

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. First St., Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

OIL CONS. DIV DIST. 3

Form C-141  
Revised August 8, 2011  
JAN 19 2018  
Submit 1 Copy to appropriate District Office in  
accordance with 19.15.29 NMAC.

**Release Notification and Corrective Action**

**OPERATOR**

☒ Subsequent Report ☐ Final Report

Name of Company: BP	Contact: Steve Moskal
Address: 380 Airport Road, Durango CO, 81303	Telephone No.: 505-330-9179
Facility Name: Mudge LS 006	Facility Type: Natural gas well

Surface Owner: Federal	Mineral Owner: Federal	API No. 3004510843
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**LOCATION OF RELEASE**

Unit Letter A	Section 11	Township 31N	Range 11W	Feet from the 1,033	North/South Line South	Feet from the 869	East/West Line West	County: San Juan
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Latitude 36.90884 Longitude -107.96561

**NATURE OF RELEASE**



Type of Release: condensate and produced water	Volume of Release: Unknown	Volume Recovered: none
Source of Release: Flow line and BGT	Date and Hour of Occurrence: unknown	Date and Hour of Discovery: August 8, 2014; 1:30 PM
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\* During construction operations to replace the onsite BGTs impacted soil was discovered. The impacted soil was excavated and transported off site for landfarm treatment. To date approximately 12,212 yards<sup>3</sup> have been removed from or treated at the site. Groundwater monitoring wells were installed and sample results received on July 1, 2015 confirmed impacts. Additional monitoring wells were installed following an approved remediation work plan during the first half of August 2016. Final soil impacts were treated via soil shredding.

Describe Area Affected and Cleanup Action Taken.\* Onsite hydrocarbon impacted soil was excavated. The excavated soil comprising of approximately 6,000 cubic yards were removed from the site. Additional monitoring wells recently installed suggested groundwater impacts are confined to a perched water zone. BP has performed purging the water from this zone in an effort to determine whether the water is perched or not. At this time it is strongly believed that the water is perched and is disconnected from any water bearing aquifer. The attached report details the recent soil remediation project where an additional 6,212 cubic yards of soil were successfully remediated via soil shredding. The final extents were reached in the lateral and vertical directions, with the exception of a plug below a high pressure natural gas collection line and in the area of a large, steep, vegetated hillside where substantial excavation of non-impacted soil would have to occur. The excavation of the clean overburden would pose a significant threat to safety and future erosion if executed. At this time, BP proposes no further soil remediation action at the site. Continued monitoring of the perched water will be performed. Additional monitoring wells will be installed in areas where perched water was identified during the remedial excavation according to the attached work plan.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Steve Moskal	Approved by Environmental Specialist: 	
Title: Field Environmental Coordinator	Approval Date: <u>2/22/18</u>	Expiration Date:
E-mail Address: steven.moskal@bp.com	Conditions of Approval: <u>Additional granted</u>	Attached <input type="checkbox"/>
Date: January 19, 2018	30 DAYS from previous	
Phone: 505-330-9179		

\* Attach Additional Sheets If Necessary

3RR 469

FEB 16 Deadline Due TO weather

(4)



## **BP Remediation Planning**

To: Cory Smith & Vanessa Fields (NMOCD)  
From: Steve Moskal (BP)  
CC: Jeff Blagg (Blagg Engineering)  
Date: 1/19/2018  
Re: Mudge LS 006 –Groundwater Delineation Plan  
API#30-045-10948 (A) S10, T31N, R11W; Lat. 36.90884, Long. -107.96561

The Mudge LS 6 site is an active natural gas production pad within the San Juan Basin Gas Field in San Juan County, New Mexico. The site is located on Bureau of Land Management (BLM) land at the head of a small ephemeral stream draining a very steep slope, covered with well-established sage brush.

### **BACKGROUND**

A release of condensate from production equipment was identified in August 2014. Since the discovery of the condensate release BP has excavated approximately 13,000 cubic yards of impacted soil to depths of 35 feet below ground surface (fbgs); collected numerous soil confirmation samples; conducted an off-site investigation of the sage slope and wash and installed a total of 11 groundwater monitoring wells and two soil borings within the pad area.

The site soils consist of a wedge of loose brown sands and silts that overlie a thick sequence of dense and cemented bluish gray sands (herein referred to as blue sandstone). The thickness of the brown sands range from seven feet in the northern section of the production pad; 22 ft in the central section of the pad, and 10 feet in the wash at the bottom of the slope. Observations from the excavation identified localized thin (less than 3 feet) lenses of loose sand and silts near the surface of the blue sandstone sequence. Areas of the excavation have been backfilled with either imported soil or soil treated on site using soil shredding technologies.

### **GROUNDWATER DELINEATION PLAN**

BP proposes to advance 2 soil boring to a maximum of 40 feet bgs. The borings will be advanced using a minimum 4" (ID) hollow stem auger or other tooling adequate to accommodate 2" PVC groundwater monitoring wells. The wells will be terminated at the blue shalestone interface. In each boring, 2-inch PVC well screen will be placed in the lower 15-20 foot portion of each soil boring with an attached riser to the surface for completion as an above grade well monument. Sand pack will be added to the boring annulus to 1' above the screened interval. Hydrated bentonite or slurry will be placed in the remainder of the boring to 1' bgs where cement will be used to seal the surface and final completion for the above grade well protector. The well protectors will be lockable. The wells will be permitted through the New Mexico Office of the State Engineer Aztec Office by BP or its consultant.

During advancement of the well borings, soil samples will be collected for confirmation. The area of drilling was previously excavated and the soil treated via soil shredding. Soil identified as being treated soil will not be sampled as it already has passed the site closure standards. A soil samples will be collected every 5' or more frequent if possible. The soil samples will be field screened using a calibrated photoionization detector via an approved field headspace method. A minimum of one soil sample, likely at the blue shalestone interface, will be submitted for laboratory analysis, following handling and chain of custody protocols, for analysis of EPA Methods 8015 TPH (GRO, DRO and MRO), 8021 BTEX and 6010 chlorides. The soil samples with the highest PID from each boring along with the soil sample base of the boring or at the groundwater interface will be submitted for analysis. The upper 20 feet or so of soil is not impacted and will be thin spread on site. If contaminated soil is encountered, it will be collected and containerized for offsite disposal.

Once the well installation is complete and allowed to sit for a minimum of 24 hours, the wells will be monitored for water. If no water is present, the wells will then be rechecked in approximately 2 weeks. If water is present, the wells will be developed via a bailing and purging with a new, disposable bailer used in each well. The wells will be purged for a minimum of 3 well volumes and where field screening for temperature, conductivity and pH become stable for a minimum of three consecutive readings (within 10%). The purged water will be contained and disposed of in the nearby below grade tank.

The wells will then be allowed to sit for approximately 24 hours then purged of approximately three well volumes prior to sampling for EPA Method 8260 VOCs and General Water Chemistry via API General Chemistry methods (including pH, TDS, cations/anions), all following sample handling and chain of custody protocols.

#### Reporting

Once laboratory results are received for soil and groundwater samples, BP will furnish a report to the NMOCD detailing drilling activities, well construction, laboratory results and groundwater gradient data based on local survey information. All these activities will be performed by a third party contractor. The report will be delivered to the NMOCD within 60 days of the final laboratory report.

Regards,



Steve Moskal  
BP America Production Co.



# Mudge LS 006

API# 30-045-10843

ULSTR: A-11-31N-11W

GPS: 36.90884, -107.96561

## Legend

- Excavation Extents
- Existing Monitoring Well
- Mudge LS 006 Wellhead
- Proposed Monitoring Well

MW-3S  
Mudge LS 006

MW-6

MW-7

MW-5D MW-5S

MW-4D MW-4S

Proposed MW-8

Proposed MW-9

Google Earth

200 ft

