



Mackenzie Valley Land and Water Board
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APPLICATION FOR WATER LICENCE, AMENDMENT OF LICENCE, OR RENEWAL OF LICENCE

Application/Licence No: MV2011L2-0002

<p>1. Name and Mailing Address of Applicant</p> <p><u>De Beers Canada Inc.</u></p> <p><u>#300 5102 – 49th St</u></p> <p><u>Yellowknife, Northwest Territories X1A 1P8</u></p> <p>Telephone: <u>(867) 766 7300</u></p> <p>Fax: <u>(867) 766-7347</u></p>	<p>2. Address of Head Office in Canada if Incorporate</p> <p><u>De Beers Canada Inc.</u></p> <p><u>900-250 Ferrand Drive</u></p> <p><u>Toronto, Ontario M3C 3G8</u></p> <p>Telephone: <u>(416) 645 1710</u></p> <p>Fax: <u>(416) 429 2462</u></p>
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3. LOCATION OF UNDERTAKING (describe and attach a map, indicating watercourses and location of any proposed waste deposit)

Snap Lake, NWT. See attached Consolidated Project Description Report.

Latitude 63° 35' 30"

Longitude 110° 52' 00"

4. DESCRIPTION OF UNDERTAKING (describe and attach plans)

An underground diamond mine. Please see Consolidated Project Description Report as submitted with water licence amendment application MV2011L2-0004.

5. TYPE OF UNDERTAKING

- | | | | | | |
|-----------------------------|-------------------------------------|----------------|--------------------------|-----------------|--------------------------|
| 1. Industrial | <input type="checkbox"/> | 4. Power | <input type="checkbox"/> | 6. Conservation | <input type="checkbox"/> |
| 2. Mining and Milling | <input checked="" type="checkbox"/> | 5. Agriculture | <input type="checkbox"/> | 7. Recreation | <input type="checkbox"/> |
| 3. Municipal | <input type="checkbox"/> | | | | |
| 8. Miscellaneous (describe) | <input type="checkbox"/> | | | | |

6. WATER USE

To obtain water	<u> X </u>	Flood control	___
To cross a watercourse	___	To divert water	___
To modify the bed or bank of a watercourse	___	To alter the flow of, or store water	___

Other
(describe) _____

7. QUANTITY OF WATER INVOLVED (litres per second, litres per day or cubic metres per year, including both quantity to be used and quality to be returned to source)

Current operations at the Snap Lake Mine is currently licenced for 188,000 m³/year. No change is requested

8. WASTE DEPOSITED (quantity, quality, treatment and disposal)

The below table outlines the average annual quantities of waste deposited due to the mine. Greater details on the waste management for Snap Lake Mine can be found in the Domestic Waste and Sewage Management Plan and the Hazardous Materials Management Plan. Both approved by the MVLWB in 2010. A revised plan is due to the MVLWB on January 31, 2014 under the current Water Licence.

Snap Lake Mine also treats and releases approximately 100 m³/day of effluent into Snap Lake from our Sewage Treatment Plant and 42,000 m³/day of effluent from our Water Treatment Plant. Over 90% of the treated water comes from mine dewatering activities.

DISPOSAL METHOD	WASTE CATEGORY	WASTE TYPE	VOLUME	UNIT	
Shipped off-site for disposal	Chemical waste	Calcium hydroxide	0	kilograms	
		Aluminum oxide dessicant	0	pail	
		Contaminated glycol	0	litres	
		Floor finish and stripper	6	pails	
		Ammonia nitrate	4	drum	
	Contaminated shop waste	Crusher filters (oil, fuel)		1	cubes
				32	drum
		Hydrocarbon contaminated floor dry	69	drum	
		Grease	36	drum	
		Hydraulic hoses		10	crate
				2	drum
		Oily rags		29	crate
				22	drum
				1	bin
		Paint		2	drum
				0	crate
		Plastics		0	drum
				0	drum
	Contaminated soil, gravel, rock	Glycol, oil, transmission fluid		126	drum
				0	crate
	Domestic Waste	Kitchen grease / cooking oil		13	totes
				4	drum
	Hazardous waste	Lead acid batteries	22	crate	
		Fluorescent / Mercury Tubes	2	drum	
		Electronic waste	1	crate	
		Lokset Resin	8	crate	
	Recyclables	Aluminum pop cans, water bottles	22	crate	
		Steel	0	crate	
		Wire	0	roll-away bin	
	Used Oil	Lubes		20	drum
			7	cubes	
			12	tank (11,000L)	
Waste Fuel	Diesel	0	litres		
	Gasoline	0	litres		
	Jet B	0	litres		
Landfarm: only capable of treating light hydrocarbon contamination	Contaminated soil, gravel, rock	Diesel	0	cubic metre	
Landfill	Mine waste	Wire, vent tubing, air filters, steel	1,500	cubic metre	
	Domestic waste	Sewage sludge	127,452	kilograms	
	Miscellaneous	Insulation, styrofoam, siding, cement, plastics	2,000	cubic metres	
North Pile	Potentially Acid Generating Rock	Metavolcanic rock	1051,403	tonnes	
	Processed Kimberlite	Dry Trucked coarse and grits	901,640	tonnes	
		Wet Pumped Slurry	1034262	cubic metres	
Underground	Processed Kimberlite	Dewatered Slurry	18513	cubic metres	
Incinerators	Camp Waste	Office/room waste	139,650	kilograms	
	Camp Waste	Food	43,000	kilograms	

drum = 205 litres ; crate = 8x4 ft ; pail = 20 litres.

9. OTHER PERSONS OR PROPERTIES AFFECTED BY THIS UNDERTAKING (give name, mailing address and location; attach list if necessary)

No other persons or properties are expected to be affected.

10. PREDICTED ENVIRONMENTAL IMPACTS OF UNDERTAKING AND PROPOSED MITIGATION

The Environmental Impacts have been assessed by the Mackenzie Valley Environmental Impact Review Board.

11. CONTRACTORS AND SUBCONTRACTORS (names, addresses and functions)

Name	Address	Function
Bouwa Whee Catering	Yellowknife, NT	Camp Catering & Janitorial
Cementation	Edmonton, AB	Mining Services
Sandvik	Yellowknife, ON	Maintenance Services
Team Drilling	Saskatoon, SK	Exploration Services
Northtec Drilling	Yellowknife, NT	Exploration Services
Golder Associates	Yellowknife, NT	Environmental and Geotechnical
Arktis Solutions Inc.	Yellowknife, NT	Environmental Services
Tire North		Maintenance Services
Tli Cho Logistics	Yellowknife, NT	Maintenance Services
Tli Cho Landtran Transport Ltd.	Yellowknife, NT	Winter Road Construction
Orica (formally Tli Cho Explosives)	Yellowknife, NT	Explosive Manufacturing
Ryfan Electric		Maintenance Services
Boart Longyear	Haileybury, ON	Mining Services
Finning	Richmond, BC	Maintenance Services
Medic North	Yellowknife, NT	Medical Services
Trinity Helicopters	Yellowknife, NT	Transportation Services
Great Slave Helicopters	Yellowknife, NT	Transportation Services
Canadian North	Yellowknife, NT	Transportation Services
First Air	Yellowknife, NT	Transportation Services
Lutsel K'e Air Service/Tli Cho Air/Air Tindi	Yellowknife, NT	Transportation Services
Northwestern Air Lease Ltd.	Fort Smith, NT	Transportation Services

12. STUDIES UNDERTAKEN TO DATE (attach list if necessary)

Please see the Board website which includes information on the following studies carried out under the approved Water License and Land Use permit:

- Surveillance Network Program
- Air Quality Report
- Wildlife Effects Monitoring Program
- Hydrology Annual Report
- Vegetation Annual Report
- Acid Rock Drainage Report
- Annual Geotechnical Inspection Report
- Water License Annual Report
- Aquatic Effects Monitoring Program

13. PROPOSED TIME SCHEDULE

Construction: Start date - 2005
Production: Completion date - 2024
Closure: Completion date - 2028

NAME (Print)

Alexandra Hood

TITLE (Print)

Environment and Permitting Superintendent



SIGNATURE

December 16, 2013

DATE

FOR OFFICE USE ONLY

Application Fee Amount: \$ 30.00

Receipt No: _____

**Water Use Deposit Amount:
[Insert]**

\$ already paid for 2013 Receipt No: