

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

Form C-101
Revised July 18, 2013

Energy Minerals and Natural Resources

Oil Conservation Division

1220 South St. Francis Dr.

Santa Fe, NM 87505

RECEIVED

JAN 07 2020

☐ AMENDED REPORT

EMNRD-OCD ARTESIA

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

¹ Operator Name and Address LIME ROCK RESOURCES II-A, L.P. 1111 Bagby Street, Suite 4600, Houston, Texas 77002		² OGRID Number 277558
		³ API Number 30-015- 46744
⁴ Property Code 323060	⁵ Property Name KAISER 18	⁶ Well No. 2H

⁷ Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
F	18	18S	27E		1630	NORTH	1780	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
E	13	18S	26E		2240	NORTH	100	WEST	EDDY

⁹ Pool Information

Pool Name	Pool Code
Red Lake, Glorieta-Yeso	51120

Additional Well Information

¹¹ Work Type N	¹² Well Type O	¹³ Cable/Rotary R	¹⁴ Lease Type P	¹⁵ Ground Level Elevation 3289'
¹⁶ Multiple N	¹⁷ Proposed Depth 10,497' MD/3600' TVD	¹⁸ Formation Yeso	¹⁹ Contractor United Drilling	²⁰ Spud Date After 6/1/20
Depth to Ground water 92 Ft		Distance from nearest fresh water well 3780 Ft		Distance to nearest surface water 0.5 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	537	Surface ✓
Production	8-3/4"	7"	29	3100	160	Surface ✓
		5-1/2"	20	10,497	1228	Surface ✓

Casing/Cement Program: Additional Comments

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

²³ 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 ☒, if applicable.

Signature: *Mike Pippin*

Printed name: Mike Pippin

Title: Petroleum Engineer

E-mail Address: mike@pippinllc.com

Date: 1/6/20

Phone:

OIL CONSERVATION DIVISION

Approved By:

Title:

Approved Date: **2-14-20**

Expiration Date: **2-14-22**

Conditions of Approval Attached

*Dr/g sub w Clog
Circ CMT. to surf.*

RECEIVED

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 & Natural Resources Department
OIL CONSERVATION DIVISION
EMNRD-OCD ARTESIA
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 30-015-46744	² Pool Code 51120	³ Pool Name RED LAKE, GLORIETA - YESO
⁴ Property Code 323060	⁵ Property Name KAISER 18	
⁷ OGRID No. 277558	⁸ Operator Name LIME ROCK RESOURCES II-A, L.P.	
		⁶ Well Number 2H
		⁹ Elevation 3288.5

10 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	18	18 S	27 E		1630	NORTH	1780	WEST	EDDY

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	13	18 S	26 E		2240	NORTH	100	WEST	EDDY

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

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

<p>NW CORNER SEC. 13 LAT. = 32.7551551°N LONG. = 104.3439789°W NMSP EAST (FT) N = 638457.46 E = 538064.84</p> <p>N/4 CORNER SEC. 13 LAT. = 32.7552253°N LONG. = 104.3352170°W NMSP EAST (FT) N = 638482.83 E = 540758.42</p> <p>NW CORNER SEC. 18 LAT. = 32.7552947°N LONG. = 104.3264884°W NMSP EAST (FT) N = 638508.14 E = 543447.93</p> <p>NE CORNER SEC. 18 LAT. = 32.7550455°N LONG. = 104.3091549°W NMSP EAST (FT) N = 638418.25 E = 548770.45</p>				<p>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 undivided mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Signature: <u>Mike Pippin</u> Date: <u>12/20/19</u> Printed Name: <u>MIKE PIPPIN</u> E-mail Address: <u>MIKE@PIPPINLLC.COM</u></p>			
<p>NW CORNER SEC. 13 LAT. = 32.7405846°N LONG. = 104.3438840°W NMSP EAST (FT) N = 633156.53 E = 538093.48</p> <p>S/4 CORNER SEC. 13 LAT. = 32.7405670°N LONG. = 104.3352780°W NMSP EAST (FT) N = 633149.95 E = 540740.20</p> <p>SW CORNER SEC. 18 LAT. = 32.7405522°N LONG. = 104.3266766°W NMSP EAST (FT) N = 633144.63 E = 543384.24</p> <p>SE CORNER SEC. 18 LAT. = 32.7405277°N LONG. = 104.3093306°W NMSP EAST (FT) N = 633136.52 E = 548717.64</p>				<p>18 SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. NOVEMBER 25, 2019 Date of Survey Signature and Seal of Professional Surveyor: <u>[Signature]</u> Certificate Number: <u>PLS 12797</u> SURVEY NO. 7814</p>			

RECEIVED

JAN 07 2020

EMNRD-OCD ARTESIA

Intent ☐ As Drilled ☐

API #

Operator Name:	Property Name:	Well Number
LIME ROCK RESOURCES II-A, L.P.	KAISER 18	2H

Kick Off Point (KOP)

UL F	Section 18	Township 18S	Range 27E	Lot	Feet 1630	From N/S NORTH	Feet 1780	From E/W WEST	County EDDY
Latitude 32.7507327					Longitude 104.3207439			NAD 83	

First Take Point (FTP)

UL F	Section 18	Township 18S	Range 27E	Lot 2	Feet 2240	From N/S NORTH	Feet 1220	From E/W WEST	County EDDY
Latitude 32.7490826					Longitude 104.3225886			NAD 83	

Last Take Point (LTP)

UL E	Section 13	Township 18S	Range 26E	Lot	Feet 2240	From N/S NORTH	Feet 100	From E/W WEST	County EDDY
Latitude 32.7490022					Longitude 104.3436136			NAD 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.

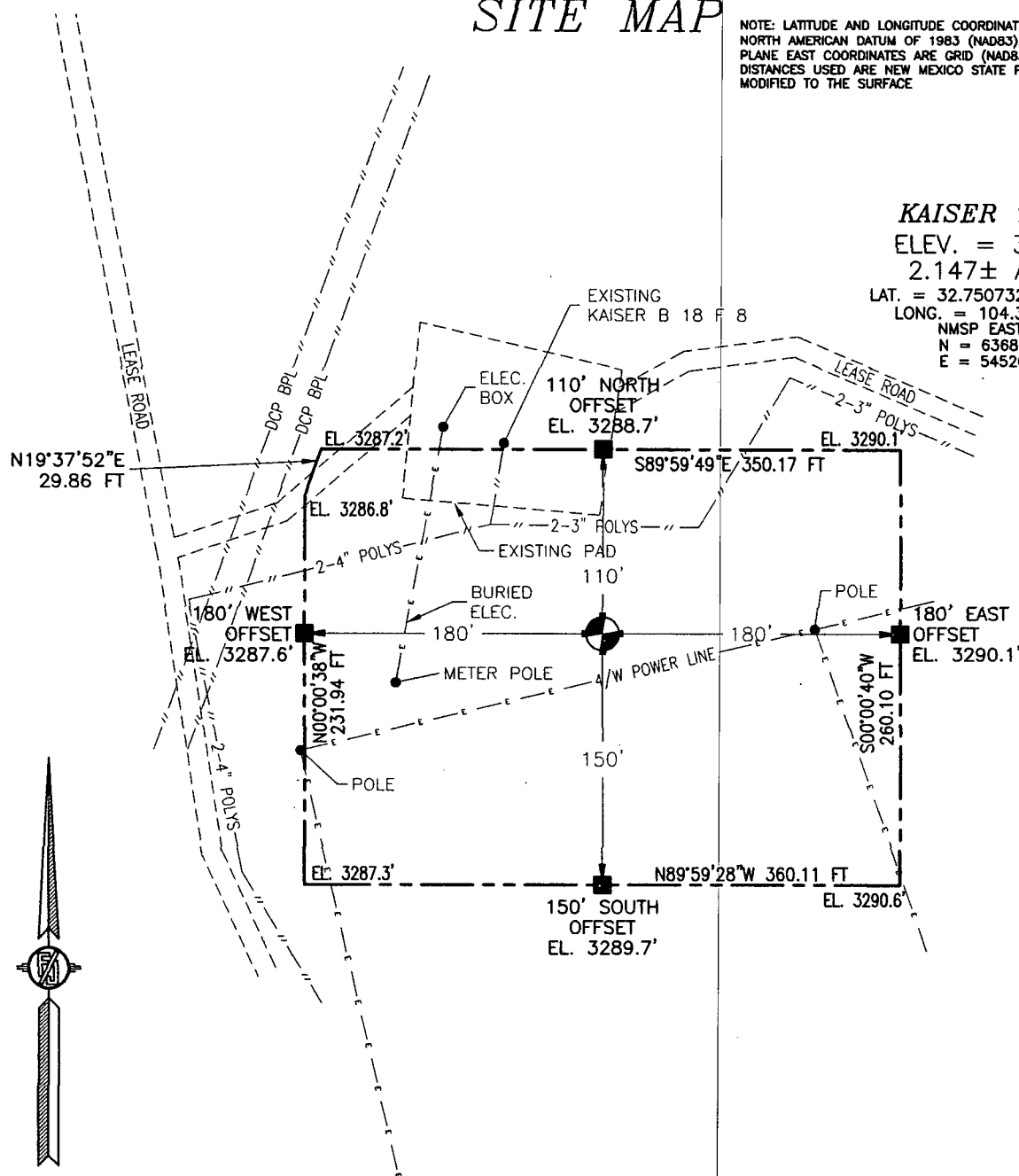
API #

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



KAISER 18 2H
ELEV. = 3288.5'
2.147± ACRES

LAT. = 32.7507327°N (NAD83)
LONG. = 104.3207439°W
NMSP EAST (FT)
N = 636848.58
E = 545207.94

010 50 100 200
SCALE 1" = 100'

DIRECTIONS TO LOCATION

FROM CR 44 (FANNING) AND CR 39 (FOUR DINKUS) 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, BEND LEFT AND GO NORTHEAST 0.3 OF A MILE, TURN RIGHT AND GO SOUTH 551', TURN LEFT AND GO NORTHEAST 93' TO THE NORTHWEST PAD CORNER FOR THIS LOCATION.

I, FILMON F. JARAMILLO, A NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR CERTIFY THAT I DIRECTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT IT MEETS THE MINIMUM STANDARDS FOR A PROFESSIONAL SURVEY.

LIME ROCK RESOURCES II-A, L.P.

KAISER 18 2H

LOCATED 1630 FT. FROM THE NORTH LINE
AND 1780 FT. FROM THE WEST LINE OF
SECTION 18, TOWNSHIP 18 SOUTH,
RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

NOVEMBER 25, 2019

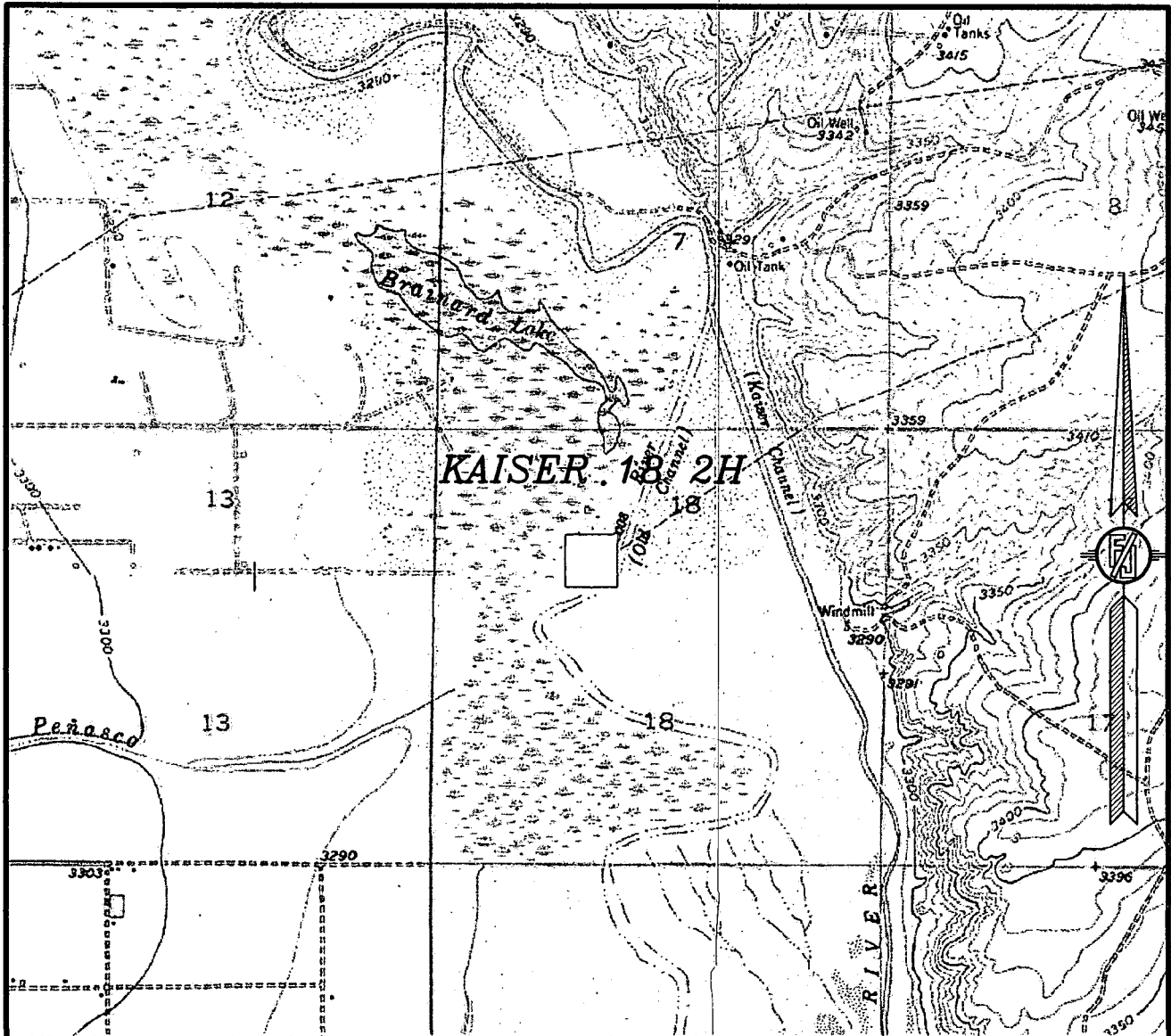
SURVEY NO. 7814

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

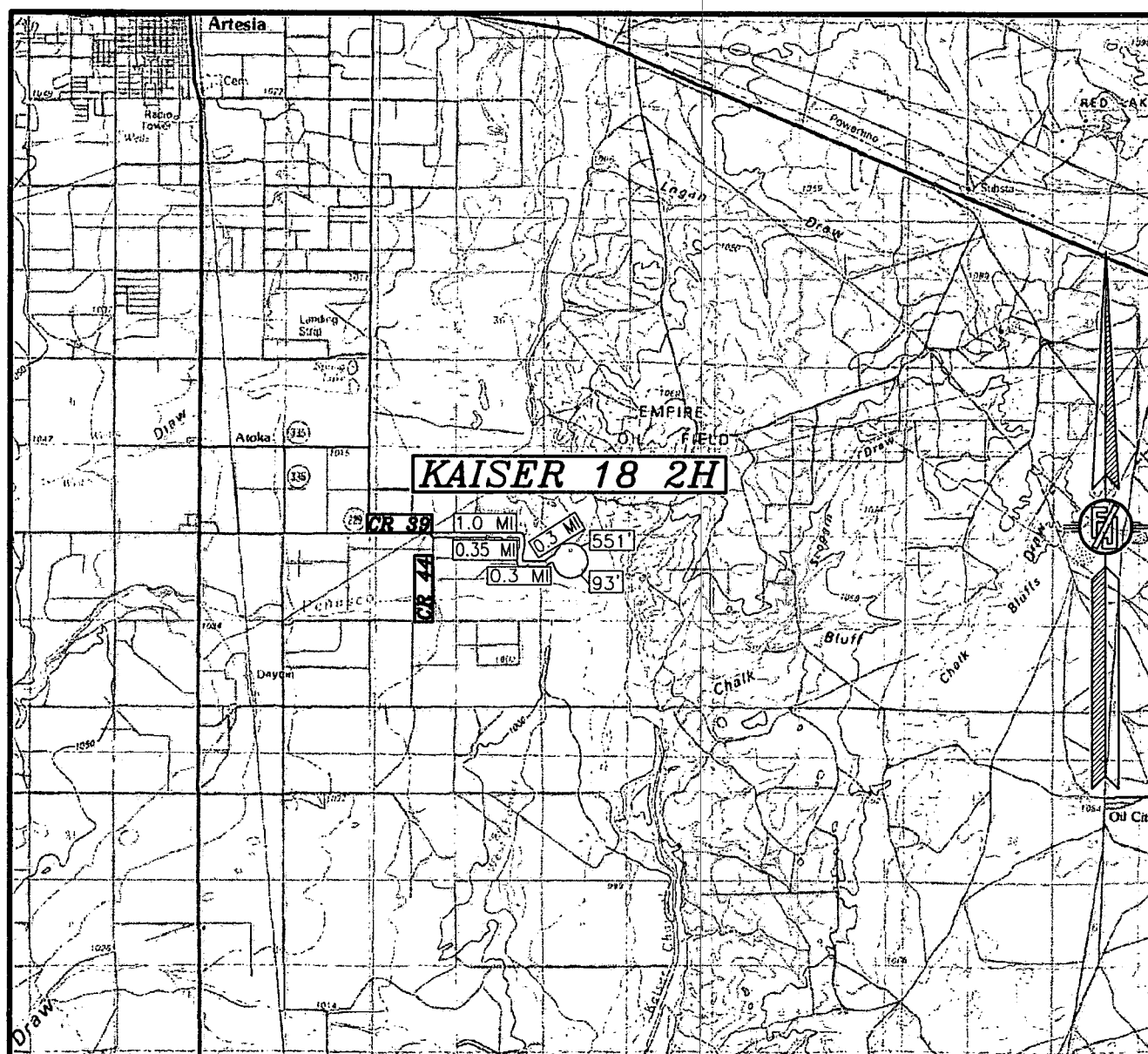
LIME ROCK RESOURCES II-A, L.P.
KAISER 18 2H
LOCATED 1630 FT. FROM THE NORTH LINE
AND 1780 FT. FROM THE WEST LINE OF
SECTION 18, TOWNSHIP 18 SOUTH,
RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

NOVEMBER 25, 2019

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

SURVEY NO. 7814

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.
KAISER 18 2H

LOCATED 1630 FT. FROM THE NORTH LINE
AND 1780 FT. FROM THE WEST LINE OF
SECTION 18, TOWNSHIP 18 SOUTH,
RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

NOVEMBER 25, 2019

DIRECTIONS TO LOCATION

FROM CR 44 (FANNING) AND CR 39 (FOUR DINKUS) 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, BEND LEFT AND GO NORTHEAST 0.3 OF A MILE, TURN RIGHT AND GO SOUTH 551', TURN LEFT AND GO NORTHEAST 93' TO THE NORTHWEST PAD CORNER FOR THIS LOCATION.

SURVEY NO. 7814

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

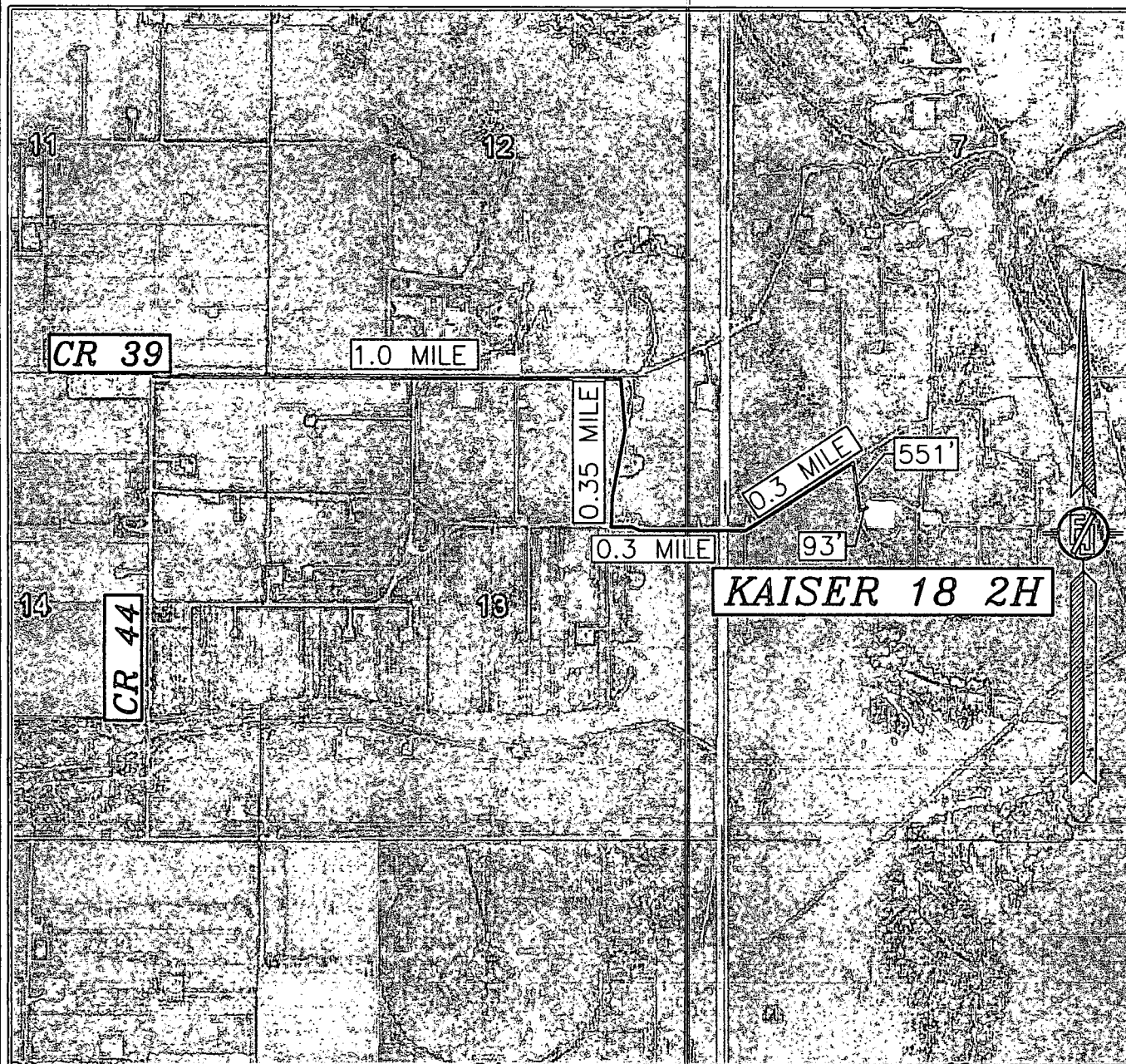
LIME ROCK RESOURCES II-A, L.P.
KAISER 18 2H
LOCATED 1630 FT. FROM THE NORTH LINE
AND 1780 FT. FROM THE WEST LINE OF
SECTION 18, TOWNSHIP 18 SOUTH,
RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

NOVEMBER 25, 2019

SURVEY NO. 7814

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.
KAISER 18 2H
LOCATED 1630 FT. FROM THE NORTH LINE
AND 1780 FT. FROM THE WEST LINE OF
SECTION 18, TOWNSHIP 18 SOUTH,
RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

NOVEMBER 25, 2019

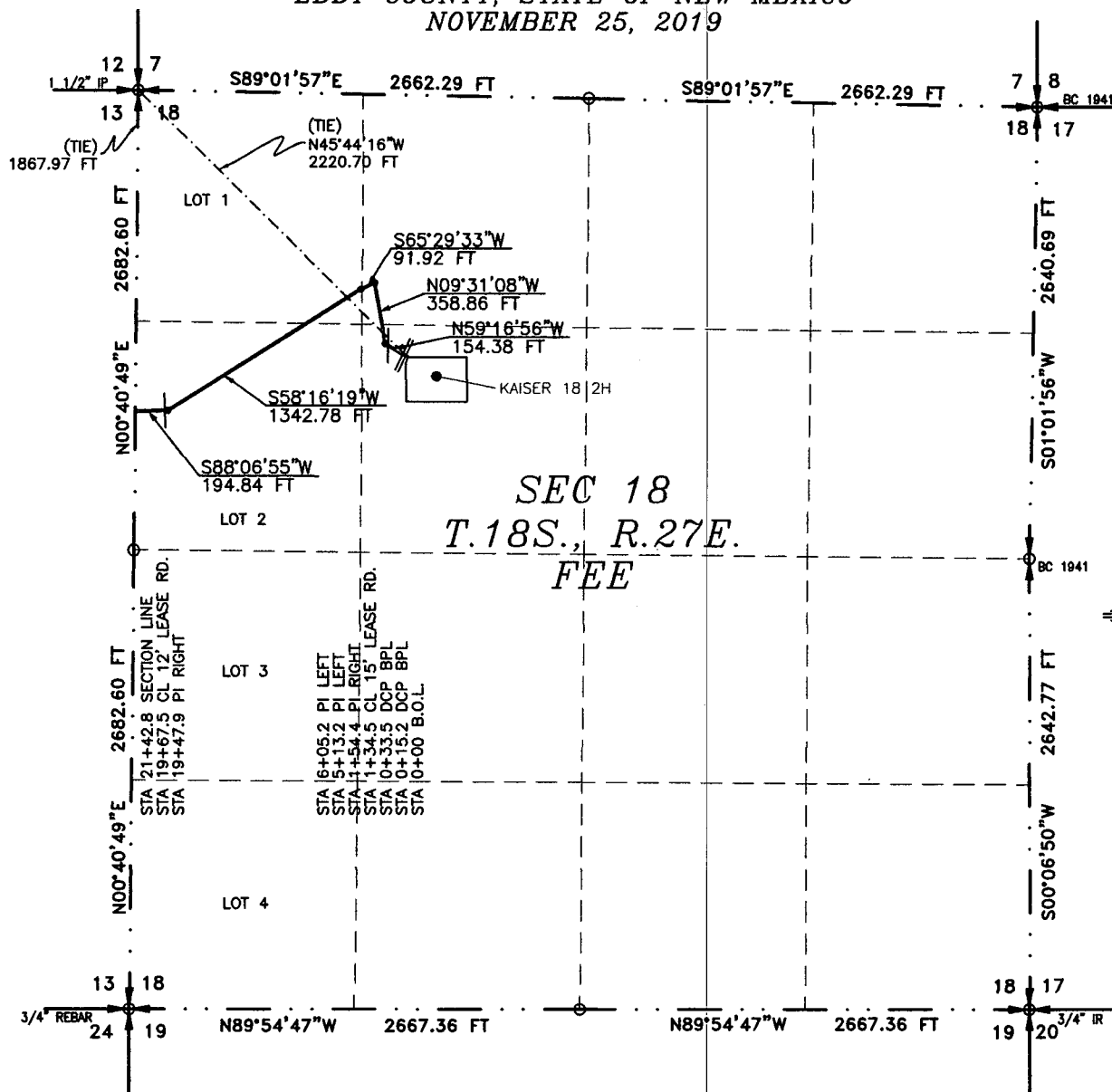
SURVEY NO. 7814

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

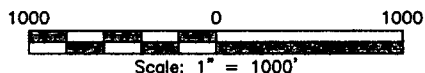
FLOWLINE PLAT

TWO 4" POLY SURFACE LINES (1-GAS AND 1-PRODUCTION) FROM THE KAISER 18 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.
EDDY COUNTY, STATE OF NEW MEXICO
NOVEMBER 25, 2019



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.

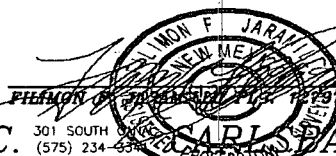
SHEET: 1-6

MADRON SURVEYING, INC.

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 11 DAY OF DECEMBER 2019



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

SURVEY NO. 7814

CARLSBAD, NEW MEXICO

FLOWLINE PLAT

TWO 4" POLY SURFACE LINES (1-GAS AND 1-PRODUCTION) FROM THE KAISER 18 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.
EDDY COUNTY, STATE OF NEW MEXICO
NOVEMBER 25, 2019

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 THE SW/4 NW/4 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 N45°44'16"W, A DISTANCE OF 2220.70 FEET;

THENCE N59°16'56"W A DISTANCE OF 154.38 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE N09°31'08"W A DISTANCE OF 358.86 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S65°29'33"W A DISTANCE OF 91.92 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S58°16'19"W A DISTANCE OF 1342.78 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S88°06'55"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 2142.78 FEET OR 129.87 RODS IN LENGTH, CONTAINING 1.476 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

SE/4 NW/4	266.96 L.F.	16.18 RODS	0.184 ACRES
NE/4 NW/4	329.53 L.F.	19.97 RODS	0.227 ACRES
LOT 1	387.04 L.F.	23.46 RODS	0.267 ACRES
LOT 2	1159.25 L.F.	70.26 RODS	0.798 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 11 DAY OF DECEMBER 2019

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

SURVEY NO. 7814

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.

301 SOUTH CANAL
(575) 234-3341

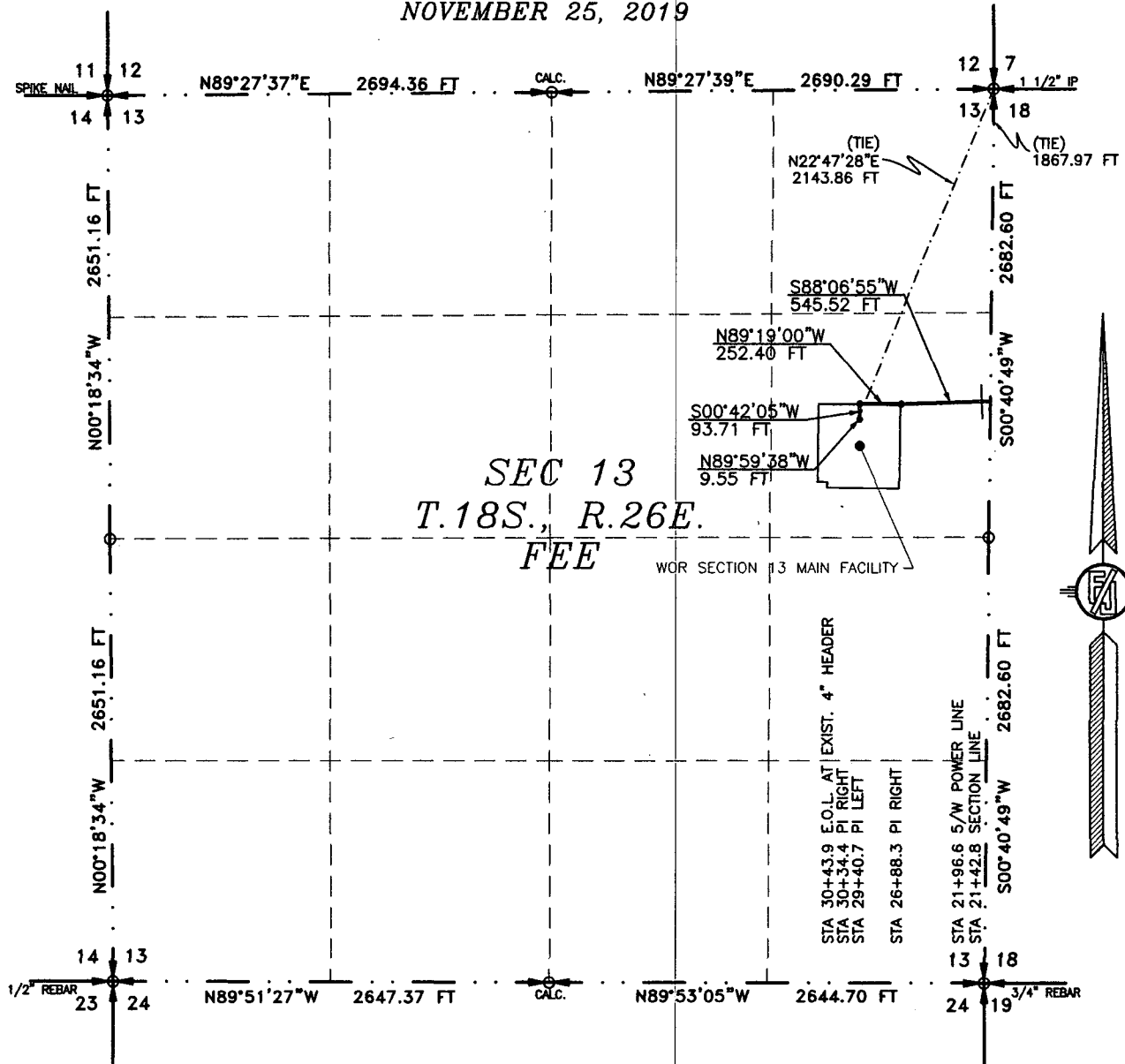


CARLSBAD, NEW MEXICO

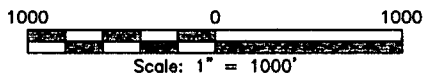
FLOWLINE PLAT

TWO 4" POLY SURFACE LINES (1-GAS AND 1-PRODUCTION) FROM THE KAISER 18 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
NOVEMBER 25, 2019



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.

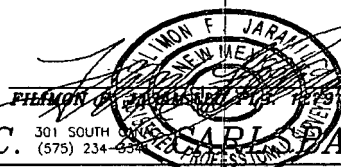
SHEET: 3-6

MADRON SURVEYING, INC.

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 11 DAY OF DECEMBER 2019



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

SURVEY NO. 7814

CARLSBAD, NEW MEXICO

FLOWLINE PLAT

TWO 4" POLY SURFACE LINES (1-GAS AND 1-PRODUCTION) FROM THE KAISER 18 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
NOVEMBER 25, 2019

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 N89°19'00"W A DISTANCE OF 252.40 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S00°42'05"W A DISTANCE OF 93.71 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE N89°59'38"W A DISTANCE OF 9.55 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 N22°47'28"E, A DISTANCE OF 2143.86 FEET;

SAID STRIP OF LAND BEING 901.18 FEET OR 54.62 RODS IN LENGTH, CONTAINING 0.621 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

SE/4 NE/4 901.18 L.F. 54.62 RODS 0.621 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 11 DAY OF DECEMBER 2019

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.

301 SOUTH
(575) 234-3341



SURVEY NO. 7814

CARLSBAD, NEW MEXICO

FLOWLINE PLAT

TWO 4" POLY SURFACE LINES (1-GAS AND 1-PRODUCTION) FROM THE KAISER 18 2H
TO THE WOR SECTION 13 MAIN FACILITY

LIME ROCK RESOURCES II-A, L.P.

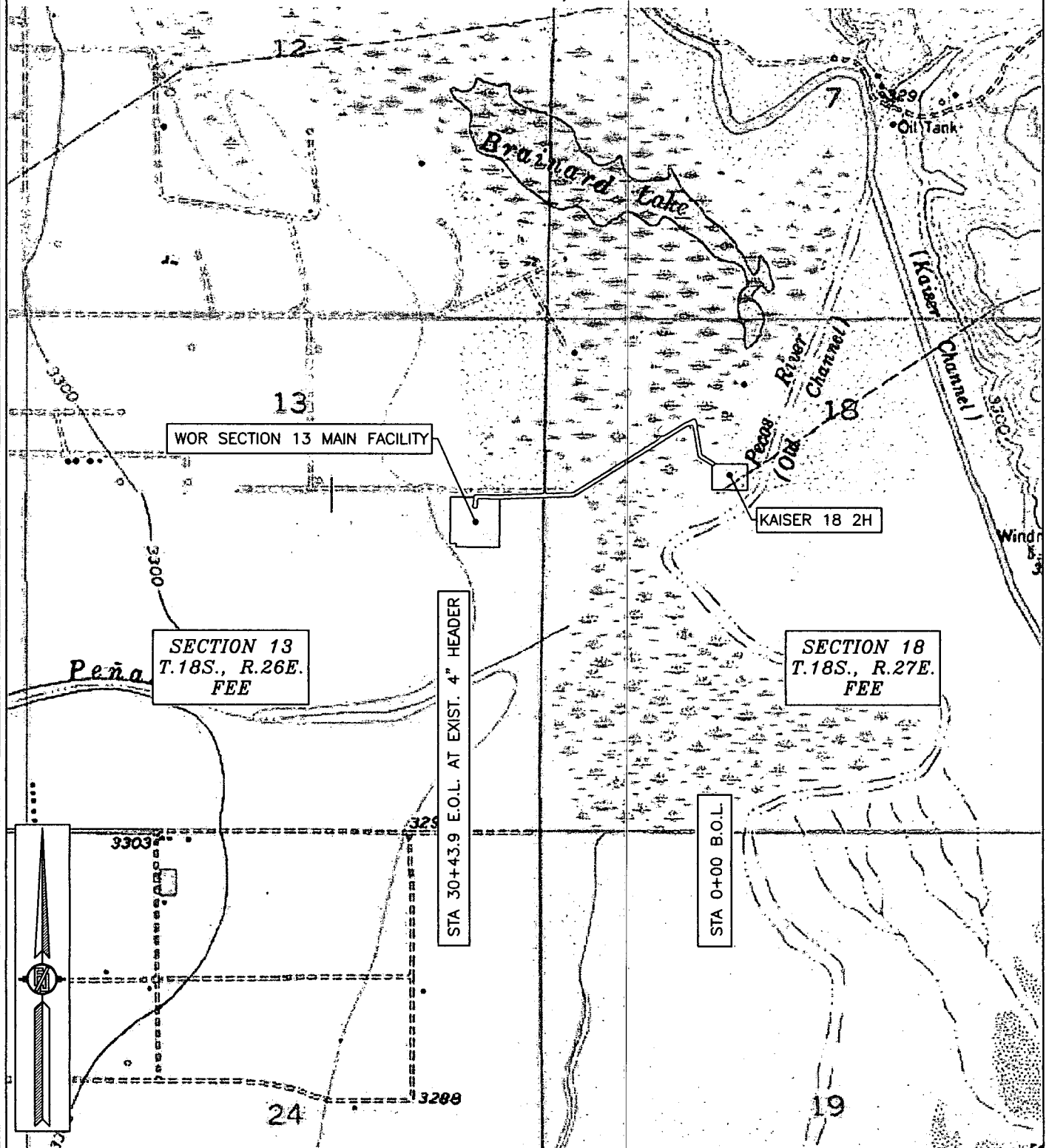
CENTERLINE SURVEY OF A PIPELINE CROSSING

SECTION 18, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M.

SECTION 13, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M.

EDDY COUNTY, STATE OF NEW MEXICO

NOVEMBER 25, 2019



SHEET: 5-6

MADRON SURVEYING, INC.

301 SOUTH CANAL
(575) 234-3341

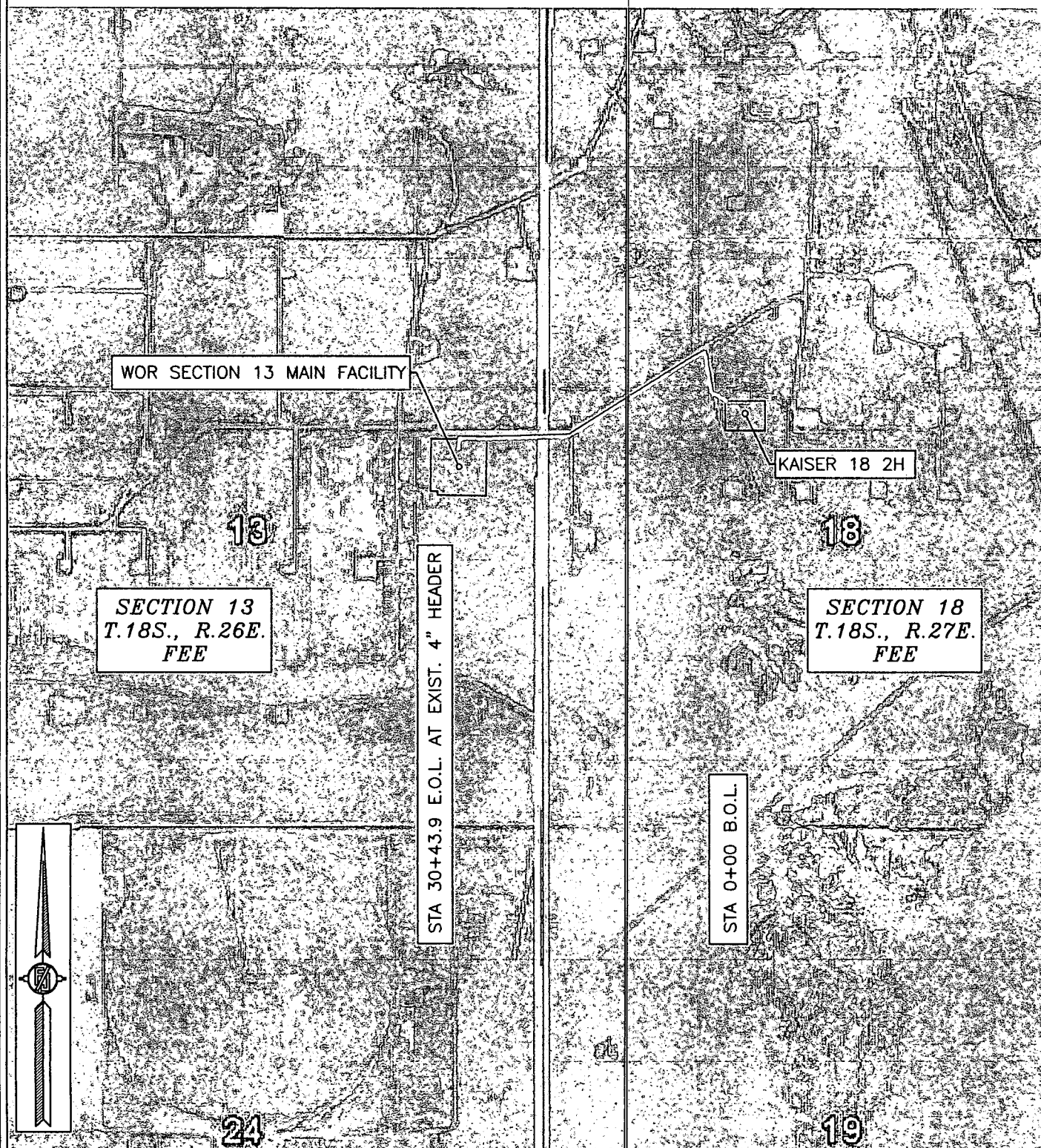
CARLSBAD, NEW MEXICO

SURVEY NO. 7814

FLOWLINE PLAT

TWO 4" POLY SURFACE LINES (1-GAS AND 1-PRODUCTION) FROM THE KAISER 18 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.
SECTION 13, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
NOVEMBER 25, 2019



SHEET: 6-6

SURVEY NO. 7814

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

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

**Kaiser 18 #2H
1,630' FNL, 1,780' FWL
(D) 18-18S-27E
Eddy County, NM**

1. The elevation of the unprepared ground is 3288.5 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 horizontal well to 10,497' MD/3,600' TVD and run casing. 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 10,497' MD/3,600' TVD. The KOP for horizontal drill be at 2,871'. 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	451
Grayburg	637	895
Premier	906	1073
San Andres	946	1115
Glorieta	2406	2555
Yeso	2496	2696
Tubb	NA	NA
TD	10,497	3600

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	451
Grayburg	637	895
Premier	906	1073
San Andres	946	1115
Glorieta	2406	2555
Yeso	2496	2696
Tubb	NA	NA
TD	10497	3600

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	353	12	2.41	Class C (100% Excess): 2% Anhydrous Na + 1% CaCl ₂ + 3pps Granular Kolite + 0.25 Fiber
						1230	184	14.8	1.34	Class C (100% Excess): 1% CaCl ₂ + 3pps Granular Kolite + 0.25 Fiber
Production	8-3/4"	7"	29	HCL-80	BT&C	3100	160	11.3	2.91	Class C (50/50poz): 10% Bentonite+ 1.2% Anhydrous Na + 0.3% anti-foam + 0.25pps Cello Flake + 5% NaCl
		5-1/2"	20	L-80	BT&C	10497	1228	14.2	1.52	Class C: 10% Bentonite+ 1.2% Anhydrous Na + 0.3% anti-foam + 0.25pps Cello Flake + 5% NaCl

8. Proposed Mud Program is as follows

Depth	0-1230	1230-7850	7850-10497
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.

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. We don't anticipate encountering H₂S while
If H₂S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order N
personnel will be familiar with all aspects of safe operation of equipment being used to drill this well
Estimated BHP 1,584 psi based on 0.44 x TVD. The estimated BHT is 128 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 it complet
well and to construct surface facilities.



LIME ROCK

Project: Eddy County, NM
Site: SEC 18 T18S R27E
Well: Kaiser 18 #2H
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' 2.638 N
Longitude: 104° 19' 14.678 W
Grid Convergence: 0.01° West
Ground Elevation: 3287.4
KB Elevation: KB @ 3308.4usft



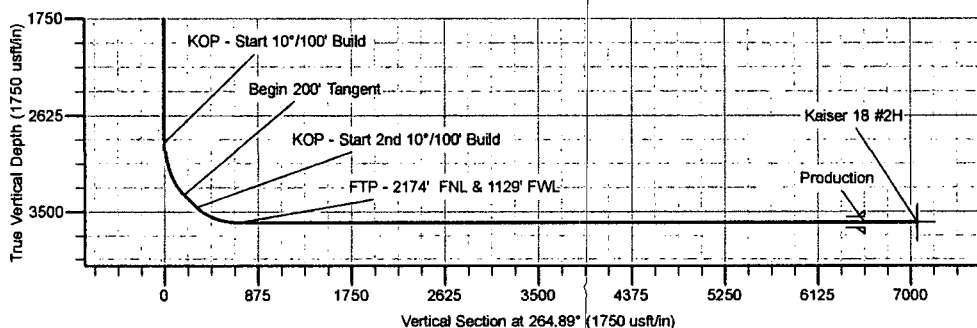
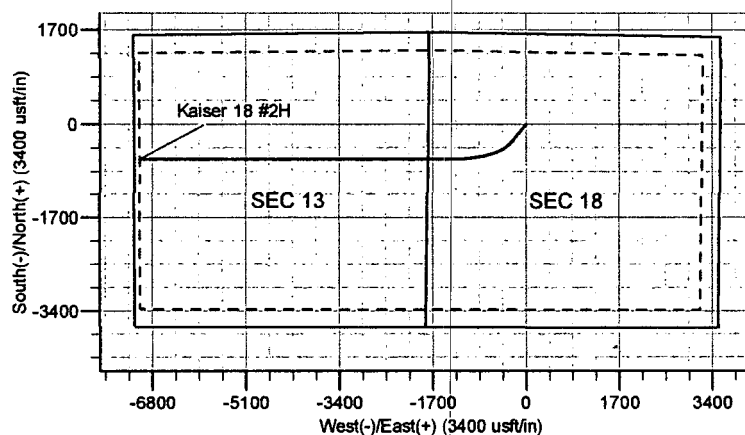
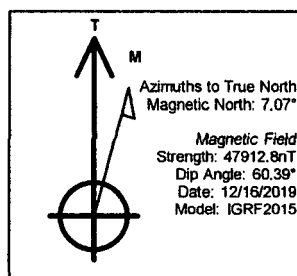
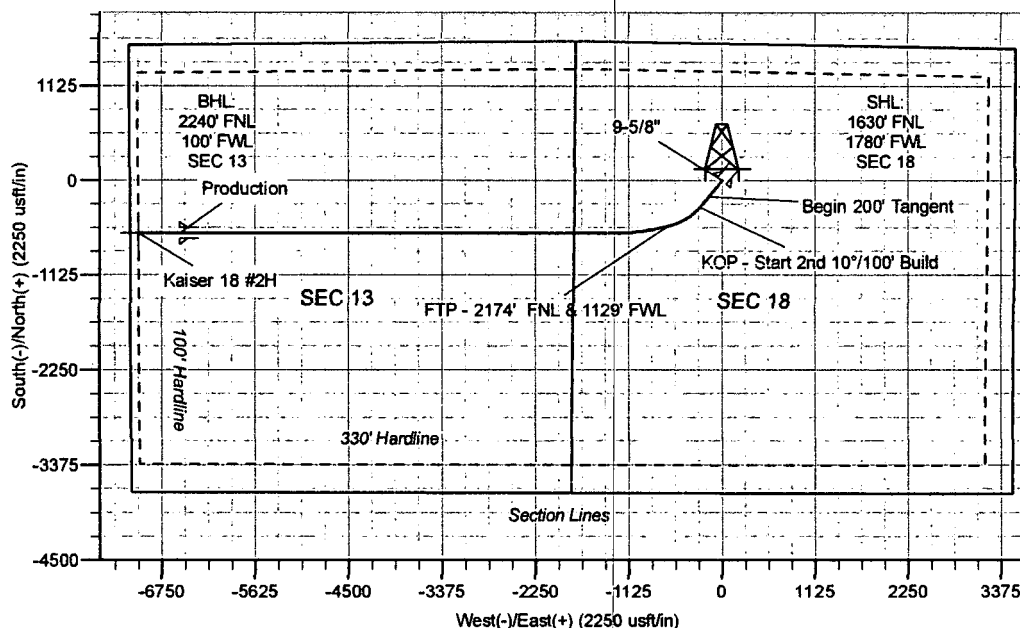
RPM Consulting, Inc.
1600 Broadway, Suite 1510
Denver, CO 80013
303-595-7625

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
1230.0	0.00	0.00	1230.0	0.0	0.0	0.00	0.00	0.0
2870.9	0.00	0.00	2870.9	0.0	0.0	0.00	0.00	0.0
3430.9	56.00	220.00	3345.9	-193.5	-162.3	10.00	220.00	178.9
3630.9	56.00	220.00	3457.7	-320.5	-268.9	0.00	0.00	296.4
4109.6	90.00	255.99	3600.0	-543.6	-651.2	10.00	52.41	697.0
4810.1	90.00	270.00	3600.0	-628.8	-1344.8	2.00	90.00	1395.4
10496.5	90.00	270.00	3600.0	-628.8	-7031.1	0.00	0.00	7059.2

CASING DETAILS

TVD	MD	Name	Size
1230.0	1230.0	Surface	9-5/8
3600.0	10000.0	Production	5-1/2



Lime Rock Resources

Eddy County, NM

SEC 18 T18S R27E

Kaiser 18 #2H

Original Wellbore

Plan: Plan 2

Standard Planning Report

17 December, 2019

Planning Report

Database: EDM Server Database
Company: Lime Rock Resources
Project: Eddy County, NM
Site: SEC 18 T18S R27E
Well: Kaiser 18 #2H
Wellbore: Original Wellbore
Design: Plan 2

Local Co-ordinate Reference: Well Kaiser 18 #2H
TVD Reference: KB @ 3308.4usft
MD Reference: KB @ 3308.4usft
North Reference: True
Survey Calculation Method: Minimum Curvature

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	Kaiser 18 #2H		
Well Position	+N/-S	-991.4 usft	Northing: 636,848.60 usft
	+E/-W	1,267.9 usft	Easting: 545,207.94 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	
		Latitude:	32° 45' 2.638 N
		Longitude:	104° 19' 14.678 W
		Ground Level:	3,287.4 usft

Wellbore	Original Wellbore		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2015	12/16/2019	7.07
		Dip Angle (°)	60.39
		Field Strength (nT)	47,912.81452051

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)
	0.0	0.0	0.0
		Direction (°)	264.89

Plan Survey Tool Program	Date 12/17/2019		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name
1	0.0	10,496.4	Plan 2 (Original Wellbore)
			MWD
			OWSG MWD - Standard
			Remarks

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	
1,230.0	0.00	0.00	1,230.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,870.9	0.00	0.00	2,870.9	0.0	0.0	0.00	0.00	0.00	0.00	
3,430.9	56.00	220.00	3,345.9	-193.5	-162.3	10.00	10.00	0.00	220.00	
3,630.9	56.00	220.00	3,457.7	-320.5	-268.9	0.00	0.00	0.00	0.00	
4,109.6	90.00	255.99	3,600.0	-543.6	-651.2	10.00	7.10	7.52	52.41	
4,810.1	90.00	270.00	3,600.0	-628.8	-1,344.8	2.00	0.00	2.00	90.00	
10,496.5	90.00	270.00	3,600.0	-628.8	-7,031.1	0.00	0.00	0.00	0.00	Kaiser 18 #2H

Planning Report

Database:	EDM Server Database	Local Co-ordinate Reference:	Well Kaiser 18 #2H
Company:	Lime Rock Resources	TVD Reference:	KB @ 3308.4usft
Project:	Eddy County, NM	MD Reference:	KB @ 3308.4usft
Site:	SEC 18 T18S R27E	North Reference:	True
Well:	Kaiser 18 #2H	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
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,870.9	0.00	0.00	2,870.9	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start 10°/100' Build									
2,900.0	2.91	220.00	2,900.0	-0.6	-0.5	0.5	10.00	10.00	0.00
3,000.0	12.91	220.00	2,998.9	-11.1	-9.3	10.3	10.00	10.00	0.00
3,100.0	22.91	220.00	3,093.9	-34.6	-29.1	32.0	10.00	10.00	0.00
3,200.0	32.91	220.00	3,182.2	-70.4	-59.1	65.1	10.00	10.00	0.00
3,300.0	42.91	220.00	3,261.0	-117.4	-98.5	108.6	10.00	10.00	0.00
3,400.0	52.91	220.00	3,327.9	-174.2	-146.2	161.1	10.00	10.00	0.00
3,430.9	56.00	220.00	3,345.9	-193.5	-162.3	178.9	10.00	10.00	0.00
Begin 200' Tangent									
3,500.0	56.00	220.00	3,384.5	-237.4	-199.2	219.5	0.00	0.00	0.00
3,600.0	56.00	220.00	3,440.5	-300.9	-252.5	278.3	0.00	0.00	0.00
3,630.9	56.00	220.00	3,457.7	-320.5	-268.9	296.4	0.00	0.00	0.00
KOP - Start 2nd 10°/100' Build									
3,700.0	60.38	226.30	3,494.2	-363.2	-309.1	340.2	10.00	6.34	9.11
3,800.0	67.18	234.48	3,538.4	-420.2	-378.2	414.1	10.00	6.80	8.18
3,900.0	74.35	241.86	3,571.4	-469.8	-458.4	498.4	10.00	7.18	7.38
4,000.0	81.76	248.74	3,592.1	-510.5	-547.2	590.5	10.00	7.41	6.87
4,100.0	89.28	255.36	3,599.9	-541.2	-641.9	687.6	10.00	7.52	6.62
4,109.6	90.00	255.99	3,600.0	-543.6	-651.2	697.0	10.00	7.54	6.57
FTP - 2174' FNL & 1129' FWL									
4,200.0	90.00	257.80	3,600.0	-564.1	-739.2	786.5	2.00	0.00	2.00

Planning Report

Database:	EDM Server Database	Local Co-ordinate Reference:	Well Kaiser 18 #2H
Company:	Lime Rock Resources	TVD Reference:	KB @ 3308.4usft
Project:	Eddy County, NM	MD Reference:	KB @ 3308.4usft
Site:	SEC 18 T18S R27E	North Reference:	True
Well:	Kaiser 18 #2H	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)
4,300.0	90.00	259.80	3,600.0	-583.5	-837.3	886.0	2.00	0.00	2.00
4,400.0	90.00	261.80	3,600.0	-599.5	-936.0	985.7	2.00	0.00	2.00
4,500.0	90.00	263.80	3,600.0	-612.0	-1,035.2	1,085.6	2.00	0.00	2.00
4,600.0	90.00	265.80	3,600.0	-621.1	-1,134.8	1,185.6	2.00	0.00	2.00
4,700.0	90.00	267.80	3,600.0	-626.7	-1,234.7	1,285.6	2.00	0.00	2.00
4,800.0	90.00	269.80	3,600.0	-628.8	-1,334.6	1,385.3	2.00	0.00	2.00
4,810.1	90.00	270.00	3,600.0	-628.8	-1,344.8	1,395.4	2.00	0.00	2.00
4,900.0	90.00	270.00	3,600.0	-628.8	-1,434.6	1,484.9	0.00	0.00	0.00
5,000.0	90.00	270.00	3,600.0	-628.8	-1,534.6	1,584.5	0.00	0.00	0.00
5,100.0	90.00	270.00	3,600.0	-628.8	-1,634.6	1,684.1	0.00	0.00	0.00
5,200.0	90.00	270.00	3,600.0	-628.8	-1,734.6	1,783.8	0.00	0.00	0.00
5,300.0	90.00	270.00	3,600.0	-628.8	-1,834.6	1,883.4	0.00	0.00	0.00
5,400.0	90.00	270.00	3,600.0	-628.8	-1,934.6	1,983.0	0.00	0.00	0.00
5,500.0	90.00	270.00	3,600.0	-628.8	-2,034.6	2,082.6	0.00	0.00	0.00
5,600.0	90.00	270.00	3,600.0	-628.8	-2,134.6	2,182.2	0.00	0.00	0.00
5,700.0	90.00	270.00	3,600.0	-628.8	-2,234.6	2,281.8	0.00	0.00	0.00
5,800.0	90.00	270.00	3,600.0	-628.8	-2,334.6	2,381.4	0.00	0.00	0.00
5,900.0	90.00	270.00	3,600.0	-628.8	-2,434.6	2,481.0	0.00	0.00	0.00
6,000.0	90.00	270.00	3,600.0	-628.8	-2,534.6	2,580.6	0.00	0.00	0.00
6,100.0	90.00	270.00	3,600.0	-628.8	-2,634.6	2,680.2	0.00	0.00	0.00
6,200.0	90.00	270.00	3,600.0	-628.8	-2,734.6	2,779.8	0.00	0.00	0.00
6,300.0	90.00	270.00	3,600.0	-628.8	-2,834.6	2,879.4	0.00	0.00	0.00
6,400.0	90.00	270.00	3,600.0	-628.8	-2,934.6	2,979.0	0.00	0.00	0.00
6,500.0	90.00	270.00	3,600.0	-628.8	-3,034.6	3,078.6	0.00	0.00	0.00
6,600.0	90.00	270.00	3,600.0	-628.8	-3,134.6	3,178.2	0.00	0.00	0.00
6,700.0	90.00	270.00	3,600.0	-628.8	-3,234.6	3,277.8	0.00	0.00	0.00
6,800.0	90.00	270.00	3,600.0	-628.8	-3,334.6	3,377.4	0.00	0.00	0.00
6,900.0	90.00	270.00	3,600.0	-628.8	-3,434.6	3,477.0	0.00	0.00	0.00
7,000.0	90.00	270.00	3,600.0	-628.8	-3,534.6	3,576.6	0.00	0.00	0.00
7,100.0	90.00	270.00	3,600.0	-628.8	-3,634.6	3,676.2	0.00	0.00	0.00
7,200.0	90.00	270.00	3,600.0	-628.8	-3,734.6	3,775.8	0.00	0.00	0.00
7,300.0	90.00	270.00	3,600.0	-628.8	-3,834.6	3,875.4	0.00	0.00	0.00
7,400.0	90.00	270.00	3,600.0	-628.8	-3,934.6	3,975.0	0.00	0.00	0.00
7,500.0	90.00	270.00	3,600.0	-628.8	-4,034.6	4,074.6	0.00	0.00	0.00
7,600.0	90.00	270.00	3,600.0	-628.8	-4,134.6	4,174.2	0.00	0.00	0.00
7,700.0	90.00	270.00	3,600.0	-628.8	-4,234.6	4,273.8	0.00	0.00	0.00
7,800.0	90.00	270.00	3,600.0	-628.8	-4,334.6	4,373.4	0.00	0.00	0.00
7,900.0	90.00	270.00	3,600.0	-628.8	-4,434.6	4,473.0	0.00	0.00	0.00
8,000.0	90.00	270.00	3,600.0	-628.8	-4,534.6	4,572.6	0.00	0.00	0.00
8,100.0	90.00	270.00	3,600.0	-628.8	-4,634.6	4,672.2	0.00	0.00	0.00
8,200.0	90.00	270.00	3,600.0	-628.8	-4,734.6	4,771.8	0.00	0.00	0.00
8,300.0	90.00	270.00	3,600.0	-628.8	-4,834.6	4,871.4	0.00	0.00	0.00
8,400.0	90.00	270.00	3,600.0	-628.8	-4,934.6	4,971.0	0.00	0.00	0.00
8,500.0	90.00	270.00	3,600.0	-628.8	-5,034.6	5,070.6	0.00	0.00	0.00
8,600.0	90.00	270.00	3,600.0	-628.8	-5,134.6	5,170.2	0.00	0.00	0.00
8,700.0	90.00	270.00	3,600.0	-628.8	-5,234.6	5,269.8	0.00	0.00	0.00
8,800.0	90.00	270.00	3,600.0	-628.8	-5,334.6	5,369.4	0.00	0.00	0.00
8,900.0	90.00	270.00	3,600.0	-628.8	-5,434.6	5,469.0	0.00	0.00	0.00
9,000.0	90.00	270.00	3,600.0	-628.8	-5,534.6	5,568.6	0.00	0.00	0.00
9,100.0	90.00	270.00	3,600.0	-628.8	-5,634.6	5,668.3	0.00	0.00	0.00
9,200.0	90.00	270.00	3,600.0	-628.8	-5,734.6	5,767.9	0.00	0.00	0.00
9,300.0	90.00	270.00	3,600.0	-628.8	-5,834.6	5,867.5	0.00	0.00	0.00
9,400.0	90.00	270.00	3,600.0	-628.8	-5,934.6	5,967.1	0.00	0.00	0.00
9,500.0	90.00	270.00	3,600.0	-628.8	-6,034.6	6,066.7	0.00	0.00	0.00

Planning Report

Database:	EDM Server Database	Local Co-ordinate Reference:	Well Kaiser 18 #2H
Company:	Lime Rock Resources	TVD Reference:	KB @ 3308.4usft
Project:	Eddy County, NM	MD Reference:	KB @ 3308.4usft
Site:	SEC 18 T18S R27E	North Reference:	True
Well:	Kaiser 18 #2H	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)
9,600.0	90.00	270.00	3,600.0	-628.8	-6,134.6	6,166.3	0.00	0.00	0.00
9,700.0	90.00	270.00	3,600.0	-628.8	-6,234.6	6,265.9	0.00	0.00	0.00
9,800.0	90.00	270.00	3,600.0	-628.8	-6,334.6	6,365.5	0.00	0.00	0.00
9,900.0	90.00	270.00	3,600.0	-628.8	-6,434.6	6,465.1	0.00	0.00	0.00
10,000.0	90.00	270.00	3,600.0	-628.8	-6,534.6	6,564.7	0.00	0.00	0.00
Production									
10,100.0	90.00	270.00	3,600.0	-628.8	-6,634.6	6,664.3	0.00	0.00	0.00
10,200.0	90.00	270.00	3,600.0	-628.8	-6,734.6	6,763.9	0.00	0.00	0.00
10,300.0	90.00	270.00	3,600.0	-628.8	-6,834.6	6,863.5	0.00	0.00	0.00
10,400.0	90.00	270.00	3,600.0	-628.8	-6,934.6	6,963.1	0.00	0.00	0.00
10,496.5	90.00	270.00	3,600.0	-628.8	-7,031.1	7,059.2	0.00	0.00	0.00
PBHL									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Kaiser 18 #2H	0.00	0.00	3,600.0	-628.8	-7,031.1	636,218.94	538,176.92	32° 44' 56.408 N	104° 20' 37.009 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	9-5/8
10,000.0	3,600.0	Production	5-1/2	5-1/2

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"
2,870.9	2,870.9	0.0	0.0	KOP - Start 10°/100' Build
3,430.9	3,345.9	-193.5	-162.3	Begin 200' Tangent
3,630.9	3,457.7	-320.5	-268.9	KOP - Start 2nd 10°/100' Build
4,109.6	3,600.0	-543.6	-651.2	FTP - 2174' FNL & 1129' FWL
10,496.5	3,600.0	-628.8	-7,031.1	PBHL

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/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

■ 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

713-292-9510
 713-292-9555
 575-748-9724

KEY PERSONNEL

Name	Title	Location	Office #	Cell #	Home #
Frank Falleri	Production Manager	Houston	713-360-5714	713-817-8275	Same as Cell
Mark Reid	VP - Operations	Houston	713-292-9534	713-818-4438	Same as Cell
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

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

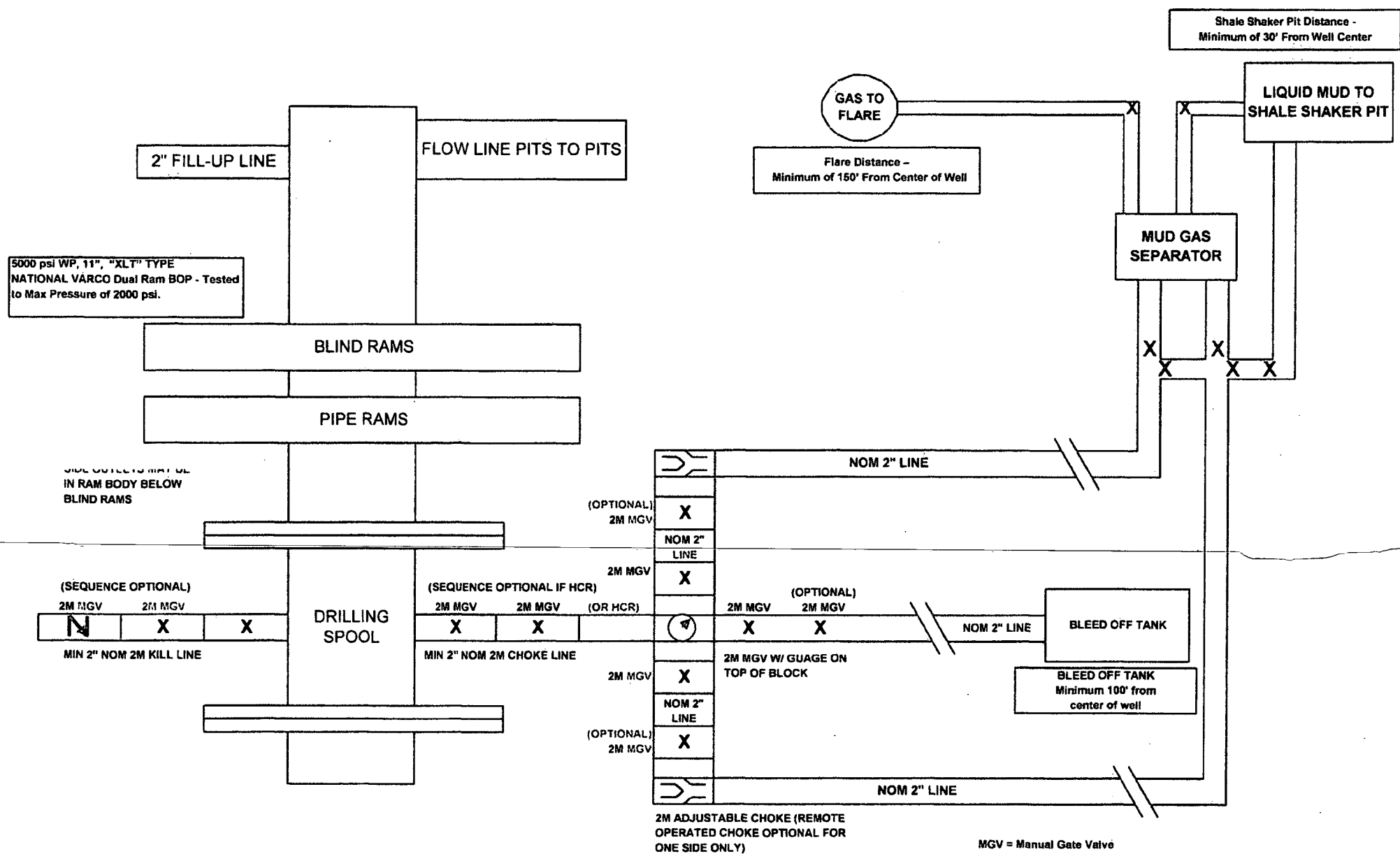
The blowout preventer equipment (BOP) will consist of a 5000 psi rated, "XLT" type, National VARCO double ram preventer that will be tested to a maximum pressure of 2000 psi. The unit will be hydraulically operated and the ram type preventer will be equipped with blind rams on top and drill pipe rams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

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.

KAISER 18 #2H

Unit F, Sec. 18, T18S R27E, Eddy County, NM

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.

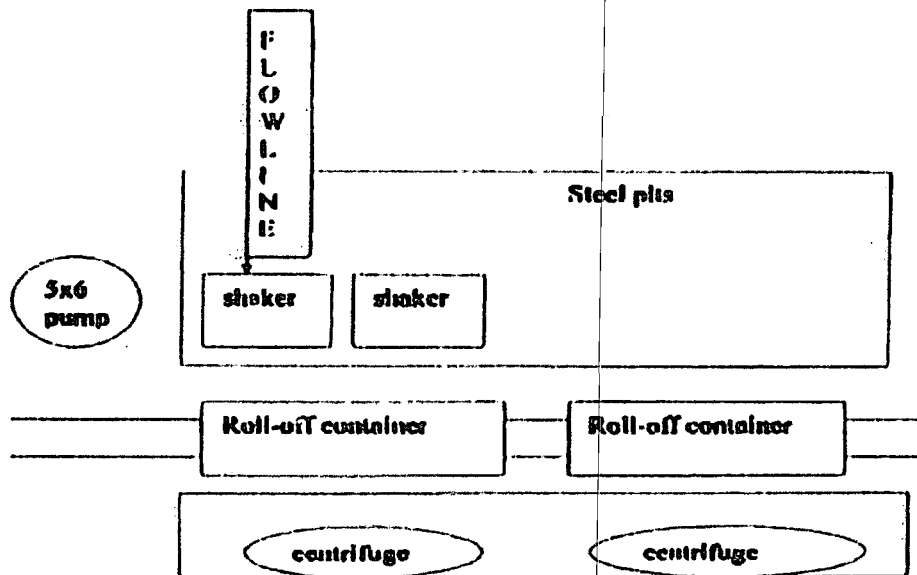
2- (250 bbl) tanks to hold fluid
2-CRI bins with track system
2-500 bbl frac tanks with fresh water
2-500 bbl frac tanks for brine water

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: 575.746.1689

Cell: 575.746.6387