

State of Colorado
Oil and Gas Conservation Commission

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Date Received:

04/14/2016

SPILL/RELEASE REPORT (SUPPLEMENTAL)

This form is to be submitted by the party responsible for the oil and gas spill or release. Any spill or release which may impact waters of the State must be reported as soon as practicable; any spill over 20 bbls must be reported within 24 hours and all spills over five bbls must be reported within ten days. Submit a Site Investigation and Remediation Workplan (Form 27) when requested by the Director.

Spill report taken by:

CANFIELD, CHRIS

Spill/Release Point ID:

445453

OPERATOR INFORMATION

Name of Operator: <u>KERR MCGEE OIL & GAS ONSHORE LP</u>	Operator No: <u>47120</u>	Phone Numbers
Address: <u>P O BOX 173779</u>		Phone: <u>(303) 929.4306</u>
City: <u>DENVER</u> State: <u>CO</u> Zip: <u>80217-3779</u>		Mobile: <u>()</u>
Contact Person: <u>Erik Mickelson</u>		Email: <u>erik.mickelson@anadarko.com</u>

INITIAL SPILL/RELEASE REPORT

Initial Spill/Release Report Doc# 401024607

Initial Report Date: 04/08/2016 Date of Discovery: 04/05/2016 Spill Type: Recent Spill

Spill/Release Point Location:

Location of Spill/Release: QTRQTR SWNE SEC 14 TWP 1S RNG 68W MERIDIAN 6

Latitude: 39.966631 Longitude: -104.966438

Municipality (if within municipal boundaries): Thornton County: ADAMS

Reference Location:

Facility Type: TANK BATTERY Facility/Location ID No 320310
 No Existing Facility or Location ID No.
 Well API No. (Only if the reference facility is well) 05- -

Fluid(s) Spilled/Released (please answer Yes/No):

Was one (1) barrel or more spilled outside of berms or secondary containment? No

Secondary containment, including walls & floor regardless of construction material, must be sufficiently impervious to contain any discharge from primary containment until cleanup occurs.

Were Five (5) barrels or more spilled? Yes

Estimated Total Spill Volume: use same ranges as others for values

Estimated Oil Spill Volume(bbl): >=5 and <100 Estimated Condensate Spill Volume(bbl): 0

Estimated Flow Back Fluid Spill Volume(bbl): 0 Estimated Produced Water Spill Volume(bbl): 0

Estimated Other E&P Waste Spill Volume(bbl): 0 Estimated Drilling Fluid Spill Volume(bbl): 0

Specify: _____

Land Use:

Current Land Use: NON-CROP LAND Other(Specify): _____

Weather Condition: Sunny, windy, 60 degrees F

Surface Owner: FEE Other(Specify): _____

Check if impacted or threatened by spill/Release (please answer Yes/No to all that apply):

Waters of the State Residence/Occupied Structure Livestock Public Byway Surface Water Supply Area

As defined in COGCC 100-Series Rules

Describe what is known about the spill/release event (what happened -- including how it was stopped, contained, and recovered):

On April 5, 2016, a release was discovered at the Green 61S68W/14SWNE facility (Location ID 320310). An estimated 45 barrels of crude oil was released into the unlined secondary containment berm, from a hole located just above the base of the oil tank. The compromised storage tank was removed from service and excavation of impacted soil commenced on April 6, 2016. Groundwater was encountered within the excavation pit at approximately 5 feet below ground surface (bgs). Groundwater and soil confirmation samples are being collected from the excavation, and surface water samples have been collected from the adjacent surface water feature, located approximately 120 feet to the east of the facility. Remediation and assessment activities are ongoing and further information will be provided in a forthcoming Form 19 Supplemental report. A regional topographic facility location map is provided as Figure 1.

List Agencies and Other Parties Notified:

OTHER NOTIFICATIONS

Date	Agency/Party	Contact	Phone	Response
4/5/2016	Adams County	Gordon Stevens	--email	email forwarded to Jen Rutter
4/5/2016	City of Thornton	Lori Hight	--email	email forwarded to Robb Kolstad

SPILL/RELEASE DETAIL REPORTS

#1	Supplemental Report Date:	04/14/2016		
FLUIDS	BBL's SPILLED	BBL's RECOVERED	Unknown	
OIL	45	0	<input type="checkbox"/>	
CONDENSATE	0	0	<input type="checkbox"/>	
PRODUCED WATER	0	0	<input type="checkbox"/>	
DRILLING FLUID	0	0	<input type="checkbox"/>	
FLOW BACK FLUID	0	0	<input type="checkbox"/>	
OTHER E&P WASTE	0	0	<input type="checkbox"/>	

specify: _____

Was spill/release completely contained within berms or secondary containment? NO Was an Emergency Pit constructed? NO

Secondary containment, including walls & floor regardless of construction material, must be sufficiently impervious to contain any discharge from primary containment until cleanup occurs.

A Form 15 Pit Report shall be submitted within 30 calendar days after the construction of an emergency pit

Impacted Media (Check all that apply) Soil Groundwater Surface Water Dry Drainage Feature

Surface Area Impacted: Length of Impact (feet): 32 Width of Impact (feet): 41

Depth of Impact (feet BGS): 6 Depth of Impact (inches BGS): 72

How was extent determined?

Between April 6 and April 13, 2016, soil excavation and groundwater extraction activities were conducted following the discovery of the release. On April 6, four surface water samples (Green 1 through 4) were collected from the adjacent water feature, Big Dry Creek. On April 7, four confirmation soil samples (North1@5', West1@5', South1@5' and East1@5') were collected at the sidewall extents of the excavation, at 5 feet bgs. On April 7, groundwater sample Groundwater1@6' was collected from the excavation, at 6 feet bgs, and on April 13, groundwater sample Groundwater2@6' was collected from the excavation, at 6 feet bgs. Due to groundwater extraction activities, groundwater levels were drawn down relative to static levels. All samples were submitted to Origins Laboratory in Denver, Colorado, for analysis of constituents of concern. Surface water and groundwater samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) by USEPA Method 8260C. Soil samples were analyzed for BTEX and total petroleum hydrocarbons (TPH) - gasoline range organics (GRO) by USEPA Method 8260C, TPH - diesel and reduced range organics (DRO and RRO) by USEPA Method 8015C, electrical conductivity (EC), and pH. Laboratory analytical results of the surface water samples indicated that BTEX concentrations were below laboratory detection limits and less than COGCC Table 910-1 allowable levels. Analytical results of groundwater sample Groundwater1@6' indicated that benzene and toluene exceeded the applicable COGCC Table 910-1 standards for groundwater, at 774 micrograms per liter (µg/L) and 2,770 µg/L, respectively. Analytical results of groundwater sample Groundwater2@6' indicated that benzene and toluene exceeded COGCC Table 910-1 standards, at 255 µg/L and 798 µg/L, respectively. The general facility layout, excavation location, and laboratory results are shown in Figure 2. Analytical results are summarized in Table 1 and Table 2, and laboratory reports are provided.

Soil/Geology Description:

Sandy clays grading to siltstone/claystone bedrock.

Depth to Groundwater (feet BGS) 5

Number Water Wells within 1/2 mile radius: 5

If less than 1 mile, distance in feet to nearest

Water Well	<u>398</u>	None <input type="checkbox"/>	Surface Water	<u>120</u>	None <input type="checkbox"/>
Wetlands	<u>120</u>	None <input type="checkbox"/>	Springs		None <input checked="" type="checkbox"/>
Livestock	<u>3410</u>	None <input type="checkbox"/>	Occupied Building	<u>525</u>	None <input type="checkbox"/>

Additional Spill Details Not Provided Above:

For the soil samples collected at the sidewall extents of the excavation, laboratory analytical results indicated that BTEX and TPH were below laboratory detection limits and below COGCC Table 910-1 allowable levels. For EC and pH, soil sample laboratory analytical results indicated that concentrations were below COGCC Table 910-1 allowable levels. The final extent of the excavation spanned approximately 32 feet (west-east) by 41 feet (north-south). Approximately 360 cubic yards of impacted material was excavated and transported to Front Range Landfill in Erie, Colorado, for disposal. Approximately 768 barrels of impacted groundwater were removed via vacuum truck, and transported to Kerr-McGee's licensed injection facility for disposal. To stimulate the hydrocarbon degradation process, on April 13, 200 pounds of a carbon-based bio-stimulant and oxidizer was applied to the groundwater within the excavation, prior to backfilling. During excavation activities, apparent remnant staining from a former release was observed. COGCC Remediation Project #485, which was assigned to the former release that occurred in 2000, was closed by the COGCC in 2003. A Form 27 will be prepared and submitted for the subject release.

CORRECTIVE ACTIONS

#1 Supplemental Report Date: 04/14/2016

Cause of Spill (Check all that apply) Human Error Equipment Failure Historical-Unknown
 Other (specify) _____

Describe Incident & Root Cause (include specific equipment and point of failure)

The release resulted from a sidewall seam failure, located just above the base of the oil tank.

Describe measures taken to prevent the problem(s) from reoccurring:

The oil tank was removed from service.

Volume of Soil Excavated (cubic yards): 360

Disposition of Excavated Soil (attach documentation) Offsite Disposal Onsite Treatment
 Other (specify) _____

Volume of Impacted Ground Water Removed (bbls): 768

Volume of Impacted Surface Water Removed (bbls): 0

REQUEST FOR CLOSURE

Spill/Release Reports should be closed when impacts have been remediated or when further investigation and corrective actions will take place under an approved Form 27.

Basis for Closure: Corrective Actions Completed (documentation attached)
 Work proceeding under an approved Form 27
 Form 27 Remediation Project No: _____

OPERATOR COMMENTS:

I hereby certify all statements made in this form are to the best of my knowledge true, correct, and complete.

Signed: _____ Print Name: Erik Mickelson
 Title: Senior HSE Representative Date: 04/14/2016 Email: erik.mickelson@anadarko.com

COA Type	Description

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
401028508	TOPOGRAPHIC MAP
401028509	SITE MAP
401028510	ANALYTICAL RESULTS
401028511	ANALYTICAL RESULTS
401028512	ANALYTICAL RESULTS

Total Attach: 5 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>

Total: 0 comment(s)