

SITE INFORMATION

Report Type: Closure Report

Site Information:						
Site:	Mobil 22 Federal No. 6					
Company:	Southern Bay Operating, LLC					
Section, Township and Range	Unit K	Sec 22	T26S	R29E		
Lease Number:	NM-22634					
County:	Eddy County					
GPS:	32.02667° N			103.97310° W		
Surface Owner:	J.G. Ross Jr.					
Mineral Owner:	Federal					
Directions:	From Malaga, NM and the intersection of 720 and 285, travel south on 285 for 12.4 miles. Turn left (East) onto Co Rd 725/Whitehorn Road and travel 7.5 miles. Turn right at site.					

Date Released:	10/14/2009
Type Release:	Oil and produced water
Source of Contamination:	Stuffing box leak
Fluid Released:	2 bbls
Fluids Recovered:	None

Name:	William M. Kincaid		Ike Tavaréz
Company:	Stephens & Johnson Operating Co.		Tetra Tech
Address:			1910 N. Big Spring
P.O. Box	2249		
City:	Wichita Falls, Texas 76307-2249		Midland, Texas
Phone number:	(940) 723-2166		(432) 682-4559
Fax:	(940) 723-8113		(432) 682-3946
Email:	mkincaid@sjoc.net		ike.tavarez@tetrattech.com

Depth to Groundwater:	Ranking Score	Site Data
<50 ft	20	
>50 but <100 ft.	10	10
>100 ft.	0	
WellHead Protection:	Ranking Score	Site Data
Water Source <1,000 ft., Private <200 ft.	20	
Water Source >1,000 ft., Private >200 ft.	0	0
Surface Body of Water:	Ranking Score	Site Data
<200 ft.	20	
200 ft - 1,000 ft.	10	
>1,000 ft.	0	10

Benzene	Total BTEX	TPH
10	50	1,000



January 25, 2011

Mr. Mike Bratcher
Environmental Engineer Specialist
Oil Conservation Division, District 2
1301 West Grand Avenue
Artesia, NM 88210

**Re: Closure Request Report for the Stephens & Johnson Operating Company,
Mobil 22 Federal No. 6, Unit K, Section 22, Township 26 South, Range 29
East, Eddy County, New Mexico.**

Mr. Bratcher:

Tetra Tech Inc. (Tetra Tech) was contacted by Stephens & Johnson Operating Company, (Stephens & Johnson) to assess a release of oil/produced water which occurred at the Mobil 22 Federal No. 6, located in Unit K, Section 22, Township 26 South, Range 29 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.02667°, W 103.97310°. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the leak occurred on October 14, 2009, when approximately 2 barrels of oil/produced water was released from a leak at the stuffing box. Of the 2 barrels released, no fluids were recovered. In order to curtail further leakage at the stuffing box, the packing was replaced. The initial and final C-141 is enclosed in Appendix A.

Hydrology

According to *The New Mexico Office of the State Engineer Well Reports*, one water well is located within the same Section as the site. The listed well, located in Section 22, has an average reported depth of 57 feet below ground surface (bgs). In addition, the New Mexico Oil Conservation Division (NMOCD) Depth to Groundwater Map for Eddy County, New Mexico, shows one water well located within the Section which contains the site. According to the map, the listed well has an average reported depth of 69 feet bgs. No additional water wells were located within the Section. The well reports are shown in Appendix B.

Tetra Tech

Tel

Fax



According to the *Geology and Groundwater Resources of Eddy County, New Mexico (Report 3)*, the Rustler and Castile formations (Ochoa Series) are present west and east of the Pecos River. The Rustler and Castile formations consist of anhydrite, gypsum, interbedded sandy clay and beds of dolomite. Groundwater from the Castile and Rustler formations west of the Pecos River is historically high in chloride and sulfate concentrations which increase towards the river. The site is located on the eastern edge of the Rustler formation.

Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 1,000 mg/kg.

Soil Assessment and Results

On November 10, 2009, Tetra Tech personnel inspected the site and installed a total of three (3) auger holes (AH-1 to AH-3) to assess the spill area. The spill area is shown on Figure 3. The auger holes were advanced to depths of approximately 1.0 foot to 1.5 feet bgs. Select samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B, and chloride by EPA method 300.0. The results of the sampling are summarized in Table 1.

Referring to Table 1, all of the samples analyzed for TPH were below the RRAL, with the exception of AH-1 at 0-1 which had results of 3,607 mg/kg. All BTEX samples were below their respective RRAL. Chloride concentrations were elevated in auger holes AH-1 through AH-3 ranging from 2,240 mg/kg in AH-1 at 1-1.5 feet to 12,600 mg/kg in AH-2 at 0-1 feet.

In order to further delineate the chloride concentrations at the site, Tetra Tech personnel were onsite February 2, 2010, to install 2 backhoe trenches (T-1 and T-2). The trenches were placed adjacent to and named in accordance with the auger holes. Each of the trenches were extended from 10 to 12 feet bgs and samples were collected and submitted for analysis of chlorides. Referring to Table 2, the chloride concentrations decreased in both trenches with depth.

In order to determine background chloride concentration at the site, Tetra Tech personnel were onsite April 12, 2010, to install 2 backhoe trenches (T-3 and T-4) off the pad and outside the initial release area. Each of the trenches was extended to 12 feet bgs and samples were collected and submitted for analysis of chlorides. Referring to Table 2, the chlorides in both trenches ranged from <200 mg/kg to 380 mg/kg.



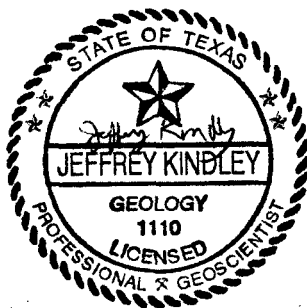
TETRA TECH

Soil Remediation

As an interim measure prior to submittal of an Assessment Report and Work Plan, Tetra Tech was onsite February 2, 2010 to oversee the excavation and removal of the most visibly hydrocarbon stained soils at the site. As part of the interim measure, the first two feet of soil was removed in the vicinity of auger holes AH-1 and AH-2. Surface dimensions of the excavation were 15 by 15 feet and 20 by 25 feet for auger holes AH-1 and AH-2, respectively. Approximately 54 cubic yards of soil were removed from the two excavations and transported offsite for final disposal at Lea Land, Inc in Carlsbad, New Mexico.

In accordance with the *Assessment Report and Work Plan for the Stephens & Johnson Operating Company, Mobil 22 Federal No. 6*, dated June 14, 2010, Tetra Tech personnel were onsite October 7, 2010, to oversee the excavation and removal of chloride impacted soils at the site. An area measuring 20 feet by 20 feet by 6 feet deep was excavated in the areas of auger holes AH-1 and AH-2. Upon completion of the excavation, the two areas were backfilled to within 4 feet below ground surface (bgs) with clean soils and two 20-mil poly liners with the same measurements as the two excavated areas were installed at that depth. See Figure 4 for liner dimensions and locations. Upon completion of the liners, the remainder of the excavation was backfilled with clean soils and brought up to surface grade. Approximately 180 cubic yards of chloride impacted soils were excavated and transported offsite for disposal at Lea Land, Inc. of Carlsbad, New Mexico.

With the placement of the impermeable barrier, the removal of a majority of the chloride impacted soils, and in accordance with the approved work plan, Stephens & Johnson respectfully requests the NMOCD consider closure of the site. If you require additional information or have any questions or comments, please call either Mike Kincaid of Stephens & Johnson at (940) 723-2166 or myself at (432) 682-4559.



Respectfully submitted,
TETRA TECH

Jeffrey Kindley
Jeff Kindley, P.G.
Senior Project Manager

cc: Mike Kincaid – Stephens & Johnson Operating Co.

FIGURES

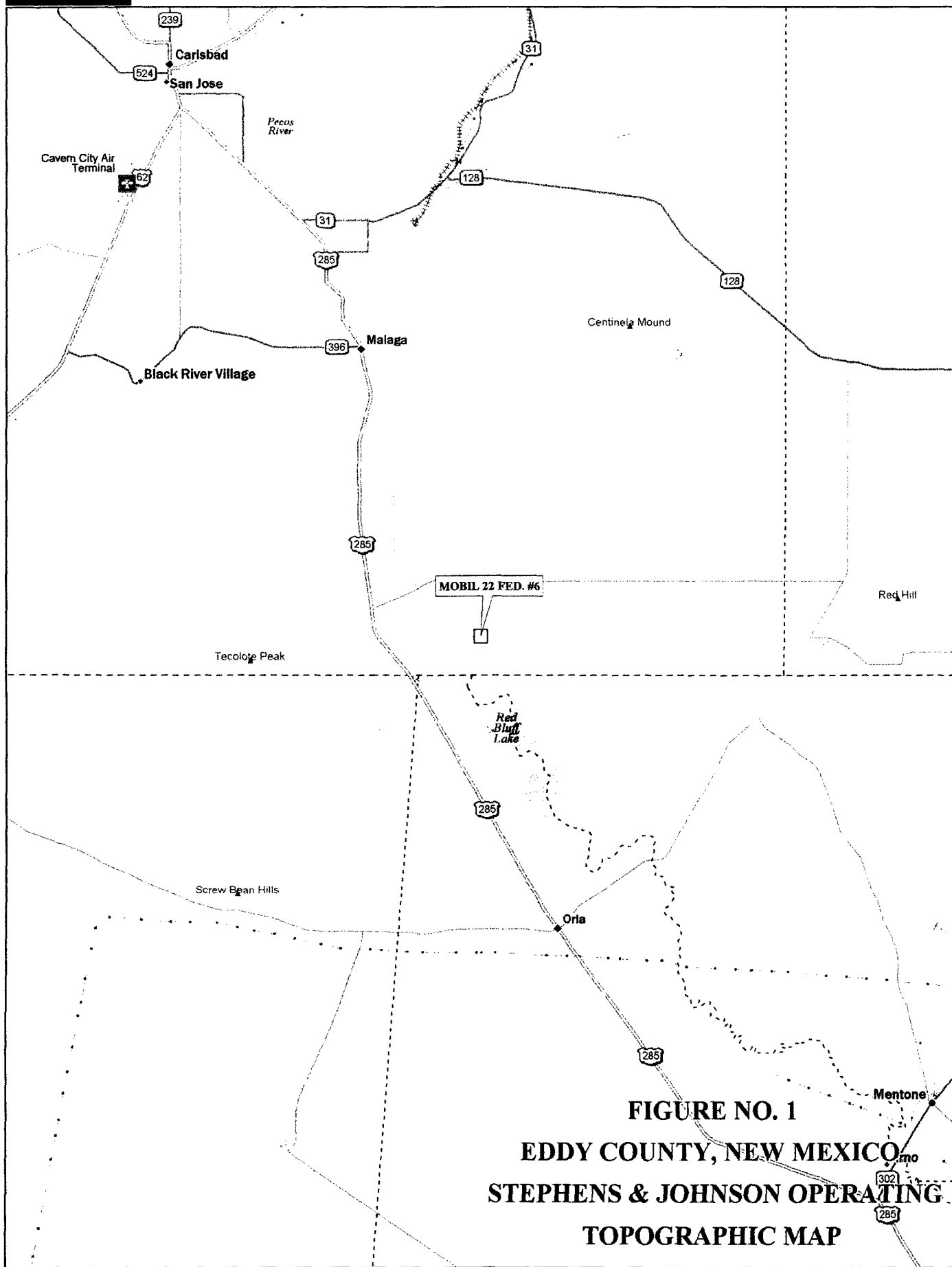


FIGURE NO. 1
EDDY COUNTY, NEW MEXICO
STEPHENS & JOHNSON OPERATING
TOPOGRAPHIC MAP

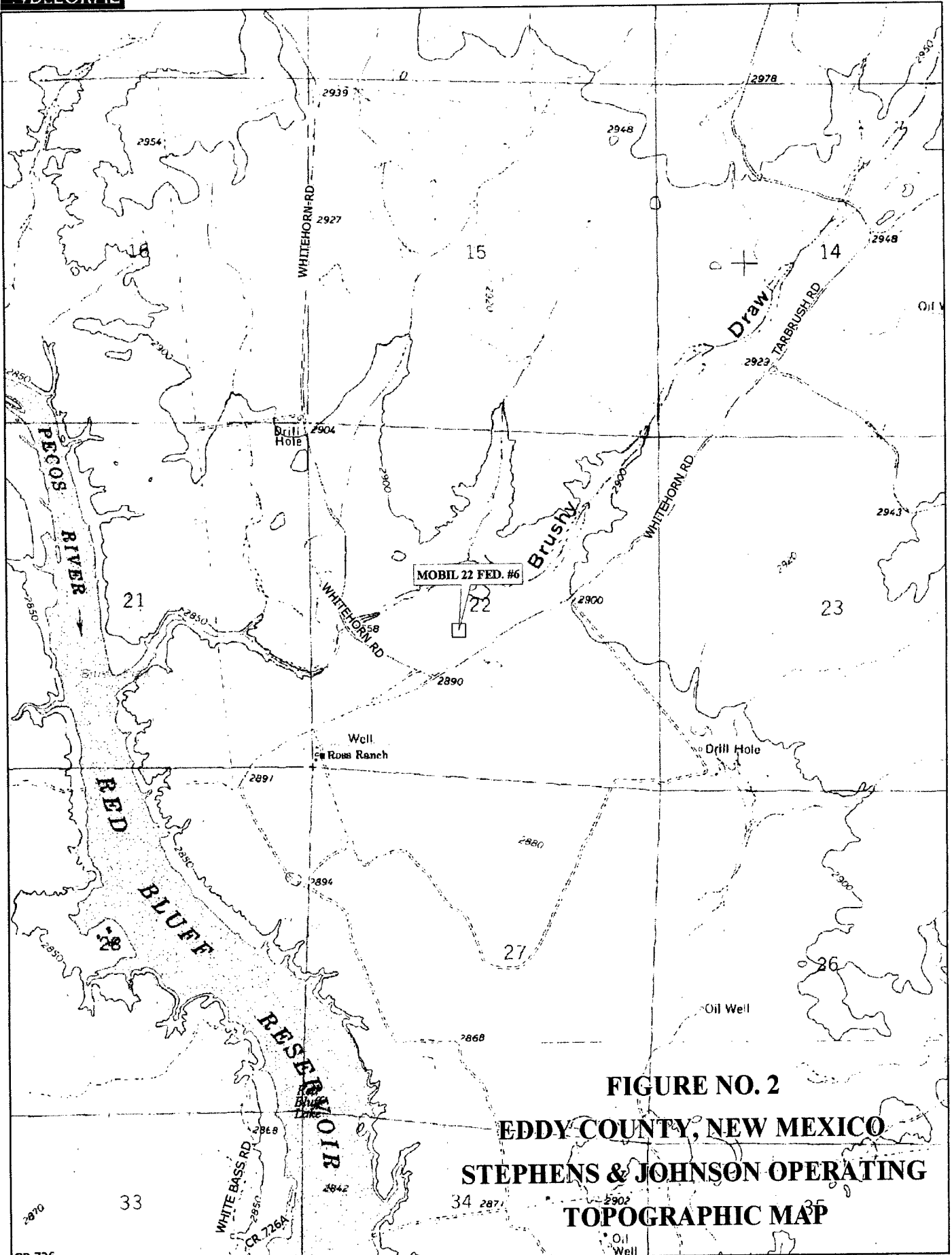


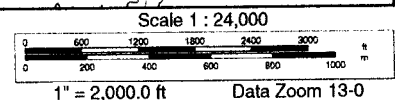
FIGURE NO. 2
EDDY COUNTY, NEW MEXICO
STEPHENS & JOHNSON OPERATING
TOPOGRAPHIC MAP

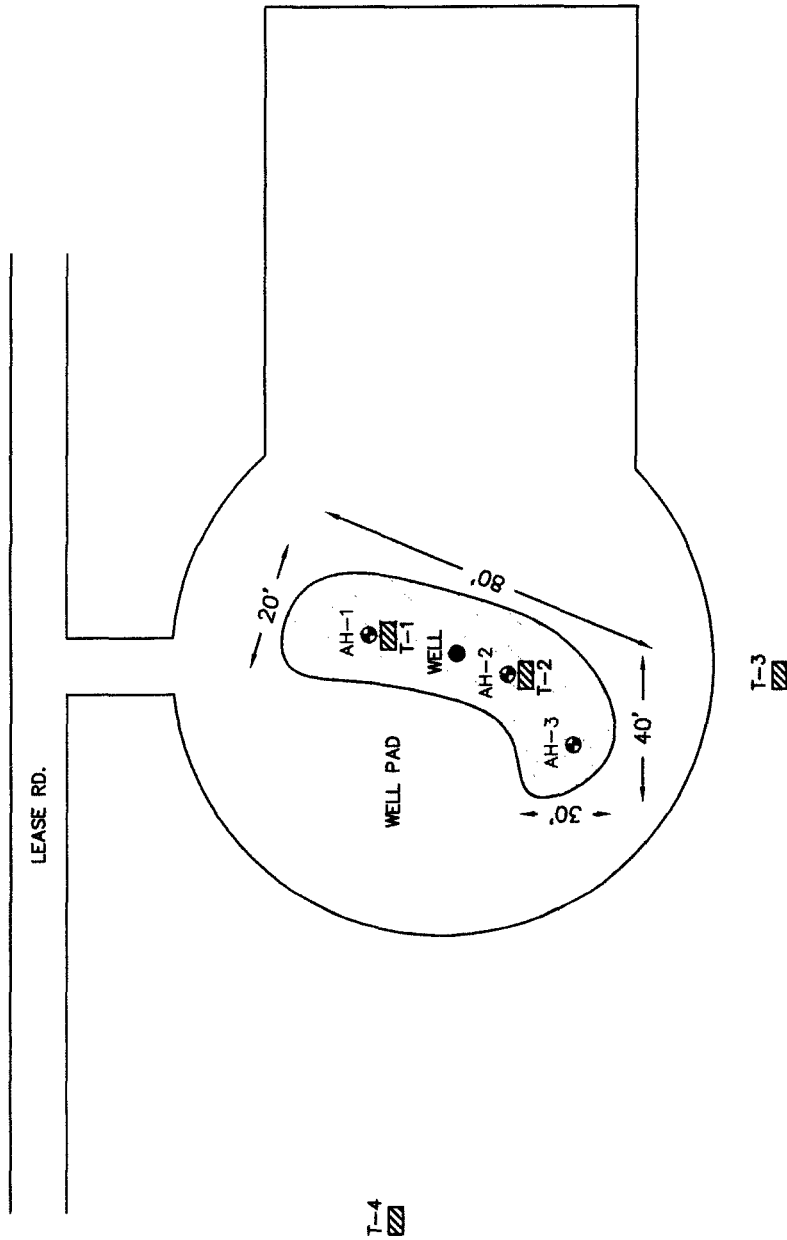
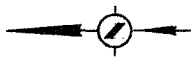
CR 726

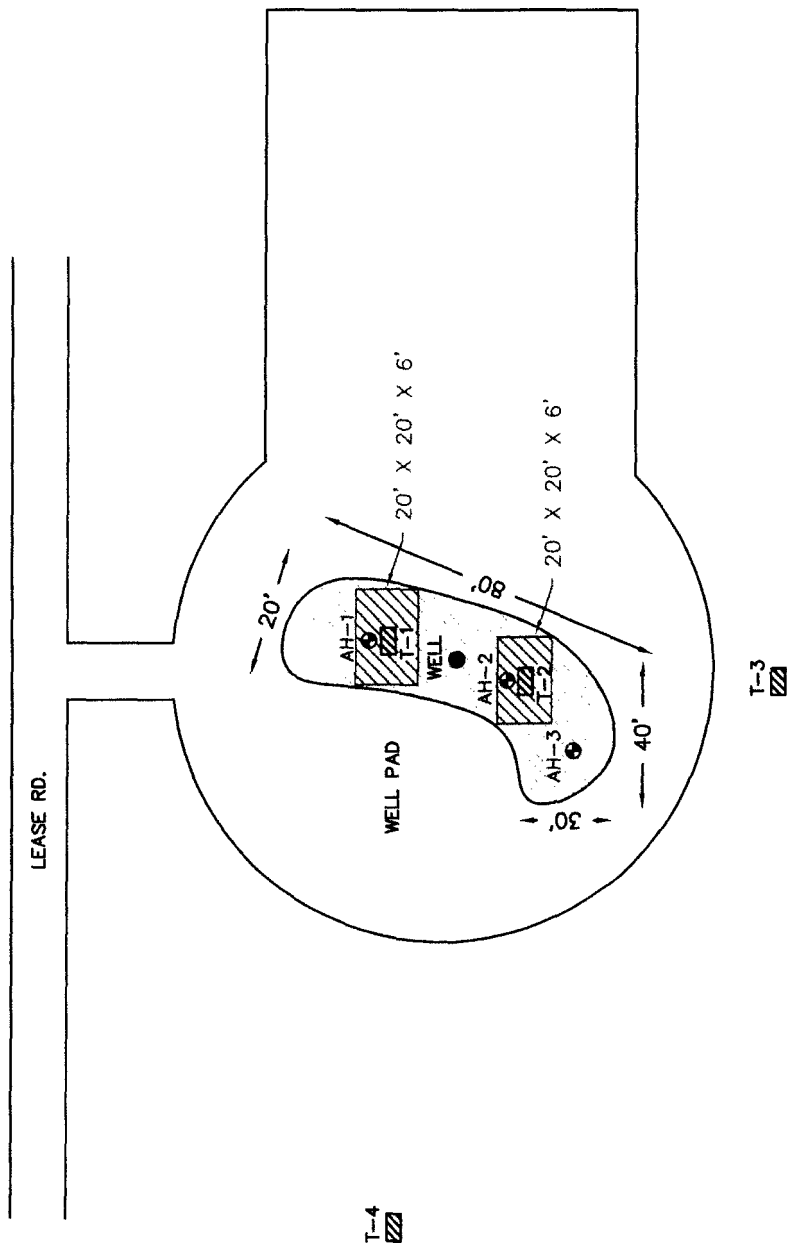
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NOT TO SCALE

FIGURE NO. 4

EDDY COUNTY, NEW MEXICO

**STEPHENS & JOHNSON
OPERATING**





**MOBIL 22 FED #6 WELL
LINER LOCATION & DEPTH**

TETRA TECH, INC.
MIDLAND, TEXAS

DATE: 11/10/09

DWG. BY:

JJ
FILE:
C:\STEPHENS & J
114-6400358

 SPILL AREA
 LINER (4') & EXCAVATION (6") DEPTH
 SAMPLE TRENCH
 SAMPLE LOCATIONS

TABLES

Table 1
Stephens & Johnson Operating Co.
Mobil 22 Federal #6
Eddy County, New Mexico

Sample ID	Date Sampled	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Total BTEX	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total						
AH-1	11/10/2009	0-1'		X	27.3	3580	3607.3	<0.100	<0.100	290	778	1068	3800
		1-1.5		X	6.31	96.7	103.01						2240
AH-2	11/10/2009	0-1'		X	<1.0	<50.0	<50.0	-	-	-	-	-	12600
AH-3	11/10/2009	0-1			18.6	<50.0	18.6	<0.010	<0.010	<0.010	<0.010	<0.010	3220

(-) Not Analyzed

Table 2
Stephens & Johnson Operating Co.
Mobil 22 Federal #6
Eddy County, New Mexico

Sample ID	Date Sampled	Sample Depth (ft)	Soil Status		Chloride (mg/kg)
			In-Situ	Removed	
T-1	02/02/10	2	x		880
		3	x		130
Liner		4	x		80
		5	x		982
		6	x		250
		8	x		864
		10	x		854
T-2	02/02/10	2	x		
		3	x		
Liner		4	x		
		5	x		
		6	x		70
		8	x		860
		10	x		541
		12	x		530
T-3	04/12/10	1	x		<200
Background		2	x		380
		3	x		237
		4	x		<200
		5	x		<200
		6	x		<200
		8	x		<200
		10	x		<200
		12	x		210
T-4	04/12/10	1	x		<200
Background		2	x		<200
		3	x		<200
		4	x		<200
		5	x		<200
		6	x		315
		8	x		<200
		10	x		220
		12	x		<200

(-) Not Analyzed



Excavated Depth

Liner Installation

APPENDIX A
INITIAL/FINAL C-141

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 South First, Artesia, NM 88210
District III
1000 Rio Brazos Rd, 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

0358

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 Stephens & Johnson Operating Co.	Contact William M. Kincaid
Address P.O. Box 2249 Wichita Falls, Texas 76307-2249	Telephone No. [940] 723-2166
Facility Name Mobil 22 Federal No. 6	Facility Type Producing Oil Well

Surface Owner J. G. Ross, Jr.	Mineral Owner MMS (Federal)	Lease No. NM-22634
----------------------------------	--------------------------------	-----------------------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	22	26S	29E	2260	South	2310	West	Eddy

Latitude _____ Longitude _____

NATURE OF RELEASE

Type of Release Stuffing Box Leak	Volume of Release 2 bbls	Volume Recovered None
Source of Release Wellhead	Date and Hour of Occurrence 10-14-09	Date and Hour of Discovery 10-14-09
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" 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. *

Stuffing box leaking. Stuffing box packing replaced to stop leak.

Describe Area Affected and Cleanup Action Taken. *

A small area around wellhead and confined to well location was contaminated with oil and water. All contaminated soil was removed and replaced with new soil on 10-16-09.

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: <i>William M. Kincaid</i>	OIL CONSERVATION DIVISION		
Printed Name: William M. Kincaid			
Title: Petroleum Engineer	Approved by District Supervisor:	Approval Date:	Expiration Date:
E-mail Address: mkincaid@sjoc.net	Conditions of Approval:		
Date: 10-20-09	Phone: [940] 723-2166	Attached <input type="checkbox"/>	

* Attach Additional Sheets If Necessary

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 Stephens & Johnson Operating Co.	Contact William M. Kincaid
Address P.O. Box 2249 Wichita Falls, Tx 76307-2249	Telephone No. (940) 723-2166
Facility Name Mobile 22 Federal No. 6	Facility Type Producing Oil Well

Surface Owner: J. G. Ross Jr.	Mineral Owner MMS (Federal)	Lease No. NM-22634
--------------------------------------	------------------------------------	---------------------------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	22	26S	29E	2260	South	2310	West	Eddy

Latitude N 32.02667° Longitude W 103.97310°

NATURE OF RELEASE

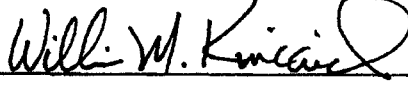
Type of Release: Stuffing box leak	Volume of Release 2 bbls	Volume Recovered None
Source of Release Wellhead	Date and Hour of Occurrence 10/14/09	Date and Hour of Discovery 10/14/09
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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.*
N/A

Describe Cause of Problem and Remedial Action Taken.*
Stuffing box leaked. To alleviate the problem, the packing within the stuffing box was replaced.

Describe Area Affected and Cleanup Action Taken.* Area adjacent to wellhead where release occurred was scrapped and clean soils replaced on October 16, 2009. In addition, trenches were installed in order to delineate the site. On October 7, 2010, approximately 180 cubic yards of soil were excavated and transported offsite for disposal at Lea Land Inc. of Carlsbad, NM. The site was backfilled to within 4 feet and poly liners installed. Above the liner clean soils were brought in and placed to within 1 foot of the surface. Afterwards, a 1 foot thick caliche base was then installed over the soils.

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: 	OIL CONSERVATION DIVISION	
Printed Name: William M. Kincaid	Approved by District Supervisor:	
Title: Petroleum Engineer	Approval Date:	Expiration Date:
E-mail Address: mkincaid@sjoc.net	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 01/25/11	Phone: (940) 723-2166	

* Attach Additional Sheets If Necessary

APPENDIX B WATER WELL REPORTS

Water Well Data
Average Depth to Groundwater (ft)
Stephens and Johnson - Mobile #22 Federal #6, Eddy County, New Mexico

24 South				28 East			
6	70	5	30	4	30	3	
						2	55
						1	60
7		8	50	9		10	11
						17	20
18		17		16		15	14
		42	29			18	52
19		20		21		22	23
		48				24	
30		29		28		27	26
						25	
31		32		33		34	35
						36	

24 South				29 East			
6		5		4		3	
						2	
						1	
7		8		9		10	11
							12
18		17		16		15	14
						18	
19		20		21		22	23
						24	
30		29		28		27	26
						25	
31		32		33		34	35
						36	

24 South				30 East			
6		5		4		3	
						2	
						1	
7		8		9		10	11
							12
18		17		16		15	14
							13
19	231	20		21		22	23
							24
30	150	29		28		27	26
							25
31		32		33		34	35
						36	

25 South				28 East			
6		5		4	35	3	
						2	
						1	
7		8		9		10	11
							12
18		17		16		15	14
							13
19		20		21		22	23
		96				24	
30		29		28		27	26
						25	
31		32		33		34	35
						36	40

25 South				29 East			
6		5		4		3	
						2	
						1	
7		8		9		10	11
							12
18		17		16		15	14
						40	
19		20		21		22	23
							24
30		29		28		27	26
						25	
31		32		33		34	35
						36	

25 South				30 East			
6		5		4		3	
						2	
						1	
7	264	8		9	295	10	11
							12
18		17		16		15	14
							13
19		20		21	265	22	23
					268		24
30		29		28		27	26
							25
31		32		33		34	35
						36	

26 South				28 East			
6		5		4		3	
						2	
						1	
7		8		9		10	11
							12
18		17		16		15	14
							13
19		20		21		22	23
							24
30		29		28		27	26
							25
31		32		33		34	35
						36	

26 South				29 East			
6		5		4		3	
						2	
						1	
7		8		9		10	11
							12
18		17		16		15	14
							13
19		20		21		22	23
						57	24
30		29		28		69Site	26
							25
31		32		33		34	35
						36	

26 South				30 East			
6		5	179	4		3	
						2	
						1	
7		8		9		10	11
							12
18		17		16		15	14
							13
19		20		21		22	23
							24
30		29		28		27	26
							25
31		32		33		34	35
						36	

88 New Mexico State Engineers Well Reports

105 USGS Well Reports

90 Geology and Groundwater Conditions in Southern Lea, County, NM (Report 6)

Geology and Groundwater Resources of Eddy County, NM (Report 3)

34 NMOCD - Groundwater Data

NM WAIDS

[DATA](#)[MAPS](#)[HOME](#)[SCALE](#)[CORROSION](#)

Water Samples for Sect 22 Township 26 South Range 29 East

Instructions:

The number represents the number of water samples of certain well. Click the number if you want to download the data.

4 records are available.

	# of samples	S	T	R	Formation	Date	Chlorides (mg/L)	Location (qtr/qtr)
<input type="checkbox"/>	<u>1</u> sample	22	26S	29E	RSLR	7/14/1987	1754	26S.29E.22.23341
<input type="checkbox"/>	<u>1</u> sample	22	26S	29E	RSLR	4/11/1985	5770	26S.29E.22.23341
<input type="checkbox"/>	<u>1</u> sample	22	26S	29E	RSLR	9/3/1997	5880	26S.29E.22.23341
<input type="checkbox"/>	<u>1</u> sample	22	26S	29E	RSLR	4/8/1992	6070	26S.29E.22.23341

☐ SELECT/DESELECT ALL

Submit



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	Sub basin	Use	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
C 02038	PRO	ED		3	2	4	26	26S	29E	599204	3541992*	200		
C 02115	PRO	ED		1	3	26	26S	29E		598077	3542093*	160	85	75
												Average Depth to Water:	85 feet	
												Minimum Depth:	85 feet	
												Maximum Depth:	85 feet	

Record Count: 2

PLSS Search:

Township: 26S Range: 29E

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.