

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



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Region VIII

**Subject:** POLREP #6  
Progress POLREP  
Blacktail Creek Spill  
  
Marmon, ND  
Latitude: 48.3872474 Longitude: -103.6560305

**To:**  
**From:** Steven Way, On-Scene Coordinator  
**Date:** 4/22/2015  
**Reporting Period:** 03/9/15 - 4/17/15

1. Introduction

1.1 Background

|                            |           |                                |                |
|----------------------------|-----------|--------------------------------|----------------|
| <b>Site Number:</b>        | Z8FN      | <b>Contract Number:</b>        |                |
| <b>D.O. Number:</b>        |           | <b>Action Memo Date:</b>       |                |
| <b>Response Authority:</b> | OPA       | <b>Response Type:</b>          | PRP Oversight  |
| <b>Response Lead:</b>      | PRP       | <b>Incident Category:</b>      | Removal Action |
| <b>NPL Status:</b>         | Non NPL   | <b>Operable Unit:</b>          |                |
| <b>Mobilization Date:</b>  | 1/23/2015 | <b>Start Date:</b>             | 1/8/2015       |
| <b>Demob Date:</b>         |           | <b>Completion Date:</b>        |                |
| <b>CERCLIS ID:</b>         |           | <b>RCRIS ID:</b>               |                |
| <b>ERNS No.:</b>           |           | <b>State Notification:</b>     |                |
| <b>FPN#:</b>               | E15805    | <b>Reimbursable Account #:</b> |                |

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.

1.1.2.1 Location

The site is located approximately 17 miles north of Williston near Marmon, ND. The produced water collection pipeline break occurred in an open field approximately 300 feet from Blacktail Creek.

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.

**Oil remains visible on surface water and riparian areas along Blacktail Creek west of Highway 85. Oil was observed on the surface and vegetation east of Highway 85 until recent removal actions were completed. Migratory water fowl are present and appear to be nesting in the area, and other wildlife inhabit the riparian area. The confluence of the Little Muddy and the Missouri River includes Critical Habitat for Threatened and Endangered Species.**

Groundwater contamination continues to be present in the form of high chloride and hydrocarbon levels above state water quality standards. Domestic wells are located downstream, east of Hwy 85 at the nearby residents. These wells are reportedly shallow drinking water wells.

1.1.2.3 Site Evaluation Results

During this reporting period from March 9 through April 17, 2015, the following observations were

made:

- Water levels in Blacktail Creek started to rise rapidly, reportedly between Friday, March 6, and continued rising through Tuesday, March 10, 2015. The water rose above underflow/containment dams and flowed overland in several areas. An oil sheen was extensive on the water surface in the area immediately downstream of the spill site, near station 32+00, to the SCD 1 dam location.
- Chloride levels reportedly dropped to levels below 50 ppm in the surface water. Groundwater chloride levels within interception trench sumps and monitoring wells also reduced substantially during this period of increased surface water flow.
- Inspection of the Blacktail Creek reservoir on March 11<sup>th</sup> by the OSC revealed that water was being released via the outlet controlled discharge including the water overflow into the outlet box. Reportedly, it is a routine practice during the spring melt to open the flow control gate. Although rising temperatures caused ice melt and run-off to increase, the opening of the outlet gate was a major cause for the rapid increase in flows observed over the first week in March.
- Domestic well sample data provided by the RP indicated that the well water did not show elevated levels of inorganic compounds or organic hydrocarbons associated with the produced water spill. This finding was previously provided to the residents in January. Additional data from a sample collected March is reported to be forthcoming.
- Assessment of the oil contamination continued along the creek channel during this period, and the USCG Strike Team members participated with Stantec personnel in performing the inspections. In addition, the OSC coordinated with Army Corps of Engineers (USACE)-Williston office and the RP to arrange inspection of the Little Muddy and Missouri rivers near Williston, upstream and downstream of the confluence. No oil was observed by the USCG or USACE personnel in these areas of the Little Muddy or Missouri River (Lake Sakakawea).
- A rapid assessment survey from segments 146+00 through 214+00 was completed on April 4 by the USCG and Stantec. The surface residue on the standing vegetation and oiled rack that was carried onto the banks was considered fairly heavy, as much as 4% in segments 146+00 through 160+00. Cutting and removal of oil vegetation was recommended and planned pending approval by the property owner.
- Oil was observed on April 15 in the soil along the creek bank between stations 62+00 to 64+00 that caused a sheen on the water. Limited probing below the ground surface revealed that the oil had penetrated into the creek banks to approximately 12 inches from the bank face and 8 inches below ground surface. In addition, oil was observed in the soil / sediment at a location upstream of station 32+00 where the produced water / oil discharge flowed into the creek downgradient from the pipeline break. Plans to remove this oil are being developed by the RP.

## 2. Current Activities

### 2.1 Operations Section

#### 2.1.1 Narrative

Response operations by the RP continued during the reporting period including pumping of contaminated alluvial groundwater from the interceptor trench / sump system and oil recovery from the surface water. Oil assessment activities along the banks of the creek were also conducted including routine surface water and ground monitoring well sampling.

EPA and state oversight continued during this period with assistance from the USCG Strike Team members. The state continues to regularly collect water samples from various surface water and groundwater locations.

#### 2.1.2 Response Actions to Date

- March 9 - 13: Blacktail Creek oil recovery operations were conducted west (upstream) of Hwy 85. Freeze/thaw weather patterns continued to complicate oil containment and recovery operations along with increased flow in the creek during this week. As ice melted with warming temperatures, oil was observed mobilizing on the surface of the creek. Oil removal operations were impacted by the overbank flows in several sections of the channel west of Hwy 85.
- Ground conditions limited access for vehicles due to mud/soft ground and creek flows overtopping the banks. Additional timber mats were required to create roadways for access; several thousand feet of oak-timber mats are now onsite to allow vehicle and equipment access.
- Vacuum trucks and absorbent materials were used to remove oil in the open water. Limited water flushing was conducted along the channel banks to remove oil deposited as water levels dropped.

As ice melted and broke up during the latter part of the week, debris collection fences and excavators were required to protect the oil containment boom and “oil shark” fence from floating ice.

- Removal of oiled vegetation was completed during this reporting period. It was agreed among state and federal agencies that cutting and removing oiled vegetation was preferred to the flushing the creek banks and redepositing the oil in the surface water. It was determined by the OSC and NDDOH inspector during inspections of the creek bank were performed on April 15 and 16<sup>th</sup> that vegetation removal operations were complete east of Hwy 85.
- The USCG, USACE and STANTEC completed a joint operation rapid assessment of all USACE federal managed land along the Little Muddy River shoreline from the 52<sup>nd</sup> Street bridge to the Hwy 1804 and train tracks with no oil observed.
- As of April 15, surface water oil recovery actions were generally limited to controlling sheen from shoreline oil deposits and collecting emulsified oil collecting at boom stations. “Oil Shark”<sup>™</sup> was effective in containing the sheen on the water surface in combination with an absorbent product. Otherwise, some sections of containment boom were in use collecting residual oil.
- Groundwater interception system pumping operations continue in approximately 30 sumps located from the upper limits of the site into reaches just east of Hwy 85. Reportedly approximately 300,000 bbls of contaminated groundwater have been recovered. These actions appear to be effective in reducing the impact on surface water from the remaining subsurface produced water.

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

Oversight of the cleanup operations will continue to be performed by the NDDOH.

#### 2.1.4 Progress Metrics

| <i>Waste Stream</i>  | <i>Medium</i> | <i>Quantity</i> | <i>Manifest #</i> | <i>Treatment</i> | <i>Disposal</i> |
|----------------------|---------------|-----------------|-------------------|------------------|-----------------|
| Oil                  |               |                 |                   |                  |                 |
| Brine/Produced Water |               |                 |                   |                  |                 |
| soil                 |               |                 |                   |                  |                 |

### 2.2 Planning Section

#### 2.2.1.1 Planned Response Activities

Remove oil from shoreline/creek banks near station 32+00 and between stations 62+00 and 64+00. In addition, oil collection will continue on the surface water west of Hwy 85.

Continue monitoring for evidence of oil discharging to the surface water and collecting oil at the control points being maintained on Blacktail Ck.

Continue recovering groundwater from the interception trenches and sumps.

#### 2.2.1.2 Next Steps

Determine if the oil removal action is complete following the implementation of plans to control or remove the oil in those areas described above.

#### 2.2.2 Issues

### 2.3 Logistics Section

No information available at this time.

### 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) - demob 1/31/15. Replacement to be on 2/2/15.  
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.