

2AM-JER1119
Compliance Plan
September 30, 2012

Water Treatment Room

Water for camp use is metered off the main intake. The water-chlorine levels are checked daily, and the water is UV treated. The water treatment room is cluttered, with staining/burns on the floor (possibly from chlorine). Logs are not currently kept in the WT room. Logs of system maintenance (UV bulb changes etc.) and emergency/spill procedures for chlorine spills and broken UV lamps (mercury spill) should be posted in the WT room. I also noted that chlorination is occurring before the UV process, which may reduce the efficacy of the system.

The water treatment room has been cleared of clutter and has been tidied. A system maintenance log is now hanging in the water treatment room. MSDSs and spill response sheets for each of the products stored and used in the water treatment room now hang on the wall in the room.

The chlorination is occurring prior to the UV process. Shear had been looking into modifying the water treatment process. Shear had planned to conduct modifications to the water treatment system this coming winter. However, given Shear's current financial situation, and the fact that the Jericho Diamond Mine has been placed on Temporary Shutdown, this work has been put on hold until further notice.

Spills

Shear has agreed to maintain their internal documentation system, to be reviewed by the Inspector while on-site, and to report spills of 'reportable' quantities only to the Spill Line.

While Shear's documentation of spill occurrence is good, more work is to be done on spill follow-up. As a licence requirement, a report is due 30 days following a spill, to document the cleanup and follow-up action. These have not been enforced for smaller spills, but an internal procedure is to be put in place to ensure follow-up.

Shear developed a revised SOP for spill reporting and follow-up based on discussions held on site with Eva Paul during the July 4th and 5th site inspection.

Clean-up efforts were ongoing over the summer months. Shear was able to clean up a number of the outstanding spills that were awaiting inspection and closure. Shear designated two (2) Site Environmental Services Technicians on each rotation for fuel transfer. The Technicians were provided with appropriate training on fuel transfer procedures, spill response/clean up, and the use of all associated equipment. Since implementation, Shear saw a significant reduction in both

internally and externally reportable spills. The revised SOP, Follow Up Report and Internal Spill Report Templates are included in Appendix A.

FPK Dispersion

FPK clean up activities continued throughout the summer. These activities included continued vacuuming efforts, shoveling and hand removal. Shear invested significant resources into developing a “sprinkler” system to wet the FPK and keep it wet. The sprinkler system was operational until the site was placed on Temporary Shutdown. Photos of the sprinkler system and the PKCA are provided in Appendix B. It had been Shear’s intention to continue wetting the FPK until freeze up in the hopes of developing a layer of ice as cover. This was not possible with the timing of the shutdown.

Shear constructed lengths of fencing, to be placed in Cell A of the PKCA to create windbreaks.

During the winter, Shear is planning three site visits to inspect, monitor and address the two potential environmental risks that were identified in a draft Memo provided to AANDC for their site visit on September 13, 2012. The first visit is being planned during the month of November. The purpose of that visit will be to mitigate for the potential continued wind dispersion of FPK beyond the extent of the PKCA. These mitigation measures include covering the FPK with Coarse Processed Kimberlite (CPK), the installation of the constructed fencing and the use of any snow that has accumulated to build up a snow wall along the tire wall. Shear is currently working with engineers to determine an appropriate cover thickness for the CPK. Details will be provided prior to the site visit.

Hazardous Waste Transfer Area

Liners are exposed in places, and visibly torn. Shear has committed to replacing the liner on one cell of the HWTa (where the liquids are stored) this season, and the second cell (where soils are kept) will be replaced next year.

A new liner was to be installed in the HWTa on the East side. The area was excavated; materials crushed and stockpiled, and, existing perimeter berms were built up. However, at the time of Temporary Shutdown, the liner had not yet been brought to site and installed. Photos are included in Appendix C.

HAZMAT Inventory: Peter will supply the majority of this information.

HWTa –There are approximately twenty 1100L cubes of waste oil all left with enough room for expansion during winter months.

EC#s for each fuel cell?

Cubes in truck shop?

Fuel Farm/Fuel Transfer Areas

Visible contamination exists in the Fuel Farm berm from historic and recent spills. Phase II was recently contaminated with motor oil when oil-contaminated snow was placed in the berm rather than drummed and placed in the HWTAs as per the spill contingency plan (Spill 12-121). Water that accumulated in Phase I is currently being treated on-site. Work has been done to clean up historic contamination at the Fuel Transfer Area. Some staining still shows under the pumphouse, and absorbent is in place to keep it from migrating.

Nearly fifteen (15) of the partially filled drums of oil-contaminated water were treated with the Oztek remediation unit leaving approximately 80 left to be treated. Oil was to be skimmed off the remaining drums and back hauled for remediation while the water was to be treated with the Oztek remediation unit.

During the annual geotechnical inspection, the engineer dug test pits to establish the presence or absence of a liner at the refueling station at the fuel farm. It was established that there is a liner in place at the refueling station of the fuel farm.

In the month of August, Shear excavated an area at the airport fuel farm, the Process Plant refueling area and at the Truck Shop fuel tank. These areas were prepped for geotextile fabric and liner. Shear excavated these areas in accordance with a design prepared by an engineer. Material was crushed, screened and stockpiled at each of these locations in readiness for the arrival of the liner and fabric. An engineer had been scheduled to come to site in September to oversee the installation of the liner and the construction of the bermed facilities. The mine was placed on Temporary Shutdown prior to the arrival of the liner and fabric. These facilities have not been constructed.

Incinerator Area and Waste Management Practices

At the time of the inspection the incinerator was loaded contrary to their procedure; metals were visible in the ash and it was left unattended. It was recommended that a 'name' column be added to the incinerator log to require users to take responsibility for the contents of each burn. If it continues to be an issue, I would recommend Shear limit access to a few trained staff that would be responsible for the incinerator.

Two training programs were implemented as well as a full review of the incinerators operating manual and SOP with the entire Site Environmental Services Department. The incinerator was deemed to be a piece of equipment that required any individual who operates it to be signed off upon successful completion of the developed training program. Two (2) Site Environmental Services team members were designated on each rotation to operate the incinerator. The incinerator log was modified to include individuals names associated with each batch.

Divider Dyke A and Dams

Concerns have been raised with regard to the water level within cell B/C and the associated freeboard limit. The water level measured on September 13th, 2012 was 517.46 ASL. The last visual inspection as well as the geotechnical inspection in July did not indicate any cause for concern. Discharging over the West Dam commenced on August 11th, 2012 and ended on August 30th, 2012. A total of 8,618,276.4 gallons were discharged over the West Dam and into stream C3.

Shear had intended to continue discharging until freeze up occurred. This was not the case with the decision to place the project on Temporary Shutdown.

Signage

Part B (11). *Signage is insufficient with respect to water supply facilities and monitoring stations.*

This issue was addressed internally and was slowly being completed however, it was decided at the time to be of low priority. All monitoring stations, waste disposal areas and water supply facilities were noted and being translated from English into both Inuktitut and Inuinnaqtun by the Site Environmental Services department. Materials for this project are on site.

Security

Concern has been raised with regard to the security of the asset given that the project has been placed on Temporary Shutdown. To address these concerns, the following actions have been taken:

Shear is aware of the outstanding \$321,074 in security required by the AANDC. Our financial situation does not permit us to provide this additional security as well as continue to keep the site in compliance in other areas. The Company feels that the ongoing monitoring of the Jericho mine site is of greater importance so we can prevent future potential problems as well as plan for the eventual restart of the project. Shear is looking into other possibilities to raise cash and would gladly review the outstanding security should additional capital be raised.

APPENDIX A

SPILL RESPONSE



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Internal Spill Report

Spill Report # _____

Occurrence Date:

Occurrence Time:

Latitude:

Longitude:

Product Spilled:

Spill Source:

Spill Cause:

Quantity In Litres, Kilograms Or M³:

U.N. Number:

Area Of Location M²:

Factors Affecting Spill Or Recovery:

**Hazards To Persons, Property Or
Environment:**

**Additional Information, Actions Proposed Or Taken To Recover Or Dispose Of Spilled Product
And Contaminated Material:**

Site Environmental Service Technician:

Site Environmental Manager:

Shear Diamonds Ltd. Internal Spill Report Form Follow Up Report Template

Eva Paul
Water Resource Officer
AANDC
Building 918, PO Box 100
Iqaluit, NU X0A 0H0

Dear Eva Paul:

RE: Follow Up fro Spill #XX-XXX, Reported month/day/year

This report is being submitted in accordance with the terms and conditions set out in Part H, Section 8 (c) of Shear Diamonds Water Board (NWB) Licence 2AM-JER1119 pursuant to the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and as required by *Environment Canada's Storage Tank Systems For Petroleum Products and Allied Petroleum Products Regulations* section 41 pursuant to paragraph 212(1)(a) of the *Canadian Environmental Protection Act, 1999*.

Summary of the Spill Occurrence

On month/day/year, at (time), approximately (volume) of (product spilled) was spilled (describe occurrence).

Describe immediate actions taken.

Summary of Clean Up Activities

Describe the clean up activities undertaken; including what was done with materials used for clean and where the contaminated material resulting from the spill was taken.

Investigation – Cause of Spill

Describe the findings of the investigation as to why the spill occurred.

Follow Up Actions

Describe actions taken as a result of the lessons learned during the investigation. Describe what procedures have been put in place as a result of the findings from the investigation.

Photographs

Provide photographs showing the spill, clean up activities, and the area once clean up has been completed.

If you require any additional information, please do not hesitate to contact (provide name and contact details) at any time.

Signature



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SOP – Spill Reporting, Internal and External

Objective

To provide Shear personnel and contractors with guidance as to the appropriate spill reporting practices in compliance with permits, licences, *Acts* and *Regulations*.

Scope

This was developed specifically for the Jericho Diamond Mine. This procedure applies to all personnel and contractors working for Shear Diamonds Ltd.

Introduction

This procedure was developed to ensure compliance with permits, the water licence, *Acts* and *Regulations*. This procedure applies specifically to the Jericho Diamond Mine.

In the past, Shear reported all spills externally to the 24-hour Spill Response Line. Numerous comments were received with regard to the number of small spills being reported externally. This procedure has been developed to guide personnel in determining whether to report the spill internally or externally.

Determining if a Spill is Reported Internally or Externally

Schedule B of the *Spill Contingency Planning and Reporting Regulations, NWT Reg (Nu) 068-93*, provides reportable amounts that trigger the requirement to report to the 24 Hour Spill Report Line. These volumes are provided in Table 1.

Table 1 Spill Reporting Quantities

Substance	TDG Class	Reportable Amount
Explosives	1	Any amount
Compressed gas (flammable)	2.1	Any amount of gas from containers with a capacity greater than 100 L
Compressed gas (non-corrosive, non flammable)	2.2	Any amount of gas from containers with a capacity greater than 100 L
Compressed gas (toxic)	2.3	Any amount
Compressed gas (corrosive)	2.4	Any amount
Flammable liquid	3	100 L
Flammable solid	4.1	25 kg
Spontaneously combustible solids	4.2	25 kg
Water reactant solids	4.3	25 kg
Oxidizing substances	5.1	50 L or 50 kg
Organic Peroxides	5.2	1 L or 1 kg
Poisonous substances	6.1	5 L or 5 kg
Infectious substances	6.2	Any amount
Radioactive	7	Any amount
Corrosive substances	8	5 L or 5 kg
Miscellaneous products or substances excluding PCB mixtures	9.1	50 L or 50 kg
PCB mixtures of 5 or more parts per million	9.1	0.5 L or 0.5 kg
Environmentally hazardous	9.2	1 L or 1 kg
Dangerous wastes	9.3	5 L or 5 kg

If the spill being reported is of a volume less than the volume in the "Reportable Amount" column in Table 1, use the Internal Spill Report Form.

If the spill being reported is of a volume greater than the volume in the "Reportable Amount" column in Table 1, use the Nunavut Spill Report Form, and report as described in the Contingency Plan.

Follow Up Reporting

Regardless of whether the spill report has been filed as an internal or external spill, a follow up report must be completed and submitted within thirty (30) days of the spill occurrence. These follow up reports are to be submitted to the Inspector, and will be included, along with the spill log, in the monthly reports filed with the Nunavut Water Board.

The follow up report will include the following information:

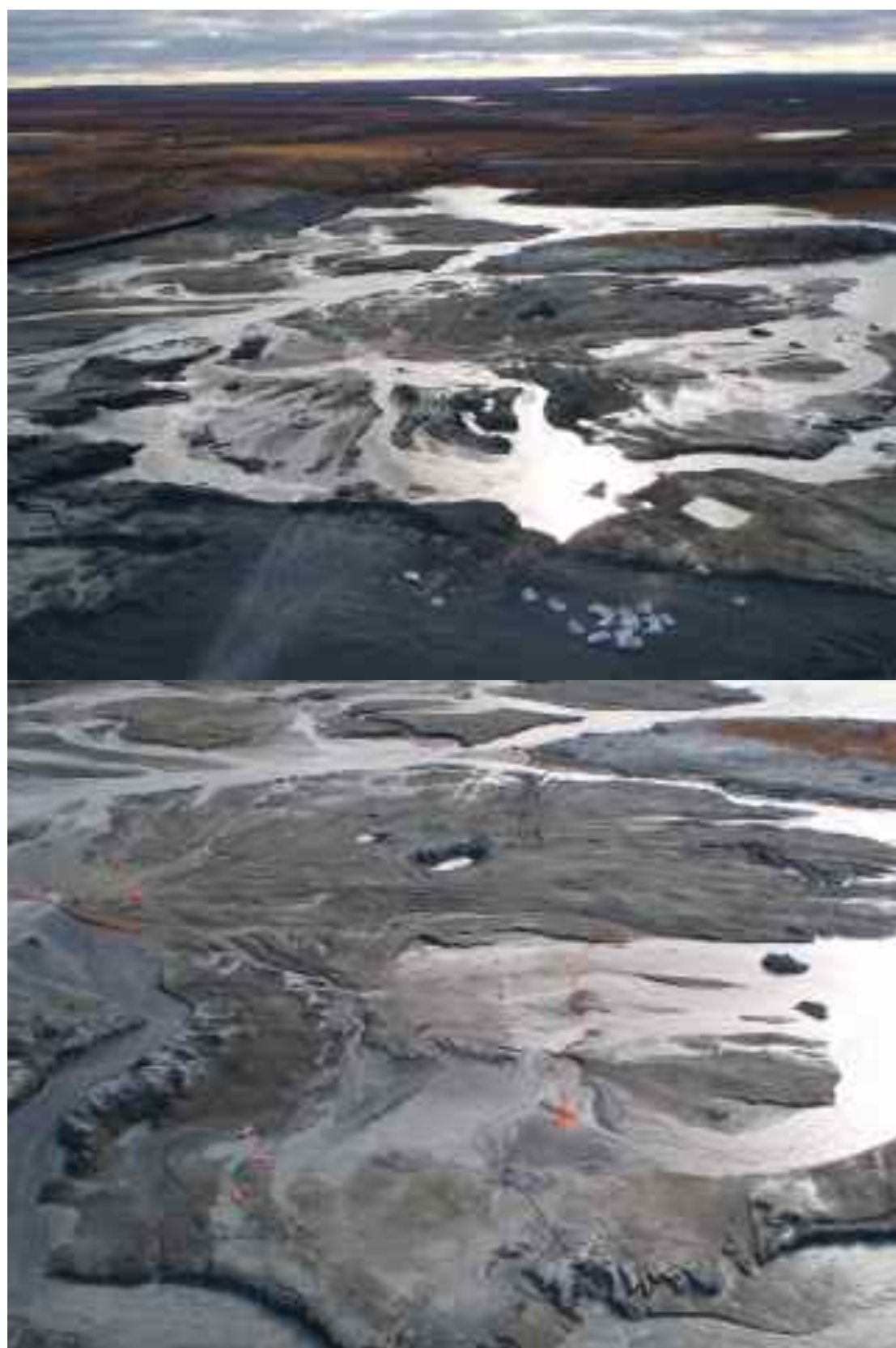
- Spill Number
- Summary of the spill incident
- Summary of the clean up activities
- Investigation as to the cause of the spill
- Actions taken to prevent future occurrences

APPENDIX B

PHOTOGRAPHS OF CELL A AND THE SPRINKLER SYSTEM TAKEN AUGUST 25, 2012









APPENDIX C

PHOTOGRAPHS OF HWT AND AIRPORT REFUELING AREA TAKEN AUGUST 28-30, 2012

HWTA



Figure 1: View of the inside L-shaped berm, final elevation. Area prepped and ready for geotextile fabric and liner installation.



Figure 2: Exposed liner areas with steep slopes were reduced with 2" material.



Figure 3: L-shaped berm, final elevation.

AIRPORT REFUELING AREA



Figure 1: Excavation with layer of 6" crush material.



Figure 2: Final excavated area with layer of 6" crush material, view from North West.



Figure 3: Final excavated area with 6" layer of crush material, view from South West.