August 9th, 2017 km 23 Tractor Trailer spill

Please find the following information as a follow up to the Spill report submitted August 9th 2017 by Agnico Eagle Meadowbank division. This detailed report is submitted to the Inspector in compliance with the conditions under the Nunavut Water Board License 2AM-MEA1525, Part H, Item 8c.

Spill Description

A Tractor and Trailer of Artic Fuel were loaded with two sea cans containing solid Sodium Hydroxide (NaOH) bags of 1000 kg. A total of 40 bags were contained in the 2 sea cans. The tractor traveling north from Baker Lake to the Meadowbank mine site, rolled-over on its side on the All Weather Access Road (AWAR) at km 23. The containers doors were damaged with the impact and a few bags of NaOH went on the ground. This incident occurred August 9th at 7 am. The Emergency Response Team (ERT), representatives from Energy & Infrastructures and the Environment Departments were deployed on the site of the incident. Inspection of the scene was completed to ensure that no product was close to the watercourse. The site was secured and traffic was stopped along the AWAR. Booms were placed close to the shore of the lake as precaution measures before a berm was constructed.

After observation on the incident scene by ERT personnel, a small amount of Sodium Hydroxide (NaOH) was observed on the ground, as well as fuel and oil from the engine of the truck.

Tractor and trailer off-road

Tractor and trailer off-road

Spill location:

N 64’30’02.4”W 96’07’27.7”

There was no discharge to any receiving watercourses. The distance to the closest lake is estimated at 150 m.

Cause of Spill

The incident occurred when the tractor trailer turned a curve at low speed. The load inside the containers shifted creating momentum towards on side. The equipment was thus carried off-road. The conclusion of the investigation indicates that the load of Sodium Hydroxide bags could have been moved on one side during the loading of the containers on the trailer in at least one sea can and caused the instability of the load. With the impact, some bags inside the trailer were damaged.

Remediation Actions

A berm was built to avoid any product from potentially seeping to any watercourse. Chemical booms were also put in place as a second protection barrier. The road was closed to all traffic during the management of the incident and recovery work. The ERT was present on site during recovery work in collaboration with the Environmental Department and Energy and Infrastructures Department. The first sea can was emptied, one bag at the time with a backhoe. All bags were removed and placed in a new sea can. The content of the puncture bags was transfer into a quatrex bag.

The second damaged sea can was turned in a proper position, put on a trailer and was sent to the mine site. The sea cans containing sodium hydroxide damaged bags were placed in a secured location at the mine site.

The estimated quantity of sodium hydroxide spilled on the ground was found to be less than 25 kg. All recovery work was completed to remove all product and contaminated soil. Oil and fuel leaking from the truck engine have been estimated to 50 liters and all contaminated soil with hydrocarbon has been excavated. Salvageable sodium hydroxide will be used within the milling process. The remainder product and contaminated soil will be disposed at the Tailings Storage Facility (TSF).

After all equipment was removed from the location, the area was scrapped and soil collected to prevent any possibility of contamination. All the contaminated soil was brought to the (TSF).

Berm and chemical booms

Bags ouside the sea can

Bags recovery

Bags recovery (2)

Products transferred in a quatrex

Empty sea can

Bags recovery

Clean-up progress

Clean-up completed

Corrective measures

An investigation was completed (annex 1) with the current stakeholders and contributing factors were identified to be related to the sea can manipulation during loading/offloading.

The correctives measures were defined:

- Maintain sea cans as close to horizontal level as possible during the loading and unloading process. Procurement and Logistics needs to evaluate the best possible process and implement within their practices.
- Evaluate the state of the material inside sea cans that are now on site at Baker Lake to determine whether they are safe to truck on the AWAR.
- Assess if AWAR modification are required.

Subsequent follow-ups and information

We trust that the above details described appropriately the spill incident that occurred at the Meadowbank on August 9th, 2017 and the cleanup activities. Please contact the undersigned should you have any questions.

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AGNICO EAGLE

Annex 1

Incident Report

Accident/Incident Investigation Form

PERSON AND TIME

Name: Todd McMullen Employee #: _____

Department: Arctic Fuel Work station: _____

Supervisor: Cameron Hodgins Witness: Nolan Aupaluktuq

Date: August 09 2017 Time: 7h00 am Overtime: ☐ **Yes** ☒ **No**

Shift: ☐ 8H ☐ 10H ☒ 12H ☒ Day ☐ Night

Supplementary details in the statement (if applicable) ☐ Appendix

Witness statements (if any):

TASK & ORGANIZATION

Task at the time of the accident: Hauling sea can to Meadowbank

Experience in this task: 10 years Frequency of this task: Daily

Movement at the time of the accident:
Exiting a curve and climbing a hill

Body position: Seated

Type of work: ☐ Team ☒ Solo

Is there a written work procedure: ☐ Yes ☐ No ☒ N/A

Was it followed: ☒ Yes ☐ No ☐ N/A

Training received for this task: ☒ Yes ☐ No Date: _____ Length: _____

Information received for this task: ☒ Yes ☐ No Date: _____ Length: _____

LOCATION AND ENVIRONMENT

Exact location of the accident: Blind Hill km23

Layout and cleanliness of the site:
Good

Physical condition of the site (ground conditions, ventilation, temperature, lighting, dust, etc.):

☒ Compliant ☐ Non-Compliant ☐ N/A

Details (if non-compliant):

Photo: ☒ Yes ☐ No

EQUIPMENT, MATERIALS AND TOOLS

Identify equipment, materials or tools involved in the accident (if any):
TRK03 and TRL28

Condition of equipment, materials or tools:

☒ Compliant ☐ Non-Compliant ☐ N/A

Details (if non-compliant):
An inspection has been done by a AEM mechanic on the truck and trailer after the accident and everything was ok.

Is there an equipment maintenance procedure? ☒ Yes ☐ No ☐ N/A

Date of last preventive maintenance: TRK03 August 4, 2017 and TRL28 July 18, 2017

Personal protective equipment involved (boots, hat, eyewear, mask, visor, gloves…):
Seat belt, the driver was wearing it at the time of the accident.

Condition of personal protective equipment involved: ☒ Compliant ☐ Non-Compliant ☐ N/A

Details (if non-compliant):

Were they appropriate to the task? ☒ Yes ☐ No ☐ N/A

Details (if non-compliant):

Photo: ☒ Yes ☐ No

ANALYSYS *(Investigation of immediate and fundamental (root) causes)*

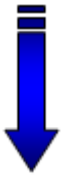
Reconstruct the chronological order including the causes and effects of the accident:

Damage or Injury:

TRK03 and TRL28 flipped on the side of the road Km23 with 2 sea cans of sodium hydroxide.

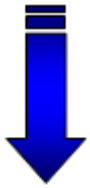
Fact(s):
(Why?)

- Truck was on the center of the roadway.
- Transmission was at 5 high and he estimated to be at 20 to 25 km/h
- The sea cans were tied down on the trailer.
- The road was in good condition.
- The weight of the load was 98 000 lbs. Trailer is rated to 110 000 lbs.
- We had inspected other sea cans and observed that the load has shifted prior to transit to Meadowbank site.
- The loader during the unloading process has the tilt sea can at approx 45 deg.



Immediate Cause(s):
(Why?)

- Unexpected displacement of the weight on the trailer, caused the rolling of the trailer.
- Accelerated in the curve to gain speed prior to climb the hill.



Fundamental (Root) Causes(s):
(Why?)

- Weight transfer within at least one sea can.

CORRECTIVE MEASURES

Corrective measure # 1

Maintain sea cans as close to level as possible during the unloading process. Procurement and Logistics to evaluate the best possible process and implement.

Responsibility: Mathieu Grenier Due Date:
Corrective completed ☐ By: _____ Date: _____

Corrective measure # 2

Evaluate the loading of the seacans that are now on site at Baker Lake to determine whether they are safe to truck.

Responsibility: Mathieu Grenier Due Date:
Corrective completed ☐ By: _____ Date: _____

Corrective measure # 3

Determine whether seacans containing chemical should be paired with lighter loads, and determine the stability of the loads in the seacans themselves.

Responsibility: Mathieu Grenier Due Date:
Corrective completed ☐ By: _____ Date: _____

Corrective measure # 4

Establish a procedure with AFS to ensure that corners are taken at an appropriate speed to mitigate this risk

Responsibility: Bruce Waugh Due Date: August 20
Corrective completed ☐ By: _____ Date: _____

Corrective measure # 5

Responsibility: _____ Due Date:
Corrective completed ☐ By: _____ Date: _____

Employee Representative: _____ Employer Representative: _____
Signature Signature

Participant(s):

_____ _____

_____ _____

_____ _____

Date _____