

1R - 417-1

**GENERAL
CORRESPONDENCE**

YEAR(S):

2007

Price, Wayne

From: Cwdurrett1@aol.com
Sent: Wednesday, July 28, 2004 11:27 AM
To: WPrice@state.nm.us; Cwilliams@state.nm.us
Cc: neal.goates@conocophillips.com; Joyce.M.Miley@conocophillips.com; cyancey@maximusa.com
Subject: SENM Frontier Assests - ConocoPhillips Request for Closure

Mr. Price, Mr. Neal Goates, ConocoPhillips, requested that I submit for your review two requests for closure reports for Anderson Ranch and Caviness Ranch compressor stations. The work was done in regard to the sale of certain ConocoPhillips assets to Frontier Energy Services. One additional report, Lusk Compressor Station, will be submitted upon Maxim's receipt of laboratory data.

ConocoPhillips understands that your concurrence with these requests does not relieve ConocoPhillips of potential future environmental liability at these locations that may pose a threat to ground water, surface water, human health or the environment. In addition, ConocoPhillips understands that a NMOCD approval does not relieve ConocoPhillips of responsibility for compliance with any other federal, state, or local laws and/or regulations.

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July 28, 2004

Mr. Wayne Price
New Mexico Energy, Minerals & Natural Resources Department
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

RE: SENM Frontier Assets
 Anderson Ranch Compressor Station
 SE1/4, NW1/4, Section 11, T16S, R32E
 Request for Closure

Dear Wayne:

On behalf of ConocoPhillips, Maxim Technologies, Inc. (Maxim) is submitting this report to describe the actions taken to remediate the soils around the Anderson Ranch compressor in Lea County, New Mexico (Site). The Site is located approximately 5.7 miles northeast of Maljamar, New Mexico; 4.2 miles north of US Highway 82; in the north central portion of Lea County, New Mexico (N32° 56.200, W103° 44.316; NAD27; Figure 1). The State of New Mexico administers the land at the Site. This report describes the path forward for closure of the soils around the compressor in accordance with New Mexico Oil Conservation Division's (NMOCD) standards, Guidelines for Remediation of Leaks, Spills and Releases.

BACKGROUND

In the year 2003 ConocoPhillips sold certain oil and gas assets located in Lea County, New Mexico to Frontier Energy Services, L.L.C (Frontier). As part of the sale, Frontier requested Cinnabar Environmental Services (Cinnabar) to perform Phase I and II environmental assessments for those assets. Localized hydrocarbon staining was noted at Anderson Ranch Compressor Station in the Cinnabar Phase II investigative report (Projects\2003\271-03 ESA) entitled "*Assessment Site: Maljamar Gas Processing Plant and Associated Gathering System Chaves County, Eddy County and Lea County, New Mexico*" (Cinnabar Report). After the sale closed, Frontier requested ConocoPhillips to perform remediation at Anderson Ranch Compressor Station. Maxim submitted a work plan to bio-remediate Anderson Ranch to the New Mexico Oil Conservation Division (NMOCD) and to Frontier. The plan, approved by NMOCD on May 17, 2004 (Attachment A) called for the use of urea to stimulate aerobic biological degradation of the surface and near surface hydrocarbon at this location.

SCOPE OF WORK

Remediation activities were conducted on the Site from June 30 through July 01, 2004 in accordance with the plan approved by the NMOCD. These activities consisted primarily of removing soil adjacent to below ground piping in the vicinity of the Anderson Ranch compressor, wrapping these pipe with polyethylene sheeting, backfilling the trenches with clean soil and hand spreading urea over the visually stained area.

A form of enhanced in-situ bioremediation to reduce concentrations of organic constituents in the soil was performed at Anderson Ranch. Bioremediation occurs naturally in shallow soils with access to oxygen. A granular form of urea was applied, in accordance with the following procedure, to stimulate aerobic biological degradation of the surface and near surface hydrocarbon at Anderson Ranch Compressor Station:

1. Surface hydrocarbon staining was visually delineated.
2. Petroleum hydrocarbon affected material was hand excavated from around steel piping. Also, 20-mil polyethylene sheeting was wrapped around the piping to protect the piping from the urea. The pipe trenches were backfilled with clean material.
3. Approximately one cubic yard of petroleum hydrocarbon affect soil was transported to Controlled Recovery Incorporated's (CRI) Midway facility for disposal.
4. Five (5) pounds (lbs) of urea (40% nitrogen, 4% potassium, 5% phosphorous) per cubic yard (CY) of soil was applied. Depth of hydrocarbon affected soil was determined in the Cinnabar Report to be four (4) feet below ground surface. Therefore, approximately 18 lbs of urea was applied to 89 CYs of affected soil at Anderson Ranch.
5. Photographs were taken to document the before and after treatment at the site (see Photographs).

FINDINGS

All work at Anderson Ranch was done under the direction of Maxim and observed by Frontier's on-site representatives. This work was documented by photographs taken during various stages of soil remediation (Photographs).

CONCLUSIONS

Approximately one cubic yard of contaminated soils were removed and hauled to CRI – Midway for disposal. 20-mil polyethylene sheeting was wrapped around existing piping and clean material was backfilled into the pipe trenches. Approximately 18 lbs of urea was applied to the visually surface stained area and clean caliche was spread over the area. This Site has been remediated.

RECOMMENDATIONS

Based on the work performed at this Site, Maxim recommends no further action is required. Upon your review and approval of this report, Maxim on behalf of ConocoPhillips, requests closure for this compressor location. If you have any questions or need additional information, please call Mr. Neal Goates (ConocoPhillips, 823-379-6427) or me.

Sincerely,

MAXIM TECHNOLOGIES

Charles Durrett
Digitally signed by Charles Durrett
DN: CN = Charles Durrett, C =
US, O = Maxim Technologies, Inc.
Date: 2004.07.28 11:06:16 -05'00'

Charles Durrett
Senior Project Manager

Cc: Chris Williams, NMOCD District I
Mr. Neal Goates, ConocoPhillips
Ms. Joyce Miley, ConocoPhillips

PHOTOGRAPHS



Photo 1. View to the northwest. Anderson Ranch compressor before restoration.



Photo 2. View to the east. Area immediately south of the Anderson Ranch compressor before restoration

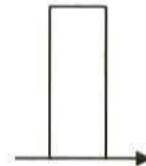


Photo 3. View to the east, northeast. Area immediately north of the Anderson Ranch compressor





Photo 4. View to the east. Example of hand excavation on south side of the Anderson Ranch compressor

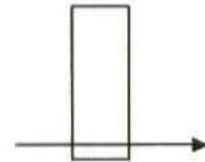


Photo 5. View to the north. Example of hand excavation on east side of Anderson Ranch compressor



Photo 6. View to the east. Example of 20-mil polyethylene wrap on excavated pipe.





Photo 7. View to the northwest. Work completed with clean gravel backfill.



Photo 8. View to the north. Work completed with clean gravel backfill.



Photo 9. View to the west. Work completed with clean gravel backfill.



-----Original Message-----

From: Price, Wayne [mailto:WPrice@state.nm.us]
Sent: Monday, May 17, 2004 2:10 PM
To: Clyde Yancey (E-mail)
Cc: Joyce Miley (E-mail)
Subject: Maxim Project # 4690016 Jan 23, 2004

Kemnitz, Caviness Ranch, Cedar Lake, Lusk, Skelly, Chaves, and Anderson Ranch compressor sites.

The OCD is in receipt of the work plan for the above sites and hereby approves of the plan. Please provide legal locations UL-Sec-TS-R for each site ASAP.

Please be advised that NMOCD approval of this plan does not relieve (ConocoPhillips) of liability should their operations fail to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD approval does not relieve (ConocoPhillips) of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Sincerely:

Wayne Price
New Mexico Oil Conservation Division
1220 S. Saint Francis Drive
Santa Fe, NM 87505
505-476-3487
fax: 505-476-3462
E-mail: WPRICE@state.nm.us

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1703 W. Industrial Ave.
Midland, Texas 79701
(432) 686-8081

July 28, 2004

Mr. Wayne Price
New Mexico Energy, Minerals & Natural Resources Department
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

RE: SENM Frontier Assets
Caviness Ranch Compressor Station
SE1/4, NW1/4, Section 10, T18S, R33E
Request for Closure

Dear Wayne:

On behalf of ConocoPhillips, Maxim Technologies, Inc. (Maxim) is submitting this report to describe the actions taken to remediate the soils around the Caviness Ranch tank battery in Lea County, New Mexico (Site). The Site is located approximately 5.7 miles northeast of Maljamar, New Mexico; 4.2 miles north of US Highway 82; in the north central portion of Lea County, New Mexico (N32° 45.816', W103° 39.150'; NAD27; Figure 1). The State of New Mexico administers the land at the Site. This report describes the path forward for closure of the soils inside the tank battery tank dike in accordance with New Mexico Oil Conservation Division's (NMOCD) standards, Guidelines for Remediation of Leaks, Spills and Releases.

BACKGROUND

In the year 2003 ConocoPhillips sold certain oil and gas assets located in Lea County, New Mexico to Frontier Energy Services, L.L.C (Frontier). As part of the sale, Frontier requested Cinnabar Environmental Services (Cinnabar) to perform Phase I and II environmental assessments for those assets. Localized hydrocarbon staining was noted at Caviness Ranch Compressor Station in the Cinnabar Phase II investigative report (Projects\2003\271-03 ESA) entitled "*Assessment Site: Maljamar Gas Processing Plant and Associated Gathering System Chaves County, Eddy County and Lea County, New Mexico*" (Cinnabar Report). After the sale closed, Frontier requested ConocoPhillips to perform remediation at Anderson Ranch Compressor Station. Maxim submitted a work plan to bio-remediate Caviness Ranch to the New Mexico Oil Conservation Division (NMOCD) and to Frontier. The plan, approved by NMOCD on May 17, 2004 (Attachment A) and by Frontier on June 6, 2004 called for the use of urea to stimulate aerobic biological degradation of the surface and near surface hydrocarbon at this location.

SCOPE OF WORK

Remediation activities were conducted on the Site from July 6 through July 16, 2004 in accordance with the plan approved by the NMOCD. These activities consisted primarily of removing soil adjacent to below ground piping inside the tank battery at the Caviness Ranch Compressor Station, replacing the steel piping with new, wrapped steel pipe, backfilling the trenches and hand spreading urea over the visually stained area.

A form of enhanced in-situ bioremediation to reduce concentrations of organic constituents in the soil was performed at Caviness Ranch. Bioremediation occurs naturally in shallow soils with access to oxygen. A granular form of urea was applied, in accordance with the following procedure, to stimulate aerobic biological degradation of the surface and near surface hydrocarbon inside the tank batter:

1. Surface hydrocarbon staining was visually delineated.
2. At Caviness Ranch, approximately 100 feet of 4 and 3-inch steel piping was replaced with new, wrapped pipe before urea is applied. Also, a 20-mil polyethylene skirt was placed in a 1' x 6" ditch around one 10-foot diameter tank to protect the tank from the urea.
3. Liquid captured during pipe replacement was place in the facility's sump.
4. Five (5) pounds (lbs) of urea (40% nitrogen, 4% potassium, 5% phosphorous) per cubic yard (CY) of soil was applied. Depth of hydrocarbon affected soil was determined in the Cinnabar Report to be four (4) feet below ground surface. Therefore, approximately 45 lbs of urea was applied to 227 CYs of affected soil at Caviness Ranch.
5. A garden tiller was used to blend the urea with surface soil to increase urea contact with the hydrocarbon and increase aeration to stimulate aerobic biological activity.
6. Photographs were taken to document the before and after treatment (see Photographs).

FINDINGS

All work at Caviness Ranch was done under the direction of Maxim and observed by Frontier's on-site representatives. This work was documented by photographs taken during various stages of soil remediation (Photographs).

CONCLUSIONS

All steel piping inside the tank dike was replaced. 20-mil polyethylene skirt was installed around on 10 foot diameter tank and the pipe trenches were backfilled. Approximately 45 lbs of urea was applied to the visually surface stained area. This Site has been remediated.

Mr. Wayne Price
July 28, 2004
Page 3 of 5

RECOMMENDATIONS

Based on the work performed at this Site, Maxim recommends no further action is required. Upon your review and approval of this report, Maxim on behalf of ConocoPhillips, requests closure for this compressor location. If you have any questions or need additional information, please call Mr. Neal Goates (ConocoPhillips, 823-379-6427) or me.

Sincerely,

MAXIM TECHNOLOGIES

Charles Durrett

Digitally signed by Charles Durrett
DN: CN = Charles Durrett, C = US,
O = Maxim Technologies, Inc.
Date: 2004.07.28 11:20:08 -05'00'

Charles Durrett
Senior Project Manager

Cc: Mr. Chris Williams
Mr. Neal Goates, ConocoPhillips
Ms. Joyce Miley, ConocoPhillips

PHOTOGRAPHS

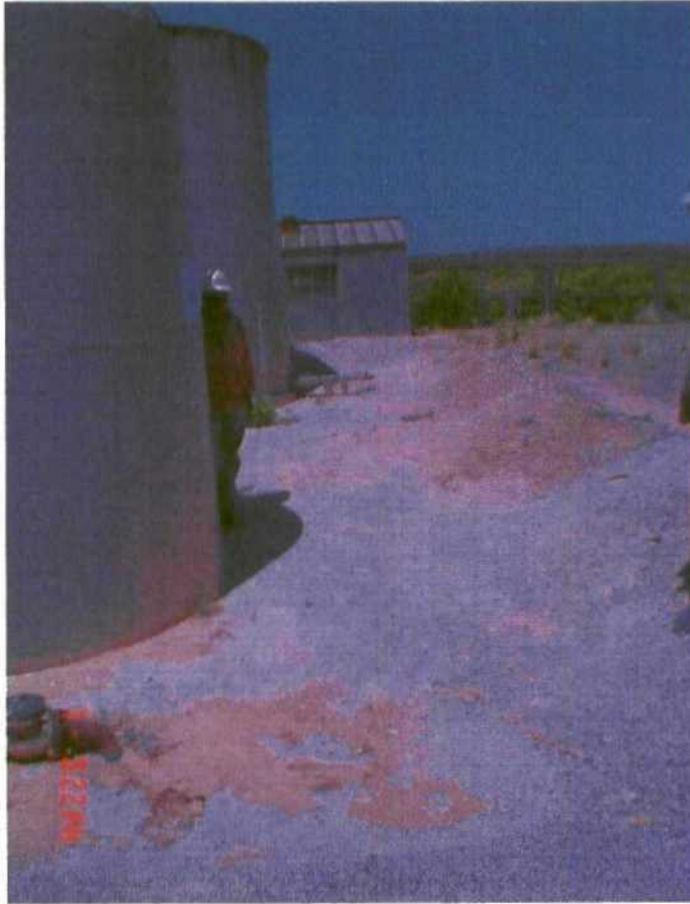


Photo 1. View to the north.
Caviness Ranch tank battery
before restoration.



Photo 2. View to
the west. Area
immediately north
of the Caviness
Ranch north tank
before restoration

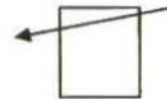




Photo 3. Area immediately south of the Caviness Ranch south tank.

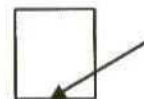


Photo 4. View to the south. Example of hand excavation on east side of the Caviness Ranch storage tanks



Photo 5. View to the west. Example of hand excavation on north side of the Caviness Ranch storage tanks

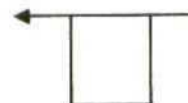




Photo 6. View to the west. Hand excavated trench for 20-mil polyethylene skirt around base of south tank at Caviness Ranch

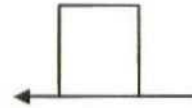
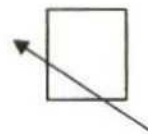


Photo 7. Liquids captured after pipe cut at Caviness Ranch



Photo 8. View to northwest. Protective 20-mil polyethylene skirt in-place. Work completed.



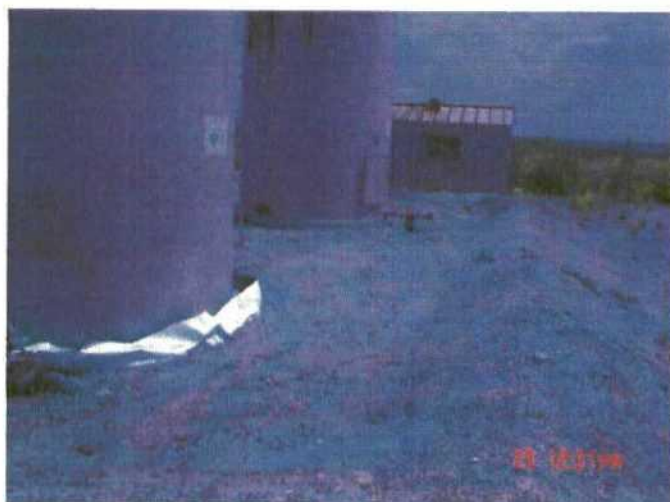


Photo 9. View to north. Work completed.

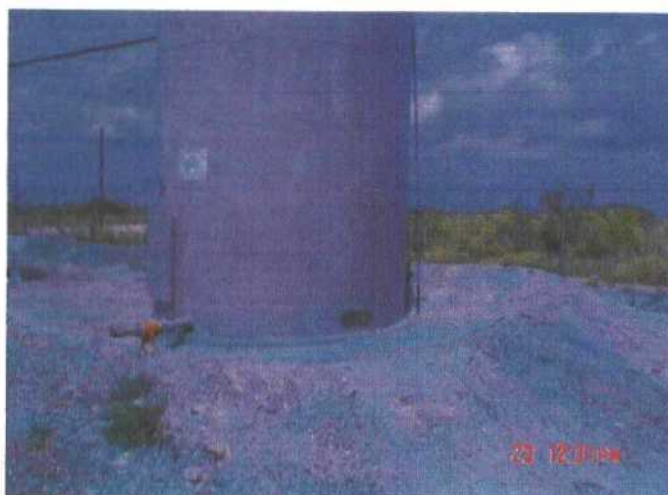


Photo 10. View to west. Work completed.



-----Original Message-----

From: Price, Wayne [mailto:WPrice@state.nm.us]
Sent: Monday, May 17, 2004 2:10 PM
To: Clyde Yancey (E-mail)
Cc: Joyce Miley (E-mail)
Subject: Maxim Project # 4690016 Jan 23, 2004

Kemnitz, Caviness Ranch, Cedar Lake, Lusk, Skelly, Chaves, and Anderson Ranch compressor sites.

The OCD is in receipt of the work plan for the above sites and hereby approves of the plan. Please provide legal locations UL-Sec-TS-R for each site ASAP.

Please be advised that NMOCD approval of this plan does not relieve (ConocoPhillips) of liability should their operations fail to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD approval does not relieve (ConocoPhillips) of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Sincerely:

Wayne Price
New Mexico Oil Conservation Division
1220 S. Saint Francis Drive
Santa Fe, NM 87505
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fax: 505-476-3462
E-mail: WPRICE@state.nm.us

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August 31, 2004

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

RE: SENM Frontier Assets
Findings Report
Lusk Compressor Station
SE Qtr, Sec 26, T18S, R31E

Dear Mr. Price:

Maxim Technologies (Maxim) submits this findings report for the Lusk Compressor Station slop oil tank containment area (site; Figure 1). This work is associated with the 2003 sale of ConocoPhillips assets located in Lea and Eddy counties, New Mexico to Frontier Energy Services, L.L.C. The Bureau of Land Management (BLM) administers this land.

The Cinnabar Environmental Services Phase II report (Projects\2003\271-03 ESA) entitled "*Assessment Site: Maljamar Gas Processing Plant and Associated Gathering System Chaves County, Eddy County and Lea County, New Mexico*" (Cinnabar Report) prepared for Frontier Energy, noted localized hydrocarbon staining at Anderson Ranch and Caviness Ranch, and hydrocarbon affected soil at depth at Lusk Compressor slop oil secondary containment area. However Cinnabar did not define the clean boundary below the affected zone at Lusk Compressor. Maxim prepared a work plan to bio-remediate the localized hydrocarbon staining at Anderson Ranch and Caviness Ranch, which was approved by New Mexico Oil Conservation Division (NMOCD; Attachment 1). Closure reports for these facilities were submitted to NMOCD on July 28, 2004.

An investigative boring program was initiated at Lusk Compressor in accordance with the NMOCD approved work plan to describe the presence/absence and extent of hydrocarbon impact vertically in the vadose zone below the slop oil secondary containment area. Results of this investigation are described below.

Subsurface Investigation

Cinnabar noted in their Phase II report that organic vapors [>100 parts per million (ppm)] were detected from the surface to a total depth of 60 feet below ground surface (fbgs) in the boring established inside the slop oil secondary containment area. Analysis of a soil sample collected in the 4 – 6 fbgs range exhibited a total petroleum hydrocarbon (TPH) concentration of 2,300

milligrams per kilogram (mg/kg; Method OA2) and a TPH gasoline concentration of 610 mg/kg (Method 8015M).

On June 29, 2004 Maxim bored one off-set hole to Cinnabar's initial boring inside the Lusk Compressor slop oil secondary containment area. Boring depth was determined when the photo-ionization detector (PID) reading was below 100 ppm for two consecutive sampling intervals. Top of the Red Beds were encountered at 25 fbgs. The boring was advanced to 100 fbgs to determine the presence of water. No groundwater was encountered below this site.

Impacted soil (> 100 ppm by PID reading) was encountered from the surface to a depth of 75 fbgs (Attachment 2 – Boring Log). Two soil samples were collected and sent to Lancaster Laboratories for analysis [sample #1 with the highest PID reading (5 – 10 fbgs) and sample #1 from the bottom of the boring (95 – 100 fbgs)]. Results are presented in Table I.

Table I
Lusk Compressor Station Analysis

Sample Depth (feet)	5-10	95-100
Units	mg/kg	mg/kg
Benzene	0.44	ND
Toluene	5.0	ND
Ethylbenzene	8.6	0.002
Xylene (Total)	66.0	0.032
Total BTEX	80.04	0.005
TPH – DRO	5,200	340
TPH – GRO	1,400	11
Total TPH	6,600	351
Chloride	551	21
Moisture	9 %	4.1 %

TPH (DRO & GRO) analytical Method 8015M

BTEX analytical Method 8260

Cl analytical Method 300A

Exposure Pathway Analysis

Exposure pathways are circuits through which a potential constituent of concern may migrate and potentially expose humans, impact the environment, or affect land use. Potential pathways in the area of the site can include man-made structures such as domestic and public wells. Receptors can include natural features such as lakes, rivers, springs, seeps, and land, plus the natural biota that inhabit them.

Lusk Compressor is located in the Querecho Plains of eastern New Mexico. This area generally consists of a thin cover of Quaternary sand dunes overlying the undivided Triassic Upper Chinle Group.

The soil consists of well-drained sand and sandy clay loam. Typically, the surface layer is reddish-brown loamy fine sand. It is underlain by red light sandy clay. Below this is white moderately to well-indurated caliche. Underlying the caliche is dark reddish shales and thin sandstones of the undivided Triassic Upper Chinle Group. The Upper Chinle Group consists of silty shale, thin bedded to massive, purplish red to reddish brown with greenish reduction spots. The Group is interbedded with thin beds of fine-grained sandstone with chert pebble gravel.

Based on information from the New Mexico Office of State Engineer's database and the from the United States Geological Survey's *Groundwater Levels for the Nation*, groundwater in the vicinity of Lusk Compressor Station is projected to be 400 feet below ground surface (bgs). The nearest water well (CP 00896) is located 1.9 miles north of the site. Depth of the well is 400 feet.

Wetland areas, in the form of hyper-saline lakes and natural playas, are scattered thought the area. A playa is indicated in Figure 1, approximately 300 feet northwest of the site. However this playa was not immediately apparent upon inspection of area.

The site is found in the Eastern Sandhill region of Eddy County, New Mexico. Topography in the area around the site is characterized as undulating sand dunes and sandy hummocks. Vegetation is characterized by a mixture of grasses and shrubs with a variety of forbs occurring on an annual basis depending on the level of precipitation, which is between 10- to 12-inches per year on average. Land use in this rural area is primarily livestock grazing and oil / gas production. Secondary, unpaved roads provide access and are associated with oil and gas development.

As per the subsurface site assessment characterization protocol outlined in NMOCD's "*Guidelines for Remediation of Leaks, spills and Releases*," dated August 13, 1993 the site is assigned the following score:

<u>Criteria</u>		<u>Ranking Score</u>
Depth to groundwater	>100 feet	0
Distance from water source	>1000 feet	0
Distance from domestic water source	>200 feet	0
Distance from surface water body	>200 feet	<u>0</u>
Total Ranking Score		0

The remediation action level for a ranking score of 0 is 10 ppm for benzene, 50 ppm for BTEX, and 5,000 ppm for TPH.

Recommendation

Maxim recommends no further action at this site. This recommendation is based on no apparent potential for human exposure, impact to the environment, or affect on land use.

Fugitive petroleum hydrocarbons are present above NMOCD remediation action levels but are found below an active oil/gas production facility (Figure 2). These hydrocarbons are not a threat to:

- human exposure owing to it's presence below the ground surface, 5 to 10 fbgs,
- surface water since it is found below the slop oil tank secondary containment (40 ft x 40 ft) and will not be affected by sheet flow from storm events,
- groundwater owing to the depth to water, approximately 400 fbgs, and there are no public or private water wells in the area,
- vegetation in the secondary containment because vegetation is considered a fire hazard inside the berm and is controlled, and
- land use owing to the current use is dedicated to oil / gas production.

In addition, the slop oil tank is still in use and there is no apparent means to remediate the subsoil without removing the tank.

Based on the above information, Maxim requests a variance on NMOCD's recommended remediation action levels and requests closure of this site for ConocoPhillips. If you have any questions concerning this request please call Mr. Neal Goates (832-379-6427) or me.

Sincerely,

MAXIM TECHNOLOGIES, INC.

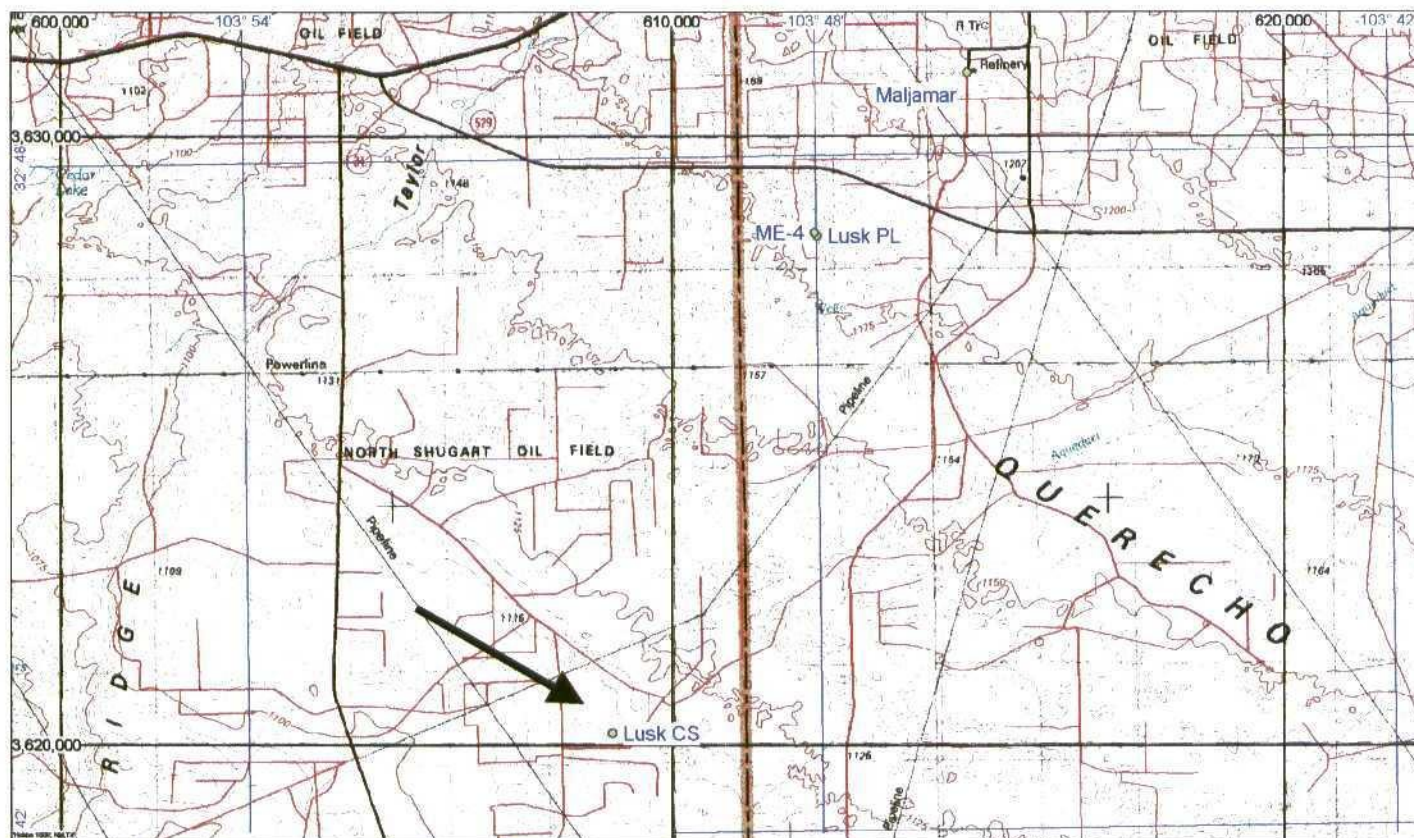
Charles Durrett

Digitally signed by Charles Durrett
DN: CN = Charles Durrett, C = US, O = Maxim
Technologies, Inc.
Date: 2004.08.31 07:34:06 -06'00'

Charles Durrett
Office Manager

Cc: Mr. Neal Goates, ConocoPhillips
Mr. Tim Gum, NMOCD District 2

Attachments



Source: USGS, 1978. Hobbs, New Mexico-Texas
1:100,000 scale (reduced)

**FIGURE I: Lusk Compressor Station
Location Map**

ConocoPhillips

EDDY & LEA COUNTY
NEW MEXICO

MAXIM
TECHNOLOGIES INC.

PROJECT NO. 4940033
MAP BY: CWD
MAP DATE: 08/29/04



FIGURE 2. Lusk Compressor Station Slop
Oil Tank (40' x 40')

ConocoPhillips

MAXIM
TECHNOLOGIES INC.

EDDY COUNTY
NEW MEXICO

PROJECT NO. 4940033
MAP BY: CWD
MAP DATE: 08/26/04

-----Original Message-----

From: Price, Wayne [mailto:WPrice@state.nm.us]
Sent: Monday, May 17, 2004 2:10 PM
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Sincerely:

Wayne Price
New Mexico Oil Conservation Division
1220 S. Saint Francis Drive
Santa Fe, NM 87505
505-476-3487
fax: 505-476-3462
E-mail: WPRICE@state.nm.us

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July 28, 2004

Mr. Wayne Price
New Mexico Energy, Minerals & Natural Resources Department
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

RE: SENM Frontier Assets
Anderson Ranch Compressor Station
SE1/4, NW1/4, Section 11, T16S, R32E
Request for Closure

Dear Wayne:

On behalf of ConocoPhillips, Maxim Technologies, Inc. (Maxim) is submitting this report to describe the actions taken to remediate the soils around the Anderson Ranch compressor in Lea County, New Mexico (Site). The Site is located approximately 5.7 miles northeast of Maljamar, New Mexico; 4.2 miles north of US Highway 82; in the north central portion of Lea County, New Mexico (N32° 56.200, W103° 44.316; NAD27; Figure 1). The State of New Mexico administers the land at the Site. This report describes the path forward for closure of the soils around the compressor in accordance with New Mexico Oil Conservation Division's (NMOCD) standards, Guidelines for Remediation of Leaks, Spills and Releases.

BACKGROUND

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SCOPE OF WORK

Remediation activities were conducted on the Site from June 30 through July 01, 2004 in accordance with the plan approved by the NMOCD. These activities consisted primarily of removing soil adjacent to below ground piping in the vicinity of the Anderson Ranch compressor, wrapping these pipe with polyethylene sheeting, backfilling the trenches with clean soil and hand spreading urea over the visually stained area.

A form of enhanced in-situ bioremediation to reduce concentrations of organic constituents in the soil was performed at Anderson Ranch. Bioremediation occurs naturally in shallow soils with access to oxygen. A granular form of urea was applied, in accordance with the following procedure, to stimulate aerobic biological degradation of the surface and near surface hydrocarbon at Anderson Ranch Compressor Station:

1. Surface hydrocarbon staining was visually delineated.
2. Petroleum hydrocarbon affected material was hand excavated from around steel piping. Also, 20-mil polyethylene sheeting was wrapped around the piping to protect the piping from the urea. The pipe trenches were backfilled with clean material.
3. Approximately one cubic yard of petroleum hydrocarbon affect soil was transported to Controlled Recovery Incorporated's (CRI) Midway facility for disposal.
4. Five (5) pounds (lbs) of urea (40% nitrogen, 4% potassium, 5% phosphorous) per cubic yard (CY) of soil was applied. Depth of hydrocarbon affected soil was determined in the Cinnabar Report to be four (4) feet below ground surface. Therefore, approximately 18 lbs of urea was applied to 89 CYs of affected soil at Anderson Ranch.
5. Photographs were taken to document the before and after treatment at the site (see Photographs).

FINDINGS

All work at Anderson Ranch was done under the direction of Maxim and observed by Frontier's on-site representatives. This work was documented by photographs taken during various stages of soil remediation (Photographs).

CONCLUSIONS

Approximately one cubic yard of contaminated soils were removed and hauled to CRI – Midway for disposal. 20-mil polyethylene sheeting was wrapped around existing piping and clean material was backfilled into the pipe trenches. Approximately 18 lbs of urea was applied to the visually surface stained area and clean caliche was spread over the area. This Site has been remediated.

Mr. Wayne Price
July 28, 2004
Page 3 of 5

RECOMMENDATIONS

Based on the work performed at this Site, Maxim recommends no further action is required. Upon your review and approval of this report, Maxim on behalf of ConocoPhillips, requests closure for this compressor location. If you have any questions or need additional information, please call Mr. Neal Goates (ConocoPhillips, 823-379-6427) or me.

Sincerely,

MAXIM TECHNOLOGIES

Charles Durrett

Digitally signed by Charles Durrett
DN: CN = Charles Durrett, C =
US, O = Maxim Technologies, Inc.,
Date: 2004.07.28 11:06:16 -05'00'

Charles Durrett
Senior Project Manager

Cc: Chris Williams, NMOCD District I
Mr. Neal Goates, ConocoPhillips
Ms. Joyce Miley, ConocoPhillips

PHOTOGRAPHS



Photo 1. View to the northwest. Anderson Ranch compressor before restoration.



Photo 2. View to the east. Area immediately south of the Anderson Ranch compressor before restoration



Photo 3. View to the east, northeast. Area immediately north of the Anderson Ranch compressor





Photo 4. View to the east. Example of hand excavation on south side of the Anderson Ranch compressor

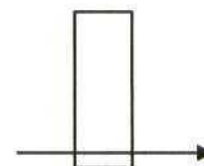


Photo 5. View to the north. Example of hand excavation on east side of Anderson Ranch compressor



Photo 6. View to the east. Example of 20-mil polyethylene wrap on excavated pipe.

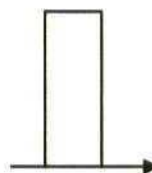




Photo 7. View to the northwest. Work completed with clean gravel backfill.

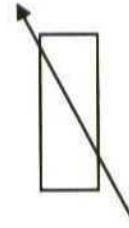


Photo 8. View to the north. Work completed with clean gravel backfill.



Photo 9. View to the west. Work completed with clean gravel backfill.



-----Original Message-----

From: Price, Wayne [mailto:WPrice@state.nm.us]
Sent: Monday, May 17, 2004 2:10 PM
To: Clyde Yancey (E-mail)
Cc: Joyce Miley (E-mail)
Subject: Maxim Project # 4690016 Jan 23, 2004

Kemnitz, Caviness Ranch, Cedar Lake, Lusk, Skelly, Chaves, and Anderson Ranch compressor sites.

The OCD is in receipt of the work plan for the above sites and hereby approves of the plan. Please provide legal locations UL-Sec-TS-R for each site ASAP.

Please be advised that NMOCD approval of this plan does not relieve (ConocoPhillips) of liability should their operations fail to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD approval does not relieve (ConocoPhillips) of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Sincerely:

Wayne Price
New Mexico Oil Conservation Division
1220 S. Saint Francis Drive
Santa Fe, NM 87505
505-476-3487
fax: 505-476-3462
E-mail: WPRICE@state.nm.us

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