

General Environmental Incident Summary

Incident: 3571 **Date/Time Notice:** 12/3/2014 **DEM Incident No:**

Responsible Party: Flatirons Drilling

Date Incident: 12/3/2014 **Time Incident:** **Duration:**

County: McKenzie **Twp:** 149 **Rng:** 99 **Sec:** 16 **Qtr:**

Lat: 47.72999 **Long:** -103.35520 **Method:** Interpolation from map

Location Description: Cherry Creek State Land, 22nd Street and CR 30 South of Watford City
North Dakota

Submitted By: Josh Larson

Affiliation:

Address: 2009 2nd Ave.

City: Greeley

State: CO

Zip: 80631

Received By:

Contact Person: Josh Larson
2009 2nd Ave.
Greeley, CO 80631

Distance Nearest Occupied Building:

Release Contained: Yes

Type of Incident: horizontal directional drilling fluid coming to the surface

Description of Released Contaminant: Water, Bentonite (Super Gel-X) and Drill-Terge

Volume Spilled: 4500.00 gallons

Ag Related: No

EPA Extremely Hazardous Substance: No

Reported to NRC: Unknown

Cause of Incident:

HDD drilling fluid has traveled through underground cracks and fissures to make to to the ground surface

Risk Evaluation:

none

of Fatalities:

of Injuries:

Affected Medium: 03 - soil

Potential Environmental Impacts:

possibility to affect the Cherry Creek State Land

Action Taken or Planned:

Straw waddles have been used to contain the release and vac trucks will be used to clean the release

Wastes Disposal Location:

Agencies Involved:

Updates

Date: 12/4/2014 **Status:** Inspection

Author: O'Gorman, Brian

Updated Volume:

Notes:

Arrived on location at 11:15. 24 degrees F, sunny, calm winds. Spoke with representatives from Whiting, Flatirons Drilling and third-party pipeline inspectors. Took field EC readings of Cherry Creek water that was daylighting near the bridge on the section line between Section 16 and Section 9, Township 149, Range 99. Readings varied from 5.8 mS/cm to 13.1 mS/cm. Low-range chloride test strip showed a reading of approximately 43 ppm. Collected a water sample for analysis from the area tested above and recorded GPS coordinates. Collected a source water sample from the treater/tank facility west of the creek and tested for chlorides which showed 331 ppm from the low-range strip. Conducted a field EC reading and collected a water sample for laboratory analysis (with GPS coordinates) from a location approximately 1/3 mile upstream of the daylighting area, with 11.99 mS/cm recorded from the field meter. Also collected a drilling mud sample from the drilling site pit for laboratory analysis. Chloride strip analysis on the drilling mud solutions showed no chlorides present. Field EC analysis of the drilling mud showed a reading of 2.19 mS/cm. Photos were taken of the daylighting area and upstream sampling location. Whiting representative informed me that company was conducting a pressure test of its line which runs under the creek in the area of the daylighting water. Final results of the pressure test were not completed before departure of the site. Whiting also had third party en route to collect samples for laboratory analysis. Cause of daylighting water still not determined; will return to location 12/5/14 to document, conduct more sampling and check on progress of pressure test and observe area more definitively. More followup required.

Date: 12/4/2014 **Status:** Reviewed - Follow-up Required

Author: Roberts, Kris

Updated Volume:

Notes:

Possible release to Cherry Creek reported by nearby resident. Whiting has pipeline in the area, and is responding. DoH inspector O'Gorman notified in the field and is en-route for inspection/follow-up.

Date: 12/5/2014 **Status:** Inspection

Author: O'Gorman, Brian

Updated Volume:

Notes:

Arrived on location at 9:45. 9 degrees F, sunny, west wind 5-10 mph. Spoke with the Whiting representative, and he informed me that the pressure test went well with only heat loss during the testing.

Walked upgradient from the bridge area and collected a solid (frozen) piece of drill mud material that had daylighted from the edge of the creek in an approximate 5-foot diameter area. Spoke with the drilling company representative and asked him to remove the material from the creek's frozen area. Took GPS-embedded photos while observing the creek upstream.

Later in the day, walked further upgradient from the 5-foot diameter mud release and noticed a larger area where the drilling mud had daylighted and covered an area of approximately 2,500 square feet of the creek surface. This area is approximately 1/2 mile upstream from the bridge (GPS coordinates 47 degrees 43.827 seconds and -103 degrees 21.490 seconds). Phoned the drilling company representative to meet me to observe the area and confirm the release.

Traveled downstream from the area in question approximately 1.5 miles (GPS coordinates 47 degrees 44.805 seconds, -103 degrees 19.907 seconds) and collected a third (downstream) water sample from Cherry Creek for lab analysis. Field analysis of the downstream sample measured 6.19 mS/cm.

The drilling company representative informed me that plans were to bring a vac truck to the area on/within the creek that was covered by the drilling mud and remove as much of the mud under the frozen material that could be removed while still in a liquid form. Drilling contact will keep the NDDoH informed as to progress of removing materials from the creek. Further followup required.

Date: 12/11/2014 **Status:** Correspondence

Author: O'Gorman, Brian

Updated Volume:

Notes:

12/11/14 - 14:56 - email to Flatirons Drilling Company contact from inspector O'Gorman:

Gentlemen:

As discussed earlier on the phone with Bill and Bob, the department would like a written work plan submitted to us regarding your assessment of the extent of the release, monitoring of the product (whether or not it has moved and/or impacted other areas), and procedures for initiating and proceeding through the cleanup of the drilling mud released onto/into Cherry Creek, southwest of Watford City, N.D.

Since the department has collected samples and has been on site to observe the release, I would recommend that the responsible party compile similar information to provide to the department when the cleanup has been completed for your records and official documentation of a proper and conscientious cleanup of the creek and the surrounding landscape.

We appreciate your cooperation in this matter, and please call if you have any further questions.

Date: 12/11/2014 **Status:** Correspondence

Author: O'Gorman, Brian

Updated Volume:

Notes:

12/11/14 - 14:41 email message from company contact as follows:

I just wanted to let everyone know the plan for the Cherry Creek cleanup. We are planning to begin cleanup efforts the morning of Monday 12/15/14. We will be using a vac truck provided by Mountain Peak Builders, and our guys will be using digging bars and propane torches to thaw the release enough to be sucked by the vac truck.

We are scheduling the cleanup for Monday due to the weather forecast to be a bit colder, and we feel that this will assist with keeping as minimal of a footprint on the land as possible with the vac truck.

We currently have the release contained with straw bales, and we are periodically visually monitoring the release. We will be monitoring the release over the next few days as well until we begin cleanup efforts on Monday morning.

As the cleanup begins and continues, we will be keeping everyone updated on the process.

Date: 12/12/2014 **Status:** Inspection

Author: Stockdill, Scott

Updated Volume:

Notes:

Arrived on location 12/11/2014.

No sign of cleanup effort at the impact locations. Drilling mud frozen on top of ice at the main point of impact.

More followup is necessary.

Date: 12/17/2014 **Status:** Inspection

Author: O'Gorman, Brian

Updated Volume:

Notes:

Arrived on location at 11:15. 18 degrees F, SW wind 15-25 mph, cloudy. Met with NDDoH inspector Kory Crowds on location to document and observe progress made toward cleanup of the released material. Walked upstream and downstream of the initial (12/3/14) daylighting water (south of bridge on 22nd St NW and west of Cherry State well pad). Took photos and observed creek conditions. Cherry Creek remained frozen over with two areas showing liquid water moving: (1) near the original daylighting area and (2) upstream approximately 100 feet from the first area and along a beaver dam. The two smaller release areas had been removed from the top of the frozen creek, and the third larger release area did not appear as evident due to new ice frozen on top of the originally observed material.

Collected one water sample from the daylighting water near the bridge (47.732052, -103.356083) for group 190 lab analysis.

Downstream of the sample location, water was not evident above the frozen creek and did not appear above the ice as a moving water body as observed during the 12/3, 12/4, and 12/5 inspections.

Confirmation of cleanup of the product was not determined due to water clarity not being identified, ice covering the surface of the creek and a light dusting of snow on top of the ice, making visual observation of the water incomplete.

According to an email received earlier today from Flatirons Drilling, personnel are continuing cleanup today. Further followup needed.

Date: 12/18/2014 **Status:** Correspondence

Author: O'Gorman, Brian

Updated Volume:

Notes:

Received an email from Flatirons Drilling representative concerning the continued cleanup of the Cherry Creek release. Email placed into incident folder with further followup required.

Date: 12/23/2014 **Status:** Inspection

Author: Wax, Pete

Updated Volume:

Notes:

12/23/2014. Light NW winds, 22 degrees, overcast light snow. On site 09:00, off site 10:40. Follow-up inspection. Snowed yesterday. Accumulation about an inch. Walked upstream to second beaver dam. No evidence of grey, clay-type sediment in open water at beaver dam (photographs collected). Inspected open riffle just south of bridge. Some grey-colored clay embedded at riffle (photographs collected). Went downstream north of bridge to first open riffle. No evidence of grey-colored clay/sediment (photographs collected). Found no obvious bentonite on stream banks at locations marked on map (collected photographs).

Date: 1/13/2015 **Status:** Inspection

Author: Stockdill, Scott

Updated Volume:

Notes:

Arrived on location 1/13/2014.

At the time of inspection, cleanup had been completed. However, followup is necessary in the spring to ensure there isn't any remaining material covered by recent snowmelt and that the chemistry of the water impacted returns to normal.

Date: 6/25/2015 **Status:** Inspection

Author: Espe, Brady

Updated Volume:

Notes:

I arrived at the site at 11:58 a.m. The weather was sunny, 75°F, with the wind from the southeast 5-10 mph. I could not see any issues in the creek, it is flowing, no build-up of mud. Reeds growing in this stretch of creek, the bank area also has vegetation growing. No further follow-up needed at this time.