Oil Field Environmental Incident Summary

Incident: 20160129083621 ***Date/Time of Notice:*** 01/29/2016 08:36
Responsible Party: WHITE ROCK OIL & GAS, LLC
Well Operator: WHITE ROCK OIL & GAS, LLC
Well Name: BSMU 0201 CTB
Field Name: BIG STICK ***Well File #:***
Date Incident: **1/28/2016** ***Time Incident:*** 08:30 ***Facility ID Number:*** 406270-03
County: BILLINGS ***Twp:*** 141 ***Rng:*** 101 ***Sec:*** 2 ***Qtr:*** SW NE
Location Description: Spill came from a flowline off of the well/facility site.

Submitted By: Travis White ***Received By:***

Contact Person: Travis White
5001 SPRING VALLEY RD
SUITE 100 E.
DALLAS, TX 75244

General Land Use: Well/Facility Site ***Affected Medium:*** Topsoil

Distance Nearest Occupied Building:
Distance Nearest Water Well:
Type of Incident: Pipeline Leak
Release Contained in Dike: No ***Reported to NRC:*** No

	Spilled	Units	Recovered	Units	Followup	Units
Oil	**40**	**Barrels**	**40**	**Barrels**		
Brine	**260**	**Barrels**	**80**	**Barrels**		
Other						

Description of Other Released Contaminant:

Inspected: ***Written Report Received:*** ***Clean Up Concluded:***

Risk Evaluation:
N/A

Areal Extent:
Leak surfaced 400-500' east of the CTB. It spread out and traveled about 250' NE into Franks Creek.

Potential Environmental Impacts:

Top soil soaked up produced water.

Action Taken or Planned:

Leak was identified and isolated around 9 a.m. Immediately called Bronco BRS Spill Control to begin clean up. At this point in time, the creek is about 90% cleaned up and we are still working to finish that up. Immediate priority afterward will be to find the source of the incident.

Wastes Disposal Location: This information will be available on the 10-day clean up report.

Agencies Involved: USDA Forest Service
BLM - Dickinson Office

Updates

Date: 1/29/2016 ***Status:*** Correspondence ***Author:*** O'Gorman, Brian

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

Received an email update from NDDoH field inspector who was on location yesterday 1/28/16 and today. The update states that the release was from a production line approximately 250 meters south of Franks Creek. The release flowed toward Franks Creek in a braided patttern entering Franks Creek on an outside bend, being trapped in a scour hole. The scour hole was contained by an earthen berm and was boomed. Crews are on site with vac trucks collecting as much product as possible while building mini-dams, hand digging sumps, placing booms and continuing liquid collection. Cleanup is continuing today. More followup will be needed.

Date: 1/29/2016 ***Status:*** Inspection ***Author:*** Wax, Pete

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

On site 07:45, 01/29/2016. 15-20 NW wind at 25, 43 degrees partly cloudy. Release into Franks Creek no longer contained in scour hole. During the night, the melting snow filled the creek until it flowed. Estimated discharge at 20 to 30 cfs. Prior to scour hole being washed out, the crew reported they were able to remove 7+ barrels of product off the top of the ice. A mix of product could be seen swirling on top of the flowing water at the scour hole and being washed downstream. By 08:40, additional booms were being deployed along Franks Creek. The scour hole is boomed and being skimmed with a vac-truck to good effect (photographs collected). Water in scour hole does not show a chloride concentration using chloride strips. Collected water quality samples for general chemistry, nutrients, trace elements, and diesel range organics from scour hole. By late morning, Franks Creek was well-boomed in strategic locations, and nearly all sheen was being captured between the scour hole and the first bridge crossing approximately 3/4 mile downstream. Chloride strips show no concentration, strongly indicating that the salt water has been diluted by the melt waters. Water samples were collected for diesel range organics at two downstream locations. The crew continued to work on containing sheen with additional booms throughout the day. At approximately 16:00, a backhoe began unearthing the offending pipe. Rupture point was found and exposed. Off site 17:30.

Date: 1/29/2016 ***Status:*** Reviewed - Follow-up Required ***Author:*** Crowdus, Kory

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

Release impacted areas off location, including a nearby creek. Follow-up is required.

Date: 1/30/2016 ***Status:*** Inspection ***Author:*** Wax, Pete

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

On site 09:00. Snow and rain, 32 degrees, wind 5 from NW. Franks Creek still has sheen at scour hole and intermittently downstream to first road crossing. Tested water for chlorides using test strips. Results were less than the detection level. Cleanup still in progress. Activities include hand collecting and machine collecting visible product. A length of pipe is exposed with the rupture hole cut out. Hole appears to be from a very localized spot approximately 1.5 inches in diameter. By late afternoon, two containment dikes were to be constructed with underflow outlets. These are projected to be finished today. Dikes are in the flow path of the impacted uplands to contain any precipitation event that might occur prior to the cleanup being finished. The stream is being actively boomed, and a crew will continue with booming activities throughout the remainder of the weekend including Sunday. Site is completely contained, with the exception of what is potentially stored on the bottom of the scour hole. Off site 17:00.

Date: 2/1/2016 ***Status:*** Inspection ***Author:*** O'Gorman, Brian

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

Arrived on location at 14:15. 30 degrees F, overcast, NW wind 0-10 mph. Walked creek area and impacted upland areas with company contact. Cleanup still in progress. Contractors removing ice around absorbent booms for oil capture near the scour hole. Cleanup crews also replacing impacted booms with clean booms and removing ice to container on the well pad. It appeared that any petroleum product on the creek was contained to the boomed area within a couple hundred feet of the scour hole. Additional booms had been placed at two locations further downstream where Franks Creek Road crosses the creek. Observations were conducted at these locations, and no free-floating product was noticed beyond the area near the release. Photos were taken of impact area and locations downstream. Some preliminary soil electrical conductivity (EC) readings were taken near the release that showed EC values ranging from 18.0 mS/cm to "Out of Range" in the areas visually impacted near the release. More followup needed.

Date: 2/2/2016 ***Status:*** Inspection ***Author:*** O'Gorman, Brian

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

Arrived on location at 12:15. 27 degrees F, partly cloudy, N wind 0-5 mph. Drove to the furthest west bridge on Franks Creek Road that passes over the creek and took GPS coordinates (47.06448, -103.47700) for a sampling location. Did not observe any petroleum sheen on the creek at this point. Drove east Franks Creek Road to the bridge nearest the well pad that passes over the creek and is near abandoned well BSMU #0302. Took GPS coordinates (47.06182, -103.45737) for a second sampling location and did not notice any petroleum product on the creek at this point. Drove to a third sampling location downgradient of the release location and east of abandoned well BSMU #0204 (approximately 3/4 of a mile from the release), just north of Franks Creek Road and took GPS coordinates (47.06162, -103.44891). It appeared that there was a slight sheen in this area where the creek slowed down due to a deeper pool and a frozen creek surface downgradient of the slower-moving water. Work was continuing near the initial release and upgradient of the last GPS point. The contractor also had workers removing ice and monitoring booms at the second location point. More followup required.

Date: 2/3/2016 ***Status:*** Inspection ***Author:*** O'Gorman, Brian

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

Arrived on location at 13:00. 25 degrees F, cloudy, NW wind 10-20 mph. Collected water samples from the initial impact area and approximately 100' downstream for field electrical conductivity (EC) and chloride (Cl) values. Water collected from the initial impact area showed EC at 359 microsiemens per centimeter (us/cm) and Cl below 31 parts per million (ppm). Water collected downsteam of the initial impact area showed EC at 339 us/cm and Cl below 31 ppm. Took photos of the creek and surrounding impacted area. The "scour area" that was first to be impacted was ice free and showed petroleum sheening on the water surface and oil- soaked absorbent pads still in the creek. Ice removal and boom monitoring continued along select points in the creek. More follow-up needed.

Date: 2/4/2016 ***Status:*** Inspection ***Author:*** O'Gorman, Brian

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

Arrived on location at 14:00. 34 degrees F, partly cloudy, SW wind 5-15 mph. Walked with the company representative to the creek area where the initial impact occurred and took photos. Cleanup efforts were still in progress with a vac truck removing water from the creek, booms being monitored and replaced downgradient of the impacted location, and ice being removed for more efficient oil removal via oil-absorbent booms.
According to the company rep, there are 142 oil-absorbent booms in place and nine hard booms in place on the creek downgradient of the release.

Collected three water samples for diesel range organics (DRO) and gasoline range organics (GRO) from Franks Creek.

Water Sample 1 was collected from Franks Creek near the BSMU 0302 well pad (47.06182, -103.45737). No hydrocarbon sheen was noted at this location.

Water Sample 2 was collected from Franks Creek near the BSMU 0204 well pad (47.06162, -103.44891). A hydrocarbon sheen was noted on the surface of the creek at the time of collection.

Water Sample 3 was collected from the "scour" area at the location of initial impact (47.06339, -103.44250). A hydrocarbon sheen was also noted on the water at this location.

Excavation of the impacted soils south of the creek was commencing during the inspection, and water removal and boom monitoring continued while I was on site. Departed site at 18:15 CT. More followup needed.

Date: 2/9/2016 ***Status:*** Inspection ***Author:*** Souder, Taylor

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

Arrived on site at 0930. Noted that excavation is being done in the field where pipeline release occurred. Workers were laying down oil-absorbent sheets in creek downstream of the scour pit. Samples were taken in between the scour hole and the end of the discharge hose, at the middle sample site, and at the first bridge. At our first sample site (in between the scour hole and end of discharge hose), we noticed a good amount of oil sheen on the water, along with a hydrocarbon smell. At the middle sample site, we noticed an oil sheen and hydrocarbon smell, but less than the upstream location. At the bridge sample site, we noticed a very miniscule amount of sheen and no hydrocarbon smell. Samples have been submitted to the lab, and photos can be found in the report folder.

Date: 2/12/2016 ***Status:*** Inspection ***Author:*** Souder, Taylor

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

Arrived on location at 0900. Spoke with a Baranko Brothers employee and asked about what they were working on at that point. He stated they were using fly ash to solidify the remaining liquid and that they were daylighting the pipelines for easier removal of impacted soil. He also mentioned that they were excavating to 10 feet and backfilling with coarse material and a clay layer (this work is taking place in the field next to the creek). We took a soil sample in the scour pit. Sample has been taken to the lab, and photos can be found in the report folder.

Date: 2/16/2016 ***Status:*** Inspection ***Author:*** Espe, Brady

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

I arrived at the site 5:23 p.m. The weather was cloudy and 40ºF, with wind from the southwest 5-10 mph. The creek appears to be down some; the soft booms at the bridge had a little oil staining. I did not see any sheen in the water or stained vegetation in this area. They are using a vac truck to look for pipelines in the break area. The scour hole has filled up again. I took a sample just below the scour hole area and also did a chloride strip; it was less than 31 parts per million. More follow-up needed.

Date: 2/18/2016 ***Status:*** Inspection ***Author:*** Espe, Brady

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

I arrived at the site 8:30 a.m. The weather was cloudy and 30ºF, with wind from the southeast 0-5 mph. I talked to the company contact. The creek came up last night and almost took out the pump. They have workers collecting and redoing the booms. The pumps were not running. I took more samples; I did not see any sheen on the water. They were redoing the booms at the bridge. The further bridge boom was still in place, and I did not see any sheen at this boom. More follow-up needed.

Date: 3/3/2016 ***Status:*** Inspection ***Author:*** Crowdus, Kory

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

On location 3/3/2016, at 11:30 a.m. Walked the creek from release point to first bridge. No visual impacts or sheen observed at this time. Booms were still in place at multiple locations along creek. No work was being done at location at time of inspection. Photos were taken, and samples were collected. More follow-up is required.

Date: 3/3/2016 ***Status:*** Inspection ***Author:*** Torgerson, Brad

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

Visited the site on March 3, 2016 in the evening. Soil excavation areas east, SE, and NE of the centralized tank battery site. Walked along the creek north of the apparent leak area and did not observe any noticeable petroleum sheen or crude oil on the creek surface or creek bank. No noticeable oil was observed on the boom located downstream from the excavated area (see pic).

Date: 4/13/2016 ***Status:*** Inspection ***Author:*** Espe, Brady

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

I arrived at the site 4:48 p.m. The weather was cloudy and 77ºF. Wind was from the southeast 10-15 mph. The creek has dropped significantly and has low flow. The booms have been removed. The broken pipelines have been repaired, and the area has been reclaimed and seeded. The area near the creek where the pumping occurred has also been reclaimed and seeded. More follow-up needed.

Date: 4/28/2016 ***Status:*** Correspondence ***Author:*** O'Gorman, Brian

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

Received analytical results from Franks Creek water sampling assessment on 2/4/16. Two samples were collected: one at the initial impact area (16-C19) and the second (16-C20) approximately .75 miles downgradient of first sample. Both sample results showed diesel range organics (DRO) readings above 100 micrograms per liter (ug/L) at 388 ug/L (16-C19) and 394 ug/L (16-C20). Analytical results added to folder. More follow-up needed.

Date: 5/5/2016 ***Status:*** Inspection ***Author:*** Washek, Sandi

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

Arrived on site at 8:30 a.m. Weather was sunny with wind out of the south at 5 mph. Temperature was 61 degrees F. The field east of the pad, which was impacted by the remediation, has been replanted and the grass is coming up. The company rep stopped by and informed me that he plans to collect water samples for the site either today or Monday.
NDDoH inspector collected water samples: Group 190 and diesel range organics (DRO) from Sample Site #1, GPS 20160129083621-008 GPS N47.06330 W103.44288. No sheen was observed at the sample site location. In addition, a blank sample was collected here (Sample Number 20160129083621- 800B).
Collected a second water sample downstream at Sample Site #2, GPS N47.06168, W 103.44898 (Sample Number 20160129083621-009).
Walked the creek back toward the well pad about 100 yards downstream and did not observe any sheen on the water. The creek is still flowing. Did observe insects and one frog along the stream. Additional follow-up will be needed.

Date: 7/21/2016 ***Status:*** Inspection ***Author:*** Stockdill, Scott

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

Arrived on location 11:45, 7/2/2016.

No sign of oil impacts in the stream at the time of inspection. Macrobiota (fish) are present in the stream.

More follow-up is necessary to ensure proper cleanup. Contact company to get all sample results.

Date: 8/18/2016 ***Status:*** Correspondence ***Author:*** O'Gorman, Brian

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

Received paper copies of water sample results from 5/5/16, 3/3/16, 2/18/16 and 2/9/16 sampling events. Sample results added to incident folder.

Date: 10/7/2016 ***Status:*** Awaiting Documentation ***Author:*** O'Gorman, Brian

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

Received hard copy analytical lab results from 1/29/16 water sampling event. Sample results added to incident folder.

Date: 11/14/2016 ***Status:*** Inspection ***Author:*** Wax, Pete

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

On site 13:00, 57 degrees, 5 mph SW wind, mostly clear. Inspected recovery of the brine and oil flow path from release site to Frank's Creek. Flow path is not well vegetated (photographs collected) and easily recognizable both in the upland and the riparian zone. Frank's Creek looks healthy, and the scour hole that received the most impact contains aquatic bugs and is being used by wildlife (deer, raccoons, and other small mammals) for a water source. Off site 13:30.