

**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**

RECEIVED

Form C-101  
Revised July 18, 2013

Oil Conservation Division MAY 06 2019

☐ AMENDED REPORT

1220 South St. Francis Dr.

Santa Fe, NM 87505 DISTRICT II-ARTESIA O.C.D.

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

<sup>1</sup> Operator Name and Address <b>LIME ROCK RESOURCES II-A, L.P.</b> 1111 Bagby Street, Suite 4600, Houston, Texas 77002		<sup>2</sup> OGRID Number 277558
		<sup>3</sup> API Number 30-015- <b>46008</b>
<sup>4</sup> Property Code 316765	<sup>5</sup> Property Name <b>LEAVITT 13</b>	<sup>6</sup> Well No. <b>1H</b>

**7. Surface Location**

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
1	18	18S	27E		660	NORTH	500	WEST	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		820	NORTH	100	WEST	EDDY

**9. Pool Information**

Pool Name	Pool Code
Red Lake, Glorieta-Yeso	51120

**Additional Well Information**

<sup>11</sup> Work Type <b>N</b>	<sup>12</sup> Well Type <b>O</b>	<sup>13</sup> Cable/Rotary <b>R</b>	<sup>14</sup> Lease Type <b>P</b>	<sup>15</sup> Ground Level Elevation <b>3287'</b>
<sup>16</sup> Multiple <b>N</b>	<sup>17</sup> Proposed Depth <b>8897' MD/3450' TVD</b>	<sup>18</sup> Formation <b>Yeso</b>	<sup>19</sup> Contractor <b>United Drilling</b>	<sup>20</sup> Spud Date <b>After 6/1/19</b>
Depth to Ground water 80 Ft		Distance from nearest fresh water well 0.38 Miles		Distance to nearest surface water 0.63 Miles

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

**21. 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	40	Surface
Surface	12-1/4"	9-5/8"	36	1230	600	Surface
Production	8-3/4"	7"	29	3700	295	Surface
		5-1/2"	20	8897	980	Surface

**Casing/Cement Program: Additional Comments**

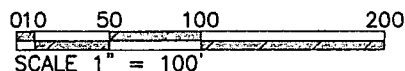
Surface Csg set 50' above first oil show & top of San Andres. Cmt will be circulated as required.

**22. Proposed Blowout Prevention Program**

Type	Working Pressure	Test Pressure	Manufacturer
XLT 13-5/8"	5000	2000	National Varco

<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 I have complied with 19.15.14.9 (A) NMAC <input type="checkbox"/> and/or 19.15.14.9 (B) NMAC <input checked="" type="checkbox"/> , if applicable. Signature: <i>Mike Pippin</i>		<b>OIL CONSERVATION DIVISION</b> Approved By: <i>Raymond W. Rodary</i> Title: <i>Geolog. Sr.</i> Approved Date: <i>5-21-19</i> Expiration Date: <i>5-21-21</i>	
Printed name: Mike Pippin		Title: <i>Geolog. Sr.</i>	
Title: Petroleum Engineer		Approved Date: <i>5-21-19</i> Expiration Date: <i>5-21-21</i>	
E-mail Address: mike@pippinllc.com			
Date: 5/3/19	Phone:	Conditions of Approval Attached	

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



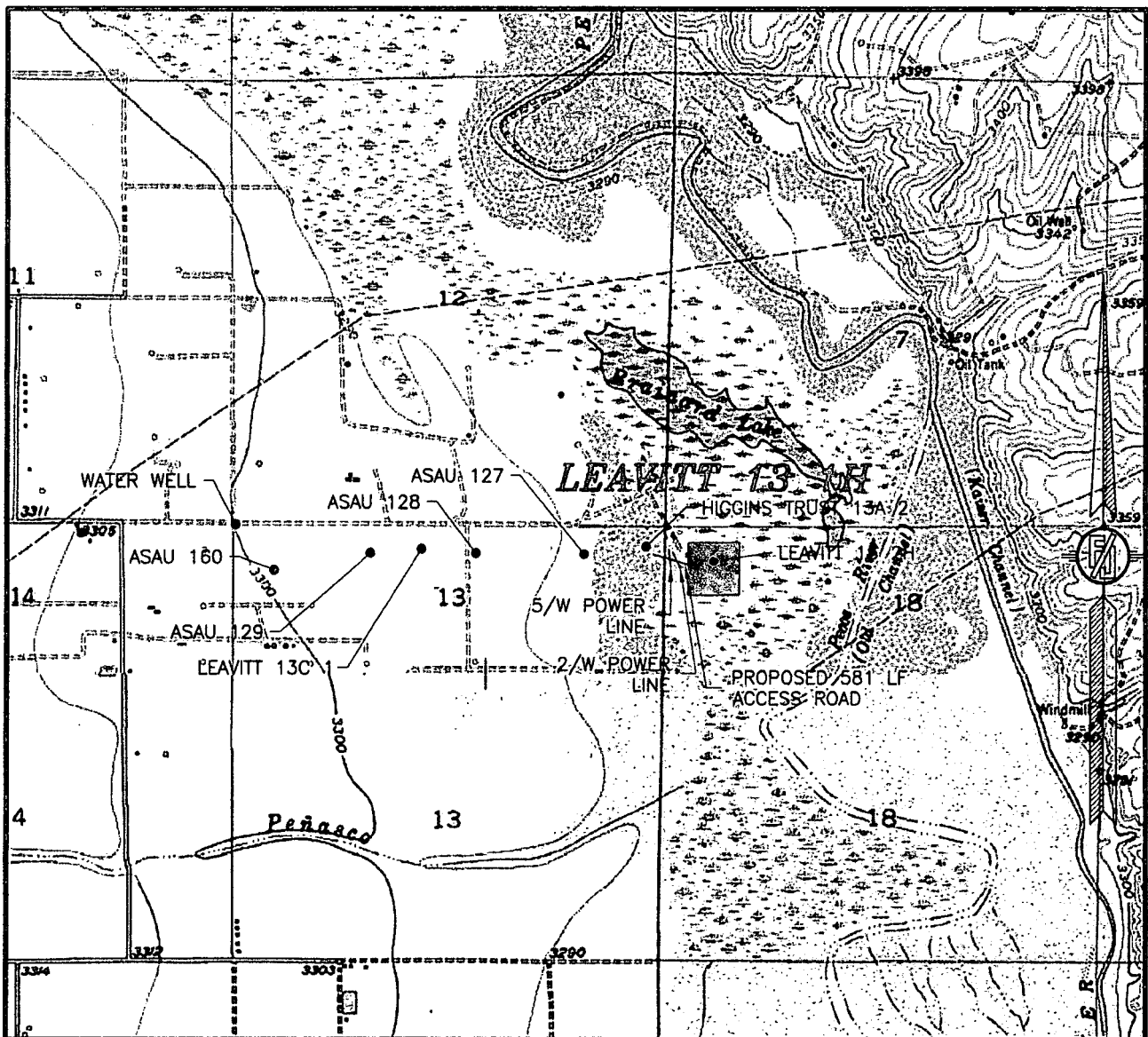
FROM CR 39 (FOUR DINKUS) AND CR 44 (FANNING) AND CALICHE LEASE ROAD GO EAST ON CALICHE LEASE ROAD 1.05 MILES, BEND LEFT AND GO NORTHEAST 91°, TURN RIGHT AND GO SOUTH 47° TO EXISTING HIGGINS TRUST 13A 2 PAD, FROM THE SOUTHEAST PAD CORNER FOLLOW PROPOSED ROAD SURVEY FLAGS SOUTHEAST 581° TO THE NORTHWEST PAD CORNER FOR THIS LOCATION.

APRIL 19, 2019

*SURVEY NO. 4816D*

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  
 LOCATION VERIFICATION MAP



USGS/4UAD MAP:  
 SPRING LAKE

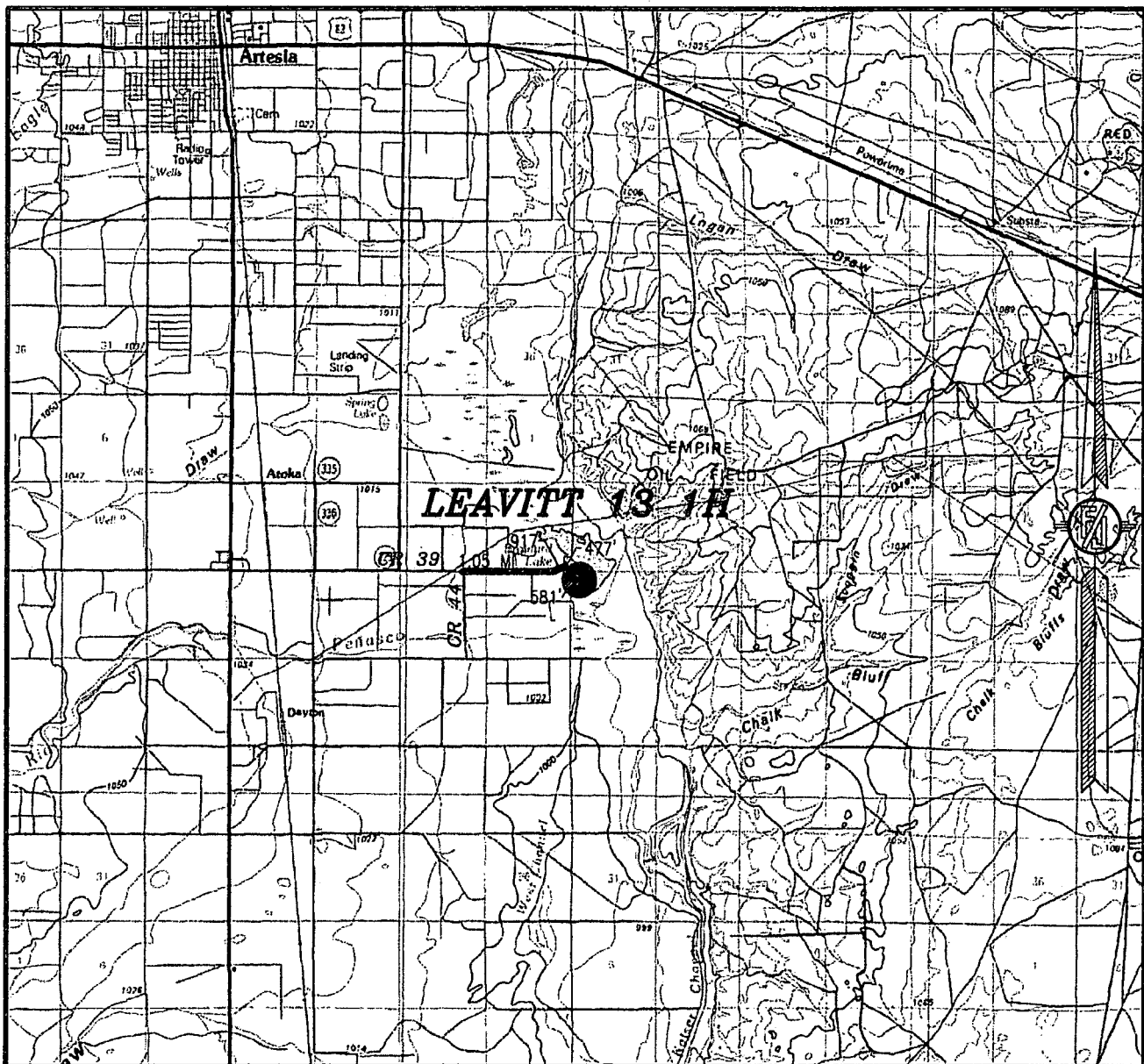
NOT TO SCALE

LIME ROCK RESOURCES II-A, L.P.  
**LEAVITT 13 1H**  
 LOCATED 660 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

APRIL 19, 2019

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO SURVEY NO. 4816D

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

LIME ROCK RESOURCES II-A, L.P.

**LEAVITT 13 1H**

LOCATED 660 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

**DIRECTIONS TO LOCATION**

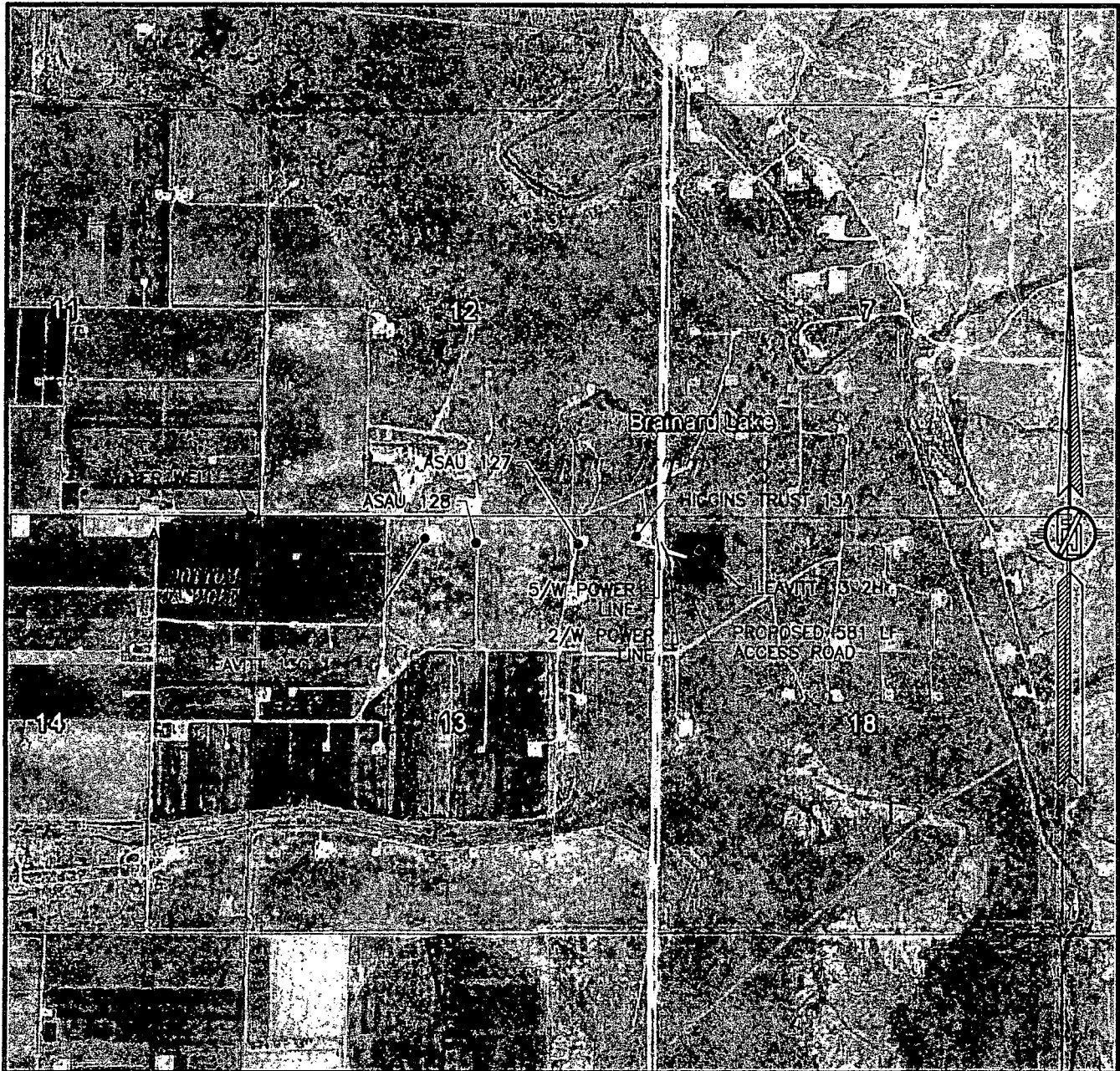
FROM CR 39 (FOUR DINKUS) AND CR 44 (FANNING) AND CALICHE LEASE ROAD GO EAST ON CALICHE LEASE ROAD 1.05 MILES, BEND LEFT AND GO NORTHEAST 917', TURN RIGHT AND GO SOUTH 477' TO EXISTING HIGGINS TRUST 13A 2 PAD, FROM THE SOUTHEAST PAD CORNER FOLLOW PROPOSED ROAD SURVEY FLAGS SOUTHEAST 581' TO THE NORTHWEST PAD CORNER FOR THIS LOCATION.

APRIL 19, 2019

SURVEY NO. 4816D

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  
AERIAL PHOTO



NOT TO SCALE  
AERIAL PHOTO:  
GOOGLE EARTH  
MARCH 2016

**LIME ROCK RESOURCES II-A, L.P.**  
**LEAVITT 13 1H**  
LOCATED 660 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

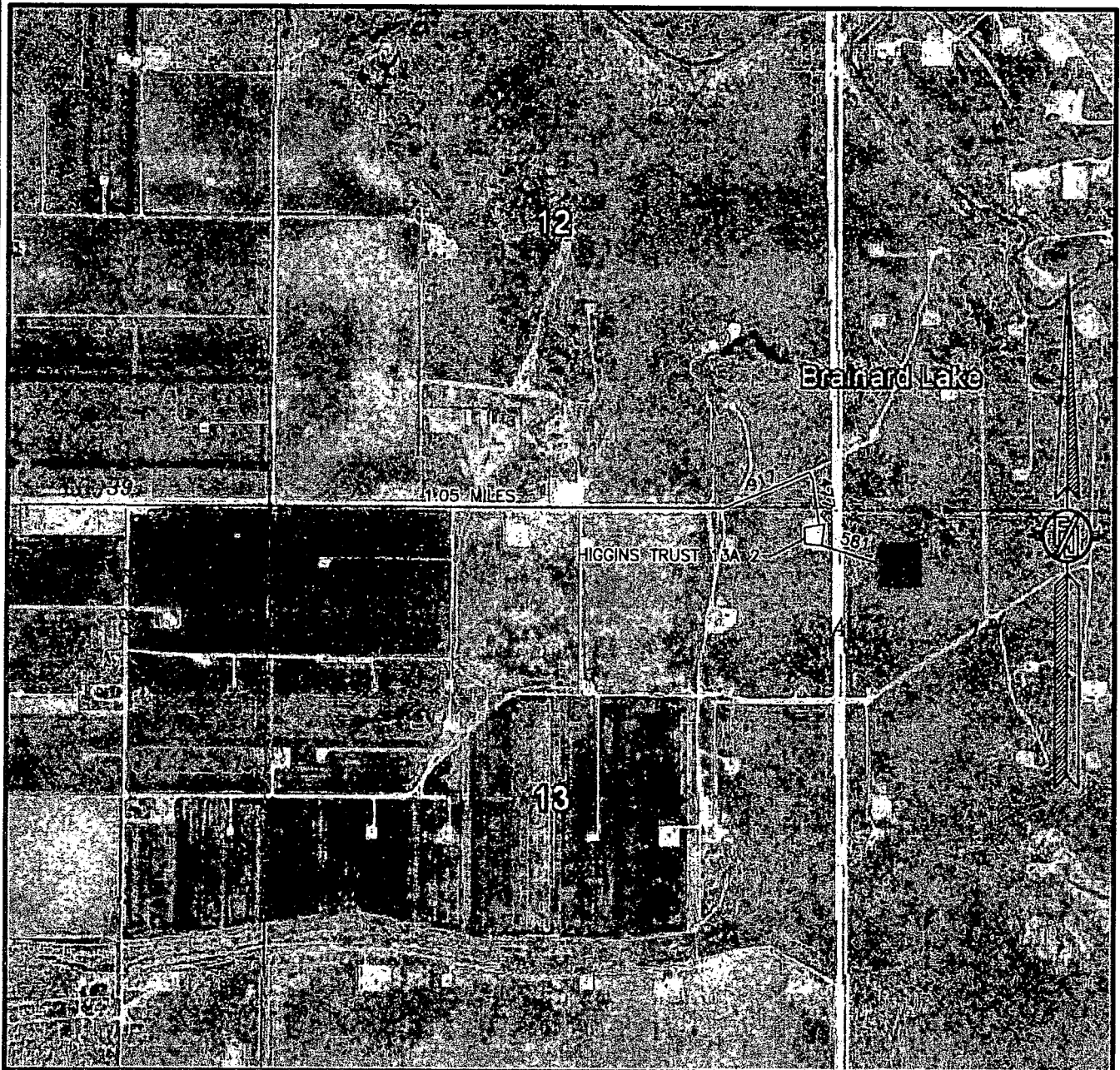
APRIL 19, 2019

SURVEY NO. 4816D

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  
ACCESS AERIAL ROUTE MAP



NOT TO SCALE  
AERIAL PHOTO:  
GOOGLE EARTH  
MARCH 2018

*LIME ROCK RESOURCES II-A, L.P.  
LEAVITT 13 1H  
LOCATED 660 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*

APRIL 19, 2019

SURVEY NO. 4816D

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

TWO 4" SDR7 POLY PRODUCTION SURFACE LINES FROM THE LEAVITT 13 1H & 2H TO THE  
WOR SECTION 13 MAIN FACILITY

MADRON SURVEYING, INC.

CARLSBAD, NEW MEXICO

# FLOWLINE PLAT

TWO 4" SDR7 POLY PRODUCTION SURFACE LINES FROM THE LEAVITT 13 1H & 2H TO THE  
WOR SECTION 13 MAIN FACILITY

## LIME ROCK RESOURCES II-A, L.P. CENTERLINE SURVEY OF A PIPELINE CROSSING SECTION 13, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M. EDDY COUNTY, STATE OF NEW MEXICO MAY 29, 2018

### DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING FEE LAND IN SECTION 13, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M., EDDY COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

#### FROM SECTION 18 TO SECTION 12

BEGINNING AT A POINT WITHIN THE NE/4 NE/4 OF SAID SECTION 13, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M., WHENCE THE NORTHEAST CORNER OF SAID SECTION 13, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M. BEARS N00°40'49"E, A DISTANCE OF 476.12 FEET;

THENCE N73°30'06"W A DISTANCE OF 172.03 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE N01°47'00"E A DISTANCE OF 261.99 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE N80°34'27"W A DISTANCE OF 87.63 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE N07°09'48"W A DISTANCE OF 149.67 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTHEAST CORNER OF SAID SECTION 13, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M. BEARS N89°27'39"E, A DISTANCE OF 267.57 FEET;

SAID STRIP OF LAND BEING 671.32 FEET OR 40.69 RODS IN LENGTH, CONTAINING 0.462 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NE/4 NE/4 671.32 L.F. 40.69 RODS 0.462 ACRES

#### FROM SECTION 12 TO E.O.L.

BEGINNING AT A POINT WITHIN THE NE/4 NE/4 OF SAID SECTION 13, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M., WHENCE THE NORTHEAST CORNER OF SAID SECTION 13, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M. BEARS N89°27'39"E, A DISTANCE OF 867.76 FEET;

THENCE S68°36'17"W A DISTANCE OF 280.51 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S00°09'14"E A DISTANCE OF 196.54 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S76°35'21"E A DISTANCE OF 124.36 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S06°59'54"W A DISTANCE OF 185.84 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S82°43'32"W A DISTANCE OF 152.27 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S09°55'04"W A DISTANCE OF 381.45 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S64°53'53"E A DISTANCE OF 233.80 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S05°46'28"W A DISTANCE OF 175.71 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S65°41'57"W A DISTANCE OF 291.47 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S09°06'40"W A DISTANCE OF 300.15 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S10°08'13"E A DISTANCE OF 376.48 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S00°58'30"E A DISTANCE OF 346.16 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S82°03'17"E A DISTANCE OF 278.67 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S00°32'50"W A DISTANCE OF 39.69 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S89°17'06"E A DISTANCE OF 189.54 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE N00°21'24"E A DISTANCE OF 14.94 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTHEAST CORNER OF SAID SECTION 13, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M. BEARS N19°08'03"E, A DISTANCE OF 2527.66 FEET;

SAID STRIP OF LAND BEING 3567.58 FEET OR 216.22 RODS IN LENGTH, CONTAINING 2.457 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NE/4 NE/4 2062.91 L.F. 125.02 RODS 1.421 ACRES

SE/4 NE/4 1400.44 L.F. 84.88 RODS 0.964 ACRES

SW/4 NE/4 104.23 L.F. 6.32 RODS 0.072 ACRES

### SURVEYOR CERTIFICATE

I, FILIMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD,

NEW MEXICO, THIS 27 DAY OF JUNE 2018

MADRON SURVEYING, INC.  
301 SOUTH CANAL  
CARLSBAD, NEW MEXICO 88220  
Phone (575) 234-3341

### GENERAL NOTES

1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.

2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SHEET: 4-8

MADRON SURVEYING, INC.

FILIMON F. JARAMILLO, PLS 12797

301 SOUTH CANAL  
(575) 234-3341

SURVEY NO. 4817A

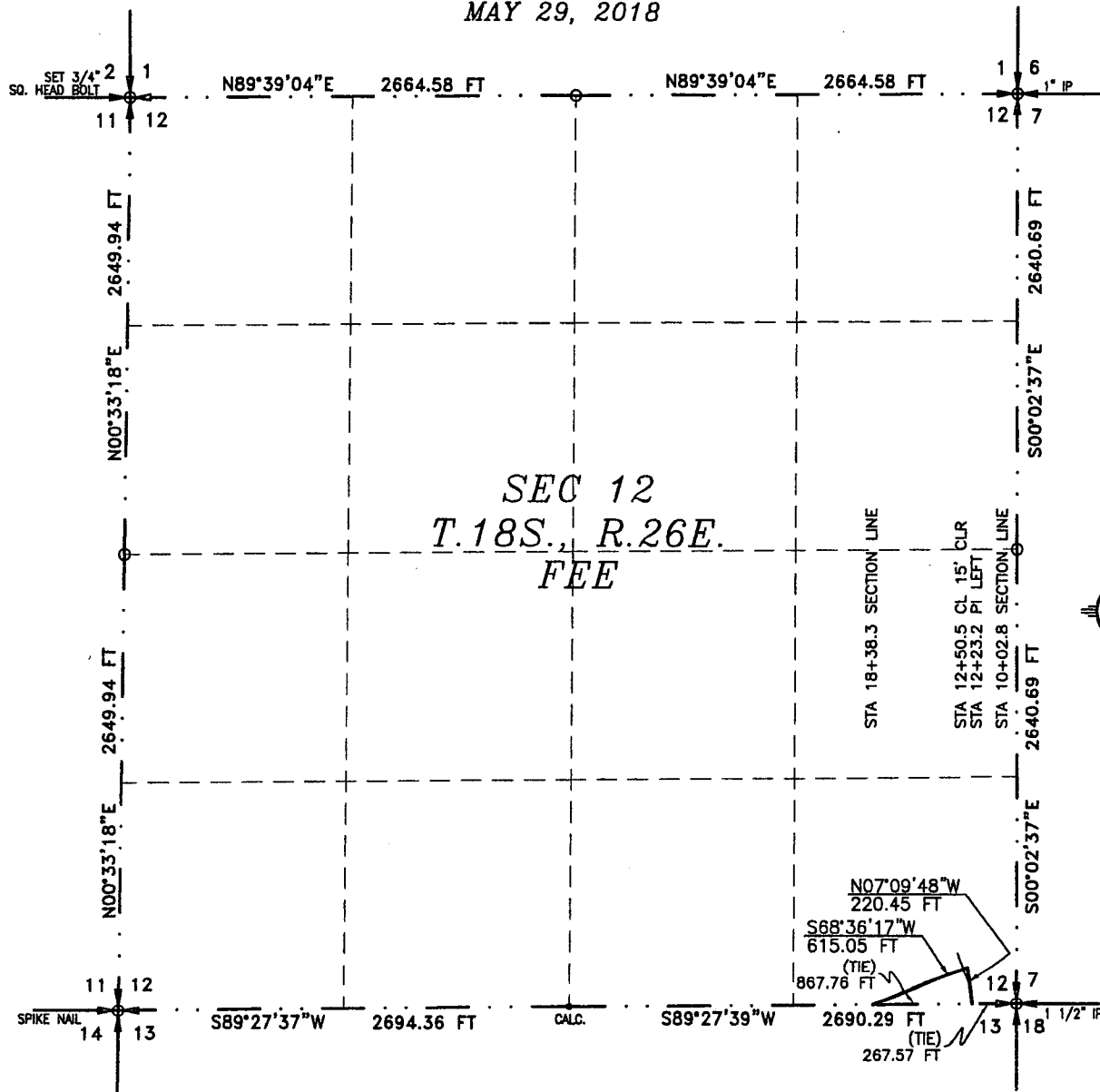
CARLSBAD, NEW MEXICO



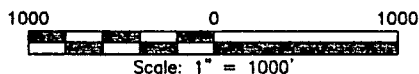
# FLOWLINE PLAT

TWO 4" SDR7 POLY PRODUCTION SURFACE LINES FROM THE LEAVITT 13 1H & 2H TO THE  
WOR SECTION 13 MAIN FACILITY

LIME ROCK RESOURCES II-A, L.P.  
CENTERLINE SURVEY OF A PIPELINE CROSSING  
SECTION 12, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M.  
EDDY COUNTY, STATE OF NEW MEXICO  
MAY 29, 2018



SEE NEXT SHEET (6-8) FOR DESCRIPTION



## GENERAL NOTES

- 1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.
- 2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

## SURVEYOR CERTIFICATE

I, FILMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS DAY OF JUNE 2018.

*(Signature of Filmon F. Jaramillo)*  
FILMON F. JARAMILLO, P.S. 12797  
301 SOUTH CANAL  
(575) 234-3341

MADRON SURVEYING, INC.  
301 SOUTH CANAL  
CARLSBAD, NEW MEXICO 88220  
Phone (575) 234-3341

SURVEY NO. 4817A

MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

SHEET: 5-8

**FLOWLINE PLAT**

**TWO 4" SDR7 POLY PRODUCTION SURFACE LINES FROM THE LEAVITT 13 1H & 2H TO THE  
WOR SECTION 13 MAIN FACILITY**

**LIME ROCK RESOURCES II-A, L.P.  
CENTERLINE SURVEY OF A PIPELINE CROSSING  
SECTION 12, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M.  
EDDY COUNTY, STATE OF NEW MEXICO  
MAY 29, 2018**

**DESCRIPTION**

A STRIP OF LAND 30 FEET WIDE CROSSING FEE LAND IN SECTION 12, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M., EDDY COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

BEGINNING AT A POINT WITHIN THE SE/4 SE/4 OF SAID SECTION 12, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M., WHENCE THE SOUTHEAST CORNER OF SAID SECTION 12, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M. BEARS N89°27'39"E, A DISTANCE OF 267.57 FEET;

THENCE N07°09'48"W A DISTANCE OF 220.45 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S68°36'17"W A DISTANCE OF 615.05 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE SOUTHEAST CORNER OF SAID SECTION 12, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M. BEARS N89°27'39"E, A DISTANCE OF 867.76 FEET;

SAID STRIP OF LAND BEING 835.50 FEET OR 50.64 RODS IN LENGTH, CONTAINING 0.575 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

SE/4 SE/4 835.50 L.F. 50.64 RODS 0.575 ACRES

**SURVEYOR CERTIFICATE**

I, FILMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 27<sup>TH</sup> DAY OF JUNE 2018

  
FILMON F. JARAMILLO, PLS. 12797

MADRON SURVEYING, INC.  
301 SOUTH CANAL  
CARLSBAD, NEW MEXICO 88220  
Phone (575) 234-3341

**GENERAL NOTES**

1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.

2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

**SHEET: 6-8**

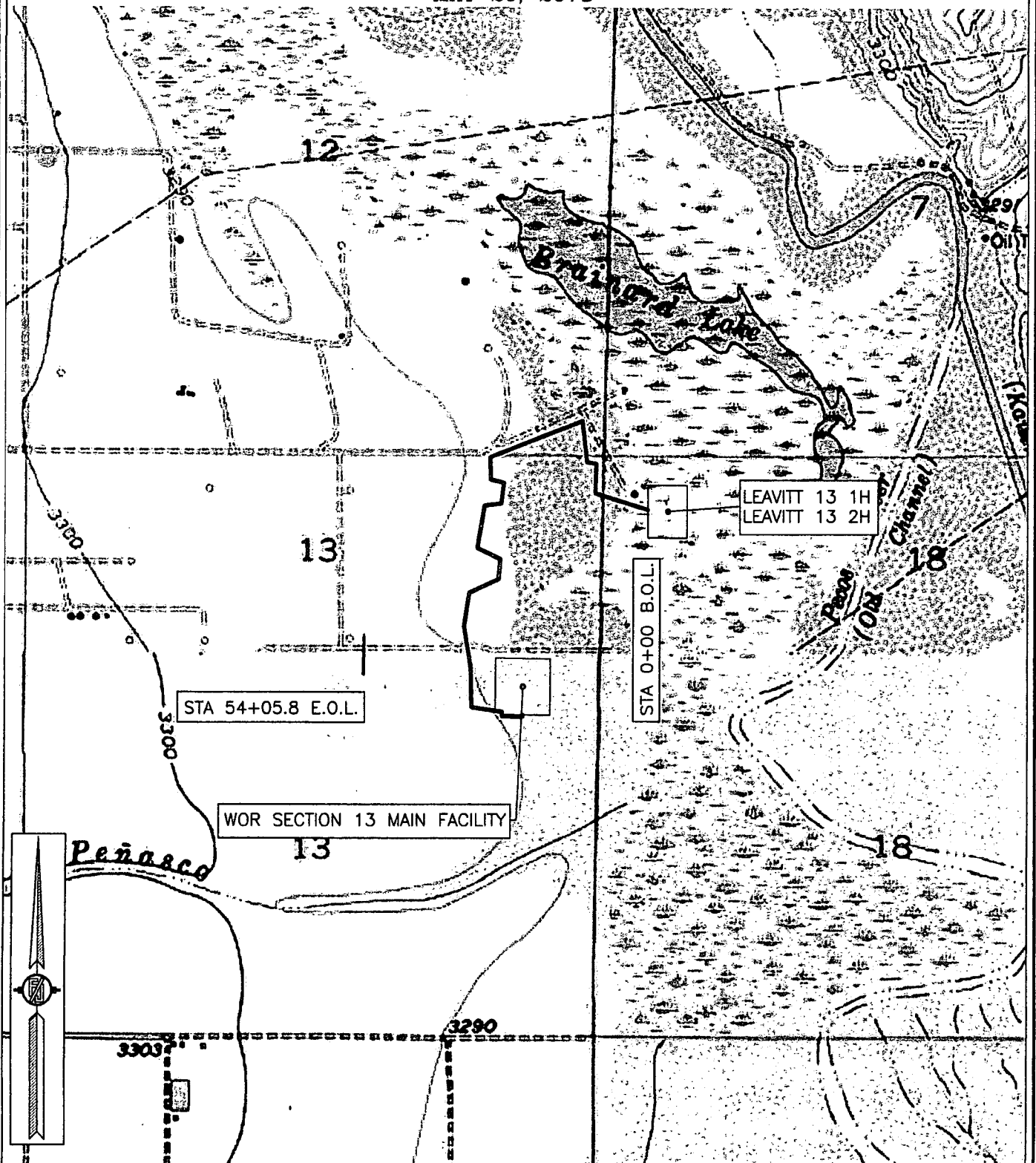
**MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO**

**SURVEY NO. 4817A**

# FLOWLINE PLAT

TWO 4" SDR7 POLY PRODUCTION SURFACE LINES FROM THE LEAVITT 13 1H & 2H TO THE  
WOR SECTION 13 MAIN FACILITY

LIME ROCK RESOURCES II-A, L.P.  
CENTERLINE SURVEY OF A PIPELINE CROSSING  
SECTION 18, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M.  
SECTIONS 13, 12, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M.  
EDDY COUNTY, STATE OF NEW MEXICO  
MAY 29, 2018



SHEET: 7-8

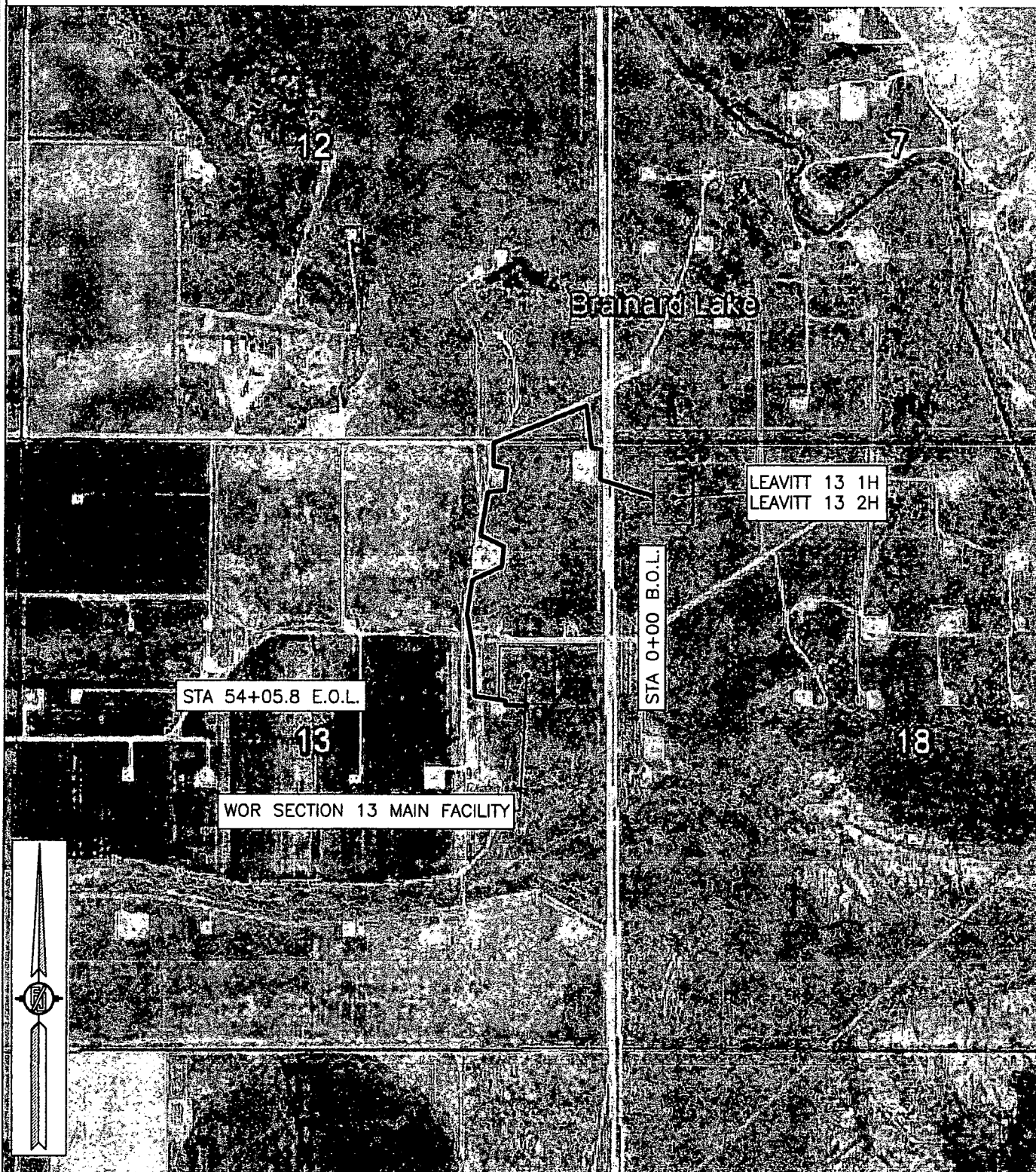
SURVEY NO. 4817A

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

# FLOWLINE PLAT

TWO 4" SDR7 POLY PRODUCTION SURFACE LINES FROM THE LEAVITT 13 1H & 2H TO THE  
WOR SECTION 13 MAIN FACILITY

LIME ROCK RESOURCES II-A, L.P.  
CENTERLINE SURVEY OF A PIPELINE CROSSING  
SECTION 18, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M.  
SECTIONS 13, 12, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M.  
EDDY COUNTY, STATE OF NEW MEXICO  
MAY 29, 2018



SHEET: 8-8

SURVEY NO. 4817A

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

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

**Leavitt 13 #1H  
660' FNL, 500' FWL  
(D) 18-18S-27E  
Eddy County, NM**

1. The elevation of the unprepared ground is 3287.5 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 8897' MD/3450' TVD and run casing. This equipment will be run down and the well will be completed with a workover rig
4. Well will be drilled to a total proposed depth of 8897' MD/3450' TVD. The KOP for horizontal drilling is at 2,743'. See directional plan for details.

5. Estimated tops of geologic markers:

	MD	TVD
Quaternary – Alluvium	Surface	Surface
Yates	NA	NA
7 Rivers	NA	NA
Queen	400	400
Grayburg	637	637
Premier	906	906
San Andres	946	946
Glorieta	2406	2305
Yeso	2496	2395
Tubb	NA	NA
TD	8897	3450

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	637	637
Premier	906	906
San Andres	946	946
Glorieta	2406	2305
Yeso	2496	2395
Tubb	NA	NA
TD	8897	3450

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	40	40			Ready Mix
Surface	12-1/4"	9-5/8"	36	J-55	ST&C	1230	600	14.8	1.35	Cl C Cmt + 0.25 lbs/sk Cello Flake + 2% CaCl <sub>2</sub>
Intermediate										
Production	8-3/4"	7"	29	HCL-80	BT&C	3700	295	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
		5-1/2"	20	L-80	LT&C	8897	980	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	0-1230	1230-7850	7850-8897
Mud Type	Fresh Water Mud	Brine, Salt Gel, & Starch	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** No Electric logs, MWD GR

**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 H<sub>2</sub>S in this H<sub>2</sub>S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. personnel will be familiar with all aspects of safe operation of equipment being used to drill this well Estimated BHP 1,518 psi based on 0.44 x TVD. The estimated BHT is 127 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 15 days. An additional 14 days will be needed to complete well and to construct surface facilities.



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MAY 06 2019

DISTRICT II-ARTESIA O.C.D.

# **Lime Rock Resources**

**Eddy County, NM  
SEC 18 T18S R27E  
Leavitt 13-1H**

**Original Wellbore**

**Plan: Plan 2**

## **Standard Planning Report**

**24 April, 2019**

# Planning Report

Database:	EDM Server Database	Local Co-ordinate Reference:	Well Leavitt 13-1H
Company:	Lime Rock Resources	TVD Reference:	KB @ 3304.9usft
Project:	Eddy County, NM	MD Reference:	KB @ 3304.9usft
Site:	SEC 18 T18S R27E	North Reference:	Grid
Well:	Leavitt 13-1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	Plan 2		

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

Site:	SEC 18 T18S R27E		
Site Position:		Northing:	637,839.89 usft
From:	Lat/Long	Easting:	543,939.97 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 45' 12.448 N
		Longitude:	104° 19' 29.525 W
		Grid Convergence:	0.00 °

Well	Leavitt 13-1H					
Well Position	+N-S	0.0 usft	Northing:	637,839.89 usft	Latitude:	32° 45' 12.448 N
	+E-W	0.0 usft	Easting:	543,939.96 usft	Longitude:	104° 19' 29.525 W
Position Uncertainty	0.0 usft	Wellhead Elevation:		Ground Level:	3,287.4 usft	

Wellbore	Original Wellbore				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	4/30/2019	7.14	60.40	47,978.91447623

Design	Plan 2			
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	268.41

Plan Survey Tool Program	Date	4/24/2019		
Depth From	Depth To	Survey (Wellbore)	Tool Name	Remarks
(usft)	(usft)			
1	0.0	8,897.4 Plan 2 (Original Wellbore)	MWD	
			OWSG MWD - Standard	

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(usft)	(usft)	Rate	Rate	Rate	(°)	
(usft)			(usft)			(°/100usft)	(°/100usft)	(°/100usft)		
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,742.9	0.00	0.00	2,742.9	0.0	0.0	0.00	0.00	0.00	0.00	
3,342.9	60.00	255.50	3,239.1	-71.7	-277.4	10.00	10.00	0.00	255.50	
3,592.9	60.00	255.50	3,364.1	-125.9	-487.0	0.00	0.00	0.00	0.00	
3,926.6	90.00	270.84	3,450.0	-160.7	-802.6	10.00	8.99	4.60	28.75	
4,010.5	90.00	270.00	3,450.0	-160.0	-886.5	1.00	0.00	-1.00	-90.04	
8,897.4	90.00	270.00	3,450.0	-160.0	-5,773.5	0.00	0.00	0.00	0.00	Leavitt 13-1H

# Planning Report

Database:	EDM Server Database	Local Co-ordinate Reference:	Well Leavitt 13-1H
Company:	Lime Rock Resources	TVD Reference:	KB @ 3304.9usft
Project:	Eddy County, NM	MD Reference:	KB @ 3304.9usft
Site:	SEC 18 T18S R27E	North Reference:	Grid
Well:	Leavitt 13-1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	Plan 2		

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
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
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
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
1,230.0	0.00	0.00	1,230.0	0.0	0.0	0.0	0.00	0.00	0.00
9-5/8" - Surface									
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
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
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,742.9	0.00	0.00	2,742.9	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start 10°/100' Build									
2,800.0	5.71	255.50	2,799.9	-0.7	-2.8	2.8	10.00	10.00	0.00
2,900.0	15.71	255.50	2,898.0	-5.4	-20.7	20.9	10.00	10.00	0.00
3,000.0	25.71	255.50	2,991.5	-14.2	-54.9	55.3	10.00	10.00	0.00
3,100.0	35.71	255.50	3,077.3	-27.0	-104.3	105.0	10.00	10.00	0.00
3,200.0	45.71	255.50	3,153.0	-43.3	-167.4	168.5	10.00	10.00	0.00
3,300.0	55.71	255.50	3,216.3	-62.6	-242.2	243.8	10.00	10.00	0.00
3,342.9	60.00	255.50	3,239.1	-71.7	-277.4	279.2	10.00	10.00	0.00
Begin 60° Tangent									
3,400.0	60.00	255.50	3,267.6	-84.1	-325.2	327.4	0.00	0.00	0.00
3,500.0	60.00	255.50	3,317.6	-105.8	-409.1	411.8	0.00	0.00	0.00
3,592.9	60.00	255.50	3,364.1	-125.9	-487.0	490.3	0.00	0.00	0.00
KOP - Start 10°/100' Build									
3,600.0	60.62	255.89	3,367.6	-127.5	-492.9	496.3	10.00	8.78	5.52
3,700.0	69.50	260.98	3,409.8	-145.5	-581.7	585.5	10.00	8.88	5.08
3,720.0	71.29	261.91	3,416.5	-148.3	-600.3	604.2	10.00	8.97	4.69
FTP - 100' FEL									
3,800.0	78.51	265.50	3,437.3	-156.7	-677.0	681.1	10.00	9.02	4.48
3,900.0	87.59	269.73	3,449.4	-160.8	-776.1	780.2	10.00	9.07	4.24
3,926.6	90.00	270.84	3,450.0	-160.7	-802.7	806.8	9.99	9.08	4.16
EOC									
4,000.0	90.00	270.11	3,450.0	-160.0	-876.1	880.2	1.00	0.00	-1.00

# Planning Report

Database:	EDM Server Database	Local Co-ordinate Reference:	Well Leavitt 13-1H
Company:	Lime Rock Resources	TVD Reference:	KB @ 3304.9usft
Project:	Eddy County, NM	MD Reference:	KB @ 3304.9usft
Site:	SEC 18 T18S R27E	North Reference:	Grid
Well:	Leavitt 13-1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	Plan 2		

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)
4,010.5	90.00	270.00	3,450.0	-160.0	-886.5	890.6	1.00	0.00	-1.00
4,100.0	90.00	270.00	3,450.0	-160.0	-976.1	980.1	0.00	0.00	0.00
4,200.0	90.00	270.00	3,450.0	-160.0	-1,076.1	1,080.1	0.00	0.00	0.00
4,300.0	90.00	270.00	3,450.0	-160.0	-1,176.1	1,180.0	0.00	0.00	0.00
4,400.0	90.00	270.00	3,450.0	-160.0	-1,276.1	1,280.0	0.00	0.00	0.00
4,500.0	90.00	270.00	3,450.0	-160.0	-1,376.1	1,380.0	0.00	0.00	0.00
4,600.0	90.00	270.00	3,450.0	-160.0	-1,476.1	1,479.9	0.00	0.00	0.00
4,700.0	90.00	270.00	3,450.0	-160.0	-1,576.1	1,579.9	0.00	0.00	0.00
4,800.0	90.00	270.00	3,450.0	-160.0	-1,676.1	1,679.9	0.00	0.00	0.00
4,900.0	90.00	270.00	3,450.0	-160.0	-1,776.1	1,779.8	0.00	0.00	0.00
5,000.0	90.00	270.00	3,450.0	-160.0	-1,876.1	1,879.8	0.00	0.00	0.00
5,100.0	90.00	270.00	3,450.0	-160.0	-1,976.1	1,979.7	0.00	0.00	0.00
5,200.0	90.00	270.00	3,450.0	-160.0	-2,076.1	2,079.7	0.00	0.00	0.00
5,300.0	90.00	270.00	3,450.0	-160.0	-2,176.1	2,179.7	0.00	0.00	0.00
5,400.0	90.00	270.00	3,450.0	-160.0	-2,276.1	2,279.6	0.00	0.00	0.00
5,500.0	90.00	270.00	3,450.0	-160.0	-2,376.1	2,379.6	0.00	0.00	0.00
5,600.0	90.00	270.00	3,450.0	-160.0	-2,476.1	2,479.5	0.00	0.00	0.00
5,700.0	90.00	270.00	3,450.0	-160.0	-2,576.1	2,579.5	0.00	0.00	0.00
5,800.0	90.00	270.00	3,450.0	-160.0	-2,676.1	2,679.5	0.00	0.00	0.00
5,900.0	90.00	270.00	3,450.0	-160.0	-2,776.1	2,779.4	0.00	0.00	0.00
6,000.0	90.00	270.00	3,450.0	-160.0	-2,876.1	2,879.4	0.00	0.00	0.00
6,100.0	90.00	270.00	3,450.0	-160.0	-2,976.1	2,979.4	0.00	0.00	0.00
6,200.0	90.00	270.00	3,450.0	-160.0	-3,076.1	3,079.3	0.00	0.00	0.00
6,300.0	90.00	270.00	3,450.0	-160.0	-3,176.1	3,179.3	0.00	0.00	0.00
6,400.0	90.00	270.00	3,450.0	-160.0	-3,276.1	3,279.2	0.00	0.00	0.00
6,500.0	90.00	270.00	3,450.0	-160.0	-3,376.1	3,379.2	0.00	0.00	0.00
6,600.0	90.00	270.00	3,450.0	-160.0	-3,476.1	3,479.2	0.00	0.00	0.00
6,700.0	90.00	270.00	3,450.0	-160.0	-3,576.1	3,579.1	0.00	0.00	0.00
6,800.0	90.00	270.00	3,450.0	-160.0	-3,676.1	3,679.1	0.00	0.00	0.00
6,900.0	90.00	270.00	3,450.0	-160.0	-3,776.1	3,779.0	0.00	0.00	0.00
7,000.0	90.00	270.00	3,450.0	-160.0	-3,876.1	3,879.0	0.00	0.00	0.00
7,100.0	90.00	270.00	3,450.0	-160.0	-3,976.1	3,979.0	0.00	0.00	0.00
7,200.0	90.00	270.00	3,450.0	-160.0	-4,076.1	4,078.9	0.00	0.00	0.00
7,300.0	90.00	270.00	3,450.0	-160.0	-4,176.1	4,178.9	0.00	0.00	0.00
7,400.0	90.00	270.00	3,450.0	-160.0	-4,276.1	4,278.9	0.00	0.00	0.00
7,500.0	90.00	270.00	3,450.0	-160.0	-4,376.1	4,378.8	0.00	0.00	0.00
7,600.0	90.00	270.00	3,450.0	-160.0	-4,476.1	4,478.8	0.00	0.00	0.00
7,700.0	90.00	270.00	3,450.0	-160.0	-4,576.1	4,578.7	0.00	0.00	0.00
7,800.0	90.00	270.00	3,450.0	-160.0	-4,676.1	4,678.7	0.00	0.00	0.00
7,900.0	90.00	270.00	3,450.0	-160.0	-4,776.1	4,778.7	0.00	0.00	0.00
8,000.0	90.00	270.00	3,450.0	-160.0	-4,876.1	4,878.6	0.00	0.00	0.00
Production									
8,100.0	90.00	270.00	3,450.0	-160.0	-4,976.1	4,978.6	0.00	0.00	0.00
8,200.0	90.00	270.00	3,450.0	-160.0	-5,076.1	5,078.5	0.00	0.00	0.00
8,300.0	90.00	270.00	3,450.0	-160.0	-5,176.1	5,178.5	0.00	0.00	0.00
8,400.0	90.00	270.00	3,450.0	-160.0	-5,276.1	5,278.5	0.00	0.00	0.00
8,500.0	90.00	270.00	3,450.0	-160.0	-5,376.1	5,378.4	0.00	0.00	0.00
8,600.0	90.00	270.00	3,450.0	-160.0	-5,476.1	5,478.4	0.00	0.00	0.00
8,700.0	90.00	270.00	3,450.0	-160.0	-5,576.1	5,578.4	0.00	0.00	0.00
8,800.0	90.00	270.00	3,450.0	-160.0	-5,676.1	5,678.3	0.00	0.00	0.00
8,897.4	90.00	270.00	3,450.0	-160.0	-5,773.5	5,775.7	0.00	0.00	0.00
PBHL									

# Planning Report

Database:	EDM Server Database	Local Co-ordinate Reference:	Well Leavitt 13-1H
Company:	Lime Rock Resources	TVD Reference:	KB @ 3304.9usft
Project:	Eddy County, NM	MD Reference:	KB @ 3304.9usft
Site:	SEC 18 T18S R27E	North Reference:	Grid
Well:	Leavitt 13-1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	Plan 2		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
Leavitt 13-1H	0.00	360.00	3,450.0	-160.0	-5,773.5	637,679.88	538,166.46	32° 45' 10.864 N	104° 20' 37.133 W
- plan hits target center									
- Point									

Casing Points					
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter	
(usft)	(usft)		(")	(")	
1,230.0	1,230.0	Surface	9-5/8	9-5/8	
8,000.0	3,450.0	Production	5-1/2	5-1/2	

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)		
1,230.0	1,230.0	0.0	0.0	9-5/8"	
2,742.9	2,742.9	0.0	0.0	KOP - Start 10°/100' Build	
3,342.9	3,239.1	-71.7	-277.4	Begin 60° Tangent	
3,592.9	3,364.1	-125.9	-487.0	KOP - Start 10°/100' Build	
3,720.0	3,416.5	-148.3	-600.3	FTP - 100' FEL	
3,926.6	3,450.0	-160.7	-802.7	EOC	
8,897.4	3,450.0	-160.0	-5,773.5	PBHL	



# LIME ROCK

Project: Eddy County, NM  
Site: SEC 18 T18S R27E  
Well: Leavitt 13-1H  
Wellbore: Original Wellbore  
Design: Plan 2

## Reference Details

Geodetic System: US State Plane 1983  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Latitude: 32° 45' 12.448 N  
Longitude: 104° 19' 29.525 W  
Grid Convergence: 0.00° West  
Ground Elevation: 3287.4  
KB Elevation: KB @ 3304.9usft



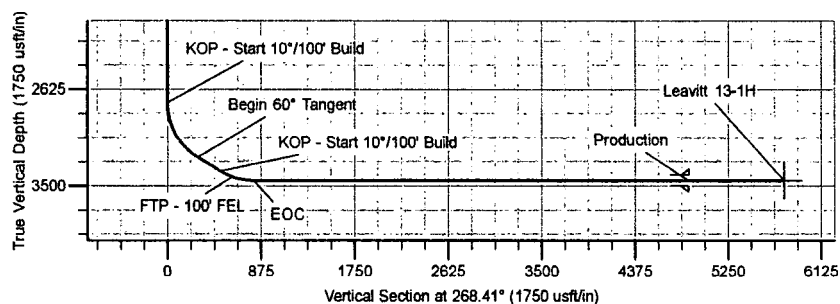
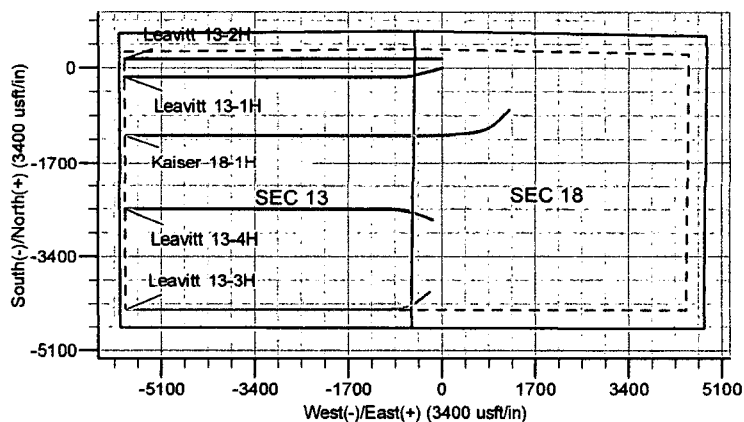
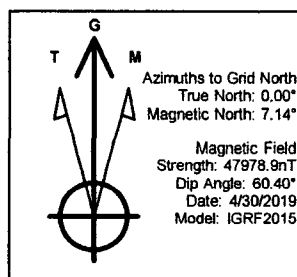
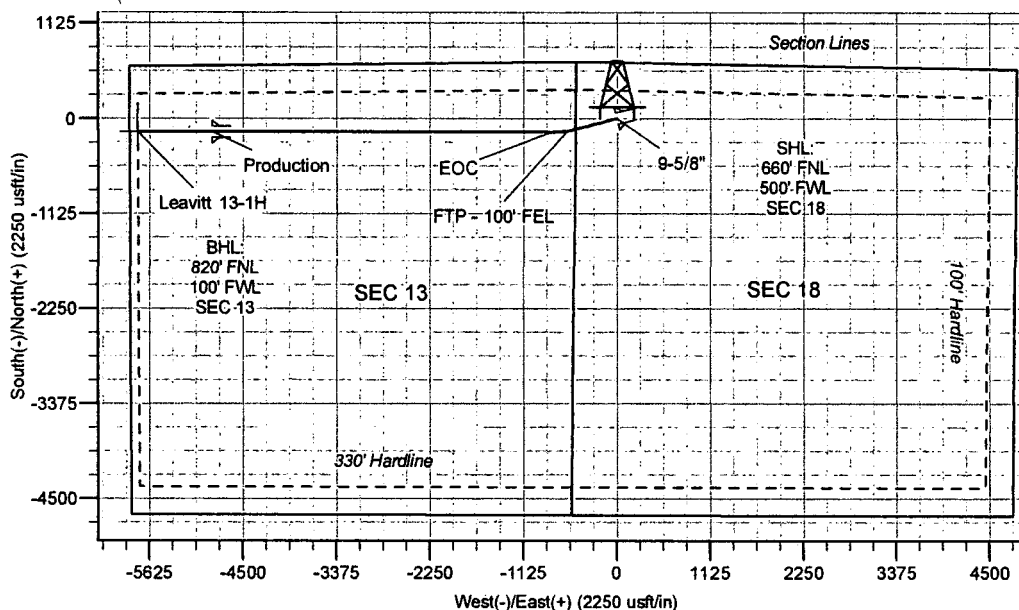
RPM Consulting, Inc.  
1600 Broadway, Suite 1610  
Denver, CO 80013  
303-595-7625

## SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
2742.9	0.00	0.00	2742.9	0.0	0.0	0.00	0.00	0.0
3342.9	60.00	255.50	3239.1	-71.7	-277.4	10.00	255.50	279.2
3592.9	60.00	255.50	3364.1	-125.9	-487.0	0.00	0.00	490.3
3926.6	90.00	270.84	3450.0	-160.7	-802.6	10.00	28.75	806.8
4010.5	90.00	270.00	3450.0	-160.0	-886.5	1.00	-90.04	890.6
8897.4	90.00	270.00	3450.0	-160.0	-5773.5	0.00	0.00	5775.7

## CASING DETAILS

TVD	MD	Name	Size
1230.0	1230.0	Surface	9-5/8
3450.0	8000.0	Production	5-1/2





## **Hydrogen Sulfide Drilling Plan Summary**

A. All personnel shall receive proper H<sub>2</sub>S 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/Escape packs — 4 packs shall be stored on the rig floor and contain sufficiently long air hoses as to not to 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

■ H<sub>2</sub>S 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 H<sub>2</sub>S circulated to surface. The operator will have the necessary mud products to minimize hazards while drilling in H<sub>2</sub>S 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 H<sub>2</sub>S service.
- b. All elastomers used for packing and seals shall be H<sub>2</sub>S 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

### KEY PERSONNEL

NAME	TITLE	LOCATION	OFFICE #	CELL #	HOME #
Frank Falleri	Production Manager	Houston	713-360-5714	713-817-8275	Same as Cell
Frank Falleri	Operations Engineer	Houston	713-360-5714	713-817-8275	Same as Cell
Jerry Smith	Assistant Production Supervisor	Artesia	575-748-9724	505-918-0556	575-746-2478
Michael Barrett	Production Supervisor	Artesia	575-623-8424	505-353-2644	575-623-4707
Dave Williamson	Well Site Supervisor	Rotates on Site	NA	575-308-9980	NA
Bob Cramer	Well Site Supervisor	Rotates on Site	NA	405-365-2727	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**

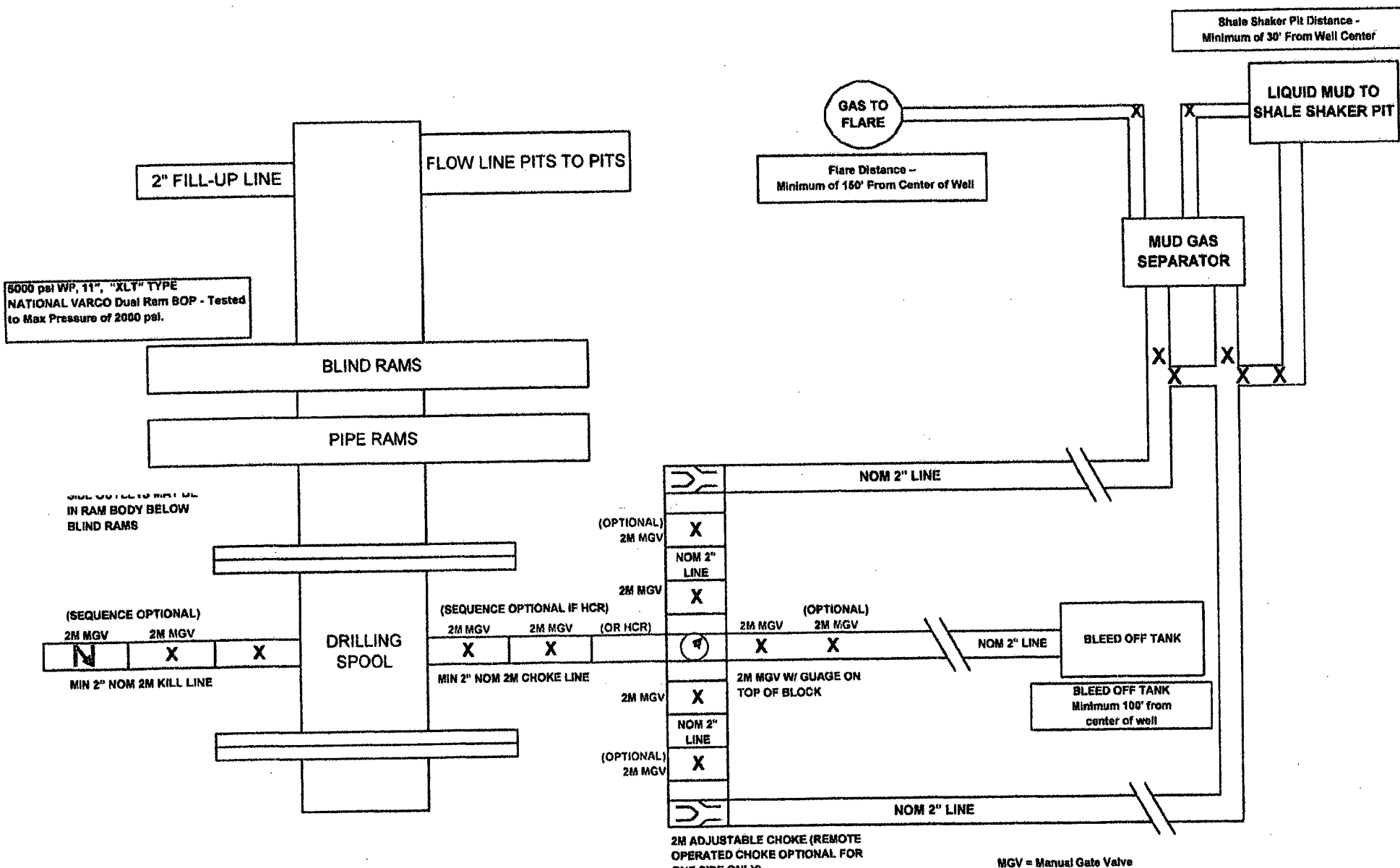
The blowout preventer equipment (BOP) will consist of a 5000 psi rated, "XLT" type, National VARCO double ram preventer that will be tested to a maximum pressure of 2000 psi. The unit will be hydraulically operated and the ram type preventer will be equipped with blind rams on top and drill pipe rams on bottom. The 2M BOP will be installed on the 9 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 BOP 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.**

## **Leavitt 13 #1H**

### **Unit D, Sec. 18 T18S-R27E, 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.

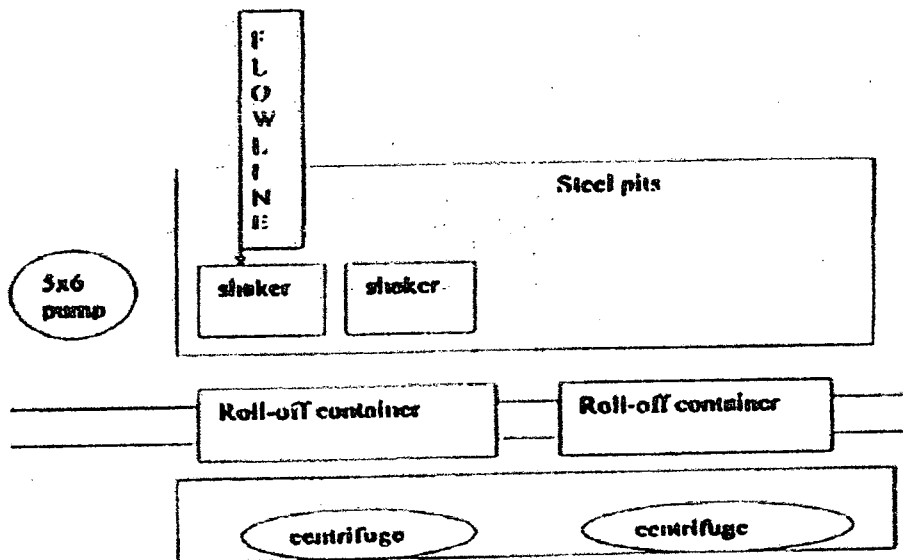
- 2- (250 bbl) tanks to hold fluid
- 2-CRI bins with track system
- 2-500 bbl frac tanks with fresh water
- 2-500 bbl frac tanks for brine water

#### **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**



**CLOSED LOOP  
SPECIALTY**

Office: 575.746.1659

Cells 575.748.6367