

Oil Field Environmental Incident Summary

Incident: 20151007142930 **Date/Time of Notice:** 10/07/2015 14:29

Responsible Party: Hillstone Environmental Partners/AE2S Operations

Well Operator:

Well Name:

Field Name:

Well File #:

Date Incident: 10/7/2015 **Time Incident:** 12:00

Facility ID Number:

County: MCKENZIE

Twp: 149 **Rng:** 100 **Sec:** 11 **Qtr:** SE SW

Location Description: The pipeline leak is located along 22nd Str NW and 134th Avenue NW - drive over the hill and there will be people attending to it.

Submitted By: Grant Slick

Received By:

Contact Person: Cyril (CB) Lackey
1660 17th Street, Suite 350
Denver, CO 80202

General Land Use: Cultivated

Affected Medium: Topsoil

Distance Nearest Occupied Building:

Distance Nearest Water Well:

Type of Incident: Pipeline Leak

Release Contained in Dike: Yes - On Pipeline ROW

Reported to NRC: No

Spilled	Units	Recovered	Units	Followup	Units
----------------	--------------	------------------	--------------	-----------------	--------------

Oil

Brine

Other

Description of Other Released Contaminant:

The pipeline is a produced water pipeline. The volume released is unknown at this time.

Inspected:

Written Report Received:

Clean Up Concluded:

Risk Evaluation:

There are no current health hazards at this point.

Areal Extent:

Unknown at this point

Potential Environmental Impacts:

As of now, if the leak is contained there doesn't seem to immediate risk to surface or ground water. A further evaluation is needed however.

Action Taken or Planned:

The operations team followed their prescribed protocol and right now are trying to determine the cause. Will plan accordingly after cause is identified

Wastes Disposal Location: Containment provide by the environmental remediation company.

Agencies Involved:

Updates

Date: 10/7/2015 **Status:** Reviewed - Follow-up Required

Author: Tintes Schiwal, Emily

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

Spill contained to pipeline row. Followup required.

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

10/8/2015 at 11:45, on location. Pipeline leak occurred on top of hill slope, due to a nick in the line. Inspected the break. The hole is about 1 inch long. According to personnel, the line is about 1 year old, but it appears the hole did not break open until recent pressure testing that occurred a few days ago. Since then, about 800 barrels of fresh water were put into the line to help flush and locate the break.

Met with site personnel and toured location of break, as well as downhill activities to the east of the break where salt water and possibly fresh water from the flushing event are coming out of the hill slope above a slough. Multiple old alkali deposits are visible in this area, so the slough water is reading ~10 milliSiemens of electrical conductivity, but vegetation is alive. To the west from the slough where water is starting to come out of the hill slope, puddles have an electrical conductivity beyond the range of measurement equipment. Chloride test strip readings are also used to their limit, indicating chlorides of over 6500 ppm. Soil probe readings on the hill slope show a background of less than 1 mS at the surface; this increases into the 20-30 mS range once in the pipeline right of way (ROW) itself. Surface expression of the spill plume appears to favor the south side of the pipeline ROW, as the conductivity at the surface drops back to background levels when reaching the north side of the pipeline ROW. Subsurface levels are unknown.

A dirt berm has been constructed to limit surface flow, and a trench is being dug to start intercepting subsurface flow. A culvert connecting the slough to the rest of the drainage system has been blocked off. The culvert is about 1/2 foot above the surface of the slough, so no water is currently exiting the slough. Puddles on the surface past the berm are going to be sucked up to avoid them draining into the slough which is about 20 ft downhill. Exact depth of saltwater plume is not known at this time. Future plans are for the line to be excavated, the impacted soil removed, and monitoring wells installed to determine extent of the plume. More follow-up required.

Date: 10/9/2015 **Status:** Correspondence

Author: Tintes Schiwal, Emily

Updated Oil Volume:

Updated Salt Water Volume: 800.00 barrels

Updated Other Volume:

Updated Other Contaminant

Notes:

AE2S contacted us with a variety of additional and updated information regarding this release.

Responsible party is actually HEP HB 3903, LLC (owner of the pipeline); AE2S Operations has the operations contract. The general land use is pasture. The surface owner(s) are James and Carol Norgard. The nearest building is .5 mile from the incident.

Type of incident was a pipeline leak. The root cause appears to be third party equipment that struck the outside of the pipe. They hydro-vacced the affected pipe, and there was damage to the exterior pipe (flexpipe) by equipment or something heavy. This may have happened during construction or installation of adjacent pipelines. No damage reports were filed or notification given to the pipeline owner or operator by the third party or parties.

The release flowed along the right-of-way area and toward a pond and therefore was not contained. Release did not reach pond or any streams/rivers. Barriers are up, and cleanup is in progress. Brine was released. A minimum of 800 bbls was released. No estimate on the recovered volume as cleanup still in progress. From visual observation, the size of the affected area from produced water/flushed water on the surface appears to be about .5 acre.

The actions taken include operations protocols to shut down the system, flush the system, and then pressure test all segments with freshwater. The affected pipeline was repaired, and that segment and segments immediately surrounding it were pressure tested. Clean Harbors was called out immediately, and booms and containment were set up. Testing was begun on the nearby pond, soil, etc. Ground water monitoring wells will be placed in key locations. Landowners and tenants were notified throughout the process.

Some remediation has begun, and contaminated soil will most likely be taken to Stateline Landfill near Williston. They have a special crew that will be on site Monday to probe the soil (up to 40 ft), so that a 3D model can be made of the affected area to establish the depth and width of the subsoil area needing remediation.

This additional information indicates further follow-up needed, and the volume triggers a press release.

Date: 10/12/2015 **Status:** Correspondence

Author: Martin, Russell

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

Meeting with responsible party. Work on subsurface exploration planned to determine vertical extent of impact. Monitoring and sump wells planned based on subsurface impact. Surface readings indicate impact outside of pipeline right of way; however, no apparent impact to water has been discovered at this time.

Date: 10/26/2015 **Status:** Correspondence

Author: Martin, Russell

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

Received interim report covering activities to date. Brine penetration into subsurface appears controlled by presence of clay layers. Based on soil borings, brine detected up to ~20 feet deep in certain areas. No evidence that the brine has made its way to the slough. Further soil and water analysis results are on their way to the NDDoH once finished.

Date: 6/6/2016 **Status:** Correspondence

Author: Martin, Russell

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

Received interim report with findings to date.

Date: 12/16/2016 **Status:** Correspondence

Author: Martin, Russell

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

Received end of year site monitoring report with findings to date. Still no impact detected to the slough.