District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-101
Revised December 16, 2011

Permit

RECEIVED
FEB 06 2013
NMOCD ARTESIA

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

[1] Operator Name and Address	[2] OGRID Number
Lime Rock Resources II-A, L.P. 1111 Bagby Street, Suite 4600 Houston, Texas 77042	277558
	[3] API Number 30-015-41069

[4] Property Code	[5] Property Name	[6] Well No.
39000	Stirling 6M	#4

[7] Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
M	6	18S	27E		602	S	312	W	Eddy

[8] Pool Information

Redlake; ~~Glorieta-Yeso~~	51120

Additional Well Information

[9] Work Type	[10] Well Type	[11] Cable/Rotary	[12] Lease Type	[13] Ground Level Elevation
N	O	R	P	3322.5
[14] Multiple	**[15] Proposed Depth**	**[16] Formation**	**[17] Contractor**	**[18] Spud Date**
N	4300' TVD / 4321' MD	Yeso	United Drilling, Inc.	After 3/4/2013

Depth to Ground water: 8 Feet	Distance from nearest fresh water well: 0.11 Miles	Distance to nearest surface water: 0.15 Miles

[19] Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Conductor	26"	20"	91.5	40	Ready Mix	Surface
Surface	12-1/4"	8-5/8"	24	350	300	Surface
Production	7-7/8"	5-1/2"	17	4321	830	Surface

Casing/Cement Program: Additional Comments

Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
XLT 11"	5000	2000	National Varco

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 ☐, a general permit ☐, or an (attached) alternative OCD-approved plan ☒.

Signature: Spencer Cox

Printed name: Spencer Cox

Title: Production Engineer

E-mail Address: scox@limerockresources.com

Date: 2-5-13 Phone: 713-292-9528

OIL CONSERVATION DIVISION

Approved By: T. C. Shepard

Title: Geologist

Approved Date: 2/6/2013 Expiration Date: 2/6/2015

Conditions of Approval Attached

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State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-015-41069	51120	RUDLAKE; GL-YESO

[4] Property Code	[5] Property Name	[6] Well Number
39000	STIRLING "6" M	4

[7] OGRID No.	[8] Operator Name	[9] Elevation
277558	LIME ROCK RESOURCES II-A, L.P.	3322.5

[10] Surface Location

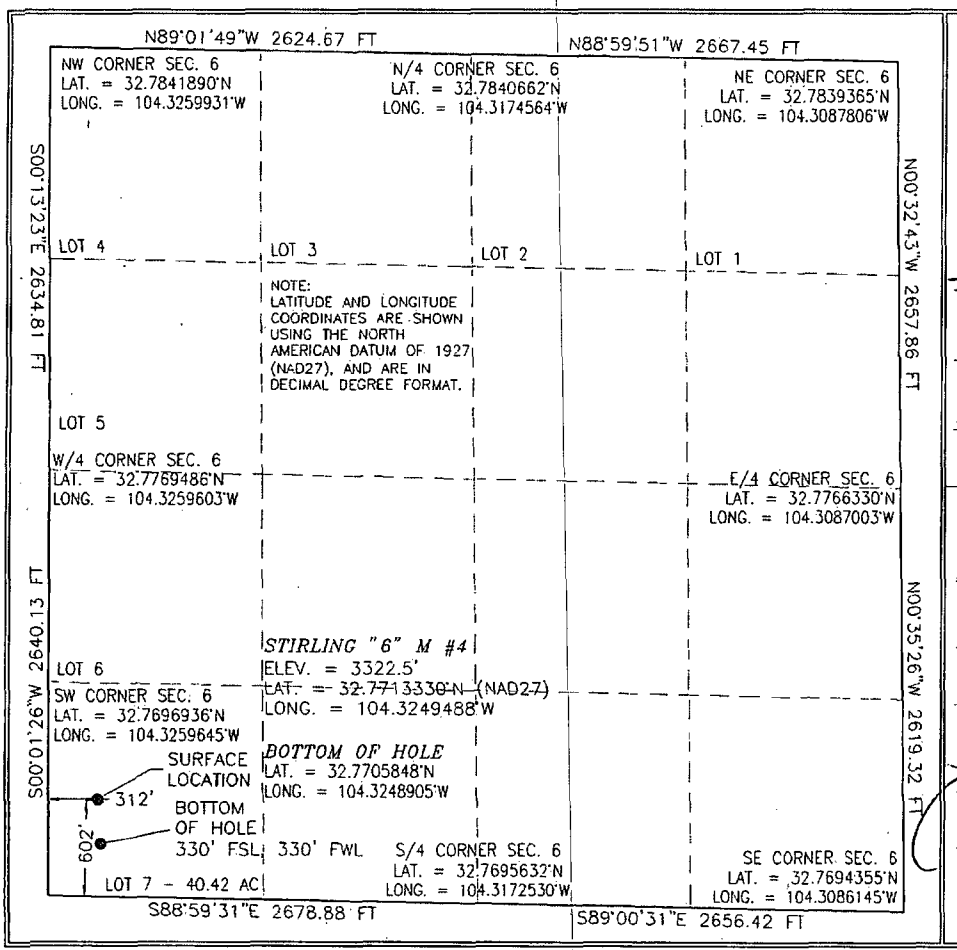
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
7	6	18 S	27 E		602	SOUTH	312	WEST	EDDY

[11] 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
7	6	18 S	27 E		330	SOUTH	330	WEST	EDDY

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.

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.



[17] OPERATOR CERTIFICATION

I hereby certify that the information contained 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 a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Spencer Cox 2-5-13
Signature Date

Spencer Cox
Printed Name

scox@limerockresources.com
E-mail Address

[18] SURVEYOR CERTIFICATION

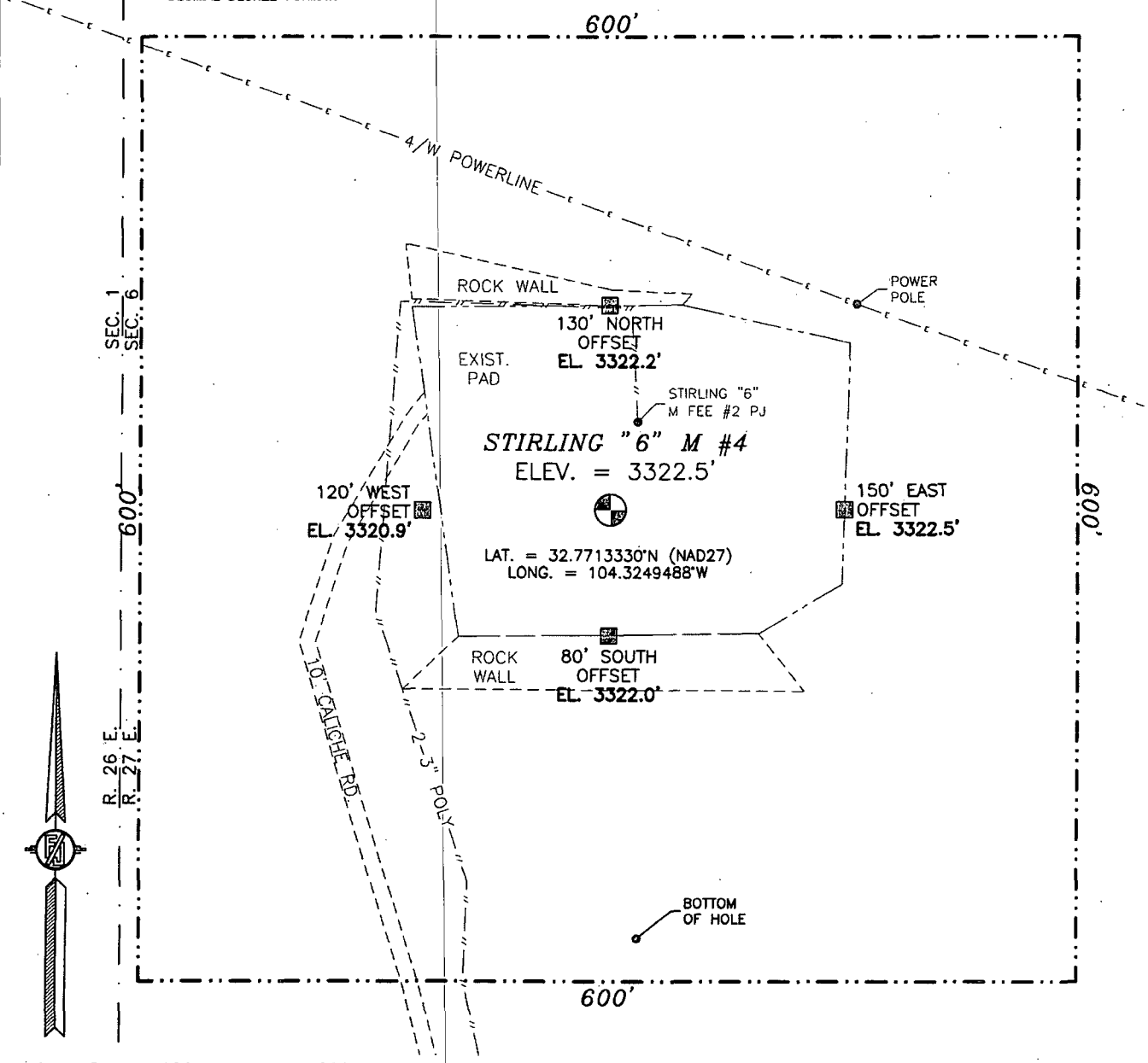
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

NOVEMBER 14, 2012
Date of Survey

Signature and Seal of Professional Surveyor
Certificate Number: FILIMON F. JARAMILLO, PLS 12797
SURVEY NO. 1364

SECTION 6, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

NOTE: THE LATITUDE AND LONGITUDE COORDINATES ARE SHOWN USING THE NORTH AMERICAN DATUM OF 1927 (NAD27), AND ARE IN DECIMAL DEGREE FORMAT.



DIRECTIONS TO LOCATION

FROM CALICHE CR. 201 (CHALK BLUFF) AND CALICHE CR. 227 (LITTLE DIAMOND) GO NORTH ON CR. 201 0.4 MILES, TURN LEFT AND GO WEST 1.2 MILES, BEND LEFT AND GO SOUTHWEST 0.9 MILES, TURN LEFT AT BOTTOM OF HILL AND GO SOUTHEAST 430', TURN RIGHT AND GO SOUTHWEST 0.15 MILES, TURN RIGHT AND GO NORTHWEST 0.2 MILES, BEND RIGHT AND GO NORTH 0.2 MILES TO THE EXIST. STIRLING 6 M #2 WELL AND LOCATION IS 58' SOUTHWEST.

LIME ROCK RESOURCES II-A, L.P.

STIRLING "6" M #4

LOCATED 602 FT. FROM THE SOUTH LINE AND 312 FT. FROM THE WEST LINE OF SECTION 6, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M. EDDY COUNTY, STATE OF NEW MEXICO

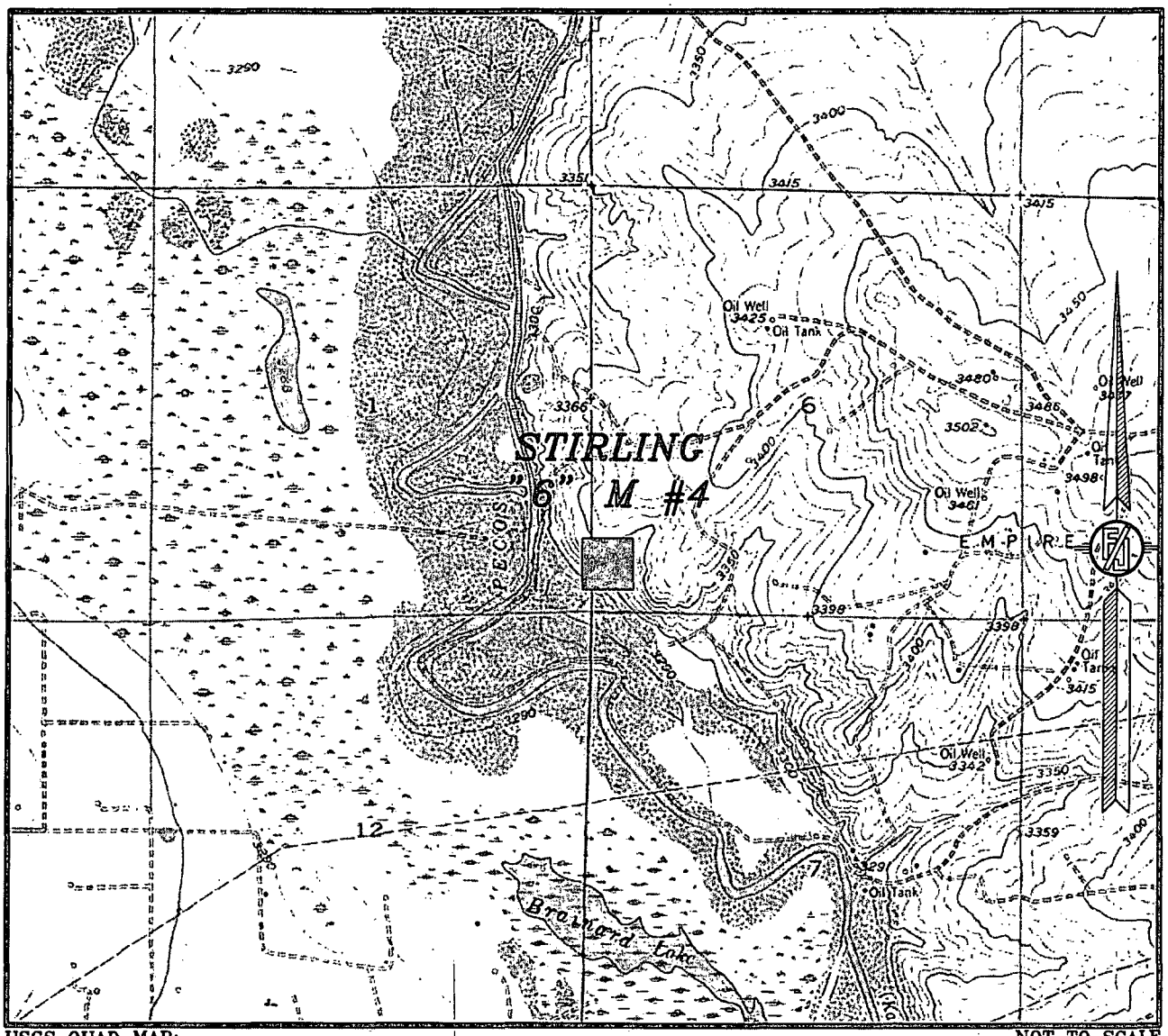
NOVEMBER 14, 2012

SURVEY NO. 1364

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 *CARLSBAD, NEW MEXICO*

SECTION 6, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

LOCATION VERIFICATION MAP



USGS QUAD MAP:
SPRING LAKE

NOT TO SCALE

LIME ROCK RESOURCES II-A, L.P.

STIRLING "6" M #4

LOCATED 602 FT. FROM THE SOUTH LINE
AND 312 FT. FROM THE WEST LINE OF
SECTION 6, TOWNSHIP 18 SOUTH,
RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

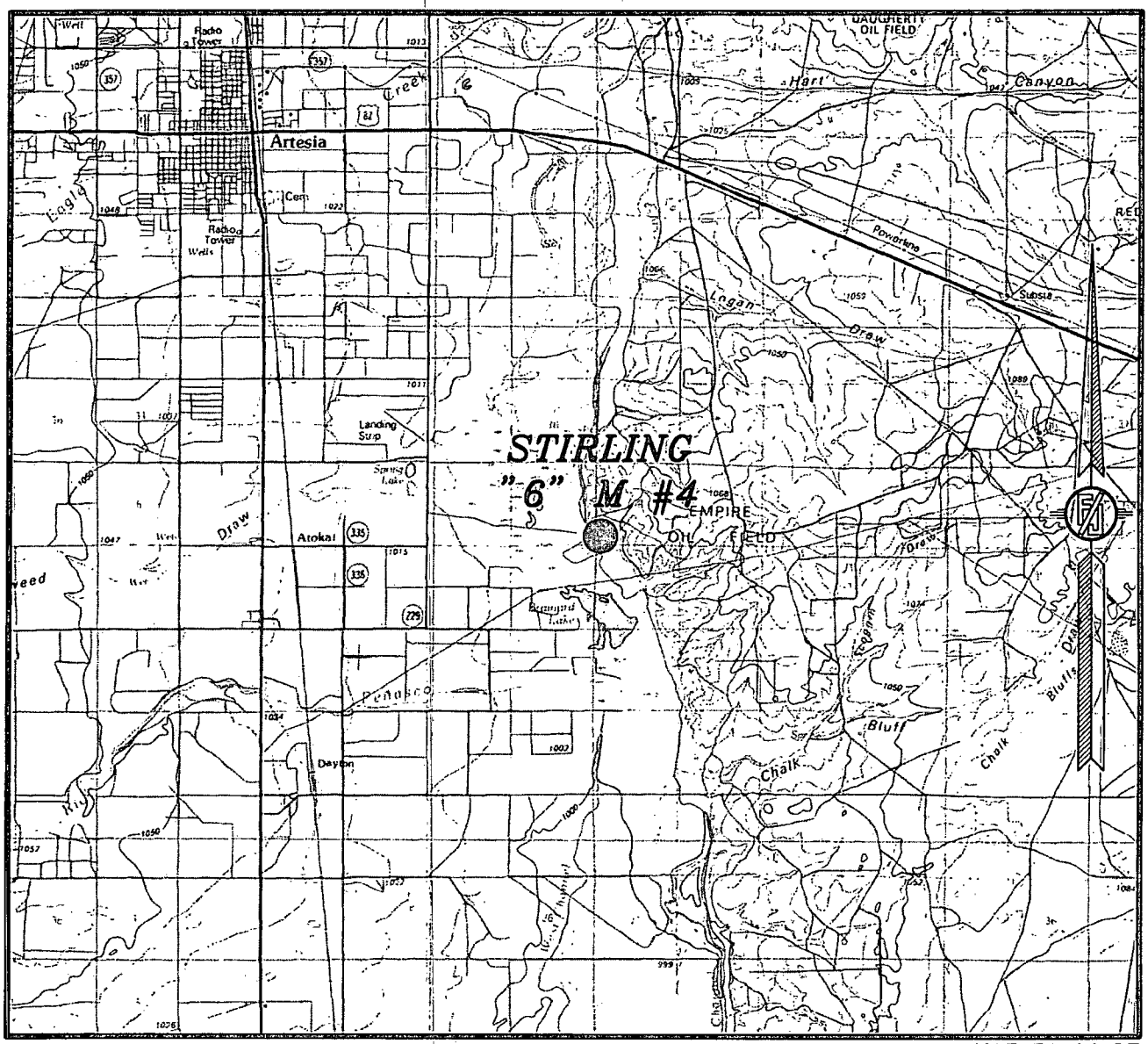
NOVEMBER 14, 2012

SURVEY NO. 1364

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

SECTION 6, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

VICINITY MAP



NOT TO SCALE

LIME ROCK RESOURCES II–A, L.P.

STIRLING "6" M #4

LOCATED 602 FT. FROM THE SOUTH LINE
AND 312 FT. FROM THE WEST LINE OF
SECTION 6, TOWNSHIP 18 SOUTH,
RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

NOVEMBER 14, 2012

SURVEY NO. 1364

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

Lime Rock Resources II-A, L.P.
Drilling Plan

Stirling 6M #4
602' FSL 312' FWL
M-S6-T18S-R27E
Eddy County, NM

1. The elevation of the unprepared ground is 3322.5' feet above sea level.
2. The geologic name of the surface formation is Quaternary – Alluvium.
3. A rotary rig will be utilized to drill the well to 4300' and run casing. This equipment will be rigged down and the well will be completed with a workover rig.
4. Proposed total depth is 4321' MD / 4300' TVD.
5. The KOP for directional drilling will be at 480'. See directional plan for detail. Well will be drilled to total depth of 4321' MD / 4300' TVD inside a 30' X 30' square target inside of 40 acre spacing regulatory quarter-quarter setback distances.
6. Estimated tops of geologic markers:

	MD	TVD
Quaternary – Alluvium	Surface	Surface
Queen	467	467
Grayburg	847	845
Premier	1101	1094
San Andres	1113	1105
Glorieta	2499	2478
Yeso	2616	2595
Tubb	4031	4010
TD	4321	4300

7. Estimated depths at which anticipated oil, gas, or other mineral bearing formations are expected to be encountered:

	MD	TVD
Queen	467	467
Grayburg	847	845
Premier	1101	1094
San Andres	1113	1105
Glorieta	2499	2478
Yeso	2616	2595
Tubb	4031	4010
TD	4321	4300

8. Proposed Casing and Cement program is as follows:

Type	Hole Size	Casing Size	Wt	Grade	Thread	Depth	Sx	Density	Yield	Components
Conductor	26"	20"	91.5	Welded	B	40				Ready Mix
Surface	12-1/4"	8-5/8"	24	ST&C	J-55	350	300	14.8	1.35	Cl C Cmt + 0.25 lbs/sk Cello Flake + 2% CaCl2
Production	7-7/8"	5-1/2"	17	LT&C	J-55	4321	200	12.8	1.903	(35:65) Poz/Cl C Cmt + 5% NaCl + 0.25 lbs/sk Cello Flake + 5 lbs/sk LCM-1 +0.2% R-3 + 6% Gel
							630	14.8	1.33	Cl H w/ 0.6% R-3, 0.125% Cello Flake, 2% Gel

9. Proposed Mud Program is as follows

Depth	0-350	350-4150	4150-4300
Mud Type	Fresh Water Mud	Brine	Brine, Salt Gel, & Starch
Properties			
MW	8.4-9.2	9.8-10.1	9.9-10.1
pH	9.0-10.5	10-12	10.0-12.0
WL	NC	NC	20-30
Vis	28-34	28-29	32-34
MC	NC	NC	<2
Solids	NC	<2	<3
Pump Rate	300-350	375-425	400-425
Special		Use Poymers sticks and MF-55 Hi-Vis Sweeps as necessary	Hi Vis Sweeps, add acid and starch as req. Raise Vis to 35 for log.

10. Pressure Control Equipment: See Attached Description and diagram of Pressure Control Equipment.

11. Testing, Logging and Coring Program

Testing Program: No drill stem tests are anticipated

Electric Logging Program: SGR-DLL-CDL-CNL Quad Combo from 4321' to surf. Csg. SGR-CNL to Surf.

Coring Program: No full or sidewall cores are anticipated.

12. Potential Hazards:

No abnormal temperatures or pressures are expected. There is no known presence of H2S in this area. If H2S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP 1892 psi based on 0.44 x TD. The estimated BHT is 125 degrees F.

13. Duration of Operations:

Anticipated spud date will be soon after approval and as soon as a rig will be available. Move in operations and drilling is expected to take 10 days. An additional 14 days will be needed it complete the well and to construct surface facilities.

Pressure Control Equipment

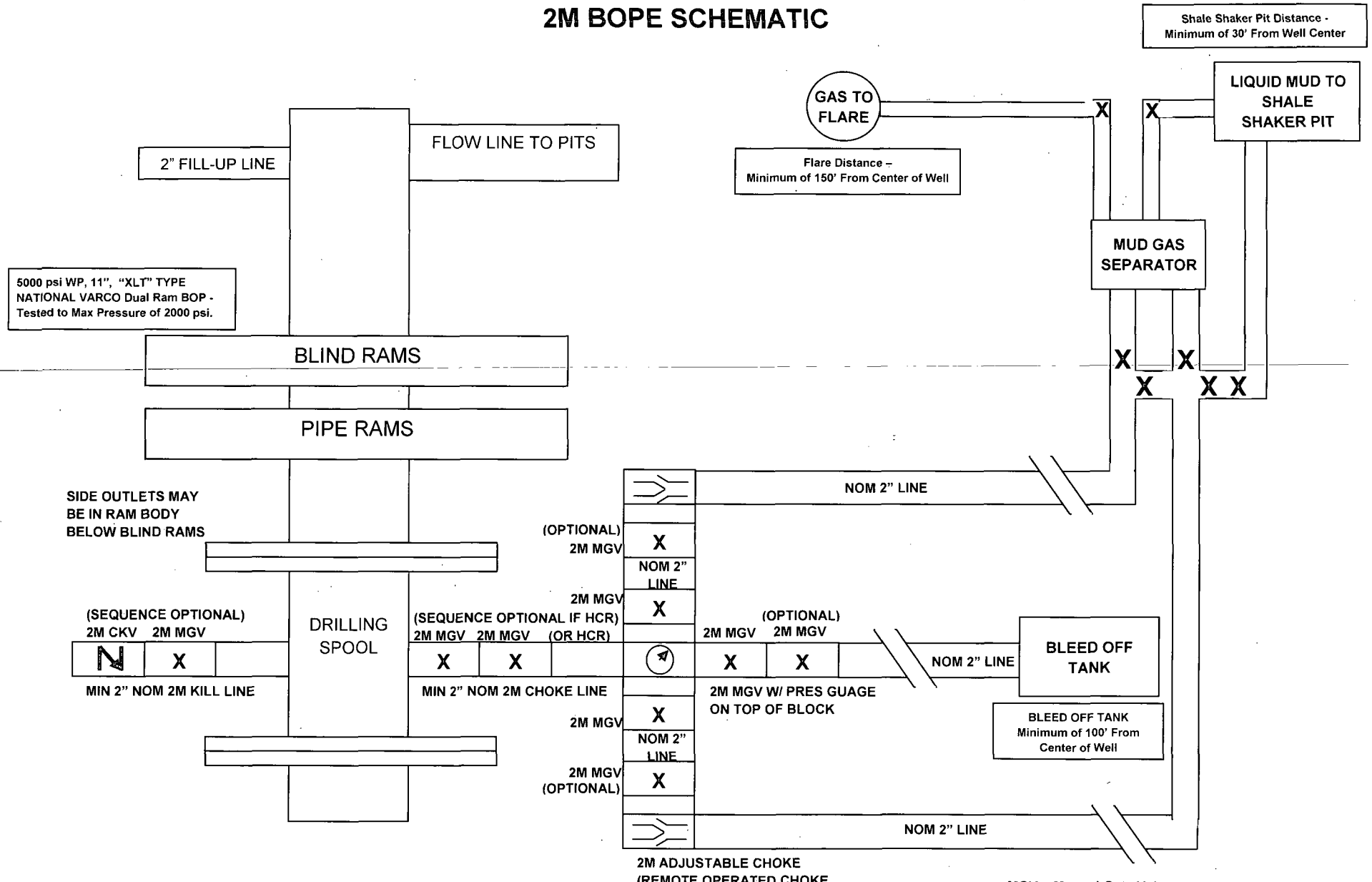
The blowout preventer equipment (BOP) will consist of a 5000 psi rated, "XLT" type, National VARCO double ram preventer that will be tested to a maximum pressure of 2000 psi. The unit will be hydraulically operated and the ram type preventer will be equipped with blind rams on top and drill pipe rams on bottom. The 2M BOP will be installed on the 8 5/8" surface casing and utilized continuously until total depth is reached. All casing strings will be tested as per Onshore Order #2. This also includes a thirty day (30) test, should the rig still be operating on the same well in thirty days.

Pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These functional tests will be documented on the daily drilling logs.

The BOP equipment will consist of the following:

- Double ram with blind rams (top) and pipe rams (bottom),
- Drilling spool, or blowout preventer with 2 side outlets (choke side shall be a 2" minimum diameter, kill side will be at least 2 inch diameter),
- Kill line (2 inch minimum),
- A minimum of 2 choke line valves (2 inch minimum),
- 2 inch diameter choke line,
- 2 kill valves, one of which will be a check valve (2 inch minimum),
- 2 chokes, one of which will be capable of remote operation,
- pressure gauge on choke manifold,
- Upper Kelly cock valve with handle available,
- Safety valve and subs to fit all drill string connections in use,
- All BOPE connections subjected to well pressure will be flanged, welded, or clamped,
- A Fill-up line above the uppermost preventer.

2M BOPE SCHEMATIC



MGV = Manual Gate Valve
CKV = Check Valve
HCR = Hydraulically Controlled Remote Valve

NOTE: All lines, valves and chokes are shown at the minimum size allowed, but may be larger.

Lime Rock Resources II-A, L.P.

Stirling 6M #4

HYDROGEN SULFIDE (H2S) CONTINGENCY DRILLING PLAN

Assumed 100 ppm ROE = 3000'

100 ppm H2S concentration shall trigger activation of this plan.

This is an open drilling site. H_2S monitoring equipment and emergency response equipment will be rigged up and in use when the company drills out from under surface casing. H_2S monitors, warning signs, wind indicators and flags will be in use.

EMERGENCY PROCEDURES

Escape

Crews shall escape upwind of escaping gas in the event of an emergency release of gas, or if monitors indicate H_2S is present. Escape will take place via the entry road away from the flare stack, or a foot path marked and designated before the well is spud by on site personnel. Once crews and other personnel are a safe distance, the crews will move to evacuate any persons in the Radius of Exposure, followed by blocking access to the Radius of Exposure.

There are no homes or buildings within the Radius of Exposure ("ROE"), so efforts will be concentrated on evacuating any third parties within the ROE. Immediate response will include evacuation of any persons potentially affected by toxic or flammable gasses. Once evacuation is under way, perimeter monitoring and control of access will be executed to ensure safe areas and stage areas.

In the event of a release of gas containing H2S, the first responder(s) must

- Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- Evacuate any public places encompassed by the 100 ppm ROE.
- Be equipped with H2S monitors and air packs in order to control the release.
- Use the "buddy system" to ensure no injuries occur during the response
- Take precautions to avoid personal injury during this operation.
- Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
- Have received training in the
    - o Detection of H2S, and
    - o Measures for protection against the gas,
    - o Equipment used for protection and emergency response.

H2S CONTINGENCY DRILLING PLAN EMERGENCY CONTACTS

Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (S02). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever this is an ignition of the gas.

Characteristics of H2S and S02

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H_2S	1.189 Air= 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO_2	2.21 Air= 1	2ppm	N/A	1000 ppm

Contacting Authorities

Lime Rock Resources personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD 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 including directions to site. The following call list of essential and potential responders has been prepared for use during a release. Lime Rock Resources response must be in coordination with the State of New Mexico's "Hazardous Materials Emergency Response Plan" (HMER) and BLM Onshore Order #6.

H_2S Operations

Though no H_2S is anticipated during the drilling operation, this contingency plan will provide for methods to ensure the well is kept under control in the event an H_2S reading of 100 ppm or more are encountered. Once personnel are safe and the proper protective gear is in place and on personnel, the operator and rig crew essential personnel will ensure the well is under control, suspend drilling operations and shut-in the well (unless pressure build up or other operational situations dictate suspending operations will prevent well control), increase the mud weight and circulate all gas from the hole utilizing the mud/gas separator downstream of the choke, the choke manifold and the emergency flare system located 150' from the well. Bring the mud system into compliance and the H_2S level below 10 ppm, then notify all emergency officers that drilling ahead is practical and safe.

Proceed with drilling ahead only after all provisions of Onshore Order 6, Section III.C. have been satisfied.

H2S CONTINGENCY DRILLING PLAN EMERGENCY CONTACTS

Company Offices -	Lime Rock Houston Office	713·292·9510
	Answering Service(After Hours)	713·292-9555
	Artesia, NM Office	575-748-9724
	Roswell, NM	575-623-8424

KEY PERSONNEL					
Name	**Title**	**Location**	**Office #**	**Cell #**	**Home #**
SID ASHWORTH	OPERATIONS MANAGER	HOUSTON	713-292-9526	713-906-7750	713-783-1959
SPENCER COX	PRODUCTION ENGINEER	HOUSTON	713-292-9528	432-254-5140	SAME AS CELL
ERIC MCCLUSKY	PRODUCTION ENGINEER	HOUSTON	713-360-5714	405-821-0534	832-491-3079
JERRY SMITH	ASSISTANT PRODUCTION SUPERVISOR	ARTESIA	575-748-9724	505-918-0556	575-746-2478
MICHAEL BARRETT	PRODUCTION SUPERVISOR	ROSWELL	575-623-8424	505-353-2644	575-623-4707
DALW KENNARD	WELL SITE SUPERVISOR	ROTATES ON SITE	NA	575-420-1651	NA
GARY MCCELLAND	WELL SITE SUPERVISOR	ROTATES ON SITE	NA	903-503-8997	NA
BRAD TATE	WELL SITE SUPERVISOR	ROTATES ON SITE	NA	575-441-1966	NA
DAVE WILLIAMSON	WELL SITE SUPERVISOR	ROTATES ON SITE	NA	575-308-9980	NA

Agency Call List		
City	Agency or Office	Telephone Number
Artesia	Ambulance	911
Artesia	State Police	575-746-2703
Artesia	Sheriff's Office	575-746-9888
Artesia	City Police	575-746-2703
Artesia	Fire Department	575-746-2701
Artesia	Local Emergency Planning Committee	575-746-2122
Artesia	New Mexico OCD District II	575-748-1283
Carlsbad	Ambulance	911
Carlsbad	State Police	575-885-3137
Carlsbad	Sheriff's Office	575-887-7551
Carlsbad	City Police	575-885-2111
Carlsbad	Fire Department	575-885-2111
Carlsbad	Local Emergency Planning Committee	575-887-3798
Carlsbad	US DOI Bureau of Land Management	575-887-6544
State Wide	New Mexico Emergency Response Commission ("NMERC")	505-476-9600
State Wide	NMERC 24 hour Number	505-827-9126
State Wide	New Mexico State Emergency Operations Center	505-476-9635
National	National Emergency Response Center (Washington, D.C.)	800-424-8802

H2S CONTINGENCY DRILLING PLAN EMERGENCY CONTACTS

Emergency Services				
Name	**Service**	**Location**	**Telephone Number**	**Alternate Number**
Boots & Coots International Well Control	Well Control	Houston / Odessa	1-800-256-9688	281-931-8884
Cudd Pressure Control	Well Control & Pumping	Odessa	915-699-0139	915-563-3356
Baker Huges Inc.	Pumping Service	Artesia, Hobbs and Odessa	575-746-2757	SAME
Total Safety	Safety Equipment and Personnel	Artesia	575-746-2847	SAME
Cutter Oilfield Services	Drilling Systems Equipment	Midland	432-488-6707	SAME
Assurance Fire & Safety	Safety Equipment and Personnel	Artesia	575-396-9702	575-441-2224
Flight for Life	Emergency Helicopter Evacuation	Lubbock	806-743-9911	SAME
Aerocare	Emergency Helicopter Evacuation	Lubbock	806-747-8923	SAME
Med Flight Air Ambulance	Emergency Helicopter Evacuation	Alburquerque	505-842-4433	SAME
Artesia General Hospital	Emergency Medical Care	Artesia	575-748-3333	702 North 13 Street