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2004 Annual Report

for

Maze Lake Project Water Use and Waste Disposal

License # NWB2MZE0406 Type B

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Maze Lake Project

Water License 2004 Annual Report
Placer Dome (CLA) Limited

1. Introduction

On February 25, 2004, Placer Dome submitted an application to the Nunavut Water Board (NWB) for a water use and waste disposal license regarding it Maze Lake project in the Kivalliq District of Nunavut. The application was accepted and the license NWB2MZE0406-Type B was issued on June 11, 2004 by NWB with a two years term, expiring on December 31, 2006. This report states the amount of water used, disposal activities that have been carried and reclamation work undertaken in 2004.

The license allows the use of water and disposal of waste for the project's camp and exploration drilling operations. The quantity of water to be used is not to exceed 50 cubic metres daily as stated in the license. Water for domestic use is to be up to a maximum of 10 cubic metres per day, coming from the lake adjacent to camp and drilling operations can use of to 40 cubic metres per day obtained from nearby lakes.

2. Camp information and schedule

The exact location of the future camp was not known at the time of the application. At the start of the field season in mid July, it was decided to use a site not previously considered, as all the selected sites had a surface too rough. It was considered as a safety issue for the people and would have cause considerable wear and tear to the vegetation. The camp was installed on a raised beach, 1km west of the initial selected site. The flat sandy surface which has almost no vegetation was perfect for a camp site. The change in camp location was documented in an email sent to NWB on August 20, 2004.

There are two lakes near the camp, one being 1250 m by 250 m in size and located 200m from the camp. This lake was used to obtain the domestic water for camp and for the core saws used in camp. The second one is a tiny seasonal pond at the based of the raised beach and located 120m from the camp and 40 m from the fuel cache. The pond was empty at the time the camp was built and was not noticed until it started filling up in August. The fuel cache will be relocated further from this pond in 2005.

Camp building has started on July 16 and was opened on July 23, 2004. It has been used from July 23 to August 6, 2004 by an average of 10 people with a maximum of 16 and from September 1 to October 7 by an average of 10 people for a maximum of 14 people. Between August 9 to September 1 and October 8 to December 10, the camp was occupied by a guardian.

3. Water use and waster disposal activities

3.1 Camp and drill operations water use

Water for the camp was pumped once a day from the camp adjacent lake with a small gas pump up to a 500 gallons (1892 litres) closed reservoir located in the dry tent. Every time the amount of water added to the reservoir was measured and recorded on a form. This was an efficient way to compare the amount of water used in function of the number of people present in camp. The pump was equipped with a screen to prevent fish and debris entrapment and was not kept close to the lake bottom.

Camp water was treated with an UV system, but was also boiled for extra precaution as no testing was carried on the system.

A core saw was used in camp during the drilling operations. Water was re-circulated so the difference in water used between the mapping program and drilling program is barely noticeable (817 l/day versus 821 l/day, see table 1)

Water for drilling operation was pump from 3 different lakes, large enough so the water level was not changing. The lake for drill sites 1 and 2 was 36,140m^2 in size, lake used from drill sites 3, 4, 5 was 21,756 m^2 and for drill site 6 it was 29,040m^2. All these lakes were estimated to be between 2 to 5 metres in depth. Drill pump was also equipped with a screen to prevent fish entrapment. Water use for 2004 is summarized in table 1 and location of lakes used for pumping water is listed in table 2.

Table 1: Water for camp and drilling operations

Camp operation water use				
Period (2004)	**Nb. day**	**Man-days**	**Water Use**	
			litres	**l/day**
July 16 to August 6 (Mapping program)	22	239	17,980	817
August 9 to August 31 (Guardian)	23	23	1,893	82
September 1 to October 7 (Drilling program)	37	391	30,400	821
October 8 to December 10 (Guardian-closure)	64	64	5,110	80
Total	**146**	**717**	**55,383**	
Total water used, litres/person			**77.24**	
Drill operations water use				
Nb of active drilling days	**Water use l/day**			
12	26.50 l/min (7 gal/min)		457,740	38,145
Total of water used in 2005			**513,123**	

Table 2: Water intake sites location

Site	Easting		Northing	
	Long-Lat	UTM NAD 83	Long-lat	UTM NAD 83
Camp	93° 37' 54"	467199	62° 15' 46"	6903607
Drill 1	93° 33' 02"	471413	62° 16' 24"	6904759
Drill 2	93° 33' 02"	471413	62° 16' 24"	6904759
Drill 3	93° 58' 55"	449298	62° 25' 39"	6922198
Drill 4	93° 58' 55"	449298	62° 25' 39"	6922198
Drill 5	93° 58' 55"	449298	62° 25' 39"	6922198
Drill 6	93° 58' 07"	449975	62° 25' 49"	6922498

3.2 Camp and drill operations waste disposal activities

Camp waste (mainly kitchen refusal, cardboard boxes, plastic containers, papers) and drill waste (mainly oil plastic containers, bags and rags) were burned on site in a covered incinerator. Ashes were transferred into an empty drum to be taken to a municipal discharge (Whale Cove or Rankin Inlet) at the end of the season. Metallic objects were packed separately in another drum to be taken out of site at the end of season.

Kitchen and dry greywaters were discharged in a covered sump behind the dry. Cook was careful at not pouring grease or debris through the drain. The camp had one outhouse with a pit treated with lime. The sumps were monitored for overflow and none have occurred. Sludge from the core saw in camp was buried in a pit.

While the incinerator and greywaters sump have work well for the number of people present, it is being considered to buy a small commercial incinerator for 2005 and a Pacto toilet if the 2005 program is to last longer. A pump with a grease filter was also bought at mid-term of the 2004 field season to reduce the amount of grease reaching the sump and to permit moving the sump on higher ground offering better natural filtration. By the time the pump was received in camp, it was too late to be installed. This will be done in 2005.

Greywaters and sludge from drilling operations were discharged in natural depressions far from lakes to avoid any contamination. All drill holes were plugged with cement. Garbage from the drill were taken back daily to the camp for incineration. Location of the various sumps is given in table 3.

Using natural depression has work very well for some drill sites but was more difficult when located on a very flat surface. Digging a sump was nearly impossible due to the

amount of boulder present. It is being considered for 2005 to buy 30 inches “Aquadam” to contain the sludge in a smaller area.

Table 3: Sumps location

Location	Easting		Northing	
	Long-Lat	**UTM NAD 83**	**Long-Lat**	**UTM NAD 83**
Camp greywaters	93° 37’ 37”	467428	62° 15’ 47’	6903653
Camp latrine	93° 37’ 36”	467461	62° 15’ 47’	6903645
Camp core saw sump	93° 37’ 36”	467456	62° 15’ 47”	6903639
Camp incinerator	93° 37’ 33”	467506	62° 15’ 46”	6903605
Drill 1	93° 32’ 56”	471509	62° 16” 16”	6904511
Drill 2	93° 32’ 30”	471876	62° 16’ 13”	6904407
Drill 3	93° 58’ 46”	449417	62° 25’ 43”	6922308
Drill 4	93° 58’ 39”	449513	62° 25’ 40”	6922212
Drill 5	93° 58’ 32”	449621	62° 25’ 37”	6922132
Drill 6	93° 58’ 10”	449942	62° 25’ 43”	6922314

4. Unauthorized discharged and follow-up actions

One fuel cache was used in 2005. It was located behind the camp (93° 37’ 39”E, 62° 15’ 52”N, UTM: 467418E 6903801N). All drums were lying on their side, in row of 20 drums with 3 metres between each row. Bungs were kept horizontally. Fuel cache was inspected daily as well as drums behind the tents and inspection logged on a form. Stationary equipment had drip pans underneath and hose joints were wrapped in absorbent padding. A spill kit was located at the fuel cache and extra absorbent berms, pads and vermiculite were kept in the dry.

No discharge of fuel or other material is to be reported from camp activities.

Fuel drums were taken on a need-to basis to the drill. Stationary equipment had drip pans underneath and secondary containment for the fuel drums. A spill kit was kept on site. One fuel spill occurred at the drill when the lid of a hydraulic oil pail broke off. Almost half the pail content was spill on the drill floor and some had time to escape out of the drill before being sponged with absorbent material from the spill kit. Most of the oil was sponged in the following minutes (see spill report form attached). The site was re-inspected after the drilled had been moved and no trace of oil could be found. Site will be re-inspected again in 2005. The oil has not reached any bodies of water.

Spill location: 93° 58’ 39”E, 62° 25’ 40”N, UTM: 449513E, 6922212N

5. The Spill Contingency Plan and Abandonment and Restoration Plan

Both plans have not been revised since the final version was submitted to NWB. They will be reviewed once the final plans for 2005 are decided.

6. Reclamation work undertaken

One person from the camp contractor staff has stayed at the camp upon the end of the field season to fill back the sumps, secure the equipment and clean the site. The camp was left standing to be re-used in 2005.

Each drill site, once the water had drained was covered with a layer of peat moss to encourage growth over the sump and small rock were scattered to give as much as possible a natural look. Two sites could not be fully restored as water had not completely drained before the first frost. All sites will be monitored in 2005 and reclamation will be completed.

NWT SPILL REPORT

(Oil, Gas, Hazardous Chemicals or other Materials)

Northwest Territories

24 – Hour Report Line
Phone: (867) 920-8130
Fax: (867) 873-6924

A Report Date and Time	B Date and Time of spill (if known)	C	Spill Number
8 AM SEPTEMBER 19, 2004	SEPTEMBER 18. 2004 9 AM	☒ Original Report ☐ Update no._____	ML-01

D Location and map coordinates (if known) and direction (if moving)
449513E / 6922212N, UTM NAD 83. NOT MOVING.

E Partly responsible for spill
MAJOR DRILLING GROUP INTERNATIONAL INC.

F Product(s) spilled and estimated quantities (provide metric volumes/weights if possible)
UNIVIS HYDRAULIC OIL. 9 LITERS.

G Cause of spill LID OF THE 5GAL PAIL SUDDENLY BROKE OFF WHILE BEING MANIPULATED AND HALF THE CONTENANT WAS SPILL ON THE DRILL SHACK FLOOR.

H Is spill terminated?	I If spill is continuing, give estimated rate	J Is further spillage possible?	K Extent of contaminated area (in square meters if possible)
☒ yes ☐ no	_____	☐ yes ☒ no	3 M^2

L Factors effecting spill or recovery (weather conditions, terrain, snow cover, etc.)
WATER FLOWING FROM CASING.

M Containment (natural depression, dikes, etc.)
DRILL SHACK + NATURAL DEPRESSION.

N Action, if any, taken or proposed to contain, recover, clean up or dispose of product(s) and contaminated materials
AS SOON AS THE SPILL OCCURED, ABSORBENT PADS WERE USED TO CONTAIN THE SPILL IN THE DRILL SHACK. THE OIL THAT HAD LEAKED OUTSIDE WAS ALSO ABSORBED WITH THE SAME TYPE OF PAD. A SPILL KIT WAS ON SITE.

O Do you require assistance?
☒ no ☐ yes, describe:

P Possible hazards to person, property, or environment; eg: fire, drink water, fish or wildlife
NONE.

Q Comments or recommendations

1) THE AMOUNT OF OIL THAT HAS LEAKED OUTSIDE THE DRILL SHACK IS ESTIMATED TO 3-5 LITERS.

2) THE NEAREST LAKE IS AT 160 METERS.

3) CONTAMINATED ABSORBENT PADS WERE DISPOSED IN A GARBAGE BAG AND BURNED IN THE CAMP INCINERATOR.

4) THE SITE WILL BE INSPECTED AGAIN BEFORE DRILL SITE IS RECLAIMED FOR REVEGETATION IN THE NEXT WEEK.

FOR SPILL LINE USE ONLY

Lead agency

Spill significance

Lead Agency contact and time

Is this file now closed? ☐ yes ☐ no

Reported by	Position. Employer, Location	Telephone
NATHALIE PRUD'HOMME	CONSULTING PROJECT GEOLOGIST FOR PLACER DOME.	1-600-701-2932 (CAMP) 613-230-5618 (OFFICE)
Reported to	**Position. Employer, Location**	**Telephone**
JACQUES SIMONEAU	SENIOR GEOLOGIST, PLACER DOME (TORONTO)	416-363-0380

NWT 1752/02/02