

1625 N. French Dr., Hobbs, NM 88240
 Phone: (505) 393-6161 Fax: (505) 393-0720
 District II
 811 S. First St., Artesia, NM 88210
 Phone: (505) 748-1283 Fax: (505) 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

JUN 25 2018 ☒ AMENDED Report

DISTRICT II-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		UGRID Number 277558
Property Code 30630	Property Name Brainard II	API Number 30-015- 45096
		Well No #1H

7 Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
M	12	18S	26E		460	S	355	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
M	11	18S	26E		500	S	100	W	Eddy

9 Pool Information

Red Lake; Glorieta-Yeso	51120
-------------------------	-------

Additional Well Information

Work Type N	Well Type O	Cable/Rotary R	Lease Type P	Ground Level Elevation 3300.2
Multiple N	Proposed Depth 8000' MD / 2705' TVD	Formation Yeso	Contractor Trinidad Drilling	Spud Date After 8/1/2018
Depth to Ground Water: 80 Ft		Distance from nearest fresh water well: 0.38 Miles		Distance from nearest surface water: 0.63 Miles

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

19 Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Conductor	26"	20"	91.5	80	80	Surface
Surface	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 P. McClusky*

Printed Name: Eric McClusky

Title: Operations Engineer

E-mail Address: emcclusky@limerockresources.com

Date: 6/21/2018

Phone: 713-360-5714

OIL CONSERVATION DIVISION

Approved By:

Raymond W. Padany

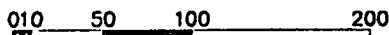
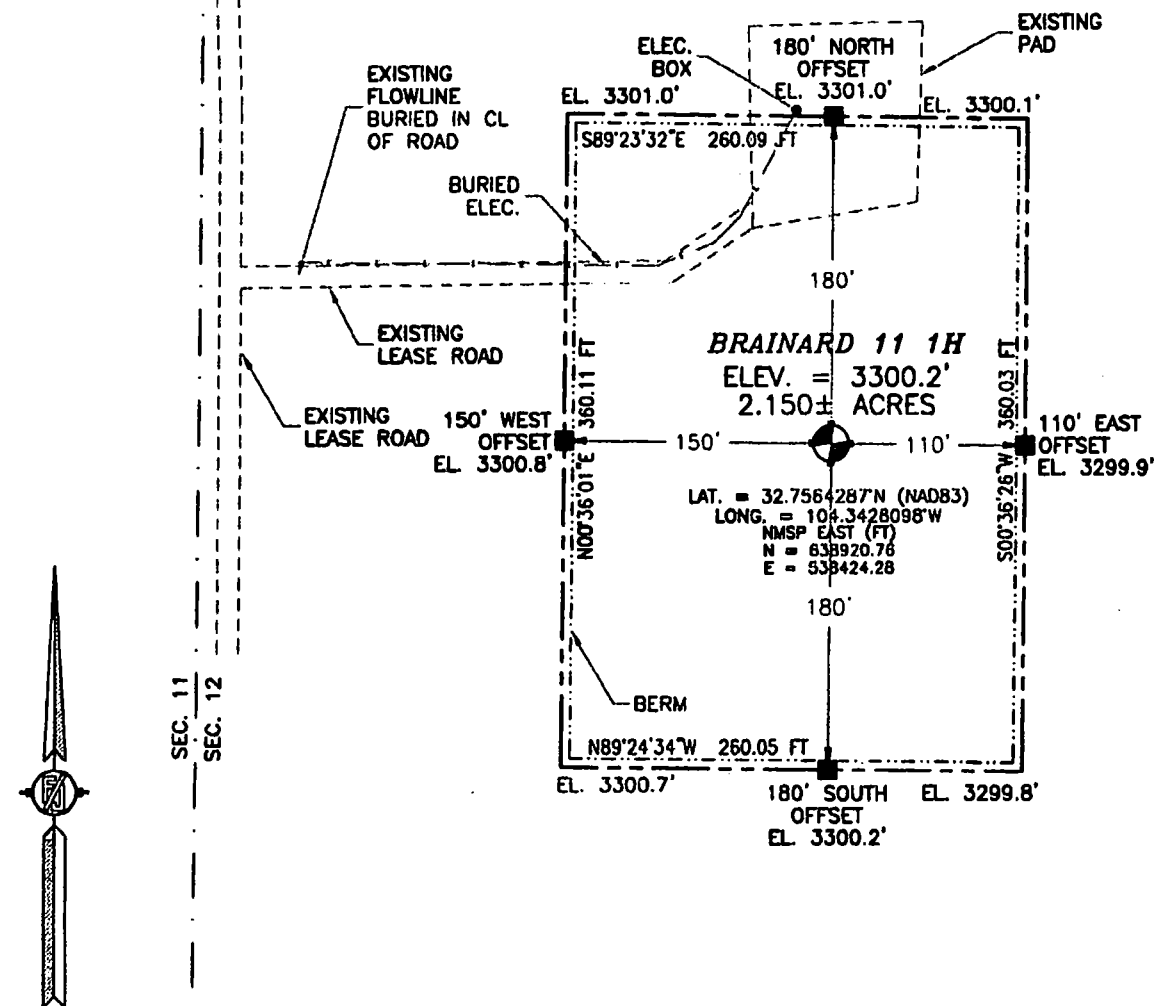
Title: *Geologist*

Approved Date: *7-9-18*

Expiration Date: *7-9-2020*

Conditions of Approval Attached *Circ Cmt to Surf for casing.*

SITE MAP

CULTIVATED FARM LAND

SCALE 1" = 100'

DIRECTIONS TO LOCATION

DIRECTIONS TO LOCATION
FROM CR 39 (FOUR DINKUS) AND CR 44 (FANNING) AND CALICHE ROAD, GO EAST ON CALICHE ROAD 0.25 OF A MILE, TURN LEFT AND GO NORTH 55°, TURN RIGHT AND GO EAST 205' TO WEST EDGE OF PAD FOR THIS LOCATION.

LIME ROCK RESOURCES II-A, L.P.

BRAINARD 11 1H

**LOCATED 460 FT. FROM THE SOUTH LINE
AND 355 FT. FROM THE WEST LINE OF
SECTION 12, TOWNSHIP 18 SOUTH,
RANGE 26 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO**

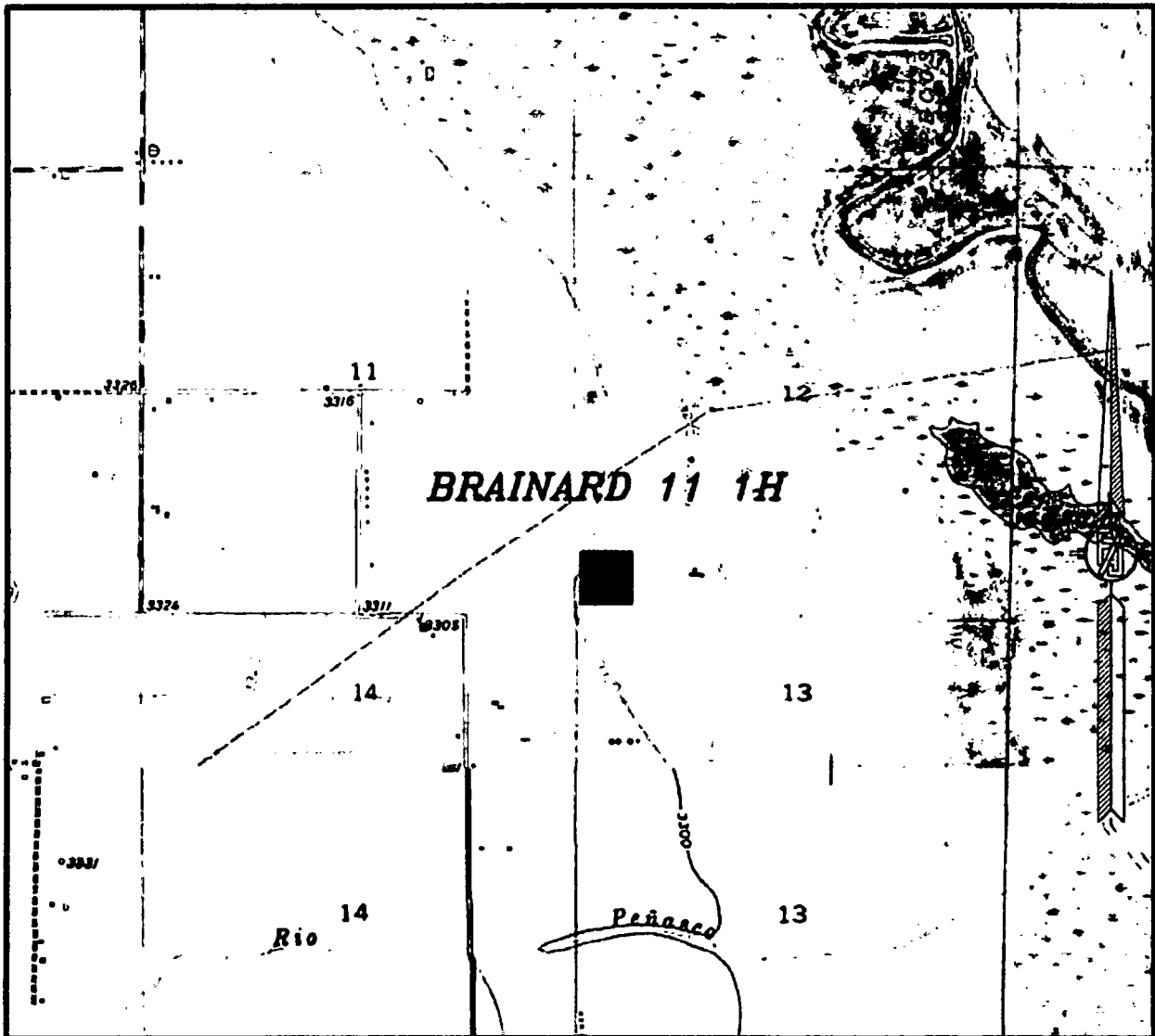
JUNE 12, 2018

SURVEY NO. 6212A

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

CARLSBAD, NEW MEXICO

SECTION 12, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
LOCATION VERIFICATION MAP



USGS QUAD MAP:
SPRING LAKE

NOT TO SCALE

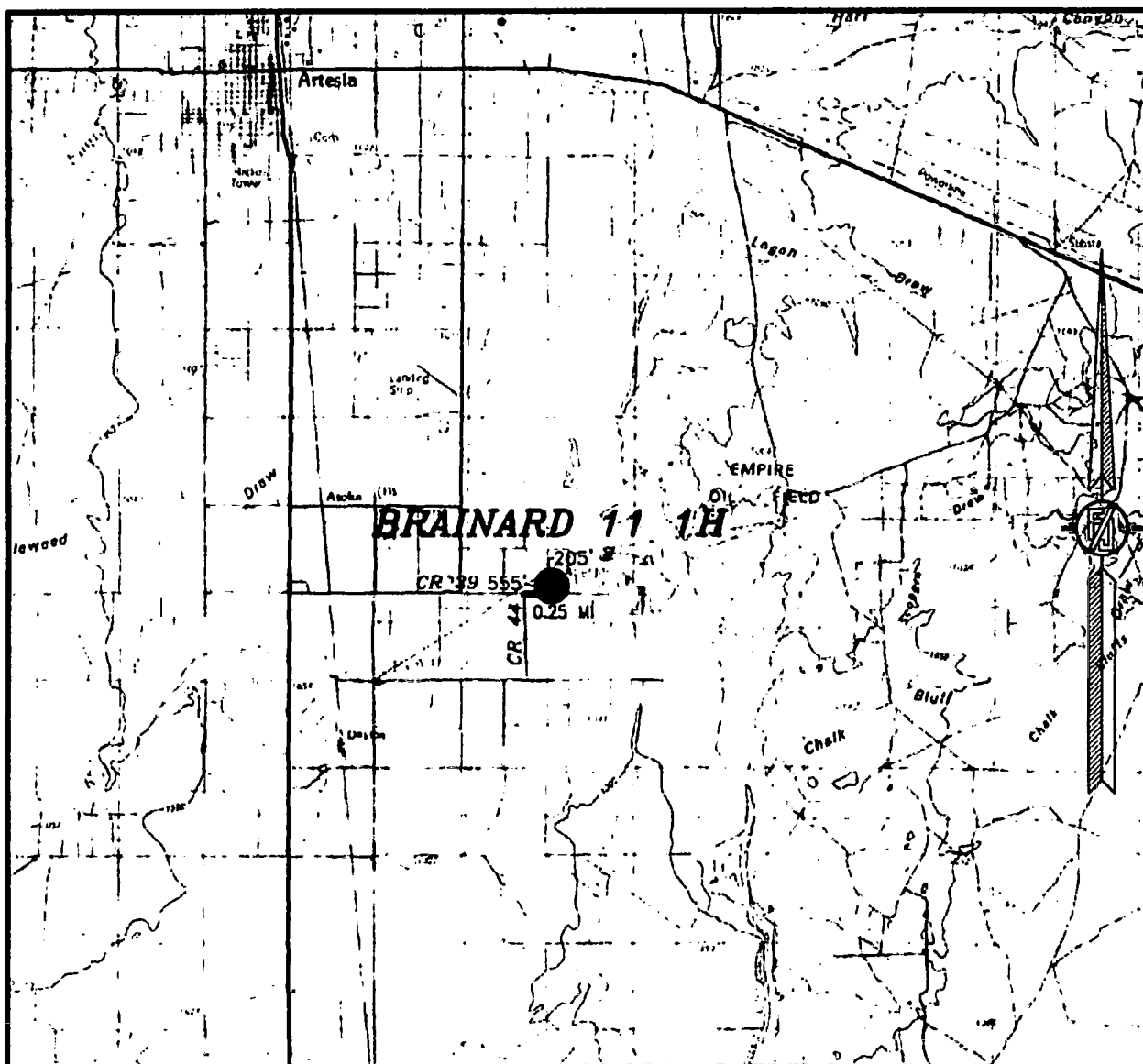
LIME ROCK RESOURCES II-A, L.P.
BRAINARD 11 1H
LOCATED 460 FT. FROM THE SOUTH LINE
AND 355 FT. FROM THE WEST LINE OF
SECTION 12, TOWNSHIP 18 SOUTH,
RANGE 26 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

JUNE 12, 2018

SURVEY NO. 6212A

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

SECTION 12, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
VICINITY MAP



DISTANCES IN MILES

NOT TO SCALE

DIRECTIONS TO LOCATION

FROM CR 39 (FOUR DINKUS) AND CR 44 (FANNING) AND CALICHE ROAD, GO EAST ON CALICHE ROAD 0.25 OF A MILE. TURN LEFT AND GO NORTH 555', TURN RIGHT AND GO EAST 205' TO WEST EDGE OF PAD FOR THIS LOCATION.

**LIME ROCK RESOURCES II-A, L.P.
BRAINARD 11 1H**

LOCATED 460 FT. FROM THE SOUTH LINE
AND 355 FT. FROM THE WEST LINE OF
SECTION 12, TOWNSHIP 18 SOUTH,
RANGE 26 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

JUNE 12, 2018

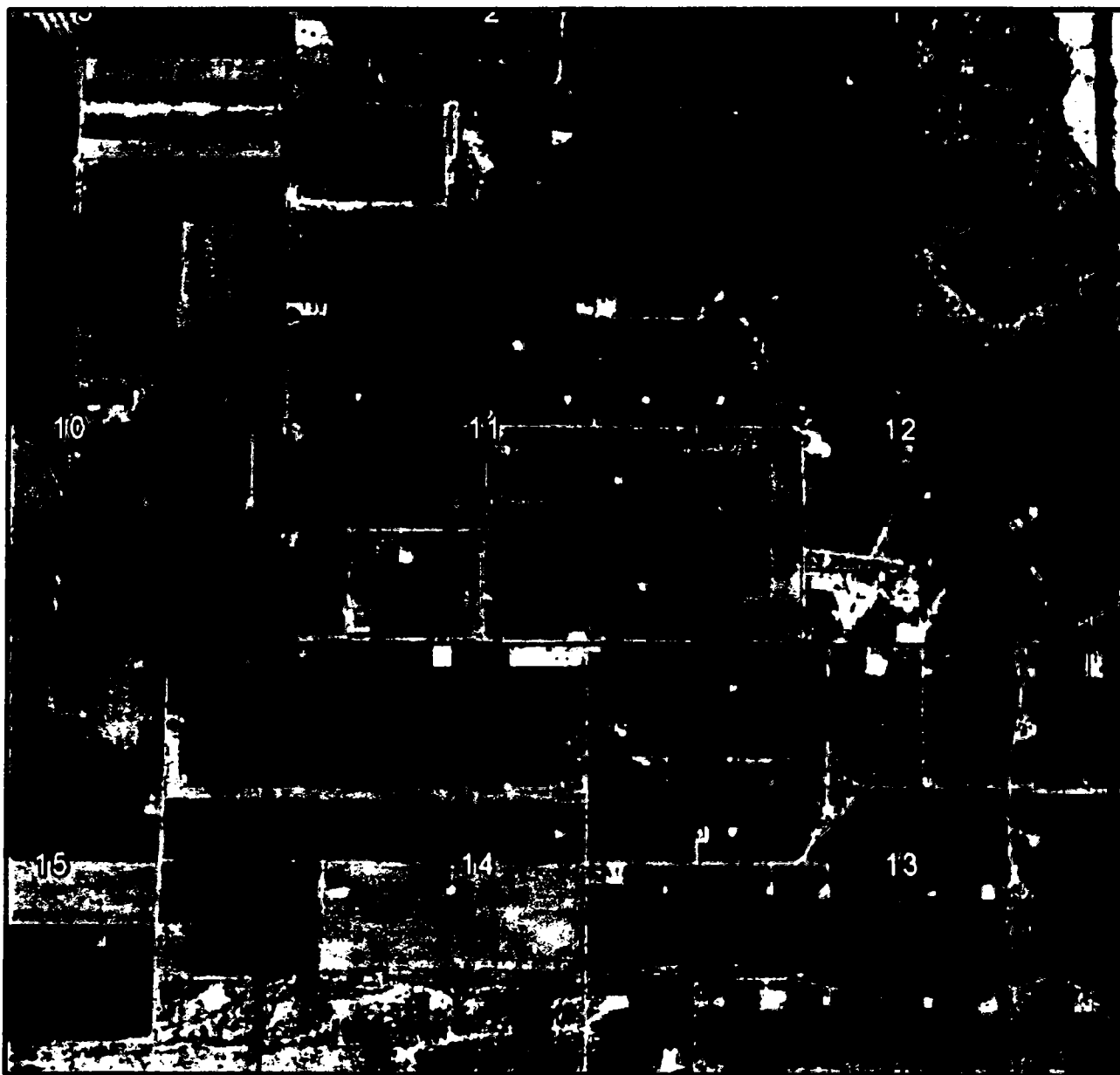
SURVEY NO. 6212A

MADRON SURVEYING, INC.

301 SOUTH CANAL
(575) 234-3341

CARLSBAD, NEW MEXICO

SECTION 12, TOWNSHIP 18 SOUTH, RANGE 26 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.
BRAINARD 11 1H**

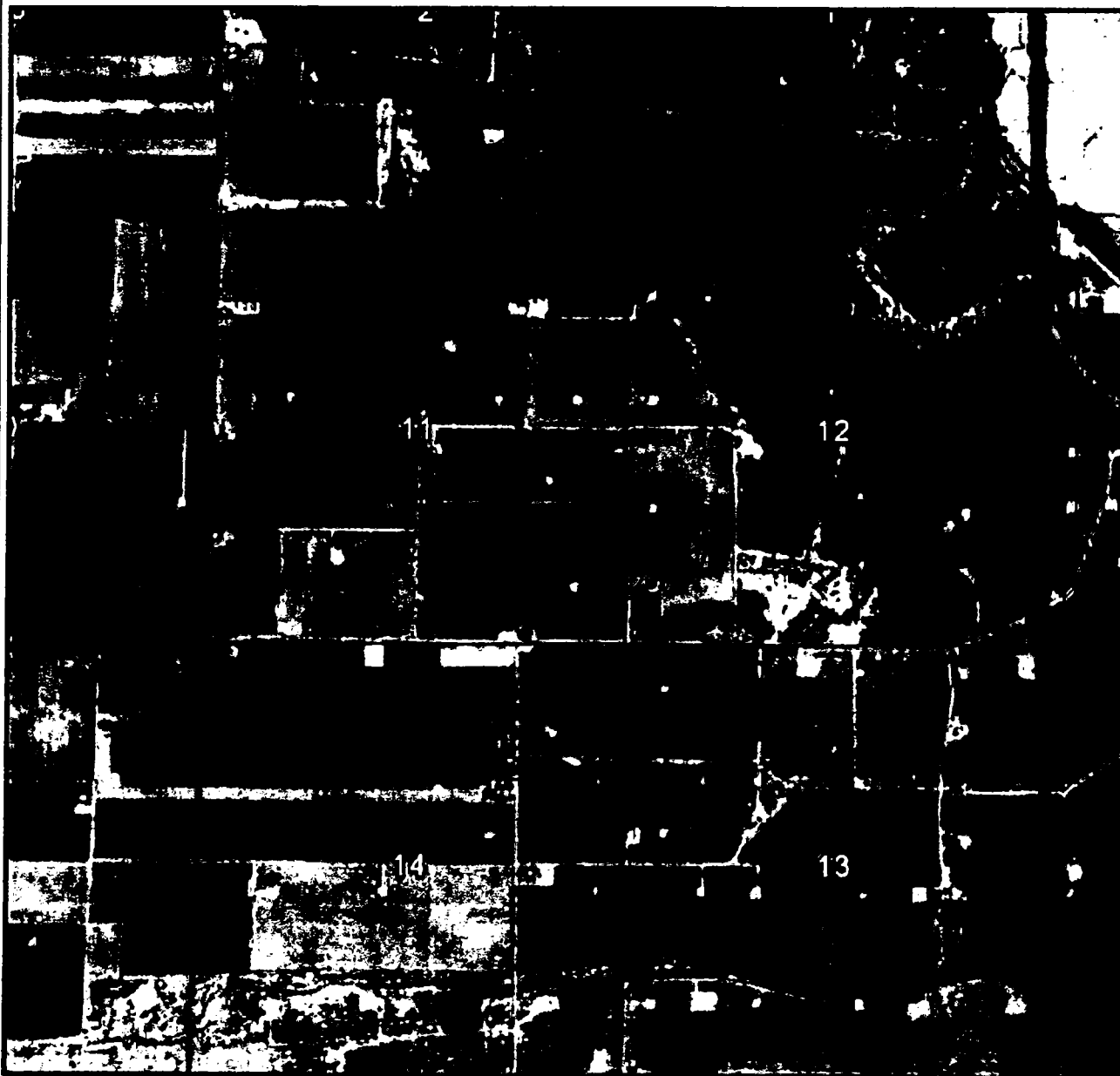
**LOCATED 460 FT. FROM THE SOUTH LINE
AND 355 FT. FROM THE WEST LINE OF
SECTION 12, TOWNSHIP 18 SOUTH,
RANGE 26 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO**

JUNE 12, 2018

SURVEY NO. 6212A

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

**SECTION 12, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
ACCESS AERIAL ROUTE MAP**



**NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
MARCH 2018**

**LIME ROCK RESOURCES II-A, L.P.
BRAINARD 11 1H**

**LOCATED 460 FT. FROM THE SOUTH LINE
AND 355 FT. FROM THE WEST LINE OF
SECTION 12, TOWNSHIP 18 SOUTH,
RANGE 26 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO**

JUNE 12, 2018

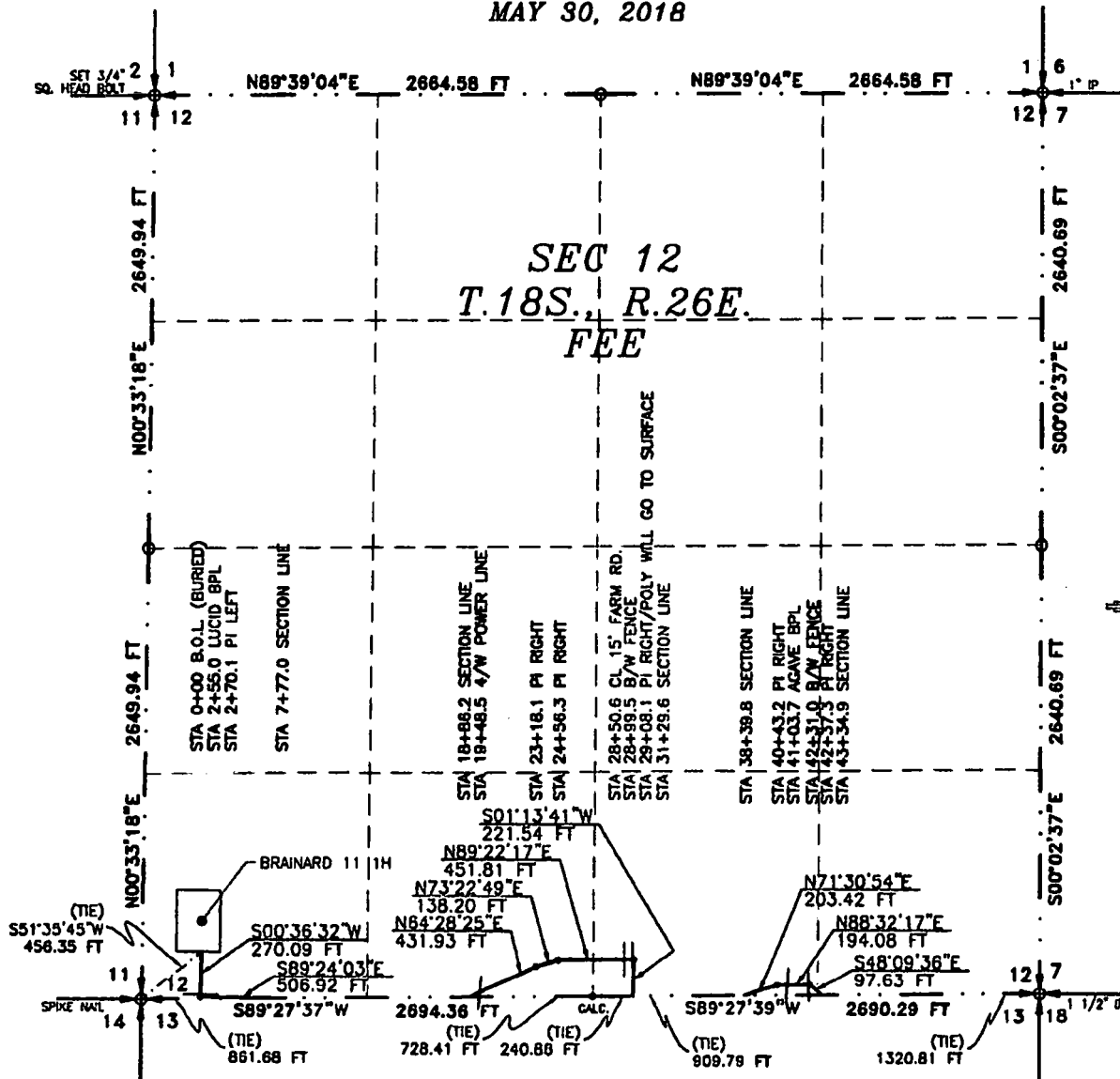
SURVEY NO. 6212A

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

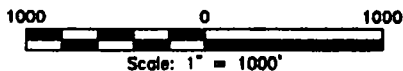
FLOWLINE PLAT

4" SDR7 POLY PRODUCTION LINE (PARTIALLY BURIED & PARTIALLY SURFACE) FROM THE BRAINARD 11 1H TO THE WOR SECTION 13 MAIN FACILITY

LIME ROCK RESOURCES II-A, L.P.
CENTERLINE SURVEY OF A PIPELINE CROSSING
SECTION 12, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
MAY 30, 2018



SEE NEXT SHEET (2-8) FOR DESCRIPTION



GENERAL NOTES

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

SHEET: 1-8

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 31st DAY OF JUNE 2018

FILMON F. JARAMILLO, PLS 12797

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

SURVEY NO. 6212

CARLSBAD, NEW MEXICO

FLOWLINE PLAT

4" SDR7 POLY PRODUCTION LINE (PARTIALLY BURIED & PARTIALLY SURFACE) FROM THE
BRAINARD 11 1H TO THE WOR SECTION 13 MAIN FACILITY

LIME ROCK RESOURCES II-A, L.P.
CENTERLINE SURVEY OF A PIPELINE CROSSING
SECTION 12, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
MAY 30, 2018

DESCRIPTION

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

FROM B.O.L. TO SECTION 13

BEGINNING AT A POINT WITHIN THE SW/4 SW/4 OF SAID SECTION 12, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M., WHENCE THE SOUTHWEST CORNER OF SAID SECTION 12, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M. BEARS S51°35'45"W, A DISTANCE OF 456.33 FEET;

THENCE S00°36'32"W A DISTANCE OF 270.09 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S89°24'03"E A DISTANCE OF 506.92 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE SOUTHWEST CORNER OF SAID SECTION 12, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M. BEARS S89°27'37"W, A DISTANCE OF 861.68 FEET;

SAID STRIP OF LAND BEING 777.01 FEET OR 47.09 RODS IN LENGTH, CONTAINING 0.535 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

SW/4 SW/4 777.01 L.F. 47.09 RODS 0.535 ACRES

FROM SECTION 13 TO SECTION 13

BEGINNING AT A POINT WITHIN THE SE/4 SW/4 OF SAID SECTION 12, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M., WHENCE THE SOUTH QUARTER CORNER OF SAID SECTION 12, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M. BEARS N89°27'37"E, A DISTANCE OF 728.41 FEET;

THENCE N64°28'25"E A DISTANCE OF 431.93 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE N73°22'49"E A DISTANCE OF 138.20 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE N89°22'17"E A DISTANCE OF 451.81 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S01°13'41"W A DISTANCE OF 221.54 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE SOUTH QUARTER CORNER OF SAID SECTION 12, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M. BEARS S89°27'39"W, A DISTANCE OF 240.88 FEET;

SAID STRIP OF LAND BEING 1243.48 FEET OR 75.36 RODS IN LENGTH, CONTAINING 0.856 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

SE/4 SW/4 777.23 L.F. 47.10 RODS 0.535 ACRES

SW/4 SE/4 466.25 L.F. 28.26 RODS 0.321 ACRES

FROM SECTION 13 TO SECTION 13

BEGINNING AT A POINT WITHIN THE SW/4 SE/4 OF SAID SECTION 12, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M., WHENCE THE SOUTH QUARTER CORNER OF SAID SECTION 12, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M. BEARS S89°27'39"W, A DISTANCE OF 908.78 FEET;

THENCE N71°30'54"E A DISTANCE OF 203.42 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE N88°32'17"E A DISTANCE OF 194.08 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S48°09'36"E A DISTANCE OF 87.63 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE SOUTHEAST CORNER OF SAID SECTION 12, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M. BEARS N89°27'39"E, A DISTANCE OF 1320.81 FEET;

SAID STRIP OF LAND BEING 495.13 FEET OR 30.01 RODS IN LENGTH, CONTAINING 0.341 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

SW/4 SE/4 462.51 L.F. 28.03 RODS 0.319 ACRES

SE/4 SE/4 32.62 L.F. 1.98 RODS 0.022 ACRES

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 31 DAY OF JUNE 2018

[Signature]
FILMON F. JARAMILLO, P.S. 12787

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

SURVEY NO. 6212

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.

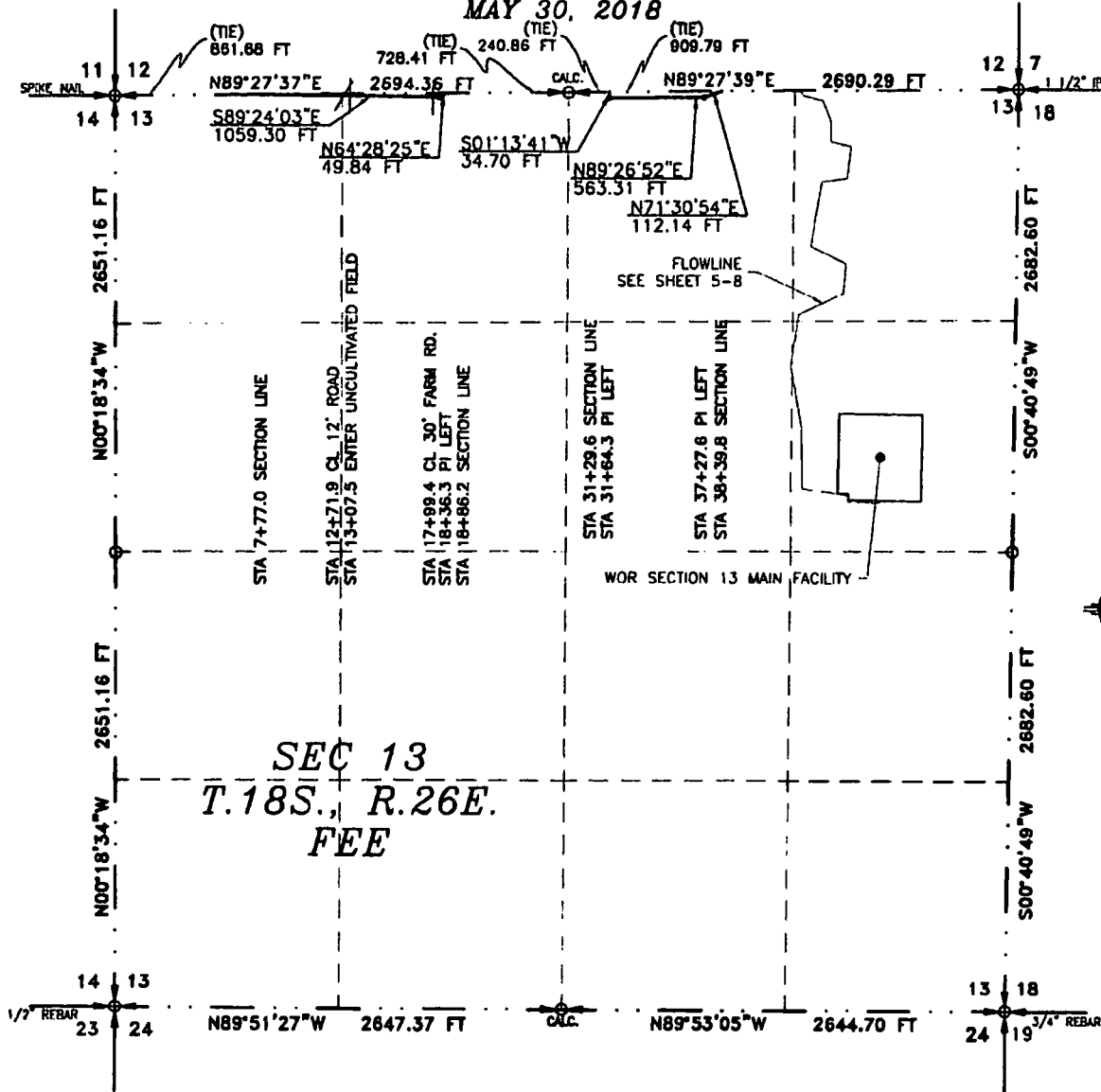
SHEET: 2-8

MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

FLOWLINE PLAT

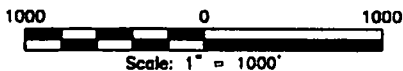
4" SDR7 POLY PRODUCTION LINE (PARTIALLY BURIED & PARTIALLY SURFACE) FROM THE BRAINARD 11 1H TO THE WOR SECTION 13 MAIN FACILITY

LIME ROCK RESOURCES II-A, L.P.
CENTERLINE SURVEY OF A PIPELINE CROSSING
SECTION 13, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
MAY 30, 2018



SEC 13
T.18S., R.26E.
FEE

SEE NEXT SHEET (4-8) FOR DESCRIPTION



GENERAL NOTES

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

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

SHEET: 3-8

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 30 DAY OF JUNE 2018

[Signature]
 FILMON F. JARAMILLO, PLS. 12787

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

SURVEY NO. 6212

CARLSBAD, NEW MEXICO

FLOWLINE PLAT

4" SDR7 POLY PRODUCTION LINE (PARTIALLY BURIED & PARTIALLY SURFACE) FROM THE BRAINARD 11 1H TO THE WOR SECTION 13 MAIN FACILITY

**LIME ROCK RESOURCES II-A, L.P.
CENTERLINE SURVEY OF A PIPELINE CROSSING
SECTION 13, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
MAY 30, 2018**

DESCRIPTION

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

FROM SECTION 12 TO SECTION 12

BEGINNING AT A POINT WITHIN THE NW/4 NW/4 OF SAID SECTION 13, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M., WHENCE THE NORTHWEST CORNER OF SAID SECTION 13, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M. BEARS S89°27'37"W, A DISTANCE OF 861.68 FEET;

THENCE S89°24'03"E A DISTANCE OF 1059.30 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE N64°28'25"E A DISTANCE OF 49.84 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 13, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M. BEARS N89°27'37"E, A DISTANCE OF 728.41 FEET;

SAID STRIP OF LAND BEING 1109.14 FEET OR 67.22 RODS IN LENGTH, CONTAINING 0.763 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NW/4 NW/4 485.51 L.F. 29.42 RODS 0.334 ACRES
NE/4 NW/4 623.63 L.F. 37.80 RODS 0.429 ACRES

FROM SECTION 12 TO SECTION 12

BEGINNING AT A POINT WITHIN THE NW/4 NE/4 OF SAID SECTION 13, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M., WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 13, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M. BEARS S89°27'39"W, A DISTANCE OF 240.86 FEET;

THENCE S01°13'41"W A DISTANCE OF 34.70 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE N89°26'52"E A DISTANCE OF 563.31 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE N71°30'54"E A DISTANCE OF 112.14 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 13, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M. BEARS S89°27'39"W, A DISTANCE OF 909.79 FEET;

SAID STRIP OF LAND BEING 710.15 FEET OR 43.04 RODS IN LENGTH, CONTAINING 0.489 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NW/4 NE/4 710.15 L.F. 43.04 RODS 0.489 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 30 DAY OF JUNE 2018


FILMON F. JARAMILLO, 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: 4-8

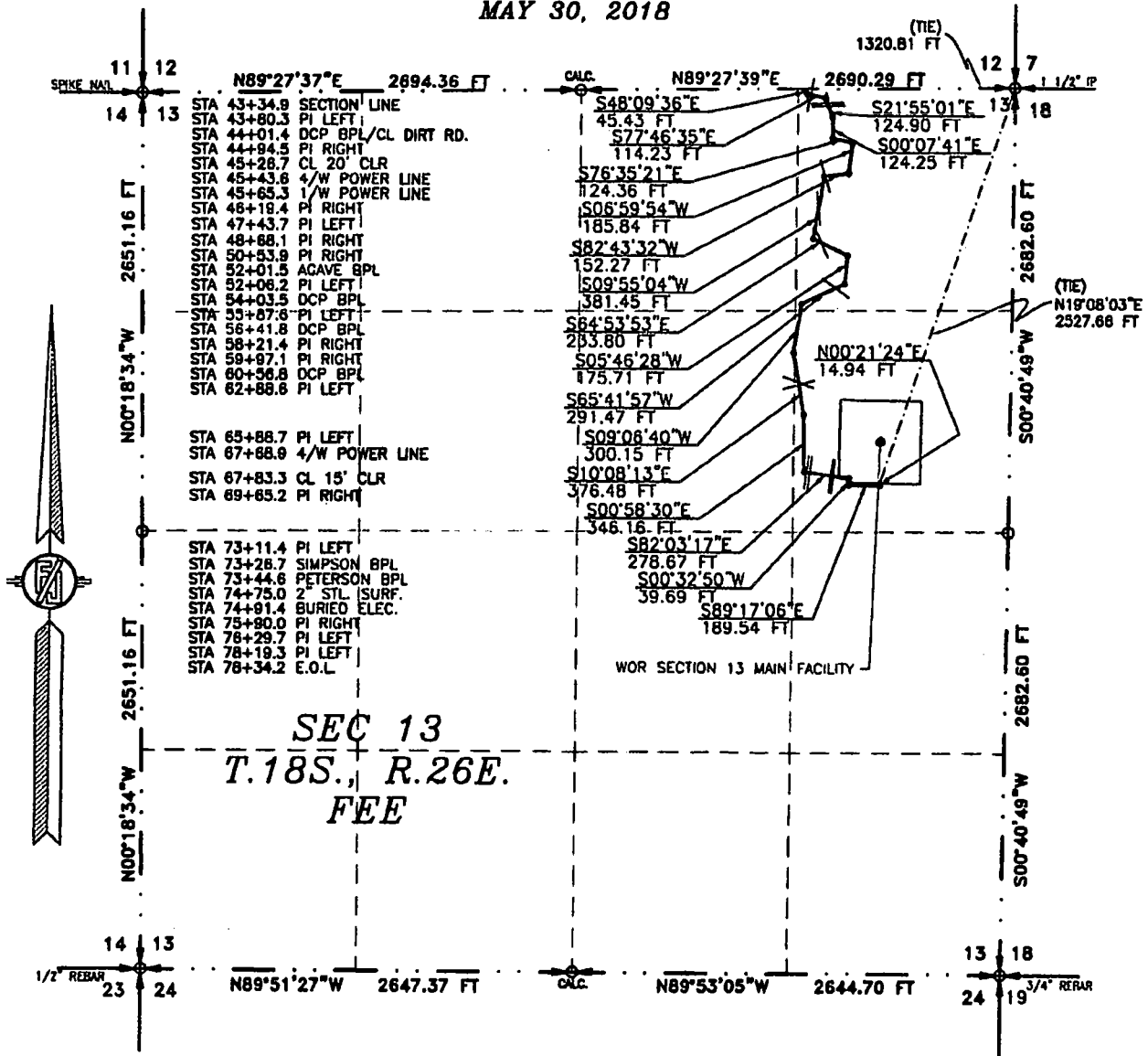
MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO
(575) 234-3341

SURVEY NO. 6212

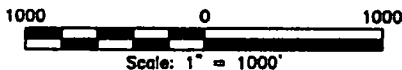
FLOWLINE PLAT

4" SDR7 POLY PRODUCTION LINE (PARTIALLY BURIED & PARTIALLY SURFACE) FROM THE BRAINARD 11 1H TO THE WOR SECTION 13 MAIN FACILITY

LIME ROCK RESOURCES II-A, L.P.
CENTERLINE SURVEY OF A PIPELINE CROSSING
SECTION 13, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
MAY 30, 2018



SEE NEXT SHEET (6-8) FOR DESCRIPTION



GENERAL NOTES

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

SHEET: 5-8

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 01 DAY OF JUNE, 2018

FILMON F. JARAMILLO, PLS# 12797

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

SURVEY NO. 6212

CARLSBAD, NEW MEXICO

FLOWLINE PLAT

4" SDR7 POLY PRODUCTION LINE (PARTIALLY BURIED & PARTIALLY SURFACE) FROM THE
BRINARD 11 1H TO THE WOR SECTION 13 MAIN FACILITY

LIME ROCK RESOURCES II-A, L.P. CENTERLINE SURVEY OF A PIPELINE CROSSING SECTION 13, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M. EDDY COUNTY, STATE OF NEW MEXICO MAY 30, 2018

DESCRIPTION

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

FROM SECTION 12 TO E.O.L.

BEGINNING AT A POINT WITHIN THE NE/4 NE/4 OF SAID SECTION 13, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M., WHENCE THE
NORTHEAST CORNER OF SAID SECTION 13, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M. BEARS N89°27'39"E, A DISTANCE OF
1320.81 FEET;

THENCE S48°09'38"E A DISTANCE OF 45.43 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S77°48'35"E A DISTANCE OF 114.23 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S21°55'01"E A DISTANCE OF 124.80 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S00°07'41"E A DISTANCE OF 124.25 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S78°35'21"E A DISTANCE OF 124.38 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S06°59'54"W A DISTANCE OF 185.84 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S82°43'32"W A DISTANCE OF 152.27 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S09°55'04"W A DISTANCE OF 381.45 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S84°53'53"E A DISTANCE OF 233.80 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S05°48'28"W A DISTANCE OF 175.71 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S85°41'57"W A DISTANCE OF 291.47 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S09°06'40"W A DISTANCE OF 300.15 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S10°08'13"E A DISTANCE OF 376.48 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S00°58'30"E A DISTANCE OF 348.16 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S82°03'17"E A DISTANCE OF 278.67 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S00°32'50"W A DISTANCE OF 39.69 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S89°17'06"E A DISTANCE OF 189.54 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE N00°21'24"E A DISTANCE OF 14.94 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTHEAST CORNER OF
SAID SECTION 13, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M. BEARS N19°08'03"E, A DISTANCE OF 2527.66 FEET;

SAID STRIP OF LAND BEING 3499.34 FEET OR 212.09 RODS IN LENGTH, CONTAINING 2.410 ACRES MORE OR LESS AND BEING
ALLOCATED BY FORTIES AS FOLLOWS:

NE/4 NE/4	1994.67 L.F.	120.89 RODS	1.374 ACRES
SE/4 NE/4	1400.44 L.F.	84.88 RODS	0.984 ACRES
SW/4 NE/4	104.23 L.F.	6.32 RODS	0.072 ACRES

SURVEYOR CERTIFICATE

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

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD,

NEW MEXICO, THIS DAY OF JUNE 2018

FILMON F. VARAMILLO, PLS. 12797

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

GENERAL NOTES

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

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

SHEET: 6-8

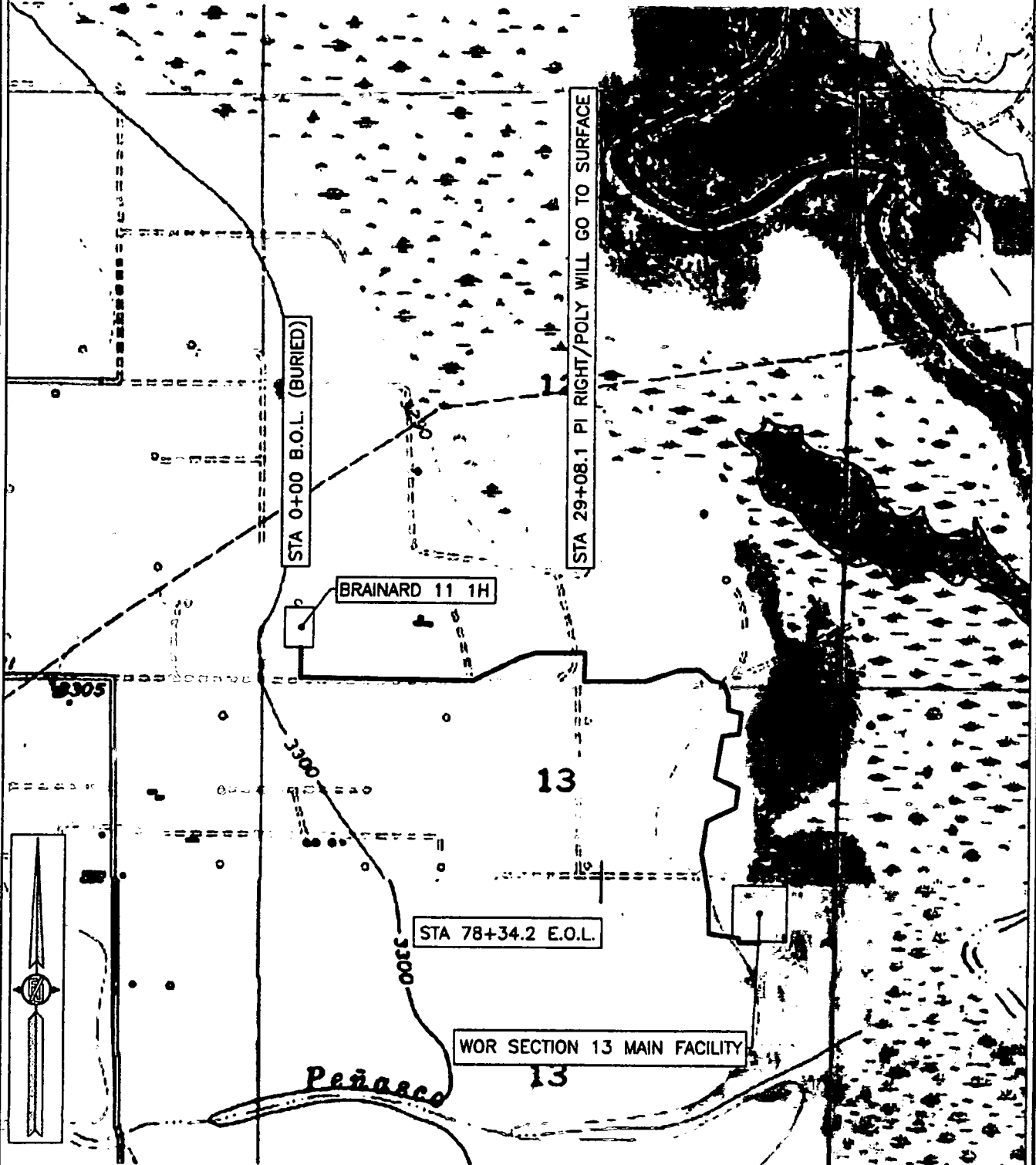
SURVEY NO. 6212

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

FLOWLINE PLAT

4" SDR7 POLY PRODUCTION LINE (PARTIALLY BURIED & PARTIALLY SURFACE) FROM THE
BRAINARD 11 1H TO THE WOR SECTION 13 MAIN FACILITY

LIME ROCK RESOURCES II-A, L.P.
CENTERLINE SURVEY OF A PIPELINE CROSSING
SECTIONS 12, 13, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
MAY 30, 2018



SHEET: 7-8

MADRON SURVEYING, INC.

301 SOUTH CANAL
(575) 234-3341

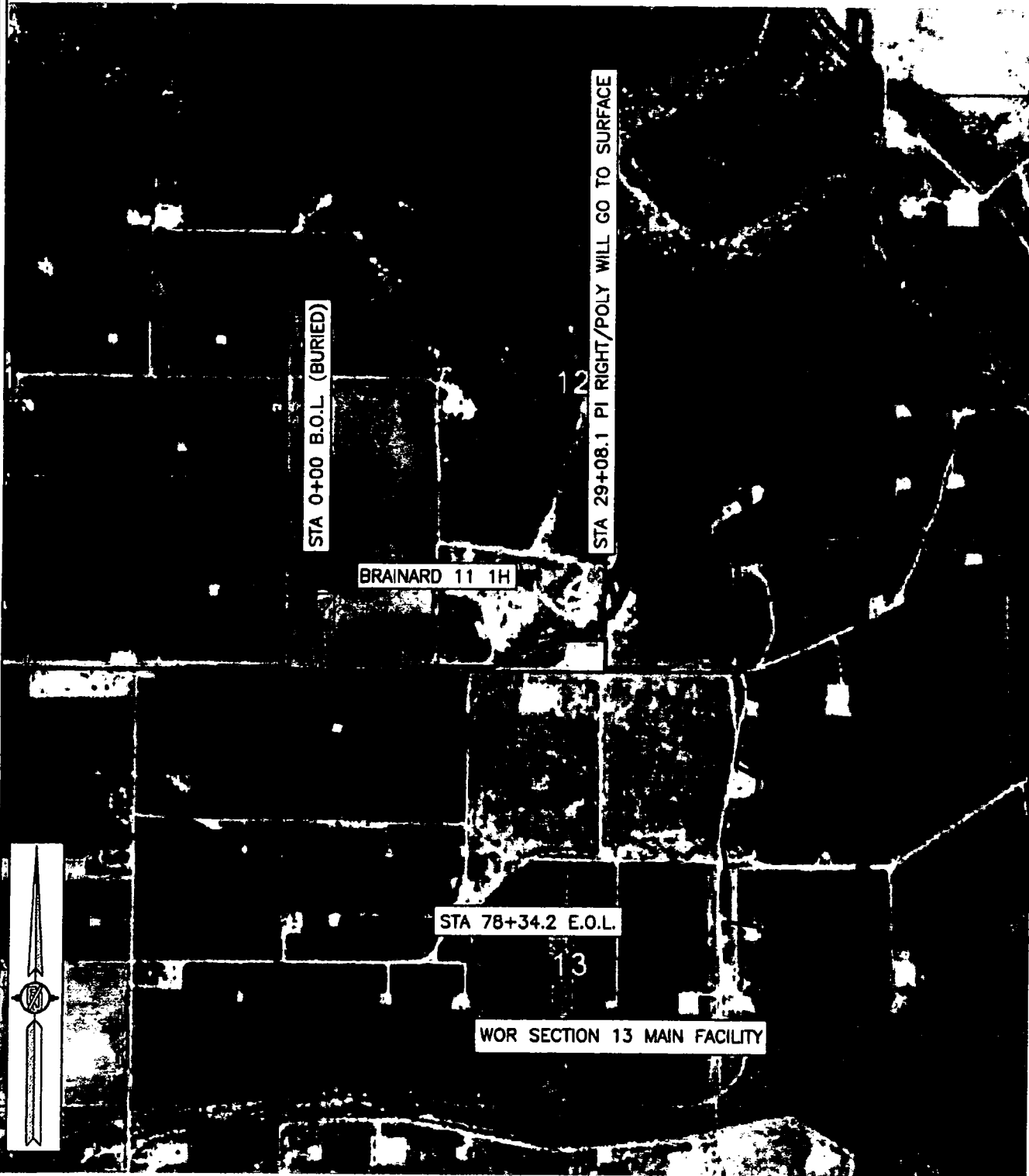
CARLSBAD, NEW MEXICO

SURVEY NO. 6212

FLOWLINE PLAT

**4" SDR7 POLY PRODUCTION LINE (PARTIALLY BURIED & PARTIALLY SURFACE) FROM THE
BRAINARD 11 1H TO THE WOR SECTION 13 MAIN FACILITY**

**LIME ROCK RESOURCES II-A, L.P.
CENTERLINE SURVEY OF A PIPELINE CROSSING
SECTIONS 12, 13, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
MAY 30, 2018**



SHEET: 8-8

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

SURVEY NO. 6212

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

**Brainard 11 #1H
460' FSL 355' FWL
(M) 12-18S-26E
Eddy County, NM**

1. The elevation of the unprepared ground is 3300.2 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/2705' 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/2705' 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	2705

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

	MD	TVD
Yates	NA	NA
7 Rivers	NA	NA
Queen	400	400
Grayburg	637	637
Premier	906	906
San Andres	946	946
Glorieta	2406	2305
Yeso	2496	2395
Tubb	NA	NA
TD	8000	2705

7. Proposed Casing and Cement program is as follows:

Type	Hole	Casing	Wt	Grade	Thread	Depth	Sx	Density	Yield	Components
Conductor	26"	20"	91.5	B	Welded	80	80			Ready Mix
Surface	12.25"	9-5/8"	36	J-55	ST&C	1230	600	14.8	1.35	CI 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/CI C Cmt + 5% NaCl + 0.25 lbs/sk Cello Flake + 5 lbs/sk LCM-1 + 0.2% R-3 + 6% Gel
							1800	14.8	1.3	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 1190.2 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 it complete the well and to construct surface facilities.



Project: Eddy County, NM
 Site: SEC 12 T16S R26E
 Well: Brainard 11-1H
 Wellbore: Original Wellbore
 Design: Plan 2

Reference Details

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Latitude: 32° 45' 23.143 N
 Longitude: 104° 20' 34.115 W
 Grid Convergence: Formal error - failed to convert parameters to correct units
 Ground Elevation: 3300.2
 KB Elevation: KB @ 3317.7usft

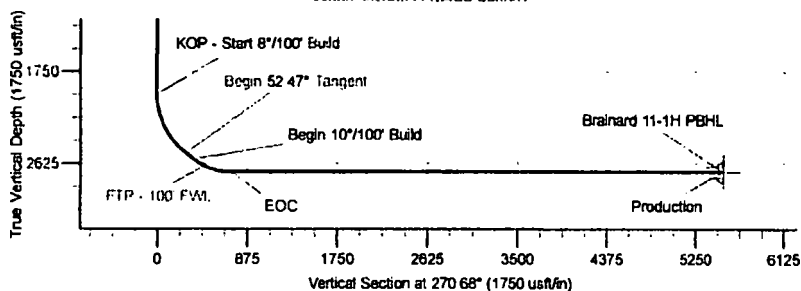
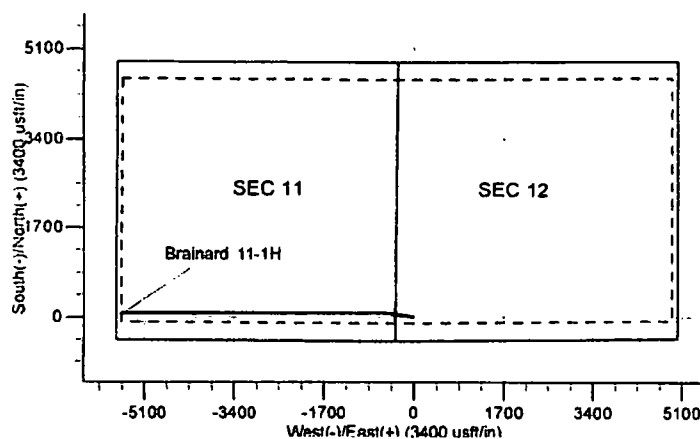
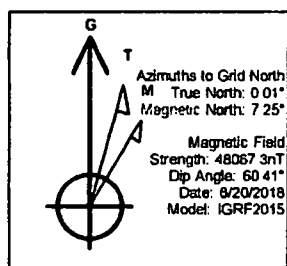
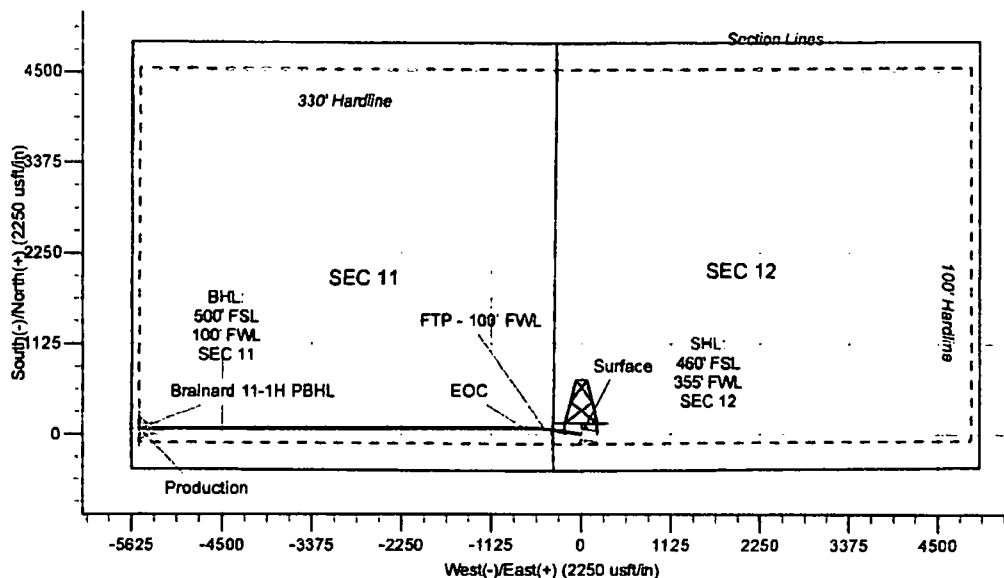


RPM Consulting, Inc.
 1600 Broadway, Suite 1510
 Denver, CO 80013
 303-595-7625

SECTION DETAILS

CASING DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Diag	TFace	VSec	TVD	MD	Name	Size
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	1230.0	1230.0	Surface	9-5/8
1954.2	0.00	0.00	1954.2	0.0	0.0	0.00	0.00	0.0	2705.0	7800.0	Production	5-1/2
2610.1	52.47	278.00	2522.2	39.0	-277.2	8.00	278.00	277.6				
2710.1	52.47	278.00	2583.1	50.0	-355.7	0.00	0.00	356.3				
3092.5	89.99	270.00	2704.1	71.9	-710.3	10.00	347.00	711.1				
7910.8	89.99	269.85	2705.0	65.6	-5528.6	0.00	-80.33	5529.0				



Lime Rock Resources

**Eddy County, NM
SEC 12 T18S R26E
Brainard 11-1H**

Original Wellbore

Plan: Plan 2

Standard Planning Report

20 June, 2018

Planning Report

Database: EDM Server Database
Company: Lime Rock Resources
Project: Eddy County, NM
Site: SEC 12 T18S R26E
Well: Brainard 11-1H
Wellbore: Original Wellbore
Design: Plan 2

Local Co-ordinate Reference: Well Brainard 11-1H
TVD Reference: KB @ 3317.7usft
MD Reference: KB @ 3317.7usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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

Site SEC 12 T18S R26E

Site Position: Northing: 638,920.77 usft Latitude: 32° 45' 23.143 N
From: Lat/Long Easting: 538,424.28 usft Longitude: 104° 20' 34.115 W
Position Uncertainty: 0.0 usft Slot Radius: 13-3/16" Grid Convergence: -0.01°

Well Brainard 11-1H

Well Position: +N-S 0.0 usft Northing: 638,920.77 usft Latitude: 32° 45' 23.143 N
+E-W 0.0 usft Easting: 538,424.28 usft Longitude: 104° 20' 34.115 W
Position Uncertainty: 0.0 usft Wellhead Elevation: Ground Level: 3,300.2 usft

Wellbore Original Wellbore

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	6/20/2018	7.24	60.41	48,067.25742671

Design Plan 2

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 0.0 270.68

Plan Survey Tool Program Date 6/20/2018

Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	7,910.8 Plan 2 (Original Wellbore)	MWD	
			Geolink MWD	

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	
1,954.2	0.00	0.00	1,954.2	0.0	0.0	0.00	0.00	0.00	0.00	
2,610.1	52.47	278.00	2,522.2	39.0	-277.2	8.00	8.00	0.00	278.00	
2,710.1	52.47	278.00	2,583.1	50.0	-355.7	0.00	0.00	0.00	0.00	
3,092.5	89.89	270.00	2,704.1	71.9	-710.3	10.00	9.81	-2.09	347.00	
7,910.8	89.89	269.85	2,705.0	65.6	-5,528.6	0.00	0.00	0.00	-90.33	Brainard 11-1H PBHL

Planning Report

Database: EDM Server Database
Company: Lime Rock Resources
Project: Eddy County, NM
Site: SEC 12 T18S R26E
Well: Brainard 11-1H
Wellbore: Original Wellbore
Design: Plan 2

Local Co-ordinate Reference: Well Brainard 11-1H
TVD Reference: KB @ 3317.7usft
MD Reference: KB @ 3317.7usft
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
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
1,954.2	0.00	0.00	1,954.2	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start 8°/100' Build									
2,000.0	3.66	278.00	2,000.0	0.2	-1.4	1.5	8.00	8.00	0.00
2,100.0	11.66	278.00	2,098.0	2.1	-14.6	14.7	8.00	8.00	0.00
2,200.0	19.66	278.00	2,195.2	5.8	-41.4	41.4	8.00	8.00	0.00
2,300.0	27.66	278.00	2,286.7	11.4	-81.1	81.2	8.00	8.00	0.00
2,320.8	29.33	278.00	2,305.0	12.8	-90.9	91.0	8.00	8.00	0.00
Glorieta									
2,400.0	35.88	278.00	2,371.8	18.7	-133.0	133.2	8.00	8.00	0.00
2,429.0	37.99	278.00	2,395.0	21.1	-150.2	150.5	8.00	8.00	0.00
Yeso									
2,500.0	43.66	278.00	2,448.7	27.6	-186.2	186.5	8.00	8.00	0.00
2,600.0	51.66	278.00	2,516.0	37.8	-269.3	269.7	8.00	8.00	0.00
2,610.1	52.47	278.00	2,522.2	39.0	-277.2	277.6	7.98	7.98	0.00
Begin 52.47° Tangent									
2,700.0	52.47	278.00	2,576.9	48.9	-347.8	348.4	0.00	0.00	0.00
2,710.1	52.47	278.00	2,583.1	50.0	-355.7	356.3	0.00	0.00	0.00
Begin 10°/100' Build									
2,800.0	61.26	275.70	2,632.2	58.9	-430.4	431.1	10.00	9.77	-2.56
2,826.0	64.00	275.07	2,645.1	61.2	-455.2	455.9	10.00	9.60	-2.26
FTP - 100' FWL									
2,900.0	71.06	273.56	2,672.6	66.2	-521.5	522.2	10.00	9.81	-2.09
3,000.0	80.89	271.66	2,696.8	70.6	-618.3	619.0	10.00	9.83	-1.90

Planning Report

Database: EDM Server Database
Company: Lime Rock Resources
Project: Eddy County, NM
Site: SEC 12 T18S R26E
Well: Brainard 11-1H
Wellbore: Original Wellbore
Design: Plan 2

Local Co-ordinate Reference: Well Brainard 11-1H
TVD Reference: KB @ 3317.7usft
MD Reference: KB @ 3317.7usft
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)
3,092.5	89.99	270.00	2,704.1	71.9	-710.4	711.2	10.00	9.84	-1.80
EOC									
3,100.0	89.99	270.00	2,704.1	71.9	-717.9	718.7	0.00	0.00	0.00
3,200.0	89.99	269.99	2,704.1	71.9	-817.9	818.6	0.00	0.00	0.00
3,300.0	89.99	269.99	2,704.2	71.9	-917.9	918.6	0.00	0.00	0.00
3,400.0	89.99	269.99	2,704.2	71.9	-1,017.9	1,018.6	0.00	0.00	0.00
3,500.0	89.99	269.98	2,704.2	71.8	-1,117.9	1,118.6	0.00	0.00	0.00
3,600.0	89.99	269.98	2,704.2	71.8	-1,217.9	1,218.6	0.00	0.00	0.00
3,700.0	89.99	269.98	2,704.2	71.8	-1,317.9	1,318.6	0.00	0.00	0.00
3,800.0	89.99	269.98	2,704.2	71.7	-1,417.9	1,418.6	0.00	0.00	0.00
3,900.0	89.99	269.97	2,704.3	71.7	-1,517.9	1,518.6	0.00	0.00	0.00
4,000.0	89.99	269.97	2,704.3	71.6	-1,617.9	1,618.6	0.00	0.00	0.00
4,100.0	89.99	269.97	2,704.3	71.6	-1,717.9	1,718.6	0.00	0.00	0.00
4,200.0	89.99	269.96	2,704.3	71.5	-1,817.9	1,818.6	0.00	0.00	0.00
4,300.0	89.99	269.96	2,704.3	71.4	-1,917.9	1,918.6	0.00	0.00	0.00
4,400.0	89.99	269.96	2,704.4	71.4	-2,017.9	2,018.6	0.00	0.00	0.00
4,500.0	89.99	269.95	2,704.4	71.3	-2,117.9	2,118.6	0.00	0.00	0.00
4,600.0	89.99	269.95	2,704.4	71.2	-2,217.9	2,218.5	0.00	0.00	0.00
4,700.0	89.99	269.95	2,704.4	71.1	-2,317.9	2,318.5	0.00	0.00	0.00
4,800.0	89.99	269.95	2,704.4	71.0	-2,417.9	2,418.5	0.00	0.00	0.00
4,900.0	89.99	269.94	2,704.4	70.9	-2,517.9	2,518.5	0.00	0.00	0.00
5,000.0	89.99	269.94	2,704.5	70.8	-2,617.9	2,618.5	0.00	0.00	0.00
5,100.0	89.99	269.94	2,704.5	70.7	-2,717.9	2,718.5	0.00	0.00	0.00
5,200.0	89.99	269.93	2,704.5	70.6	-2,817.9	2,818.5	0.00	0.00	0.00
5,300.0	89.99	269.93	2,704.5	70.5	-2,917.9	2,918.5	0.00	0.00	0.00
5,400.0	89.99	269.93	2,704.5	70.4	-3,017.9	3,018.5	0.00	0.00	0.00
5,500.0	89.99	269.92	2,704.6	70.2	-3,117.9	3,118.5	0.00	0.00	0.00
5,600.0	89.99	269.92	2,704.6	70.1	-3,217.9	3,218.5	0.00	0.00	0.00
5,700.0	89.99	269.92	2,704.6	70.0	-3,317.9	3,318.4	0.00	0.00	0.00
5,800.0	89.99	269.92	2,704.6	69.8	-3,417.9	3,418.4	0.00	0.00	0.00
5,900.0	89.99	269.91	2,704.6	69.7	-3,517.9	3,518.4	0.00	0.00	0.00
6,000.0	89.99	269.91	2,704.6	69.5	-3,617.9	3,618.4	0.00	0.00	0.00
6,100.0	89.99	269.91	2,704.7	69.4	-3,717.9	3,718.4	0.00	0.00	0.00
6,200.0	89.99	269.90	2,704.7	69.2	-3,817.9	3,818.4	0.00	0.00	0.00
6,300.0	89.99	269.90	2,704.7	69.0	-3,917.9	3,918.4	0.00	0.00	0.00
6,400.0	89.99	269.90	2,704.7	68.8	-4,017.9	4,018.4	0.00	0.00	0.00
6,500.0	89.99	269.89	2,704.7	68.7	-4,117.9	4,118.4	0.00	0.00	0.00
6,600.0	89.99	269.89	2,704.8	68.5	-4,217.9	4,218.4	0.00	0.00	0.00
6,700.0	89.99	269.89	2,704.8	68.3	-4,317.9	4,318.4	0.00	0.00	0.00
6,800.0	89.99	269.89	2,704.8	68.1	-4,417.9	4,418.3	0.00	0.00	0.00
6,900.0	89.99	269.88	2,704.8	87.9	-4,517.9	4,518.3	0.00	0.00	0.00
7,000.0	89.99	269.88	2,704.8	67.7	-4,617.9	4,618.3	0.00	0.00	0.00
7,100.0	89.99	269.88	2,704.8	67.5	-4,717.9	4,718.3	0.00	0.00	0.00
7,200.0	89.99	269.87	2,704.9	67.2	-4,817.9	4,818.3	0.00	0.00	0.00
7,300.0	89.99	269.87	2,704.9	67.0	-4,917.9	4,918.3	0.00	0.00	0.00
7,400.0	89.99	269.87	2,704.9	66.8	-5,017.8	5,018.3	0.00	0.00	0.00
7,500.0	89.99	269.87	2,704.9	66.6	-5,117.8	5,118.3	0.00	0.00	0.00
7,600.0	89.99	269.86	2,704.9	66.3	-5,217.8	5,218.3	0.00	0.00	0.00
7,700.0	89.99	269.86	2,705.0	66.1	-5,317.8	5,318.3	0.00	0.00	0.00
7,800.0	89.99	269.86	2,705.0	65.8	-5,417.8	5,418.2	0.00	0.00	0.00
7,900.0	89.99	269.86	2,705.0	65.6	-5,517.8	5,518.2	0.00	0.00	0.00
Production									
7,910.8	89.99	269.85	2,705.0	65.6	-5,528.6	5,529.0	0.03	0.00	-0.03

Planning Report

Database: EDM Server Database
 Company: Lime Rock Resources
 Project: Eddy County, NM
 Site: SEC 12 T16S R26E
 Well: Brainard 11-1H
 Wellbore: Original Wellbore
 Design: Plan 2

Local Co-ordinate Reference: Well Brainard 11-1H
 TVD Reference: KB @ 3317.7usft
 MD Reference: KB @ 3317.7usft
 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)
Total Depth									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Brainard 11-1H PBHL	0.00	360.00	2,705.0	65.6	-5,528.6	638,986.32	532,895.68	32° 45' 23.782 N	104° 21' 38.858 W
- hit/miss target									
- Shape									
- 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
7,900.0	2,705.0	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	
908.0	908.0	Premier		0.00	
948.0	948.0	San Andres		0.00	
2,320.8	2,305.0	Glorieta		0.00	
2,429.0	2,395.0	Yeso		0.00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,954.2	1,954.2	0.0	0.0	KOP - Start 8°/100' Build
2,610.1	2,522.2	39.0	-277.2	Begin 52.47° Tangent
2,710.1	2,583.1	50.0	-355.7	Begin 10°/100' Build
2,828.0	2,645.1	61.2	-455.2	FTP - 100' FWL
3,082.5	2,704.1	71.9	-710.4	EOC
7,910.8	2,705.0	65.6	-5,528.6	Total Depth

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
 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 Commisssion ("NMERC")	505-476-9600
State Wide	NMERC 24 Hour Number	505-827-9126
State Wide	New Mexico State Emergency Operations Center	505-476-9635
National	National Emergency Response Center (Washington D.C.)	800-424-8802

Emergency Services

Name	Service	Location	Telephone Number	Alternate Number
Boots & Coots International Well Control	Well Control	Houston / Odessa	1-800-256-9688	281-931-8884
Cudd Pressure Control	Well Control/Pumping	Odessa	915-699-0139	915-563-3356
Baker Hughes Inc.	Pumping Services	Artesia, Hobbs & Odessa	575-746-2757	Same
Total Safety	Safety Equipment & Personnel	Artesia	575-746-2847	Same
Cutter Oilfield Services	Drilling Systems Equipment	Midland	432-488-6707	Same
Safety Dog	Safety Equipment & Personnel	Artesia	575-748-5847	575-441-1370
Fighting for Life	Emergency Helicopter Evacuation	Lubbock	806-743-9911	Same
Aerocare	Emergency Helicopter Evacuation	Lubbock	806-747-8923	Same
Med Flight Air Ambulance	Emergency Helicopter Evacuation	Albuquerque	505-842-4433	Same
Artesia General Hospital	Emergency Medical Care	Artesia	575-748-3333	702 North 13th Street

Pressure Control Equipment

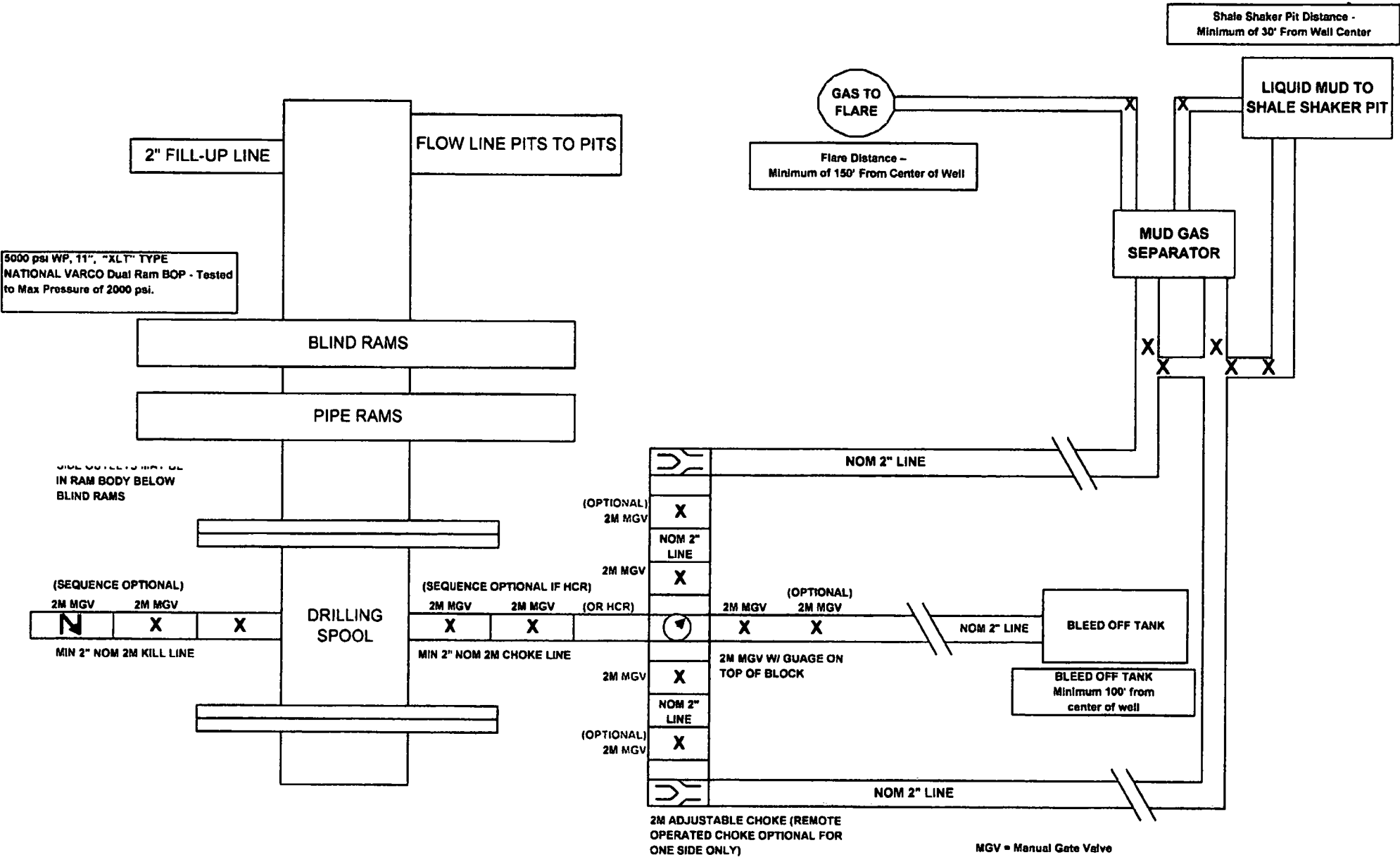
The blowout preventer equipment (BOP) will consist of a 5000 psi rated, "XLT" type, National VARCO double ram preventer that will be tested to a maximum pressure of 2000 psi. The unit will be hydraulically operated and the ram type preventer will be equipped with blind rams on top and drill pipe rams on bottom. The 2M BOP will be installed on the 9 5/8" surface casing and utilized continuously until total depth is reached. All casing strings will be tested as per Onshore Order #2. This also includes a thirty day (30) test, should the rig still be operating on the same well in thirty days.

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

The BOP equipment will consist of the following:

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

2M BOP SCHEMATIC



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

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

Lime Rock Resources II-A, L.P.

Brainard 11 #1H

Unit M, S12-T18S-R26E, Eddy County, NM

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

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

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

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

Monitoring 24 Hour service

Equipment:

Centrifuges – Derrick Brand
Rig Shakers – Brandt Brand
D-watering Unit
Air pumps on location for immediate remediation process
Layout of Close Loop System with bins, centrifuges and shakers attached.

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

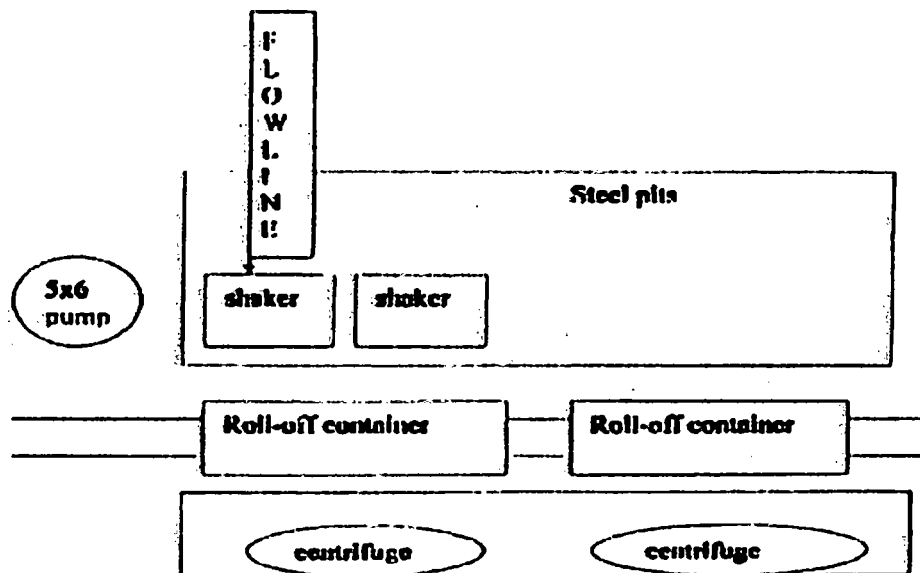
2- (250 bbl) tanks to hold fluid
2-CRI bins with track system
2-500 bbl frac tanks with fresh water
2-500 bbl frac tanks for brine water

Operations:

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

Closure:

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



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

TOMMY WILSON



**CLOSED LOOP
SPECIALTY**

Office: 573.746.1689

Cell: 573.746.6167