

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 Bravos 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 July 18, 2013

ARTESIA DISTRICT

☐ AMENDED Report

AUG 24 2016

RECEIVED

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

Operator Name and Address Lime Rock Resources II-A, L.P. 1111 Bagby Street, Suite 4600 Houston, Texas 77002		OGRID Number 277558
Property Code 316765	Property Name Leavitt 13	API Number 30-015-43897
		Well No. #2H

7 Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
D	18	18S	26E 27E		595	N	500	W	Eddy

8 Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
D	13	18S	26E		880	N	330	W	Eddy

9 Pool Information

Atoka; Glorieta-Yeso	3250
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Additional Well Information

Work Type N	Well Type O	Cable/Rotary R	Lease Type P	Ground Level Elevation 3287.4
Multiple N	Proposed Depth 8008' MD / 2722' TVD	Formation Yeso	Contractor United Drilling, Inc.	Spud Date After 10/1/2017
Depth to Ground Water: 80 Ft.		Distance from nearest fresh water well: 0.38 Miles		Distance from nearest surface water: 0.63 Miles

☒ We will be using a closed-loop system in lieu of lined pits

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	80	80	Surface
Surface	17-1/2"	13 -3/8"	54.5	400	400	Surface
Intermediate	12.25	8-5/8"	24	1000	800	Surface
Production	7 7/8"	5 - 1/2"	17	8008	1150	500'

Casing/Cement Program: Additional Comments

Surface Csg set 50' above first oil show & top of San Andres. Cement will be circulated as required.

Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
XLT 13 5/8"	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 I have complied with 19.15.14.9 (A) NMAC ☐ and/or 19.15.14.9 (B) NMAC 0, if applicable. ☒

Signature: *Spencer Cox*

Printed Name: Spencer Cox

Title: Operations Engineer

E-mail Address: scox@limerockresources.com

Date: 8/23/2016

Phone: 713-292-9528

OIL CONSERVATION DIVISION

Approved By:

Karen Sharp

Title: *Bus Oper Spec Adv*

Approved Date: 8-31-16

Expiration Date: 8-31-18

Conditions of Approval Attached

District I
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Phone: (505) 476-3460 Fax: (505) 476-3462

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 3250	³ Pool Name Atoka; Morieta-Yeso
⁴ Property Code 316765	⁵ Property Name LEAVITT 13	⁶ Well Number 2H
⁷ OGRID No. 277558	⁸ Operator Name LIME ROCK RESOURCES II-A, L.P.	⁹ Elevation 3287.5

* Surface Location

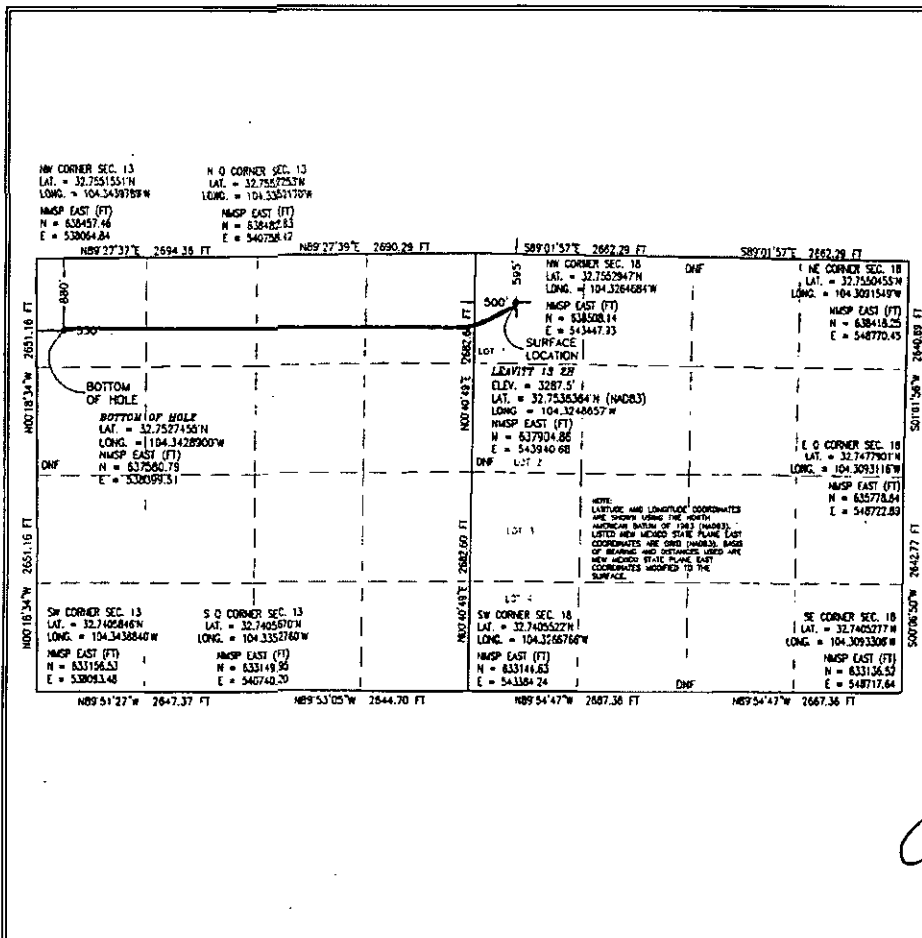
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
1	18	18 S	27 E		595	NORTH	500	WEST	EDDY

" 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
D	13	18 S	26 E		880	NORTH	330	WEST	EDDY

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ 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.



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 under heretofore entered by the division.

Signature: *Spencer Cox* Date: 8-23-16

Printed Name: Spencer Cox

E-mail Address: *Spencer@limerockresources.com*

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.

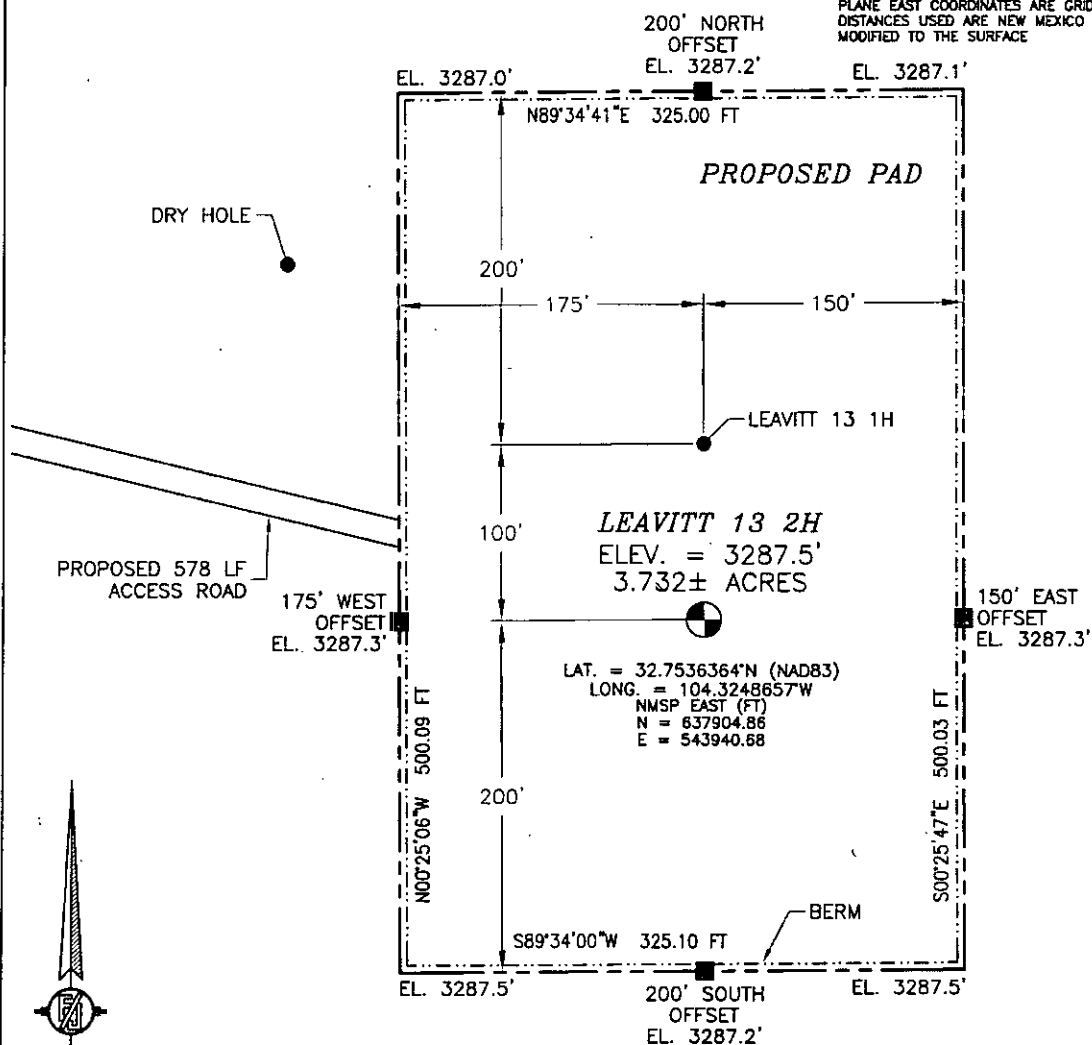
Signature and Seal of Professional Surveyor: *FRIMON F. JARAMILLO*
Date of Survey: AUGUST 2, 2016

Certificate Number: FRIMON F. JARAMILLO, PLS 12797

SURVEY NO. 4817A

SITE MAP

NOTE: LATITUDE AND LONGITUDE COORDINATES ARE SHOWN USING THE NORTH AMERICAN DATUM OF 1983 (NAD83). LISTED NEW MEXICO STATE PLANE EAST COORDINATES ARE GRID (NAD83). BASIS OF BEARING AND DISTANCES USED ARE NEW MEXICO STATE PLANE EAST COORDINATES MODIFIED TO THE SURFACE



2025 RELEASE UNDER E.O. 14176

DIRECTIONS TO LOCATION

FROM CR 39 (FOUR DINKUS) AND CR 44 (FANNING) AND CALICHE
LEASE ROAD GO EAST ON CALICHE LEASE ROAD 1.05 MILES, BEND
LEFT AND GO NORTHEAST 917', TURN RIGHT AND GO SOUTH 477' TO
EXISTING HIGGINS TRUST 13A 2 PAD, FROM THE SOUTHEAST PAD
CORNER FOLLOW PROPOSED ROAD SURVEY FLAGS EAST-SOUTHEAST
578' TO THE MIDDLE OF THE WEST EDGE OF PAD FOR THIS
LOCATION.

LEAVITT 13 2H

LOCATED 595 FT. FROM THE NORTH LINE
AND 500 FT. FROM THE WEST LINE OF
SECTION 18, TOWNSHIP 18 SOUTH,
RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

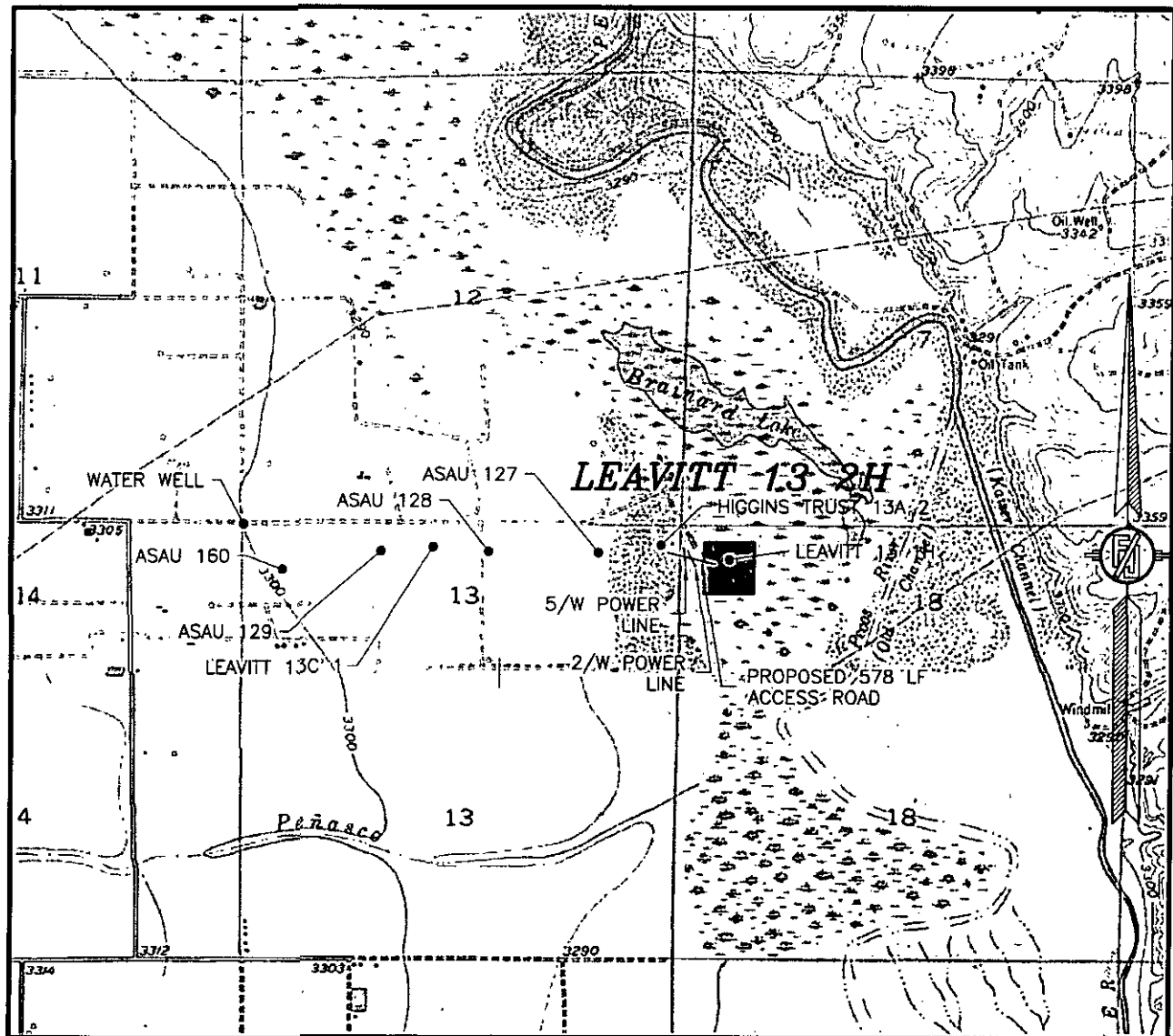
AUGUST 1, 2016

SURVEY NO. 4817A

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

CARLSBAD, NEW MEXICO

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



USGS QUAD MAP:
 SPRING LAKE

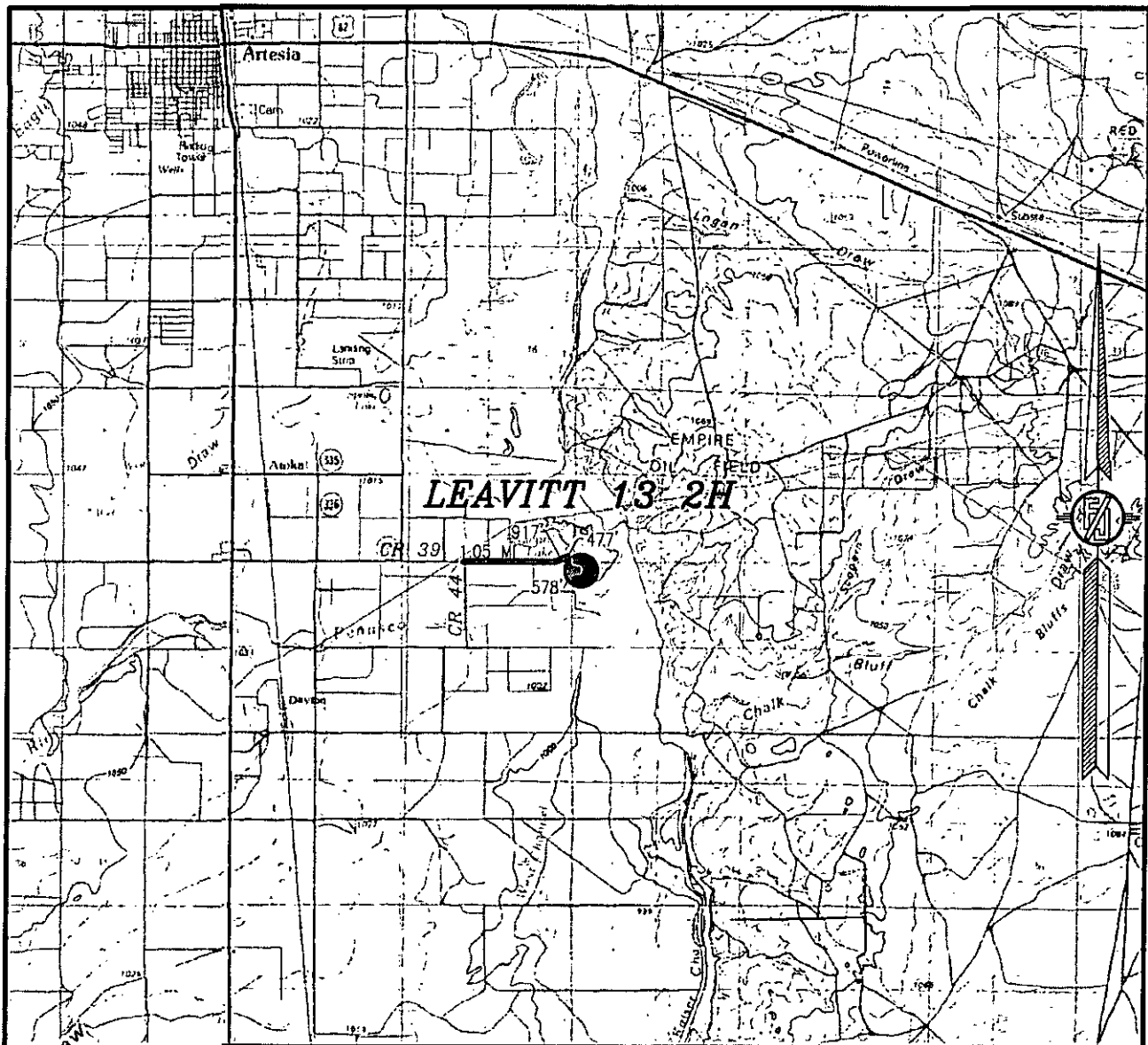
NOT TO SCALE

LIME ROCK RESOURCES II-A, L.P.
LEAVITT 13 2H
 LOCATED 595 FT. FROM THE NORTH LINE
 AND 500 FT. FROM THE WEST LINE OF
 SECTION 18, TOWNSHIP 18 SOUTH,
 RANGE 27 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

AUGUST 1, 2016

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO SURVEY NO. 4817A

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



DISTANCES IN MILES

NOT TO SCALE

DIRECTIONS TO LOCATION

FROM CR 39 (FOUR DINKUS) AND CR 44 (FANNING) AND CALICHE LEASE ROAD GO EAST ON CALICHE LEASE ROAD 1.05 MILES, BEND LEFT AND GO NORTHEAST 917', TURN RIGHT AND GO SOUTH 477' TO EXISTING HIGGINS TRUST 13A 2 PAD, FROM THE SOUTHEAST PAD CORNER FOLLOW PROPOSED ROAD SURVEY FLAGS EAST-SOUTHEAST 578' TO THE MIDDLE OF THE WEST EDGE OF PAD FOR THIS LOCATION.

LIME ROCK RESOURCES II-A, L.P.

LEAVITT 13 2H

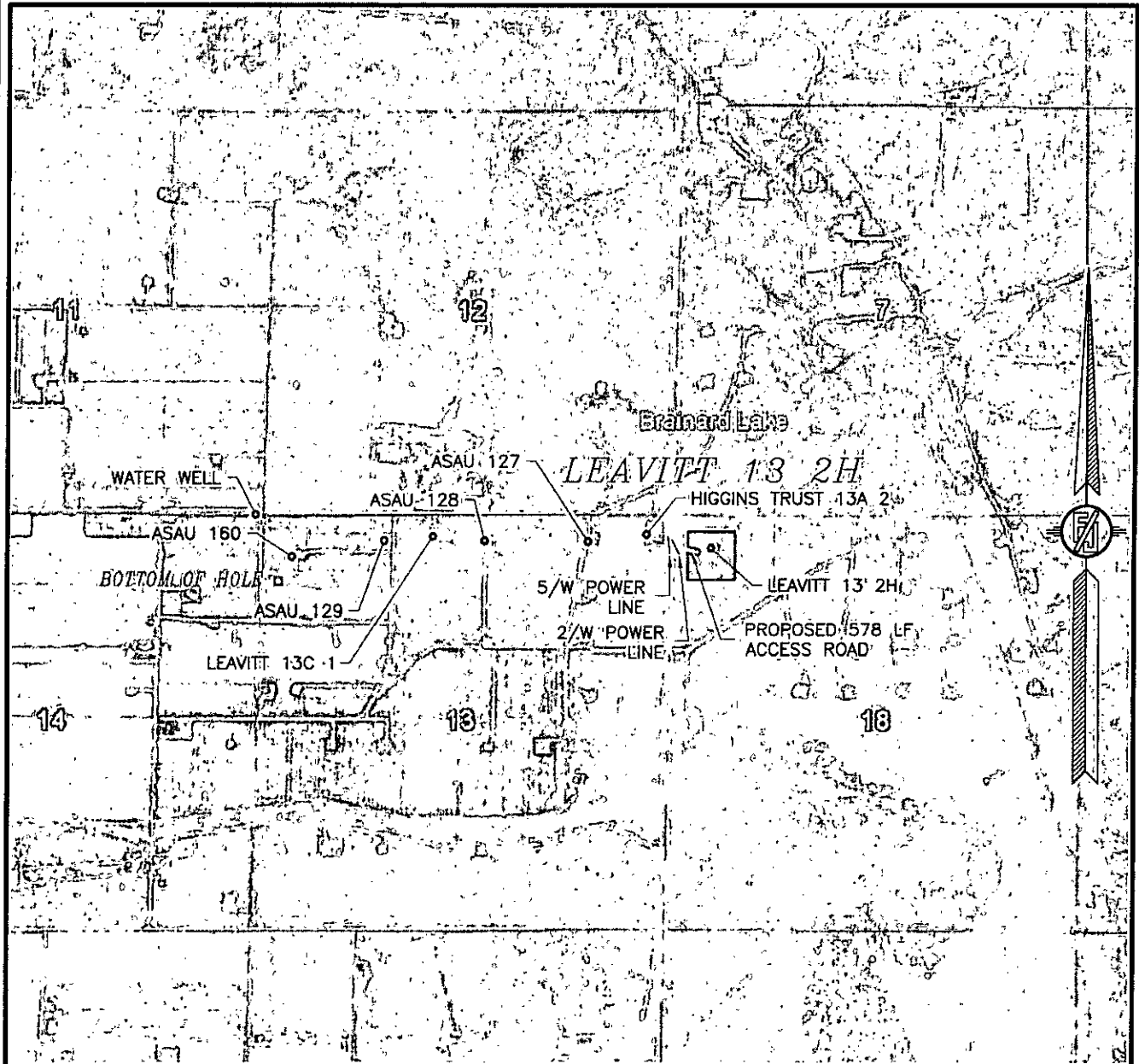
LOCATED 595 FT. FROM THE NORTH LINE
AND 500 FT. FROM THE WEST LINE OF
SECTION 18, TOWNSHIP 18 SOUTH,
RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

AUGUST 1, 2016

SURVEY NO. 4817A

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

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



NOT TO SCALE
 AERIAL PHOTO:
 GOOGLE EARTH
 MARCH 2016

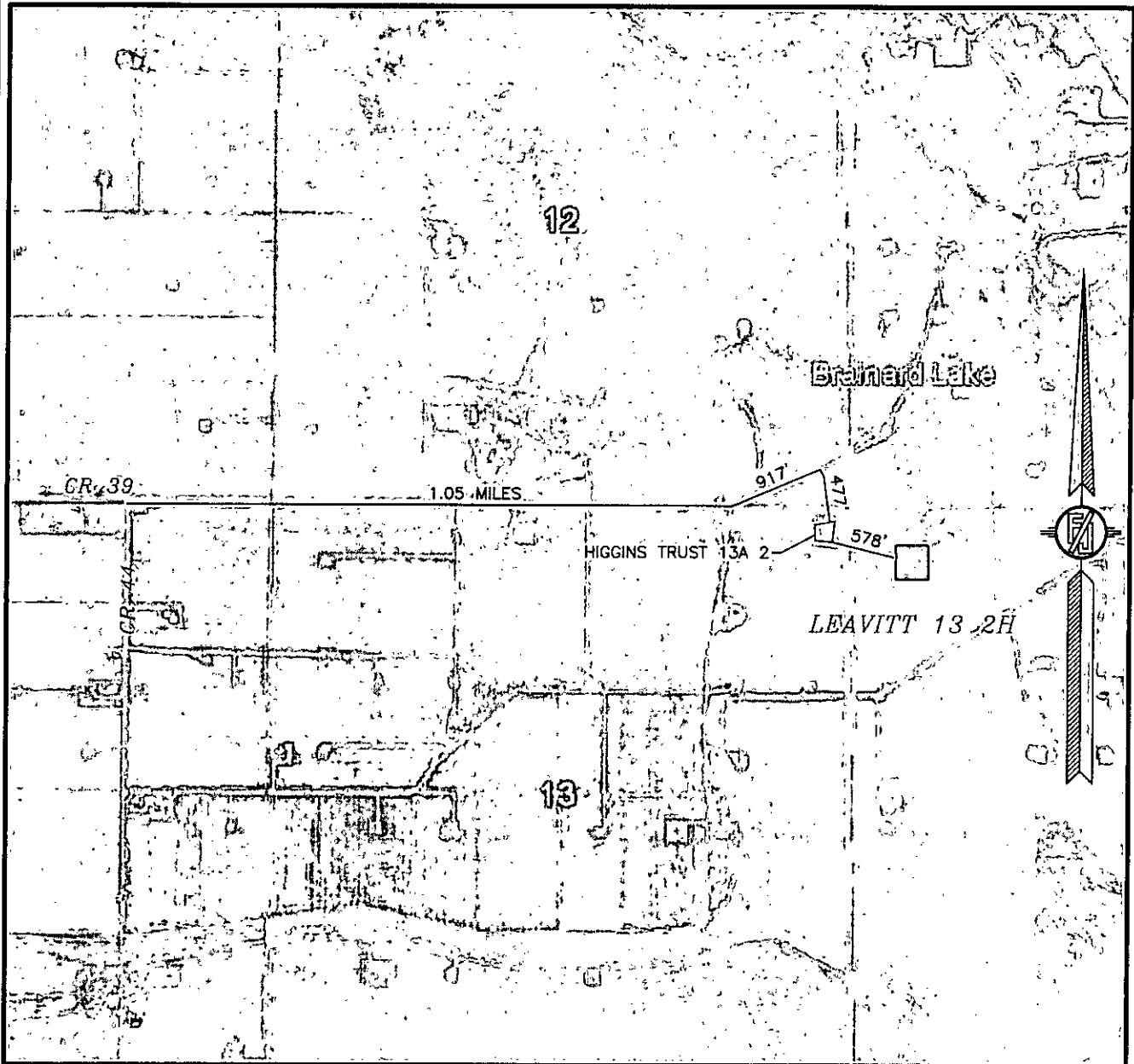
LIME ROCK RESOURCES II-A, L.P.
 LEAVITT 13 2H
 LOCATED 595 FT. FROM THE NORTH LINE
 AND 500 FT. FROM THE WEST LINE OF
 SECTION 18, TOWNSHIP 18 SOUTH,
 RANGE 27 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

AUGUST 1, 2016

SURVEY NO. 4817A

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

18, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
ACCESS AERIAL ROUTE MAP



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
MARCH 2016

LIME ROCK RESOURCES II-A, L.P.
LEAVITT 13 2H

LOCATED 595 FT. FROM THE NORTH LINE
AND 500 FT. FROM THE WEST LINE OF
SECTION 18, TOWNSHIP 18 SOUTH,
RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

AUGUST 1, 2016

SURVEY NO. 4817A.

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

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

**Leavitt 13 #2H
595' FNL 500' FWL
(D) 18-18S-26E
Eddy County, NM**

1. The elevation of the unprepared ground is 3287.4 feet above sea level.
2. The geologic name of the surface formation is Quaternary – Alluvium.
3. A rotar rig will be utilized to drill the well to 8,008' and run casing. This equipment will be rigged down and the well will be completed with a workover rig.
4. Well will be drilled to a total proposed depth of 8008' MD./ 2722' TVD.
The KOP will be at 1,932'. See directional plan for detail.

5. Estimated tops of geologic markers:

	MD	TVD
Quaternary – Alluvium	Surface	Surface
Yates	NA	NA
7 Rivers	NA	NA
Queen	400	400
Grayburg	638	637
Premier	922	906
San Andres	965	946
Glorieta	2406	2305
Yeso	2496	2395
TD	8008	2705

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

	MD	TVD
Yates	NA	NA
7 Rivers	NA	NA
Queen	400	400
Grayburg	638	637
Premier	922	906
San Andres	965	946
Glorieta	2406	2305
Yeso	2496	2395
TD	8008	2705

7. Proposed Casing and Cement program is as follows:

Type	Hole	Casing	Wt	Grade	Thread	Depth	Sx	Density	Yield	Components
Conductor	26"	20"	91.5	B	Welded	80	80			Ready Mix
Surface	17-1/2"	13 -3/8"	54.5	J-55	ST&C	400	400	14.8	1.35	Cl C Cmt + 0.25 lbs/sk Cello Flake + 2% CaCl ₂
Intermediate	12.25	8-5/8"	24	J-55	ST&C	1000	800	14.8	1.35	Cl C Cmt + 0.25 lbs/sk Cello Flake + 2% CaCl ₂
Production	7-7/8"	5-1/2"	17	J-55	LT&C	8008	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
							950	14.8	1.33	Cl H w/ 0.6% R-3, 0.125% Cello Flake, 2% Gel

8. Proposed Mud Program is as follows

Depth	0-1000	1000-7800	7800-7974
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	10.0-12.0	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	300-500 gpm	375-425 gpm	400-425 gpm
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.

9. **Pressure Control Equipment:** See Attached Description and diagram of Pressure Control Equipment.

10. **Testing, Logging and Coring Program**

Testing Program: No drill stem tests are anticipated

Electric Logging Program: SGR-CNL to Surf.

Coring Program: No full or sidewall cores are anticipated.

11. **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 1197.68 psi based on 0.44 x TD. The estimated BHT is 125 degrees F.

12. **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 to complete the well and to construct surface facilities.



Lime Rock

Eddy, NM (Nad 83)

C-102

4816A

Original Hole

Plan: Plan #1

Standard Planning Report

16 August, 2016





Lime Rock
Eddy, NM (Nad 83)
C-102
4816A
Plan #1



WELL DETAILS: 4816A

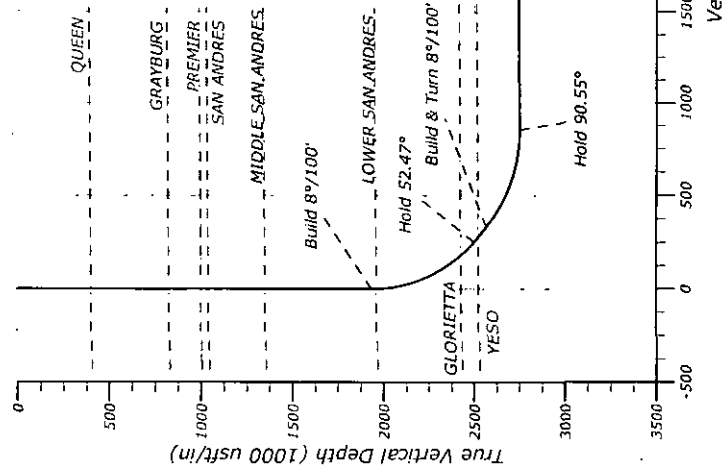
Ground Level: 3287.4 GE @ 3287.4usft
Northing 638004.85 Easting 543939.94 Latitude 32° 45' 14.080 N Longitude 104° 19' 29.525 W
±N/-S 0.0 ±E/-W 0.0

PROJECT DETAILS: Eddy, NM (Nad 83)

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level

FORMATION TOP DETAILS

IVDPath	MDPath	Formation
400.0	400.0	QUEEN
825.0	825.0	GRAYBURG
1000.0	1000.0	PREMIER
1040.0	1040.0	SAN ANDRES
1350.0	1350.0	MIDDLE SAN ANDRES
1960.0	1960.0	LOWER SAN ANDRES
2428.3	2480.3	GLORIETTA
2522.4	2624.7	YESO



Section Plans

MD	Inc	Azi	IVD	±N/-S	±E/-W	Dleg	IFace	VSecl	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	Build 8°/100'
1932.0	0.00	0.00	1932.0	0.0	0.0	0.00	0.00	0.0	Hold 52.47°
2587.9	52.47	297.70	2500.0	130.1	-247.8	8.00	297.70	253.1	Build 8°/100'
2698.2	52.47	297.70	2567.2	170.8	-325.3	0.00	0.00	332.3	Build & Turn 8°/100'
3275.1	90.55	269.46	2750.1	280.4	-844.6	8.00	-41.00	855.8	Hold 90.55°
7974.9	90.55	269.46	2705.0	236.2	-5544.0	0.00	0.00	5549.0	PBHL @ 7974.9' MD, 2705.0' TVD

DESIGN TARGET DETAILS

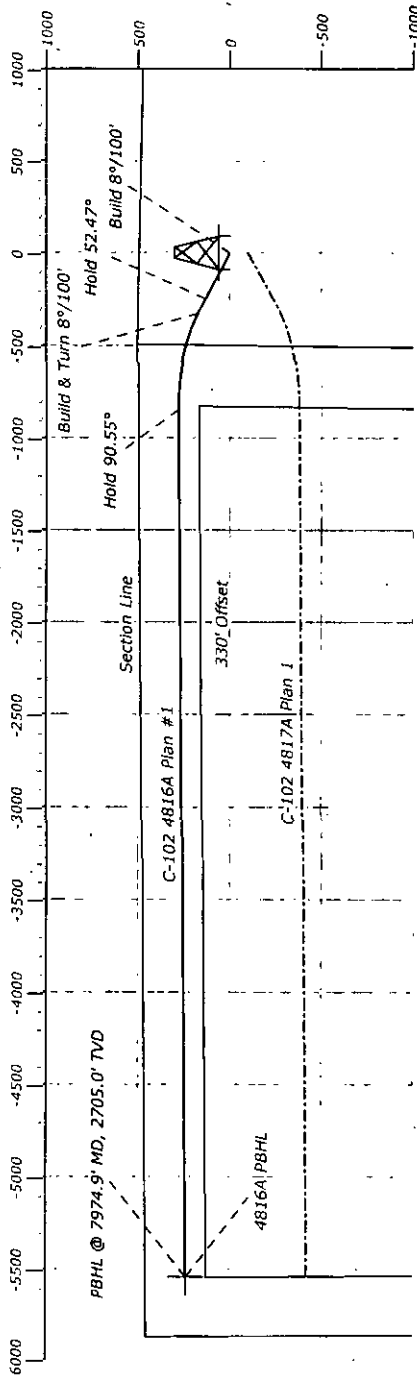
Name	IVD	±N/-S	±E/-W	Northing	Easting
4816A PBHL	2705.0	236.2	-5544.0	638240.62	538395.94

Azimuths to True North
Magnetic North: 7.43°
Strength: 48258.3snT
Dip Angle: 60.44°
Date: 8/15/2016
Model: IGRF2015

To convert a Magnetic Direction to a True Direction, Add 7.43° East
Magnetic North is 7.43° East of True North (Magnetic Declination)

South(-)/North(+) (1000 usft/in)

West(-)/East(+) (1000 usft/in)



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 4816A
Company:	Lime Rock	TVD Reference:	GE @ 3287.4usft
Project:	Eddy, NM (Nad 83)	MD Reference:	GE @ 3287.4usft
Site:	C-102	North Reference:	True
Well:	4816A	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #1		

Project	Eddy, NM (Nad 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	C-102		
Site Position:	From:	Map	
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"
Northing:	638,004.85 usft	Latitude:	32° 45' 14.080 N
Easting:	543,939.94 usft	Longitude:	104° 19' 29.525 W
Grid Convergence:	0.00 °		

Well	4816A		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft
		Ground Level:	3,287.4 usft
Latitude:	32° 45' 14.080 N		
Longitude:	104° 19' 29.525 W		

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	8/15/2016	7.43	60.44	48,258

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	272.44

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,932.0	0.00	0.00	1,932.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,587.9	52.47	297.70	2,500.0	130.1	-247.8	8.00	8.00	0.00	297.70	
2,698.2	52.47	297.70	2,567.2	170.8	-325.3	0.00	0.00	0.00	0.00	
3,275.1	90.55	269.46	2,750.1	280.4	-844.6	8.00	6.60	-4.90	-41.00	
7,974.9	90.55	269.46	2,705.0	236.2	-5,544.0	0.00	0.00	0.00	0.00	4816A PBHL

Database: EDM 5000.1 Single User Db
 Company: Lime Rock
 Project: Eddy, NM (Nad 83)
 Site: C-102
 Well: 4816A
 Wellbore: Original Hole
 Design: Plan #1

Local Co-ordinate Reference: Well 4816A
 TVD Reference: GE @ 3287.4usft
 MD Reference: GE @ 3287.4usft
 North Reference: True
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
QUEEN									
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
825.0	0.00	0.00	825.0	0.0	0.0	0.0	0.00	0.00	0.00
GRAYBURG									
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
PREMIER									
1,040.0	0.00	0.00	1,040.0	0.0	0.0	0.0	0.00	0.00	0.00
SAN ANDRES									
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,350.0	0.00	0.00	1,350.0	0.0	0.0	0.0	0.00	0.00	0.00
MIDDLE SAN ANDRES									
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,932.0	0.00	0.00	1,932.0	0.0	0.0	0.0	0.00	0.00	0.00
Build 8°/100'									
1,960.0	2.24	297.70	1,960.0	0.3	-0.5	0.5	8.00	8.00	0.00
LOWER SAN ANDRES									
2,000.0	5.44	297.70	1,999.9	1.5	-2.9	2.9	8.00	8.00	0.00
2,100.0	13.44	297.70	2,098.5	9.1	-17.4	17.7	8.00	8.00	0.00
2,200.0	21.44	297.70	2,193.8	23.0	-43.9	44.8	8.00	8.00	0.00
2,300.0	29.44	297.70	2,284.0	43.0	-81.9	83.6	8.00	8.00	0.00
2,400.0	37.44	297.70	2,367.4	68.6	-130.6	133.4	8.00	8.00	0.00
2,480.3	43.87	297.70	2,428.3	92.9	-176.9	180.7	8.00	8.00	0.00
GLORIETTA									
2,500.0	45.44	297.70	2,442.3	99.3	-189.2	193.2	8.00	8.00	0.00
2,587.9	52.47	297.70	2,500.0	130.1	-247.8	253.1	8.00	8.00	0.00
Hold 52.47°									
2,600.0	52.47	297.70	2,507.4	134.6	-256.3	261.8	0.00	0.00	0.00
2,624.7	52.47	297.70	2,522.4	143.7	-273.7	279.5	0.00	0.00	0.00
YESO									
2,698.2	52.47	297.70	2,567.2	170.8	-325.3	332.3	0.00	0.00	0.00
Build & Turn 8°/100'									
2,700.0	52.58	297.58	2,568.3	171.4	-326.6	333.6	8.00	6.04	-6.61
2,800.0	58.79	291.46	2,624.7	205.5	-401.7	410.1	8.00	6.21	-6.12
2,900.0	65.25	286.11	2,671.6	233.8	-485.2	494.7	8.00	6.46	-5.35
3,000.0	71.88	281.30	2,708.1	255.8	-575.6	586.0	8.00	6.63	-4.81
3,100.0	78.62	276.84	2,733.6	270.9	-671.0	681.9	8.00	6.74	-4.46
3,200.0	85.42	272.59	2,747.5	279.0	-769.6	780.8	8.00	6.81	-4.25

Database: EDM 5000.1 Single User Db
 Company: Lime Rock
 Project: Eddy, NM (Nad 83)
 Site: C-102
 Well: 4816A
 Wellbore: Original Hole
 Design: Plan #1

Local Co-ordinate Reference: Well 4816A
 TVD Reference: GE @ 3287.4usft
 MD Reference: GE @ 3287.4usft
 North Reference: True
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,275.1	90.55	269.46	2,750.1	280.4	-844.6	855.8	8.00	6.83	-4.17
Hold 90.55°									
3,300.0	90.55	269.46	2,749.9	280.2	-869.5	880.7	0.00	0.00	0.00
3,400.0	90.55	269.46	2,748.9	279.2	-969.5	980.5	0.00	0.00	0.00
3,500.0	90.55	269.46	2,748.0	278.3	-1,069.5	1,080.4	0.00	0.00	0.00
3,600.0	90.55	269.46	2,747.0	277.3	-1,169.5	1,180.3	0.00	0.00	0.00
3,700.0	90.55	269.46	2,746.0	276.4	-1,269.5	1,280.1	0.00	0.00	0.00
3,800.0	90.55	269.46	2,745.1	275.5	-1,369.5	1,380.0	0.00	0.00	0.00
3,900.0	90.55	269.46	2,744.1	274.5	-1,469.5	1,479.8	0.00	0.00	0.00
4,000.0	90.55	269.46	2,743.2	273.6	-1,569.5	1,579.7	0.00	0.00	0.00
4,100.0	90.55	269.46	2,742.2	272.6	-1,669.5	1,679.6	0.00	0.00	0.00
4,200.0	90.55	269.46	2,741.2	271.7	-1,769.5	1,779.4	0.00	0.00	0.00
4,300.0	90.55	269.46	2,740.3	270.8	-1,869.4	1,879.3	0.00	0.00	0.00
4,400.0	90.55	269.46	2,739.3	269.8	-1,969.4	1,979.1	0.00	0.00	0.00
4,500.0	90.55	269.46	2,738.4	268.9	-2,069.4	2,079.0	0.00	0.00	0.00
4,600.0	90.55	269.46	2,737.4	267.9	-2,169.4	2,178.9	0.00	0.00	0.00
4,700.0	90.55	269.46	2,736.4	267.0	-2,269.4	2,278.7	0.00	0.00	0.00
4,800.0	90.55	269.46	2,735.5	266.1	-2,369.4	2,378.6	0.00	0.00	0.00
4,900.0	90.55	269.46	2,734.5	265.1	-2,469.4	2,478.4	0.00	0.00	0.00
5,000.0	90.55	269.46	2,733.6	264.2	-2,569.4	2,578.3	0.00	0.00	0.00
5,100.0	90.55	269.46	2,732.6	263.2	-2,669.4	2,678.2	0.00	0.00	0.00
5,200.0	90.55	269.46	2,731.6	262.3	-2,769.4	2,778.0	0.00	0.00	0.00
5,300.0	90.55	269.46	2,730.7	261.4	-2,869.4	2,877.9	0.00	0.00	0.00
5,400.0	90.55	269.46	2,729.7	260.4	-2,969.3	2,977.7	0.00	0.00	0.00
5,500.0	90.55	269.46	2,728.8	259.5	-3,069.3	3,077.6	0.00	0.00	0.00
5,600.0	90.55	269.46	2,727.8	258.5	-3,169.3	3,177.5	0.00	0.00	0.00
5,700.0	90.55	269.46	2,726.8	257.6	-3,269.3	3,277.3	0.00	0.00	0.00
5,800.0	90.55	269.46	2,725.9	256.7	-3,369.3	3,377.2	0.00	0.00	0.00
5,900.0	90.55	269.46	2,724.9	255.7	-3,469.3	3,477.0	0.00	0.00	0.00
6,000.0	90.55	269.46	2,724.0	254.8	-3,569.3	3,576.9	0.00	0.00	0.00
6,100.0	90.55	269.46	2,723.0	253.8	-3,669.3	3,676.8	0.00	0.00	0.00
6,200.0	90.55	269.46	2,722.0	252.9	-3,769.3	3,776.6	0.00	0.00	0.00
6,300.0	90.55	269.46	2,721.1	252.0	-3,869.3	3,876.5	0.00	0.00	0.00
6,400.0	90.55	269.46	2,720.1	251.0	-3,969.3	3,976.3	0.00	0.00	0.00
6,500.0	90.55	269.46	2,719.2	250.1	-4,069.2	4,076.2	0.00	0.00	0.00
6,600.0	90.55	269.46	2,718.2	249.1	-4,169.2	4,176.1	0.00	0.00	0.00
6,700.0	90.55	269.46	2,717.2	248.2	-4,269.2	4,275.9	0.00	0.00	0.00
6,800.0	90.55	269.46	2,716.3	247.3	-4,369.2	4,375.8	0.00	0.00	0.00
6,900.0	90.55	269.46	2,715.3	246.3	-4,469.2	4,475.6	0.00	0.00	0.00
7,000.0	90.55	269.46	2,714.4	245.4	-4,569.2	4,575.5	0.00	0.00	0.00
7,100.0	90.55	269.46	2,713.4	244.4	-4,669.2	4,675.4	0.00	0.00	0.00
7,200.0	90.55	269.46	2,712.4	243.5	-4,769.2	4,775.2	0.00	0.00	0.00
7,300.0	90.55	269.46	2,711.5	242.6	-4,869.2	4,875.1	0.00	0.00	0.00
7,400.0	90.55	269.46	2,710.5	241.6	-4,969.2	4,974.9	0.00	0.00	0.00
7,500.0	90.55	269.46	2,709.6	240.7	-5,069.2	5,074.8	0.00	0.00	0.00
7,600.0	90.55	269.46	2,708.6	239.7	-5,169.2	5,174.7	0.00	0.00	0.00
7,700.0	90.55	269.46	2,707.6	238.8	-5,269.1	5,274.5	0.00	0.00	0.00
7,800.0	90.55	269.46	2,706.7	237.9	-5,369.1	5,374.4	0.00	0.00	0.00
7,900.0	90.55	269.46	2,705.7	236.9	-5,469.1	5,474.3	0.00	0.00	0.00
7,974.9	90.55	269.46	2,705.0	236.2	-5,544.0	5,549.0	0.00	0.00	0.00

PBHL @ 7974.9' MD, 2705.0' TVD - 4816A PBHL

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 4816A
Company:	Lime Rock	TVD Reference:	GE @ 3287.4usft
Project:	Eddy, NM (Nad 83)	MD Reference:	GE @ 3287.4usft
Site:	C-102	North Reference:	True
Well:	4816A	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #1		

Design Targets

Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
4816A PBHL - plan hits target center - Point	0.00	0.00	2,705.0	236.2	-5,544.0	638,240.62	538,395.94	32° 45' 16.413 N	104° 20' 34.446 W

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
400.0	400.0	QUEEN		-0.55	269.46
825.0	825.0	GRAYBURG		-0.55	269.46
1,000.0	1,000.0	PREMIER		-0.55	269.46
1,040.0	1,040.0	SAN ANDRES		-0.55	269.46
1,350.0	1,350.0	MIDDLE SAN ANDRES		-0.55	269.46
1,960.0	1,960.0	LOWER SAN ANDRES		-0.55	269.46
2,480.3	2,428.3	GLORIETTA		-0.55	269.46
2,624.7	2,522.4	YESO		-0.55	269.46

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,932.0	1,932.0	0.0	0.0	Build 8°/100'
2,587.9	2,500.0	130.1	-247.8	Hold 52.47°
2,698.2	2,567.2	170.8	-325.3	Build & Turn 8°/100'
3,275.1	2,750.1	280.4	-844.6	Hold 90.55°
7,974.9	2,705.0	236.2	-5,544.0	PBHL @ 7974.9' MD, 2705.0' TVD

Hydrogen Sulfide Drilling Plan Summary

A. All personnel shall receive proper H₂S training in accordance with Onshore Order 6 III.C.3.a.

B. Briefing Area: two perpendicular areas will be designated by signs and readily accessible.

C. Required Emergency Equipment:

■ Well control equipment

- a. Flare line 150' from wellhead to be ignited by flare gun.
- b. Choke manifold with a remotely operated choke.
- c. Mud/gas separator

■ Protective equipment for essential personnel.

Breathing apparatus:

- a. Rescue Packs (SCBA) — 1 unit shall be placed at each breathing area, 2 shall be stored in the safety trailer.
- b. Work/Escapes packs — 4 packs shall be stored on the rig floor and contain sufficiently long air hoses as to not restrict work activity.
- c. Emergency Escape Packs — 4 packs shall be stored in the doghouse for emergency evacuation.

Auxiliary Rescue Equipment:

- a. Stretcher
- b. Two OSHA full body harness
- c. 100 ft 5/8 inch OSHA approved rope
- d. 1-20# class ABC fire extinguisher

■ H₂S detection and monitoring equipment:

The stationary detector with three sensors will be placed in the upper dog house if equipped, set to visually alarm @ 10 ppm and audible @ 14 ppm. Calibrate a minimum of every 30 days or as needed. The sensors will be placed in the following places: Rig floor / Bell nipple / End of flow line or where well bore fluid is being discharged.
(Gas sample tubes will be stored in the safety trailer)

■ Visual warning systems:

- a. One color code condition sign will be placed at the entrance to the site reflecting the possible conditions at the site.
- b. A colored condition flag will be on display, reflecting the current condition at the site at the time.
- c. Two wind socks will be placed in strategic locations, visible from all angles.

■ Mud program:

The mud program has been designed to minimize the volume of H₂S circulated to surface. The operator will have the necessary mud products to minimize hazards while drilling in H₂S bearing zones.

■ Metallurgy:

- a. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H₂S service.
- b. All elastomers used for packing and seals shall be H₂S trim.

■ Communication:

Communication will be via two way radio in emergency and company vehicles. Cell phones and land lines where available.

H2S CONTINGENCY DRILLING PLAN EMERGENCY CONTACTS

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

Name	Title	Location	Office #	Cell #	Home #
Steve Hunter	Production Manager	Houston	713-292-9516	832-330-7313	Same as Cell
Spencer Cox	Operations Engineer	Houston	713-292-9528	432-254-5140	Same as Cell
Eric McClusky	Operations Engineer	Houston	713-360-5714	832-491-3079	405-821-0534
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
Gary McClland	Well Site Supervisor	Rotates on Site	NA	903-503-8997	NA
Dave Williamson	Well Site Supervisor	Rotates on Site	NA	575-308-9980	NA

Agency Call List		
City	Agency or Office	Telephone #
Artesia	Ambulance	911
Artesia	State Police	575-746-2703
Artesia	Sherriff'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	Sherriff'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 Commisssion ("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

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 Hughes Inc.	Pumping Services	Artesia, Hobbs & Odessa	575-746-2757	Same
Total Safety	Safety Equipment & Personnel	Artesia	575-746-2847	Same
Cutter Oilfield Services	Drilling Systems Equipment	Midland	432-488-6707	Same
Safety Dog	Safety Equipment & Personnel	Artesia	575-748-5847	575-441-1370
Fighting 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	Albuquerque	505-842-4433	Same
Artesia General Hospital	Emergency Medical Care	Artesia	575-748-3333	702 North 13th Street

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.

Lime Rock Resources II-A, L.P.

Leavitt 13 #2H

Unit D, S18-T18S-R26E, Eddy County, NM

Design: Closed Loop System with roll-off steel bins (pits)

CRI/HOBBS will supply (2) bins (100 bbl) volume, rails and transportation relating to the Close Loop System. Specification of the Closed Loop System is attached.

Contacts: Gary Wallace (432) 638-4076 Cell (575) 393-1079 Office

Scomi Oil Tool: Supervisor – Armando Soto (432) 553-7979 Hobbs, NM

Monitoring 24 Hour service

Equipment:

Centrifuges – Derrick Brand

Rig Shakers – Brandt Brand

D-watering Unit

Air pumps on location for immediate remediation process

Layout of Close Loop System with bins, centrifuges and shakers attached.

Cuttings and associated liquids will be hauled to a State regulated third party disposal site (CRI or Controlled Recovery, Inc.). The disposal site permit is DFP = #R9166.

2- (250 bbl) tanks to hold fluid

2-CRI bins with track system

2-500 bbl frac tanks with fresh water

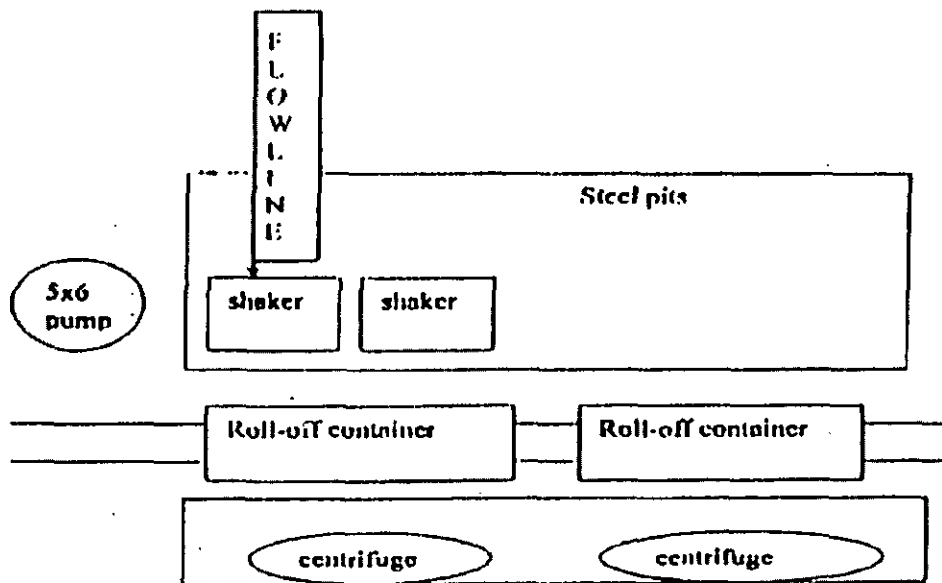
2-500 bbl frac tanks for brine water

Operations:

Closed Loop System equipment will be inspected daily by each tour and any necessary maintenance performed. leak in system will be repaired and/or contained immediately. OCD will be notified within 48 hours of any spill. Remediation process will start immediately.

Closure:

During drilling operations all liquids, drilling fluids and cuttings will be hauled off via CRI equipment to DFP #R9166.



This will be maintained by 24 hour solids control personnel that stay on location.

TOMMY WILSON
CLS
CLOSED LOOP
SPECIALTY

Office: 575.746.1609

Cell: 575.748.6367

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES
OIL CONSERVATION DIVISION

PERMIT CONDITIONS OF APPROVAL

Operator Name Lime Rock Resources 11-A, LP
API Number 30-015-43897
Well Name and Number Learitt 13 #2H

- ☒ Will require a Directional Survey and "As Drilled" C-102 with the C-104
- ☒ Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string.
- ☒ If cement does not circulate to surface, must run temperature survey or other log to determine top of cement.

NMOCD CONDITION OF APPROVAL

The *New* Gas Capture Plan (GCP) notice is posted on the NMOCD website under Announcements. The Plan became effective May 1, 2016. A copy of the GCP form is included with the NOTICE and is also in our FORMS section under Unnumbered Forms. Please review filing dates for all applicable activities currently approved or pending and submit accordingly. Failure to file a GCP may jeopardize the operator's ability to obtain C-129 approval to flare gas after the initial 60-day completion period.