

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Blacktail Creek Spill - Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region VIII

Subject: POLREP #3
Progress
Blacktail Creek Spill
Marmon, ND
Latitude: 48.3872474 Longitude: -103.6560305

To:
From: Steven Way, On-Scene Coordinator
Date: 1/28/2015
Reporting Period:

1. Introduction

1.1 Background

Site Number:	Contract Number:
D.O. Number:	Action Memo Date:
Response Authority: OPA	Response Type: PRP Oversight
Response Lead: PRP	Incident Category: Removal Action
NPL Status: Non NPL	Operable Unit:
Mobilization Date: 1/23/2015	Start Date: 1/8/2015
Demob Date:	Completion Date:
CERCLIS ID:	RCRIS ID:
ERNS No.:	State Notification:
FPN#: E15805	Reimbursable Account #:

1.1.1 Incident Category

Emergency Response – OPA Removal and CERCLA Removal Assessment

1.1.2 Site Description

The response action underway by the RP follows a reported 70,000 barrel release of produced water including oil from a 4 inch pipeline that conveys produced water from a reported 37 (note corrected number) oil well pads to a disposal well. The release impacted a small creek (Blacktail Ck) a tributary to the Little Muddy River north of Williston, ND. Reportedly the potential line break was discovered on January 6, 2015, and the line was shut-down. No volume of discharge was reported in the original NRC report on January 7th.

Produced water (brine) recovery was initiated within days following the shutdown. Reportedly, as of 1/22/15, approximately 64,000 bbls of water (brine, oil and surface water) have been pumped and transported for disposal.

Oil is present on the surface water and additional containment and oil recovery measures are underway as of 1/23/15. It is uncertain as to what volume of oil may be present and discharging from the subsurface /alluvial system.

1.1.2.1 Location

1.1.2.2 Description of Threat

Impacts to surface water quality observed as far as the Little Muddy River near the confluence with the Missouri River.

1.1.2.3 Site Evaluation Results

- Trenching to a depth of 10 feet ground surface on 1/28/15 down gradient of the pipeline break and up gradient of Blacktail Creek revealed both apparent brine (based on strong odors) and a layer of oil within the gravel layer at the water surface.
- The groundwater in the domestic drinking water well on the east side of Hwy 85 was sampled by both the state and RP. The RP reportedly conveyed preliminary results verbally to the owner that no contaminants above MCLs were observed. However, additional analyses were being performed using drinking water methods that were not previously

used. (The RP was advised to provide the data to the owner and agencies.)

- **NDDOH was on-site sampling water downstream in Blacktail Creek and downstream.**
- Federal and state agency representatives toured the Site and the river system on Tuesday, January 27, 2015.
- The RP has commenced SCAT processes and will be reporting those daily.
- NDDOH water quality division personnel have been on scene since the reported incident. Samples collection occurred throughout the operations by the state at multiple locations.
- EPA is on scene evaluating the response actions as of 1/24/15 based on the ultimate estimate of approximately 3,000,000 gallons of produced water/oil discharge being reported on 1/22/15.
- Oil recovery operations are required at this time. There is an undetermined amount of oil in the channel between the spill site and Highway 85.
- Water levels are low in Blacktail Creek, which is a small, very low gradient, meandering creek.
- EPA has sampled the surface water near the spill site, produced water from one oil production well set (Moline) and in the Little Muddy approximately 10 creek-miles below the spill.
- EPA also collected sediment samples from Blacktail Creek between the spill site and Highway 85 and from the Little Muddy River below the crossing of Highway 2.
- Exploratory test pits were completed 1/25 to determine if subsurface free-phase oil is migrating from the source area to Blacktail Creek. Investigations revealed that produced water/oil sheen exists on the alluvial groundwater adjacent to the creek. However, free-phase oil did not accumulate in the test pits. Groundwater tested by the RP using Chloride Test Strips reportedly indicated high concentrations, i.e. greater than maximum range.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

Flow remains high in Blacktail Creek; although water levels did drop an estimated 9.5 feet or more near the oil recovery operations. The RP has temporarily discontinued pumping impacted creek water due to the exceptionally high flows occurring in Blacktail Creek. Additional frack tanks were mobilized to the site with anticipation of the water pumping resuming when temperatures cool to more normal ranges for winter. The chloride levels measured in the water have reduced to substantially lower levels, approximately 400 mg/L at the primary pumping location on site, according to field measurements as of Monday evening.

Oil present on the surface water is relatively small quantities. There is free product, and it continues to drain from melting ice and the channel banks into flow in the creek. Recovery operations continue at the upper reach of the Site.

2.1.2 Response Actions to Date

The RP has mobilized several contractors with vacuum trucks, oil containment boom, and various heavy equipment.

- **Reportedly, as of 1/28/15 more than 140,000 barrels of produced water/creek water/oil mixture have been pumped from the surface water and sent for injection well disposal. Pumping/trucking rates were approximately 10,000 bbl/day (1/25-26/15) as water levels rose in Blacktail Creek.**
- **An 80 foot interception / recovery trench was installed to a depth of approximately 10 feet below ground surface. This work was completed at 1930 hours on 1/28. The trench is gravel filled to approximately 3 feet below surface and includes two large diameter recovery wells/sumps. (Pumping operations are planned for 1/29/15.)**
- **Surface water pumping (removal) operations were discontinued after 1800 hours on 1/26/15 as a result of the substantial increase in flows in Blacktail Creek from run-off due to the warm temperatures (50 degrees F). Pumping resumed for some period on 1/28/15 due to higher chloride test strip values in one area of the channel.**
- Oil recovery operations continue at the first collection site using both absorbents and skimming (rope skimmer). **Additional absorbent boom is located downstream to control residual oil passing the primary recovery location. An estimated 8 to 10 barrels per day of oil is being recovered at the skimmer site.**
- **Ice accumulation overnight impedes oil recovery using the rope / mop skimmer.**
- Oil ice blocks are being removed from the oil recovery area using an excavator and staged in a temporary containment area along the creek banks.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

2.1.4 Progress Metrics

<i>Waste Stream</i>	<i>Medium</i>	<i>Quantity</i>	<i>Manifest #</i>	<i>Treatment</i>	<i>Disposal</i>

2.2 Planning Section

2.2.1 Anticipated Activities

2.2.1.1 Planned Response Activities

- The plan to construct additional dams was delayed due to the rise in water levels.
- **The RP will continue to construct underflow / containment dams once flows reduce.**
- **The OSC advised the RP that an alternative skimmer system is needed, such as a weir skimmer, to substitute for the rope skimmer during the icing conditions. This may reduce the collection of water and improve oil recovery.**
- **Total fluids recovery / pumping will begin 1/29/15 at the interception trench to determine its effectiveness in capturing brine and oil from the subsurface before it enters the surface water. Monitoring wells near the trench will be measured during this process.**

2.2.1.2 Next Step

- EPA-OSC and USCG Strike Team personnel will continue overseeing the oil removal operations over the next several days and determine if continued oversight is necessary.
- **Evaluate the subsurface produced water source to determine if measurable free-phase oil is observed during recovery.**

2.2.2 Issues

- Chloride concentrations are below the levels that disposal wells will accept in many cases. If chloride levels in the surface water remain elevated as compared to water quality standards, but too low for acceptance at disposal wells, this will require adjustments in the approach.

2.3 Logistics Section

2.3.1 Disposition of Wastes:

- Deep well injection for oil production waste water.

2.4 Finance Section

No information available at this time.

2.5 Other Command Staff

No information available at this time.

3. Participating Entities

3.1 Unified Command

Summit Midstream Partners LLC
ND DOH
EPA

3.2 Cooperating Agencies

USFWS
DOI
USACE

4. Personnel On Site

1 OSC on-scene (mobilized 1/23)
2 START on-scene (demobilized 1/26/15)
2 USCG onsite 1/26/15

5. Definition of Terms

No information available at this time.

6. Additional sources of information

No information available at this time.

7. Situational Reference Materials

No information available at this time.