

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

Form C-101  
May 27, 2004

Oil Conservation Division

Submit to appropriate District Office

1220 South St. Francis Dr. MAY - 5 2008  
Santa Fe, NM 87505

☐ AMENDED REPORT  
Permit renewal request



OCD-ARTESIA

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

<sup>1</sup> Operator Name and Address: Western Reserves Oil Co., Inc., Box 993, Midland, TX 79702		<sup>2</sup> OGRID Number: 024987
<sup>3</sup> Property Code 36339	<sup>4</sup> Property Name Lake McMillan "21"	<sup>5</sup> API Number 30-015-36320
<sup>9</sup> Proposed Pool 1: Four Mile Draw; Morrow (Gas) ✓		<sup>10</sup> Proposed Pool 2 Wildcat

<sup>7</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	21	19S	26E		1980	North	1980	East	Eddy

<sup>8</sup> Proposed Bottom Hole Location If Different From Surface

UL or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

Additional Well Information

<sup>11</sup> Work Type Code New Well	<sup>12</sup> Well Type Code G	<sup>13</sup> Cable/Rotary R	<sup>14</sup> Lease Type Code Fee	<sup>15</sup> Ground Level Elevation 3332' GR
<sup>16</sup> Multiple No	<sup>17</sup> Proposed Depth 9800'	<sup>18</sup> Formation Morrow	<sup>19</sup> Contractor JW Drilling, Inc.	<sup>20</sup> Spud Date 06/01/08
Depth to Groundwater: 90'		Distance from nearest fresh water well: More than 1000'		Distance from nearest surface water: More than 1000'
Pit: Liner: Synthetic-X-20_mils thick Clay <input type="checkbox"/> Pit Volume: 3800_bbls		Drilling Method:		
Closed-Loop System		Fresh Water X Brine Diesel/Oil-based <input type="checkbox"/> Gas/Air <input type="checkbox"/>		

<sup>21</sup> Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
17.5"	13 3/8"	48#	350' ✓	390 sx	Surface
12 1/4"	9 5/8"	36#	1400'	650 sx	Surface
8 3/4"	5 1/2"	17#	9800'	1450 sx	1200'

<sup>22</sup> Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone.

Describe the blowout prevention program, if any. Use additional sheets if necessary.

Mud Program: 0-350', MW 8.4-9 ppg, fresh water native spud mud. 350-7500' - MW 8.4-8.6 ppg fresh water. 7500-9800' MW 8.3-9.4, cut brine, KCD Polymer.

A 3000 psi hydraulic BOP will be utilized. Standard BOP diagram attached.

H2S - Will have minimum compliance package set up prior to drill out of 9 5/8" casing. H2S plan attached. . . .

Approximately 14-18 days drilling.

If earthen pits are used in association with the drilling of this well, an OCD pit permit must be obtained prior to pit construction.

<sup>23</sup> I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that the drilling pit will be constructed according to NMOCD guidelines X, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Printed name: Ann E. Ritchie

Title: Regulatory Agent

E-mail Address: ann.ritchie@wtor.net

Date: 04/24/2008

Phone: 432 684-6381/770-0913

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date:

Conditions of Approval Attached ☐

*Ann E. Ritchie*

*Jim W. Brown*

*District II Supervisor*

*5/16/08*

*5/16/10*

✓ R4D 5-15-08  
(KML)

Western Reserves Oil Company, Inc., Box 993, Midland, TX 79702

Lake McMillan "21", Well #2, Section 21, T19S, R26E, Eddy County, NM

Casing details:

13 3/8", 48#, J55 STC @ 350' w/390 sx PP, 10 pps, calseal, Class C, 2% CaCl

9 5/8", 36# J55, STC @ 1400', w/1400 sx Interfill PP and PP w/ 1/2# polyflake, 1% CaCl

5 1/2", 17# LTC cement 9800-6000' w/ 300+ sx lite premium w/.6% halad R9, 5# salt, 1/8# polyflake + 500+ sx. Cement 6000-1200' 900 sx PP lite w/5% salt .6% halad 9, 1/8# polyflake \_ 100 sx PP cement; plug down and tool close w/3000 psi.

DISTRICT I  
1625 N. FRENCH DR., HOBBS, NM 88240

State of New Mexico  
Energy, Minerals and Natural Resources Department

DISTRICT II  
1301 W. GRAND AVENUE, ARTESIA, NM 88210

DISTRICT III  
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV  
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

OIL CONSERVATION DIVISION  
1220 SOUTH ST. FRANCIS DR.  
Santa Fe, New Mexico 87505

Form C-102  
Revised October 12, 2005  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-015-	Pool Code 76960	Pool Name Four Mile Draw, Morrow (Gas)
Property Code 36339	Property Name LAKE MCMILLAN 21	Well Number 2
OGRID No. 024987	Operator Name WESTERN RESERVES OIL COMPANY, INC.	Elevation 3332'

Surface Location

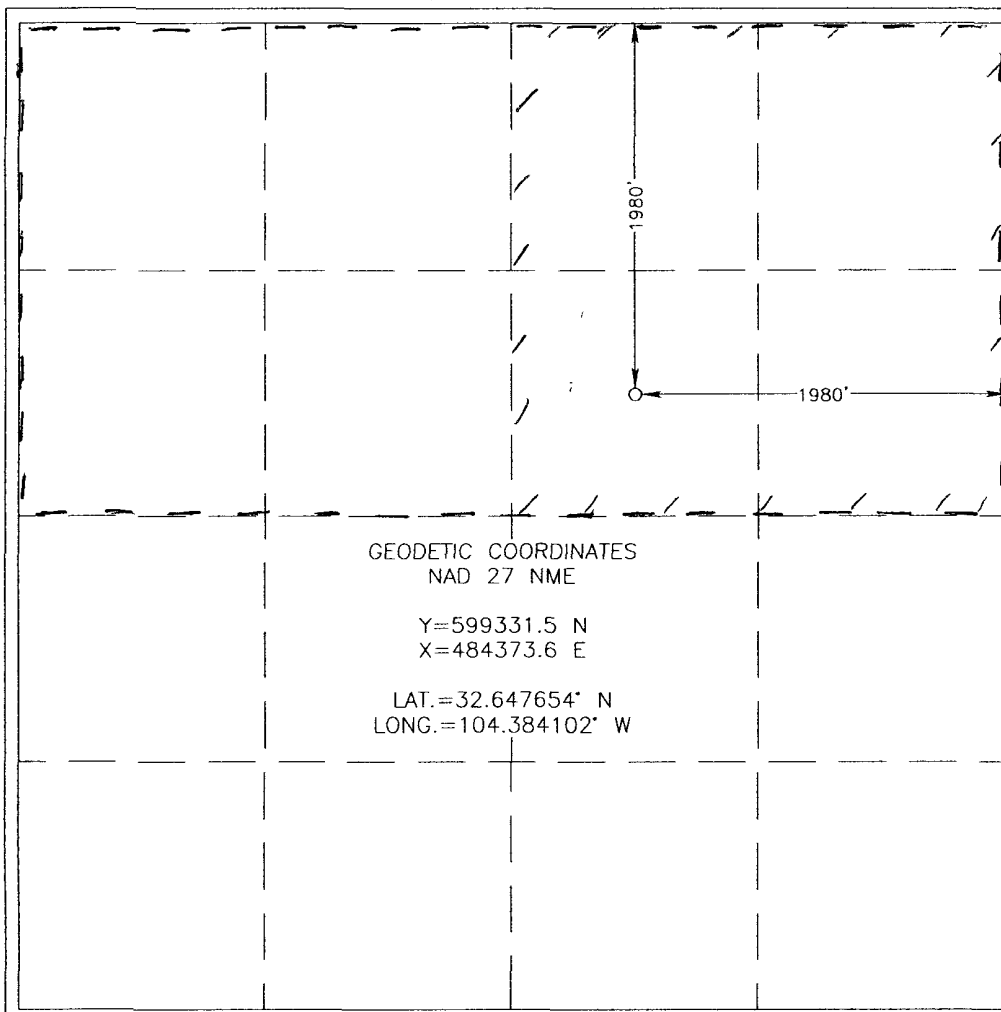

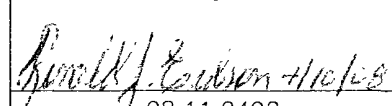
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	21	19-S	26-E		1980	NORTH	1980	EAST	EDDY

Bottom Hole Location If Different From Surface

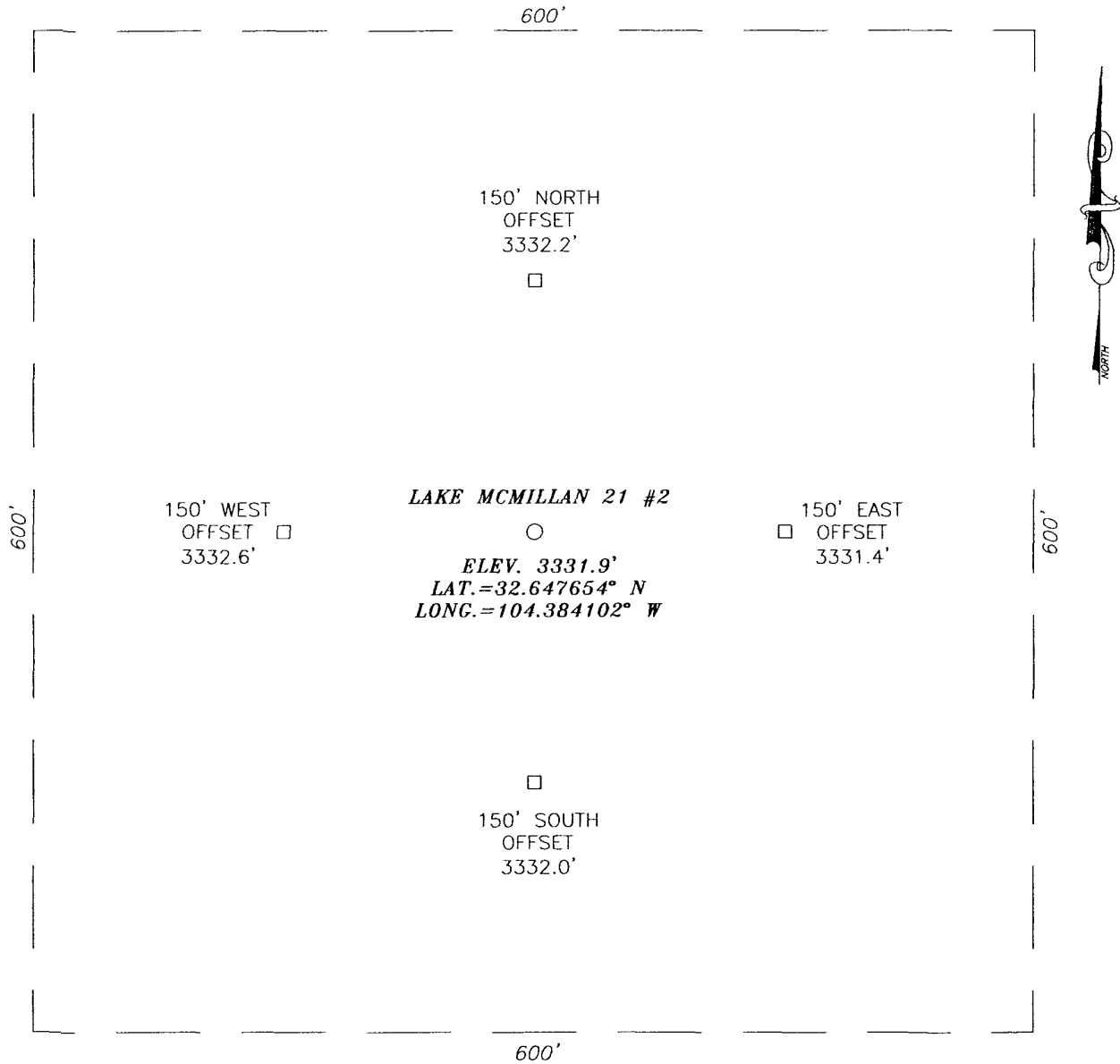
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

Dedicated Acres 320.766 ac	Joint or Infill	Consolidation Code	Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

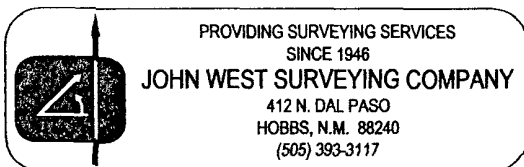
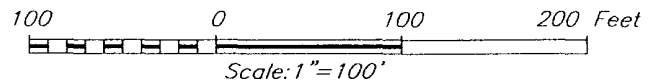
	<p><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p> 4/15/08 Signature Date</p> <p>CHRISTOPHER F. RENAUD Printed Name</p>
<p>GEODETIC COORDINATES NAD 27 NME</p> <p>Y=599331.5 N X=484373.6 E</p> <p>LAT.=32.647654° N LONG.=104.384102° W</p>	<p><b>SURVEYOR CERTIFICATION</b></p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>APRIL 4, 2008</p> <p>Date Surveyed AR</p> <p>Signature &amp; Seal of Professional Surveyor</p> <p> 4/10/08 08.11.0492</p> <p>Certificate No. GARY EIDSON 12641 RONALD J. EIDSON 3239</p>

**SECTION 21, TOWNSHIP 19 SOUTH, RANGE 26 EAST, N.M.P.M.,**  
 EDDY COUNTY, NEW MEXICO



**DIRECTIONS TO LOCATION**

FROM THE INTERSECTION OF U.S. HWY. #285 AND CO. RD. #31 (LAKE WOOD), GO NORTHEAST ON U.S. HWY. #285 APPROX. 1.0 MILE. TURN RIGHT AND GO EAST APPROX. 200 FEET TO LOCKED GATE (COMB. 5533). CONTINUE EAST APPROX. 0.4 MILES TO LAKE MCMILLAN "21" #1 WELL. THIS LOCATION IS APPROX. 1866 FEET SOUTHEAST.

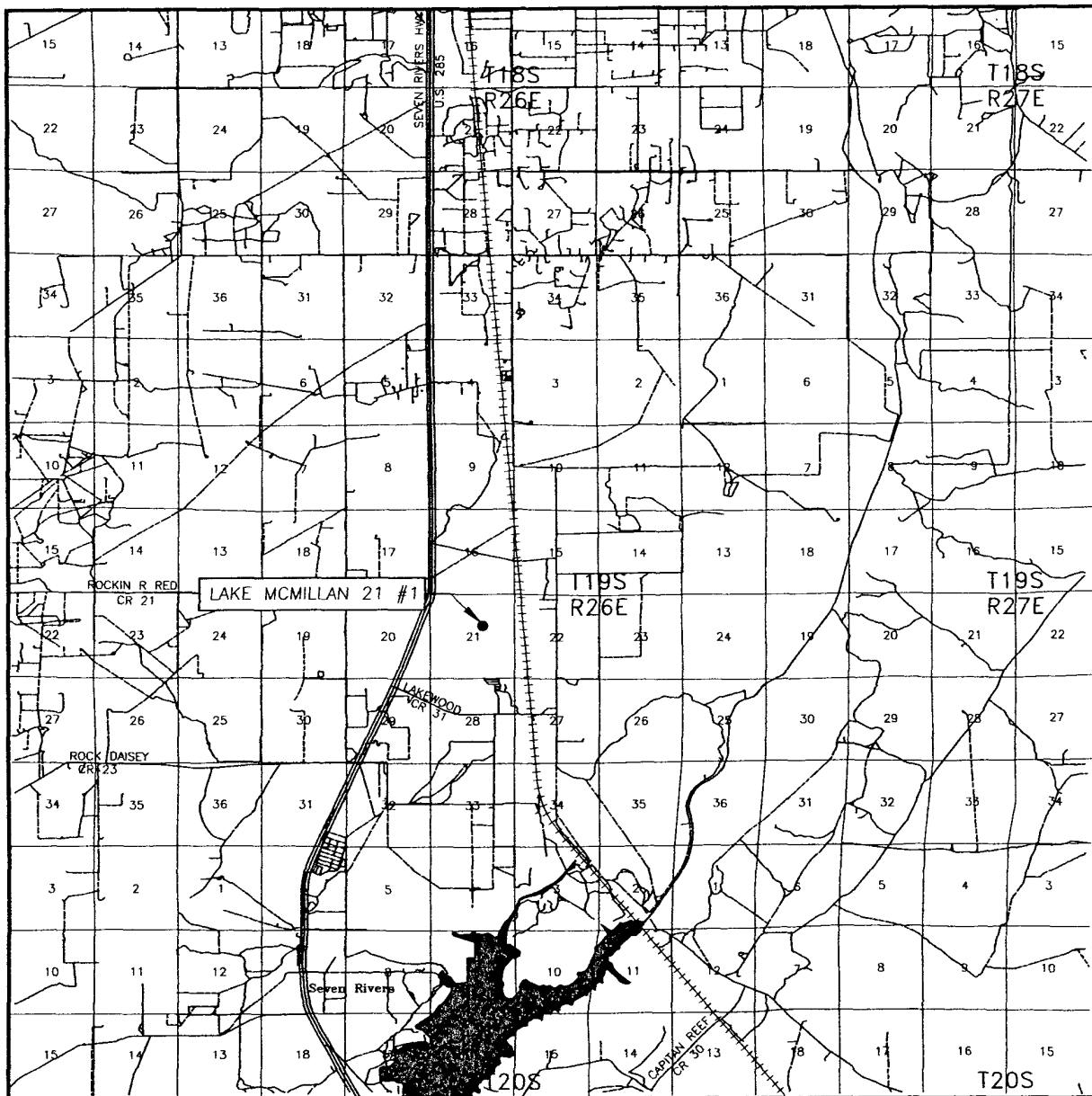


**WESTERN RESERVES OIL COMPANY, INC.**

LAKE MCMILLAN 21 #2 WELL  
LOCATED 1980 FEET FROM THE NORTH LINE  
AND 1980 FEET FROM THE EAST LINE OF SECTION 21,  
TOWNSHIP 19 SOUTH, RANGE 26 EAST, N.M.P.M.,  
EDDY COUNTY, NEW MEXICO

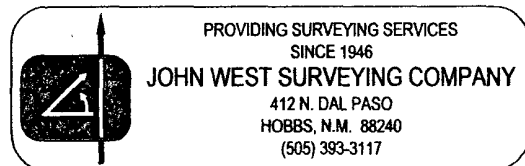
Survey Date: 4/04/08		Sheet 1 of 1 Sheets	
W.O. Number: 08.11.0492		Dr By: AR	Rev 1:N/A
Date: 4/08/08	Disk:	08110492	Scale: 1"=100'

# VICINITY MAP

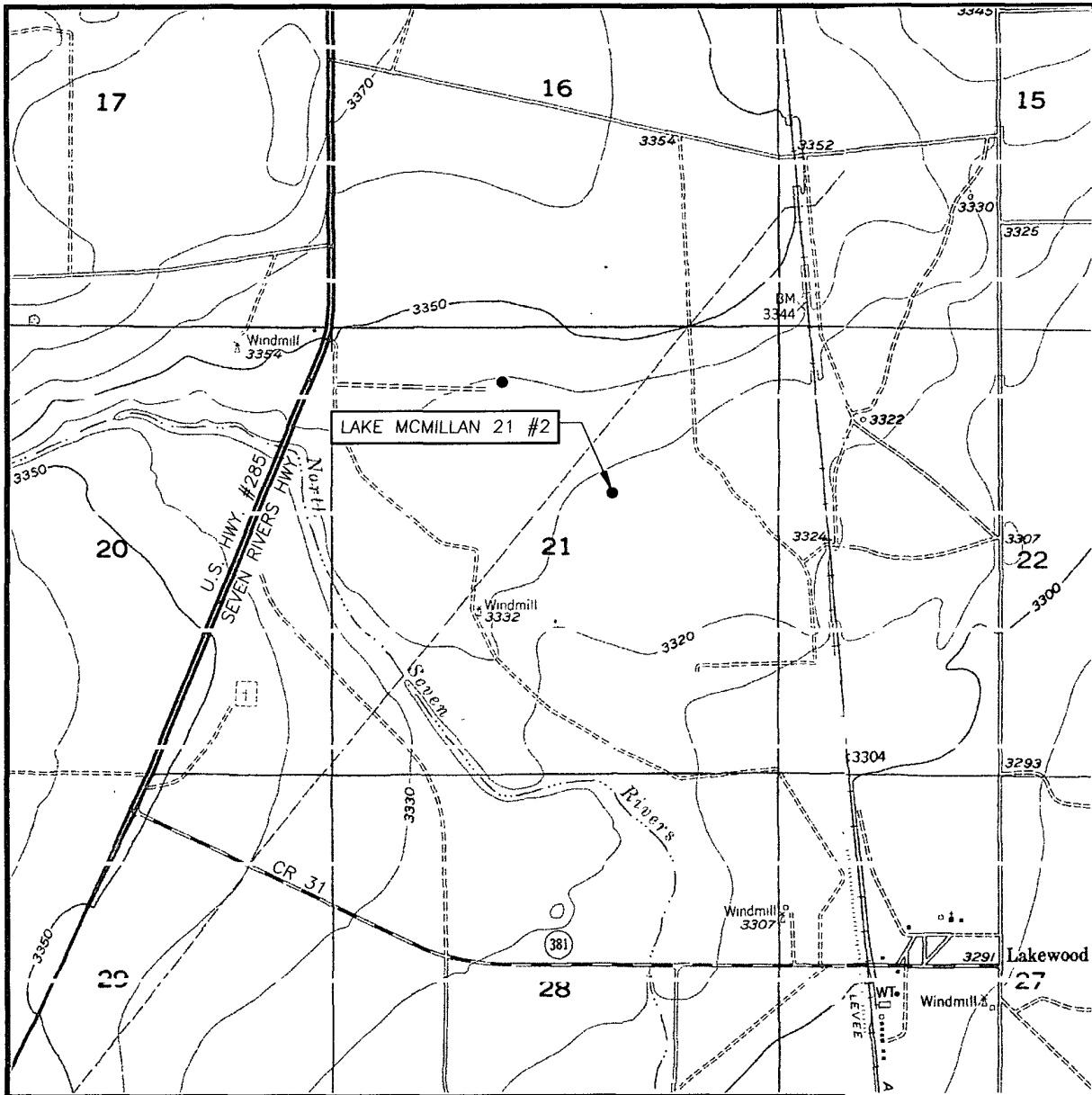


SCALE: 1" = 2 MILES

SEC. 21 TWP. 19-S RGE. 26-E  
 SURVEY N.M.P.M.  
 COUNTY EDDY STATE NEW MEXICO  
 DESCRIPTION 1980' FNL & 1980' FEL  
 ELEVATION 3332'  
 OPERATOR WESTERN RESERVES  
OIL COMPANY, INC.  
 LEASE LAKE MCMILLAN 21



# LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:  
DAYTON, N.M. - 10'

SEC. 21 TWP. 19-S RGE. 26-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 1980' FNL & 1980' FEL

ELEVATION 3332'

OPERATOR WESTERN RESERVES  
OIL COMPANY, INC.

LEASE LAKE MCMILLAN 21

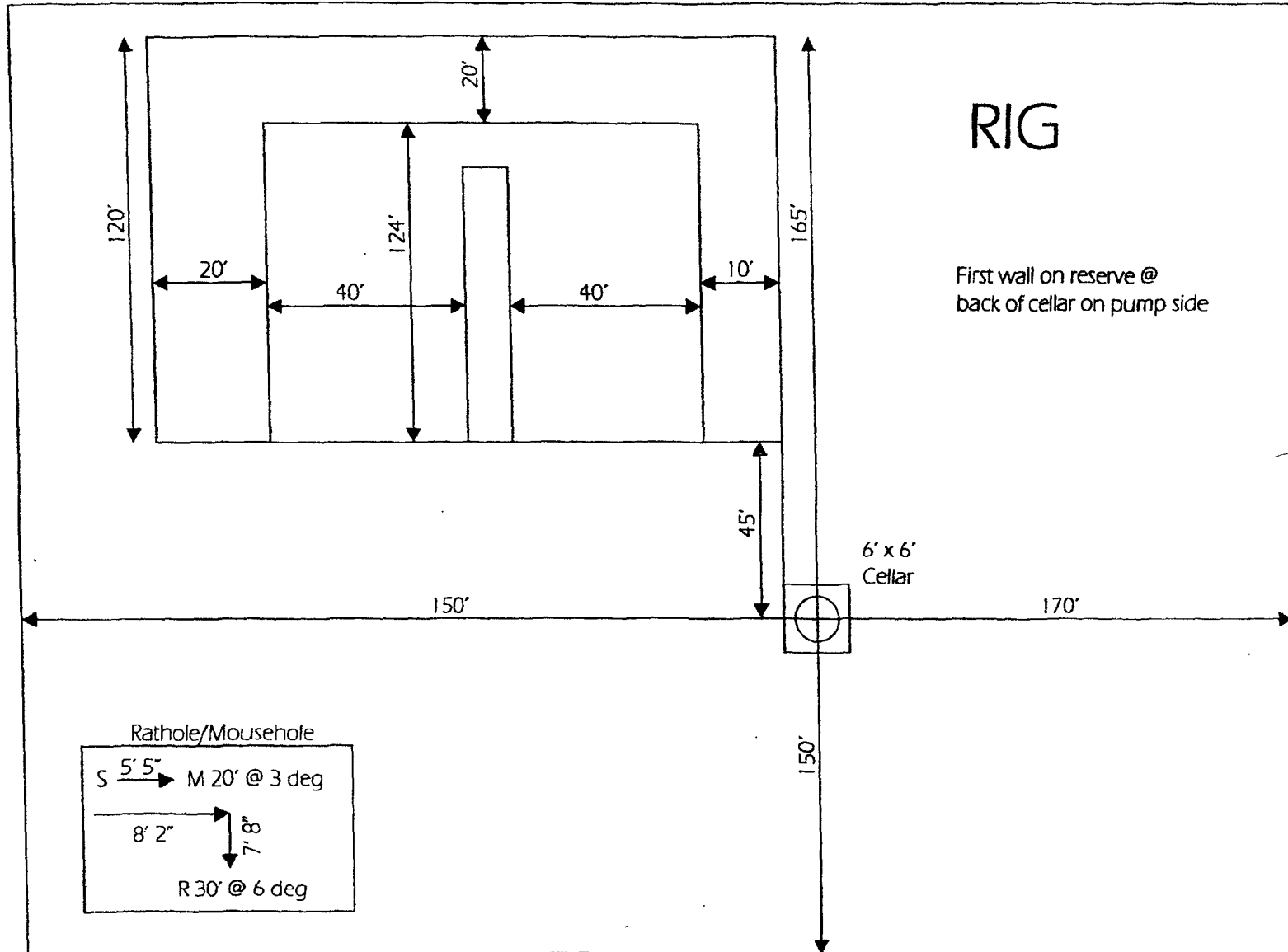
U.S.G.S. TOPOGRAPHIC MAP  
DAYTON, N.M.



PROVIDING SURVEYING SERVICES  
SINCE 1946

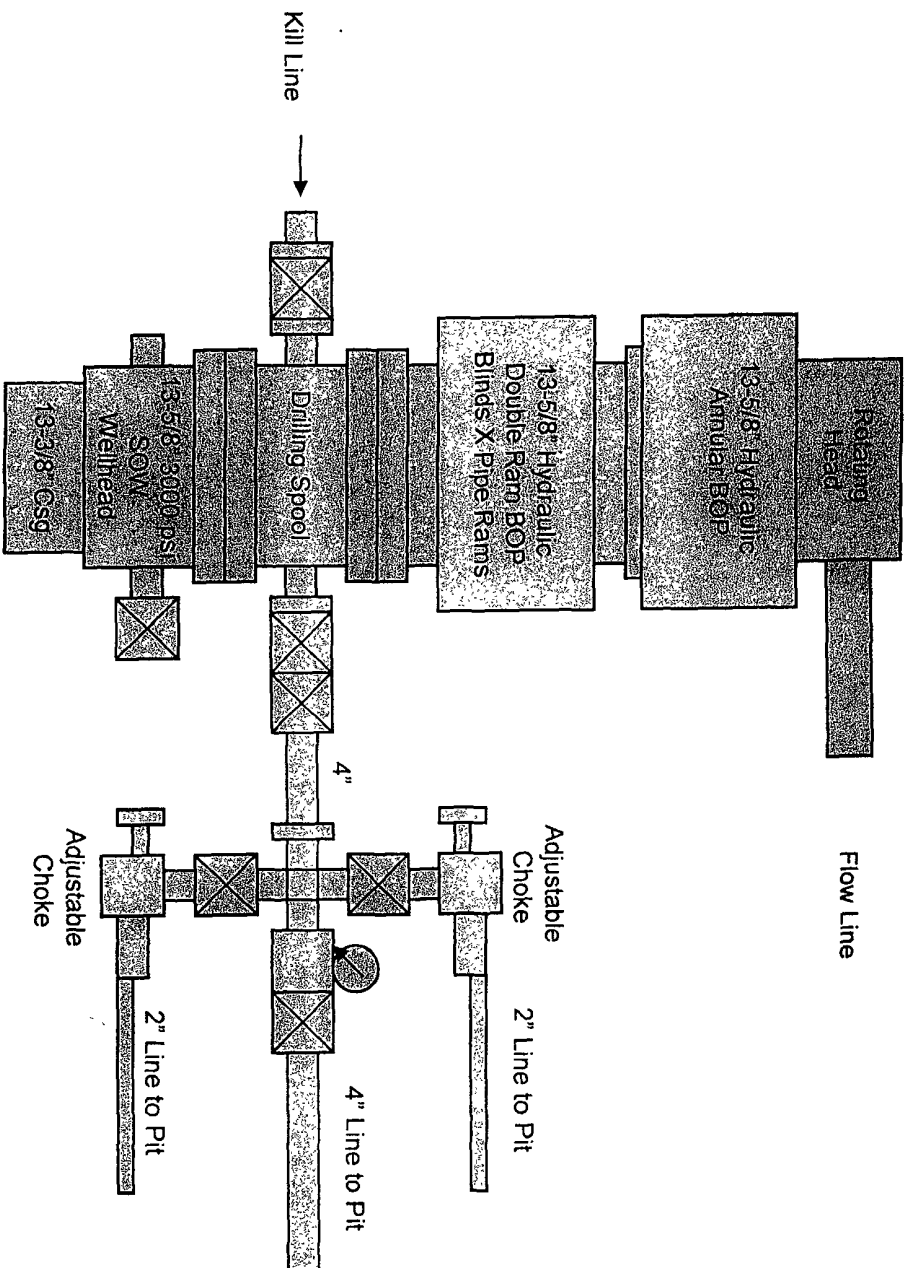
**JOHN WEST SURVEYING COMPANY**

412 N. DAL PASO  
HOBBS, N.M. 88240  
(505) 393-3117



Western Reserves Oil Company, Inc.

Western  
Reserves  
Oil  
Company, Inc.



3000 psi Working Pressure  
BOPE Configuration  
And Choke Manifold  
Exhibit " "



# **Hydrogen Sulfide Drilling Operations Plan**

For

**Western Reserves Oil Co., Inc.**

**Eddy County, New Mexico**

## **ONE: Hydrogen Sulfide Training**

All personnel, whether regularly assigned, contracted or employed on an unscheduled basis has or will receive training from qualified instructors in the following areas prior to working on the drilling operations on this well:

- The hazards & characteristics of H<sub>2</sub>S
- The proper use & maintenance of personal protective equipment and Life support systems;
- The proper use of H<sub>2</sub>S detectors, alarms, warning systems, briefing areas, evacuation procedures & prevailing winds; and,
- The proper techniques of first aid and rescue contact procedures

In addition, the supervisory personnel will be trained in the following areas:

- The effects of H<sub>2</sub>S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
- Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
- The contents and requirements of the H<sub>2</sub>S Drilling Operations Plan.

There will be an initial training session just prior to encountering a known or probable H<sub>2</sub>S zone (within 3 days or 500') and periodic H<sub>2</sub>S and well control drills for all personnel in each crew. The initial training session should include a review of the site specific Drilling Operations Plan. This plan is to be available at the well site.

## **TWO: H<sub>2</sub>S Safety Equipment and Systems**

**NOTE:** All H<sub>2</sub>S safety equipment and systems will be installed, tested and operational when drilling reaches a depth of 500 feet above, or three days prior to penetration of a known zone containing or reasonably expected to contain H<sub>2</sub>S.

1. **Well Control Equipment:**
  - Flare line with flare igniter;
  - Choke manifold with one remote hydraulic choke installed;
  - Blind rams & pipe rams to accommodate all pipe sizes with properly sized closing unit;
  - Auxiliary equipment to include an Annular Preventer.

Western Reserves Oil Co., Inc.  
P.O. Box 993, Midland, TX 79702

**Hydrogen Sulfide (H<sub>2</sub>S)  
Contingency Plan**

For

*Lake McMillan "21", Well #2*  
Section 21, T9S, R26E  
1980' FNL and 1980' FEL (G)  
Eddy County, New Mexico

## **Table of Contents:**

### Items:

Preface

Location Map

Rig Sketch

Emergency Response Activation and General Responsibilities

Specific Emergency Guidance: H<sub>2</sub>S Release and Well Control

Public Relations

Phone Contacts for emergency personnel

Phone Contacts for Western Reserves Oil Company, Inc.

Preface:

An effective and viable Contingency Plan is intended to provide prior planning and guidance in responding to emergency incidents. The primary considerations in its development is the protection of personnel, the public, company and public property, and the environment.

Although the plan addresses varied emergency situations which may occur, it recognizes that flexibility and the use of the operator, contractors and public service knowledge and experience is critical to safe resolution of emergency incidents. Response actions outlined in the plan provide a framework, which may be placed into operation without confusion. These actions should promote quick and decisive actions during the critical initial period and immediately following an emergency. As the response progresses, additional guidelines and procedures will occur to properly implement and address the emergency situation. All emergency incidents must be properly reported by Western Reserves Oil Company, Inc. policy, abiding by all state and federal agency requirements.

This Contingency Plan is intended for use on the Western Reserves Oil Company, Inc. drilling, downhole and surface projects associated with the drilling and production of oil and/or gas, and the operations within their area of responsibility.

A copy of this Contingency Plan is to be maintained in the drilling dog house, rig managers trailer, and with the company representative at all times.

## **EMERGENCY RESPONSE ACTIVATION AND GENERAL RESPONSIBILITIES**

### **Activation of the Emergency Action Plan:**

In the event of any emergency situation, all personnel on location should first ensure that the following items are initiated. After that, they should refer to the appropriate Specific Emergency Guidance sections as specified under "Well Control" within this document for further responsibilities:

1. Notify the senior ranking contract representative on site.
2. Notify Western Reserves Oil Company, Inc. (Western Reserves) representative in charge.
3. Notify civil authorities if the Western Reserves representative cannot be contacted and the situation dictates.
4. Perform rescue and first aid as required, without harm to additional personnel.

### **General Responsibilities:**

**Operations Specialist:** The Western Reserves drilling/well servicing supervisor or contract supervisory personnel will serve as Operations Chief Officer for all emergency incidents. The Operations Chief Officer is responsible for:

1. Notification to the downhole/drilling supervisor for the company and rig of the incident occurrence.
2. Notification to the onsite Western Reserves representative to lead the emergency response notification to area emergency responders and establish situational control and restore operations to a non-emergency state.
3. The Incident Commander shall be the Western Reserves drilling supervisor on site, who will serve as the overall Incident Commander for the drilling, downhole or critical well servicing emergency incident. He/she is responsible for:
  - a. Coordinating with downhole service personnel for notification to all Western Reserves personnel and their representatives.
  - b. Establishing and managing the overall incident command structure and response from inception through restoration of normal activities on location and in the area.

**Contract Drilling Personnel** will immediately report to their assigned stations and perform their duties as outlined in the appropriate *Specific Emergency Guidance* section within this report.

**Other Contractor Personnel** will report to the safe briefing area to assist Western Reserves personnel and civil authorities as requested when it is safe to so do and if they have been adequately trained in their assigned duties.

**Civil Authorities:** Law Enforcement, Fire and EMS will be responsible for:

1. Establishing membership in the unified incident command.
2. As directed by the site supervisor and as directed by civil procedure, control site access, re-route traffic, and provide escort services for response personnel.
3. Perform all fire control activities in coordination with the site command.
4. Initiate public evacuation plans as instructed by the site command.

5. Perform rescue or recovery activities with coordination from the site command.
6. Provide medical assistance as dictated by the situation at hand.

### **H2S Release:**

The following procedures and responsibilities will be implemented on activation of the H2S siren and lights.

#### **All Personnel:**

1. On alarm, put on escape unit (as available) and report to upwind briefing area.

#### **Rig Manager/Tool Pusher:**

1. Check that all personnel are accounted for and their condition.
2. Administer or arrange for first aid treatment and/or call EMTs as needed.
3. Identify two people best suited to secure well and perform rescue, and instruct them to don SCBA.
4. Notify Contractor management and the Western Reserves representative(s).
5. Remain at the briefing area, assess and monitor personnel and overall situation for hazards or conditions that might warrant a change in the action plan.

#### **Two People Responsible for Shut-in and Rescue:**

1. Put on SCBA and acquire tools to secure well and perform rescue, i.e., wrenches, retrieval ropes, etc.
2. Utilize the buddy system to secure well and perform rescue(s).
3. Return to the briefing area and stand by for further instructions.

#### **All Other Personnel:**

1. Isolate the area and prevent entry by other persons into the 100 ppm radius of exposure (ROE). Additionally the first responder(s) must evacuate any public places encompassed by the 100 ppm ROE. First responder(s) must take care not to injure themselves during this operation. Company and/or local officials must be contacted to aid in this operation. Evacuation of the public should be beyond the 100 ppm ROE.

#### **Rubicon Representative(s):**

1. Remain at the briefing area, assess and monitor personnel and overall situation for hazards or conditions that might warrant a change in the action plan.
2. Notify all operations representatives, H2S response representatives, police, fire department and other local emergency services, as required.

#### **Training:**

There will be an initial training session prior to encountering a known or Probable H2S zone (within 3 days or 500 ft.) and weekly H2S and well

Control drills for all personnel in each crew. The initial training session shall include a review of the site specific H2S Drilling Operations Plan and the Contingency Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received proper training.

#### Ignition of Gas Source:

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO2). Intentional ignition must be coordinated with the New Mexico Oil Conservation Division (NMOCD) and local officials. Additionally the New Mexico State Police shall be the Incident Command of any major release. Ignition of the well will be with the concurrence of the drilling supervisor and the Western Reserves supervisor as time allows.

#### Characteristics of H2S and SO2:

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydorgen Sulfide	H2S	1.189 Air=1	10 ppm	100 ppm	600 ppm
Sulfur Dioxide	SO2	2.21 Air=1	2 ppm	N/A	1000 ppm

#### Contacting Authorities:

Western Reserves personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the NMOCD must be notified of the release as soon as possible, but no later than 4 hours. Agencies will ask for information such as: type and volume of release, wind direction, location of release, etc. Be prepared with all information available. The following call list of essential and potential responders has been prepared for use during a release. This response plan must be in coordination with the State of New Mexico's Hazardous Materials Emergency Response Plan (HMER).

Rick Graham: (432) 553-0176 will be the 24 contact and onsite operations manager.  
Chris Renaud: (432) 682-4782 – company representative/operator

#### **Emergency Notification Numbers**

New Mexico State Police	Artesia	505/746-2704
New Mexico State Police	Carlsbad	505/885-3137
New Mexico State Police	Hobbs	505/392-5588
Eddy County Sheriff's Office	Artesia	505/746-2704
Eddy County Sheriff's Office	Carlsbad	505/887-7551
Lea County Sheriff's Office	Hobbs	505/393-2515
Local Emergency Planning Center	Eddy County	505/887-9511
Local Emergency Planning Center	Lea County	505/397-9231
New Mexico Oil & Gas Commission	Artesia	505/748-1283
New Mexico Oil & Gas Commission	Hobbs	505/393-6161
NM Emergency Response Center	Hobbs	505/827-9222
Fire Fighting, Rescue, Ambulance, Police	Artesia	911
Fire Fighting, Rescue, Ambulance, Police	Carlsbad	911
Fire Fighting, Rescue, Ambulance, Police	Hobbs	911
Flight For Life	Lubbock	806/743-9911
Aerocare	Lubbock	806/7478923
Med Flight Air Ambulance	Albuquerque	505/842-4433