Winter Access Road
  2. Emulsion Plant
  3. Ammonium Nitrate storage
  4. Fine Processed Kimberlite Containment Facility
  5. Coarse Processed Kimberlite Containment Facility
  6. Main Plant Site
  7. Airstrip
  8. Tuzo Pit
  9. 5034 Pit
  10. South Waste Rock Pile
  11. Hearne Pit
  12. West Waste Rock Pile
- Dykes labelled alphabetically



### Gahcho Kué Core Infrastructure

- |                                   |                                   |
|-----------------------------------|-----------------------------------|
| 1. Power Generation               | 5. Process Plant                  |
| 2. Employee Accommodation Complex | 6. Administration Complex         |
| 3. Maintenance Shop/Warehouse     | 7. Fresh Water Supply             |
| 4. Sewage Treatment Plant         | 8. Incinerator                    |
|                                   | 9. Fuel Storage Facility          |
|                                   | 10. Access Road and Laydown Areas |
|                                   | 11. Airstrip                      |

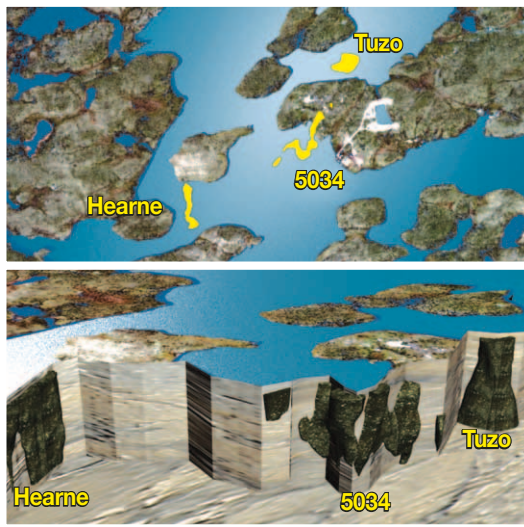


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## The Gahcho Kué Kimberlite Deposit

### Deposit Locations



- The three deposits to be mined are named 5034, Hearne and Tuzo
- The kimberlites are vertical pipes located under Kennady Lake. To safely access the kimberlites we are proposing an open pit mine method that will require us to de-water Kennady Lake
- The deposits will be mined in sequence, starting with 5034, then Hearne and, finally Tuzo
- The diagrams below show the shape of the kimberlite pits
- Mining will last about 11 years
- Average annual production of 3 million tonnes, 4.5 million carats
- Between 360-380 people will be needed during operations

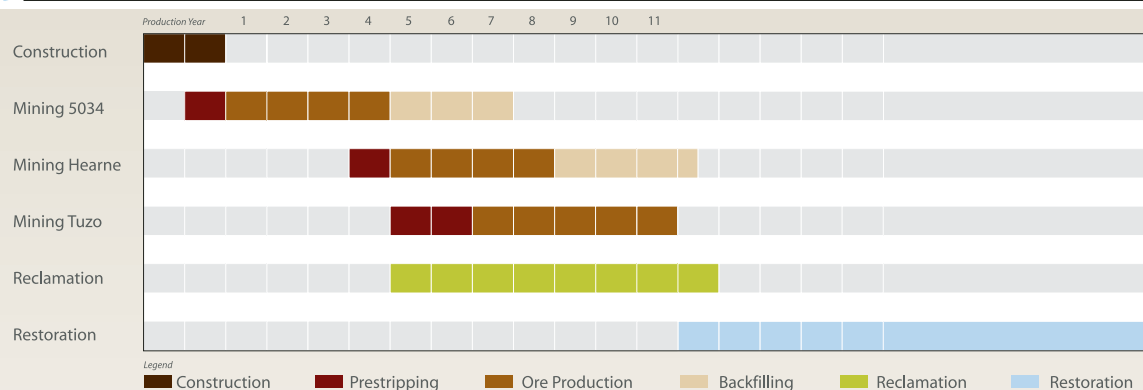


Hearne Pit



5034/Tuzo Pits

### Mining Sequence for 5034, Hearne and Tuzo Pipes



### Project Fast Facts

Capital Cost  
**\$600-\$650 million**

Mine life  
**11 years**

Mine footprint  
**1,200 hectares**

Recoverable grade  
(above 1 mm)  
**1.56 c/t**

Probable Reserve  
(tonnes)  
**31.1M (diluted)**

Annual processing  
capacity (tonnes)  
**3M**

Annual average  
production (carats)  
**4.5M**

Production  
workforce **360-380**

Construction  
workforce (peak)  
**690**

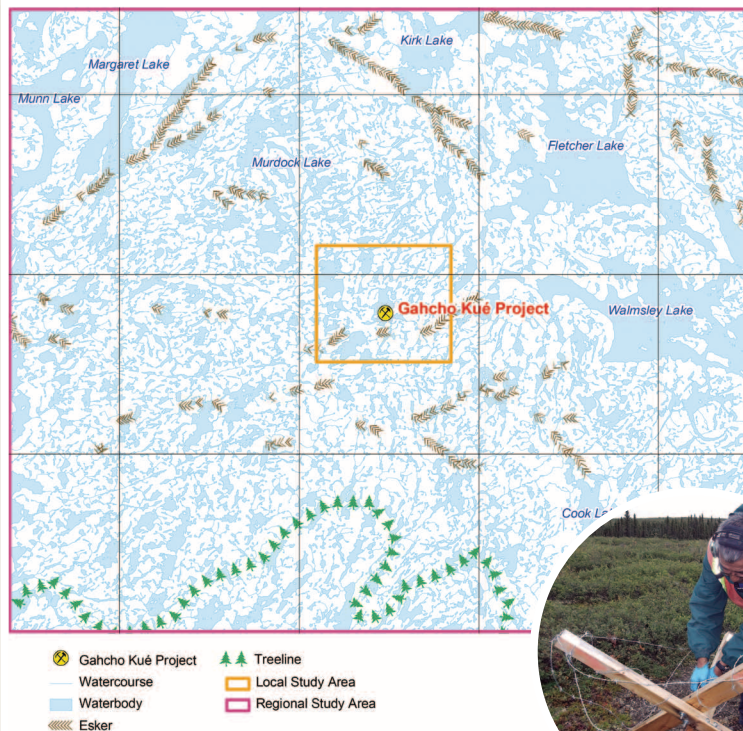
Investment to date  
**\$157.3 million**

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## Protecting the Land and Wildlife

### Wildlife Study Area



- Environmental baseline data gathered since 1996
- 200 square kilometer Local Study Area; 5,700 square kilometer Regional Study Area
- Traditional and scientific knowledge used in assessment
- Local residents employed to assist with baseline studies
- De Beers is committed to working with communities to develop mitigation and monitoring plans
- Community mine site visits and information updates will continue during operations



Pete Enzoe, from Lutsel K'e, collects bear hair samples from a snag set up near Kennady Lake in August 2011.

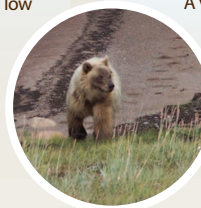
### Management Measures to Protect Land and Wildlife

- Promote natural revegetation
- Progressive reclamation as mine develops
- Enforce speed limits to reduce dust
- Caribou have the right-of-way at all times
- Incinerate food waste frequently to reduce animal attractants
- Manage water seepage and effluent from the site to control release of nutrients and contaminants
- Prohibit hunting, fishing, harassment or feeding of wildlife by staff working at the mine
- Wildlife training for all employees
- De Beers plans to build low profile roads based on traditional knowledge advice that this will reduce interference of the Project with movement of wildlife

### Wildlife around Kennady Lake

A variety of animal and bird species are known to live in the vicinity of Kennady Lake:

- Caribou • Grizzly Bear
- Wolverine • Wolf
- Muskoxen • Moose • Arctic hare • Songbirds • Waterfowl
- Peregrine falcon, Short-eared owl and other raptors



*have* YOUR  
SAY

What else can De Beers do to protect the land and wildlife around Kennady Lake?

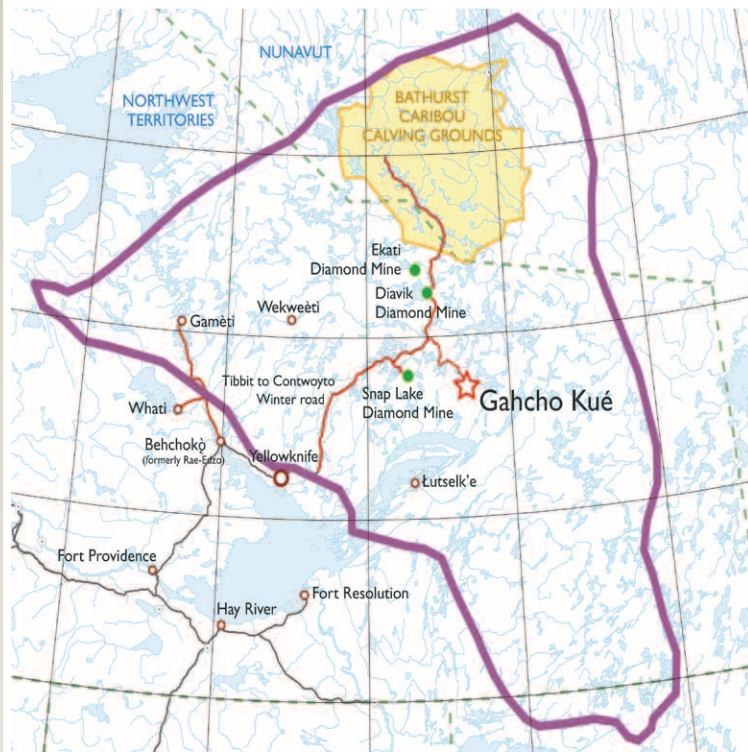


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## Caribou

### Caribou Trails



- The Gahcho Kué Project is in the Bathurst caribou range
- Ranges of the Ahik and possibly the Beverly herds also overlap the Project area
- Project footprint represents less than 0.001% of the 309,000 square kilometer Bathurst caribou range
- Many caribou trails found in Regional Study Area
- Caribou pass through the Project area in late April/early May as they migrate to their calving grounds, about 200 km to the north of the Project site
- After calving, caribou may be found in the area from late July to October. They are also occasionally seen during winter

### Management Measures to Protect Caribou

- All sightings of caribou will be reported to environmental staff on-site
- Caribou have the right-of-way on all Project roads
- Caribou will only be herded away from roads or the airstrip in specific circumstances, such as
  - when there are incoming flights or an emergency
  - Harassment of caribou will not be permitted
  - To reduce possible impact of noise on caribou, aircraft will remain above 300m minimum altitude
- Roads will be constructed with smaller size mine rock and mine rock piles will be designed to divert caribou away from these structures

### Caribou



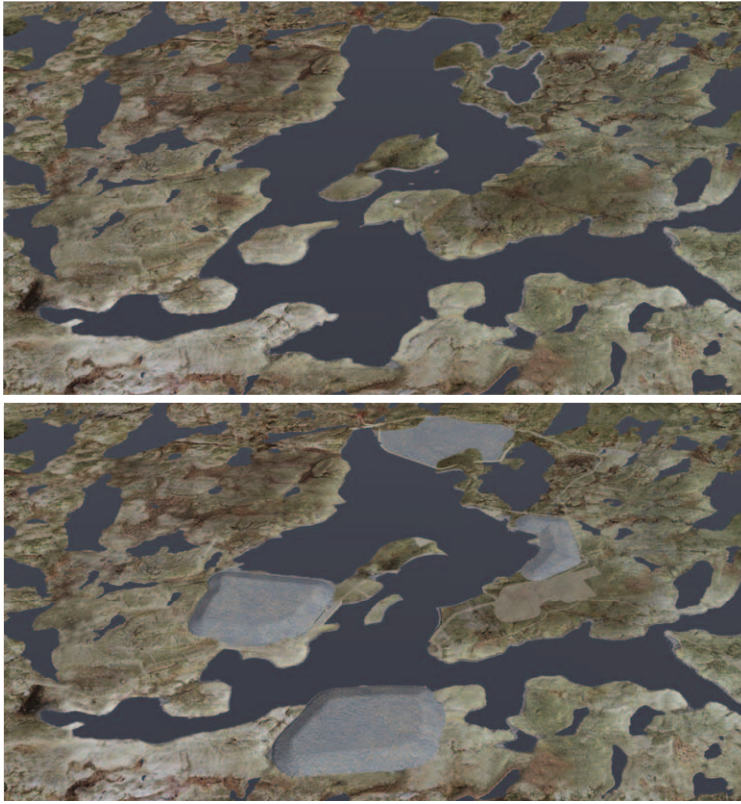
*have* YOUR SAY { What else can De Beers do to protect caribou?

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## Respecting the Land

### Kennady Lake Before and After



- Project footprint is 1,200 hectares
- Progressive reclamation during operations will speed up closure and reclamation
- Non-hazardous waste on site will be burned and land filled in a waste rock pile
- Hazardous waste will be removed from site
- Backfill 5034 and Hearne pits
- Rock that is potentially acid generating will be isolated
- At closure, the site area will be stabilized and contoured to blend with the surrounding landscape
- All buildings and related structures will be removed from site or buried in the landfill in the mine rock pile

### Waste Management

- Managing the various wastes on the mine site is important to reducing impact on the environment
- Non-toxic, non-food solid wastes will be sorted into four types: combustible, noncombustible, recyclable, and reusable
- Combustible items will be burned in the incinerator (if suitable for disposal), while non-combustible items will be placed in the designated landfill area or recycled if practical
- Toxic materials will be stored in sealed steel or plastic drums in the waste transfer area and shipped off-site for proper disposal
- Waste oil will be collected and incinerated for heat generation (if not shipped off-site for recycling)
- Recyclable waste such as waste oil, glycol, and batteries will be transferred to waste facilities outside the NWT

*have* YOUR SAY { What more can we do to protect the land?

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## Protecting Archaeological Sites

### Archaeological Map



Figure showing immediate area around Kennady Lake inspected for archaeological sites

- Archaeological studies conducted have identified 254 sites in the area
- These sites are primarily characterized by stone artifacts, either tools or the pieces of stone knocked off in the manufacture of stone tools
- Archaeological studies focused around Kennady Lake and along the 120 km winter road route
- Local residents were employed to help with field studies
- One of three proposed routes for the winter road to Kennady Lake was discarded due to cultural concerns over heritage sites
- Sites found are registered with the Canadian Museum of Civilization and the Prince of Wales Northern Heritage Centre

### Landforms



Landforms overlooking Kennady Lake, at various elevations, were examined for archaeological sites.

Various eskers found in the area surrounding Kennady Lake have been examined for archaeological sites. Here is a picture of one of the eskers that contained an archaeological site.

### Found Items



Most of the sites found have been characterized primarily by the pieces of stone knocked off in the process of making stone tools, but some sites have also contained stone tools like what is pictured here.

*have* **YOUR  
SAY**

Are there other cultural sites that are around Kennady Lake or the winter road that De Beers should be aware of? What can we do to document and protect these sites?



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## Support for Spiritual and Cultural Activities

### Feed the Fire Ceremony



Feed the fire ceremony at the Reliance Spiritual Gathering, in August 2011. De Beers Canada has supported this event for a number of years.

### Gatherings



An elder watches over preparation of caribou ribs being cooked for lunch at the 2010 Tlicho Gathering, in Gameti. De Beers Canada supports gatherings in communities close to its NWT projects.



### Yellowknives Dene Spring Carnival



Youth participate in a leg wrestling competition at the Yellowknives Dene Spring Carnival held in Dettah in 2011. De Beers Canada supports spring carnivals in many communities.

### Handgames



Youth participate in the annual Tlicho Youth Hand Games Tournament in February 2011.

*have* YOUR  
SAY

How can De Beers recognize and value spiritual and cultural sites? What can the company do in partnership with communities to help preserve community values and traditions related to these?



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## Incorporating Traditions

### Cultural Centre at Snap Lake Mine



The Cultural Centre at Snap Lake Mine is a place where employees can enjoy arts and crafts, on their own or in one of the regular classes hosted by De Beers Canada.

Below left: Close-up of a piece of antler jewelry being put together. Below right: A Snap Lake Mine employee works on a piece of antler jewelry in a craft class held at the mine cultural centre in December 2011.



#### Annual Fish Tasting



North Slave Métis Alliance elder Wayne Langenhan, right, pulls a fish out of a net during the annual fish tasting at Snap Lake Mine.

#### Working with Elders



In 2010, De Beers hired a mining engineering student from the University of British Columbia to work with Tlicho elders, producing a report documenting how a number of chimneys were built on a historic site near Gameti.

#### Drum Prayer



Snap Lake Mine employees join elders in performing a drum prayer during the official opening of the permanent accommodations at Snap Lake Mine.

#### Visits



A Deninu Kue First Nation Youth offers tobacco during a visit to Kennady Lake in July 2010.

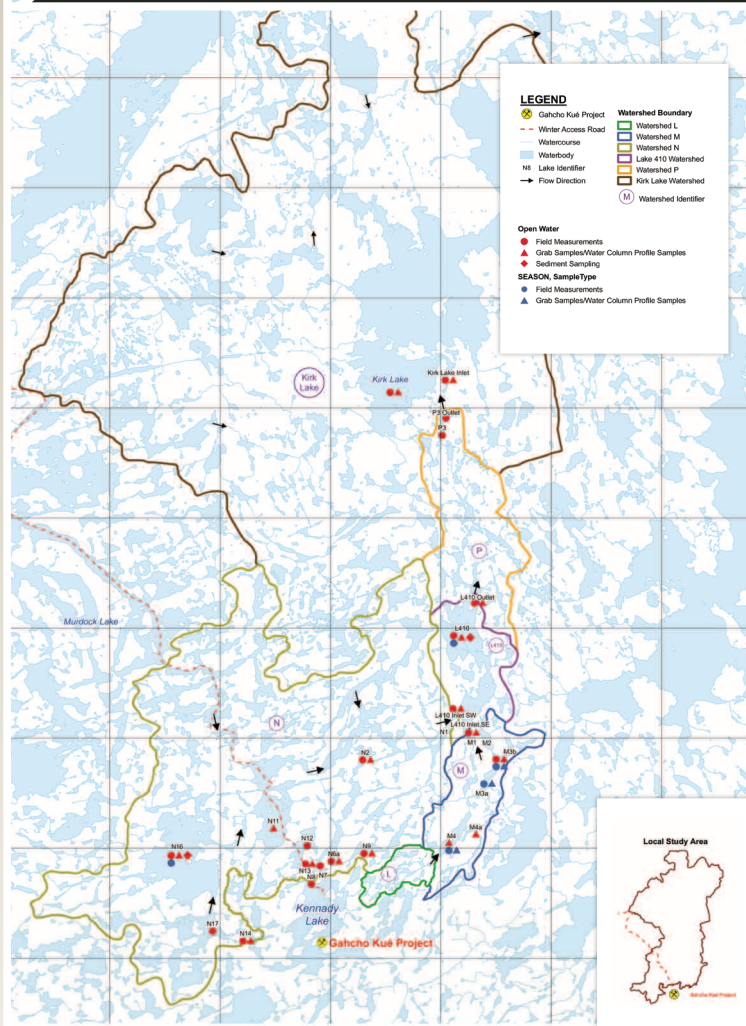
*have* YOUR  
SAY

Are these the kinds of things the company should continue doing with this new mine? Are there other things the company can do?

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## Protecting Water Quality

### Baseline Water Quality Monitoring Around Kennady Lake



- Controlling and managing water essential to the Gahcho Kué plan
- A series of dykes will keep clean water from flowing into the mine site
- Water on the mine site will be contained in the water management pond, pumped to a mined-out pit or recycled in the process plant
- Only water that meets discharge criteria will be released from the mine site
- During dewatering, the level of water flow will be carefully controlled to ensure stream banks remain stable
- Kennady Lake will be lowered slowly
- An aquatic monitoring plan is being developed that will allow De Beers to make water management changes, should that be necessary

*have* **YOUR SAY**

As De Beers develops its monitoring plan for the proposed Gahcho Kué Diamond Mine, how can communities contribute to and participate in aquatic monitoring?

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## Fish in Kennady Lake

### Fish common to Kennady Lake



From top to bottom: Round WhiteFish; Lake trout;  
Lake Chub; Arctic Grayling; Northern Pike

Kennady Lake



- The Kennady Lake watershed supports fish species such as Lake Trout, Round Whitefish, Arctic Grayling, Northern Pike, Burbot, Lake Chub, Slimy Sculpin, and Ninespine Stickleback
- Prior to mining, fish will be removed from Kennady Lake
- Removal of fish will require approval from the Department of Fisheries and Oceans
- De Beers will submit a plan for the fish-out that will include community input:
  - to ensure fish are not wasted
  - to collect information about the fish
  - to maximize community benefits from the fish-outs
- De Beers is requesting input from the communities on how and when the fish-out should take place

*have* YOUR  
SAY

{ What are your recommendations on how fish should be removed from Kennady Lake?



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## Restoration, Reclamation and Enhancement of Fish Habitat

### Environmental Studies



- De Beers is developing a fish habitat compensation plan to compensate for losses to fish habitat resulting from the Project
- The Department of Fisheries and Oceans will approve the plan
- Through community workshops De Beers will invite suggestions and share some of its options
- Options under consideration include: areas to provide new habitat for spawning and a “nursery” for young fish, developing additional over-wintering areas for fish, construction of reef structures on the dry lake bed
- Monitoring habitat improvements or habitat creation will assist in determining if productive fish habitat is achieved

Above: A trout caught during environmental studies is weighed.

Far left: A net is pulled into a boat during environmental baseline studies to document fish and aquatic life in Kennady Lake and the dozens of small lakes nearby.

Left: A fish biologist from Golder Associates throws a minnow trap into the water of one of the small lakes around Kennady Lake during environmental baseline studies.



*have* YOUR  
SAY

What ideas do you have about restoring fish habitat?