3R - 425

GENERAL CORRESPONDENCE

2011

New Mexico Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

Harrison H. Schmitt
Cabinet Secretary Designate

Daniel Sanchez
Acting Division Director
Oil Conservation Division

JANUARY 31, 2011

Ms. Kelsi Harrington
Burlington Resources
3401 E. 30th St.
Farmington, NM 87402

RE: REQUIREMENT TO SUBMIT REMEDIATION PLAN
BURLINGTON RESOURCES
SAN JUAN 29-7 UNIT 37 (API NO. 30-039-07643)
UNIT LETTER "N", SECTION 12, TOWNSHIP 29 NORTH, RANGE 37 WEST
RIOARRIBA COUNTY, NEW MEXICO
OCD CASE NO. 3R-425

Ms. Harrington:

The Oil Conservation Division (OCD) has determined that Burlington Resources (Burlington) must submit a written Remediation Plan within 30 days of your receipt of this letter, pursuant to OCD Rule 29 (19.15.29.11 NMAC), to investigate hydrocarbon contamination at Burlington's San Juan 29-7 Unit 37 gas well (API No. 30-039-07643), located in Unit Letter "N", Section 12, Township 29 North, Range 37 West, Rio Arriba County, New Mexico. Burlington submitted a C-141 to OCD on September 16, 2010. On January 28, 2011, your consultant provided analytical results that confirmed that ground water had been impacted by a release at concentrations that exceed the Water Quality Control Commission ground water standards (see 20.6.2.3103 NMAC).

Burlington's Remediation Plan must be submitted to the OCD Santa Fe Office with a copy provided to the OCD Aztec District Office and must meet all of the requirements specified in OCD Part 29. Burlington's Remediation Plan must address both ground water and soil contamination. The part of the Remediation Plan that addresses ground water contamination must include, but is not limited to, a site investigation work plan and monitoring program that will enable it to characterize the impact to ground water using an appropriate number of monitoring wells and must provide the data necessary to select and design effective corrective actions. The part of the Remediation Plan that addresses soil contamination must include, but is not limited to, the type of active remediation proposed, the design and process of the remediation

system and the locations of the extraction wells proposed. Please include all of the information that Burlington has acquired since it began its investigation of this site.

Burlington's Monitoring Well Installation Plan that was submitted on January 28, 2011, does not adequately address all of the remediation plan requirements under OCD Part 29 and must be revised. The remediation plan should specify that Burlington will advance as many monitor wells as necessary to delineate the ground water contamination in three dimensions.

Burlington should submit one paper copy with and an electronic copy on a CD of all workplans and/or reports. Please refer to **OCD Case No. 1R-425** on all future correspondence. If you have any questions, please contact me at (505) 476-3488.

Sincerely,

Glenn von Gonten
Acting Environmental Bureau Chief

GvG/gvg

cc: Daniel Sanchez
Brandon Powell

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company **Burlington Resources, A Wholly Owned Subsidiary of ConocoPhillips Company**		Contact **Kelsi Harrington**	
Address **3401 E. 30th St., Farmington, NM 87402**		Telephone No. **505-599-3403**	
Facility Name **San Juan 29-7 Unit 37**		Facility Type **Gas Well**	API# **3003907643**
Surface Owner **Private**	Mineral Owner **Federal**		Lease No. **SF-078919**

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
N	**12**	**29N**	**07W**	**1001'**	**South**	**1650'**	**West**	**Rio Arriba**

Latitude 36.73552° N Longitude -107.52488° W

NATURE OF RELEASE

Type of Release – **Condensate**	Volume of Release – **23.3 BBL**	Volume Recovered – **0 BBL**
Source of Release: **Production Tank**	Date and Hour of Occurrence **unknown**	Date and Hour of Discovery **8/26/2010 7:30 a.m.**
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour –	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.* **On August 26, 2010, it was dicovered that there was a leaking gasket on the production tank. Upon discovery, the well shut in and the tank contents removed.**

Describe Area Affected and Cleanup Action Taken.* **All fluid was contained within the berm and no fluid was recovered. COPC will assess the impacted area and remediate, if needed.**

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: Kelsi Harrington	OIL CONSERVATION DIVISION	
Printed Name: **Kelsi Harrington**	Approved by District Supervisor:	
Title: **Environmental Consultant**	Approval Date:	Expiration Date:
E-mail Address: **kelsi.g.harrington@conocophillips.com**	Conditions of Approval:	Attached ☐
Date: **9/16/10** Phone: **505-599-3403**		

* Attach Additional Sheets If Necessary

TETRA TECH, INC.

6121 Indian School Rd NE, Suite 200
Albuquerque, NM 87110
(505) 237-8440
Fax (505) 237-8656

January 24, 2011

Terry Lauck
Site Manager
Risk, Management and Remediation
ConocoPhillips Company
1616-01 Phillips Building
420 South Keeler Avenue
Bartlesville, OK 74004

RE: Monitoring Well Installation
ConocoPhillips San Juan 29-7 Unit 37 Production Site
Rio Arriba County, New Mexico
Tetra Tech Project No. 114-690195

Dear Mr. Lauck:

Tetra Tech, Inc (Tetra Tech), on behalf of ConocoPhillips, is submitting this brief explanation of plans to monitor impacts discovered during subsurface investigation that took place the week of January 10 – 14, 2011 at the San Juan 29-7 Unit 37 gas production site (Site) located at Unit letter N, Section 12, Township 29 North, Range 07 West in Rio Arriba County, NM (**Figure 1**).

One boring (B-1) was advanced in the previously excavated area by Enviro-Drill, Inc. of Albuquerque, NM, based on data gathered during soil removal activities at the Site. The ground surface elevation in the location of the prior excavated area during the week of January 10 – 14, 2011 was approximately six feet below the original and natural surface elevation of the remainder of the site. Borehole B-1 was advanced using a CME-75 hollow stem auger drill rig. Soil samples were collected continuously using split spoon sampling technique until an approximate depth of 100 feet below ground surface (bgs) of the excavated area, where samples were then collected at five foot intervals until the total depth of the boring was reached at approximately 123.5 feet bgs. Several soil samples were collected for laboratory analysis from various intervals through out the split spoon sampling process. Soil was collected in laboratory prepared sampling containers, packed on ice and shipped under chain of custody documentation to Southern Petroleum Laboratories (SPL), located in Houston, TX, to be analyzed for benzene, toluene, ethylbenzene, total xylenes (BTEX), total petroleum hydrocarbons (TPH) gasoline range organics (GRO), and TPH diesel range organics (DRO). One sample

interval showed evidence of soil impacts above New Mexico Oil Conservation Division, Soil Remediation Action Levels, sample ID, *B-1 (30-32 feet)*, with the following analytical results:

- The NMOCD soil action level (based on NMOCD site priority level) for total BTEX in soil is 50 milligrams per kilogram (mg/kg or ppm). Soil collected from sample interval *B-1 (30-32 feet)* contained 433.25 mg/kg total BTEX.
- The NMOCD soil action level for TPH in soil is 100 mg/kg. Soil analyzed from *B-1 (30-32 feet)* contained 5680 mg/kg TPH.

Groundwater was encountered on January 13, 2011 at approximately 105 feet bgs of the excavated area, approximately 111 feet bgs of the original site surface elevation. A groundwater sample was collected from B-1 on January 14, 2010. The groundwater sample was collected in laboratory prepared containers, packed on ice, and shipped under chain of custody documentation to SPL Laboratories of Houston, TX, to be analyzed for BTEX, TPH GRO, TPH DRO, and polynuclear aromatic hydrocarbons (PAHs). Groundwater analytical results are as follows:

- The New Mexico Water Quality Control Commission (NMQCC) standard for benzene in groundwater is 10 micrograms per liter (µg/L or ppb). Groundwater collected from B-1 contained benzene at a concentration of 930 µg/L.
- The NMWQCC standard for toluene and ethylbenzene in groundwater is 750 µg/L. Groundwater collected from B-1 contained toluene at a concentration of 15,000 µg/L and ethylbenzene at a concentration of 1,400 µg/L.
- The NMWQCC standard for total xylenes in groundwater is 620 µg/L. Groundwater collected from B-1 contained total xylenes at a concentration of 18,800 µg/L.

A summary of all soil analytical data can be seen as **Table 1** and a summary of groundwater analytical results can be seen as **Table 2**.

Monitoring Well Installation

Tetra Tech recommends that four monitoring wells be installed at the San Juan 29-7 Unit 37 site. Monitoring Well MW-1 will be installed in the excavated area north of the B-1 location, MW-2 will be installed up-gradient of the excavated area, while Monitoring Wells MW-3 and MW-4 be installed down-gradient of the excavated area. A detailed site map with proposed monitoring well locations is included as **Figure 2**.

Details of this plan are as follows:

- Monitoring wells will be installed to approximately 120 feet bgs of the sites natural surface elevation using 2 inch polyvinylchloride (PVC) casing. Each monitoring well will have an above ground completion set in a concrete pad of approximately 2 feet by 2 feet. High-visibility protective bollards will be placed around each well to ensure that each completion remains visible and protected from vehicles and cattle. Fifteen feet of two-inch 0.010 slotted PVC screen will be placed with 5 feet above and 10 feet below the top of the groundwater table in each well. A flush-mounted manhole cover will be used as an alternate installation if above ground completions are not feasible where monitoring wells are placed. A hollow stem auger drill rig operated by Enviro-Drill of Albuquerque, New Mexico will be used to advance the borings and install the monitoring wells. Monitor well locations will be cleared for presence of underground utilities by using a vacuum truck to advance "pre-borings" to approximately 5 feet bgs.

- The monitor wells will be developed prior to sampling for the following constituents of concern (COC).
    - Volatile Organic Compounds (VOCs), EPA Method 8260B
    - Polynuclear Aromatic Hydrocarbons (PAHs), EPA Method 8270C
    - Total petroleum hydrocarbons (TPH), EPA Method 8015B
    - Total metals - aluminum, boron, iron, arsenic, barium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, silver, zinc by EPA Method 6010B and mercury by EPA Method 7471A
    - General chemistry (as described in 40 CFR 136.3), including
        - Alkalinity, EPA Method SM2320B
        - Bromide ,chloride, fluoride, orthophosphate, sulfate, nitrate/nitrite, EPA Method 300.0
        - Bicarbonate/carbonate, EPA Method 310.1
        - pH, EPA Method 4500-HB
        - Specific conductance, EPA Method E120.1

- Monitor wells will be sampled on a semi-annual basis, until COCs begin to drop below New Mexico Water Quality Control Commission (NMWQCC) standards. When these constituents are below NMWQCC standards, Tetra Tech will begin sampling the Site monitor wells on a quarterly basis. When all COC's have been below NMWQCC standards for eight consecutive quarters, Tetra Tech will submit a letter to the New Mexico Oil Conservation Division (NMOCD) requesting Site closure.

- When the NMOCD grants Site closure, Tetra Tech will return to the Site to oversee monitor well plug and abandonment (P&A). A hollow stem auger drill rig will be used to back fill the borings with a concrete/grout mixture. If possible, the PVC casing will be pulled out of the borehole. Well surface completions will be dug out and backfilled with clean soil.

Should you have any questions or comments concerning this letter please contact me at 505-237-8440.

Sincerely,

TETRA TECH

Kelly E. Blanchard

Kelly E. Blanchard
Project Manager/Geologist

Attachments:
Figures (2)
Table (2)

FIGURES

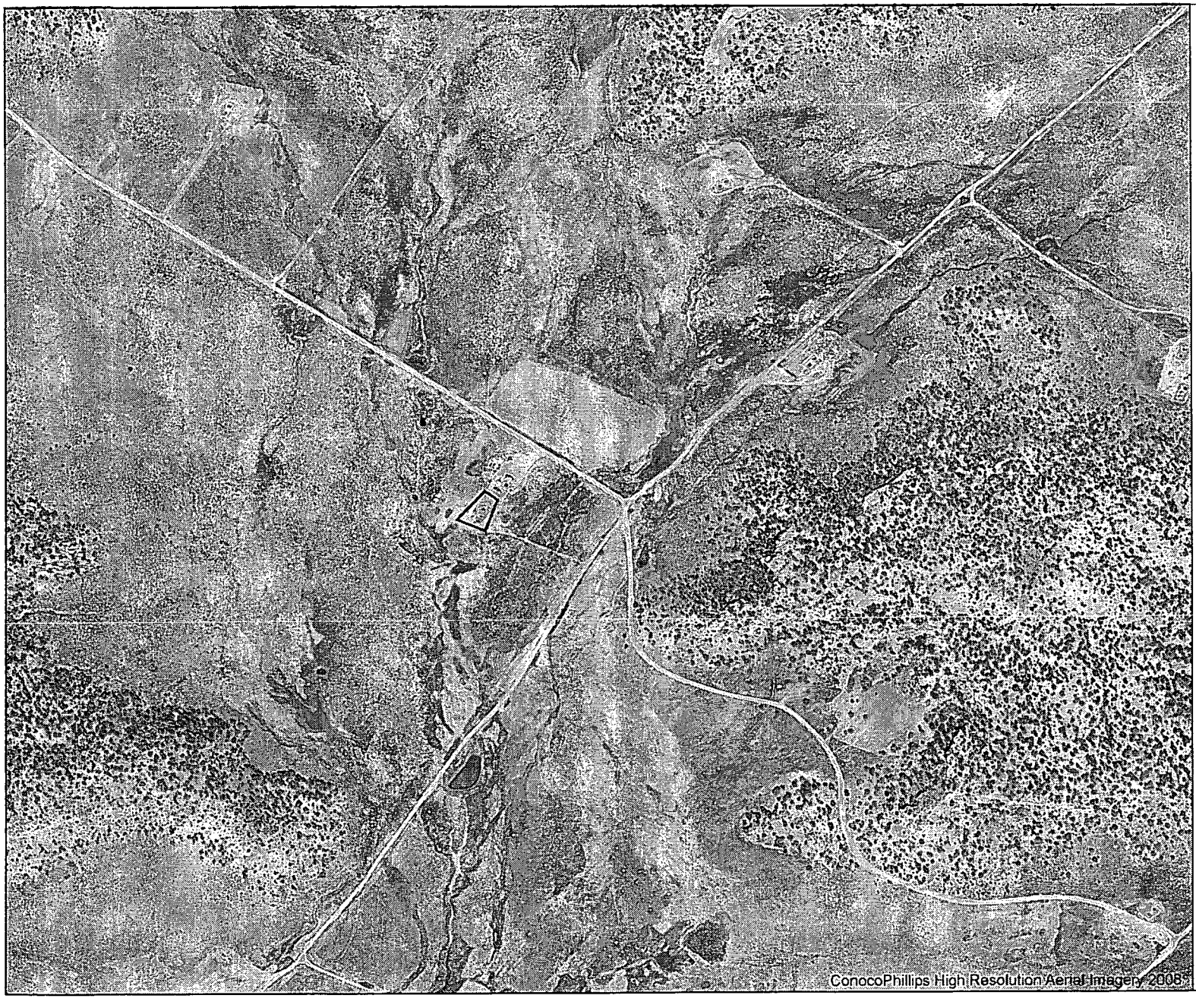
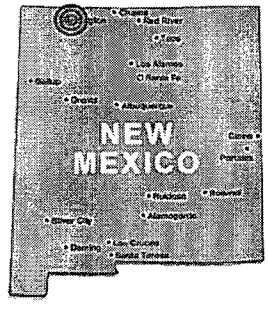


FIGURE 1.

Site Location Map

ConocoPhillips Company
San Juan 29-7 Unit 37
Rio Arriba County, NM



ConocoPhillips Company
San Juan 29-7 Unit 37 Site Location

Latitude: 36.73552° N
Longitude: -107.52488° W

N

ConocoPhillips

TETRA TECH, INC.

FIGURE 2:
PROPOSED SOIL BORING AND MONITORING WELL LOCATION MAP

CONOCOPHILLIPS COMPANY
SAN JUAN 29-7 UNIT 37
GAS PRODUCTION WELL SITE
Unit Letter N, Sec 12, T29N, R07W
Rio Arriba County, New Mexico

LEGEND

- ConocoPhillips San Juan 29-7 Unit 37 Wellhead
- Completed Boring Location B-1 to 123.5 feet bgs
- Pre-cleared Boring Locations
- Proposed Monitoring Well Locations
- Approximate 2010 Excavation Location
- Approximate Location of Current San Juan 29-7 Unit 37 Tank Placement (aerial image shows prior historic tank placement)

N

0 FEET 50

ConocoPhillips

TETRA TECH, INC.

TABLES

ConocoPhillips Company
San Juan 29-7 Unit 37

Table 1. San Juan 29-7 Unit 37 Site Soil Boring Laboratory Analytical Results for B-1

Constituent			Sample ID (soil samples collected January 11th-14th, 2011)							
VOCs (BTEX only)	**Method**	**Units**	**B-1 (30-32 feet)**	**B-1 (66-68 feet)**	**B-1 (68-70 feet)**	**B-1 (86-88 feet)**	**B-1 (88-90 feet)**	**B-1 (92-94 feet)**	**B-1 (122.5-123.5 feet)**	**NMOCD**
Benzene	8260B	mg/kg - dry	0.25	< 0.0064	< 0.0058	< 0.0054	< 0.0056	< 0.0056	< 0.005	**10**
Toluene	8260B	mg/kg - dry	48	0.11	0.014	< 0.0054	< 0.0056	0.006	0.096	**NE**
Ethylbenzene	8260B	mg/kg - dry	11	0.082	< 0.0058	< 0.0054	< 0.0056	< 0.0056	0.022	**NE**
Total Xylenes	8260B	mg/kg - dry	374	1.88	0.089	< 0.0054	0.017	0.017	0.347	**NE**
Total BTEX	8260B	mg/kg - dry	**433.25**	2.072	0.103	< 0.0054	0.017	0.023	0.465	**50**
Petroleum Hydrocarbons	**Method**	**Units**	**B-1 (30-32 feet)**	**B-1 (66-68 feet)**	**B-1 (68-70 feet)**	**B-1 (86-88 feet)**	**B-1 (88-90 feet)**	**B-1 (92-94 feet)**	**B-1 (122.5-123.5 feet)**	**NMOCD**
TPH Gasoline Range	8015B	mg/kg - dry	**5300**	14	0.35	< 0.1	< 0.1	0.14	0.11	**100**
TPH Diesel Range	8015B	mg/kg - dry	**380**	11	12	< 5	< 5	< 5	ND	

Table 2. San Juan 29-7 Unit 37 Site Groundwater Sample from B-1 (collected from drill rig augers in boring)

Constituent			Sample ID (collected January 14th, 2011)	
VOCs (BTEX only)	**Method**	**Units**	**B-1 Water**	**NMWQCC Standard**
Benzene	8260B	µg/L	**930**	**10**
Toluene	8260B	µg/L	**15000**	**750**
Ethylbenzene	8260B	µg/L	**1400**	**750**
Total Xylenes	8260B	µg/L	**18800**	**620**
SVOCs	**Method**	**Units**	**B-1 Water**	**NMWQCC Standard**
Naphthalenes	8270C	µg/L	< 10	**30**
Petroleum Hydrocarbons	**Method**	**Units**	**B-1 Water**	**NMWQCC Standard**
TPH Gasoline Range	8015B	mg/L	73	**NE**
TPH Diesel Range	8015B	mg/L	1.4	**NE**

Notes:
NMOCD = New Mexico Oil Conservation Division recommended action level
NMWQCC = New Mexico Water Quality Control Commission Standard
Results shown in **BOLD** type are in exceedance of NMOCD recommended soil action levels or NMWQCC groundwater standards
B = soil boring
VOCs = Volatile organic compounds
SVOCs = Semi-volatile organic compounds
mg/kg - dry = Milligrams per kilogram (parts per million), analyzed after residual water removed from the soil
µg/L = Micrograms per liter (parts per billion)
NE = Not established

VonGonten, Glenn, EMNRD

From: Powell, Brandon, EMNRD
Sent: Friday, January 14, 2011 2:33 PM
To: VonGonten, Glenn, EMNRD
Cc: Perrin, Charlie, EMNRD; Sanchez, Daniel J., EMNRD; Valenzuela, James, EMNRD
Subject: possible groundwater impact
Attachments: San Juan 29-7 Unit 37 7-22-10_INITIAL.DOC

Glen-

During delineation drilling on the San Juan 29-7 #37 API# 30-039-07643 it was discovered contamination migrated down to groundwater.

Site History

On 8/2/10 Burlington discovered a leaking gasket on their condensate tank. They estimated the total loss at 23.3bbls of condensate with 0 recovered.

Between Oct-Dec 2010. Burlington excavated down to approximately 33-34ft at which point the walls tested below the remediation levels. The bottom was split into two 5 point composite samples and were tested for B-tex and TPH. The south composite sample had a TPH reading of approx. 1,500mg/kg and the North composite sample had a TPH reading of approx. 30,000mg/kg with a B-tex of approx. 190mg/kg. After the bottom results were received Burlington requested to close all but 6ft of the excavation and perform a delineation of the contamination with a core rig. If any further remediation was necessary they requested proceed with a soil vapor extraction system unless the remaining contamination didn't go much deeper than the previous excavation. We approved this approach.

January 12-14 2010 Burlington delineated the contamination using a auger and spilt spoon system with continuous sampling every 2'. The contamination of the soil extended to approximately 123ft. From 34' to approx. 80' the soil PID readings were over 2000 from 80' to 123' they ranged from 2000-100 and at 128' Burlington had a sample with a PID reading of 0.05. At approximately 124' they encountered shale which stopped the vertical migration of the contamination. During the drilling on the 13th there was a damp area between 118'-122' so the decision was made to reverse the augur back up to 118' and let the hole sit over night to see if there was groundwater infiltration. Today the top of the groundwater level was measured at 112'. The soil down to the 118' was sand that varied from fine to medium coarseness with no confining layers.

At this point Burlington's plan is to finish back-filling the excavation next week so they can set monitor wells. Then mobilize the rig back to the location the week of the 24th to further delineate the contamination and possibly set the monitor wells and possible SVE system. Burlington also stated that they would be notifying you today or Monday on the groundwater impact and seek your approval on the Monitor well plan. Burlington took a sample of the water and will forward the B-tex results to us as soon as they get them. The landowner at this site is also very irritated that Burlington was not able to dig out the soil and is worried the soil won't be remediated.

My recommendation for the soil going forward is a soil vapor extraction system, this is due to the approximate 100' column of condensate contaminated sand of which the main plume is still above the water.

Please let me know what you think and we can discuss what course of action to take going forward. I also attached a copy of the initial C-141.

Thank You
Brandon Powell
Environmental Specialist

New Mexico Oil Conservation
1000 Rio Brazos Rd, Aztec NM 87410
Office: (505) 334-6178 ext. 15
E-mail: Brandon.Powell@state.nm.us