

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
 1220 South St. Francis Dr.

Santa Fe, NM 87505

JAN 08 2019

☐ AMENDED Report

DISTRICT ARTESIA O.C.D.

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- 45594
		Well No #4H

7 Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
L	18	18S	27E		1965	S	370	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
L	13	18S	26E		2140	S	100	W	Eddy

9 Pool Information

Red Lake; Glorieta-Yeso	51120
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Additional Well Information

Work Type N	Well Type O	Cable/ Rotary R	Lense Type P	Ground Level Elevation 3293.2
Multiple N	Proposed Depth 8000' MD / 2975' TVD	Formation Yeso	Contractor Trinidad Drilling	Spud Date After 2/1/2019
Depth to Ground Water: 80 Ft.		Distance from nearest fresh water well: 80 Miles		Distance from nearest surface water: 0.38 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	12.25"	9-5/8"	36	1230	600	Surface
Production	8 3/4"	5-1/2"	20	8000	2300	Surface

Casing/Cement Program: Additional Comments

Artesian Aquifer Porosity 1160'-1170'

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 I have complied with 19.15.14.9 (A) NMAC ☐ and/or 19.15.14.9 (B) NMAC 0, if applicable. ☒

Signature: *Eric McClusky*
 Printed Name: Eric McClusky

Title: Operations Engineer

E-mail Address: emcclusky@limerockresources.com

Date: 12/31/2018

Phone: 713-360-5714

OIL CONSERVATION DIVISION

Approved By:

Raymond H. Godang

Title: Geologist

Approved Date: 1-9-19

Expiration Date: 1-9-21

Conditions of Approval Attached

JAN. 08. 2019

Form C-102

Revised August 1, 2011

Submit one copy to appropriate

District Office

☐ AMENDED REPORT

District IV
1625 N. French Dr., Hobbs, NM 87401
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
511 S. First St., Artesia, NM 88210
Phone: (575) 748-1293 Fax: (575) 748-9729
1507 Rio Grande, Reed, Aztec, NM 87410
Phone: (505) 534-0176 Fax: (505) 534-0170
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 & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number 30-015-45594		2 Pool Code 51120		3 Pool Name Red Lake; Glaviera - YESO	
4 Property Code 316765		5 Property Name LEAVITT 13			6 Well Number 4H
7 OGRID No. 277558		8 Operator Name LIME ROCK RESOURCES II-A, L.P.			9 Elevation 3293.2

" Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
3	18	18 S	27 E		1965	SOUTH	370	WEST	EDDY

" Bottom Hole Location If Different From Surface

UL or lot no. L	Section 13	Township 18 S	Range 26 E	Lot Idn	Feet from the 2140	North/South line SOUTH	Feet from the 100	East/West line WEST	County EDDY
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13 Dedicated Acres 160	14 Joint or Infill	15 Consolidation Code	16 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.

" 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 is to be used in connection with 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 district.

Signature: Eric P. McCloskey Date: 12/31/18

Printed Name: Eric McCloskey

E-mail Address: emccloskey@lineworkresources.com

" 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.

DECEMBER 19, 2018

Date of Survey: _____

Signature of Registered Professional Surveyor: [Signature]

Certificate Number: ELIJAH F. JARAMILLO PLS 12797

SURV NO 6387

RW 1-9-19

RECEIVED

Intent ☐ As Drilled ☐

JAN. 08 2019

API #

Operator Name:

Property Name:

DISTRICT 14 ARTESIA O.C.D.

Well Number

LIME ROCK RESOURCES II-A, L.P.

LEAVITT 13

4H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
	18	18S	27E	3	1965	SOUTH	370	WEST	EDDY
Latitude					Longitude				NAD
32.7459504					104.3253971				83

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
	18 17	18S	27E	3	2140	SOUTH	400	WEST	EDDY
Latitude					Longitude				NAD
32.7464310					104.3252928				83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
L	13	18S	26E		2140	SOUTH	100	WEST	EDDY
Latitude					Longitude				NAD
32.7464649					104.3435971				83

Is this well the defining well for the Horizontal Spacing Unit? ☐Is this well an infill well? ☐

If Infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #

Operator Name:

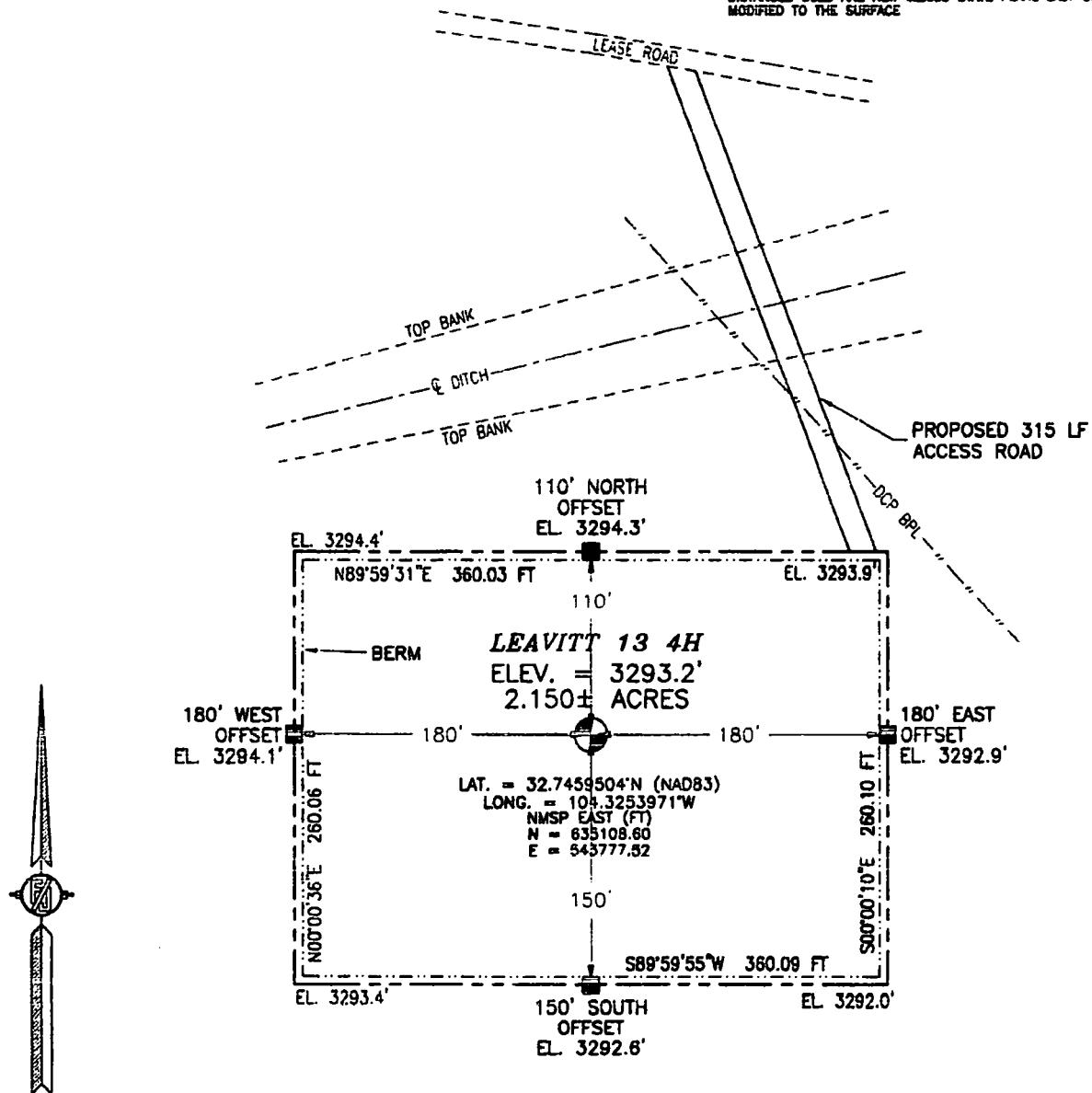
Property Name:

Well Number

KZ 06/29/2018

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



010 50 100 200
SCALE 1" = 100'

DIRECTIONS TO LOCATION

FROM CR 39 (FOUR DINKUS) AND CR 44 (FANNING) AND CALICHE ROAD GO EAST ON CALICHE ROAD 1.0 MILE, TURN RIGHT AND GO SOUTH 0.35 OF A MILE, TURN LEFT AND GO EAST 0.3 OF A MILE, TURN RIGHT AND GO SOUTH 0.2 OF A MILE, BEND LEFT AND GO SOUTHEAST 260' TO A ROAD SURVEY AND FOLLOW FLAGS SOUTH-SOUTHEAST 315' TO THE NORTHEAST PAD CORNER FOR THIS LOCATION.

LIME ROCK RESOURCES II-A, L.P.
LEAVITT 13 4H
LOCATED 1965 FT. FROM THE SOUTH LINE
AND 370 FT. FROM THE WEST LINE OF
SECTION 18, TOWNSHIP 18 SOUTH,
RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

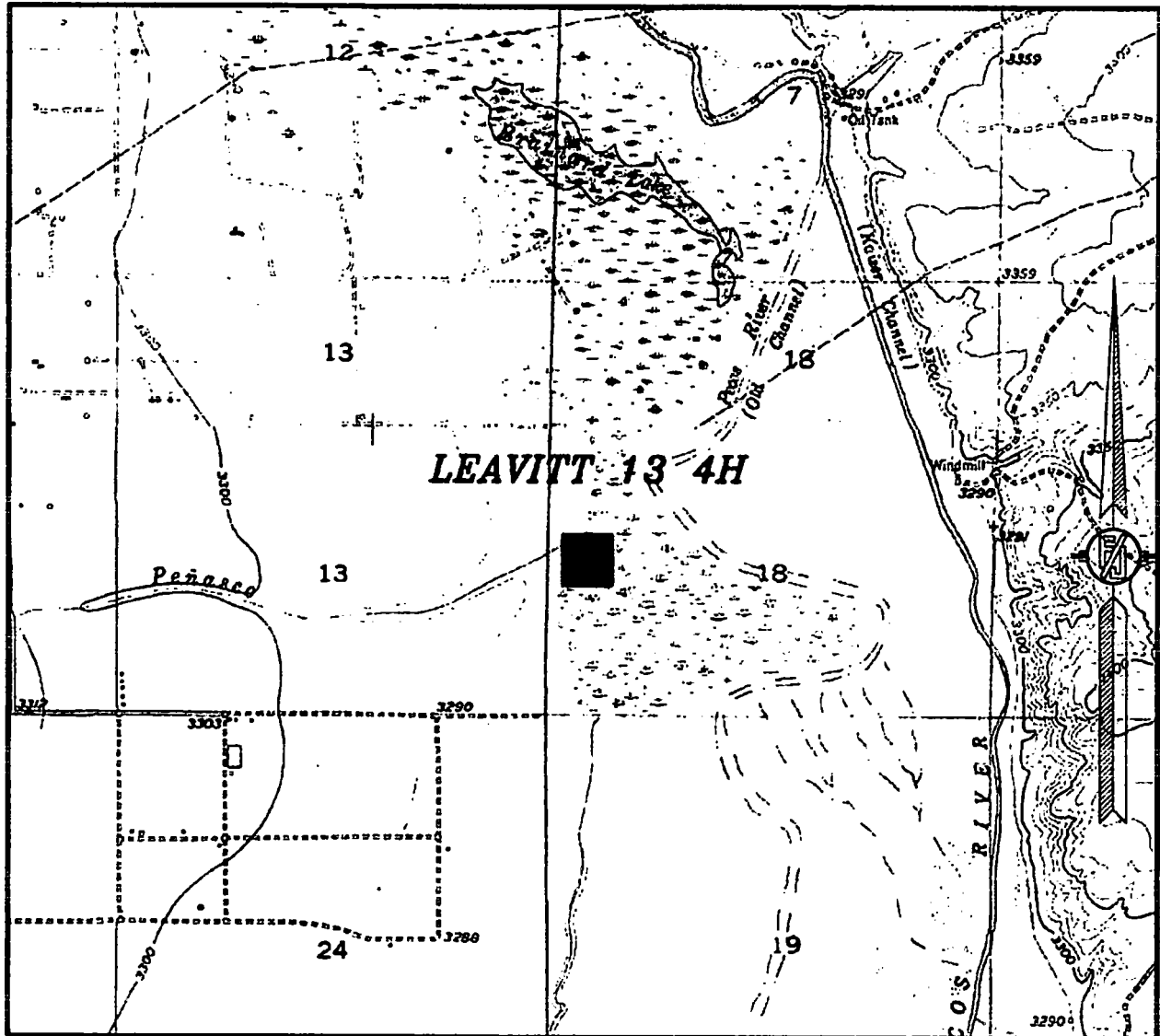
DECEMBER 19, 2018

SURVEY NO. 6787

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

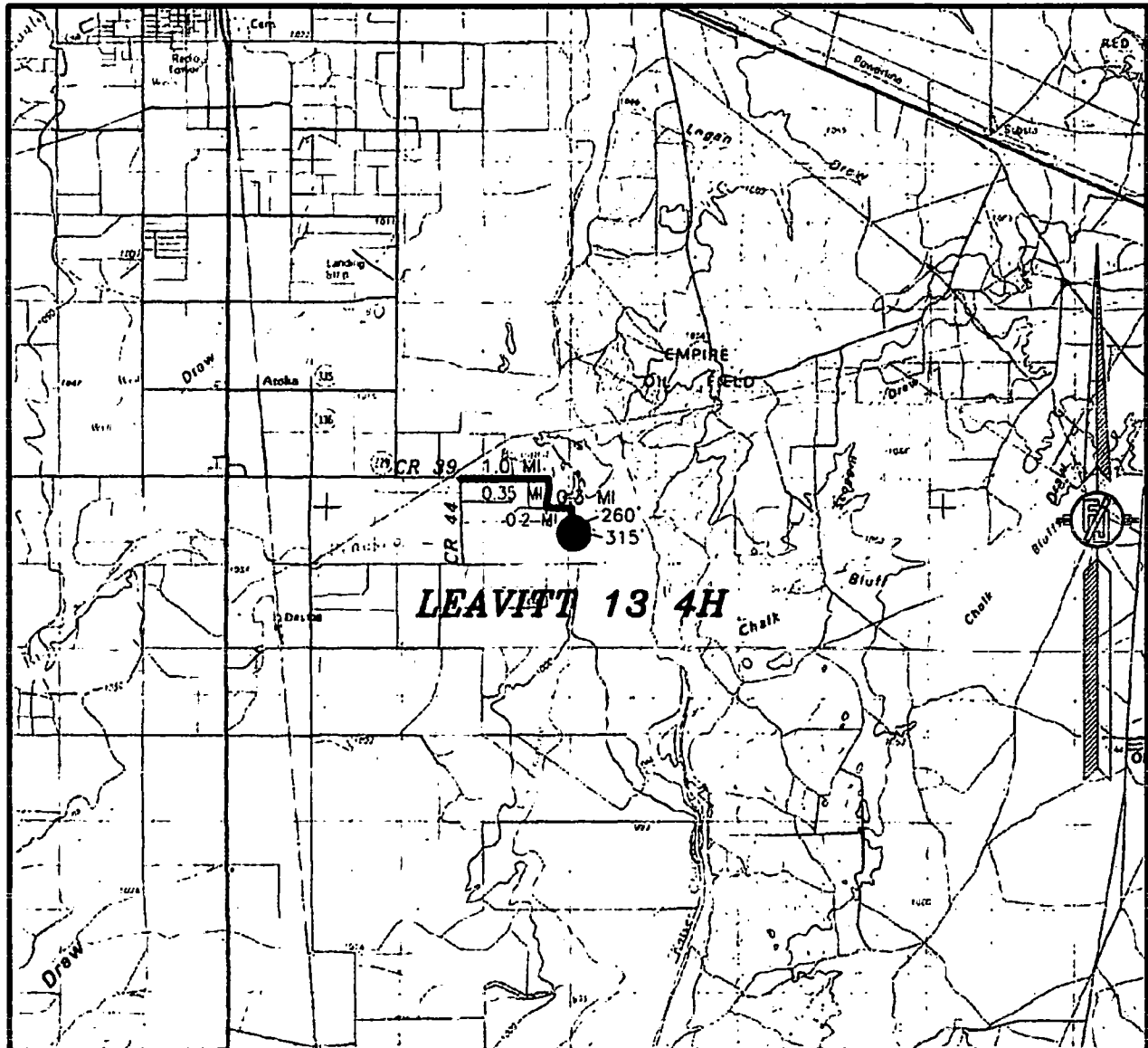
LIME ROCK RESOURCES II-A, L.P.
LEAVITT 13 4H
LOCATED 1965 FT. FROM THE SOUTH LINE
AND 370 FT. FROM THE WEST LINE OF
SECTION 18, TOWNSHIP 18 SOUTH,
RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

DECEMBER 19, 2018

SURVEY NO. 6787

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
VICINITY MAP



DISTANCES IN MILES

NOT TO SCALE

LIME ROCK RESOURCES II-A, L.P.
LEAVITT 13 4H
LOCATED 1965 FT. FROM THE SOUTH LINE
AND 370 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

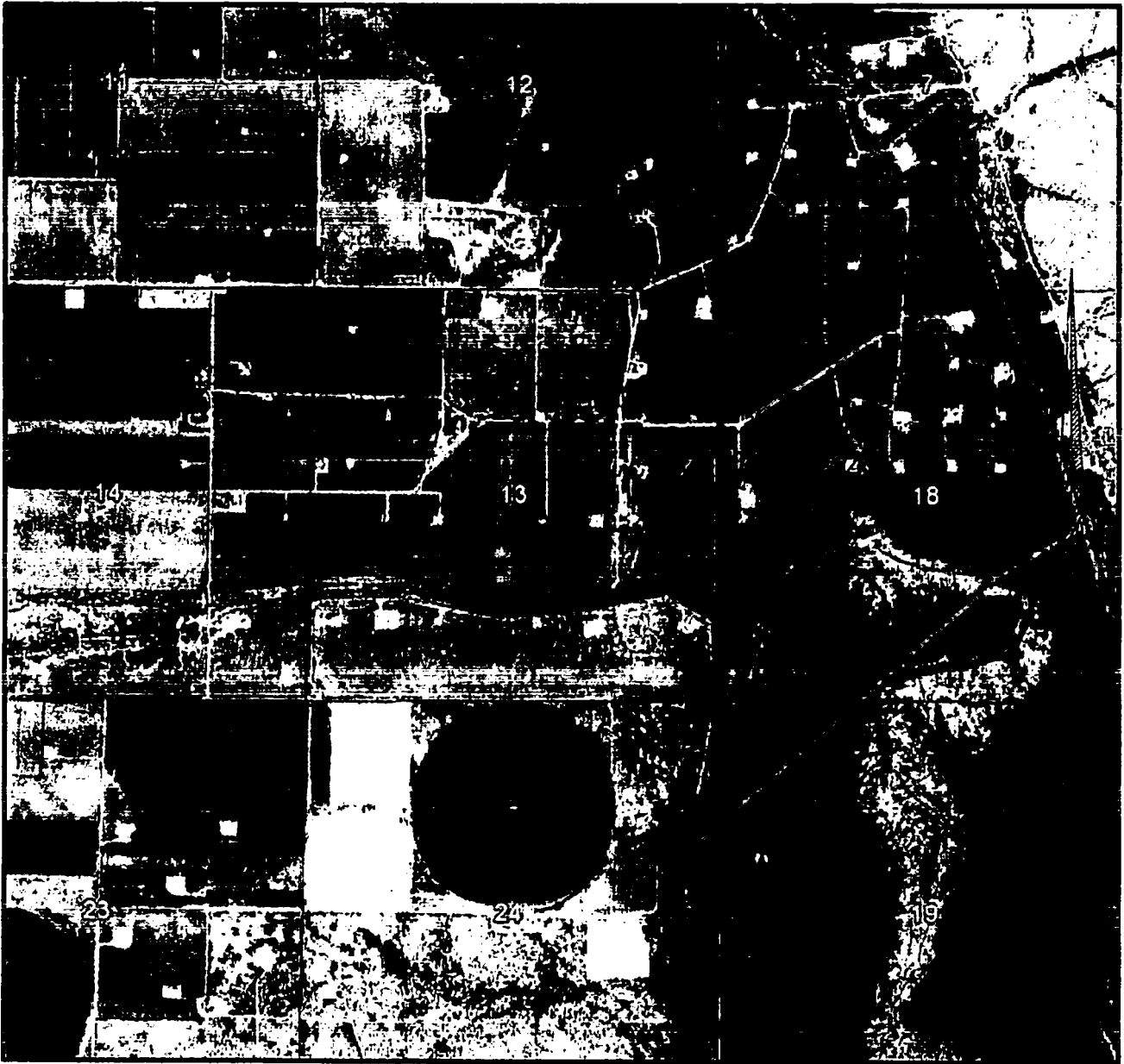
FROM CR 39 (FOUR DINKUS) AND CR 44 (FANNING) AND CALICHE ROAD GO EAST ON CALICHE ROAD 1.0 MILE, TURN RIGHT AND GO SOUTH 0.35 OF A MILE, TURN LEFT AND GO EAST 0.3 OF A MILE, TURN RIGHT AND GO SOUTH 0.2 OF A MILE, BEND LEFT AND GO SOUTHEAST 280° TO A ROAD SURVEY AND FOLLOW FLAGS SOUTHEAST 315° TO THE NORTHEAST PAD CORNER FOR THIS LOCATION.

DECEMBER 19, 2018

SURVEY NO. 6787

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

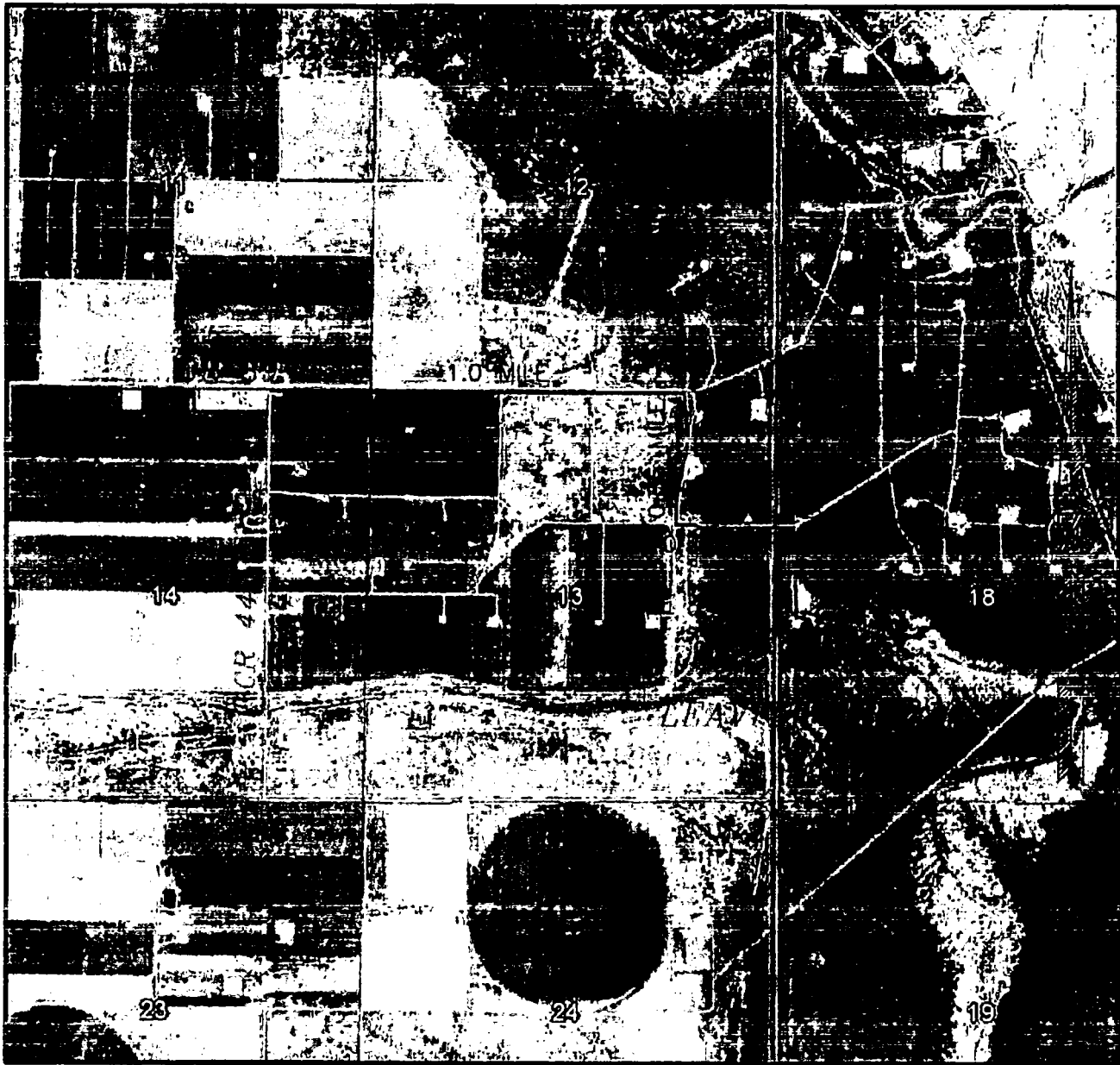
LIME ROCK RESOURCES II-A, L.P.
LEAVITT 13 4H
LOCATED 1965 FT. FROM THE SOUTH LINE
AND 370 FT. FROM THE WEST LINE OF
SECTION 18, TOWNSHIP 18 SOUTH,
RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

DECEMBER 19, 2018

SURVEY NO. 6787

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 2016

LIME ROCK RESOURCES II-A, L.P.
LEAVITT 13 4H
LOCATED 1965 FT. FROM THE SOUTH LINE
AND 370 FT. FROM THE WEST LINE OF
SECTION 18, TOWNSHIP 18 SOUTH,
RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

DECEMBER 19, 2018

MADRON SURVEYING, INC.

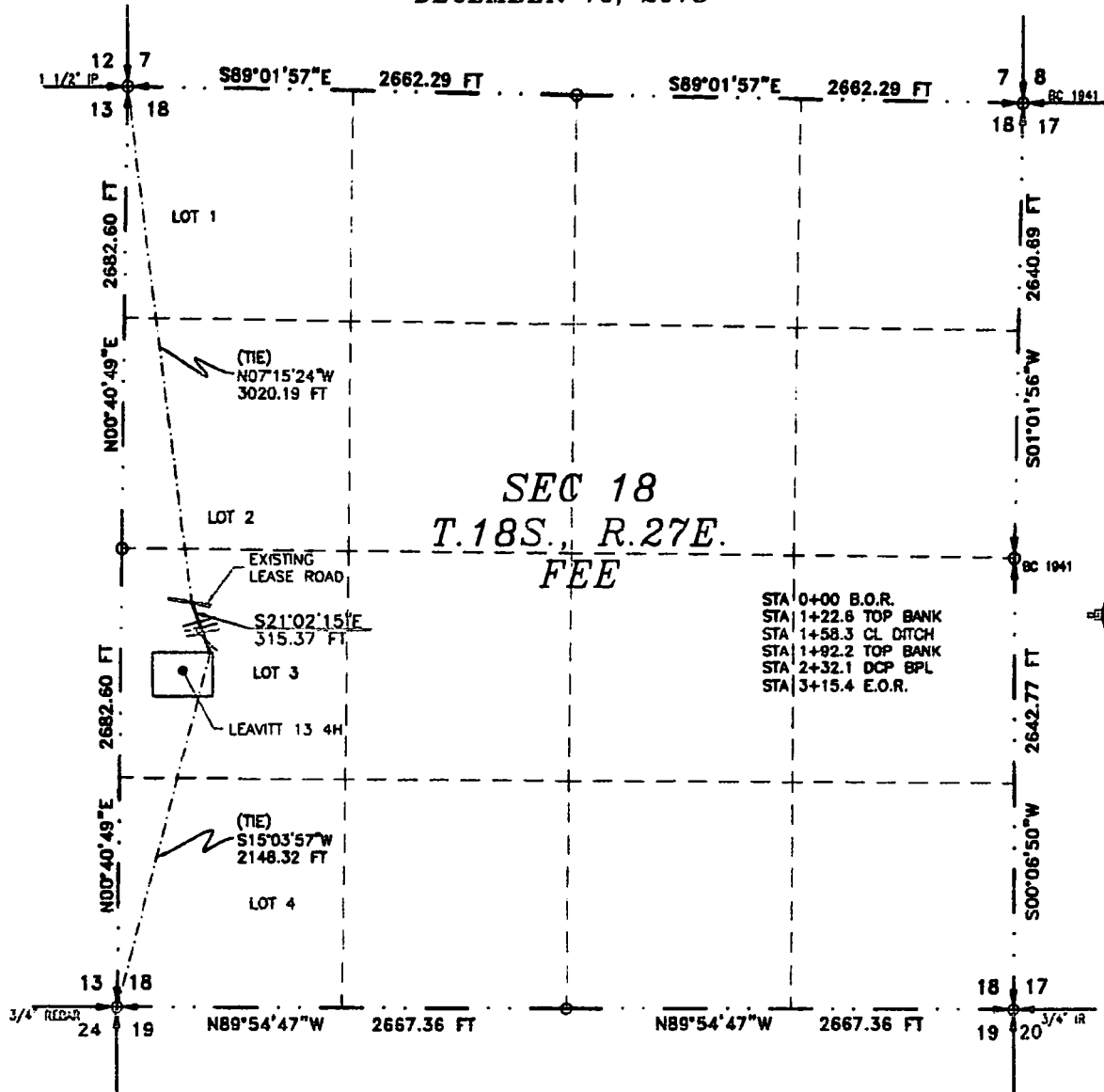
301 SOUTH CANAL
(575) 234-3341

CARLSBAD, NEW MEXICO

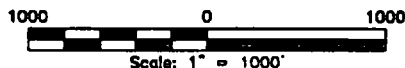
SURVEY NO. 6787

ACCESS ROAD PLAT
ACCESS ROAD TO THE LEAVITT 13 4H

LIME ROCK RESOURCES II-A, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 18, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
DECEMBER 19, 2018



SEE NEXT SHEET (2-2) 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.

SHEET: 1-2

MADRON SURVEYING, INC.

SURVEYOR CERTIFICATE

I, FILMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12787, 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 19 DAY OF DECEMBER 2018

(Signature)
FILMON F. JARAMILLO PLS 12787
MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

SURVEY NO. 6787

CARLSBAD, NEW MEXICO

ACCESS ROAD PLAT
ACCESS ROAD TO THE LEAVITT 13 4H

LIME ROCK RESOURCES II-A, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 18, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
DECEMBER 19, 2018

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING FEE LAND IN SECTION 18, TOWNSHIP 18 SOUTH, RANGE 27 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 LOT 3 OF SAID SECTION 18, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M., WHENCE THE NORTHWEST CORNER OF SAID SECTION 18, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M. BEARS N07°15'24"W, A DISTANCE OF 3020.19 FEET; THENCE S21°02'15"E A DISTANCE OF 315.37 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE SOUTHWEST CORNER OF SAID SECTION 18, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M. BEARS S15°03'57"W, A DISTANCE OF 2148.32 FEET;

SAID STRIP OF LAND BEING 315.37 FEET OR 19.11 RODS IN LENGTH, CONTAINING 0.217 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

LOT 3 315.37 L.F. 19.11 RODS 0.217 ACRES

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: 2-2

MADRON SURVEYING, INC.

SURVEYOR CERTIFICATE

I, FILMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12787, 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 21 DAY OF DECEMBER, 2018

FILMON F. JARAMILLO PLS. 12787

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

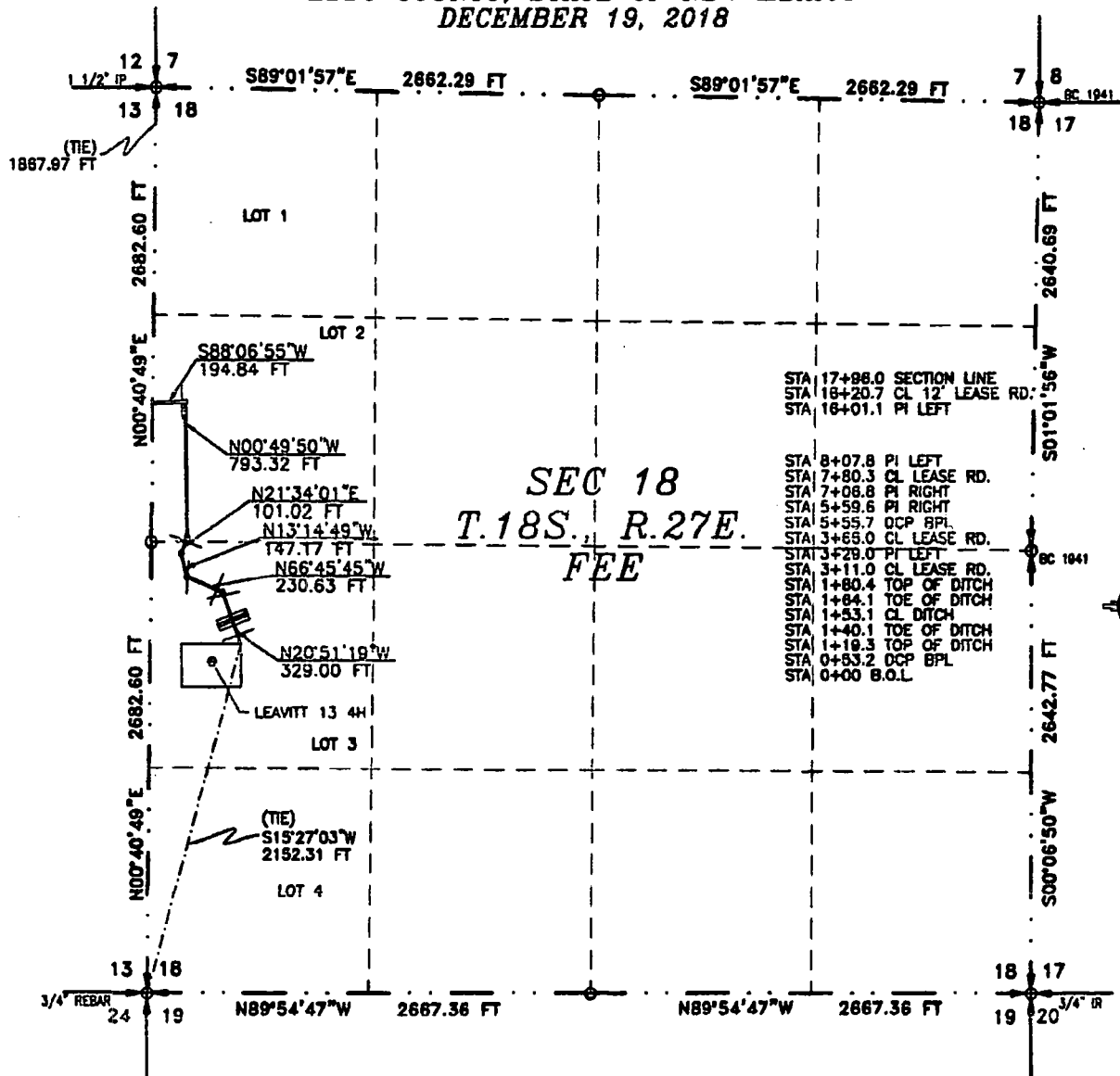
SURVEY NO. 6787

CARLSBAD, NEW MEXICO

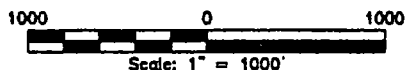
FLOWLINE PLAT

TWO 4" POLY SURFACE LINES (1-GAS & 1-PRODUCTION) FROM THE LEAVITT 13 4H 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.
EDDY COUNTY, STATE OF NEW MEXICO
DECEMBER 19, 2018



SEE NEXT SHEET (2-6) 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.

SHEET: 1-6

MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

SURVEYOR CERTIFICATE

I, FILMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12787, 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 19 DAY OF DECEMBER 2018

FILMON F. JARAMILLO PLS. 12787
MADRON SURVEYING, INC.
 301 SOUTH CANAL
 CARLSBAD, NEW MEXICO 88220
 Phone (575) 234-3341
SURVEY NO. 6787

FLOWLINE PLAT

TWO 4" POLY SURFACE LINES (1-GAS & 1-PRODUCTION) FROM THE LEAVITT 13 4H 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.
EDDY COUNTY, STATE OF NEW MEXICO
DECEMBER 19, 2018

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING FEE LAND IN SECTION 18, TOWNSHIP 18 SOUTH, RANGE 27 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 LOT 3 OF SAID SECTION 18, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M., WHENCE THE SOUTHWEST CORNER OF SAID SECTION 18, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M. BEARS S15°27'03"W, A DISTANCE OF 2152.31 FEET;
THENCE N20°51'19"W A DISTANCE OF 329.00 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE N68°45'45"W A DISTANCE OF 230.63 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE N13°14'48"W A DISTANCE OF 147.17 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE N21°34'01"E A DISTANCE OF 101.02 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE N00°49'50"W A DISTANCE OF 793.32 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S88°08'55"W A DISTANCE OF 194.84 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTHWEST CORNER OF SAID SECTION 18, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M. BEARS N00°40'49"E, A DISTANCE OF 1867.97 FEET;

SAID STRIP OF LAND BEING 1795.98 FEET OR 108.85 RODS IN LENGTH, CONTAINING 1.238 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

LOT 3	776.01 L.F.	47.03 RODS	0.534 ACRES
LOT 2	1019.97 L.F.	61.82 RODS	0.702 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 21 DAY OF DECEMBER 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: 2-6

MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

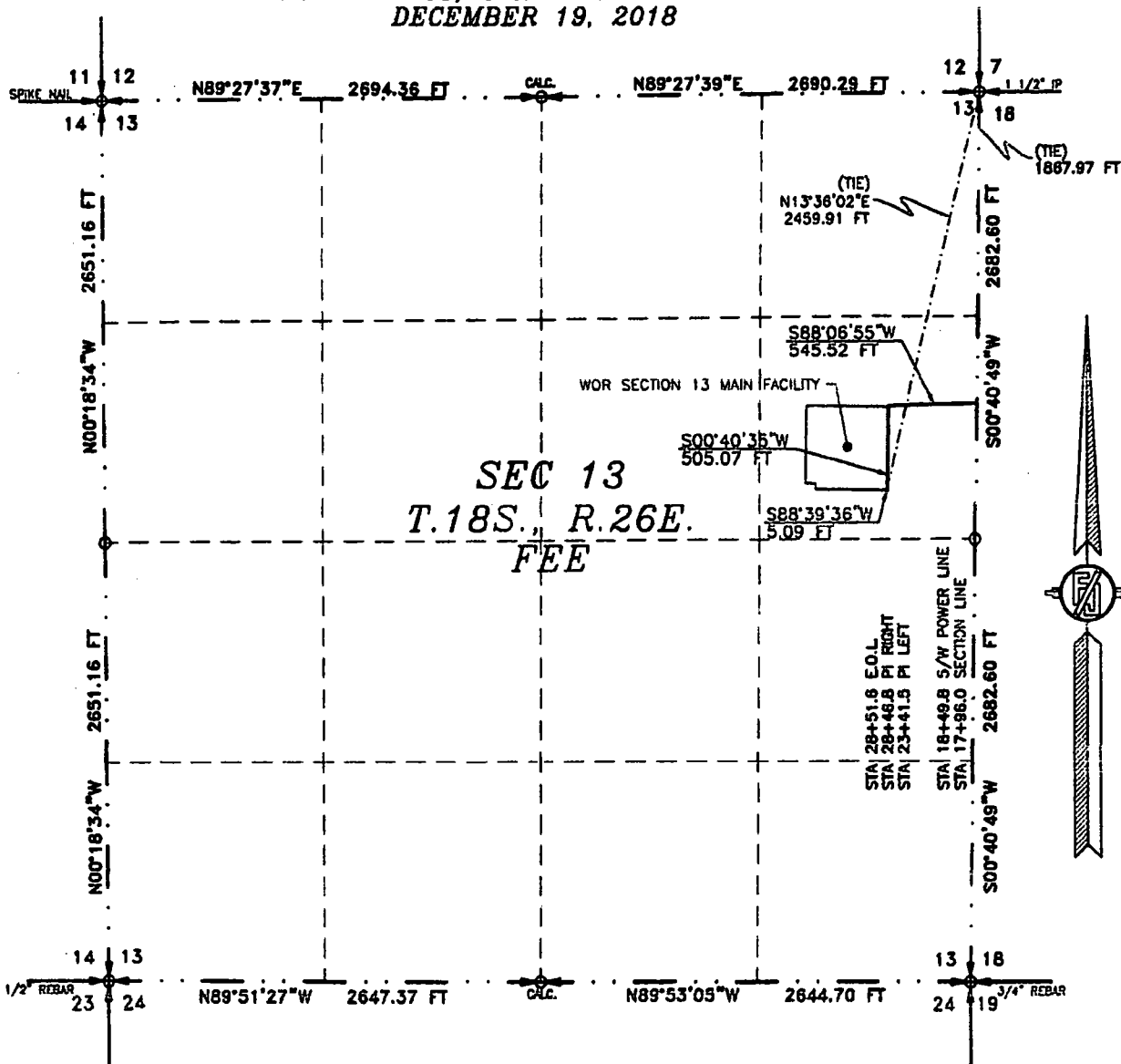
SURVEY NO. 6787

301 SOUTH CANAL
(575) 234-3341

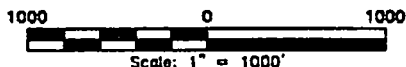
FLOWLINE PLAT

TWO 4" POLY SURFACE LINES (1-GAS & 1-PRODUCTION) FROM THE LEAVITT 13 4H 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
DECEMBER 19, 2018



SEE NEXT SHEET (4-6) 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.

SHEET: 3-6

MADRON SURVEYING, INC. 101 SOUTH CANAL, CARLSBAD, NEW MEXICO (575) 234-3641

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 19 DAY OF DECEMBER 2018

FILMON F. JARAMILLO, PLS. 12797
 MADRON SURVEYING, INC.
 301 SOUTH CANAL
 CARLSBAD, NEW MEXICO 88220
 Phone (575) 234-3341

SURVEY NO. 6787

FLOWLINE PLAT

TWO 4" POLY SURFACE LINES (1-GAS & 1-PRODUCTION) FROM THE LEAVITT 13 4H 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
DECEMBER 19, 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:

BEGINNING AT A POINT WITHIN THE SE/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 1867.97 FEET;

THENCE S88°06'55"W A DISTANCE OF 545.52 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S00°40'35"W A DISTANCE OF 505.07 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S88°39'36"W A DISTANCE OF 5.09 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 N13°38'02"E, A DISTANCE OF 2459.91 FEET;

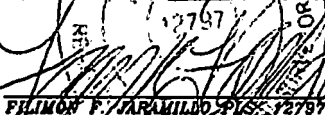
SAID STRIP OF LAND BEING 1055.68 FEET OR 63.98 RODS IN LENGTH, CONTAINING 0.727 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

SE/4 NE/4 1055.68 L.F. 63.98 RODS 0.727 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 19 DAY OF DECEMBER 2018


FILIMON 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: 4-6

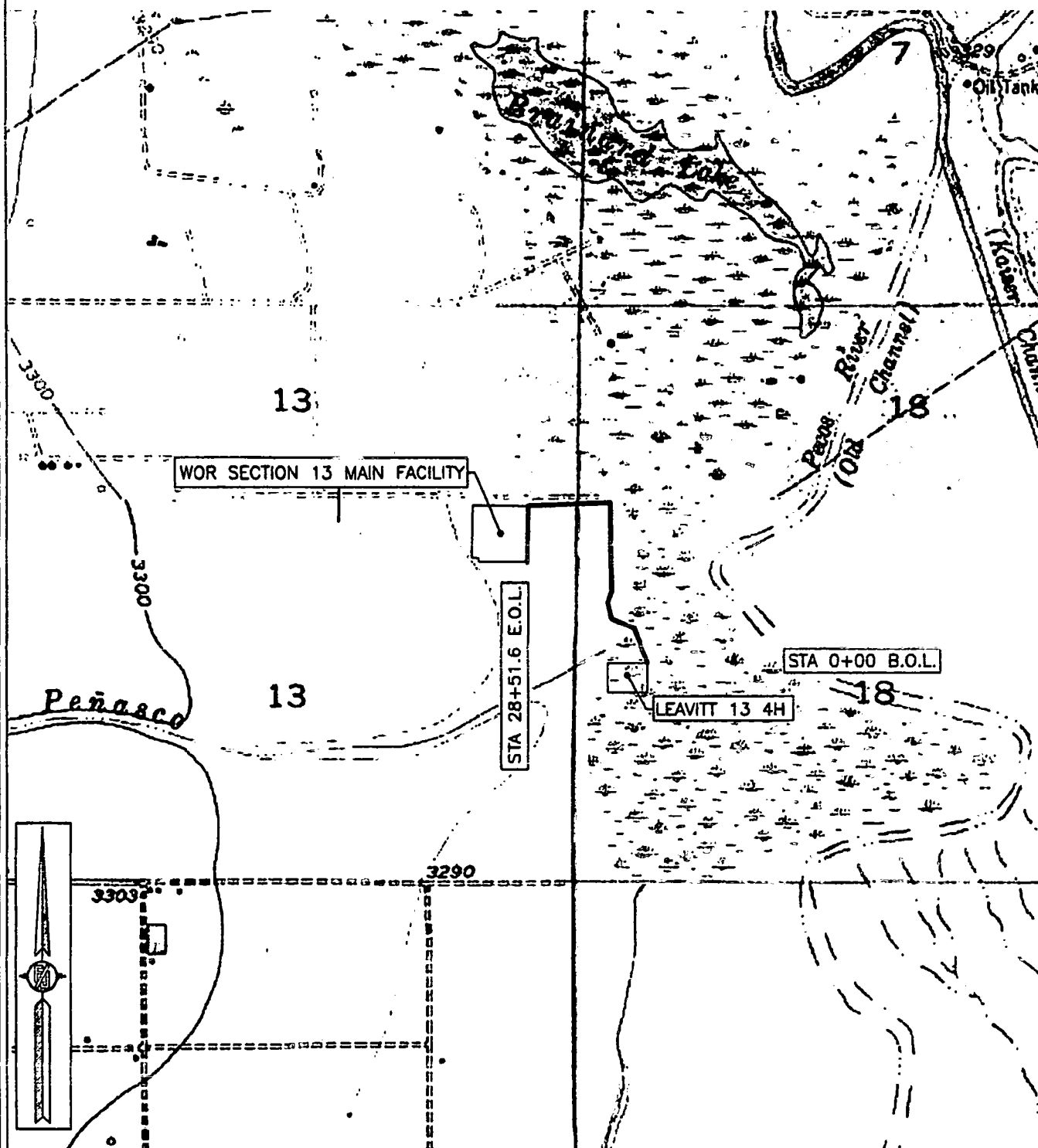
MADRON SURVEYING, INC. 331 SOUTH CANAL CARLSBAD, NEW MEXICO
(575) 234-3341

SURVEY NO. 6787

FLOWLINE PLAT

TWO 4" POLY SURFACE LINES (1-GAS & 1-PRODUCTION) FROM THE LEAVITT 13 4H 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.
SECTION 13, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
DECEMBER 19, 2018



SHEET: 5-6

MADRON SURVEYING, INC.

301 SOUTH CANAL
(575) 234-3341

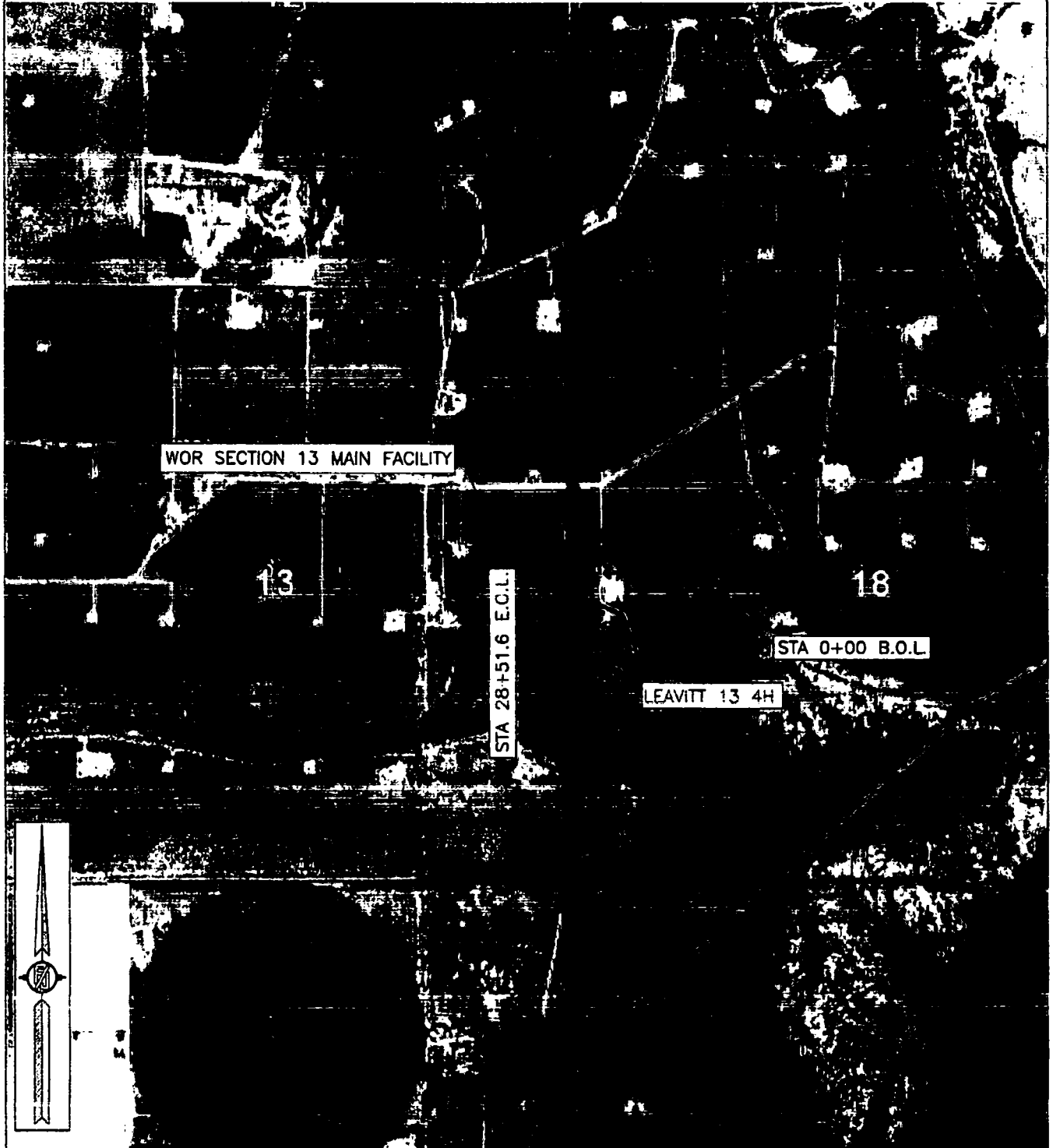
CARLSBAD, NEW MEXICO

SURVEY NO. 6787

FLOWLINE PLAT

TWO 4" POLY SURFACE LINES (1-GAS & 1-PRODUCTION) FROM THE LEAVITT 13 4H 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.
SECTION 13, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
DECEMBER 19, 2018



SHEET: 6-6

SURVEY NO. 6787

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

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

**Leavitt 13 #4H
1965' FSL 370' FWL
(L) 18-18S-27E
Eddy County, NM**

1. The elevation of the unprepared ground is 3293.2 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 8000' MD/2975' TVD and run casing. This equipment will be down and the well will be completed with a workover rig.
4. Well will be drilled to a total proposed depth of 8000' MD/2975' TVD. The KOP for horizontal drilling will be at 1932'. 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	8000	2975

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	8000	2975

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	12.25"	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 ₂
Intermediate										
Production	8 3/4"	5-1/2"	20	L-80	LT&C	8000	500	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
							1800	14.8	1.33	Class C w/ 0.6% R-3 and 1/4 pps cello flake

8. Proposed Mud Program is as follows

Depth	0-1230	1230-7850	7850-8000
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: SGR-DLL-CDL-CNL Quad Combo from 8000 to surf. Csg. 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 1540 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 15 days. An additional 14 days will be needed to complete the well and to construct surface facilities.

RECEIVED

JAN. 08 2019

DISTRICT 11 ARTESIA O.C.D.

Lime Rock Resources

**Eddy County, NM
SEC 18 T18S R27E
Leavitt 13-4H**

Original Wellbore

Plan: Plan 1

Standard Planning Report

04 January, 2019

Planning Report

Database:	EDM Server Database	Local Co-ordinate Reference:	Well Leavitt 13-4H
Company:	Lime Rock Resources	TVD Reference:	KB @ 3314.2usft
Project:	Eddy County, NM	MD Reference:	KB @ 3314.2usft
Site:	SEC 18 T18S R27E	North Reference:	Grid
Well:	Leavitt 13-4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	Plan 1		

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

Well	Leavitt 13-4H					
Well Position	+N/-S	-2,731.3 usft	Northing:	635,108.60 usft	Latitude:	32° 44' 45.421 N
	+E/-W	-162.5 usft	Easting:	543,777.51 usft	Longitude:	104° 19' 31.430 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	3,293.2 usft

Wellbore	Original Wellbore				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2015	1/4/2019	7.18	60.40	48,007.12003629

Design	Plan 1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.0	0.0	0.0	271.92

Plan Survey Tool Program	Date	1/4/2019		
Depth From	Depth To	Survey (Wellbore)	Tool Name	Remarks
(usft)	(usft)			
1	0.0	8,262.1	Plan 1 (Original Wellbore)	

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	
2,213.6	0.00	0.00	2,213.6	0.0	0.0	0.00	0.00	0.00	0.00	
2,869.5	52.47	289.50	2,781.6	93.4	-263.9	8.00	8.00	0.00	289.50	
2,969.5	52.47	289.50	2,842.5	119.9	-338.6	0.00	0.00	0.00	0.00	
3,385.2	90.00	270.12	2,975.0	177.9	-718.7	10.00	9.03	-4.66	-30.00	
8,262.1	90.00	270.10	2,975.0	187.2	-5,595.6	0.00	0.00	0.00	-91.13	PBHL - Leavitt 13-4H

Planning Report

Database: EDM Server Database
 Company: Lime Rock Resources
 Project: Eddy County, NM
 Site: SEC 18 T18S R27E
 Well: Leavitt 13-4H
 Wellbore: Original Wellbore
 Design: Plan 1

Local Co-ordinate Reference: Well Leavitt 13-4H
 TVD Reference: KB @ 3314.2usft
 MD Reference: KB @ 3314.2usft
 North Reference: Grid
 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
637.0	0.00	0.00	637.0	0.0	0.0	0.0	0.00	0.00	0.00
Grayburg									
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
906.0	0.00	0.00	906.0	0.0	0.0	0.0	0.00	0.00	0.00
Premier									
946.0	0.00	0.00	946.0	0.0	0.0	0.0	0.00	0.00	0.00
San Andres									
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
2,213.6	0.00	0.00	2,213.6	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start 8"/100' Build									
2,300.0	6.91	289.50	2,299.8	1.7	-4.9	5.0	8.00	8.00	0.00
2,305.2	7.33	289.50	2,305.0	2.0	-5.5	5.6	8.00	8.00	0.00
Glorieta									
2,397.0	14.67	289.50	2,395.0	7.8	-22.0	22.3	8.00	8.00	0.00
Yeso									
2,400.0	14.91	289.50	2,397.9	8.1	-22.7	23.0	8.00	8.00	0.00
2,500.0	22.91	289.50	2,492.4	18.9	-53.3	53.9	8.00	8.00	0.00
2,600.0	30.91	289.50	2,581.5	34.0	-95.9	97.0	8.00	8.00	0.00
2,700.0	38.91	289.50	2,663.5	53.0	-149.8	151.5	8.00	8.00	0.00
2,800.0	46.91	289.50	2,736.6	75.8	-213.9	216.3	8.00	8.00	0.00
2,869.5	52.47	289.50	2,781.6	93.4	-263.9	266.8	8.00	8.00	0.00
2,869.8	52.47	289.50	2,781.8	93.5	-264.1	267.1	0.00	0.00	0.00
Begin 52.47° Tangent									
2,900.0	52.47	289.50	2,800.2	101.5	-286.7	289.9	0.00	0.00	0.00
2,969.5	52.47	289.50	2,842.5	119.9	-338.6	342.4	0.00	0.00	0.00
KOP - Start 10"/100' Build									
3,000.0	55.13	287.64	2,860.5	127.7	-362.0	366.0	10.01	8.72	-6.10
3,100.0	64.00	282.28	2,911.1	149.8	-445.2	449.9	10.00	8.87	-5.36
3,128.0	66.52	280.94	2,922.9	154.9	-470.1	475.0	10.00	9.00	-4.81

Planning Report

Database: EDM Server Database
 Company: Lime Rock Resources
 Project: Eddy County, NM
 Site: SEC 18 T18S R27E
 Well: Leavitt 13-4H
 Wellbore: Original Wellbore
 Design: Plan 1

Local Co-ordinate Reference: Well Leavitt 13-4H
 TVD Reference: KB @ 3314.2usft
 MD Reference: KB @ 3314.2usft
 North Reference: Grid
 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)
FTP - 100' FEL									
3,200.0	73.05	277.69	2,947.7	165.8	-536.7	542.0	10.00	9.06	-4.51
3,300.0	82.18	273.52	2,969.2	175.3	-633.8	639.3	10.00	9.14	-4.17
3,385.2	90.00	270.12	2,975.0	177.9	-718.7	724.2	10.00	9.17	-3.99
EOC									
3,400.0	90.00	270.12	2,975.0	178.0	-733.5	739.0	0.00	0.00	0.00
3,500.0	90.00	270.12	2,975.0	178.2	-833.5	839.0	0.00	0.00	0.00
3,600.0	90.00	270.12	2,975.0	178.4	-933.5	938.9	0.00	0.00	0.00
3,700.0	90.00	270.12	2,975.0	178.6	-1,033.5	1,038.9	0.00	0.00	0.00
3,800.0	90.00	270.12	2,975.0	178.8	-1,133.5	1,138.8	0.00	0.00	0.00
3,900.0	90.00	270.12	2,975.0	179.0	-1,233.5	1,238.8	0.00	0.00	0.00
4,000.0	90.00	270.12	2,975.0	179.2	-1,333.5	1,338.7	0.00	0.00	0.00
4,100.0	90.00	270.12	2,975.0	179.5	-1,433.5	1,438.7	0.00	0.00	0.00
4,200.0	90.00	270.12	2,975.0	179.7	-1,533.5	1,538.6	0.00	0.00	0.00
4,300.0	90.00	270.12	2,975.0	179.9	-1,633.5	1,638.6	0.00	0.00	0.00
4,400.0	90.00	270.12	2,975.0	180.1	-1,733.5	1,738.5	0.00	0.00	0.00
4,500.0	90.00	270.12	2,975.0	180.3	-1,833.5	1,838.5	0.00	0.00	0.00
4,600.0	90.00	270.12	2,975.0	180.5	-1,933.5	1,938.4	0.00	0.00	0.00
4,700.0	90.00	270.12	2,975.0	180.7	-2,033.5	2,038.4	0.00	0.00	0.00
4,800.0	90.00	270.11	2,975.0	180.9	-2,133.5	2,138.3	0.00	0.00	0.00
4,900.0	90.00	270.11	2,975.0	181.1	-2,233.5	2,238.3	0.00	0.00	0.00
5,000.0	90.00	270.11	2,975.0	181.3	-2,333.5	2,338.2	0.00	0.00	0.00
5,100.0	90.00	270.11	2,975.0	181.5	-2,433.5	2,438.2	0.00	0.00	0.00
5,200.0	90.00	270.11	2,975.0	181.7	-2,533.5	2,538.1	0.00	0.00	0.00
5,300.0	90.00	270.11	2,975.0	181.9	-2,633.5	2,638.1	0.00	0.00	0.00
5,400.0	90.00	270.11	2,975.0	182.1	-2,733.5	2,738.0	0.00	0.00	0.00
5,500.0	90.00	270.11	2,975.0	182.3	-2,833.5	2,838.0	0.00	0.00	0.00
5,600.0	90.00	270.11	2,975.0	182.5	-2,933.5	2,937.9	0.00	0.00	0.00
5,700.0	90.00	270.11	2,975.0	182.6	-3,033.5	3,037.9	0.00	0.00	0.00
5,800.0	90.00	270.11	2,975.0	182.8	-3,133.5	3,137.8	0.00	0.00	0.00
5,900.0	90.00	270.11	2,975.0	183.0	-3,233.5	3,237.8	0.00	0.00	0.00
6,000.0	90.00	270.11	2,975.0	183.2	-3,333.5	3,337.7	0.00	0.00	0.00
6,100.0	90.00	270.11	2,975.0	183.4	-3,433.5	3,437.7	0.00	0.00	0.00
6,200.0	90.00	270.11	2,975.0	183.6	-3,533.5	3,537.6	0.00	0.00	0.00
6,300.0	90.00	270.11	2,975.0	183.8	-3,633.5	3,637.6	0.00	0.00	0.00
6,400.0	90.00	270.11	2,975.0	184.0	-3,733.5	3,737.5	0.00	0.00	0.00
6,500.0	90.00	270.11	2,975.0	184.2	-3,833.5	3,837.5	0.00	0.00	0.00
6,600.0	90.00	270.10	2,975.0	184.3	-3,933.5	3,937.4	0.00	0.00	0.00
6,700.0	90.00	270.10	2,975.0	184.5	-4,033.5	4,037.4	0.00	0.00	0.00
6,800.0	90.00	270.10	2,975.0	184.7	-4,133.5	4,137.3	0.00	0.00	0.00
6,900.0	90.00	270.10	2,975.0	184.9	-4,233.5	4,237.3	0.00	0.00	0.00
7,000.0	90.00	270.10	2,975.0	185.1	-4,333.5	4,337.2	0.00	0.00	0.00
7,100.0	90.00	270.10	2,975.0	185.2	-4,433.5	4,437.2	0.00	0.00	0.00
7,200.0	90.00	270.10	2,975.0	185.4	-4,533.5	4,537.1	0.00	0.00	0.00
7,300.0	90.00	270.10	2,975.0	185.6	-4,633.5	4,637.1	0.00	0.00	0.00
7,400.0	90.00	270.10	2,975.0	185.8	-4,733.5	4,737.0	0.00	0.00	0.00
7,500.0	90.00	270.10	2,975.0	185.9	-4,833.5	4,837.0	0.00	0.00	0.00
7,600.0	90.00	270.10	2,975.0	186.1	-4,933.5	4,936.9	0.00	0.00	0.00
7,700.0	90.00	270.10	2,975.0	186.3	-5,033.5	5,036.9	0.00	0.00	0.00
7,800.0	90.00	270.10	2,975.0	186.5	-5,133.5	5,136.8	0.00	0.00	0.00
7,900.0	90.00	270.10	2,975.0	186.6	-5,233.5	5,236.8	0.00	0.00	0.00
8,000.0	90.00	270.10	2,975.0	186.8	-5,333.5	5,336.7	0.00	0.00	0.00

5-1/2" - Production

Planning Report

Database: EDM Server Database
 Company: Lime Rock Resources
 Project: Eddy County, NM
 Site: SEC 18 T18S R27E
 Well: Leavitt 13-4H
 Wellbore: Original Wellbore
 Design: Plan 1

Local Co-ordinate Reference: Well Leavitt 13-4H
 TVD Reference: KB @ 3314.2usft
 MD Reference: KB @ 3314.2usft
 North Reference: Grid
 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)
8,100.0	90.00	270.10	2,975.0	187.0	-5,433.5	5,436.7	0.00	0.00	0.00
8,200.0	90.00	270.10	2,975.0	187.1	-5,533.5	5,536.6	0.00	0.00	0.00
8,262.1	90.00	270.10	2,975.0	187.2	-5,595.6	5,598.7	0.00	0.00	0.00
PBHL									

Design Targets

Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- Shape									
PBHL - Leavitt 13-4H	0.00	0.00	2,975.0	187.2	-5,595.6	635,295.85	538,181.90	32° 44' 47.274 N	104° 20' 36.950 W
- plan hits target center									
- Point									

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,230.0	1,230.0	Surface	9-5/8	12-1/4
8,000.0	2,975.0	Production	5-1/2	8-3/4

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
400.0	400.0	Queen		0.00	
637.0	637.0	Grayburg		0.00	
906.0	906.0	Premier		0.00	
946.0	946.0	San Andres		0.00	
2,305.2	2,305.0	Glorieta		0.00	
2,397.0	2,395.0	Yeso		0.00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,230.0	1,230.0	0.0	0.0	9-5/8"
2,213.6	2,213.6	0.0	0.0	KOP - Start 8°/100' Build
2,869.8	2,781.8	93.5	-264.1	Begin 52.47° Tangent
2,969.5	2,842.5	119.9	-338.6	KOP - Start 10°/100' Build
3,129.0	2,922.9	154.9	-470.1	FTP - 100' FEL
3,385.2	2,975.0	177.9	-718.7	EOC
8,000.0	2,975.0	186.8	-5,333.5	5-1/2"
8,262.1	2,975.0	187.2	-5,595.6	PBHL



LIME ROCK

Project: Eddy County, NM
Site: SEC 18 T18S R27E
Well: Leavitt 13-4H
Wellbore: Original Wellbore
Design: Plan 1

Reference Details

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Latitude: 32° 44' 45.421 N
Longitude: 104° 18' 31.430 W
Grid Convergence: 0.00° West
Ground Elevation: 3293.2
KB Elevation: KB @ 3314.2usft



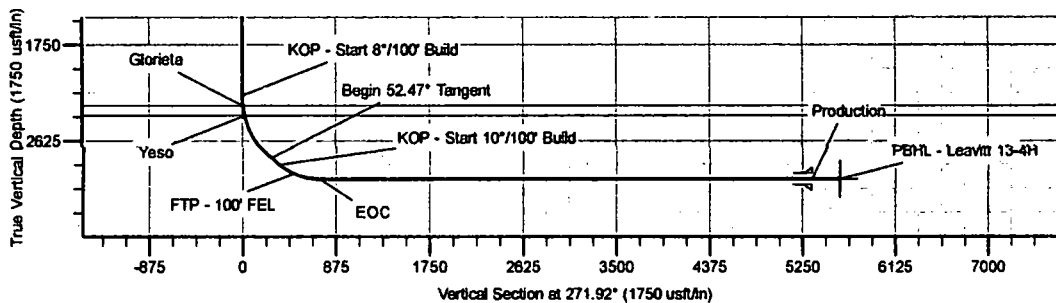
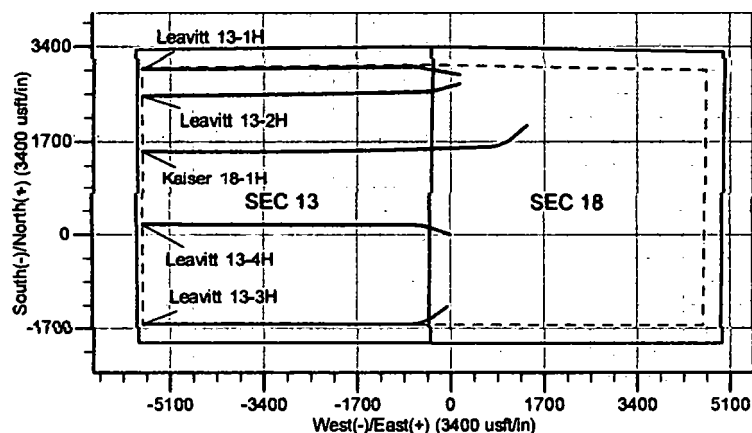
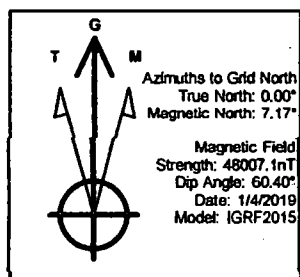
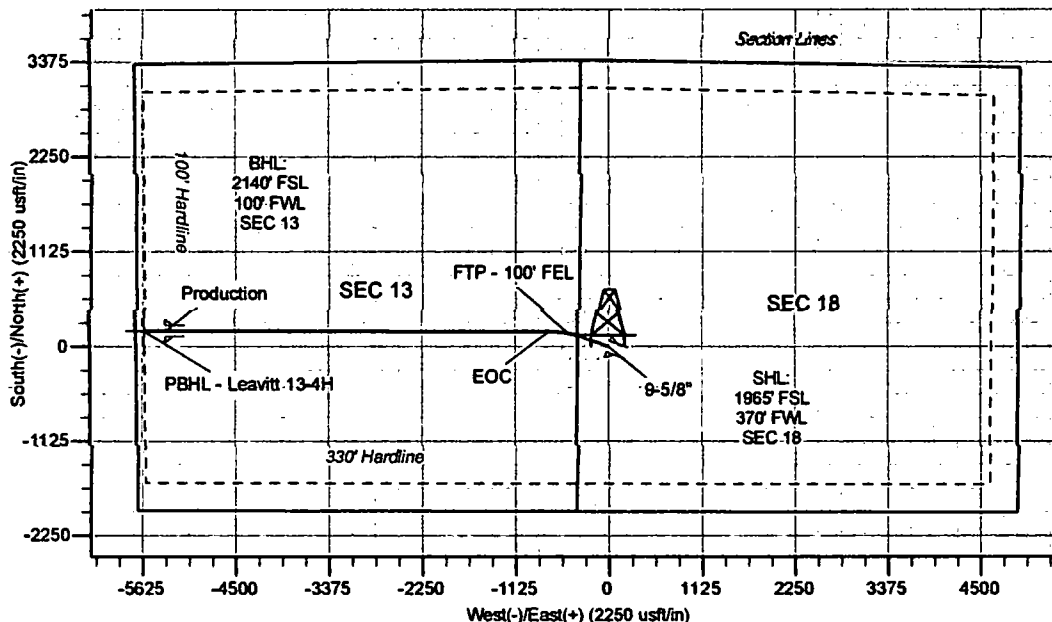
RPM Consulting, Inc.
1600 Broadway, Suite 1510
Denver, CO 80013
303-595-7625

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
2213.6	0.00	0.00	2213.6	0.0	0.0	0.00	0.00	0.0
2869.5	52.47	289.50	2781.6	93.4	-263.9	8.00	289.50	266.8
2969.5	52.47	289.50	2842.5	119.9	-338.6	0.00	0.00	342.4
3385.2	90.00	270.12	2975.0	177.9	-718.7	10.00	-30.00	724.2
8262.1	90.00	270.10	2975.0	187.2	-5595.6	0.00	-91.13	5598.7

CASING DETAILS

TVD	MD	Name	Size
1230.0	1230.0	Surface	9-5/8
2975.0	8000.0	Production	5-1/2



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

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 McCelland	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 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

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

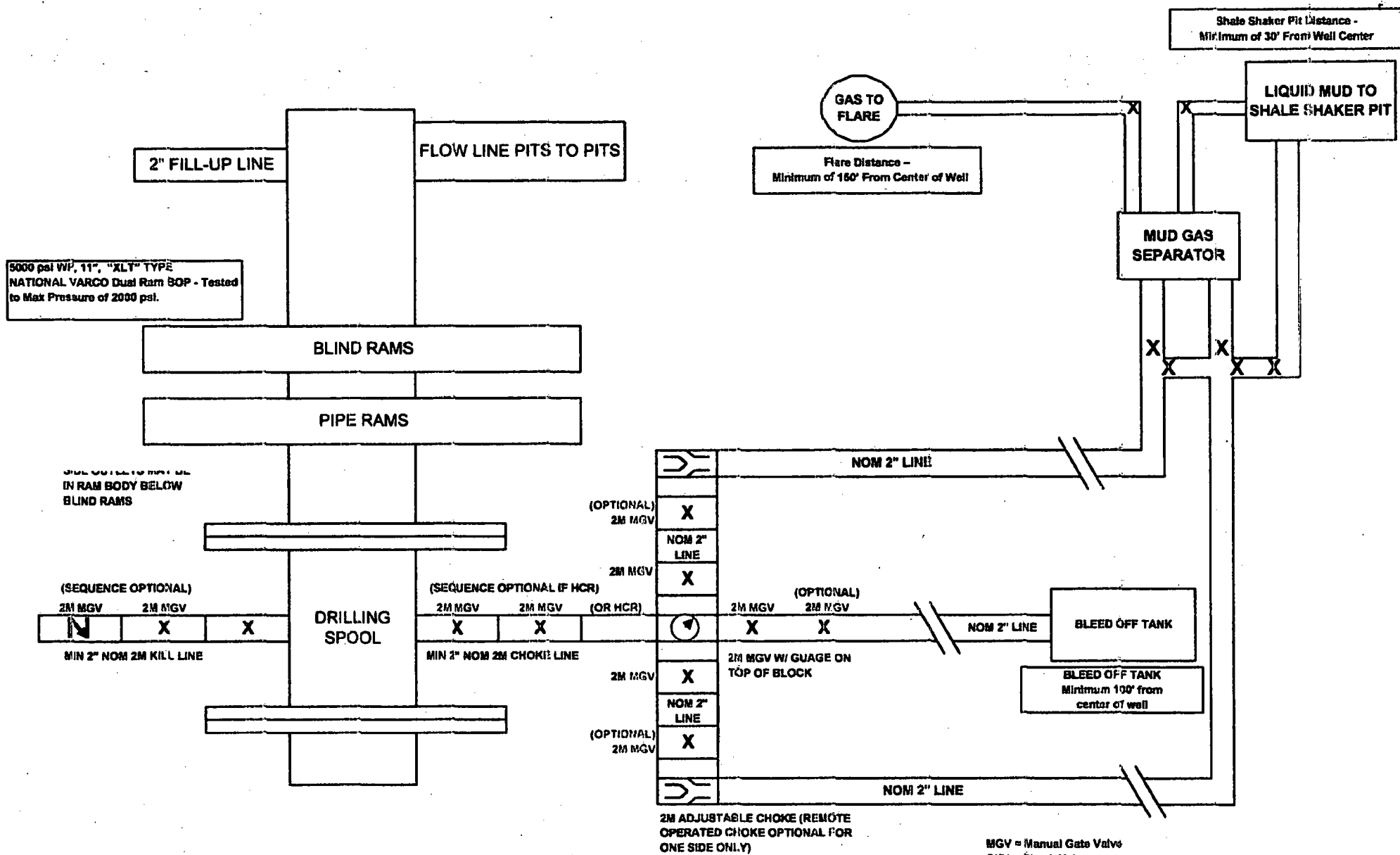
The blowout preventer equipment (BOP) will consist of a 5000 psi rated, "XLT" type, National VARCO double ram preventer that will be tested to a maximum pressure of 2000 psi. The unit will be hydraulically operated and the ram type preventer will be equipped with blind rams on top and drill pipe rams 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 #4H

Unit L, S18-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

Scmi 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

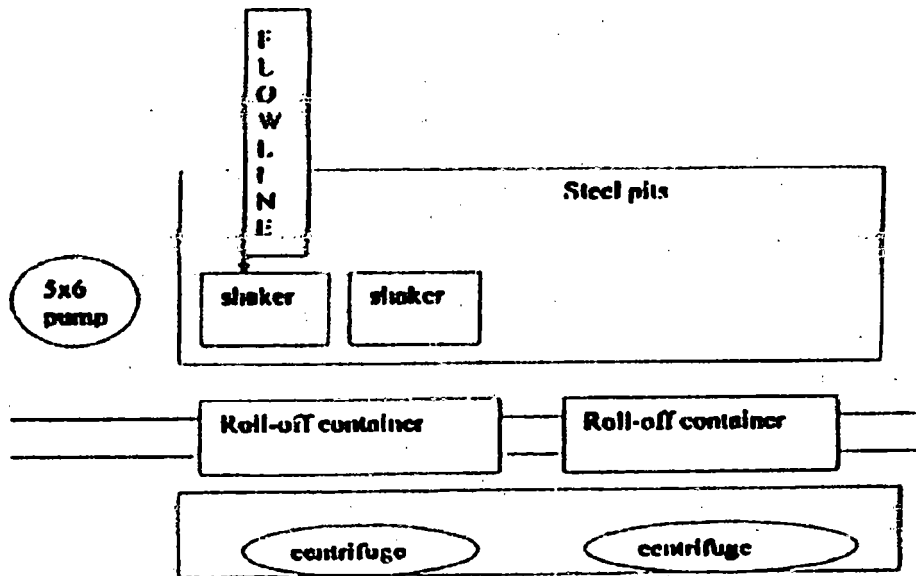
2-500 bbl frac tanks for brine water

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: 575.748.1689

Cell: 575.748.6387