



October 30, 2007
Our File: L020

Alan Ehrlich
Senior Environmental Assessment Officer
Mackenzie Valley Environmental Impact Review Board
Box 938, 5102 - 50th Ave.
Yellowknife, NT X1A 2N7

Re: Gahcho Kué Environmental Impact Review Panel Site Tour September 21, 2007

Dear Alan,

On September 21, 2007, the Gahcho Kué Environmental Impact Review Panel (the Panel) and support staff attended a tour of the Gahcho Kué site and surrounding area. During the visit a presentation was given outlining the proposed project description and activities for the day. Enclosed are the materials presented during the site visit. This includes the presentation made, the fact sheets provided, and a DVD of the project description.

De Beers appreciates the time the Panel and support staff took to attend the tour.

Sincerely,

Paul Cobban
Sr. Environmental Assessment
& Permitting Coordinator



DE BEERS CANADA INC – GAHCHO KUÉ PROJECT
Suite 300, 5102 – 50th Avenue
YELLOWKNIFE, NT X1A 3S8
TEL: 1 (867) 766-7344 FAX: 1 (867) 766-7348
www.debeerscanada.com



De Beers Canada Gahcho Kué Site Visit September 21, 2007

Participants

De Beers:	Ed Huebert	Manager, Environmental Affairs – NWT Projects
	Paul Cobban	Sr. Environmental Assessment & Permitting Coordinator
	Heather Funnell	Permitting Coordinator
	Cathie Bolstad	Manager, Public & Corporate Affairs – NWT Projects
	Maxwell Morapeli	Project Manager
	Sean Lee	Sr. Safety, Health & Environment Coordinator
Golder Associates:		
	Ron Barsi	Project Director
	Mark Digel	Technical Director
Gartner Lee Limited:		
	Bob Wooley	Project Manager
	Heidi Klein	Socio-economic Team Leader
GK EIR Panel and Staff:		
	Gabrielle Mackenzie-Scott	Chairperson/GK EIR Panel Member
	John Stevenson	EIR Panel Member
	Nora Doig	EIR Panel Member
	Richard Edjericon	EIR Panel Member
	John Ondrack	EIR Panel Member
	Darryl Bohnet	EIR Panel Member
	Lesley Allen	EIR Panel Member
	Vern Christensen	Executive Director
	Martin Haelele	Manager, Environmental Impact Assessment
	Alan Ehrlich	Senior Environmental Assessment Officer
	Alistair MacDonald	Environmental Assessment Officer
	John Donihee	Legal Council



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De Beers Canada Gahcho Kué Site Visit September 21, 2007

Friday September 21st, 2007

6:30 am

Meet at Air Tindi Float Base

GK EIR Panel and Staff

De Beers/Golder/GLL

Gabrielle Mackenzie–Scott
John Ondrack
Lesley Allen
Darryl Bohnet
Martin Haefele
John Donihee

Ed Huebert
Paul Cobban
Heather Funnell
Sean Lee
Bob Wooley
Mark Digel

6:45 am

Meet at Arctic Sunwest Float Base

GK EIR Panel and Staff

De Beers/Golder/GLL

John Stevenson
Nora Doig
Richard Edjericon
Vern Christensen
Alan Ehrlich
Alistair MacDonald

Ron Barsi
Cathie Bolstad
Maxwell Morapeli
Heidi Klein



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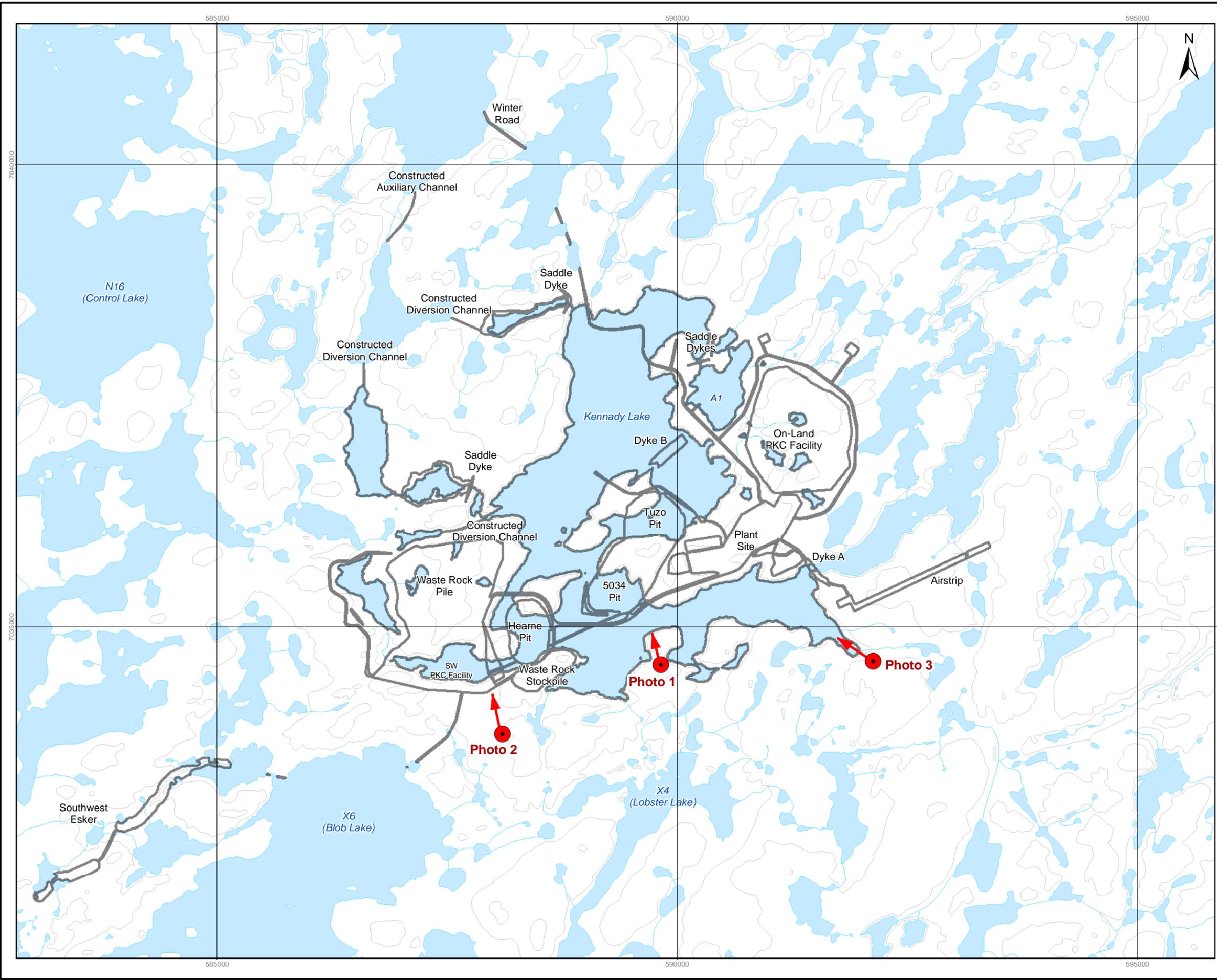
www.debeerscanada.com

**De Beers Canada Gahcho Kué Site Visit
September 21, 2007**

Friday September 21st, 2007

7:00 am	Leave Air Tindi Float Base for Gahcho Kué
7:15 am	Leave Arctic Sunwest Float Base for Gahcho Kué
8:30 & 8:45 am	Arrive Gahcho Kué Site
9 to 9:30 am	Welcome, Breakfast, PPE (New Kitchen)
9:30 to 9:45am	Safety Orientation (Old Kitchen)
9:45 to 11:30 am	Project Presentation (Old Kitchen), Overview of Proposed GKP, Site Layout
11:30 to 12:30pm	Walking Tour (View Tuzo, 5034 & Dyke B) & Helicopter Safety Orientation
12:30 to 1:15 pm	Lunch
1:30 to 4:45 pm	Project Familiarization (Flight Tour)
5:00 to 5:30 pm	Wrap Up
5:30 pm	Departure
7:00 pm	Arrive in Yellowknife





LEGEND

-  Site Infrastructure
-  Watercourse
-  Waterbody
-  Contour (10m interval)



DRAFT

NOTES
 Base data source: Eagle Mapping Ltd.
 Footprint based on preliminary mine plan.

GAHCHO KUÉ PROJECT

Project Infrastructure

PROJECTION: UTM Zone 12	DATUM: NAD83
Scale: 1:40,000  Kilometres	



FILE No: ProjectInfrastructure_070920	DATE: September 20, 2007
JOB NO: VE51664	REVISION NO: 1
OFFICE: AMEC-BBY	DRAWN: BWS CHECK: JF

Figure 1

Y:\GIS\Projects\VE51664-01_Gahcho-Kue\maps\18_other\ProjectInfrastructure_070920.mxd

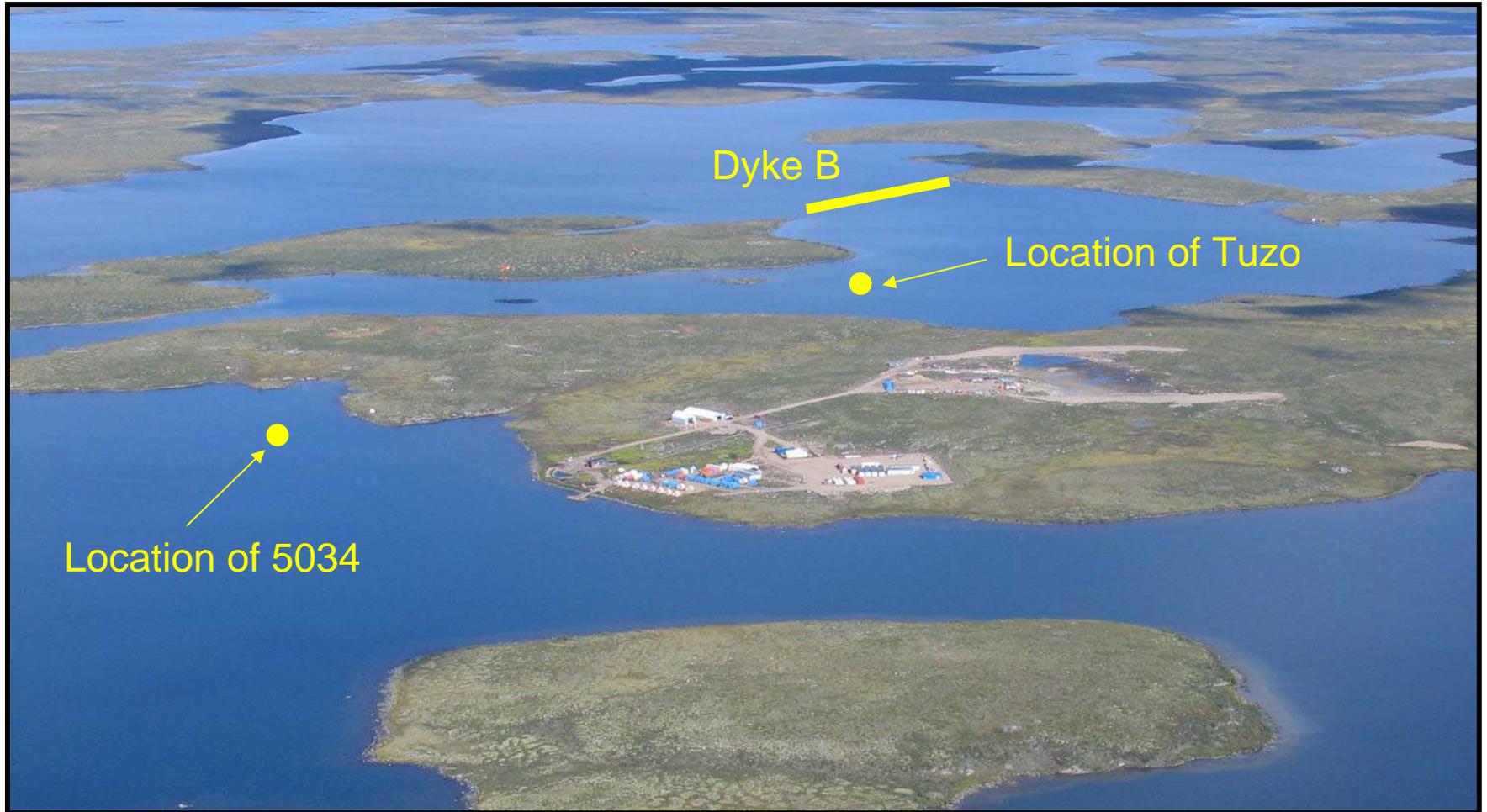


Photo 1. The view over the Gahcho Kué site looking approximately northwards, showing the locations of the Tuzo and 5034 kimberlite deposits, and the proposed location of Dyke B.

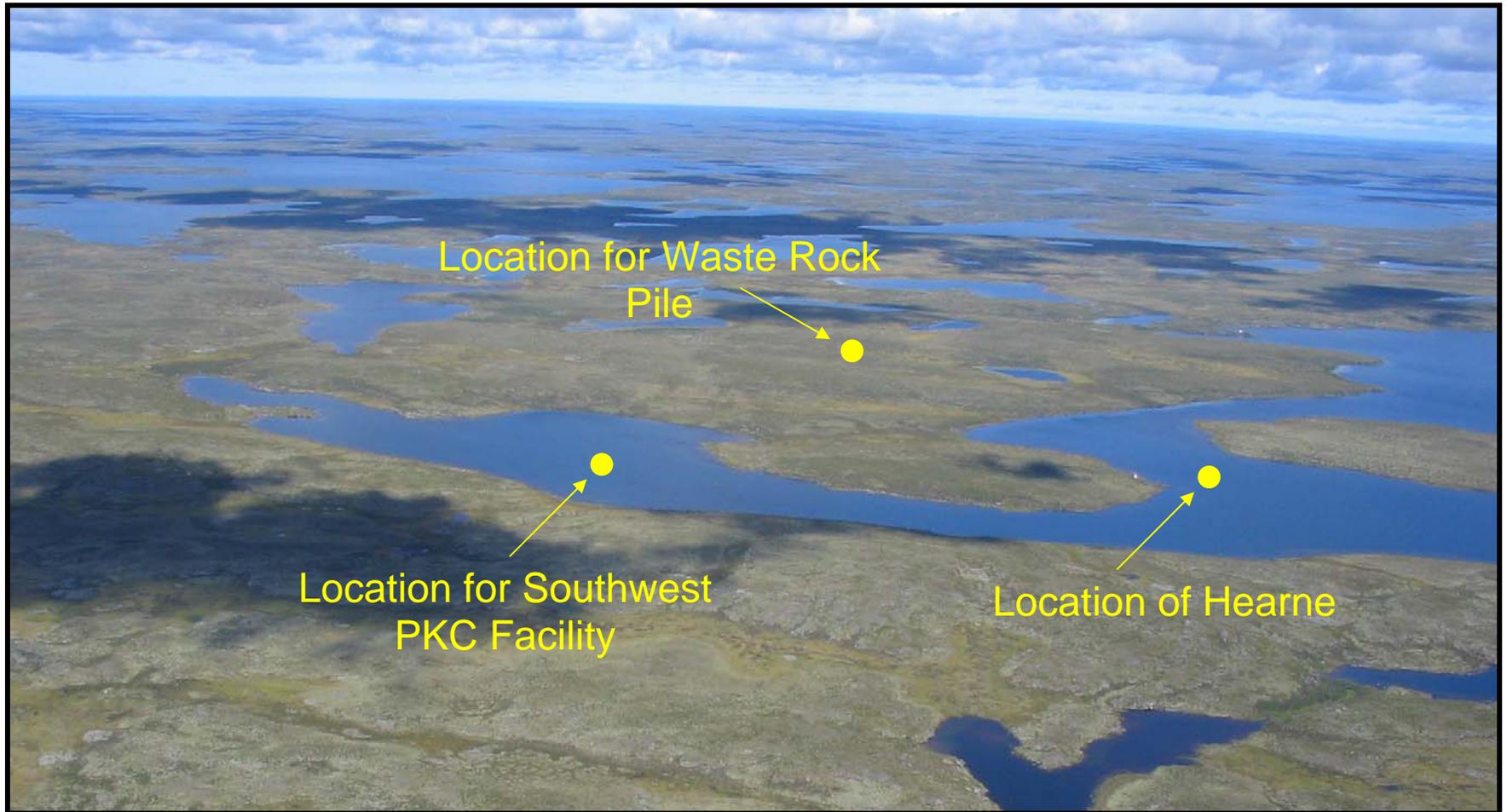


Photo 2. The view looking approximately northwards, showing the location of the Hearne kimberlite deposit, and proposed locations for the Southwest Process Kimberlite Containment Facility (PKC) and the Waste Rock Pile.

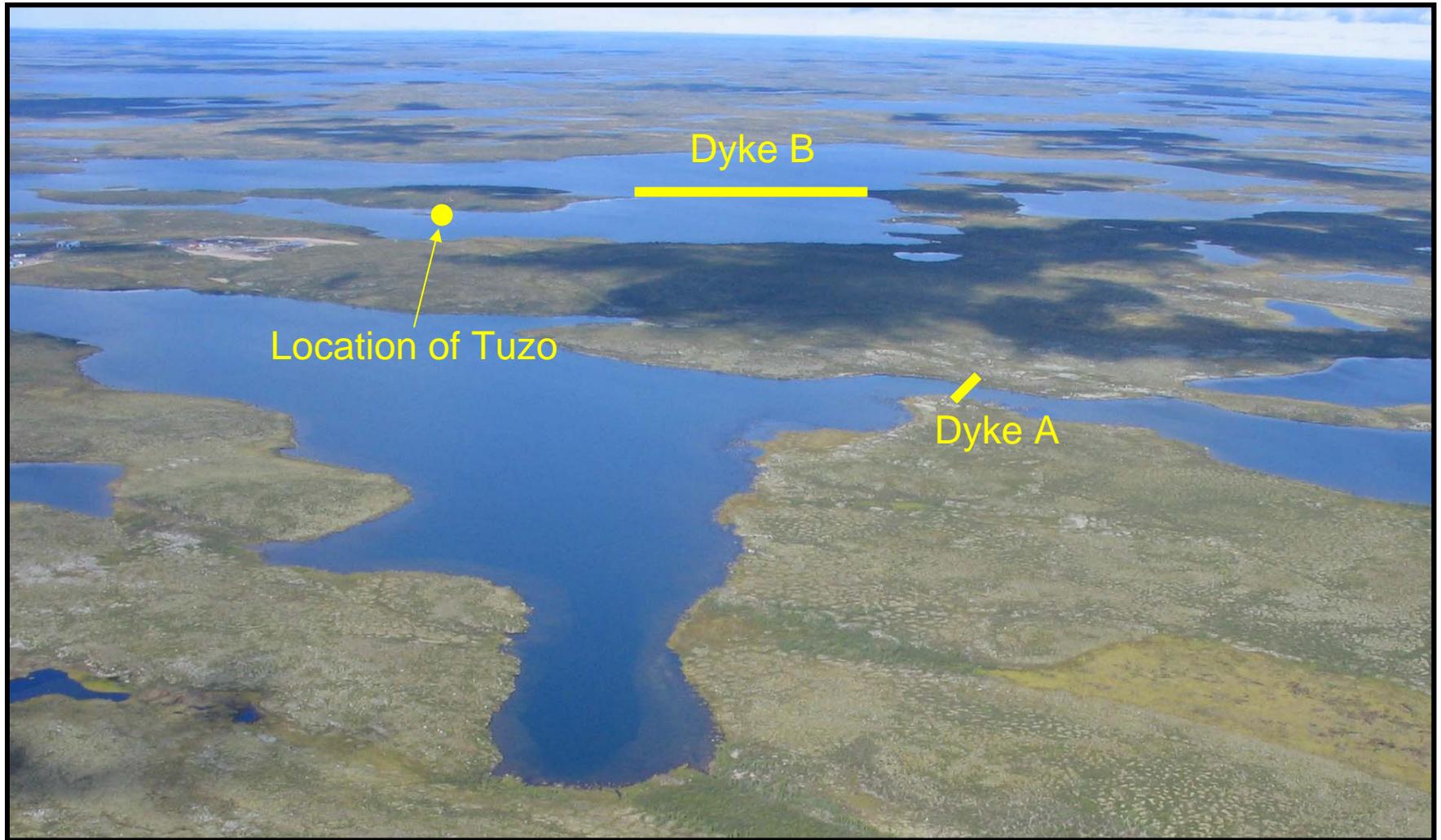
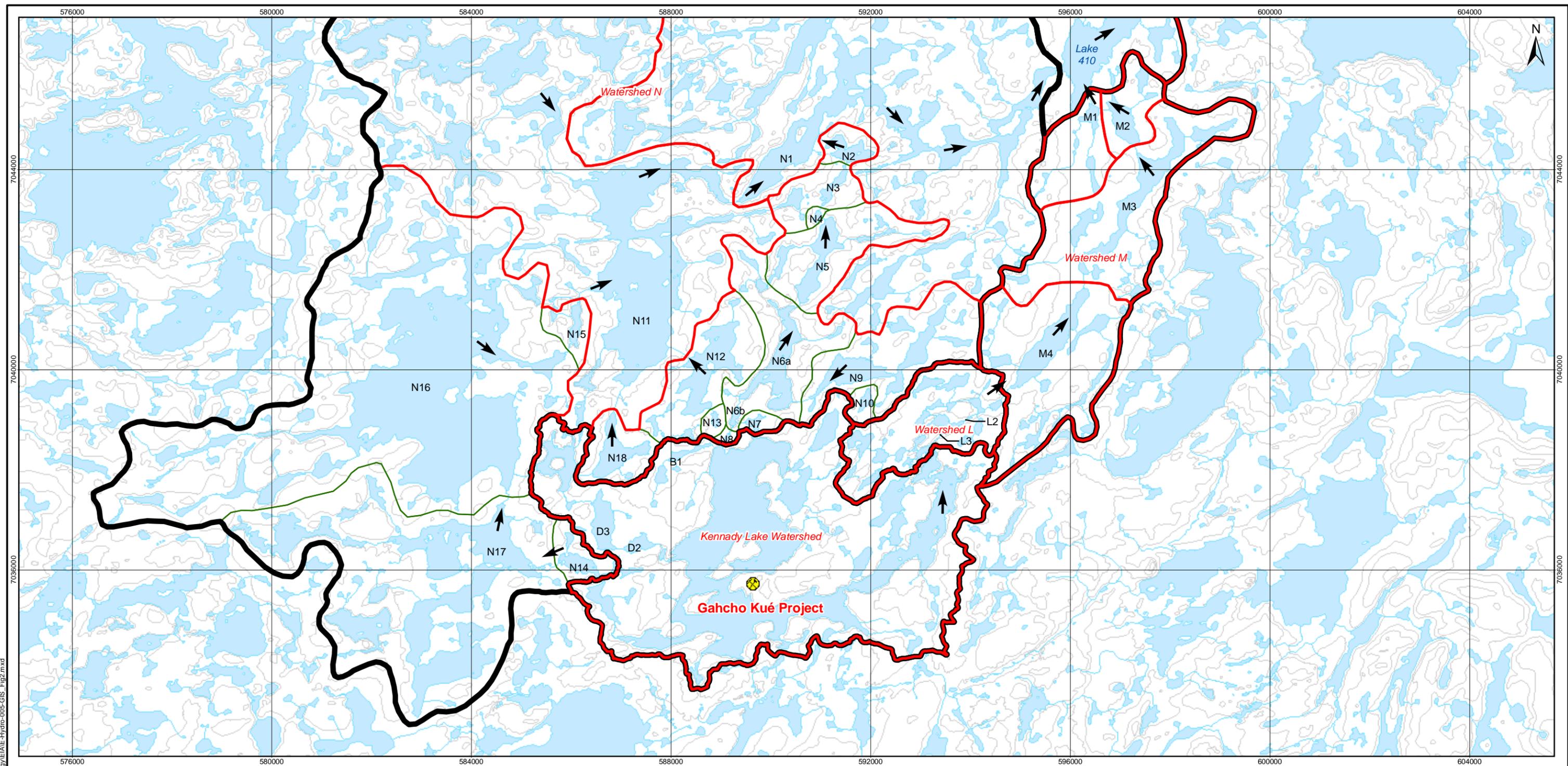


Photo 3. The view looking approximately northwest, showing the location of the Tuzo kimberlite deposit, and the proposed locations of Dyke A and Dyke B.



LEGEND

- Gahcho Kué Project
- Drainage Direction
- Contour (10m interval)
- Watercourse
- Waterbody
- Sub-Watershed Boundary
- Watershed Boundary
- Watershed Boundary - N Lakes
- Watershed Boundary - K, L, M Lakes
- M4 Lake Identifier
- L2 Stream Identifier

NOTES
Base data source: National Topographic Base Data (NTDB) 1:50,000

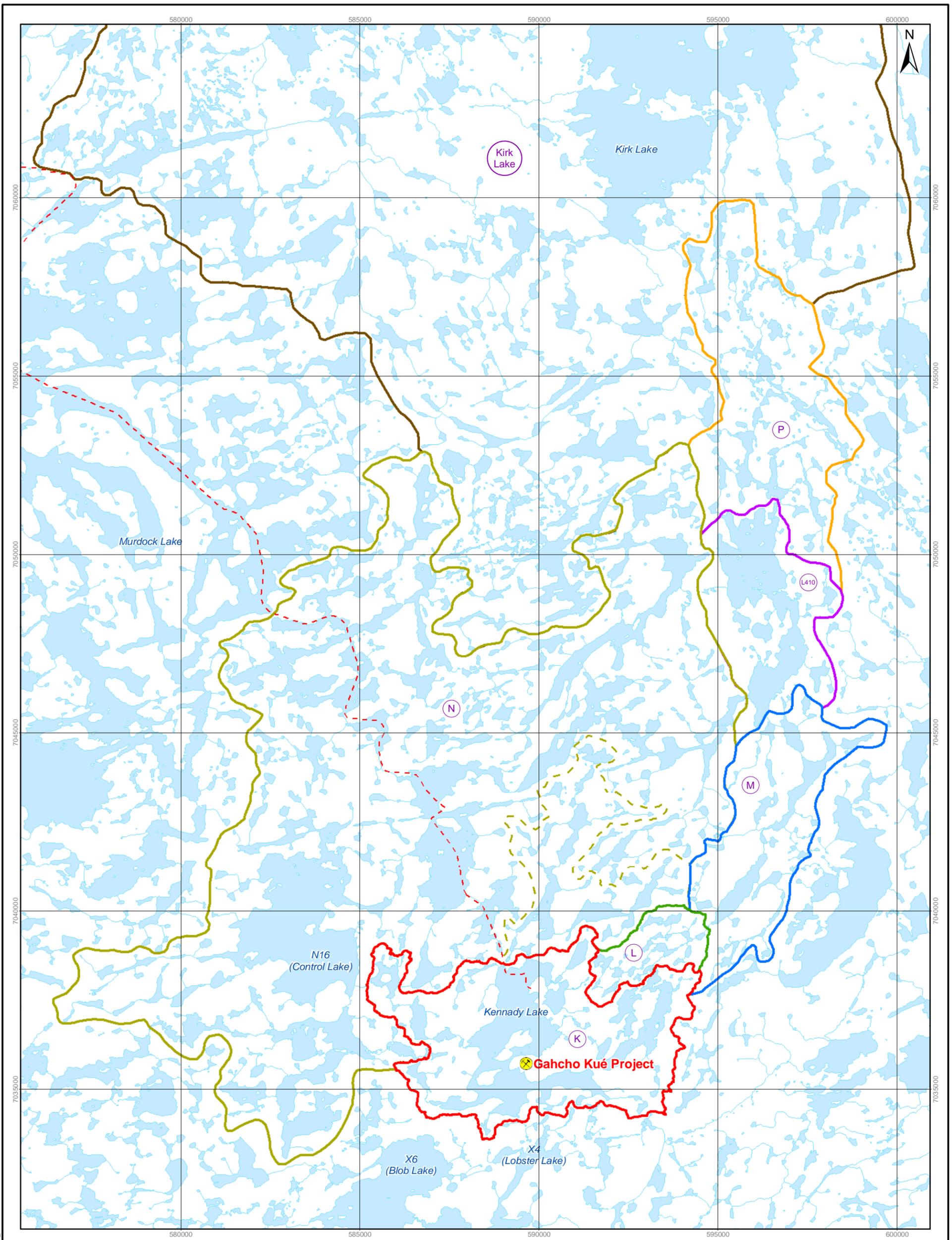
GAHCHO KUÉ PROJECT

WATERSHED MAP

PROJECTION: UTM Zone 12	DATUM: NAD83
Scale: 1:75,000	
FILE No: E-Hydro-005-GIS_v2	DATE: September 20, 2007
JOB NO: 07-1336-0001	REVISION NO: 0
OFFICE: GOLD-CAL	DRAWN: CB CHECK: XXX

Figure 2

I:\CLIENTS\DE_BEERS\07-1336-0001\VES136701-Golder\mags08_hydro\gis\005-GIS_Fig2.mxd



LEGEND

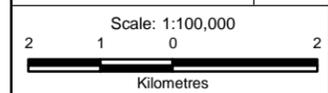
- Gahcho Kué Project
- Winter Access Road
- Watercourse
- Waterbody
- Watershed Boundary**
- Kennedy Lake Watershed
- Kirk Lake Watershed
- Lake 410 Watershed
- Watershed L
- Watershed M
- Watershed N
- Watershed P
- Subwatershed N2
- Watershed Identifier

NOTES
Base data source: National Topographic Base Data (NTDB) 1:50,000

GAHCHO KUÉ PROJECT

**Surface Water Quality
Local Study Area**

PROJECTION: UTM Zone 12 DATUM: NAD83



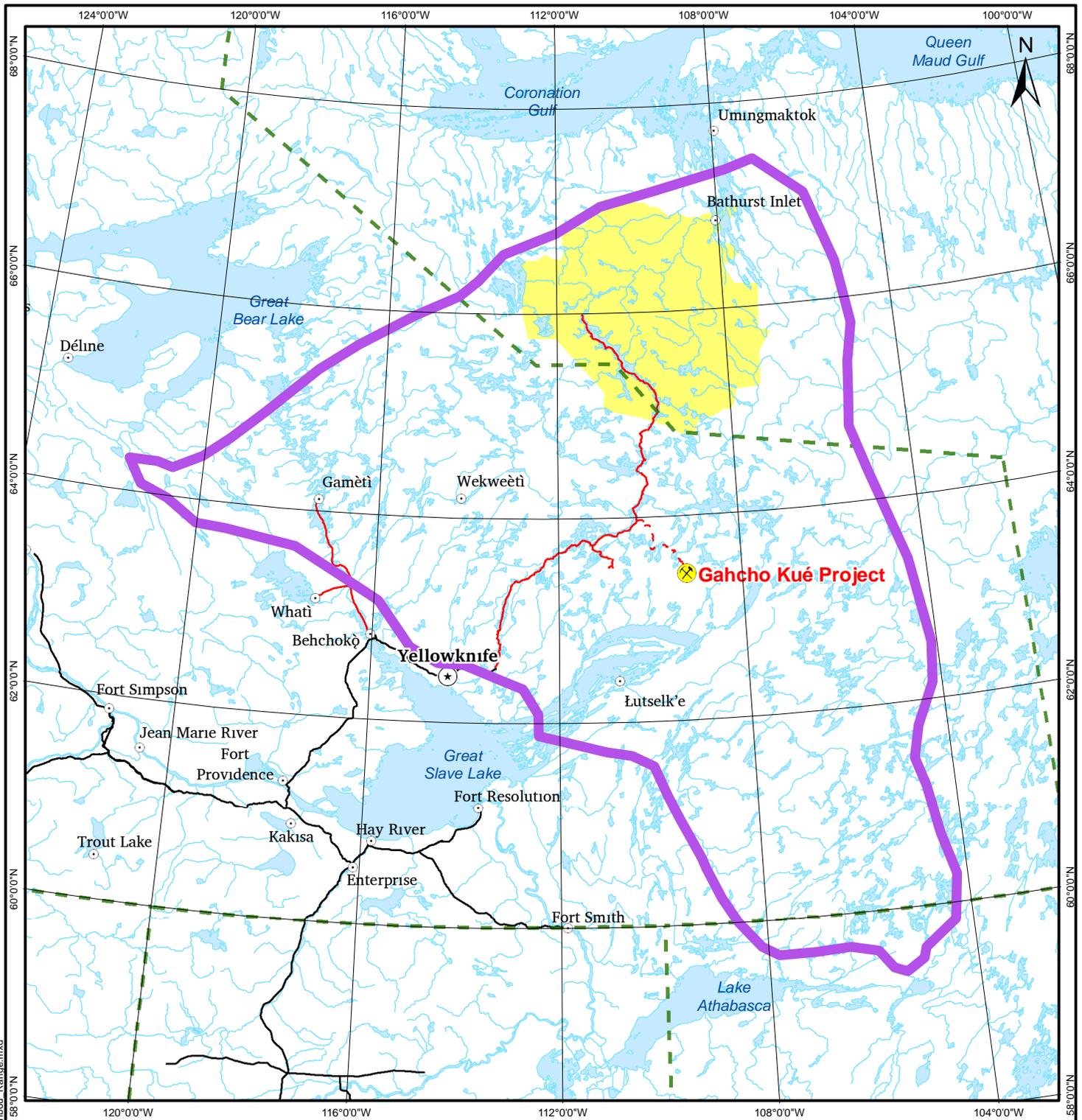
FILE No: SWQStudyArea_070920 DATE: September 20, 2007

JOB NO: VE51664 REVISION NO: 1

OFFICE: AMEC-BBY DRAWN: BWS CHECK: JF

Figure 3

Y:\GIS\Projects\VE51367-01_Gahcho-Kue\maps\18_other\SWQStudyArea_070920.mxd



N:\GIS\Projects\2007\1336\0001_Gahcho_Kue\Internal_Maps\MapDocs\Caribou_Range.mxd

LEGEND

- Gahcho Kué Project
- Territorial Capital
- Populated Place
- Provincial / Territorial Boundary
- Existing Winter Road
- Highway
- Winter Access Road
- Watercourse
- Waterbody
- Bathurst Herd Range
- Bathurst Calving Area

NOTES

Base data source: The Atlas of Canada
 Mapping Revision of B-Wild-008-GIS, provided by AMEC.
 Bathurst Herd Range: The range has been delineated from caribou sightings and satellite collar data up to 2005. This range may be modified to reflect the addition of new data, including data up to 2007.

DRAFT

GAHCHO KUÉ PROJECT

Bathurst Caribou Herd Ranges

PROJECTION: Canadian Lambert Conf. Conic DATUM: NAD83

Scale: 1:6,000,000



FILE No: Caribou_Range

DATE: September 17, 2007

JOB NO: 07-1336-0001

REVISION NO: 0

OFFICE: Edmonton

DRAWN: CP CHECK: CP

Figure 4

GEOLOGY, TERRAIN, SOILS AND VEGETATION FACTS

BEDROCK GEOLOGY

- Part of Canadian Shield.
- The geology of the project area is dominated by granite, with some sedimentary and volcanic rocks.
- Bedrock forms a low relief plain varying from 300 m – 500 m in elevation.
- Volcanic Kimberlites occur in vertical, cylindrical-shaped bodies at the Project site.

TERRAIN

- Local bedrock occurs as outcrops in the Project area.
- Most of the area is covered by glacial deposits:
 - Glacial till – mixture of stones, boulders, sand, silt, clay
 - Glaciofluvial – mostly sand and gravel deposits, including eskers
 - Fluvial (or alluvial) – shallow deposits of silt, sand along creeks and rivers
 - Muskeg – accumulations of peat in low lying areas
- All terrain types are characterised by permafrost
- Patterned ground in the form of ice wedge polygons is present

SOILS

- Upland soils are mainly sandy with a high proportion of stones and boulders.
 - Most upland soils have permafrost within 2 metres of the surface
- Peat soils are generally found in depressional, poorly drained areas that are permanently frozen
 - Shallow, thawed surfaces occur in the summer.
- The soils are very acidic

SOILS (Continued)

- Soil fertility is very low due to the acidic and sandy nature of the soils
 - The soils are prone to wind erosion
-

VEGETATION

- 20 ecosystem types were identified in the Project area
 - Ecosystem names are based on the dominant plants found in the ecosystem
 - The most common ecosystem is *Scrub Birch – Labrador Tea Tundra* (53%)
 - This ecosystem is found in most of the upland areas that are not too rocky
 - Common species include Labrador tea, scrub birch and alpine bear berry, and lichen is abundant
 - The second most common ecosystem is open water (29%)
 - Water sedge and cottongrass are common species found along the edges of open water
 - The next most common ecosystem is *Scrub Birch – Cloudberry Low Shrub Bog* (16%)
 - This is a wetland ecosystem found in low areas, and has a hummocky appearance with moist mounds of peat moss
 - Common species include scrub birch, Labrador tea, cloudberry and march reed grass
 - Forested ecosystems called *Spruce – Lichen Woodland* are found near the project site, but comprise a small proportion of the total area (<1%)
 - Common species include low-growing black spruce trees, crowberry, and lichen
 - Riparian shrubland (<1%), which include willows, Alder and sweet gale, and the forested areas provide the greatest potential habitat for wildlife, such as grizzly bears and birds.
 - No rare plants were observed.
-

KENNADY LAKE FACTS

GENERAL FACTS

- Kennady Lake is a headwater lake of the Kirk Lake sub-basin within the Lockhart River watershed.
- The Lockhart River watershed drains eventually into Great Slave Lake.
- Kennady Lake is an 815 ha sub-Arctic lake, with a total volume of 38.1 Mm³.
- Kennady Lake has 5 major basins (defined as K1 to K5) within its natural impoundment.

WATER QUALITY

- Similar to other arctic lakes in the vicinity.
- Water quality is characterized as being low in dissolved salts.
- pH conditions range from slightly acidic to slightly alkaline.
- The lakes are oligotrophic; that means possessing low nutrients levels.

HABITAT

- The lake habitat ranges from substrates comprising boulder through to cobble and fines, with vegetative/organic cover.

FISHERIES

- Kennady Lake supports at least 8 species of fish.
- Lake trout is the top predator and represents 20% of the estimated fishery stock.
- There is a high probability that lake supports over 2,000 lake trout.
- Round whitefish are the most abundant large-bodied species (~56%).
- Other notable fish include the Lake Chub (12%), arctic grayling (10%) and northern pike (2%).

Kennady Lake Characteristics

Lake surface area	815 ha
Mean depth	5 m
Maximum depth	20 m
Nearshore habitat (less than 4 m)	393 ha, 48% of total lake area
Deep offshore habitat	422 ha, 52% of total lake area
Dominant nearshore substrate	Boulder/cobble
Dominant deep offshore substrate	Fines/organics

Basin K5 - Lake Kennady Characteristics

Lake surface area	143 ha
Mean depth	4 m
Maximum depth	9 m
Volume	3.5 Mm ³
Nearshore habitat (less than 4 m)	121 ha, 85% of total lake area
Deep offshore habitat	22 ha, 15% of total lake area
Dominant nearshore substrate	Boulder/cobble
Dominant deep offshore substrate	Fines/organics

WATERSHED FACTS

Watershed	Area
Basin K5	7.56 km²
Kennady Lake	32.4 km ²
L Lakes	37.5 km ²
M Lakes	57.0 km ²
Lake 410	256 km ²
N Lakes	183 km ²

WILDLIFE FACTS

CARIBOU

- The Bathurst caribou herd is the primary herd that passes through the Gahcho Kué Project area.
- Other herds with ranges that overlap the Project area are the Ahiak (Queen Maud) herd and possibly the Beverly herd.
- Bathurst caribou herd:
 - One of the largest herds in the NWT
 - Estimated population of 186,000 in 2003
 - Government data suggests that the herd is currently declining
 - Range covers about 412,000 km²
- Caribou pass through the Project area during the northern and post-calving migrations.
- Caribou generally appear near the Project area during late April / early May (northern migration), and travel across frozen lakes and rivers, including Kennady Lake.
- During the return from the calving grounds (post-calving migration), caribou typically appear near the Project area in July through early October.
- A network of historic trails along the southeast arm of Kennady Lake indicates this is an important water crossing during the post-calving migration.
- Caribou may occasionally occur near the Project area during winter, but not in large numbers.

OTHER MAMMALS

- Eleven grizzly bear dens were found during baseline studies, ranging from 8 to 45 km from the Project.
- Three active wolf dens were found during baseline studies, ranging from 6 to 19 km from the Project.
- Arctic fox and the red fox have been observed in the Project area. Den sites have been recorded 2 to 38 km from the Project.
- Wolverines observed within and adjacent to the Project area.

OTHER MAMMALS (Continued)

- Muskox and moose have been observed adjacent to the Project area.
- Other wildlife species observed in the Project area include:
 - arctic hare
 - red squirrel
 - porcupine
 - vole
 - weasel

BIRDS

- The following bird species groups have been recorded within and adjacent to the Project area.
 - Common raptors:
 - Peregrine falcon
 - Northern harrier
 - Common raven
 - Rough-legged hawk
 - Gyrfalcon
 - Bald eagle
 - Waterfowl observations:
 - Geese (4 types)
 - Swans (1 type)
 - Ducks (14 types)
 - Loons (4 types)
 - Grebe (1 type)
 - Phalaropes (1 type)
 - Common upland breeding birds:
 - American tree sparrow
 - Savannah sparrow
 - Lapland longspur
 - White-crowned sparrow
 - Harris's sparrow