

District I  
1625 N. French Dr., Hobbs, NM 88240  
Phone: (575) 393-6161 Fax: (575) 393-0720

District II  
811 S. First St., Artesia, NM 88210  
Phone: (575) 748-1283 Fax: (575) 748-9720

District III  
1000 Rio Brazos Road, Aztec, NM 87410  
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505  
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico  
Energy Minerals and Natural Resources

Form C-101  
Revised July 18, 2013

NM OIL CONSERVATION

Oil Conservation Division

ARTESIA DISTRICT

AMENDED Report

1220 South St. Francis Dr.

AUG 6 2015

Santa Fe, NM 87505

RECEIVED

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

<sup>1</sup> Operator Name and Address Lime Rock Resources II-A, L.P. 1111 Bagby Street, Suite 4600 Houston, Texas 77002		<sup>2</sup> OGRID Number 277558
<sup>3</sup> Property Code 315090		<sup>3</sup> API Number 30-015-43297
<sup>3</sup> Property Name Terry 14E		<sup>6</sup> Well No. #4

<sup>7</sup> Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
E	14	18S	27E	26E	2510	N	605	W	Eddy

<sup>8</sup> Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
E	14	18S	27E	26E	2310	N	330	W	Eddy

<sup>9</sup> Pool Information

Atoka; Glorieta-Yeso	3250
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Additional Well Information

<sup>9</sup> Work Type N	<sup>10</sup> Well Type O	<sup>11</sup> Cable/Rotary R	<sup>12</sup> Lease Type P	<sup>13</sup> Ground Level Elevation 3323.5
<sup>14</sup> Multiple N	<sup>15</sup> Proposed Depth 4694' MD / 4660' TVD	<sup>16</sup> Formation Yeso	<sup>17</sup> Contractor United Drilling, Inc.	<sup>18</sup> Spud Date After 8/1/2015
Depth to Ground Water: 500 Ft.		Distance from nearest fresh water well: 1.88255814 Miles		Distance from nearest surface water: 1.53 Miles

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

<sup>19</sup> 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	12-1/4"	8-5/8"	24	425	350	Surface
Production	7-7/8"	5-1/2"	17	4694	920	Surface

Casing/Cement Program: Additional Comments

--

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: *Spencer Cox*

Printed Name: Spencer Cox

Title: Production Engineer

E-mail Address: scox@limerockresources.com

Date: 8/4/2015

Phone: 713-292-9528

OIL CONSERVATION DIVISION

Approved By: *SP Wade*

Title: *Dist PE Spewson*

Approved Date: *8/14/15*

Expiration Date: *8/14/2017*

Conditions of Approval Attached

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State of New Mexico  
Energy, Minerals & Natural Resources Department  
**OIL CONSERVATION DIVISION**  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-102  
Revised August 1, 2011  
Submit one copy to appropriate  
District Office

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number <b>30-015-43297</b>	<sup>2</sup> Pool Code <b>3250</b>	<sup>3</sup> Pool Name <b>Atoka - Gloueta - Yeso</b>
<sup>4</sup> Property Code <b>315090</b>	<sup>5</sup> Property Name <b>TERRY 14E</b>	
<sup>7</sup> OGRID No. <b>277558</b>	<sup>8</sup> Operator Name <b>LIME ROCK RESOURCES II-A, L.P.</b>	
		<sup>6</sup> Well Number <b>4</b>
		<sup>9</sup> Elevation <b>3323.5</b>

<sup>10</sup> Surface Location

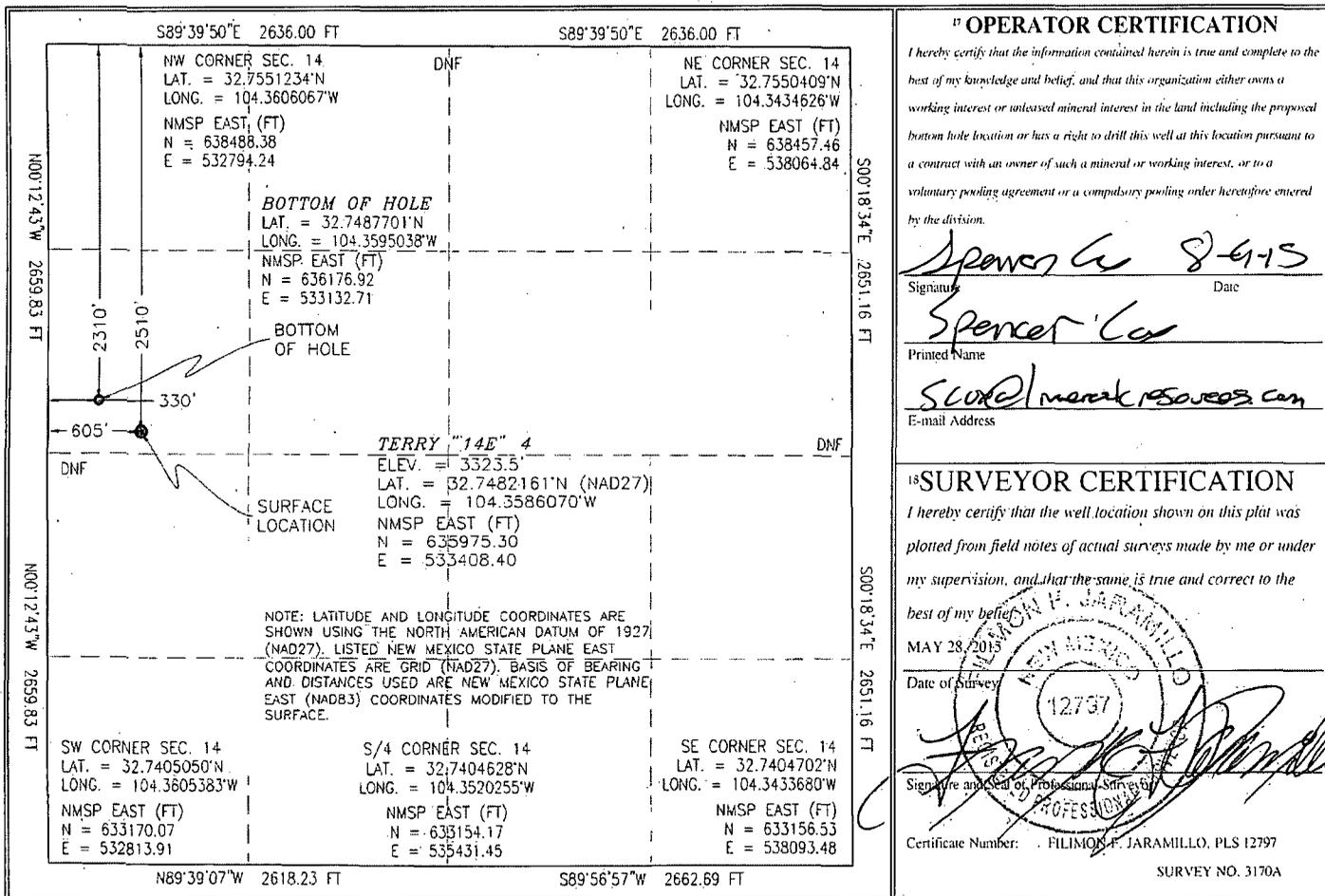
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>E</b>	<b>14</b>	<b>18 S</b>	<b>26 E</b>		<b>2510</b>	<b>NORTH</b>	<b>605</b>	<b>WEST</b>	<b>EDDY</b>

<sup>11</sup> 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
<b>E</b>	<b>14</b>	<b>18 S</b>	<b>26 E</b>		<b>2310</b>	<b>NORTH</b>	<b>330</b>	<b>WEST</b>	<b>EDDY</b>

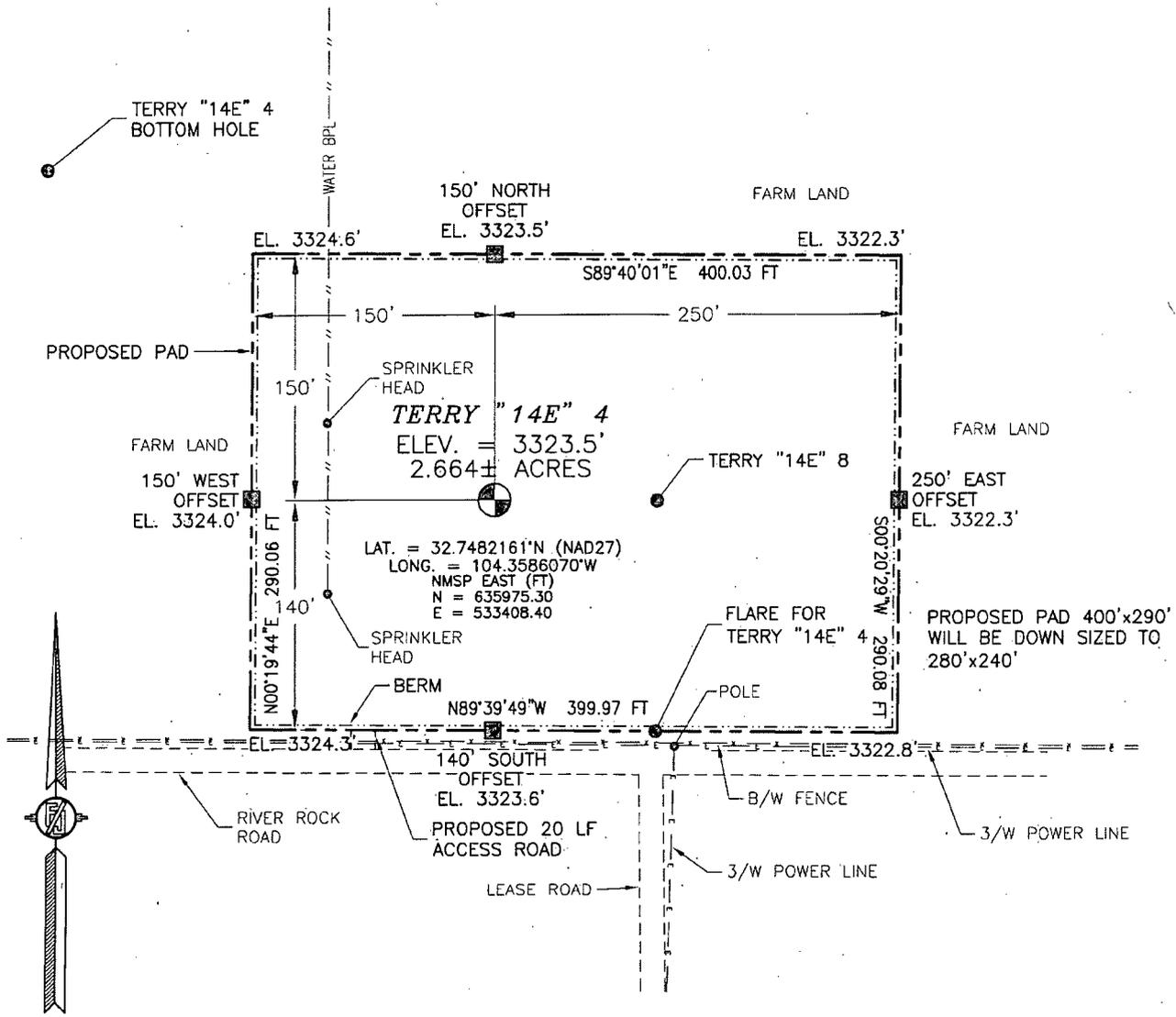
<sup>12</sup> Dedicated Acres	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.

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.



SECTION 14, TOWNSHIP 18 SOUTH, RANGE 26 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 1927 (NAD27). LISTED NEW MEXICO STATE PLANE EAST COORDINATES ARE GRID (NAD27). BASIS OF BEARING AND DISTANCES USED ARE NEW MEXICO STATE PLANE EAST COORDINATES (NAD 83) MODIFIED TO THE SURFACE.



010 50 100 200

SCALE 1" = 100'  
 DIRECTIONS TO LOCATION  
 FROM THE INTERSECTION OF CR 39 (4-DINKUS) AND CR 44 (FANNING) GO SOUTH ON CR 44 FOR APPROX. 0.5 OF A MILE, TURN RIGHT ON LEASE ROAD AND GO WEST 0.64 OF A MILE TO A PROPOSED ROAD SURVEY AND FOLLOW FLAGS NORTH 20' TO THE PROPOSED SOUTHWEST PAD CORNER FOR THIS LOCATION.

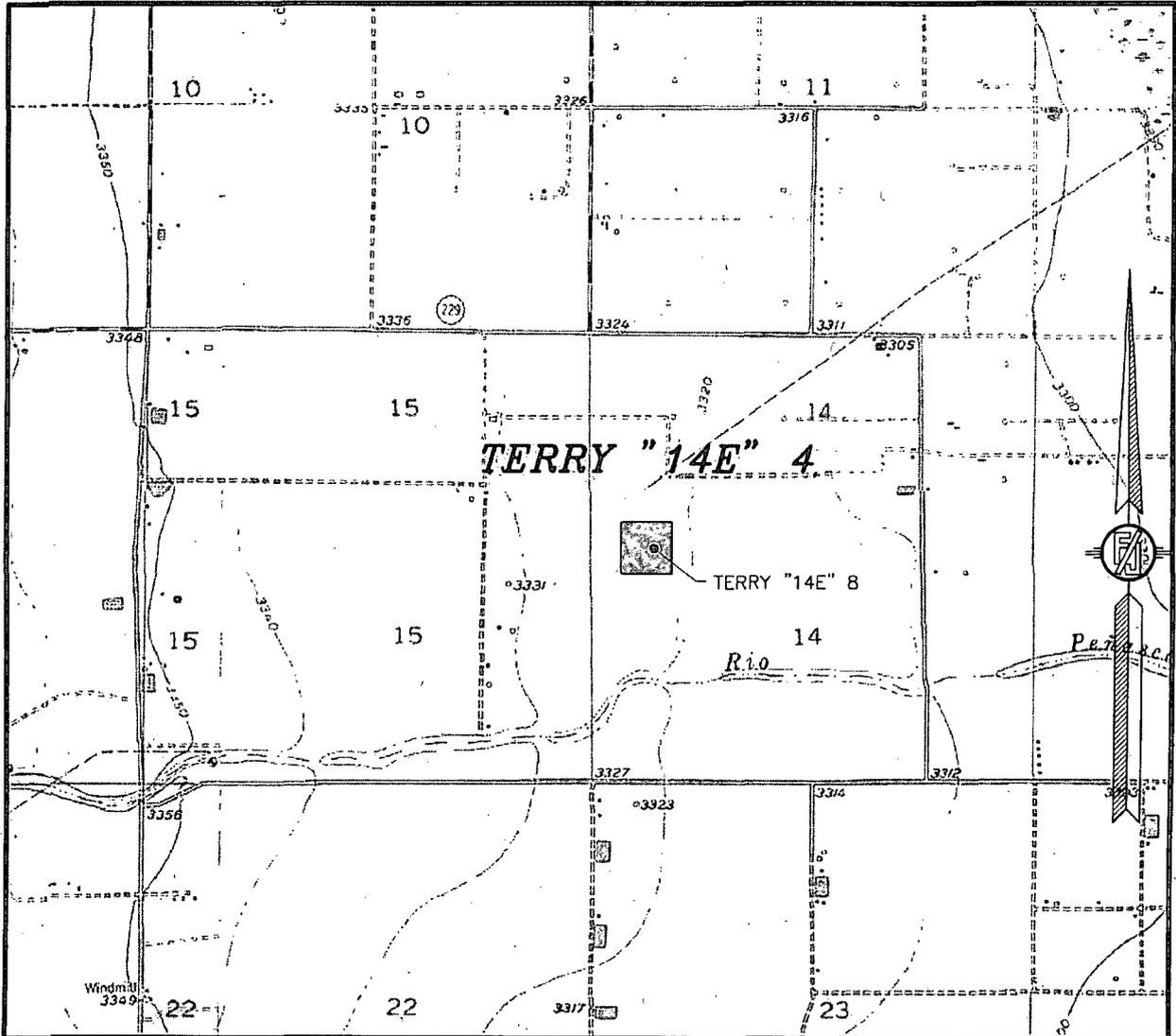
LIME ROCK RESOURCES II-A, L.P.  
**TERRY "14E" 4**  
 LOCATED 2510 FT. FROM THE NORTH LINE  
 AND 605 FT. FROM THE WEST LINE OF  
 SECTION 14, TOWNSHIP 18 SOUTH,  
 RANGE 26 EAST, N.M.P.M.  
 EDDY COUNTY, STATE OF NEW MEXICO

MAY 28, 2015

SURVEY NO. 3170A

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

SECTION 14, 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

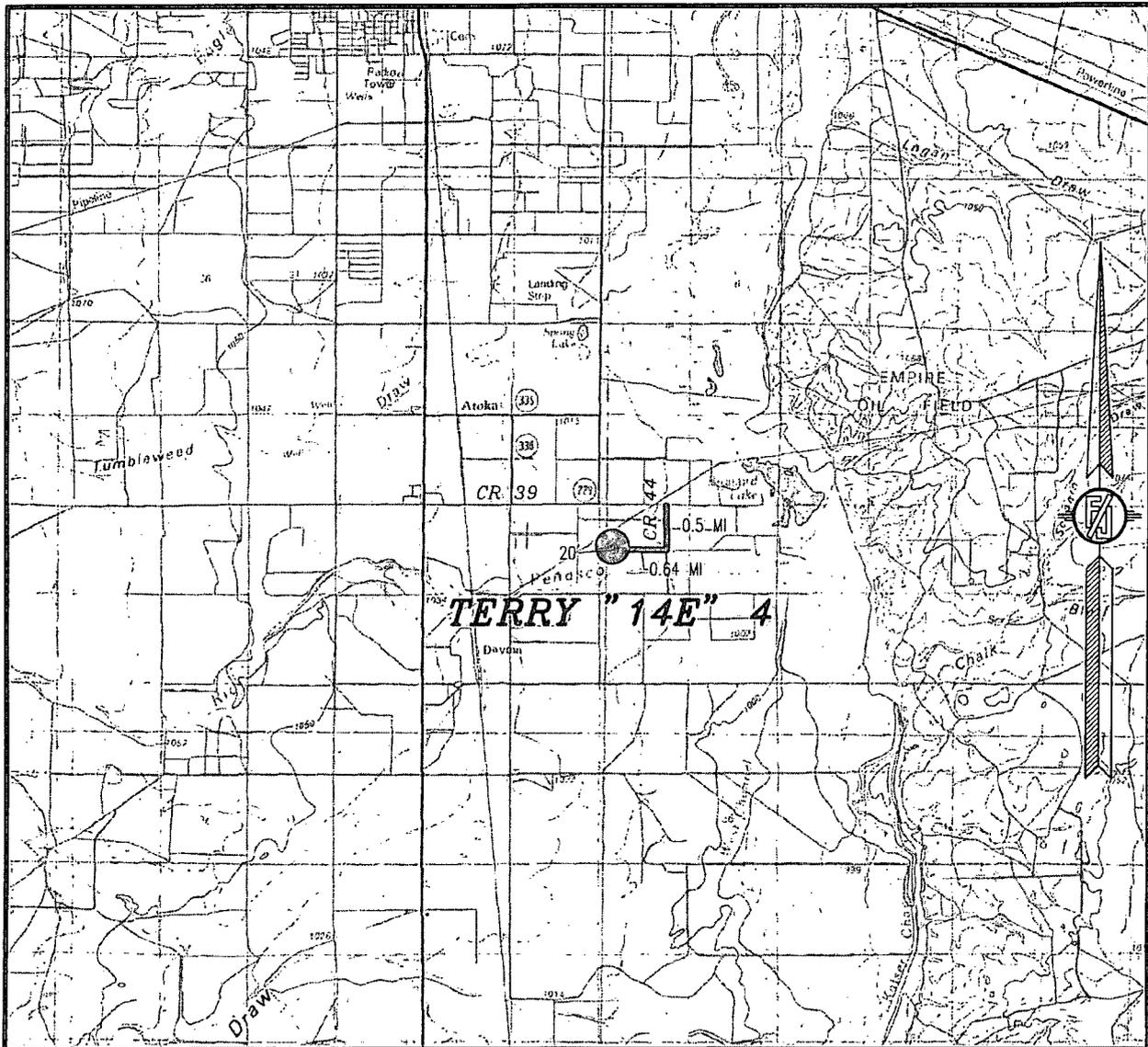
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 EDDY COUNTY, STATE OF NEW MEXICO

MAY 28, 2015

SURVEY NO. 3170A

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

SECTION 14, TOWNSHIP 18 SOUTH, RANGE 26 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.  
**TERRY "14E" 4**

LOCATED 2510 FT. FROM THE NORTH LINE  
 AND 605 FT. FROM THE WEST LINE OF  
 SECTION 14, TOWNSHIP 18 SOUTH,  
 RANGE 26 EAST, N.M.P.M.  
 EDDY COUNTY, STATE OF NEW MEXICO

**DIRECTIONS TO LOCATION**

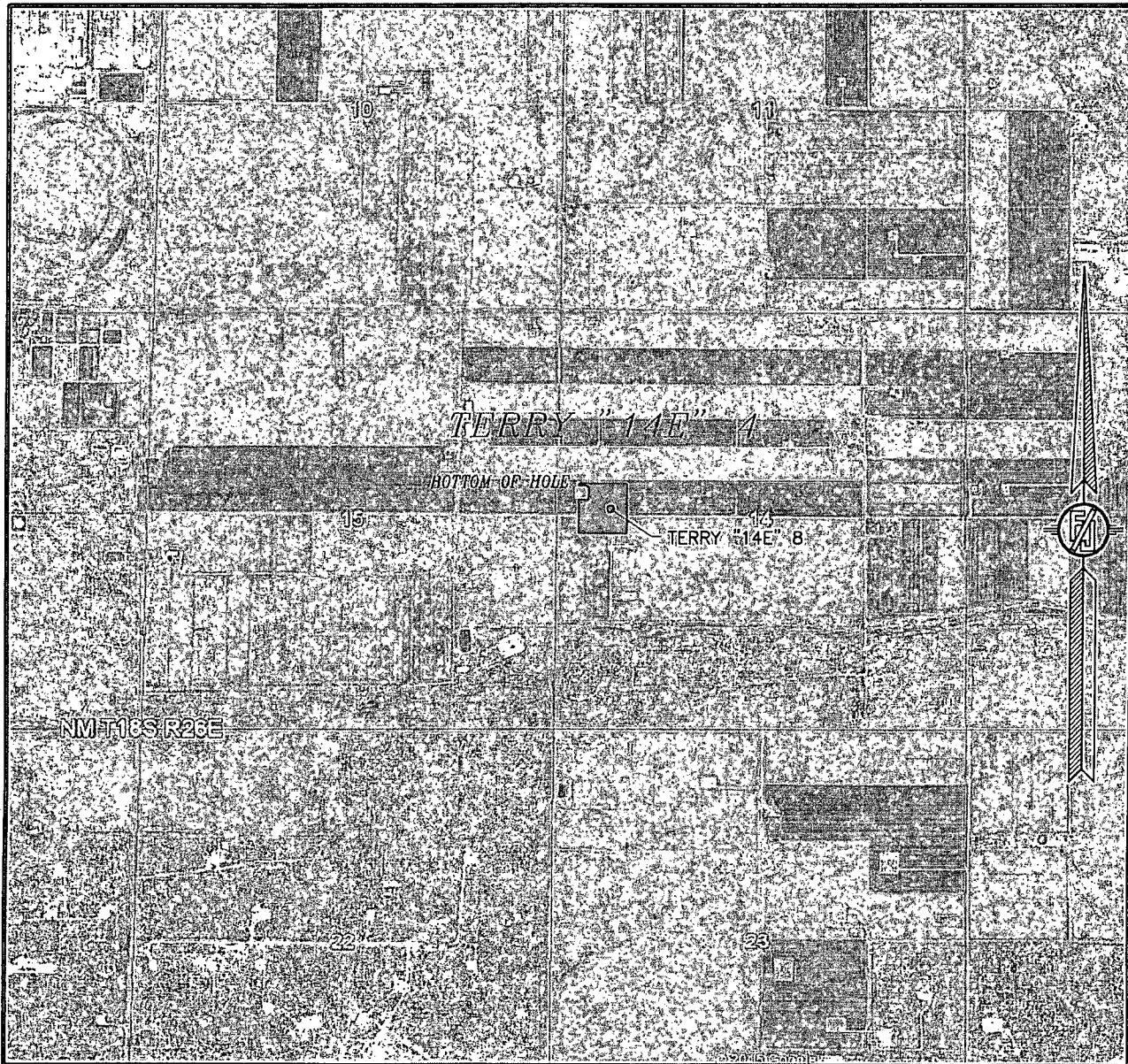
FROM THE INTERSECTION OF CR 39 (4-DINKUS) AND CR 44 (FANNING) GO SOUTH ON CR 44 FOR APPROX. 0.5 OF A MILE, TURN RIGHT ON LEASE ROAD AND GO WEST 0.64 OF A MILE TO A PROPOSED ROAD SURVEY AND FOLLOW FLAGS NORTH 20° TO THE PROPOSED SOUTHWEST PAD CORNER FOR THIS LOCATION.

MAY 28, 2015

SURVEY NO. 3170A

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

SECTION 14, 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  
MAY 2014

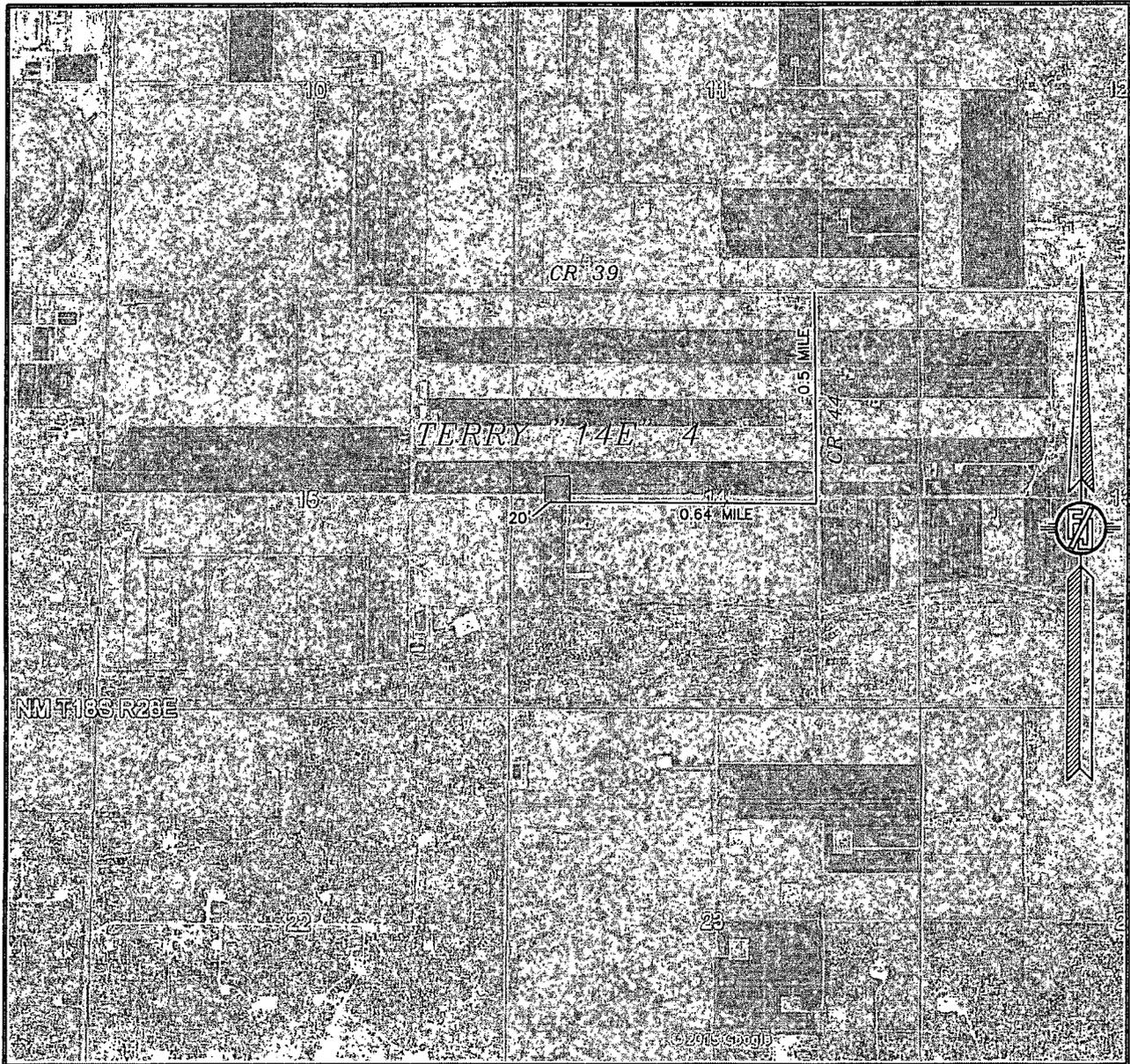
LIME ROCK RESOURCES II-A, L.P.  
**TERRY "14E" 4**  
LOCATED 2510 FT. FROM THE NORTH LINE  
AND 605 FT. FROM THE WEST LINE OF  
SECTION 14, TOWNSHIP 18 SOUTH,  
RANGE 26 EAST, N.M.P.M.  
EDDY COUNTY, STATE OF NEW MEXICO

MAY 28, 2015

SURVEY NO. 3170A

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

SECTION 14, 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  
MAY 2014

LIME ROCK RESOURCES II-A, L.P.  
**TERRY "14E" 4**  
LOCATED 2510 FT. FROM THE NORTH LINE  
AND 605 FT. FROM THE WEST LINE OF  
SECTION 14, TOWNSHIP 18 SOUTH,  
RANGE 26 EAST, N.M.P.M.  
EDDY COUNTY, STATE OF NEW MEXICO

MAY 28, 2015

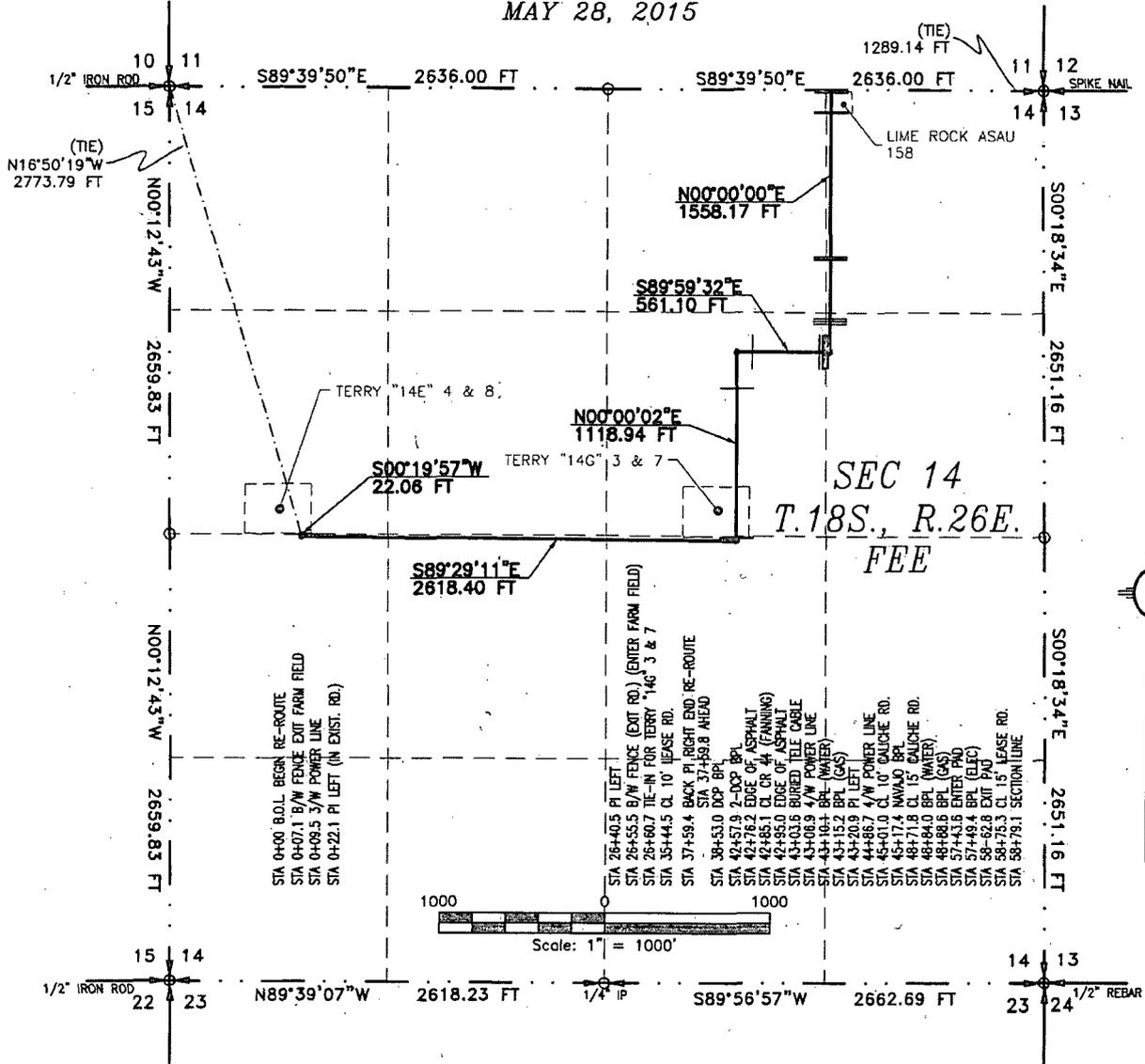
SURVEY NO. 3170A

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

**FLOWLINE PLAT**

RE-ROUTE RIGHT-OF-WAY FOR A MULTIPLE 3" SDR 7 POLY BURIED FLOWLINES FROM THE TERRY "14E" 4 & 8 TO THE TERRY "14" BATTERY

LIME ROCK RESOURCES II-A, L.P.  
 CENTERLINE SURVEY OF A PIPELINE CROSSING  
 SECTION 14, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M.  
 EDDY COUNTY, STATE OF NEW MEXICO  
 MAY 28, 2015



SEE NEXT SHEET (2-6) FOR DESCRIPTION

**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 10<sup>th</sup> DAY OF JUNE 2015

*Filmon F. Jaramillo*  
 REGISTERED PROFESSIONAL SURVEYOR  
 FILMON F. JARAMILLO P.S.S. 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 IS NMSP EAST MODIFIED TO SURFACE COORDINATES.

SHEET: 1-6

MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO SURVEY NO. 3170A

301 SOUTH CANAL  
 (575) 234-3341

**FLOWLINE PLAT**

RE-ROUTE RIGHT-OF-WAY FOR A MULTIPLE 3" SDR 7 POLY BURIED FLOWLINES FROM THE TERRY "14E" 4 & 8 TO THE TERRY "14" BATTERY

LIME ROCK RESOURCES II-A, L.P.  
CENTERLINE SURVEY OF A PIPELINE CROSSING  
SECTION 14, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M.  
EDDY COUNTY, STATE OF NEW MEXICO  
MAY 28, 2015

**DESCRIPTION**

A STRIP OF LAND 30 FEET WIDE CROSSING FEE LAND IN SECTION 14, 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 SW/4 NW/4 OF SAID SECTION 14, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M., WHENCE THE NORTHWEST CORNER OF SAID SECTION 14, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M. BEARS N16°50'19"W, A DISTANCE OF 2773.79 FEET;  
THENCE S00°19'57"W A DISTANCE OF 22.06 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;  
THENCE S89°29'11"E A DISTANCE OF 2618.40 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;  
THENCE N00°00'02"E A DISTANCE OF 1118.94 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;  
THENCE S89°59'32"E A DISTANCE OF 561.10 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;  
THENCE N00°00'00"E A DISTANCE OF 1558.17 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTHEAST CORNER OF SAID SECTION 14, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M. BEARS S89°39'50"E, A DISTANCE OF 1289.14 FEET;

SAID STRIP OF LAND BEING 5878.67 FEET OR 356.30 RODS IN LENGTH, CONTAINING 4.050 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

SW/4 NW/4	8.19 L.F.	0.50 RODS	0.006 ACRES
NW/4 SW/4	533.92 L.F.	32.36 RODS	0.368 ACRES
NE/4 SW/4	1313.56 L.F.	79.61 RODS	0.905 ACRES
NW/4 SE/4	811.40 L.F.	49.18 RODS	0.559 ACRES
SW/4 NE/4	1628.86 L.F.	98.72 RODS	1.122 ACRES
SE/4 NE/4	256.38 L.F.	15.54 RODS	0.177 ACRES
NE/4 NE/4	1326.36 L.F.	80.39 RODS	0.913 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 12 DAY OF JUNE 2015

*Filmon F. Jaramillo*  
FILMON F. JARAMILLO PLS 12797

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

SURVEY NO. 3170A

**GENERAL NOTES**

- 1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.
- 2.) BASIS OF BEARING IS NMSP EAST MODIFIED TO SURFACE COORDINATES.

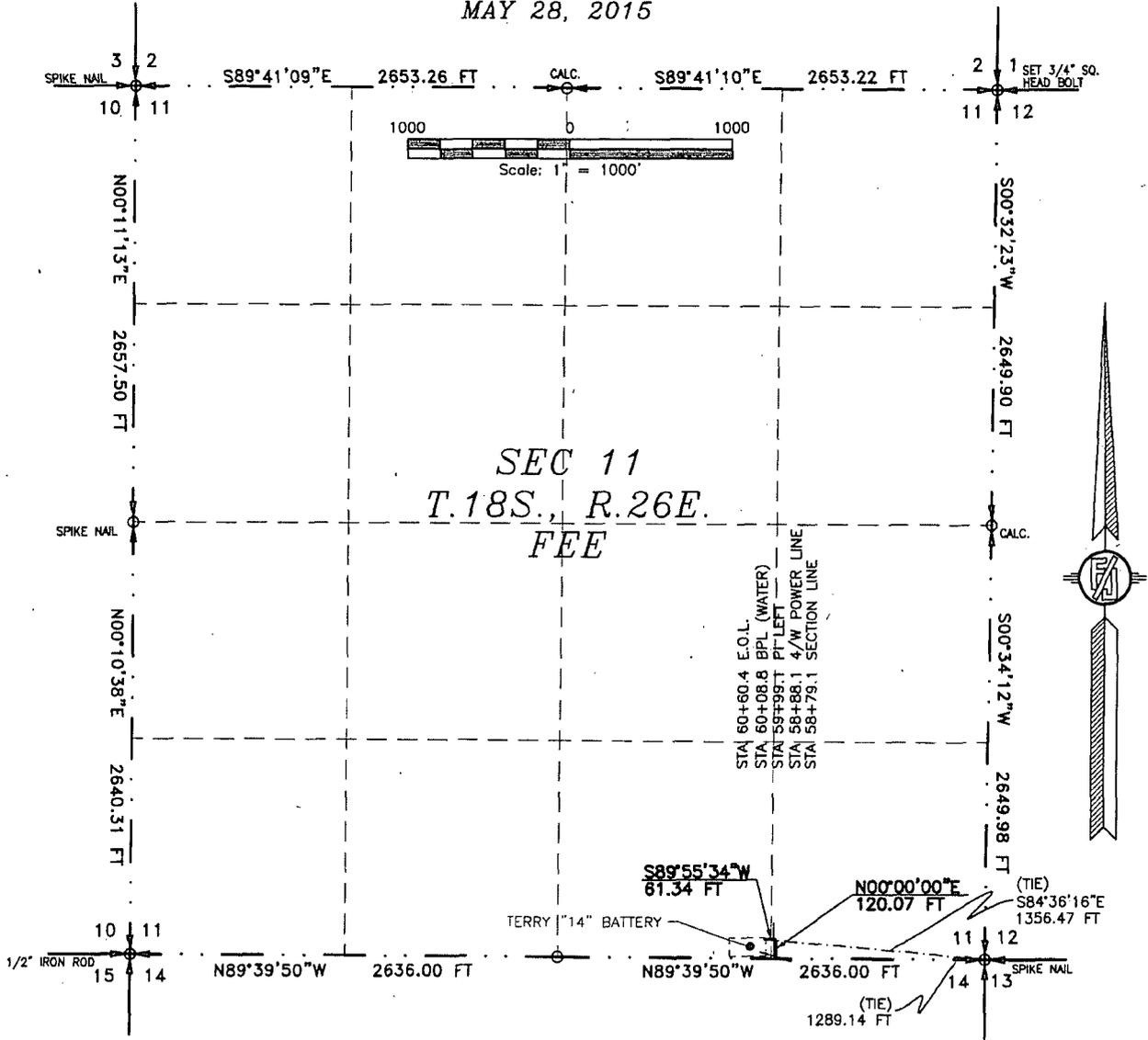
SHEET: 2-6

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

**FLOWLINE PLAT**

RE-ROUTE RIGHT-OF-WAY FOR A MULTIPLE 3" SDR 7 POLY BURIED FLOWLINES FROM THE TERRY "14E" 4 & 8 TO THE TERRY "14" BATTERY

LIME ROCK RESOURCES II-A, L.P.  
 CENTERLINE SURVEY OF A PIPELINE CROSSING  
 SECTION 11, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M.  
 EDDY COUNTY, STATE OF NEW MEXICO  
 MAY 28, 2015



SEC 11  
 T.18S., R.26E.  
 FEE

SEE NEXT SHEET (4-6) FOR DESCRIPTION

**SURVEYOR CERTIFICATE**

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

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 12 DAY OF JUNE 2015

*Filimon F. Jaramillo*  
 FILIMON F. JARAMILLO, P.L.S. 12797  
 PROFESSIONAL SURVEYOR

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

SURVEY NO. 3170A

MADRON SURVEYING, INC. 201 SOUTH CANAL CARLSBAD, NEW MEXICO (575) 234-3341

**GENERAL NOTES**

- 1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.
- 2.) BASIS OF BEARING IS NMSP EAST MODIFIED TO SURFACE COORDINATES.

SHEET: 3-6

**FLOWLINE PLAT**

**RE-ROUTE RIGHT-OF-WAY FOR A MULTIPLE 3" SDR 7 POLY BURIED FLOWLINES FROM THE TERRY  
"14E" 4 & 8 TO THE TERRY "14" BATTERY**

**LIME ROCK RESOURCES II-A, L.P.  
CENTERLINE SURVEY OF A PIPELINE CROSSING  
SECTION 11, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M.  
EDDY COUNTY, STATE OF NEW MEXICO  
MAY 28, 2015**

**DESCRIPTION**

A STRIP OF LAND 30 FEET WIDE CROSSING FEE LAND IN SECTION 11, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M., EDDY COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

BEGINNING AT A POINT WITHIN THE SE/4 SE/4 OF SAID SECTION 11, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M., WHENCE THE SOUTHEAST CORNER OF SAID SECTION 11, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M. BEARS S89°39'50"E, A DISTANCE OF 1289.14 FEET;  
THENCE N00°00'00"E A DISTANCE OF 120.07 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;  
THENCE S89°55'34"W A DISTANCE OF 61.34 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE SOUTHEAST CORNER OF SAID SECTION 11, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M. BEARS S84°36'16"E, A DISTANCE OF 1356.47 FEET;

SAID STRIP OF LAND BEING 181.41 FEET OR 11.00 RODS IN LENGTH, CONTAINING 0.125 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

SE/4 SE/4 147.95 L.F. 8.97 RODS 0.102 ACRES  
SW/4 SE/4 33.46 L.F. 2.03 RODS 0.023 ACRES

**GENERAL NOTES**

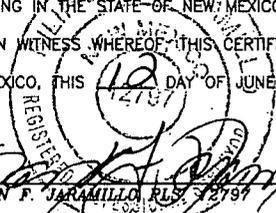
- 1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.
- 2.) BASIS OF BEARING IS NMSP EAST MODIFIED TO SURFACE COORDINATES.

**SURVEYOR CERTIFICATE**

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

IN WITNESS WHEREOF THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 12 DAY OF JUNE 2015

*Filimon F. Jaramillo*  
FILIMON F. JARAMILLO, PLS. 12797



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

SHEET: 4-6

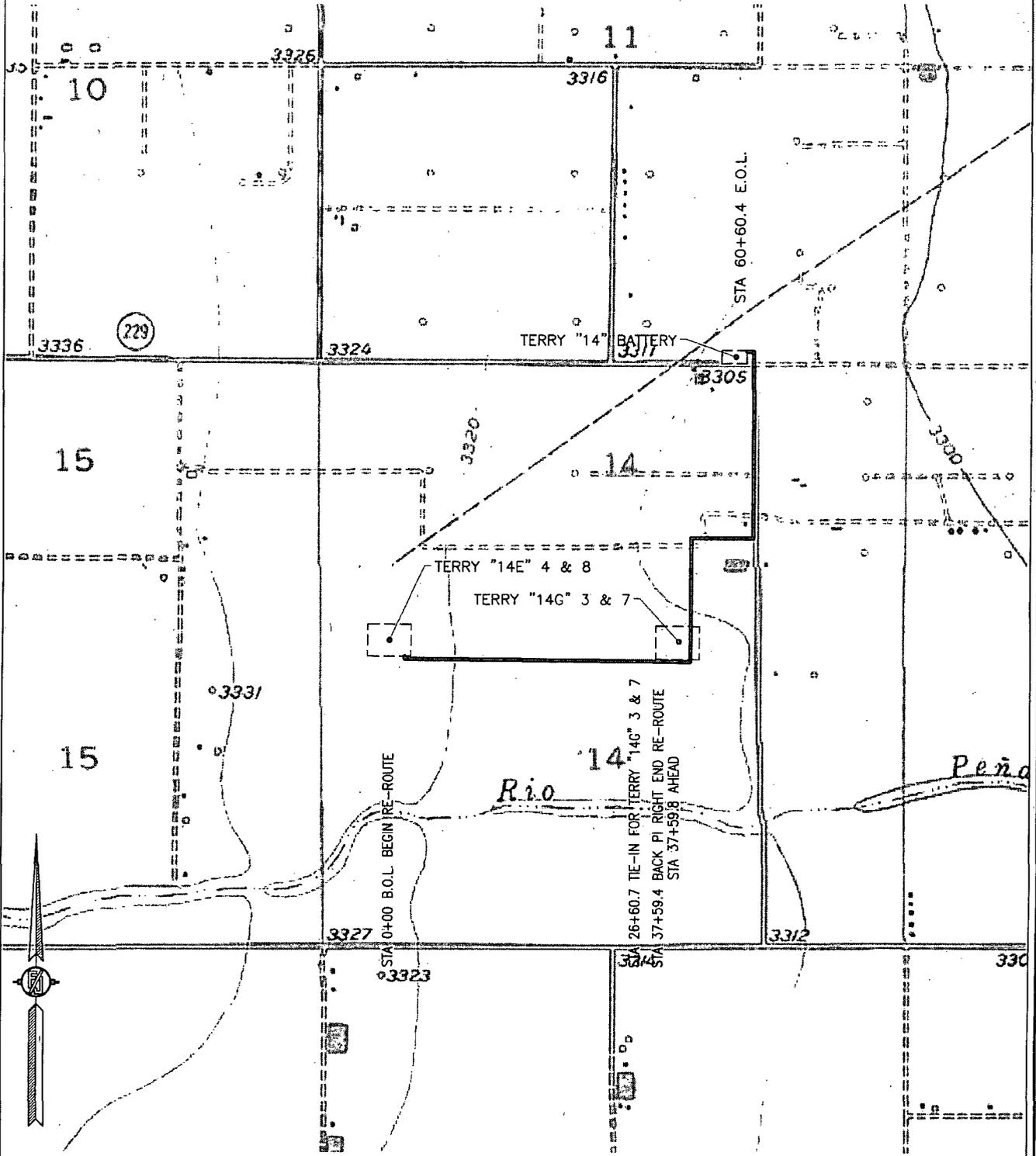
**MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO**  
(575) 234-3341

**SURVEY NO. 3170A**

**FLOWLINE PLAT**

RE-ROUTE RIGHT-OF-WAY FOR A MULTIPLE 3" SDR 7 POLY BURIED FLOWLINES FROM THE TERRY "14E" 4 & 8 TO THE TERRY "14" BATTERY

LIME ROCK RESOURCES II-A, L.P.  
CENTERLINE SURVEY OF A PIPELINE CROSSING  
SECTIONS 14, 11, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M.  
EDDY COUNTY, STATE OF NEW MEXICO  
MAY 28, 2015



SHEET: 5-6

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

SURVEY NO. 3170A

**FLOWLINE PLAT**  
RE-ROUTE RIGHT-OF-WAY FOR A MULTIPLE 3" SDR 7 POLY BURIED FLOWLINES FROM THE TERRY  
"14E" 4 & 8 TO THE TERRY "14" BATTERY

LIME ROCK RESOURCES II-A, L.P.  
CENTERLINE SURVEY OF A PIPELINE CROSSING  
SECTIONS 14, 11, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M.  
EDDY COUNTY, STATE OF NEW MEXICO  
MAY 28, 2015



SHEET: 6-6

MADRON SURVEYING, INC.

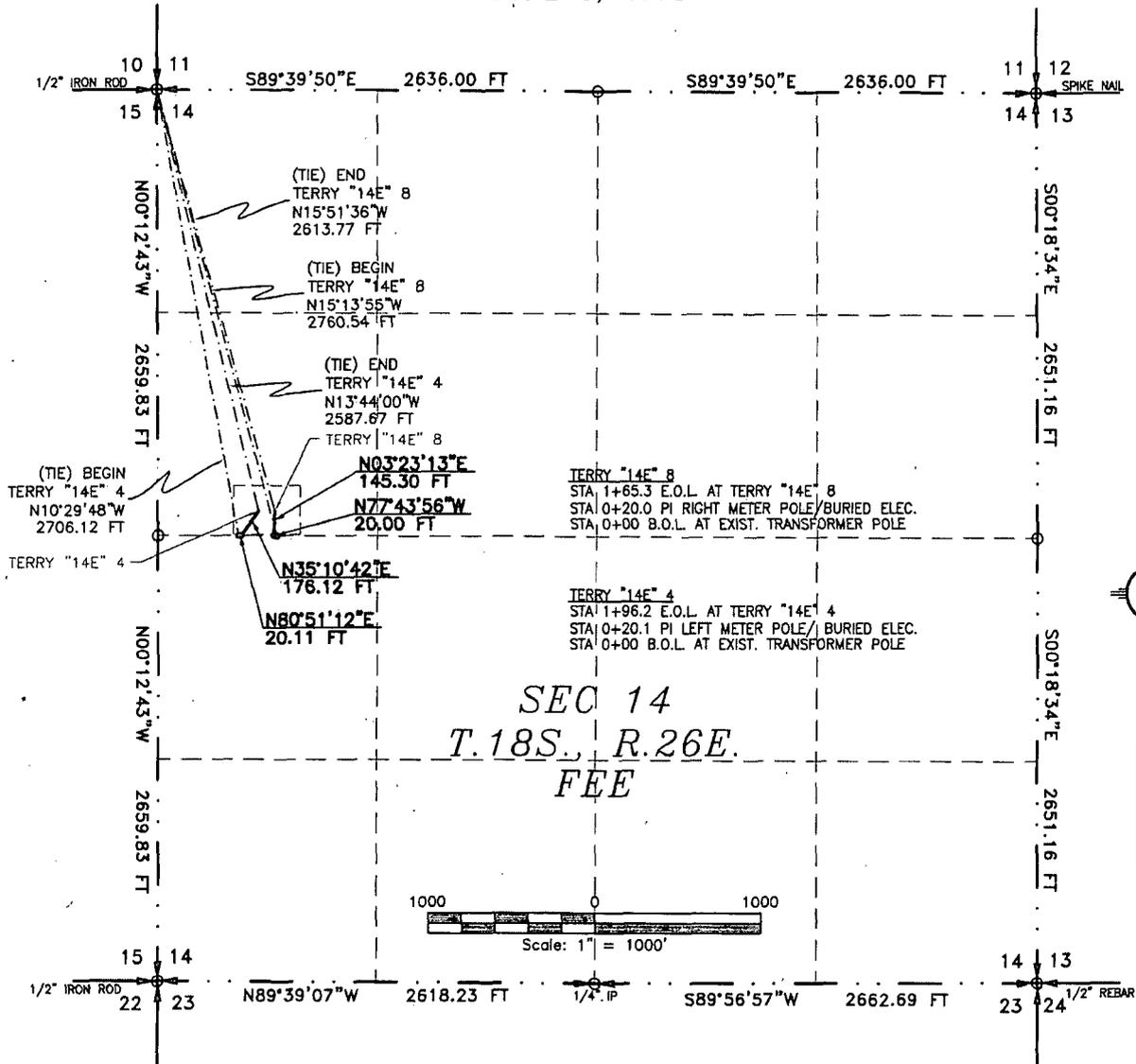
301 SOUTH CANAL  
(575) 234-3341

SURVEY NO. 3170A  
CARLSBAD, NEW MEXICO

© 2015 Google

**ELECTRIC LINE PLAT**  
 ELECTRIC LINE TO CONNECT THE TERRY "14E" 4 & ELECTRIC LINE TO CONNECT THE TERRY "14E" 8

**CENTRAL VALLEY ELECTRIC**  
 CENTERLINE SURVEY OF AN ELECTRIC LINE CROSSING  
 SECTION 14, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M.  
 EDDY COUNTY, STATE OF NEW MEXICO  
 JUNE 9, 2015



SEC 14  
 T. 18 S., R. 26 E.  
 FEE

SEE NEXT SHEET (2-4) FOR DESCRIPTION

**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 12 DAY OF JUNE 2015

  
 FILMON F. JARAMILLO, PLS. 12797  
 REGISTERED PROFESSIONAL SURVEYOR  
 STATE OF NEW MEXICO

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

SURVEY NO. 3170A

**GENERAL NOTES**

- 1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.
- 2.) BASIS OF BEARING IS NMSP EAST MODIFIED TO SURFACE COORDINATES.

SHEET: 1-4

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

**ELECTRIC LINE PLAT**

**ELECTRIC LINE TO CONNECT THE TERRY "14E" 4 & ELECTRIC LINE TO CONNECT THE TERRY "14E" 8**

**CENTRAL VALLEY ELECTRIC  
CENTERLINE SURVEY OF AN ELECTRIC LINE CROSSING  
SECTION 14, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M.  
EDDY COUNTY, STATE OF NEW MEXICO  
JUNE 9, 2015**

**DESCRIPTION**

A STRIP OF LAND 30 FEET WIDE CROSSING FEE LAND IN SECTION 14, 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:

**TERRY "14E" 4**

BEGINNING AT A POINT WITHIN THE SW/4 NW/4 OF SAID SECTION 14, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M., WHENCE THE NORTHWEST CORNER OF SAID SECTION 14, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M. BEARS N10°29'48"W, A DISTANCE OF 2706.12 FEET;  
THENCE N80°51'12"E A DISTANCE OF 20.11 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;  
THENCE N35°10'42"E A DISTANCE OF 176.12 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTHWEST CORNER OF SAID SECTION 14, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M. BEARS N13°44'00"W, A DISTANCE OF 2587.67 FEET;

SAID STRIP OF LAND BEING 196.23 FEET OR 11.89 RODS IN LENGTH, CONTAINING 0.135 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

SW/4 NW/4 196.23 L.F. 11.89 RODS 0.135 ACRES

**TERRY "14E" 8**

BEGINNING AT A POINT WITHIN THE NW/4 SW/4 OF SAID SECTION 14, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M., WHENCE THE NORTHWEST CORNER OF SAID SECTION 14, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M. BEARS N15°13'55"W, A DISTANCE OF 2760.54 FEET;  
THENCE N77°43'56"W A DISTANCE OF 20.00 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;  
THENCE N03°23'13"E A DISTANCE OF 145.30 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTHWEST CORNER OF SAID SECTION 14, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M. BEARS N15°51'36"W, A DISTANCE OF 2613.77 FEET;

SAID STRIP OF LAND BEING 165.30 FEET OR 10.02 RODS IN LENGTH, CONTAINING 0.114 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NW/4 SW/4 3.97 L.F. 0.24 RODS 0.003 ACRES  
SW/4 NW/4 161.33 L.F. 9.78 RODS 0.111 ACRES

**SURVEYOR CERTIFICATE**

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

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD,

NEW MEXICO, THIS 12<sup>TH</sup> DAY OF JUNE 2015

*Filimon F. Jaramillo*  
FILIMON F. JARAMILLO, P.L.S. 12797

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

**SURVEY NO. 3170A**

**GENERAL NOTES**

- 1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.
- 2.) BASIS OF BEARING IS NMSP EAST MODIFIED TO SURFACE COORDINATES.

**SHEET: 2-4**

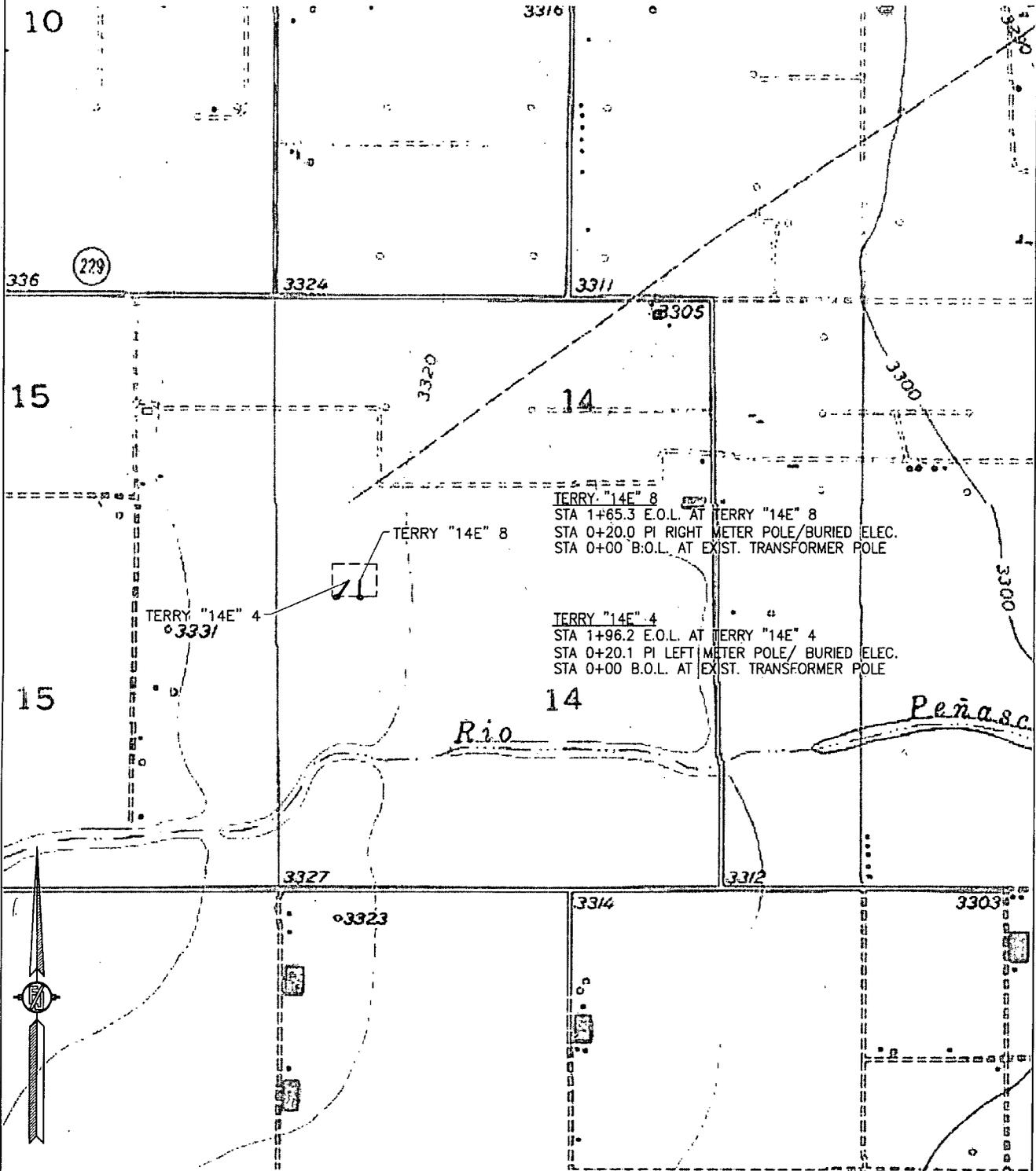
**MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO**

301 SOUTH CANAL  
(575) 234-3341

**ELECTRIC LINE PLAT**

ELECTRIC LINE TO CONNECT THE TERRY "14E" 4 & ELECTRIC LINE TO CONNECT THE TERRY "14E" 8

**CENTRAL VALLEY ELECTRIC**  
CENTERLINE SURVEY OF AN ELECTRIC LINE CROSSING  
SECTION 14, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M.  
EDDY COUNTY, STATE OF NEW MEXICO  
JUNE 9, 2015



SHEET: 3-4

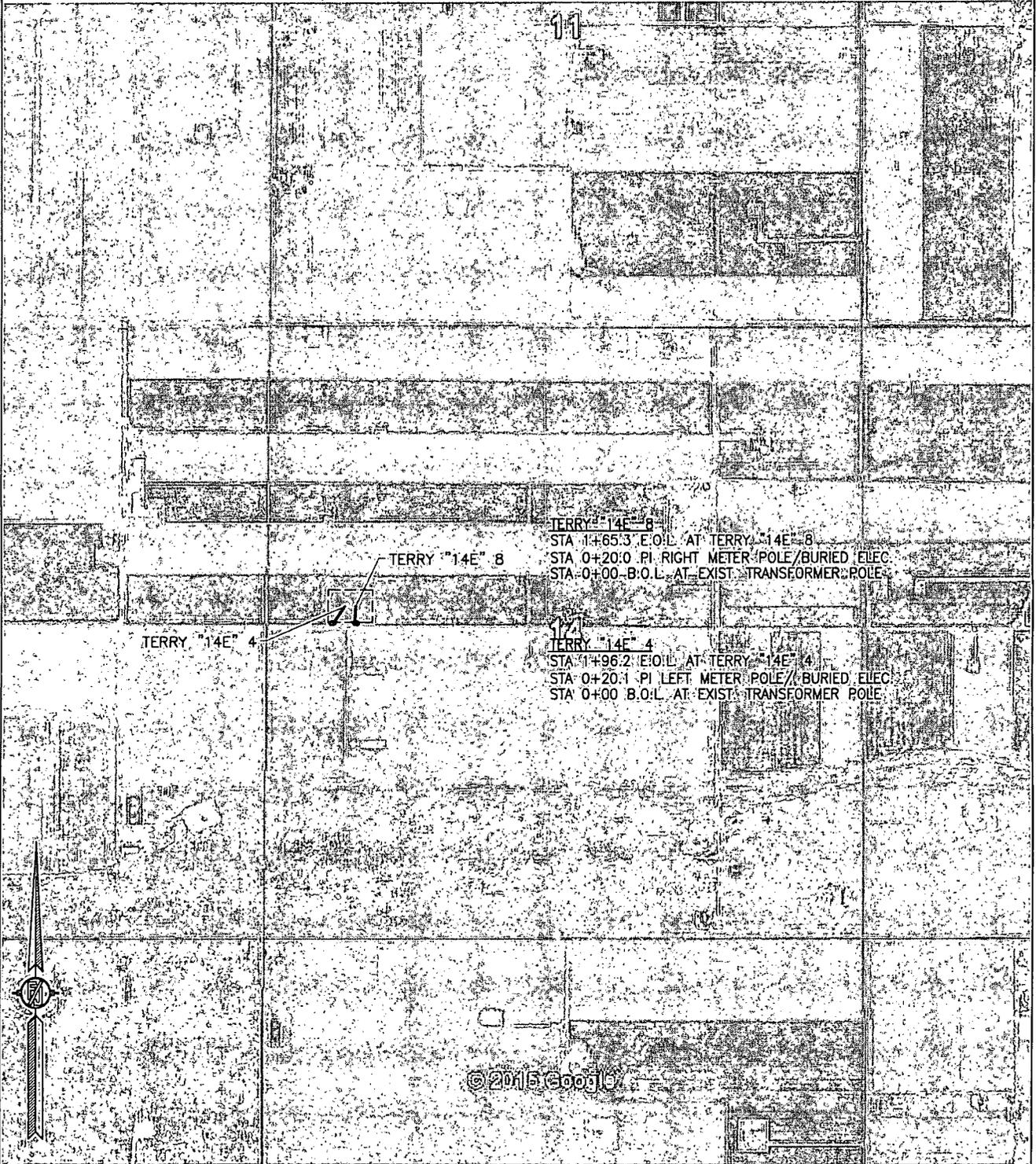
MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO  
(575) 234-3341

SURVEY NO. 3170A

**ELECTRIC LINE PLAT**

ELECTRIC LINE TO CONNECT THE TERRY "14E" 4 & ELECTRIC LINE TO CONNECT THE TERRY "14E" 8

**CENTRAL VALLEY ELECTRIC**  
CENTERLINE SURVEY OF AN ELECTRIC LINE CROSSING  
SECTION 14, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M.  
EDDY COUNTY, STATE OF NEW MEXICO  
JUNE 9, 2015



TERRY "14E" 8  
STA 1+65.3 E.O.L. AT TERRY "14E" 8  
STA 0+20.0 P.I. RIGHT METER POLE/BURIED ELEC.  
STA 0+00.0 B.O.L. AT EXIST. TRANSFORMER POLE

TERRY "14E" 4  
STA 1+96.2 E.O.L. AT TERRY "14E" 4  
STA 0+20.1 P.I. LEFT METER POLE/BURIED ELEC.  
STA 0+00.0 B.O.L. AT EXIST. TRANSFORMER POLE

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

**Terry 14E #4  
2510' FNL 605' FWL  
(E) 14-18S-27E  
Eddy County, NM**

1. The elevation of the unprepared ground is 3323.5 feet above sea level.
2. The geologic name of the surface formation is Quaternary – Alluvium.
3. A rotary rig will be utilized to drill the well to 4660' and run casing. This equipment will be rigged down and the well will be completed with a workover rig.
4. Well will be drilled to a total proposed depth of 4694' MD./ 4660' TVD. inside a 30' X 30' square target inside of 40 acre spacing regulatory quarter-quarter setback distances. The KOP for directional drilling will be at 500'. See directional plan for detail.
5. Estimated tops of geologic markers:

	MD	TVD
Quaternary – Alluvium	Surface	Surface
Yates	NA	NA
7 Rivers	NA	NA
Queen	290	290
Grayburg	670	670
Premier	970	976
San Andres	978	984
Glorieta	2327	2361
Yeso	2445	2479
Tubb	3867	3901
TD	4694	4660

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	290	290
Grayburg	670	670
Premier	970	976
San Andres	978	984
Glorieta	2327	2361
Yeso	2445	2479
Tubb	3867	3901
TD	4694	4660

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	12-1/4"	8-5/8"	24	J-55	ST&C	425	350	14.8	1.35	Cl C Cmt + 0.25 lbs/sk Cello Flake + 2% CaCl2
Intermediate										
Production	7-7/8"	5-1/2"	17	J-55	LT&C	4694	200	12.8	1.903	(35:65) Poz/Cl C Cmt + 5% NaCl + 0.25 lbs/sk Cello Flake + 5 lbs/sk LCM-1 +0.2% R-3 + 6% Gel
							720	14.8	1.33	Cl H w/ 0.6% R-3, 0.125% Cello Flake, 2% Gel

8. Proposed Mud Program is as follows

Depth	0-425	425-4544	4544-4694
Mud Type	Fresh Water Mud	Brine	Brine, Salt Gel, & Starch .
Properties			
MW	8.4-9.2	9.8-10.1	9.9-10.1
pH	9.0-10.5	10.0-12.0	10.0-12.0
WL	NC	NC	20-30
Vis	28-34	28-29	32-34
MC	NC	NC	<2
Solids	NC	<2%	<3%
Pump Rate	300-500 gpm	375-425 gpm	400-425 gpm
Special		Use Poymers sticks and MF-55 Hi-Vis Sweeps as necessary	Hi Vis Sweeps, add acid and starch as req. Raise Vis to 35 for log.

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

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

**Testing Program:** No drill stem tests are anticipated

**Electric Logging Program:** SGR-DLL-CDL-CNL Quad Combo from 4694 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 H<sub>2</sub>S in this area. If H<sub>2</sub>S 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 2065.36 psi based on 0.44 x TD. The estimated BHT is 125 degrees F.

12. **Duration of Operations:**

Anticipated spud date will be soon after approval and as soon as a rig will be available. Move in operations and drilling is expected to take 10 days. An additional 14 days will be needed it complete the well and to construct surface facilities.



## **Lime Rock Resources**

Eddy County NM (NAD 27)

Terry 14E

#4

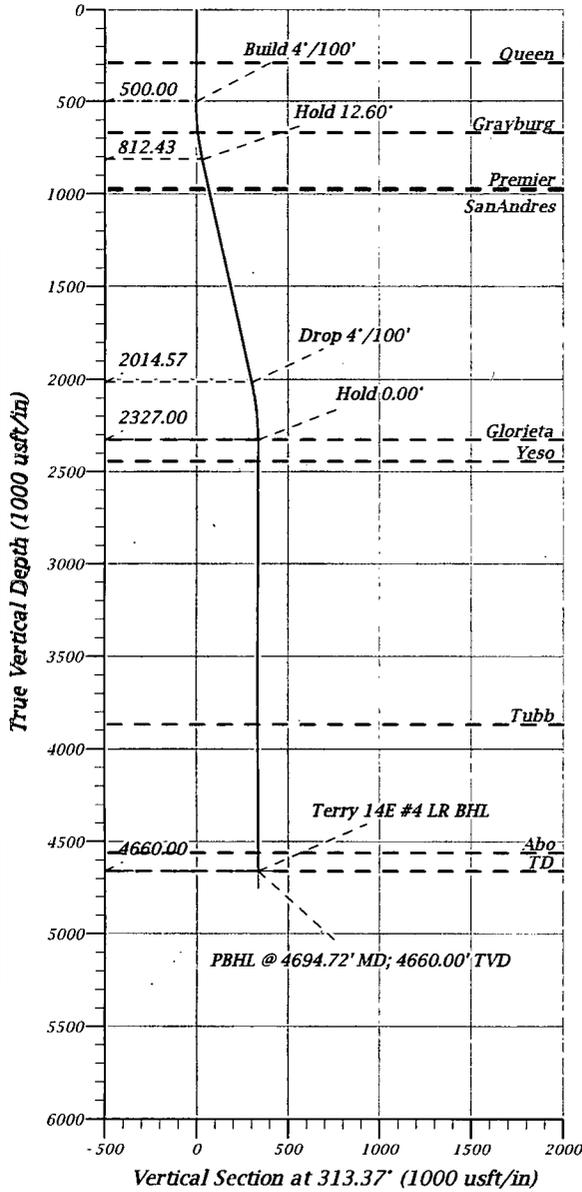
Original Hole

Plan: Plan #1

## **Standard Planning Report**

04 August, 2015





**WELL DETAILS: #4**

Ground Level: 3323.50 RKB @ 3334.30usft (UDI 33)

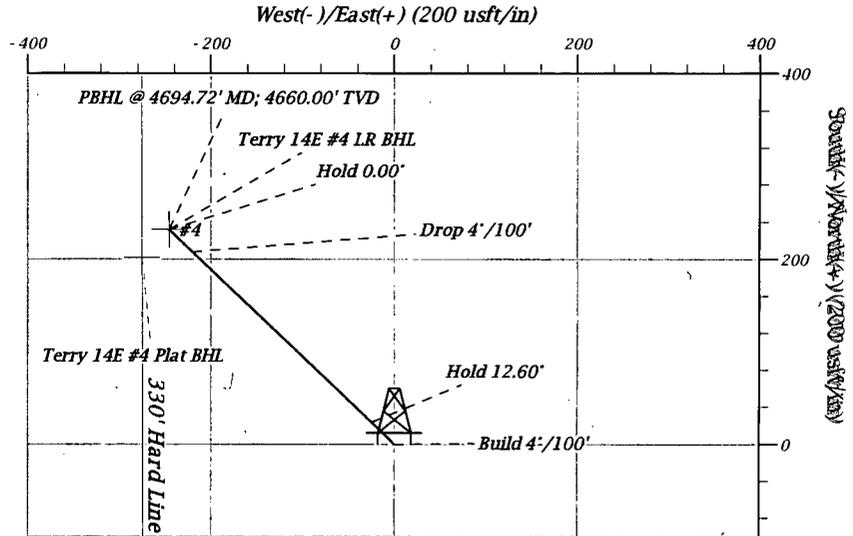
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	635975.30	533408.40	32.7483431	-104.2246707

**DESIGN TARGET DETAILS**

Name	TVD	+N/-S	+E/-W	Northing	Easting
Terry 14E #4 LR BHL	4660.00	231.87	-245.45	636206.92	533162.71
Terry 14E #4 Plat BHL	4660.00	201.90	-275.48	636176.92	533132.71

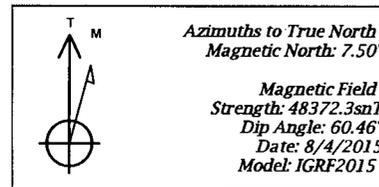
**PROJECT DETAILS: Eddy County NM (NAD 27)**

Geodetic System: US State Plane 1927 (Exact solution)  
Datum: NAD 1927 (NADCON CONUS)  
Ellipsoid: Clarke 1866  
Zone: New Mexico East 3001  
System Datum: Mean Sea Level



**FORMATION TOP DETAILS**

TVDPATH	MDPATH	FORMATION
290.00	290.00	Queen
670.00	670.40	Grayburg
970.00	976.42	Premier
978.00	984.62	SanAndres
2327.00	2361.72	Glorieta
2445.00	2479.72	Yeso
3867.00	3901.72	Tubb
4560.00	4594.72	Abo
4660.00	4694.72	TD



To convert a Magnetic Direction to a True Direction, Add 7.50° East  
Magnetic North is 7.50° East of True North (Magnetic Declination)

**Section Plans**

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	Build 4' /100'
814.96	12.60	313.37	812.43	23.68	-25.07	4.00	313.37	34.49	Hold 12.60'
2046.76	12.60	313.37	2014.57	208.19	-220.38	0.00	0.00	303.17	Drop 4' /100'
2361.72	0.00	0.00	2327.00	231.87	-245.45	4.00	180.00	337.66	Hold 0.00'
4694.72	0.00	0.00	4660.00	231.87	-245.45	0.00	0.00	337.66	PBHL @ 4694.72' MD; 4660.00' TVD



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well #4
Company:	Lime Rock Resources	TVD Reference:	RKB @ 3334.30usft (UDI 33)
Project:	Eddy County NM (NAD 27)	MD Reference:	RKB @ 3334.30usft (UDI 33)
Site:	Terry 14E	North Reference:	True
Well:	#4	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #1		

Project	Eddy County NM (NAD 27)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Terry 14E		
Site Position:	Map	Northing:	635,974.72 usft
From:		Easting:	533,508.37 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in
		Latitude:	32.7483413
		Longitude:	-104.2243455
		Grid Convergence:	0.06 °

Well	#4					
Well Position	+N/-S	0.68 usft	Northing:	635,975.30 usft	Latitude:	32.7483431
	+E/-W	-99.97 usft	Easting:	533,408.40 usft	Longitude:	-104.2246707
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	3,323.50 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF2015	8/4/2015	(°)	(°)	(nT)
			7.50	60.46	48,372

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	313.37

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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
814.96	12.60	313.37	812.43	23.68	-25.07	4.00	4.00	0.00	313.37	
2,046.76	12.60	313.37	2,014.57	208.19	-220.38	0.00	0.00	0.00	0.00	
2,361.72	0.00	0.00	2,327.00	231.87	-245.45	4.00	-4.00	0.00	180.00	
4,694.72	0.00	0.00	4,660.00	231.87	-245.45	0.00	0.00	0.00	0.00	Terry 14E #4 LR BHL



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well #4
Company:	Lime Rock Resources	TVD Reference:	RKB @ 3334.30usft (UDI 33)
Project:	Eddy County NM (NAD 27)	MD Reference:	RKB @ 3334.30usft (UDI 33)
Site:	Terry 14E	North Reference:	True
Well:	#4	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #1		

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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
290.00	0.00	0.00	290.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Queen</b>									
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Build 4°/100'</b>									
600.00	4.00	313.37	599.92	2.40	-2.54	3.49	4.00	4.00	0.00
670.40	6.82	313.37	670.00	6.95	-7.36	10.12	4.00	4.00	0.00
<b>Grayburg</b>									
700.00	8.00	313.37	699.35	9.57	-10.13	13.94	4.00	4.00	0.00
800.00	12.00	313.37	797.81	21.49	-22.75	31.30	4.00	4.00	0.00
814.96	12.60	313.37	812.43	23.68	-25.07	34.49	4.00	4.00	0.00
<b>Hold 12.60°</b>									
900.00	12.60	313.37	895.42	36.42	-38.55	53.04	0.00	0.00	0.00
976.42	12.60	313.37	970.00	47.87	-50.67	69.71	0.00	0.00	0.00
<b>Premier</b>									
984.62	12.60	313.37	978.00	49.10	-51.97	71.49	0.00	0.00	0.00
<b>SanAndres</b>									
1,000.00	12.60	313.37	993.01	51.40	-54.41	74.85	0.00	0.00	0.00
1,100.00	12.60	313.37	1,090.61	66.38	-70.27	96.66	0.00	0.00	0.00
1,200.00	12.60	313.37	1,188.20	81.36	-86.12	118.47	0.00	0.00	0.00
1,300.00	12.60	313.37	1,285.79	96.33	-101.98	140.28	0.00	0.00	0.00
1,400.00	12.60	313.37	1,383.38	111.31	-117.83	162.10	0.00	0.00	0.00
1,500.00	12.60	313.37	1,480.97	126.29	-133.69	183.91	0.00	0.00	0.00
1,600.00	12.60	313.37	1,578.57	141.27	-149.54	205.72	0.00	0.00	0.00
1,700.00	12.60	313.37	1,676.16	156.25	-165.40	227.53	0.00	0.00	0.00
1,800.00	12.60	313.37	1,773.75	171.23	-181.26	249.34	0.00	0.00	0.00
1,900.00	12.60	313.37	1,871.34	186.21	-197.11	271.16	0.00	0.00	0.00
2,000.00	12.60	313.37	1,968.93	201.18	-212.97	292.97	0.00	0.00	0.00
2,046.76	12.60	313.37	2,014.57	208.19	-220.38	303.17	0.00	0.00	0.00
<b>Drop 4°/100'</b>									
2,100.00	10.47	313.37	2,066.73	215.50	-228.12	313.81	4.00	-4.00	0.00
2,200.00	6.47	313.37	2,165.62	225.61	-238.82	328.54	4.00	-4.00	0.00
2,300.00	2.47	313.37	2,265.30	230.96	-244.49	336.33	4.00	-4.00	0.00
2,361.72	0.00	0.00	2,327.00	231.87	-245.45	337.66	4.00	-4.00	0.00
<b>Hold 0.00° - Glorieta</b>									
2,400.00	0.00	0.00	2,365.28	231.87	-245.45	337.66	0.00	0.00	0.00
2,479.72	0.00	0.00	2,445.00	231.87	-245.45	337.66	0.00	0.00	0.00
<b>Yeso</b>									
2,500.00	0.00	0.00	2,465.28	231.87	-245.45	337.66	0.00	0.00	0.00
2,600.00	0.00	0.00	2,565.28	231.87	-245.45	337.66	0.00	0.00	0.00
2,700.00	0.00	0.00	2,665.28	231.87	-245.45	337.66	0.00	0.00	0.00
2,800.00	0.00	0.00	2,765.28	231.87	-245.45	337.66	0.00	0.00	0.00
2,900.00	0.00	0.00	2,865.28	231.87	-245.45	337.66	0.00	0.00	0.00
3,000.00	0.00	0.00	2,965.28	231.87	-245.45	337.66	0.00	0.00	0.00
3,100.00	0.00	0.00	3,065.28	231.87	-245.45	337.66	0.00	0.00	0.00
3,200.00	0.00	0.00	3,165.28	231.87	-245.45	337.66	0.00	0.00	0.00
3,300.00	0.00	0.00	3,265.28	231.87	-245.45	337.66	0.00	0.00	0.00
3,400.00	0.00	0.00	3,365.28	231.87	-245.45	337.66	0.00	0.00	0.00
3,500.00	0.00	0.00	3,465.28	231.87	-245.45	337.66	0.00	0.00	0.00



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well #4
Company:	Lime Rock Resources	TVD Reference:	RKB @ 3334.30usft (UDI 33)
Project:	Eddy County NM (NAD 27)	MD Reference:	RKB @ 3334.30usft (UDI 33)
Site:	Terry 14E	North Reference:	True
Well:	#4	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #1		

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)
3,600.00	0.00	0.00	3,565.28	231.87	-245.45	337.66	0.00	0.00	0.00
3,700.00	0.00	0.00	3,665.28	231.87	-245.45	337.66	0.00	0.00	0.00
3,800.00	0.00	0.00	3,765.28	231.87	-245.45	337.66	0.00	0.00	0.00
3,900.00	0.00	0.00	3,865.28	231.87	-245.45	337.66	0.00	0.00	0.00
3,901.72	0.00	0.00	3,867.00	231.87	-245.45	337.66	0.00	0.00	0.00
<b>Tubb</b>									
4,000.00	0.00	0.00	3,965.28	231.87	-245.45	337.66	0.00	0.00	0.00
4,100.00	0.00	0.00	4,065.28	231.87	-245.45	337.66	0.00	0.00	0.00
4,200.00	0.00	0.00	4,165.28	231.87	-245.45	337.66	0.00	0.00	0.00
4,300.00	0.00	0.00	4,265.28	231.87	-245.45	337.66	0.00	0.00	0.00
4,400.00	0.00	0.00	4,365.28	231.87	-245.45	337.66	0.00	0.00	0.00
4,500.00	0.00	0.00	4,465.28	231.87	-245.45	337.66	0.00	0.00	0.00
4,594.72	0.00	0.00	4,560.00	231.87	-245.45	337.66	0.00	0.00	0.00
<b>Abo</b>									
4,600.00	0.00	0.00	4,565.28	231.87	-245.45	337.66	0.00	0.00	0.00
4,694.72	0.00	0.00	4,660.00	231.87	-245.45	337.66	0.00	0.00	0.00
PBHL @ 4694.72' MD; 4660.00' TVD - TD									

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Terry 14E #4 Plat BHL	0.00	0.00	4,660.00	201.90	-275.48	636,176.92	533,132.71	32.7488981	-104.2255667
- hit/miss target									
- Shape									
- plan misses target center by 42.43usft at 4694.72usft MD (4660.00 TVD, 231.87 N, -245.45 E)									
- Point									
Terry 14E #4 LR BHL	0.00	0.00	4,660.00	231.87	-245.45	636,206.92	533,162.71	32.7489805	-104.2254690
- plan hits target center									
- Point									

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
290.00	290.00	Queen			
670.40	670.00	Grayburg			
976.42	970.00	Premier			
984.62	978.00	SanAndres			
2,361.72	2,327.00	Glorieta			
2,479.72	2,445.00	Yeso			
3,901.72	3,867.00	Tubb			
4,594.72	4,560.00	Abo			
4,694.72	4,660.00	TD			



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well #4
Company:	Lime Rock Resources	TVD Reference:	RKB @ 3334.30usft (UDI 33)
Project:	Eddy County NM (NAD 27)	MD Reference:	RKB @ 3334.30usft (UDI 33)
Site:	Terry 14E	North Reference:	True
Well:	#4	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #1		

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
500.00	500.00	0.00	0.00	Build 4°/100'
814.96	812.43	23.68	-25.07	Hold 12.60°
2,046.76	2,014.57	208.19	-220.38	Drop 4°/100'
2,361.72	2,327.00	231.87	-245.45	Hold 0.00°
4,694.72	4,660.00	231.87	-245.45	PBHL @ 4694.72' MD; 4660.00' TVD

Lime Rock

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**SCOX**

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Job number: 109

# Hydrogen Sulfide Drilling Plan Summary

A. All personnel shall receive proper H<sub>2</sub>S training in accordance with Onshore Order 6 III.C.3.a.

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

C. Required Emergency Equipment:

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

- Protective equipment for essential personnel.

Breathing apparatus:

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

Auxiliary Rescue Equipment:

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

- H<sub>2</sub>S detection and monitoring equipment:

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

- Visual warning systems:

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

- Mud program:

The mud program has been designed to minimize the volume of H<sub>2</sub>S circulated to surface. The operator will have the necessary mud products to minimize hazards while drilling in H<sub>2</sub>S bearing zones.

■ Metallurgy:

a. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H<sub>2</sub>S service.

b. All elastomers used for packing and seals shall be H<sub>2</sub>S trim.

■ Communication:

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

## H2S CONTINGENCY DRILLING PLAN EMERGENCY CONTACTS

**Company Offices** - Lime Rock Houston Office  
 Answering Service (After Hours)  
 Artesia, NM Office  
 Roswell, NM

713-292-9510  
 713-292-9555  
 575-748-9724  
 575-623-8424

### KEY PERSONNEL

Name	Title	Location	Office #	Cell #	Home #
Mike Loudermilk	Operations Manager	Houston	713-292-9526	832-331-7367	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	405-821-0534	832-491-3079
Jerry Smith	Assistant Production Supervisor	Artesia	575-748-9724	505-918-0556	575-746-2478
Michael Barrett	Production Supervisor	Roswell	575-623-8424	505-353-2644	575-623-4707
Gary McClland	Well Site Supervisor	Rotates on Site	NA	903-503-8997	NA
Dave Williamson	Well Site Supervisor	Rotates on Site	NA	575-308-9980	NA

Agency Call List		
City	Agency or Office	Telephone #
Artesia	Ambulance	911
Artesia	State Police	575-746-2703
Artesia	Sherriff's Office	575-746-9888
Artesia	City Police	575-746-2703
Artesia	Fire Department	575-746-2701
Artesia	Local Emergency Planning Committee	575-746-2122
Artesia	New Mexico OCD District II	575-748-1283
Carlsbad	Ambulance	911
Carlsbad	State Police	575-885-3137
Carlsbad	Sherriff's Office	575-887-7551
Carlsbad	City Police	575-885-2111
Carlsbad	Fire Department	575-885-2111
Carlsbad	Local Emergency Planning Committee	575-887-3798
Carlsbad	US DOI Bureau of Land Management	575-887-6544
State Wide	New Mexico Emergency Response Commisssion ("NMERC")	505-476-9600
State Wide	NMERC 24 Hour Number	505-827-9126
State Wide	New Mexico State Emergency Operations Center	505-476-9635
National	National Emergency Response Center (Washington D.C.)	800-424-8802

**Emergency Services**

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

## **Pressure Control Equipment**

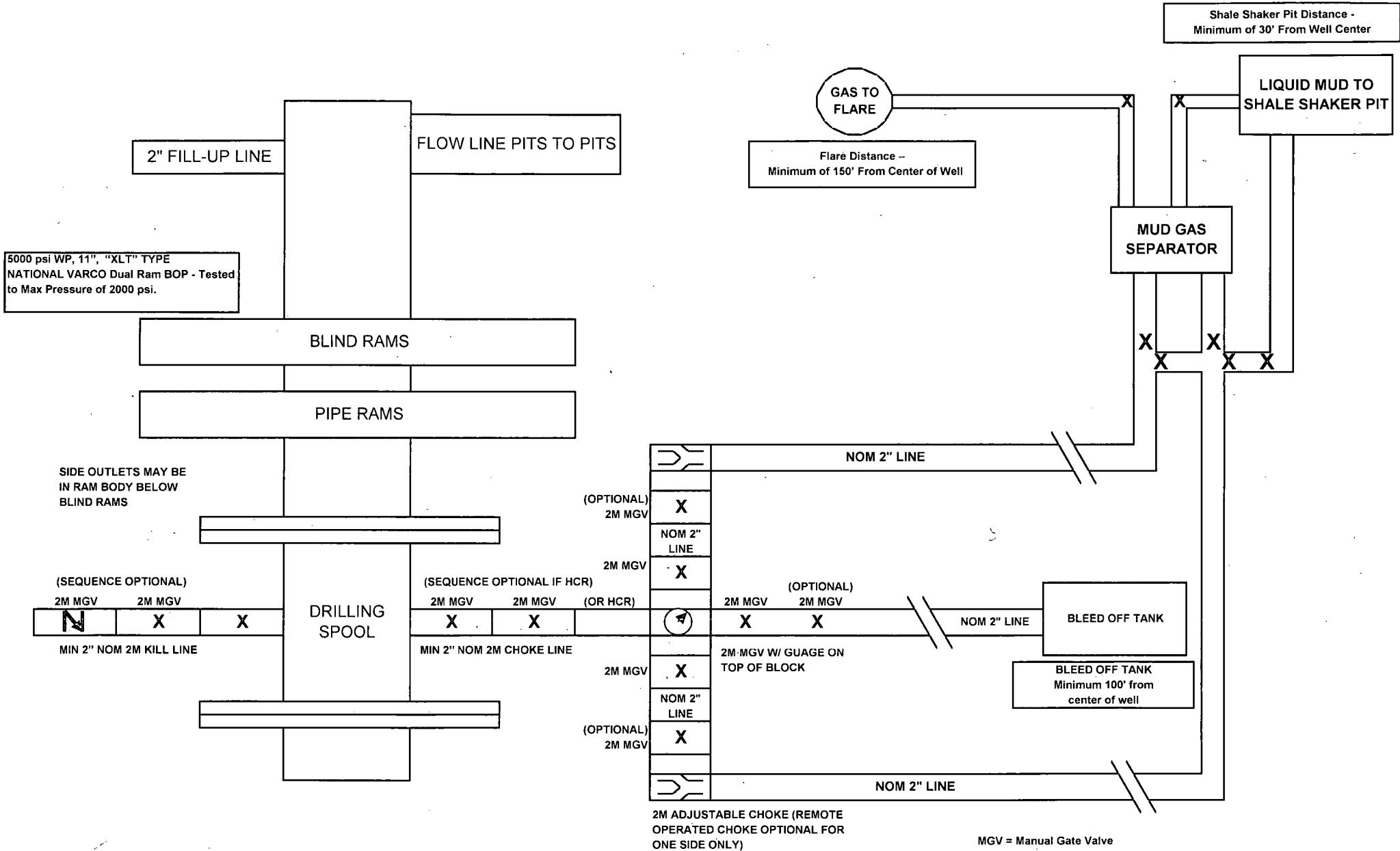
The blowout preventer equipment (BOP) will consist of a 5000 psi rated, "XLT" type, National VARCO double ram preventer that will be tested to a maximum pressure of 2000 psi. The unit will be hydraulically operated and the ram type preventer will be equipped with blind rams on top and drill pipe rams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

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

The BOP equipment will consist of the following:

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

# 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.

## Terry 14E #4

### Unit E, S14-T18S-R27E, Eddy County, NM

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

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

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

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

Monitoring 24 Hour service

Equipment:

Centrifuges – Derrick Brand

Rig Shakers – Brandt Brand

D-watering Unit

Air pumps on location for immediate remediation process

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

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

2- (250 bbl) tanks to hold fluid

2-CRI bins with track system

2-500 bbl frac tanks with fresh water

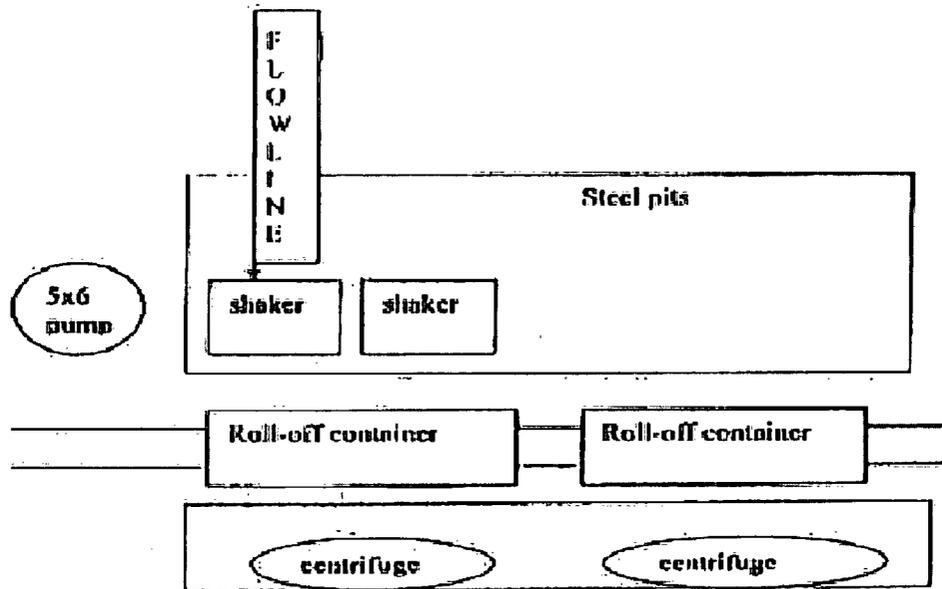
2-500 bbl frac tanks for brine water

#### **Operations:**

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

#### **Closure:**

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



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

TOMMY WILSON  
**CLS**  
 CLOSED LOOP  
 SPECIALTY

Office: 575.746.1689

Cell: 575.748.6367

### Permit Conditions of Approval

API: 30-015-43297

OCD Reviewer	Condition
	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string