

November 15, 2019

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Subject: W2017D0004: Spill 2019429 Report

Pursuant to Part C Condition 18(c) of Land Use Permit W2017D0004, Dominion Diamond Mines ULC (Dominion) is providing a detailed report on Spill 2019429 which occurred on October 17, 2019 outside of the Misery Camp Light Duty Shop (see Figure 1 for location).

Summary

At 15:30 on October 17, 2019 a worker initiated a diesel transfer from a 4,500 L capacity storage tank (EC00001121) into a 1,135 L capacity day tank located inside the Misery Camp Light Duty Shop. The two tanks are connected by piping and the fuel is transferred using a small pump with a stated flow rate of 12.87 L/min. The operator continued to work in the area and monitor the status of the fuel transfer periodically. At 16:50 the operator noticed that the day tank had exceeded capacity and diesel had travelled up the vent line and spilled outside of the building. Dominion estimates that the tank was overflowing for approximately 9 minutes and spilled 117 L before the flow was stopped.

**Figure 1: Location of Spill 2019429
Misery Camp, Ekati Diamond Mine**



Figure 2. Day tank inside Misery Light Duty Shop



Root Cause

The two main factors contributing to this spill were:

- 1) The operator was not solely focused on monitoring the fuel transfer. The fuel transfer took a total of 80 minutes, so the operator attempted to perform other tasks in the area while the transfer was taking place.
- 2) The day tank is equipped with a 1" diameter return line which is meant to prevent overfills and return fuel directly to the outdoor storage tank when the day tank is filled to capacity. However, due to the small diameter of the return line and presence of several elbows in the piping, the fuel took the path of least resistance when it overfilled and ran directly up the vent line and out onto the ground outside of the shop (see Figure 3).

Immediate Action Taken

The Spill Contingency Plan was initiated, and the worker shut off the fuel transfer pump and contacted their Team Leader immediately. Absorbent pads were placed outside of the building to capture all free-standing diesel. The Site Services team used shovels to excavate the contaminated gravel near the building. Equipment was used to scrape up the contaminated gravel running down the hill outside of the building. As per Dominion’s Hydrocarbon-Impacted Materials Management Plan, fine-grained material (<4 cm) was taken to the landfarm for treatment, and large-diameter material (>4 cm) was taken to Zone S for disposal. Clean-up was not initiated immediately due to the presence of underground electrical cables in the area. The area was assessed prior to clean up to ensure the safety of personnel performing the work.

Figure 3. Vent line and spill excavation outside of Light Duty Shop





Follow Up Action Taken

- Dominion conducted an investigation of the spill, and concluded that the return line needed to be adjusted so that it would work properly in the event of a future overflow.
- The spill was entered into the Dominion First Priority Enterprise (FPe) incident management software and reviewed at all Safe Shift Meeting across site.
- Dominion used information such as the pump flow rate, estimated day tank volume prior to fill-up, and total transfer time to create an approximate spill volume of 117 L.

We trust this report is clear and informative. If you have any questions or comments please contact the undersigned at dustin.chaffee@ddcorp.ca or (867) 669-6164 or Lynn Boettger at lynn.boettger@ddcorp.ca or (867) 766-6914.

Yours Sincerely,

Dustin Chaffee
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