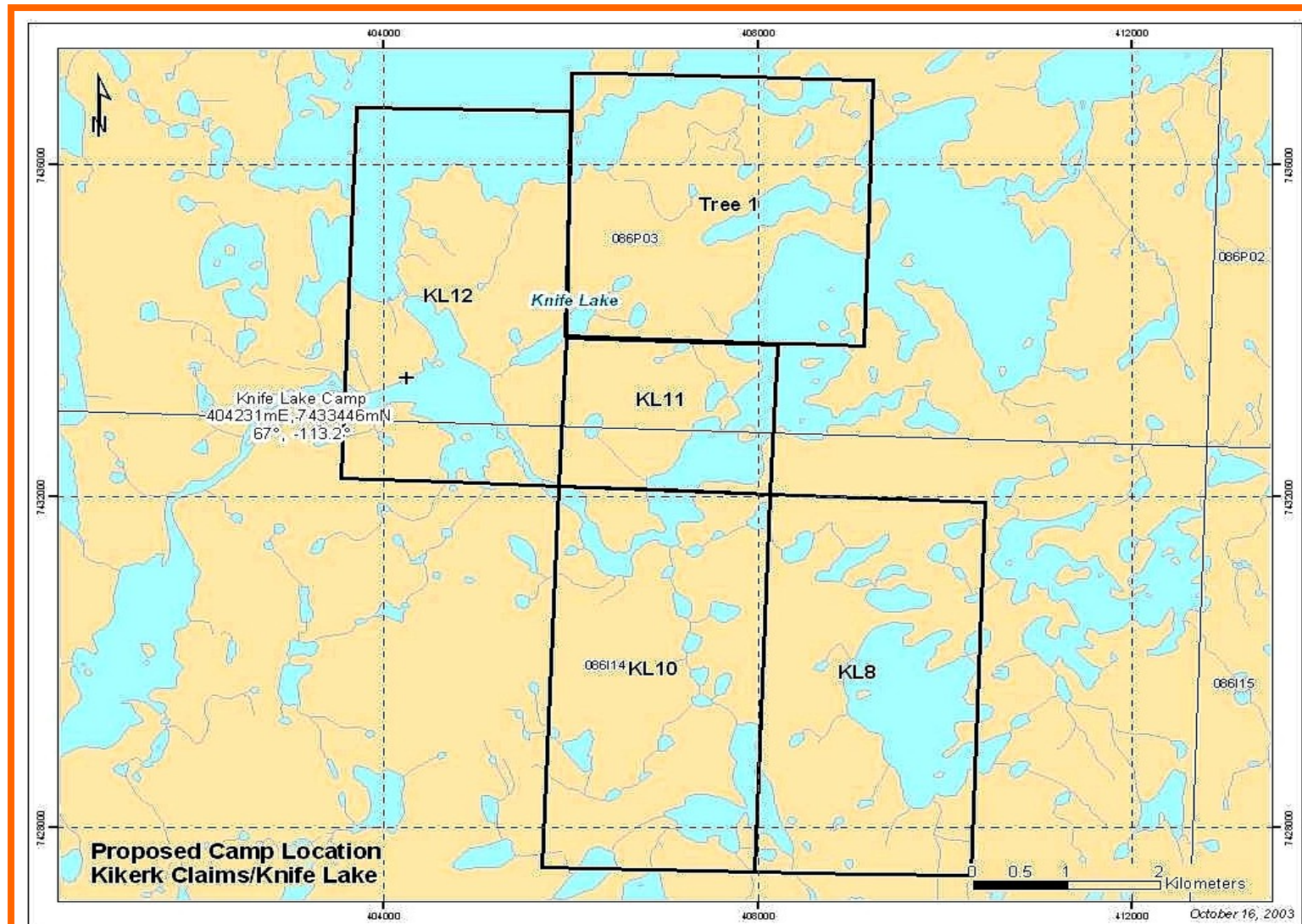


DE BEERS CANADA EXPLORATION INC.

**MAPS and PHOTOS – KIKERK/KNIFE LAKE PROJECT
to Accompany Application**

(Maps 1-2, Photos 1-2)

DE BEERS CANADA EXPLORATION INC.
MAP 1: PROPOSED KIKERK-KNIFE CAMP, NUNAVUT – OCTOBER 2003

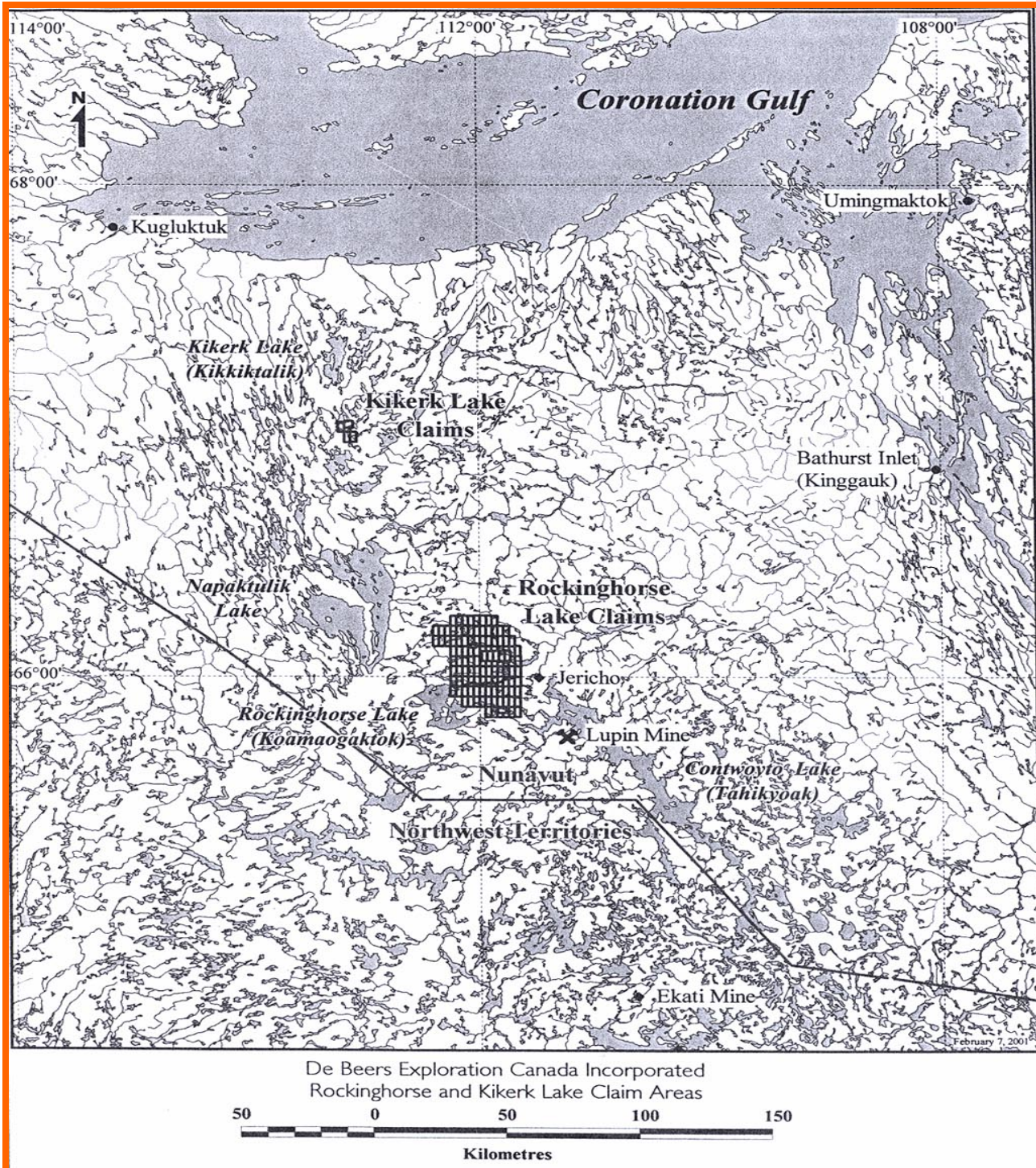


A base camp is proposed to be erected this winter on De Beers' claim "KL 12" to serve continued exploration of the Knife kimberlite approximately 2.3km ENE, on the east end of Knife Lake. The "TREE 1" claim has recently been transferred to De Beers from joint-venture partner, Rhonda Corporation.

DE BEERS CANADA EXPLORATION INC.

MAP 2

Regional Map - DBCE Claimblocks in West Kitikmeot



DBCE's Kikerk claims, and adjoining "TREE 1" claim, together comprise the

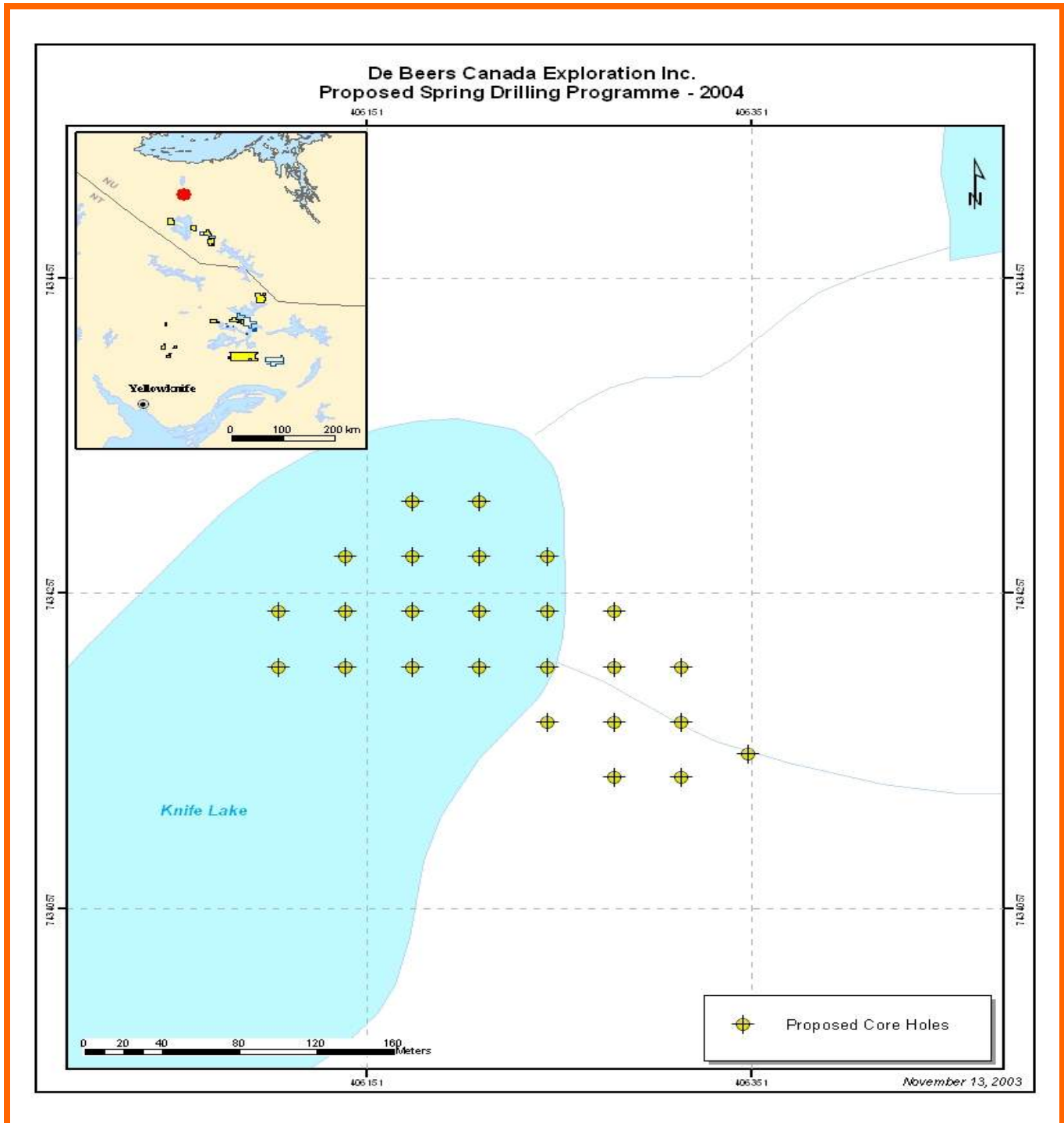
Kikerk/Knife Lake Project. The project area lies 86km NW of DBCE's Rockinghorse (Koamaogaktok) Project and approx.150km SE of Kugluktuk.

(In 2002, the Rockinghorse Main Block was reduced from the size shown above).

DE BEERS CANADA EXPLORATION INC.

MAP 3

Kikerk/Knife Lake Project - Proposed Spring Drilling 2004



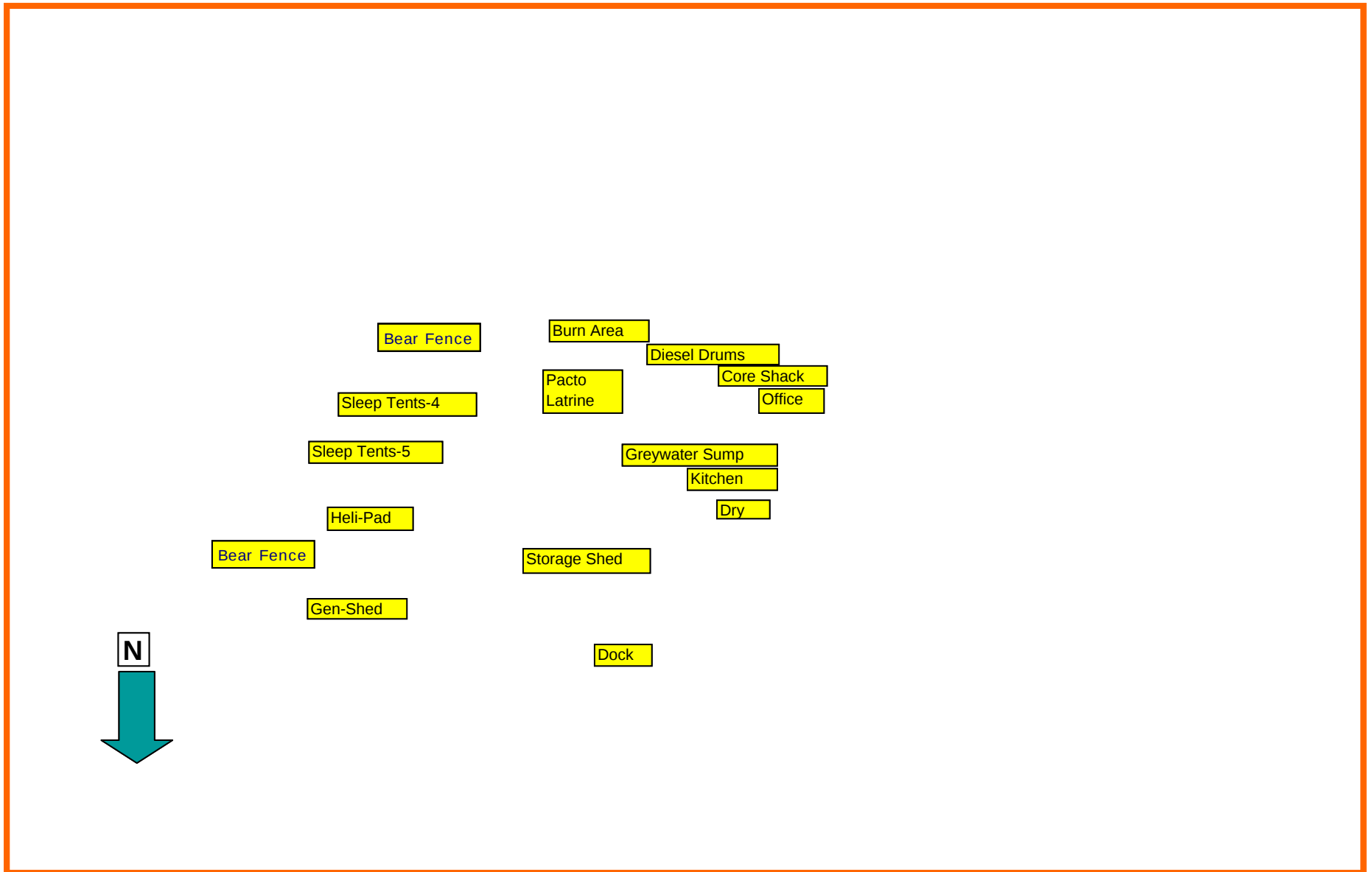
Provisional locations of the 25 core holes within the "TREE 1" claim are shown above. Holes would be spaced 35m apart. (Also refer to MAP 1 for location of north end of Knife Lake and the claims boundaries.) DBCE holds the mineral

rights for the "TREE 1" and surrounding claims *KL12, KL 11, KL10* and *KL 08*. (See accompanying *MAP 3 CHART for provisional hole co-ordinates.*)

**PROVISIONAL UTM CO-ORDINATES - KIKERK/KNIFE LAKE
SPRING DRILL PROGRAMME 2004 (Datum: NAD 27-Canada Mean, Zone 12)**

Hole	Easting	Northing
Proposed 1	406175	7434315
Proposed 2	406210	7434315
Proposed 3	406140	7434280
Proposed 4	406175	7434280
Proposed 5	406210	7434280
Proposed 6	406245	7434280
Proposed 7	406105	7434245
Proposed 8	406140	7434245
Proposed 9	406175	7434245
Proposed 10	406210	7434245
Proposed 11	406245	7434245
Proposed 12	406280	7434245
Proposed 13	406105	7434210
Proposed 14	406140	7434210
Proposed 15	406175	7434210
Proposed 16	406210	7434210
Proposed 17	406245	7434210
Proposed 18	406280	7434210
Proposed 19	406315	7434210
Proposed 20	406245	7434175
Proposed 21	406280	7434175
Proposed 22	406315	7434175
Proposed 23	406280	7434140
Proposed 24	406315	7434140
Proposed 25	406350	7434155

PHOTO 1



ssp for De Beers Canada Exploration Inc.

De Beers Canada Exploration Inc. -- Rockinghorse Camp

Aerial view, 2002. New Kikerk-Knife Camp would be similar in size (able to accommodate 25 persons).

New camp will be built according to the Nunavut setback of 31m from lakeshore.

PHOTO 2



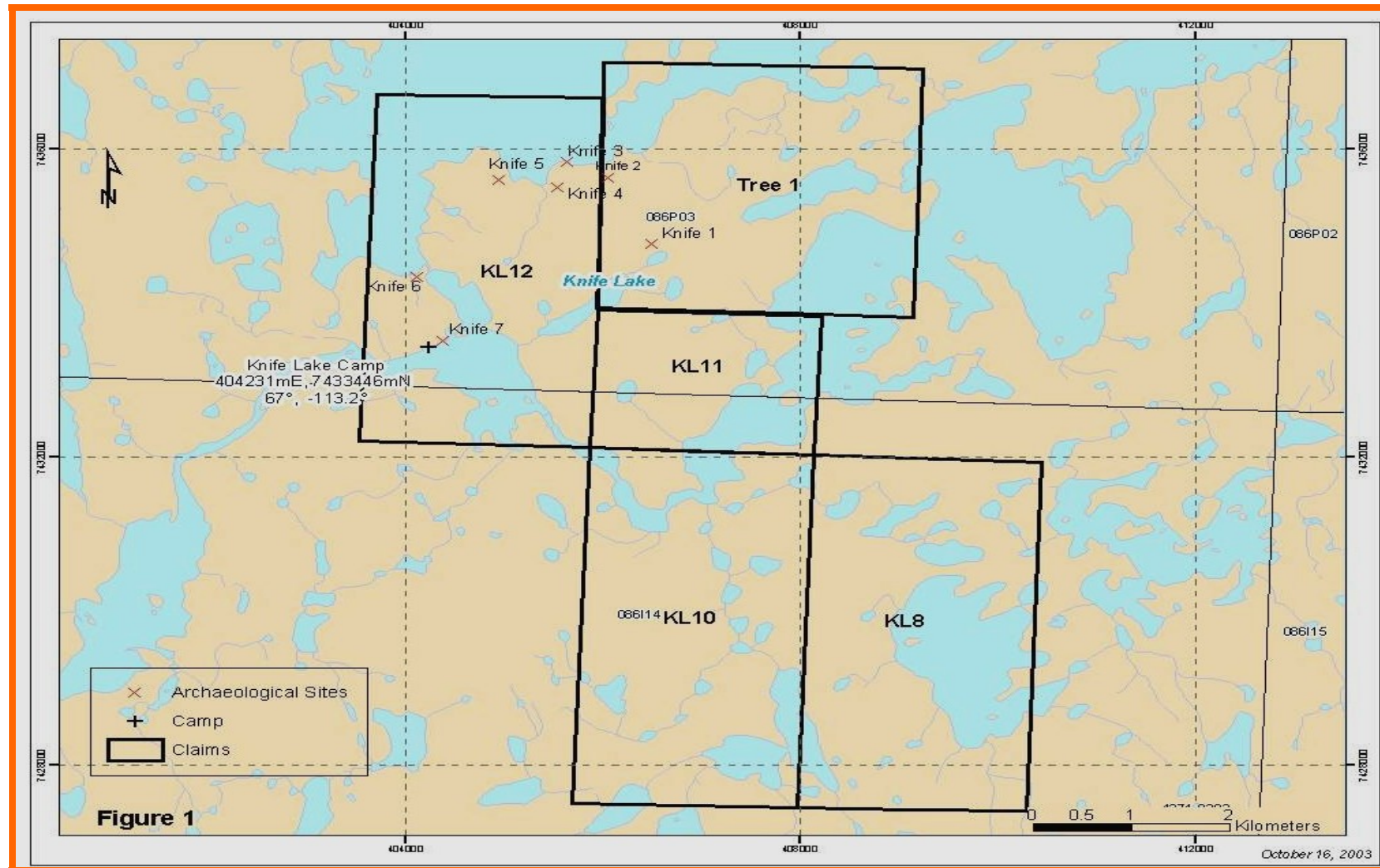
De Beers Canada Exploration Inc. – Knife Lake, NU

Knife Lake, north end, as it appeared in June 2001, after move-off of drill equipment. This was the last year of drilling on Knife Lake, a small (1.5km long) shallow lake which straddles the boundary between

DBCE's KL 12 claim and Rhonda's TREE 1 claim. (The TREE 1 claim was transferred to DBCE in 2003).
The

proposed camp would be located 2.3km W of the Knife Peninsula.

DE BEERS CANADA EXPLORATION INC.
FIGURE 1: ACCOMPANIES ARCHAEOLOGIST'S LETTER – OCTOBER 2003



The proposed campsite is shown above, approx. 2.3km from the Knife Lake exploration area. Archaeological Site #7, 200m ENE, is the closest site; however, it is situated on a high bedrock knoll, and is unlikely to be disturbed by camp activities. The remaining 6 Arch-Sites are approx. 3km away from the proposed campsite, in areas where no disturbance is planned.

An archaeological field survey is to be conducted around the camp in summer 2004.

DE BEERS CANADA EXPLORATION INC.

De Beers Canada Exploration General Responsibilities - Operating Procedure #004

(One component of the Extensive De Beers Canada
Environmental Management System (EMS))

APPENDIX 1A

***(Complete EMS CD-ROM accompanies this Land-Use
Permit Application as Appendix 1D)***

GENERAL RESPONSIBILITIES

OPERATING PROCEDURE 004

Page 1 of 4

1.0 PURPOSE

This **operating procedure** provides direction for the day-to-day operations undertaken on a routine basis during exploration by DBCEI. This section consists of the General Responsibilities. Specific responsibilities are shown in PROC 4.3.1. SYS Schedule 1.

2.0 RESPONSIBLE PERSON

Responsible persons are identified in each procedure. All supervisory and management employees must be familiar with this procedure, together with those other employees who follow these work instructions / operating procedures.

3.0 PROCEDURE GENERAL RESPONSIBILITIES

It is intended that this should be a "living" document. Comments, recommendations for improvements and changes are welcomed. Please submit them to the Chief Geologist - Projects. Health, Safety and the Environment are of paramount importance to De Beers, and we are all encouraged to develop and maintain an ongoing process of review and improvement in all aspects of our operations. Safety is a state of mind and an obligation to all. We must look after the health and well being of all employees so that they are fit and able to work well in suitable surroundings. Without care and nurturing of the environment, we can neither provide such surroundings to our current employees, contractors, visitors and neighbours, nor to future generations. The continued well being of the operations and adherence to environmental, health and safety standards are thus the responsibility of **all** on site. You can and must make a difference. The process starts with you.

PREPARED BY: J. A. Fowler	APPROVED BY: J. Joyce	DATE ISSUED: 03 July 2001
FORM NO.: OP 004	REVISION NO: 01	DATE OF REVISION: 12 October 2001

DE BEERS De Beers Canada Exploration Inc. A DIAMOND IS FOREVER		
GENERAL RESPONSIBILITIES		
OPERATING PROCEDURE 004	Page 2 of 4	

3.1 Sequence of events

Before any exploration work commences, hold a planning session that includes the following:

- Define the objectives for the project;
- Draw up a plan of operation for all stages of the programme at the beginning. The plan, developed in conjunction with permitting authorities and agencies, must contain details of how the programme is to proceed from the planning stage, first reconnaissance, follow-up, advanced exploration (including evaluation) and feasibility through to abandonment. It must also include spill contingency plan, an emergency response plan, a reclamation section containing details of how all sites are to be maintained and then restored and run-off and erosion are to be controlled, where applicable. Many of De Beers' programmes are multi-year, and may involve different activities each year. Focus on the current year's plans, and leave the more distant future plans, which are dependent upon results, in an outline form. If a project proceeds to the feasibility stage and beyond, it is envisaged that it would form a separate project within De Beers Canada Mining Inc.'s (DBCMI) responsibilities. DBCMI would then develop an appropriate set of operational procedures, and a separate site-specific Environmental Management System (EMS) and Environmental Management Plan (EMP).
- Consider the environmental aspects of the project, in particular:
 - Respect the environment in which you work;
 - Refrain from unnecessarily disturbing the natural environment;
 - Restore the natural settings of areas where you have worked;
 - Identify sensitive environmental features that may require some form of protection, prior to the start of the project. Consult with appropriate parties such as First Nations, Hunters and Trappers Organisations, regulatory authorities including the Department of Fisheries and Oceans, Wildlife or Game Officers;
 - Identify what baseline environmental studies are required for the level of work to be undertaken (Identification of sensitive sites -

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GENERAL RESPONSIBILITIES

OPERATING PROCEDURE 004

Page 3 of 4

burial, sacred, harvesting, wildlife and/or habitat etc.- water testing before drilling - especially before evaluation drilling etc). Where baseline studies are required, consider the water, soil, air, vegetation, wildlife, fish and habitat noise and, if necessary, lake bottom sediments, for sampling prior to any substantial disturbance of the surroundings. These data may be/are essential for monitoring/ensuring compliance of the property during the program and any development, and afterwards during reclamation;

- Ensure that workers are familiar with the environmental protection measures and industrial hygiene requirements. Ensure that they are aware of applicable regulatory requirements and environmental obligations, and are also properly trained to carry out any procedures pertaining to environmentally related situations such as fuel spills; and
 - Ensure that the exploration programme is designed and budgeted to take into account all potential sensitivities associated with fish and fish habitat, wildlife, downstream water users, marshes and wetlands, native lands, archaeological sites and other Crown land users. Be aware that the exploration activities undertaken in or close to permafrost areas, marshes, bogs, lakes, streams and rivers require special care and planning.
- Responsibility and accountability for all areas of the programme shall be delegated by the Exploration Manager, Divisional Manager (East) or (West), or the Manager - Technical Services as appropriate.
- Communicate the intentions of the Company to the local communities and/or aboriginal groups, and ensure that they are informed about our intentions. The Geologist in charge of the project or the employee responsible for regulatory compliance is responsible for ensuring that the **Environmental Management Representative** is kept aware of developments. The **Environmental Management Representative** or the regulatory officer will advise the local communities and/or aboriginal communities;
- Define the logistical parameters for access, supply, personnel, work methods, field base, mode of transport around the project and timing for the project (Responsibility - Geologist in charge of the project);

PREPARED BY: J. A. Fowler	APPROVED BY: J. Joyce	DATE ISSUED: 03 July 2001
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GENERAL RESPONSIBILITIES

OPERATING PROCEDURE 004

Page 4 of 4

- Ensure that adequate contracts are completed for drilling, excavation, and geophysical surveys, helicopter use and the like. Ensure that these contain the "boiler plate" conditions that De Beers requires for the following (see **Record # 6**):
 - Environment, including adherence to the Company's policy;
 - Adherence to all applicable federal, provincial, territorial and local laws and regulations;
 - Insurance (company named as a beneficiary)
 - Security
 - Confidentiality
 - Replacement of unsatisfactory workers.

The responsibilities of the Geologist in charge of the project include:

- Training for workers;
- Recruitment and training for local aboriginal labourers, where practical;
- How can the exploration methods be improved;
- Reporting (statutory requirements, internal in-house reports);
- Analysis of results;
- Analysis of operational methods with a view to identifying areas for improvement and areas of non-compliance, especially with regards to safety;
- Consideration to the safety aspects of the project.

PREPARED BY: J. A. Fowler	APPROVED BY: J. Joyce	DATE ISSUED: 03 July 2001
FORM NO.: OP 004	REVISION NO: 01	DATE OF REVISION: 12 October 2001

DE BEERS CANADA EXPLORATION INC.

De Beers Canada Environmental Policy
APPENDIX 1B

DE BEERS CANADA

POLICY STATEMENT ENVIRONMENTAL MANAGEMENT

De Beers Canada*, active in diamond exploration and mining, is committed to the concept of sustainable development, which requires balancing good stewardship of the natural environment with economic growth.

Accordingly, De Beers Canada will:

- Conduct all activities in compliance with applicable legislation, and other requirements, providing for the protection of the environment, employees and the public;
- Apply appropriate good management practices in the absence of legislation or where De Beers believes more stringent criteria than those required by law are needed to advance environmental protection and to minimize environmental risks;
- Integrate the management of environmental, social, cultural and economic issues into company business and planning;
- Protect the environment through the wise use of resources and prevention of adverse environmental impacts;
- Implement, maintain and improve appropriate management systems and programmes to achieve environmental objectives, and to continually improve environmental performance through a process of regular review;
- Ensure awareness among employees and contractors of this environmental policy, promote shared responsibility and accountability for environmental obligations, and provide the support and training necessary to achieve these objectives; and
- Communicate openly with governments, employees, local communities and the public to sustain mutual understanding of environmental, social and economic issues.

**Unless otherwise stated, the term De Beers Canada means De Beers Canada Corporation, De Beers Canada Mining Inc. and De Beers Canada Exploration Inc.*

PS.01.02	President and Chief Executive Officer  R.G. Molyneux	Date: June 1, 2002	Page 1 of 1
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Prepared By: J. Fowler	Approved By: J. Joyce	Date Issued: May 25, 2001
Form No.: Env Policy	Revision No.: 02	Date of Revision: June 1, 2002

DE BEERS CANADA EXPLORATION INC.

Operating-Procedures Indices,
De Beers Canada
Environmental Management System
(4-Page Listing)

APPENDIX 1C

OPERATING PROCEDURES

Operating Procedures give the sequence of activities that should be followed for the various activities. Operating procedures are related to the significant environmental aspects, as well as to the various activities that the company performs.

As a minimum, personnel should be familiar with the following procedures:

Site	Procedures
Offices	1, 2, 3, 4, 7, 19, 20, 21, 22, 24, 26, 28, 29, 30, 31, 36, 37, 40, 41,
Processing - sediment samples	1, 2, 3, 4, 7, 19, 20, 21, 22, 23, 24, 26, 28, 30, 31, 32, 36, 33, 38, 40, 41,
Processing - kimberlite samples	1, 2, 3, 4, 7, 19, 20, 21, 22, 23, 24, 26, 28, 30, 31, 32, 36, 33, 38, 40, 41,
Field - Sampling	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 16, 17, 18, 19, 20, 22, 24, 26, 27, 28, 29, 30, 31, 33, 35, 36, 37, 39, 40, 41, 42,
Field - Drilling	1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 16, 17, 18, 19, 20, 22, 23, 24, 26, 27, 28, 29, 30, 31, 32, 33, 36, 37, 39, 40, 41, 42
Geophysics	1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 19, 20, 22, 24, 26, 27, 28, 29, 30, 31, 34, 36, 37, 39, 40, 41, 42
Field - evaluation and detailed work	1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42,

The items are listed in two columns, numerically on the left, alphabetically on the right.

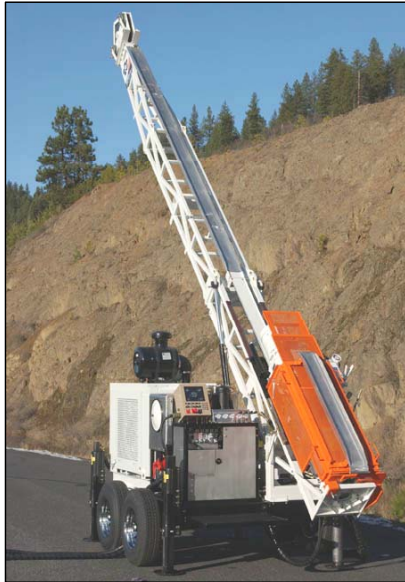
Index by Number	Alphabetic Index
OP 001-Introduction & use of procedures	Abandonment of exploration activity - OP 018
OP 002-Fire prevention procedure	Aboriginal communities , procedure for consultation with - OP 029

OP 003-Legal register of environmental legislation	Aesthetics - OP 041
For up to date info in Ont., contact the EMR at 416-645-1710 Ext 410.	
OP 004-General responsibilities	Airborne geophysical surveys - OP 014
OP 005-First reconnaissance programmes	Aircraft & helicopter use - OP 039
OP 006-Follow-up & Detailed programmes	Airstrip construction - OP 012
OP 007-Quality Assurance & Quality Control general doc	Archaeology & heritage procedure - OP 027 OP 027 Form 1
OP 008-Property acquisition	Campsites - OP 009
OP 009-Campsites	Checking sites of geophysical anomalies & proposed drill sites - OP 016
OP 010-Road building & access	Contingency sewage plan Victor camp DRAFT - OP 046
OP 011-Docks & Landing stages	Docks & landing stages - OP 011
OP 012-Airstrip construction	Drilling - OP 017
OP 013-Geological geochemical & geophysical ground surveys	Emergency procedures - OP 036
OP 014-Airborne geophysical surveys	EMS internal audit procedure OP 044
OP 015-Trenching & pitting	Energy management - OP 024
OP 016-Checking sites of geophysical anomalies and proposed drill sites	Environmental awareness training - OP 037
OP 017-Drilling	Fire prevention procedure - OP 002
OP 018-Abandonment of exploration activity	First reconnaissance programmes - OP 005
OP 019-Use of safety equipment	Follow-up & detailed programmes - OP 006

OP 020-Safety procedures	General responsibilities - OP 004
OP 021-Processing plants	Geological, geochemical & geophysical ground surveys - OP 013
OP 022-Waste disposal	Introduction & use of procedures - OP 001
OP 023-Tailings management	Legal register of environmental legislation - OP 003 For up to date info in Ont., contact the EMR at 416-645-1710 Ext 410.
OP 024-Energy management	Noise & dust - Air emissions procedure - OP 040
OP 025-Underground sampling & development	Not issued - OP 045
OP 026-Recycling procedure	Petroleum product handling procedures - OP 030
OP 027-Archaeology & Heritage procedure OP 027 Form 1	Processing plants - OP 021
OP 028-Operating procedure for using and handling water	Property acquisition - OP 008
OP 029-Procedure for consultation with Aboriginal communities	Quality Assurance - concentrate shipments from bulk samples - OP 038
OP 030-Petroleum product handling procedures	Quality Assurance & Quality Control general doc - OP 007
OP 31 Spills Procedure OP 031 - Incident Report Form 1 Proc 4.5.2.Sys NC CAR Form	Quality Assurance procedures - bulk samples - OP 032
OP 032-Quality Assurance procedures - bulk samples	Quality Assurance procedures - geophysical surveys - OP 034
OP 033-Quality Assurance procedures - core drilling	Quality Assurance procedures - sampling - OP 035
OP 034-Quality Assurance procedures - geophysical	Quality Assurance procedures - core drilling - OP 033

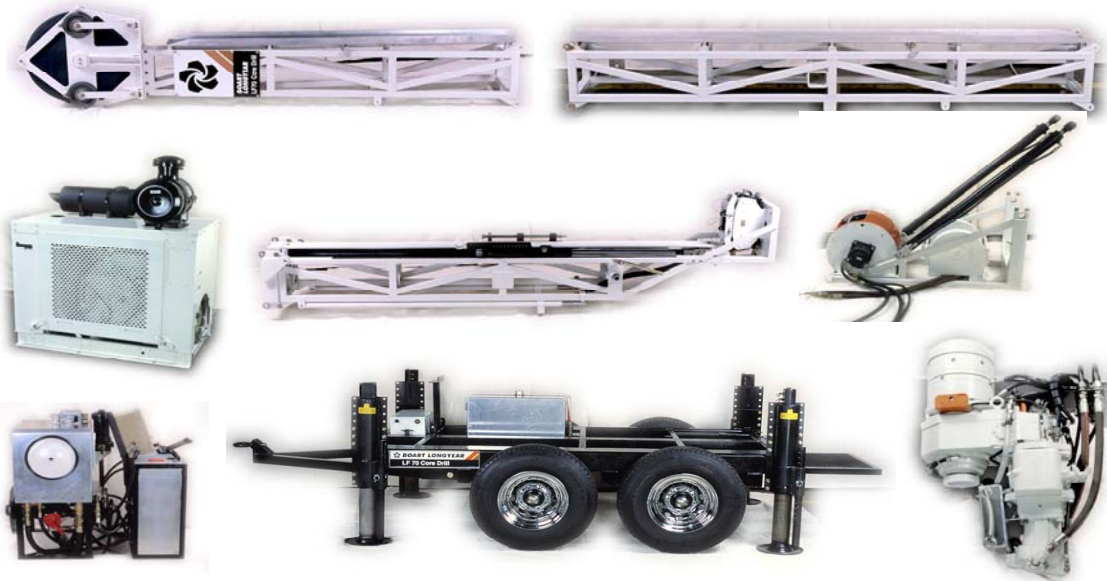
surveys	
OP 035-Quality Assurance procedures - sampling	Recycling procedure - OP 026
OP 036 Emergency procedures	Road building & access - OP 010
OP 037-Environmental awareness training	Safety procedures - OP 020
OP 038-Quality Assurance - concentrate shipments from bulk sample plants	Security OP 043SC
OP 039-Aircraft & Helicopter use	Spills procedure - OP 031 OP 031 - Form 1 Proc 4.5.2.Sys NC CAR Form
OP 040-Noise & dust - Air emissions procedure	Tailings management - OP 023
OP 041-Aesthetics	Trenching & pitting - OP 015
OP 042-Wildlife	Underground sampling & development - OP 025
OP 043-Security SC	Use of safety equipment - OP 019
OP 044 EMS Internal Audit Procedure	Waste disposal - OP 022
OP 045 Not issued	Water handling, operating procedures for using & handling - OP 028
OP 046 DRAFT ONLY Contingency Sewage Plan Victor Camp	Wildlife - OP 042

LF70 Core Drill - Next Generation



- Drill designed in two versions with common features to maximize production and versatility
- PQ version features a Cummins 6BTA power unit, gear driven PQ head with a 7 jaw PQ chuck as standard equipment
- HQ version features a Cummins 4BTA power unit, chain driven HQ rotation unit with a 3 jaw auto chuck as standard equipment

Drill Modules



APPENDIX 2A



LF 70

Ideal for projects with demanding site access

Mobility. Reduced downtime between site moves and less environmental disruption. The modular LF 70 has been designed from the ground up as a compact, powerful, portable, light weight diamond core drill.

The philosophy behind the LF 70 is a modular concept. Seven sub assemblies integrate to form a highly productive compact diamond core drill.

Modular Design

Expensive downtime is minimized when rigging the LF 70. In fact, it takes less than one hour to pull the rig down and the same amount of time to reassemble the machine if your next site dictates modular access. This impressive feature ensures the LF 70 is rapidly returned to making hole.

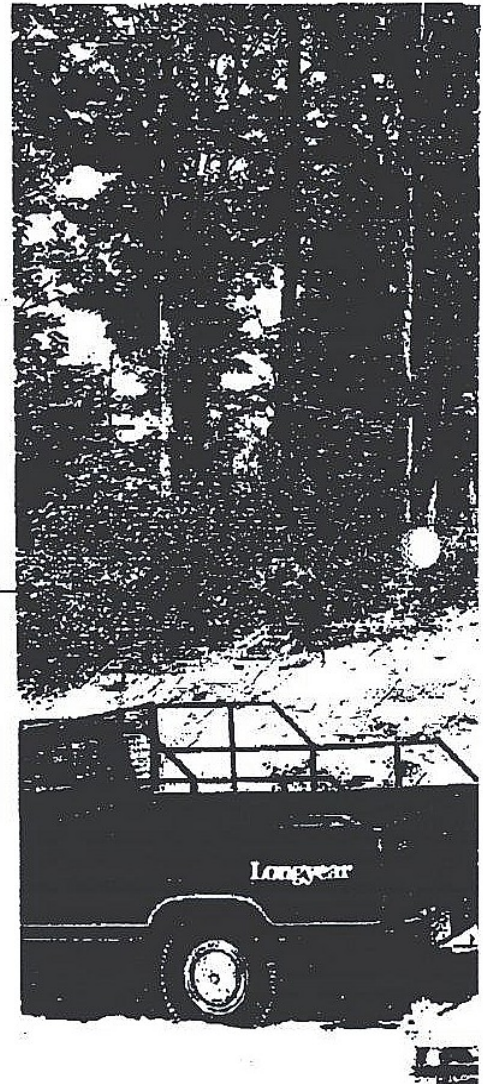
All components, such as hydraulic hose, fuel lines, battery connections, etc., feature quick disconnect couplings. These connections cannot be mismatched due to size and routing variances.

Light Weight

Weight and physical dimensions are major considerations on any drilling program. With its modular design, compact size and light weight rugged performance, the LF 70 gives you the versatility to undertake a broader range of projects other than conventional exploration.

The LF 70 is ideal for drilling in confined or awkward locations, helicopter transport, barge work, civil engineering assignments and dam site projects.

The features of the LF 70 will have the machine drilling while the others are still moving in, saving valuable time and money for both the operator and client.



Boart Longyear Hydraulic Core Drill, LF-70. (This diamond drill – used for several seasons at our Rockinghorse Project – may be deployed for the 2004 spring drill programme at Knife Lake.)

DE BEERS CANADA EXPLORATION INC.

APPENDIX 2A

TECH DATA

No. 4

TECHDATA\LF70.PM6

Date: November 1996

Page: 1 of 9

LF70 Diamond Core Drill System

DRILLING DEPTH GUIDELINES

The figures in these tables have been calculated, based on field experiences, and may be reasonably expected.

Actual drilling capacity will depend on in-hole tools and conditions, drilling techniques and equipment used.

These variable factors will cause changes to depth obtained.

No claim is made for products listed that are not produced by Boart Longyear Inc. to perform at these depths.

	U.S. CUSTOMARY SYSTEM	METRIC SYSTEM
	Hole Depth (feet)	Hole Depth (metres)
CORING SYSTEM		
AQ	3,200	975
AQTK	4,100	1 250
BQ	2,500	760
BQTK	3,100	945
NQ	1,925	585
HQ	1,300	395

NOTE: Ratings are based on a vertical dry hole while using a KPL-12 hoist.

PRIME MOVER

Standard Unit	Deutz BF4L913, 4 cylinder, air cooled, turbocharged diesel engine.	
Displacement	249 cubic inch	4.08 L
Net Power (intermittent)	106 hp	79 kW
Continuous Output	87 hp	65 kW
Max Rated RPM	2,500 rpm	

Optional Unit (for altitude ASL)	Deutz BF6L913, 6 cylinder, air cooled, turbocharged diesel engine.	
Displacement	374 cubic inch	6.13 L
Net Power (intermittent)	160 hp	119 kW
Continuous Output	132 hp	99 kW
Max Rated RPM	2,500 rpm	

Boart Longyear Inc. is constantly striving to improve its products and must therefore, reserve the right to change designs, materials, specifications and price without notice.
Printed in Canada

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Boart Longyear Hydraulic Core Drill, LF-70 – specifications sheet.

APPENDIX 2A

TECH DATA

No. 4

TECHDATA\LF70.PM6

Date: November 1996

Page: 5 of 9

LF70 Diamond Core Drill System

DIMENSIONS AND WEIGHTS *

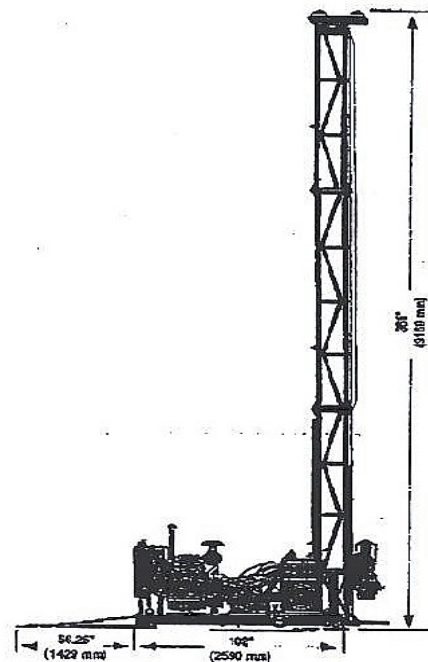
Side view of drill with mast
in vertical position

Dimensions: Deduct 127.4" (3 235 mm) if Middle
Mast section is removed

Note: Base dimensions are with
mechanical stabilizer legs at the
uppermost position. Overall
height can be increased by 9-3/4"
(24.7 cm) by adjusting legs
downwards.

Wet Weight : 6,500 lb (2 948 kg)

Consists of: Deutz BF4L 913 Power Unit Grp.
Hydraulic Module
Draw Works Grp. c/w Cable
Lower Mast Assembly
Middle and Upper Mast Assembly
Rotational Unit Grp. c/w Auto Chuck
Base Frame Base
Fuel Tank (Wet)
Battery
Stabilizer Legs (25 ea. x 4)
Operator Platform

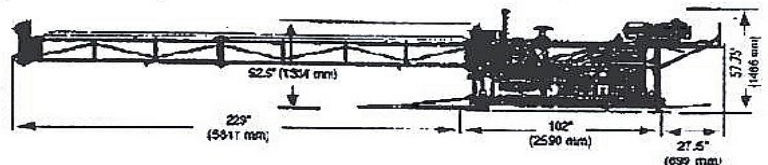


Side view of drill with mast
in horizontal position

Dimensions: Deduct 127.4" (3 235 mm) from
overhang if Middle Mast section
is removed

Wet Weight: 6,500 lb (2 948 kg)

NOTE: Base dimensions are with
mechanical stabilizer legs at the
uppermost position. Overall
height can be increased by 9-3/4"
(24.7 cm) by adjusting legs
downwards.



* Dimension and weights are nominal and Should be checked before crating or lifting. Conversion factors have
been used to convert from Imperial to Metric measures.

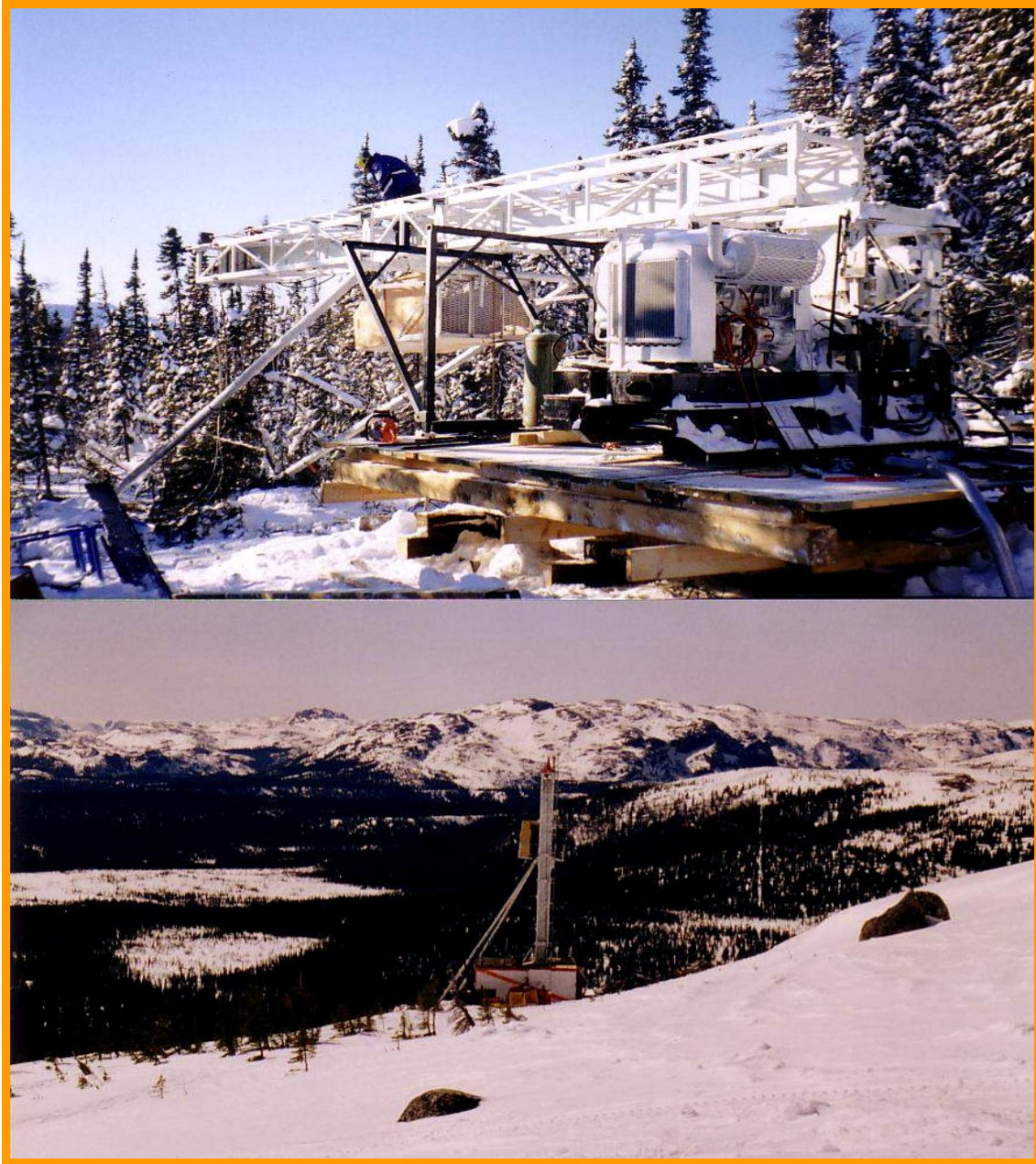
Boart Longyear Inc. is constantly striving to improve its products and must therefore, reserve the right to change designs, materials, specifications and price without notice.
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Boart Longyear Hydraulic Core Drill, LF-70 – specifications sheet and
schematic of assembled drill and mast.

DE BEERS CANADA EXPLORATION INC.

APPENDIX 2B



Winter views of Boart Longyear LY-50 fly rig, shown on skid prior to setup (*above*) and drilling a core hole (*below*). A similar rig may be deployed for use in the Knife Lake drill programme, expected to commence in mid-March 2004.

DE BEERS CANADA EXPLORATION INC.

APPENDIX 2B

Longyear
TECHDATA
Model 50
Diamond Core Drill

DATE	REFERENCE NUMBER	REPLACES	PAGE
October 1991	model50.prm3	November 1988	1

1. VERTICAL DRILLING DEPTH GUIDELINES

Please refer to specifications for available thrust, pull, and torque to aid in estimating capacities for your specific application.

Actual drilling capability will depend on in-hole tools and conditions, drilling techniques, and equipment used (particularly the mast type).

These variables will cause changes in depths obtained. Consequently, the table below gives guidelines only.

Rod		AQ	BQ	NQ	HQ	PQ	BCQ	NCQ	HQ	CHD 75	CHD 101	CHD 134
Single Part Line	ft	5,000+	5,000+	4,900#	3,250'	1,425'	6,000+	5,500#	4,200#	4,350	2,675#	1,000'
	m	1 525+	1 525+	1 495#	990'	435'	1 830+	1 675#	1 280#	1 325	815#	305'

* Limited by rotational torque of drill
 + Limited by rod capacity
 # Limited by swivel head lifting capacity

FACTORS

The figures above were calculated based on the factors below and may be reasonably expected.

- 27,500 lbf (122.3 kN) rated bare drum line pull
- 43,600 lbf (194 kN) breaking strength for new cable.

- 25,000 lbf (111 kN) rated swivel head lifting capacity @ 1,000 PSI (6.9 MPa)
- Dry weight of rod string with no allowance for rod drag or rod buoyancy

- Q and CQ rods in 10 ft (3 m) lengths
- CHD rods in 20 ft (6 m) lengths
- Clean, dry, straight, vertical down holes
- 64,800 lbf (287 kN) maximum crown block load (per A.P.I. - 4D standards)

NOTE: Our experience suggests that the total dry weight of the entire rod string should not exceed 80% of the maximum allowable hook load. This will give 20% reserve pulling capacity to overcome in-hole friction in a dry hole and about 20 + 13 = 33% reserve pulling capacity in a mud-filled hole at the final depth of the hole.

2. PRIME MOVER

GMC 4-53T water cooled turbo-charged diesel, 4 cylinder, 185 hp @ 2,500 rpm.

max torque @ 1500 rpm
435 @ 1500 RPM

3. TRANSMISSION

Allison Powershift 653

4. HYDRAULIC SWIVEL HEAD

Type: Twin cylinder
 Spindle ID: 4 in (101.6 mm)
 Hydraulic Cylinder ID: 4 in (101.6 mm)
 Lin Area: 25.1 in² (162 cm²), total for 2 cylinders
 Thrust Area: 18.85 in² (121.6 cm²) total for 2 cylinders

Feed Length: 24 in (610 mm) standard,
 42 in (1 067 mm) available on request.
 Angle Range: 360°
 Maximum Rated Thrust*: 22,600 lbf (100.5 kN)
 Rated Lifting Capacity: 25,000 lbf (111.0 kN)
 for swivel head @ 1,000 PSI (6.9 MPa)

Hydraulic Retraction: 17 in (432 mm)
 Optional item

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Boart Longyear Hydraulic Core Drill, LY-50. (This diamond drill is being considered for deployment for the 2004 spring drill programme at Knife Lake.



Model 50 Diamond Core Drill

DATE
October 1991

REFERENCE NUMBER
model50.pm3

REPLACES
November 1968

PAGE
2

5. HYDRO CHUCK

Type: Fully hydraulic. Adjustable chuck jaw pressure.

Jaws: 3 self-centering tungsten carbide, insert type.

Capacity: EW rods through HQ (rods)/NW casing/CHD 101 (rods).

Rated Lifting Capacity: 23,000 lbf @ 750 PSI
(102 kN @ 5,17 MPa) normal operating pressure.

Rated Thrust Capacity: 15,000 lbf @ 750 PSI
(66,7 kN @ 5,17 MPa) normal operating pressure.

Tested Lifting Capacity: 44,500 lbf @ 1,000 PSI
(198 kN @ 6,89 MPa) non-rotating load.

Rated Torsional Capacity: 2,000 lbf ft
(2,7 kN) for NQ or NCQ rod. For other rod or casing sizes, the capacity is proportional to the rod or casing OD.

6. MAIN HOIST

Type: Planetary (hyd/mech)

Drum Dimension: 13 in (330 mm) diameter,
11 in (280 mm) long.

Clutch Band Size: 4 in (102 mm) wide X 18 in
(457 mm) diameter.

Brake Band Size: 5 in (127 mm) wide X 24 in
(610 mm) diameter.

Drum Capacity: 100 ft of 3/4 in rope
(30 m X 19 mm)

Rated Bare Drum Speed: 0 - 332 ft/min
(0 - 101 m/min).

Rated Bare Drum Line Pull: 27,500 lbf
(122,3 kN)

Hoisting Cable: 3/4 in (19 mm)

Breaking Strength: 43,600 lbf (194 kN) for
new cable.

7. WIRELINE HOIST

Capacity: 6,000 ft of 1/4 in diameter
(1830 m x 6,4 mm diameter)

Line Pull (bare drum): 3,564 lbf @ 2,000 PSI
(15,9 kN @ 13,8 MPa)

Bare Drum Line Speed: 170 ft/min
(51,8 m/min)

8. RETRACTION

17 in (432 mm)

9. HYDRAULIC SYSTEM

Pump Type: Axial piston, variable volume

Pressure: Dual - 0 to 2,000 PSI (0 to 13,8 MPa)

Flow: 20.0 gal/min (75,7 l/min)

10. SPINDLE TORQUES and Speeds Based on 402 lb ft and 2,200 rpm Engine Torque and Speed

Trans.	Bevel Gears	Gear	Speed (rpm)	Torque (lb ft)
Allison Std.		1 st	168	5,270
		2 nd	377	2,345
		3 rd	646	1,370
		4 th	1,350	655

Printed in Canada

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Boart Longyear Hydraulic Core Drill, LY-50.
Specifications sheet.

APPENDIX 2B

Longyear

TECHDATA

MODEL 50
DIAMOND CORE DRILL

DATE	REFERENCE NUMBER	REPLACES	PAGE
	50	First Edition	2

5. HYDRO CHUCK

Type: Fully hydraulic. Adjustable chuck jaw pressure.
Jaws: 3 self-centering tungsten carbide, insert type.
Capacity: EW rods through HQ (rods)/NW casing /CHD 101 (rods).
Rated lifting capacity: 23,000 lbf @ 750 psi (102 kN @ 5.17 MPa) normal operating pressure.
Rated thrust capacity: 15,000 lbf @ 750 psi (66.7 kN @ 5.17 MPa) normal operating pressure.
Tested lifting capacity: 44,500 lbf @ 1000 psi (198 kN @ 6.89 MPa) non-rotating load.
Rated torsional capacity: 2,000 lbf ft (2.7 kN) for NQ or NQJ rod. For other rod or casing sizes, the capacity is proportional to the rod or casing OD.

6. MAIN HOIST

Type: Planetary (hyd/mech)
Drum dimension: 13 in. (330 mm) dia, 11 in. (280 mm) long
Clutch band size: 4 in (102 mm) wide x 18 in (457 mm) dia.
Brake band size: 5 in (127 mm) wide x 24 in (610 mm) dia.
Drum capacity: 100 ft or 3/4 in. rope (30 m x 19 mm)
Rated bare drum speed: 0-332 ft/min (0-101 m/min)
Rated bare drum line pull: 27,500 lbf (122.3 kN)
Hoisting cable: [3/4 in, (19mm)]
Breaking strength: 43,600 lbf (194 kN) for new cable

7. WIRELINE HOIST

Capacity: 6,000 ft. of 1/4" dia.
Line Pull (bare drum): 3,564 lbs. @ 2000 psi
Bare Drum Line Speed: 170 FPM

8. RETRACTION

17"

9. HYDRAULIC SYSTEM

Pump type: Axial piston, variable volume
Pressure: Dual - 0 to 2000 psi
Flow: 20.0 GPM

10. SPINDLE TORQUES AND SPEEDS BASED ON 402 LB-FT AND 2200 RPM ENGINE TORQUE AND SPEED

Trans.	Bevel Gears	Gear	Speed (RPM)	Torque (LB-FT)
ALLISON	STD.	1st	168	5270
		2nd	377	2345
		3rd	646	1370
		4th	1350	655

Printed in Canada

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Longyear is constantly striving to improve its products and therefore reserves the right to change design, materials, specifications and price without notice.

Boart Longyear Hydraulic Core Drill, LY-50.
Specifications sheet.

