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**GENERAL  
CORRESPONDENCE**

**YEAR(S):**

2002-2005



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**BILL RICHARDSON**

Governor

**Joanna Prukop**

Cabinet Secretary

**Mark E. Fesmire, P.E.**

Director

**Oil Conservation Division**

June 15, 2005

Mr. Scott E. Burkey  
Shell Oil Products US  
7750 N. McArthur Blvd.  
Suite 120, PMB 319  
Irving, TX 75063

Re: Historic Shell Pipeline John Hendrix Release Site  
Section 18, Township 20 South, Range 37 East  
Monument, Lea County, New Mexico

Dear Mr. Burkey:

This is a follow-up letter to my letter of May 13, 2004 and various telephone conversations I have had with you and Mr. Jeff Kindley concerning the above site.

New Mexico Oil Conservation Division personnel from the Hobbs District office inspected and performed Bradenhead tests on the wells in the vicinity of the release and found no mechanical problems with these wells.

If you require further information, contact me at (505) 476-3492 or [ed.martin@state.nm.us](mailto:ed.martin@state.nm.us)

NEW MEXICO OIL CONSERVATION DIVISION

Edwin E. Martin  
Environmental Bureau

cc: NMOCD, Hobbs

## Martin, Ed

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**From:** Williams, Chris  
**Sent:** Friday, April 29, 2005 8:49 AM  
**To:** Martin, Ed  
**Subject:** Special Braden head test near Shell monitor wells

Wells tested		Casing/Tbg Press				Status	
Operator		Surf	I	P	T		
Britt A-18#6	E-18-20-37	0	N	9	15	A	Conoco
Britt B-18#5	E-18-20-37	0	8	3	4	S	Slight blow saltwater < a minute J.
Hendrix							
Britt A-18#1	C-18-20-37	0	9	33	33	A	Conoco
Britt B-18#1	D-18-20-37	0	0	0	0	S	J.
Hendrix							
Britt B-18#2	F-18-20-37	0	0	0	0	S	J.
Hendrix							



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**BILL RICHARDSON**  
Governor

**Joanna Prukop**  
Cabinet Secretary  
Acting Director  
Oil Conservation Division

May 13, 2004

Mr. Scott E. Burkey  
Shell Oil Products US  
7750 N. McArthur Blvd.  
Suite 120, PMB 319  
Irving, TX 75063

RE: Historic Shell Pipeline John Hendrix Release Site  
Section 18, Township 20 South, Range 37 East  
Monument, Lea County, New Mexico

Dear Mr. Burkey:

This is in response to your letter of February 25, 2004 on the above subject.

The circumstantial evidence gathered during your investigation seems to support your contention that the resulting PSH in MW-2 is not from the Shell pipeline. However, it is our determination that it is still possible that the Shell pipeline might be the cause. Please conduct further investigations to establish the true source of the PSH in MW-2.

The other monitor wells (MW-1, 3, 4, and 5) at the site have tested below groundwater standards for seven consecutive quarters. If the next quarter's results are below standards, Shell may discontinue sampling on MW-1, 3, 4, and 5, and plug them.

Please continue product recovery on MW-2 until Shell can establish the fact that the cleanup liability rests with another party.

If you have any questions, please contact me.

NEW MEXICO OIL CONSERVATION DIVISION

Edwin E. Martin  
Environmental Bureau

CC: Paul Sheeley, NMOCD, Hobbs, NM  
Mr. Jeff Kindley, Enercon Services, Inc.



Mr. Ed Martin  
New Mexico Oil Conservation Division  
2040 S. Pacheco  
Santa Fe, New Mexico 87505

**RECEIVED**  
FEB 27 2004  
Oil Conservation Division  
1220 S. Saint Francis Drive  
Santa Fe, NM 87505  
Shell Oil Products US  
7500 N. MacArthur Blvd.  
Suite 120, PMB 319  
Irving, Texas 75063  
Tel (972) 385-8359  
Fax (972) 385-8387  
Email seburkey@shellopus.com

February 25, 2004

**Re: Historic Shell Pipeline John Hendrix Release Site  
Section 18, Township 20 South, Range 37 East  
Monument, Lea County, New Mexico**

Dear Mr. Martin:

Shell Oil Products US (Shell) has completed the 2003 Annual Groundwater Monitoring Report for the above referenced site. Groundwater samples were collected by Enercon Services, Inc. (Enercon) from four of the five on-site monitor wells (MW-1, MW-3, MW-4, and MW-5) for four consecutive quarters (January 9; April 2; July 2; and October 6, 2003). Groundwater analytical results for collected samples indicated Benzene, Toluene, Ethyl-benzene, and Xylenes (BTEX) and Polycyclic Aromatic Hydrocarbon (PAH) concentrations were below the New Mexico Oil Conservation Division (NMOCD) groundwater standards during the 2003 Annual Period.

On January 9, 2003, Enercon personnel were onsite to perform the first quarterly groundwater sampling event for the 2003 Annual Monitoring Period. At that time, approximately 0.06 feet of PSH was measured in monitor well MW-2. Throughout the year the PSH levels increased from 0.06 feet in January to 0.74 feet in October 2003 (see attached Table 1). The remaining onsite monitor wells exhibited BTEX and PAH concentrations below detection limits (see attached Table 2).

For the reasons stated below, it is Shell's contention that the PSH, which is located in monitor well MW-2, is from a new source and not related to the historic Shell release source:

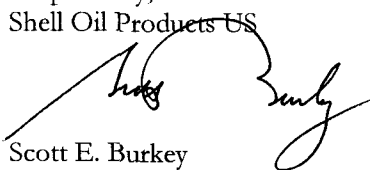
- 1) In 2003, Shell Global Solutions at the Westhollow Technology Center in Houston, Texas performed a comparison analysis between previously collected soil samples (TPH) from the former excavation and PSH collected in November 2003 from monitor well MW-2 (See attached comparison graphs). As presented in the graphs, none of the previously collected soil sample component spikes correspond with the component spikes in the PSH sample collected from monitor well MW-2. This indicates the chemical make-up of the hydrocarbons in the PSH is different than the hydrocarbon source remediated at the site. Furthermore, this indicates that the origins of the PSH in monitor well MW-2 is from a source other than the historic Shell pipeline release.
- 2) In addition, the historic Shell source release was excavated and approximately 58,000 cubic yards of hydrocarbon impacted soil were removed from the area between July 2001 and January 2002. Analytical results for soil samples collected from the excavated pit indicated that all hydrocarbon impacted soil was removed from the site, with the exception of a minor amount (176 mg/kg TPH) located along the south wall of the excavation (See Enercon report dated March 22, 2002). In addition, eight borings (C-1 to C-8) were advanced along the northeast, east, southeast and south sides of the excavation to determine if all hydrocarbon impacted soil was removed during the excavation activities. The results indicated that a minor amount (178 mg/kg TPH) of hydrocarbon impacted soils remained along the southeast corner of the site in soil boring C-4 (the current location of monitor well MW-3). Although this soil exceeded the NMOCD guidelines of 100 mg/kg TPH, these soils are located approximately 125 to 200 feet southwest and downgradient of monitor well MW-2 and are not considered a viable source of the PSH in monitor well MW-2.

- 3) Five monitor wells (MW-1 to MW-5) and one soil boring (SB-1) were installed across the site in May 2002. Of the soil samples collected, the sample collected from MW-1 at 8 to 10 feet below ground surface (bgs) and the sample collected from MW-3 at 28 to 30 feet bgs (at the groundwater/soil interface) were above the NMOCD standards of 100 mg/kg TPH with results of 1,498 mg/kg TPH and 152.3 mg/kg TPH, respectively (see Enercon report dated June 2002). Groundwater samples collected from the five onsite monitor wells for the remaining three consecutive quarters exhibited BTEX and PAH concentrations which were below the NMOCD groundwater standards (See attached Enercon 2002 Annual Report). PSH was not noted in any of the monitor wells during the three consecutive quarters.
- 4) The 2003 Annual report (attached) indicated that the BTEX and PAH analytical results were below NMOCD groundwater standards for the year in the remaining four on-site monitor wells (MW-1, MW-3, MW-4 and MW-5). This indicates that the soil and groundwater from the historic Shell source release area have been remediated.
- 5) PSH levels in monitor well MW-2 increased throughout the year from 0.06 feet in January to 0.74 feet in October 2003. Measurements collected in January 2004 indicate the PSH thickness has increased to 1.12 feet (See Table 1). Since Shell's pipeline was removed from the ground 9 years ago and a majority of the hydrocarbon impacted soils were removed from the excavated release area in 2001, it is Shell's contention that the increase in PSH thickness in monitor well MW-2 is from a new source. Increasing PSH thickness is indicative of an active release.
- 6) The groundwater gradient at the site has remained consistently to the south for the four quarters (see attached 2003 annual report). This indicates the PSH in monitor well MW-2 likely originated from a source located to the north (upgradient) of the site.
- 7) The former Shell pipeline was removed from the ground approximately 9 years ago and has not been replaced. As such, a new release from a Shell Oil Products line is not possible.
- 8) An active Duke Energy (former GPM) 24-inch gas line is located approximately 15 feet to the west (cross to upgradient) of monitor well MW-2. In addition, a shut-in John Hendrix oil well is located approximately 200 feet to the north (upgradient) of monitor well MW-2. Due to the proximity and upgradient status of these two structures, there is possibility that a release from either of these two sources could impact monitor well MW-2 and thus could account for the measurable PSH in MW-2.

Based on the reasons stated above, Shell Oil Products US respectfully requests that the NMOCD consider relinquishing Shell of the responsibility of the PSH recovery from monitor well MW-2 and grant closure of the site.

Should you have any questions or comments concerning this letter, please do not hesitate to contact me at (972) 385-8359 or Mr. Jeff Kindley with Enercon Services, Inc. at (432) 570-8726.

Respectfully,  
Shell Oil Products US



Scott E. Burkey  
Environmental Specialist

cc: Mr. Paul Sheeley, NMOCD, Hobbs, NM  
Mr. Jeff Kindley, Enercon Services, Inc.



June 24, 2002

Mr. William Olsen  
New Mexico Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, New Mexico 87505

**RECEIVED**

**JUL 01 2002**

ENVIRONMENTAL BUREAU  
OIL CONSERVATION DIVISION

**RE: Groundwater Characterization Report  
Shell Oil Products  
John Hendrix Crude Oil Release Site  
Section 18, Township 20 South, Range 37 East  
Monument Area, Lea Co., N.M.**

Dear Mr. Olson,

On March 22, 2002 Equiva Services submitted a report to your office detailing excavation activities of impacted soils at the reference site. During this project 58,660 cubic yards of impacted backfill were excavated and transported to an off-site commercial landfarm for treatment. The excavation was then backfilled with clean soil to land surface. Since groundwater was encountered at the site during excavation, Equiva contracted Enercon Services to install soils borings and groundwater monitoring wells around the site to determine if groundwater had been impacted by the release. The attached report describes these activities.

To date five monitoring wells and one soil boring have been installed in the vicinity of the former excavation. Soil samples were collected from each boring and analyzed for BTEX and TPH. Samples collected from two borings, MW-1 (8-10') and MW-3 (28-30'), exhibited TPH(Dro/Gro) concentrations greater than the NMOCD remedial standard of 100 ppm (based on a site ranking of 20). Further analysis of these samples for SPLP TPH (Dro/Gro) found the samples were below detection limits except for MW-3 at 28 to 30 feet bgs, which had an SPLP TPH (Gro) concentration of 1.86 mg/kg. Based on the SPLP analysis, we do not believe that the residual TPH concentrations remaining in the soil pose a risk to leach to groundwater. This can be verified by the proposed sampling plan schedule discussed below.

Groundwater samples were collected from each well for BTEX and PAHs analysis. No groundwater was impacted at the site with BTEX or PAH except for MW-1 and MW-2. Monitor well MW-1 had a benzene concentration of 0.0042 mg/L, which is below current New Mexico Water Quality Control Commission (WQCC) Ground Water Standard of 0.01 mg/L benzene; while minor amounts of Fluorene and Phenanthrene were detected in monitor well MW-2. No state or federal standards exist for Fluorene and Phenanthrene.

*PMB 284, 40 FM 1960 West, Houston Texas 77090  
Phone 281-353-2069 Facsimile 281-353-2317*



In an effort to substantiate that groundwater has not been impacted above WQCC Ground Water Standards and the residual TPH concentrations remaining in the soil do not do not pose a risk of leaching to groundwater, Equiva propose to sample the each well for three additional quarters for BTEX and PAHs. If groundwater concentrations remain below WQCC standards, Equiva will request closure of the site.

Should you have any questions concerning this letter, please contact me at (281) 353-2069 or by email at eklandreneau@equiva.com.

Sincerely  
**EQUIVA SERVICES LLC**

A handwritten signature in cursive script that reads "Kyle Landreneau". The signature is written in black ink on a light-colored background.

Kyle Landreneau CPG  
Sr. Environmental Geologist  
HSE/Science & Engineering

*"Equiva Services LLC provides miscellaneous services, including environmental services, on behalf of its owners Motiva Enterprises LLC and Equilon Enterprises LLC dba Shell Oil Products US, and on behalf of Shell Oil Company, and Star Enterprise."*

Cc: Larry Johnson-Hobbs District Office  
Bennett Howell-Enercon Services



March 22, 2002

Mr. Bill Olson  
New Mexico Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

XR-397

RE: Report on Remediation of Crude Oil Impacted Soils &  
Workplan for Installation of Five Monitor Wells and One Soil Boring  
John H. Hendrix Site, Monument, Lea County, New Mexico.

Dear Mr. Olson:

Attached you will find a report detailing the remediation of crude oil impacted soil located on the Equilon Pipeline John Hendrix release site. Also attached is a workplan for the installation and sampling of five monitor wells and one soil boring to determine if groundwater has been impacted by the release and confirm soils conditions where excavation activities were halted due to adjacent active natural gas lines.

On January 4, 2002, Equiva submitted a workplan to the NMOCD for the excavation and disposal of impacted soils at this site. Soil excavation was completed to a depth of approximately 34 feet below ground surface. At that depth, groundwater was encountered and the soils were sampled and subsequently backfilled with clean soil. The impacted excavated soils were transported to a local NMOCD permitted commercial landfarm for remediation. Due to the vicinity of the impacted soils to the onsite GPM gas pipeline, some soils were left in place to prevent slumping and possible collapse of the GPM gas pipeline. These soils are located along the south to southeast corner of the excavation. However, the amount of impacted soils left in the ground is believed to be negligible.

Since groundwater was determined to be impacted during excavation activities, Equiva proposes to install five monitor wells around the perimeter of the formally excavated site to delineate the horizontal extent of the impacts to the groundwater. Proposed monitor well PMW-3 will be placed along the southeast perimeter of the former excavation to determine if impacted soils remain and if they have the potential to impact groundwater. In addition, one boring will be placed along the south central perimeter of the former excavation to determine the amount of remaining impacted soils in the vicinity, if any. A more detail report of our proposed activities is attached.

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**MAR 28 2002**

**ENVIRONMENTAL BUREAU  
OIL CONSERVATION DIVISION**

Should you have any questions concerning this letter, please contact me at (281) 353-2069.

Sincerely

**EQUIVA SERVICES LLC**

*Kyle Landreneau*

Kyle Landreneau CPG  
Sr. Environmental Geologist  
SHE/Science & Engineering

***"Equiva Services LLC provides miscellaneous services, including environmental services, on behalf of its owners Motiva Enterprises LLC and Equilon Enterprises LLC dba Shell Oil Products US, and on behalf of Shell Oil Company, and Star Enterprise."***

Cc: Jeffrey Kindley - Enercon Services, Inc., Midland, TX.  
Paul Sheeley - NMOCD, Hobbs, NM.

## **Attachment A**

### **Equilon Pipeline John Hendrix Site Monument, New Mexico Soil Boring and Well Installation Workplan**

#### **Introduction**

The subject site is located in the southwest quarter of Section 18, Township 20 South, Range 37 East, approximately 4 miles southwest of Monument, New Mexico. The site was excavated, sampled and backfilled with the impacted soils transported to an NMOCD permitted commercial landfarm for remediation.

#### **Site History**

Historic crude oil releases from a former Shell pipeline occurred at the site at some unknown time in the past. In the fall of 1998 and summer of 1999, Equiva Services installed soil borings at the release site in order to determine the vertical and horizontal extent of hydrocarbon impacts to the soil and groundwater, if any. Analytical data from the borings determined the soils were impacted from the surface to a depth of approximately 28 feet below ground level. From August 2001 to January 2002, Equiva Services excavated and removed approximately 57,120 cubic yards of soil from the site and transported the soils to C & C Landfarm of Monument, New Mexico. During the excavation, an additional eight soil borings (C-1 to C-8) were installed along the north to southeast perimeter of the excavation to determine the amount of impacted soils remaining (see Figure 1). Of the eight borings only one (C-4 {28-30'}), had TPH levels above the NMOCD standards of 100 ppm. The TPH level for C-4 (28-30') was 178 ppm. Due to the proximity of the boring to the adjacent GPM gas pipeline, the soils at C-4 were left in place to prevent slumping and possible collapse of the GPM gas pipeline.

During the excavation, soil samples were collected along various points at the bottom and along the sidewalls of the excavation to verify that no remaining hydrocarbon impacted soils remained prior to backfilling. However, in error, some hydrocarbon-impacted soils were left within the excavation and subsequently backfilled. The soils were along the southwall central area at 28 feet below ground surface (bgs) (see Figure 1 for location), adjacent to the former Shell pipeline. The southwall central sample at 28 feet bgs has a TPH level of 176 ppm (sample location "South wall Central"). The amount of hydrocarbon impacted soil remaining is believed to be negligible.

#### **Scope of Work**

The scope of work was prepared based upon observations made during soil excavations at the site from August 11, 2001 to January 14, 2002. Based upon groundwater impacts noted during

the excavation and as verbally directed by Paul Sheeley of the New Mexico Oil Conservation Division (NMOCD), Equiva proposes installation of a total of five (5) monitor wells around the perimeter of the site to a depth of 45 feet bgs and one soil boring along the southside of the former excavation. Proposed monitor well PMW-3 will be installed adjacent to former soil boring C-4 (see Figure 2 for monitor well locations), while the boring will be placed adjacent to the "south wall central" location sample in order to determine how much impacted soils remain, if any. The regional downgradient groundwater direction is assumed to be to the southeast.

During drilling activities, the soils will be collected on five-foot centers and field screened for volatile organic constituents with a Photoionization Detector (PID) using headspace techniques. Two soil samples, one collected from the soil/groundwater interface and one sample from the zone exhibiting the highest PID measurements and one soils sample at the groundwater interface will be collected from each soil boring and submitted to Trace Analysis Laboratories (Trace) of Lubbock, Texas for analysis of BTEX and TPH using EPA Methods 8021B and 8015 modified for DRO/GRO, respectively. In addition, proposed soil samples will be further analyzed for SPLP-TPH if the TPH exceeds the NMOCD remediation level of 100 ppm. The five soil borings (PMW-1 to PMW-5) will be converted to monitor wells, while the boring located on the southside of the former excavation will be grouted to the surface with a 5% bentonite/cement slurry upon obtaining soil samples.

The monitor wells will be completed using a 4-inch inside diameter, schedule 40 polyvinyl chloride riser, and a 15-foot long, 0.010 inch slotted screen. The screen will be placed at the bottom of the boring and extended 5 feet above the groundwater. A gravel pack will be set around the well screen from the bottom of the well to two feet above the top of the well screen. A two-foot bentonite plug will be placed above the gravel pack. The remainder of the wellbore will be sealed with cement containing a 3-5% bentonite slurry, and capped with two feet of cement. The well will be completed with a monument style cover and a four-foot by four-foot concrete pad and locking cap.

The monitor wells will be developed by pumping or handbailing a minimum of three well volumes or until conductivity, pH, and temperature has stabilized within 5% for three consecutive readings. Groundwater samples will be collected from the monitor wells and submitted to Trace for analysis of BTEX and polycyclic aromatic hydrocarbons (PAH) TPH using EPA Method 8021B and 8270 respectively.

Upon receipt of analytical results, Equiva will prepare a report for the NMOCD, detailing the results of this investigation and making recommendations for either further remedial efforts or closure, as conditions warrant.