



AGNICO EAGLE

October 23rd, 2016 AWAR Tractor-trailer roll-over

Please find the following information as a follow up to the Spill report submitted October 23rd 2016 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

Hauling containers from the Baker Lake laydown area to the Meadowbank site, the tractor slid and rolled over off the side of the road at km 102. The operator was uninjured and was taken out of the equipment. Diesel fuel was spilling from the truck tanks. The containers, filled with Ammonium Nitrate 1000 kg bags, were damaged in the incident and some product leaked outside by an opening.

Spill location: Easting 65°02'59" 96°07'33"

There were no off site impact or discharge to any receiving watercourses. The distance to the closest lake is estimated at 750 meters.



Cause of Spill

Upon investigation (see report in appendix), it was found that the truck spun out on the hill and then slid backwards into the ditch landing on its right side. The truck ahead of the one involved in the accident had to stop when climbing the hill because it was lacking traction. This forced the tractor to stop at the bottom of the hill to wait for the other tractor to be pulled uphill. The hill was then graded for added traction before the impacted tractor attempted to climb the hill. Since it started from a dead stop at the bottom of the hill then tried to climb uphill, it also lost traction. The driver tried to brake on location but kept sliding backwards.

It was found upon visual inspection of the tractor-trailer that the brake stroke on all axles equipped with maxi chambers was showing stroke in excess of 2 inches (measured at the scene), meaning that they were not properly adjusted and prevented the tractor and trailer from having proper braking power. All hauling equipment was then stopped by Agnico Eagle management until proper reports were given by Arctic Fuel Services to the fact that all equipment was meeting requirements.

Remediation Actions

The diesel fuel left in the tractor tanks was pumped out into totes to prevent further spillage. An assessment was then done on drafting as safe procedure to recover the equipment. It was decided that the tractor-trailer would be removed first, then proceed to removing the containers. All the equipment was removed from location, the tractor-trailer brought to the MBK site and the damaged containers were brought to the Emulsion plant for recovery.



The cleanup at the location was also done in multiple steps. First the ammonium nitrate that spilled on the snow from the damaged c-cans was manually shoveled and collected into a drum. One full drum of snow and material was collected and brought to the Emulsion plant for disposal. Secondly, the area where fuel spilled from the tanks was cleaned with a backhoe and all the contaminated snow and material was brought to the Tailings Storage Facility using roll-off bins. Thirdly, the area where the ammonium nitrate was spilled was also cleaned; this product was also disposed at the TSF, since the ammonium nitrate was previously removed.



The recovered damaged containers were brought to the Emulsion plant for assessment and disposal of unusable product. Of the 2 recovered c-cans, only one had damaged bags. A total of 500 kg of product was recovered from the area, including product that spilled on the ground during handling and product that was contained within. This contaminated ammonium nitrate product, being unusable, was disposed by spreading on a loaded blast pattern. The remaining undamaged tote bags were transferred to other containers and will be used in normal emulsion processes.



Corrective measures

A complete investigation was done on site and issues were found with the tractor-trailer condition (appendix). A meeting was then held between Arctic Fuel services, the contractor responsible for the hauling on the AWAR for Agnico Eagle. Root causes identified were: improper inspection of trucks and overall inadequate maintenance being performed on them (meeting minutes in appendix). Corrective measures were discussed and agreed upon, including proper pre-op inspections, possible disciplinary measures when items are not met and random audits being performed by the Meadowbank maintenance department on Arctic Fuel equipment float.

Closure

We trust that the above details described appropriately the spill incident that occurred at the Meadowbank on October 23rd, 2016 and the cleanup activities. Please contact the undersigned should you have any questions.

A handwritten signature in black ink, appearing to read 'Robin Allard', is shown on a light blue background.

Robin Allard
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Agnico Eagle Mines Limited
Meadowbank Division

AGNICO EAGLE



APPENDICES

Accident/Incident Investigation Form

PERSON AND TIME

Name: Richard Clarke Employee #: _____
Department: Energy Infra Work station: Truck driver for AFS
Supervisor: Stephane Larose Witness: Serge Pare / Stephane Valcourt / Charlie Wishart
Date: 2016-10-23 Time: 2h30 pm Overtime: ☐ Yes ☒ No
Shift: ☐ 8H ☐ 10H ☒ 12H ☒ Day ☐ Night

Supplementary details in the statement (if applicable) ☐ Appendix
The total weight of the unit was around 66 000 kg (140 000 pounds), 2 c-cans of 23 000 kg. Tandem truck with tridem trailer

Witness statements (if any):

See annex

TASK & ORGANIZATION

Task at the time of the accident: Driving up the hill with tractor trailer

Experience in this task: 4 years Frequency of this task: Daily twice a day

Movement at the time of the accident:

Climbing a hill at KM 102

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: August 2012 Length: _____

Information received for this task: ☒ Yes ☐ No Date: 16-10-23 Length: _____

LOCATION AND ENVIRONMENT

Exact location of the accident: KM 102 northbound

Layout and cleanliness of the site:

Winter condition, ice – snow - gravel

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

☒ Compliant ☐ Non-Compliant ☐ N/A

Details (if non-compliant):

Grader #1 had just scraped the road before the accident.



EQUIPMENT, MATERIALS AND TOOLS

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

AFS TRK #20 and trailer #25, 2 c-cans of Nitrate

Condition of equipment, materials or tools:

☐ Compliant ☒ Non-Compliant ☐ N/A

Details (if non-compliant):

Brake stroke on all axles equipped with maxi chambers showing stroke in excess of 2 inches (measure at the scene)

Driver notice that the brakes were all locked-up (but when we checked on site all the wheels were turning while the brakes were applied. see videos)

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

Date of last preventive maintenance: _____

Personal protective equipment involved (boots, hat, eyewear, mask, visor, gloves...):

Driver had the seat belt on

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

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:

Tractor trailer on it's side, damaged c-cans and spilled product



Fact(s):
(Why?)

Truck spun out on the hill and then slid backwards into the ditch landing on it's right side.

The truck ahead of the one involved in the accident had to stop when climbing the hill (not enough traction). This forced TRK#20 to stop at the bottom of the hill to wait. The other truck was pulled by grader #1 to climb the hill. The grader scraped the hill before TRK#20 attempted to climb the hill. He had to start from a dead stop at the bottom of the hill to try and attempt to climb the hill.

No sanding truck operational at the time of the accident and none have been available since the start of the winter season.



Immediate Cause(s):
(Why?)

Failure to make safe : Stop at the bottom of the hill (following to close)

Attempt to climb the hill without any grader pulling him

Slippery condition and snow drift : Winter condition

Using defective equipment: Brakes on trailer and some of the brakes on truck were not operational as per test conducted on site.



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

Inadequate inspection: Inspection by driver was completed and "#9. Brakes Service" was checked off on the pre-operational checklist but the brakes were not operational on the trailer.

Inadequate maintenance: No breaks were operational on the trailer and some of the brakes on the truck were not functioning either. (see video)

CORRECTIVE MEASURES

Corrective measure # 1

AEM (E&I & Truck Shop) will conduct random mechanic inspections on one Arctic Fuel truck & trailer once per month.

Responsibility: E&I Department, Christian Soucy

Due Date: Nov. 16, 2016

Corrective completed ☐

By: _____

Date: _____

Corrective measure # 2

E&I Management to meet with Arctic Fuel Management to discuss the accident and ensure that they understand that we expect the equipment to be 100% safe before every job. They should also ensure that all operators can perform their pre-operational check correctly.

Responsibility: E&I Department, Steven Tremblay

Due Date: Nov. 4, 2016

Corrective completed ☐

By: _____

Date: _____

Corrective measure # 3

Where equipment is dead stopped at a bottom of a hill or on an incline of a hill it shall be mandatory that the operator request assistance to make it up the hill during winter season. Safety meeting will be conduct for E&I crew and Arctic Fuel.

Responsibility: E&I Department, Alex Arcand

Due Date: Nov. 30, 2016

Corrective completed ☐

By: _____

Date: _____

Corrective measure # 4

All permanent operators of the Arctic Fuel fleet shall fill out a medical form at the clinic so that we have the history of the individual in case of emergency.

Responsibility: E&I Department, Alex Arcand

Due Date: Nov. 30, 2016

Corrective completed ☐

By: _____

Date: _____

Corrective measure # 5

Responsibility: _____

Due Date: _____

Corrective completed ☐

By: _____

Date: _____

OHSC Hourly
Representative: _____

Signature

OHSC Management
Representative: _____

Signature

Participant(s): _____

Date _____

Arctic Fuel Meeting for Incident at KM 102.

Damage:

Tractor trailer on it's side, damaged c-cans and spilled product. TRK#20 and Trailer #25.

Facts:

Truck spun out on the hill and then slid backwards into the ditch landing on it's right side. The truck ahead of the one involved in the accident had to stop when climbing the hill (not enough traction). This forced TRK#20 to stop at the bottom of the hill to wait. The other truck was pulled by grader #1 to climb the hill. The grader scraped the hill before TRK#20 attempted to climb the hill. He had to start from a dead stop at the bottom of the hill to try and attempt to climb the hill.

Immediate Causes:

Failure to make safe : Stop at the bottom of the hill (following to close)

Attempt to climb the hill without any grader pulling him

Slippery condition and snow drift : Winter condition

Using defective equipment: Brakes on trailer and some of the brakes on truck were not operational as per test conducted on site.

Root Causes:

Inadequate inspection: Inspection by driver was completed and "#9. Brakes Service" was checked off on the pre-operational checklist but the brakes were not operational on the trailer.

Inadequate maintenance: No breaks were operational on the trailer and some of the brakes on the truck were not functioning either. (see video)

Topics Discussed:

- 1) Why were the brakes not working on trailer & Truck?
- 2) Discuss Random Inspections that took place in the past. Many issues were observed. Brakes were not adjusted correctly.
- 3) Do the operators have the correct training for Pre-Op Inspections?
- 4) How will you ensure this does not occur again?
- 5) Ask that all full time operators fill out medic form at Meadowbank by November 30.
- 6) Advise drivers to follow 1 KM minimum between each truck. Signed document required by November 30th.
- 7) Discuss with all operators regarding dead stop procedure. Where equipment is dead stopped at a bottom of a hill or on an incline of a hill it shall be mandatory that the operator request assistance to make it up the hill during winter season. Safety meeting will be conducted for E&I crew and Arctic Fuel. Signed documents of safety meeting by Arctic Fuel by November 30th.
- 8) How do you manage disciplinary measures for accidents like these?
- 9) Q&A Session

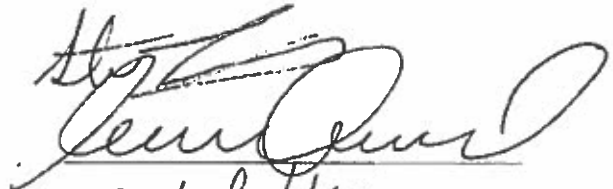
Participant(s):

Steven Tremblay

Alexandre Arcand

Mike Hachey

Kenny Hachey



Michael Hachey



Date Nov. 03. 2016