

Mackenzie Valley Land and Water Board
7th Floor - 4910 50th Avenue
P.O. Box 2130
YELLOWKNIFE NT X1A 2P6
Phone (867) 669-0506
FAX (867) 873-6610

FILE NUMBER: N1999C0081

DATE: December 5, 2003

TO: Distribution List

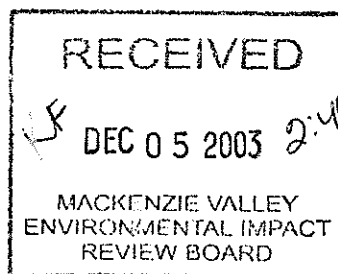
FAX NUMBER: _____

FROM: Marilyn for Lisa Hurley

Number of pages including cover 10

➤ Attached for your review.

De Beers Canada Mining Inc. has submitted a spill contingency plan (this plan is 91 pages and is therefore not being faxed). If you would like a copy of this to accompany your review of this amendment please contact me at (867) 669-0506 or mvlwbpermit@mvlwb.com.



EA01- Snap Lake

974

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December 5, 2003

File: N1999C0081

Distribution List

Region: North Slave

Dear Sir/Madame:

**Land Use Permit Amendment
De Beers Canada Mining Inc.
Snap Lake Diamond Project**

Attached for your review and comments is the aforementioned land use permit amendment application. Your comments will be used in the evaluation and Preliminary Screening of this application. Please quote Land Use Permit N1999C0081 in any correspondence related to this operation.

As an amendment, the Mackenzie Land and Water Board (MVLWB) must deal with it within 10 days of receipt. Please submit your comments in writing by **December 9, 2003** quoting Land Use Permit N1999C0081. Should you find that additional time is required to complete further studies or investigations, contact me prior to this date.

If you have any questions regarding the land use application, contact me at (867) 669-0506 or email mvlwbpermit@mvlwb.com.

Yours sincerely,

A handwritten signature in black ink, appearing to be "Lisa Hurley", written over a horizontal line.

Lisa Hurley
Regulatory Officer

Attachment

December 5, 2003

Application N1999C0081**DISTRIBUTION LIST by Fax North Slave Region****First Nations**

		BY MAIL ONLY
Grand Chief Eddy Paul Rabesca	Dogrib Rae Band	
Jolene Huskey	Dogrib Treaty 11 Council	867-392-6389
Robert Sayine	Akaiicho Territory Government	867-394-3413
President Rob Tordiff	Northwest Territory Metis Nation	867-872-2772
Chief Archie Catholique	Lutselk'e Dene First Nation	867-370-3010
Chief Charlie James Nitsiza	Wha Ti First Nation	867-573-3222
Chief Joseph Judas	Dechi Laot'I Council (Wekweti)	867-713-2030
Chief Archie Wetrade	Gameti First Nation (Rae Lakes)	867-997-3411
President Robert Sholto Douglas	Rae-Edzo Metis Local #64	920-7389
President North Douglas	North Slave Metis Alliance	669-7442
Chief Darryl Beaulieu	Yellowknives Dene First Nation (Ndilo)	873-8545
Chief Peter Liske	Yellowknives Dene First Nation (Dettah)	873-5969

Community

		Mail Only
Mayor Eddie Koyina	Hamlet of Rae Edzo	
Thomas Matus, SAO	Charter Community of Wha Ti	867-573-3018
Mayor Gordon Van Tighem	City of Yellowknife	920-5649

Government

Ed Hornby	South Mackenzie District Office	669-2720
Tom Andrews	GNWT - Prince of Wales Heritage Museum	873-0205
Mark Davy	GNWT - MACA	920-6343
Duane Fleming	GNWT - Health	873-0122
Jason McNeil	GNWT - RWED	873-4021
Angela Plautz	GNWT - DOT	920-2565
Mike Fournier	Environment Canada	873-8185
Elaine Blais	DFO	669-4940

Others

Vern Christensen	MVEIRB	766-7074
Tyler Hicks	IT Specialist	MVLWB

DE BEERS

December 1, 2003

File: L-020

Lisa Hurley
Regulatory Officer
Mackenzie Valley Land and Water Board
7th Floor - 4910, 50th Avenue
Yellowknife, NT. X1A 2P6

Dear Ms. Hurley:

RE: SNAP LAKE DIAMOND PROJECT - APPLICATION TO AMEND N1999C0081

De Beers Canada Mining Inc. (De Beers) submits the attached Land Use Permit amendment application for consideration by the Mackenzie Valley Land and Water Board (MVLWB).

Previously, De Beers had indicated our intention to install 13 envirotanks for expanded fuel storage capacity at the Snap Lake Diamond Project during the coming winter road season. The Board indicated that this arrangement could be made under a field authorization. Upon further consideration, however, De Beers identified that installation of four tanks within the present bermed and lined area provided environmental advantages over the envirotanks with respect to a reduced risk of spillage. Since this change cannot be permitted under a field authorization, De Beers respectfully submits the attached amendment application.

Should you have any further questions please contact me at 867-766-7322 or robin.johnstone@ca.debeersgroup.com.

Sincerely,

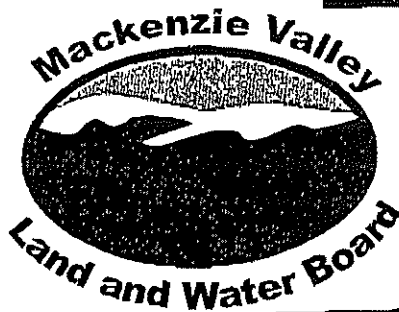
Original signed by:

Robin Johnstone, Ph.D.
Senior Environmental Manager
SNAP LAKE DIAMOND PROJECT

Enclosures (1)



DE BEERS CANADA MINING INC.
#300 - 5102 50th AVENUE
YELLOWKNIFE NT X1A 3S8 CANADA
TEL (867) 766-7300 FAX (867) 766-7347



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7th Floor - 4910 50th Avenue
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Phone (867) 669-0506
FAX (867) 873-6610

Application for:

New Land Use Permit ☐

Amendment



to N1999C0081

1. Applicant's name and mailing address:		Fax number: 867-766-7347	
De Beers Canada Mining Inc #300-5102 - 50th Avenue Yellowknife, Northwest Territories Canada X1A 3S8		Telephone number: 867-766-7300	
2. Head office address:		Fax number: 867-766-7347	
De Beers Canada Mining Inc #300-5102 - 50th Avenue Yellowknife, Northwest Territories Canada X1A 3S8 Project Supervisor: Operations Manager: John Goyman Field Supervisor: Assistant Manager: Jack Haynes		Field fax number: 867-669-2962	
		Telephone: 867-766-7327	
		Telephone: 867-669-2955	
3. Other personnel (subcontractor, contractors, company staff etc.) Various contractors servicing a number of activities from construction to catering will be employed onsite as per the existing Land Use Permit. TOTAL: +35 (Number of persons on site)			
4. Eligibility: (Refer to section 18 of the <i>Mackenzie Valley Land Use Regulations</i>)			
a)(i)	a)(ii)	a)(iii)	b)(i) b)(ii)
5. a) Summary of operation (Describe purpose, nature and location of all activities.)			
Summary and Nature: Installation of four (4) pre-fabricated, 330,000 litre capacity, welded-steel, vertical diesel storage tanks within existing lined containment facility, which currently contains eight (8) similar tanks. New tanks will be interconnected to existing distribution piping network, which is also within the containment facility. Tanks will conform to API (American Petroleum Institute) standards. Existing containment facility will provide sufficient containment capacity for all 12 tanks without modification, per CCME code.			
Five (5) existing double-walled, welded-steel 100,000 litre capacity, 'Enviro tanks', will be placed outside the containment facility for additional storage. These tanks will not be interconnected with the 330,000 litre tanks since this would place piping outside of the containment facility. These tanks will be filled and drawn with mobile pumper trucks.			
Purpose: To provide approximately 1.2 million litres of additional storage capacity for planned 2004 site activities. This will increase total storage capacity from approximately 3 million to 4.2 million litres.			
Location: Existing fuel storage tank facility at Snap Lake site See figure 3.1, attached Spill Contingency Plan. See also; Figure Proposed Tank Addition appended to this application.			
b) Please indicate if a camp is to be set up. (Please provide details on a separate page, if necessary.)			
A camp already exists at the project site.			

6. Summary of potential environmental and resource impacts (describe the effects of the proposed land-use operation on land, water, flora & fauna and related socio-economic impacts). Use separate page if necessary.)

Placement of the existing 100,000 litre Envirotanks outside of the containment facility requires that tanks be filled and drawn with pumper trucks. The risk potential for minor diesel fuel spillage while making pumper truck connections has been recognized and will be addressed through the placement of drip pans at these junctions, as well as the use of valves on coupling devices and overflow prevention valves will mitigate this risk. The existing spill response plan covers this situation and has been appended for review.

7. Proposed restoration plan (please use a separate page if necessary).

Same as plan for existing fuel storage facility.

8. Other rights, licences or permits related to this permit application (mineral rights, timber permits, water licences, etc.)

Water Licence NIL2-1735 is current and has been extended to December 31, 2004.
Land Use Permit N1999C0081 is current and has been extended to December 19, 2004.

Roads: Is this to be a pioneered road? No Has the route been laid out or ground truthed? Yes

9. Proposed disposal methods. As per Land Use Permit N1999C0081

a) Garbage: Burned

c) Brush & trees: n/a

b) Sewage (Sanitary & Grey Water): Approved STP

d) Overburden (Organic soils, waste material, etc.): n/a

10. Equipment (includes drills, pumps, etc.) (Please use separate page if necessary.)

Type & number	Size	Proposed use
(1) Truck crane	Estimated 65 to 75 ton capacity	To erect tanks

11. Fuels	()	Number of containers	Capacity of containers	Location
Diesel	3.14 MM litres	13	8 - 330,000 l & 5 - 100,000 l	Tank Farm
Gasoline	None			
Aviation fuel	None			
Propane	None			
Additional Diesel Storage	1.32 MM litres	4	4 - 330,000 litres	Tank Farm

12. Containment fuel spill contingency plans. (Please attach separate contingency plan if necessary).

See attached

13. Methods of fuel transfer (to other tanks, vehicles, etc.)

Pumper truck

14. Period of operation (includes time to cover all phases of project work applied for, including restoration)

Estimated January 1, 2004 through December 19, 2004 for tank installation, addition and use.
Restoration to be performed at end of mine life.

15. Period of permit (up to five years, with maximum of two years of extension).

Current permit valid to December 19, 2004

16. Location of activities by map co-ordinates (attached maps and sketches)

Minimum latitude (degree, minute)	Maximum latitude (degree, minute) 63° 35' 30" N
Minimum longitude (degree, minute)	Maximum longitude (degree, minute) 110° 52' 00" W

Map Sheet no.

17. Applicant

Print name in full

Signature

Date

18. Fees

Refundable**) Type A - \$150.00 **

Type B - \$150.00 ** (**Application Fees are Non-

Land use fee: _____ hectares @ \$50.00/hectare \$ 150.00
Assignment fee \$50.00 \$

Total application and land use fees \$ 150.00

Please make all cheques payable to "Receiver General of Canada"

SNAP LAKE
 DIAMOND PROJECT

De Beers


SNAP LAKE DIAMOND PROJECT

AMEC

MEMO

To:	Robin Johnstone	Date	Nov. 13, 2003
From:	Grant Graber	File No.	
Tel:	604-664-3369	Project No.	142220
CC:	Kevin LeDrew, Adriaan la Grange		
Subject:	<i>Phase 1 Pre-Production Program- Fuel Storage Expansion- Containment Capacity</i>		

Introduction

In our memo of Oct. 20, 2003, we provided the rationale for the Snap Lake project team's proposal to expand the Snap Lake fuel storage facility for the Phase 1 Pre-Production Program by approximately 1.2 million litres using four 330,000 litre, welded-steel, vertical storage tanks, placed inside the existing lined containment berm. The memo also summarized the advantages of this design versus the original plan, which comprised an arrangement of 10-120,000 litre or 12-100,000 litre 'Envirotanks'.

Following a risk assessment that included environmental and socio-economic considerations, it was determined that the additional fuel storage needs could be better accommodated with four new 330,000 litre single-wall, vertical storage tanks, placed inside the existing containment facility, and permanently piped into the existing storage and transfer system. These new tanks would be identical to the existing 330,000 litre tanks. The advantages of this arrangement are as follows:

- Environmental: with the new tanks placed inside the existing lined containment facility, the risk of a fuel leak escaping containment is lower relative to that associated with up to 12 Envirotanks, with individual fuel transfer systems placed around the site.
- Socio-economic: based on firm quotations obtained from a number of fabricators, the vertical tanks would be procured from Kingland Manufacturing in Hay River, NWT. However, to pursue the Envirotank arrangement, the quotations received leave De Beers no alternative but to award the supply to a Saskatchewan company.

Another critical factor supporting the proposal was that the existing lined containment berm has sufficient volumetric capacity to accommodate the four new tanks, in addition to the eight existing 330,000 litre tanks, thereby eliminating the need to increase berm capacity.

The capacity calculation was based on original berm design drawings and actual tank dimensions, but with allowances for settlement or the berm and/or tanks for conservatism. We recently received as-built survey data of the berm from Sub-Arctic Survey via De Beers, and

Snap Lake Project Team

AMEC

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Vancouver, B.C. V6B 5W3

Tel (604) 664-4315 Fax

(604) 669-4134

www.amec.com

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 Secretariat\020 Land Use Permit Amendment\amec memo for LUP
 amend.doc

MEMO

To: Robin Johnstone
From: Grant Graber

Date: November 13, 2003
File No. 142220

have recalculated the capacity to provide a more accurate figure. The updated calculation is provided below.

Required Capacity

The CCME formula for containment capacity of fuel storage facilities is:

$$\text{Capacity} \geq 100\% \times (\text{Capacity of Largest Tank}) + \text{greater of } [(10\% \times \text{Capacity of Largest Tank}) \text{ or } (10\% \times \text{Sum of Capacities of All Other Tanks})]$$

Based on this formula, the existing facility (eight 330,000 litre tanks) requires about 566 m³ of capacity. With four new 330,000 litre tanks added to the facility, for a total of 12, the required containment increases to about 699 m³.

Available Capacity

Sub-Arctic Survey surveyed the lined containment facility on Nov. 3 and 4, 2003, and subsequently calculated the available gross containment volume (i.e. not allowing for tank displacement) to be 1,075 m³. This was based on the lowest elevation (457.09 m) of the actual liner on the berm crest, and a facility grade elevation of 456.4 m.

The eight existing tanks are 7.62 m in diameter; the proposed four new tanks are 7.16 m in diameter (but are of the same volume). Based on an average lined containment depth of 0.69 m (i.e. 457.09 – 456.4 m), the total tank displacement with all 12 tanks is 363 m³, resulting in a net available containment capacity of 712 m³ (1,075 – 363). This is greater than the minimum capacity required of 699 m³; therefore, there is sufficient capacity within the existing containment facility to accommodate the four new tanks without having to expand the lined containment.

References

Sub-Arctic Surveys Ltd., *De Beers Canada Mining Inc. – Topographic Survey of Fuel Tank Farm at Snap Lake – NWT*, Nov. 3-4, 2003.

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