

1623 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 Grande Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr
Santa Fe, NM 87505

Form 2017
Revised July 18, 2013

☐ AMENDED Report

OIL CON
ARTESIA

APR 1

REC

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

Operator Name and Address Lime Rock Resources II-A, L.P. 1111 Bagby Street, Suite 4600 Houston, Texas 77002		OGRID Number 277558
Property Code 314837-39839		API Number 30-015-44188
Property Name Leavitt 14 A		Well No. #2

7 Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
A	14	18S	26E		1305	N	330	E	Eddy

8 Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
A	14	18S	26E		990	N	330	E	Eddy

9 Pool Information

Atoka, Glorieta-Yeso	3250
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Additional Well Information

Well Type N	Well Type O	Cable/Retrieval R	Casing Type P	Cased Hole Elevation 3302'
Mudline N	Proposed Depth 4500' MD / 4500' TVD	Formation Yeso	Contractor United Drilling, Inc	Spud Date After 5/1/2017
Depth to Ground Water 30 Ft	Distance from nearest fresh water well 0.54 Miles	Distance from nearest surface water 1.23 Miles		

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

10 Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/lb	Setting Depth	Sacks of Cement	Estimated TOC
Conductor	26"	20"	91.5	80	80	Surface
Surface	11"	8-5/8"	24	675	350	Surface
Production	7-7/8"	5-1/2"	17	4500	900	Surface

Casing/Cement Program: Additional Comments

Surface Csg set 50' above first oil show. Cement will be circulated as required.

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) ☐ and/or 19.15.14.9 (B) NMAC 0, if ☒

Signature:

Eric P. McClusky

Printed Name: Eric McClusky

Title: Operations Engineer

E-mail Address: emcclusky@limerockresources.com

Date: 4/5/2017

Phone: 713-360-5714

OIL CONSERVATION DIVISION

Approved By:

Raymond M. Delaney

Title:

Geology 137

Approved Date:

5-19-17

Expiration Date:

5-19-19

Conditions of Approval Attached

Prior to Spud, Operator will review and adhere to NMOCD order R-14164 for current changes or any amendments which may pertain to the drilling and completion of this well.

District I
 1625 N. French Dr., Bldg. 1545240
 Phone: (505) 412-2611 Fax: (505) 293-0720
 District II
 811 S. First St., Arroyo, NM 88210
 Phone: (505) 748-1253 Fax: (505) 748-0720
 District III
 1900 Rio Brazos Road, Arroyo, NM 87410
 Phone: (505) 334-6178 Fax: (505) 334-6170
 District IV
 1220 S. St. Francis Dr., Santa Fe, NM 87508
 Phone: (505) 476-3400 Fax: (505) 476-3402

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

¹ API Number 30-015-44188	² Pool Code 3250	³ Pool Name Atoka, Blor-Yeso
⁴ Property Code 39339	⁵ Property Name LEAVITT "14" A	⁶ Well Number 2
⁷ OGRID No. 277558	⁸ Operator Name LIME ROCK RESOURCES II A, L.P.	⁹ Elevation 3304.1

" Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	14	18 S	26 E		1305	NORTH	330	EAST	EDDY

" 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
A	14	18 S	26 E		990	NORTH	330	EAST	EDDY

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

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

¹⁶ NW CORNER SEC. 14 LAT. = 32°45'18.855"N LONG. = 104°21'40.045"W NMSP EAST (FT) N = 638488.38 E = 532794.24 ¹⁷ N/4 CORNER SEC. 14 SCALED ¹⁸ NE CORNER SEC. 14 LAT. = 32°45'18.558"N LONG. = 104°20'38.324"W NMSP EAST (FT) N = 638457.46 E = 538064.84 ¹⁹ BOTTOM OF HOLE LAT. = 32°45'08.785"N LONG. = 104°20'42.12360"W NMSP EAST (FT) N = 637480.52 E = 537740.26 ²⁰ LEAVITT 14A 2 ALTERNATE ELEV. = 3304.1 LAT. = 32°45'05.666"N (NAD83) LONG. = 104°20'42.104"W NMSP EAST (FT) N = 637124.64 E = 537741.90 ²¹ W/4 CORNER SEC. 14 SCALED ²² E/4 CORNER SEC. 14 SCALED NOTE: LATITUDE AND LONGITUDE COORDINATES ARE SHOWN USING THE NORTH AMERICAN DATUM OF 1983 (NAD83). LISTED NEW MEXICO STATE PLANE EAST COORDINATES ARE GRID (NAD83). BASIS OF BEARING AND DISTANCES USED ARE NEW MEXICO STATE PLANE EAST COORDINATES MODIFIED TO THE SURFACE. ²³ SW CORNER SEC. 14 LAT. = 32°44'26.229"N LONG. = 104°21'38.798"W NMSP EAST (FT) N = 633170.07 E = 532813.91 ²⁴ S/4 CORNER SEC. 14 LAT. = 32°44'26.078"N LONG. = 104°21'09.151"W NMSP EAST (FT) N = 633154.17 E = 535431.45 ²⁵ SE CORNER SEC. 14 LAT. = 32°44'26.105"N LONG. = 104°20'37.982"W NMSP EAST (FT) N = 633158.57 E = 538093.46		" OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or mineral interest in the land including the proposed bottom hole location or has a right to drill and complete this location pursuant to a contract with an owner of such interest or working interest, or to a voluntary pooling agreement, or a completion pooling order becoming material to the division. ²⁶ Signature Mike Pippin ²⁷ Date 5/19/17 ²⁸ Printed Name MIKE PIPPIN ²⁹ E-mail Address MIKE@PIPPINLLC.COM "SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. ³⁰ Date of Survey MARCH 15, 2017 ³¹ Signature and Seal of Professional Surveyor [Signature] ³² Certificate Number PLUMONT, JARADILLO, PLS 11747 ³³ SURVEY NO. 10888
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**Lime Rock Resources II-A, L.P.
Drilling Plan**

**Leavitt 14 A #2
1305' FNL 330' FEL
(A) 14-18S-26E
Eddy County, NM**

1. The elevation of the unprepared ground is 3304.1 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 4500' 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 4500' MD.
5. Estimated tops of geologic markers:
6. Estimated depths at which anticipated oil, gas, or other mineral bearing formations are expected to be encountered:

	MD	TVD
Quaternary – Alluvium	Surface	Surface
Yates		NA
7 Rivers		NA
Queen		287
Grayburg		728
Premier		NA
San Andres		980
Glorieta		2353
Yeso		2500
Tubb		3950
TD		4500

	MD	TVD
Yates		NA
7 Rivers		NA
Queen		287
Grayburg		728
Premier		NA
San Andres		980
Glorieta		2353
Yeso		2500
Tubb		3950
TD		4500

7. Proposed Casing and Cement program is as follows

Type	Hole	Casing	Wt	Grade	Thread	Depth	Sq	Density	Yield	Components
Conductor	26"	20"	91.5	B	Welded	80	80			Ready Mix
Surface	11"	8-5/8"	24	J-55	ST&C	675	350	14.8	1.35	Cl C Cmt + 0.25 lbs/sk Cello Flake + 2% CaCl ₂
Intermediate										
Production	7-7/8"	5-1/2"	17	J-55	LT&C	4500	300	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
							600	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	0-675	675-4350	4350-4500
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 4500 to surf. Csg. SGR-CNL to Surf

Coring Program: No full or sidewall cores are anticipated.

11. Potential Hazards:

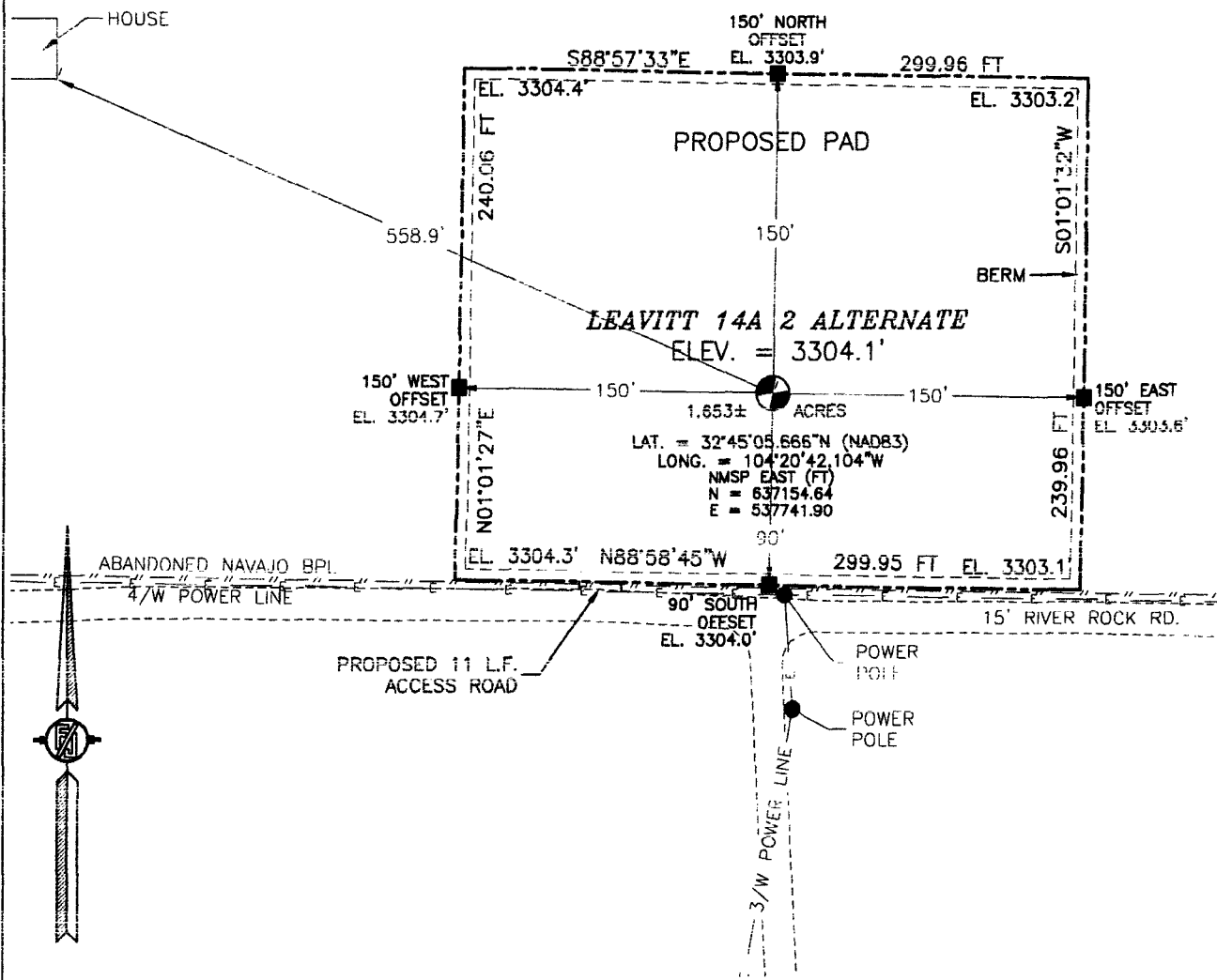
No abnormal temperatures or pressures are expected. There is no known presence of H₂S in this H₂S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. personnel will be familiar with all aspects of safe operation of equipment being used to drill this well Estimated BHP 1980 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 complet well and to construct surface facilities.

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 1983 (NAD83). LISTED NEW MEXICO STATE PLANE EAST COORDINATES ARE GRID (NAD83). BASIS OF BEARING AND DISTANCES USED ARE NEW MEXICO STATE PLANE EAST COORDINATES MODIFIED TO THE SURFACE.



0 8 40 80 160

SCALE 1" = 80'

DIRECTIONS TO LOCATION

FROM CR. 39 (FOUR DINKUS) AND CR. 44 (FANNING) GO SOUTH ON CR. 44 0.25 MILE, TURN LEFT ON RIVER ROCK LEASE ROAD AND GO EAST 0.2 MILE AND LOCATION IS ON THE LEFT (NORTH) 100'.

LIME ROCK RESOURCES II-A, L.P.
LEAVITT 14A 2
LOCATED 1305 FT. FROM THE NORTH LINE
AND 330 FT. FROM THE EAST LINE OF
SECTION 14, TOWNSHIP 18 SOUTH,
RANGE 26 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

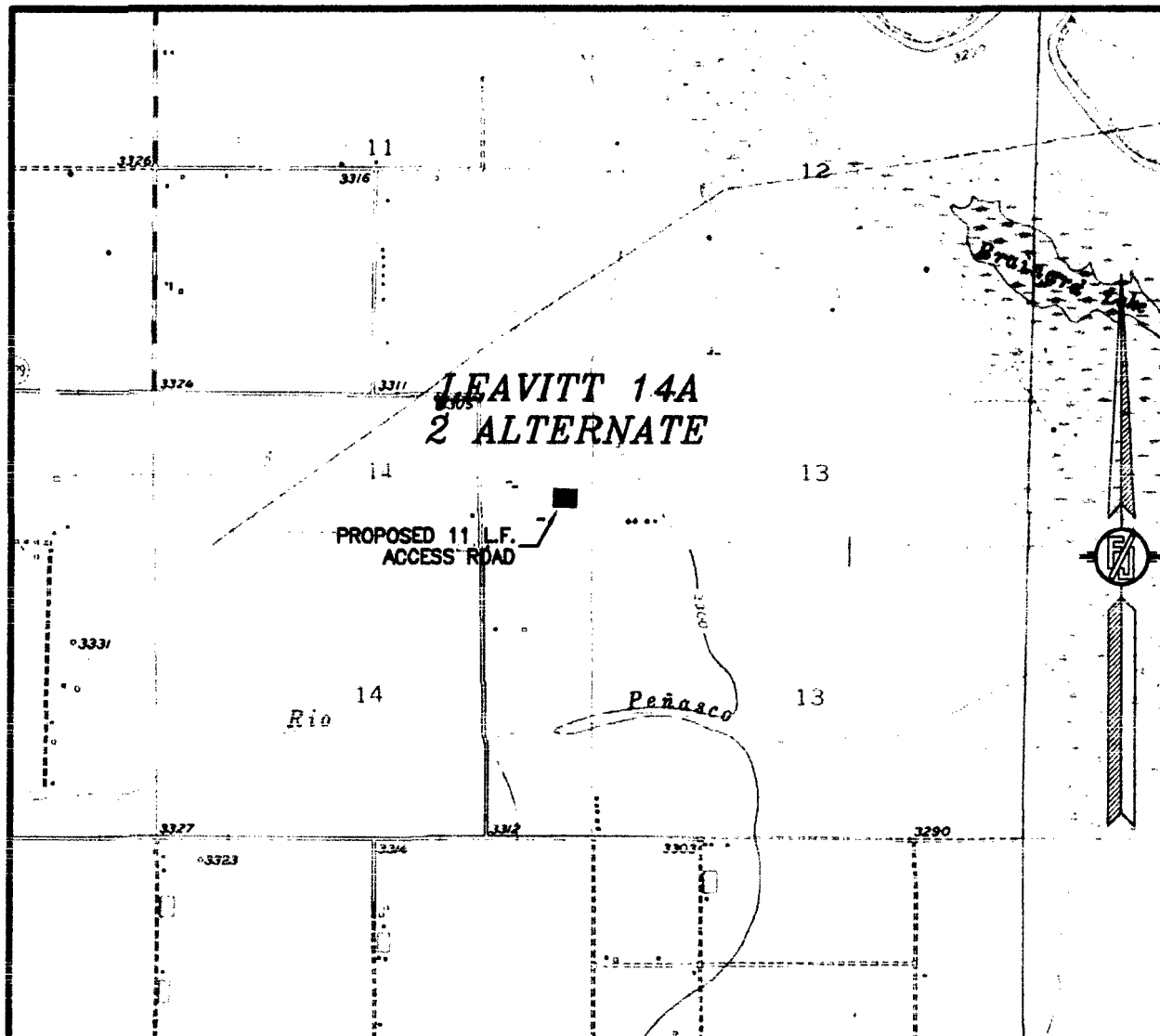
MARCH 15, 2017

SURVEY NO. 1098B

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
 LOCATION VERIFICATION MAP



USGS QUAD MAP:
 SPRING LAKE
 LAKE McMillan NORTH

NOT TO SCALE

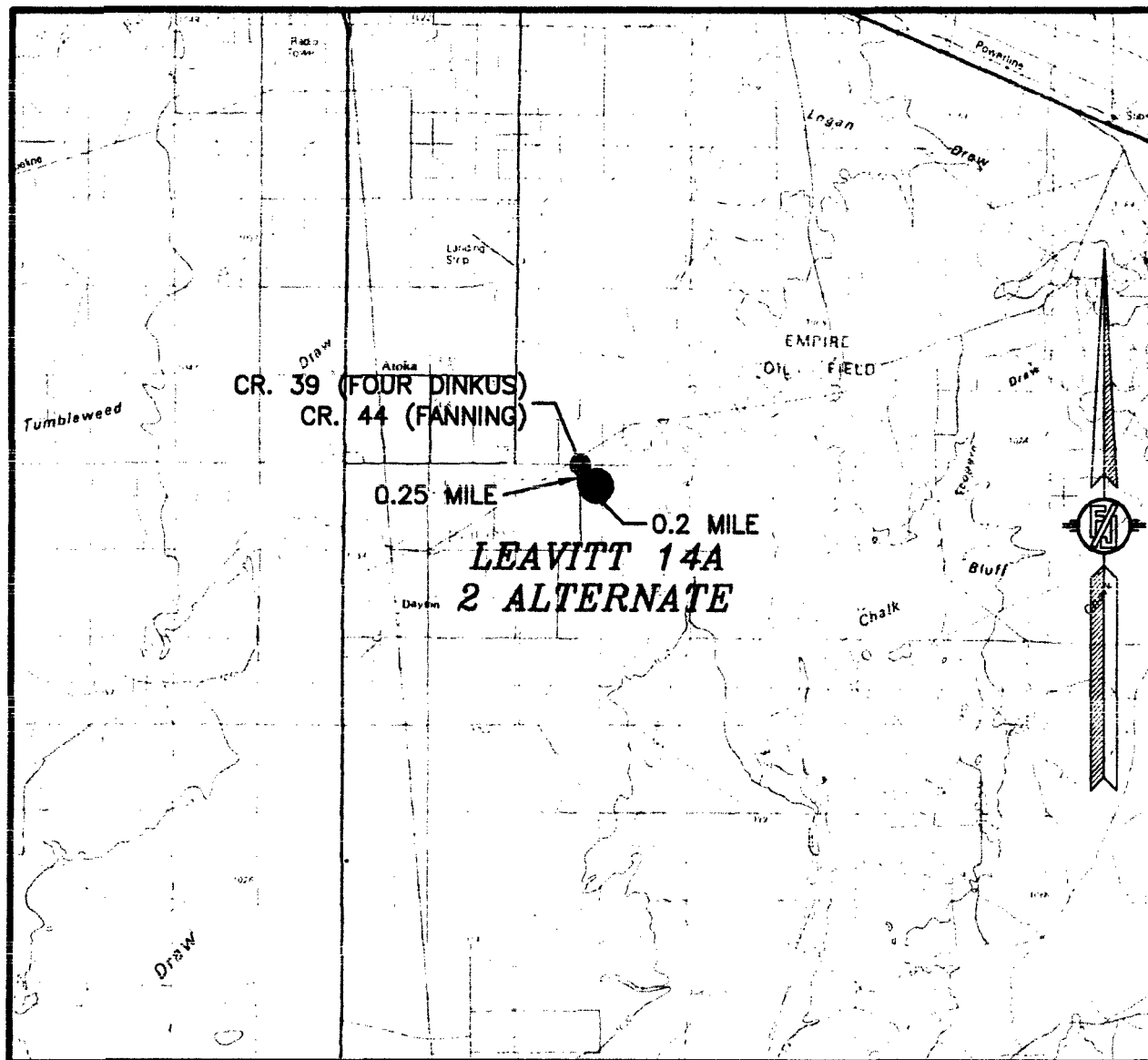
LIME ROCK RESOURCES II-A, L.P.
 LEAVITT 14A 2
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 RANGE 26 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

MARCH 15, 2017

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

SURVEY NO. 1098B

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

DIRECTIONS TO LOCATION

FROM CR. 39 (FOUR DINKUS) AND CR. 44 (FANNING) GO SOUTH ON CR. 44 0.25 MILE, TURN LEFT ON RIVER ROCK LEASE ROAD AND GO EAST 0.2 MILE AND LOCATION IS ON THE LEFT (NORTH) 100'.

**LIME ROCK RESOURCES II-A, L.P.
LEAVITT 14A 2**

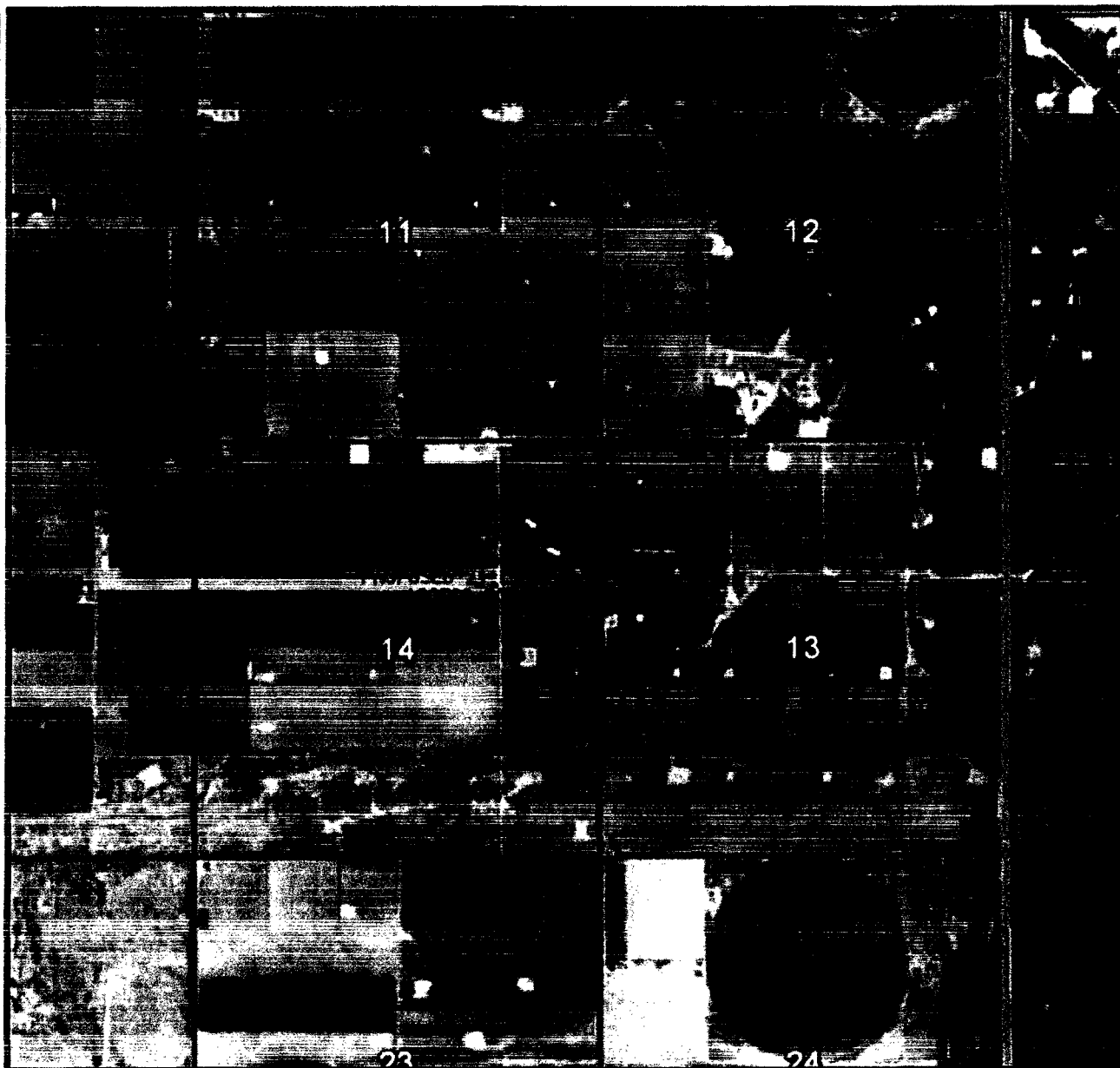
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AND 330 FT. FROM THE EAST LINE OF
SECTION 14, TOWNSHIP 18 SOUTH,
RANGE 26 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

MARCH 15, 2017

MADRON SURVEYING, INC. 301 SOUTH CANAL
(505) 234-3341

SURVEY NO. 1098B
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
MARCH 2016

LIME ROCK RESOURCES II-A, L.P.
LEAVITT 14A 2

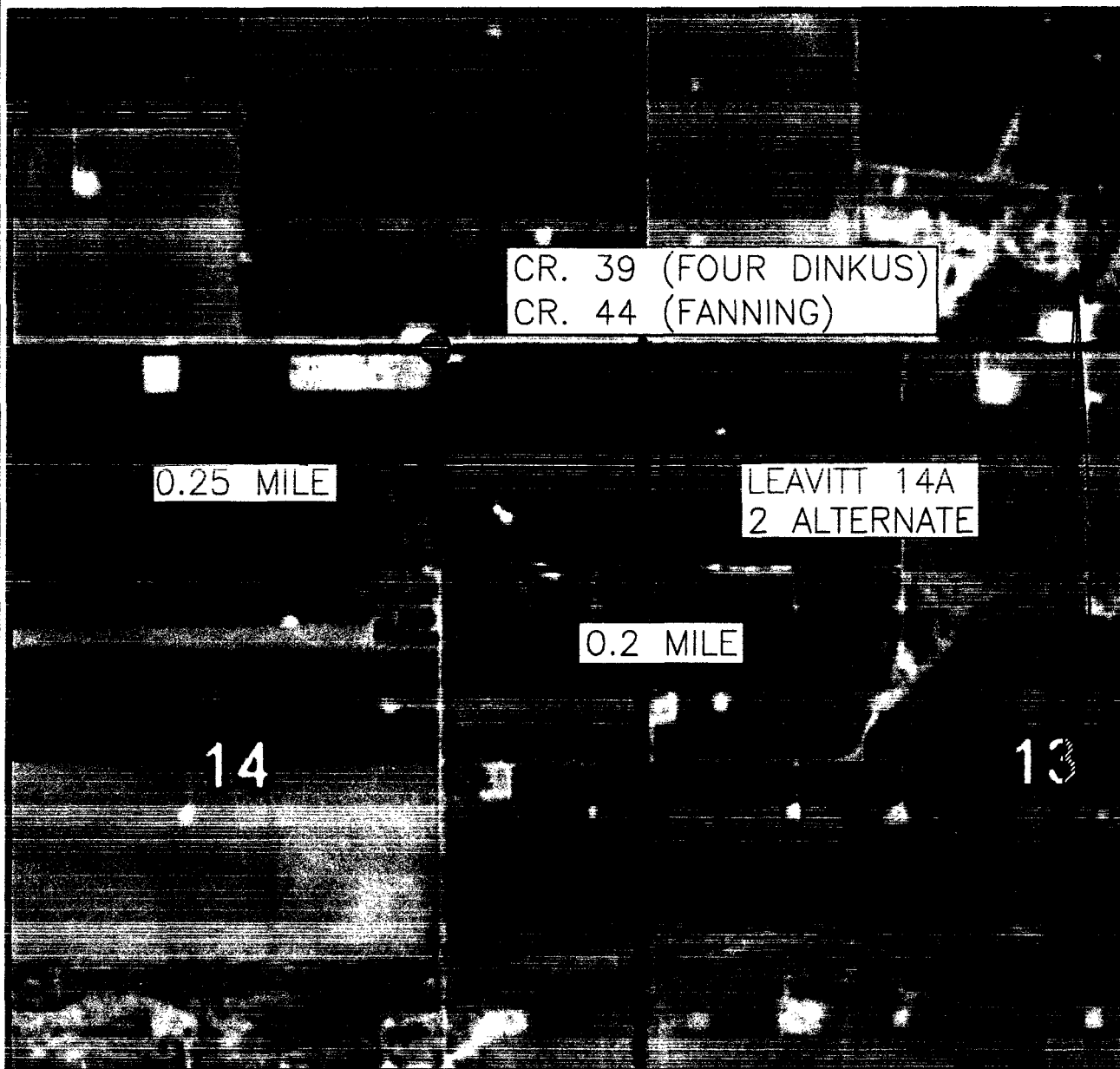
LOCATED 1305 FT. FROM THE NORTH LINE
AND 330 FT. FROM THE EAST LINE OF
SECTION 14, TOWNSHIP 18 SOUTH,
RANGE 26 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

MARCH 15, 2017

SURVEY NO. 1098B

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 ACCESS ROUTE MAP



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
MARCH 2016

LIME ROCK RESOURCES II-A, L.P.
LEAVITT 14A 2
LOCATED 1305 FT. FROM THE NORTH LINE
AND 330 FT. FROM THE EAST LINE OF
SECTION 14, TOWNSHIP 18 SOUTH,
RANGE 26 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

MARCH 15, 2017

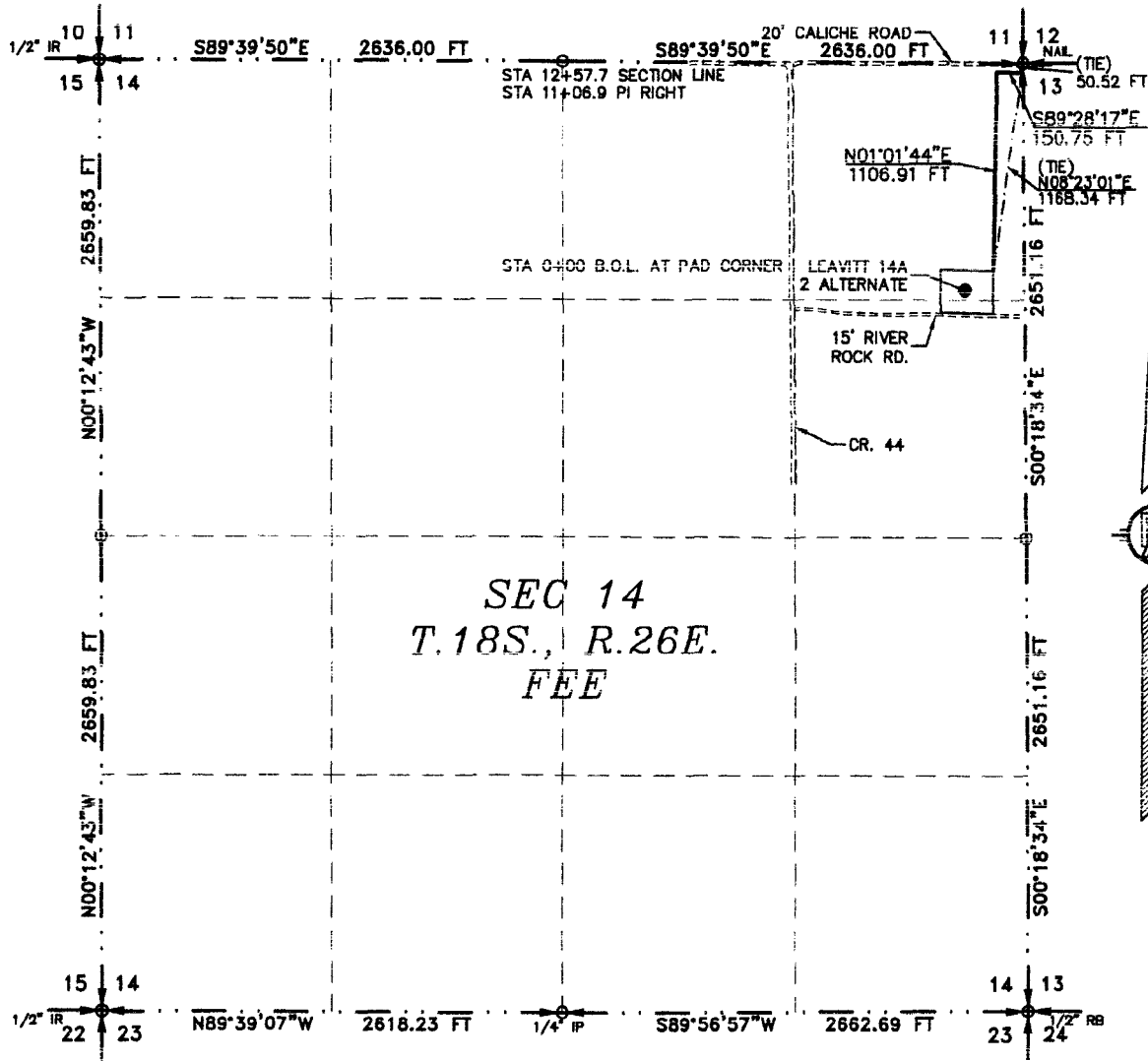
SURVEY NO. 1098B

MADRON SURVEYING, INC. 101 SOUTH CANAL
(605) 234-3341 CARLSBAD, NEW MEXICO

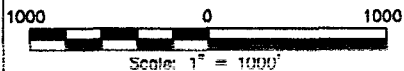
FLOWLINE PLAT

TWO-3" SDR 7 BURIED POLYS (ONE PRODUCTION AND ONE GAS)
FROM LEAVITT 14A 2 TO LEAVITT TANK 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
MARCH 15, 2017



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. CARLSBAD, NEW MEXICO

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 17 DAY OF MARCH 2017

[Signature]
FILIMON F. JARAMILLO, S.S. 12797

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

SURVEY NO. 1098B

FLOWLINE PLAT

**TWO-3" SDR 7 BURIED POLYS (ONE PRODUCTION AND ONE GAS)
FROM LEAVITT 14A 2 TO LEAVITT TANK 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
MARCH 15, 2017**

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 NE/4 NE/4 OF SAID SECTION 14, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M., WHENCE THE NORTHEAST CORNER OF SAID SECTION 14, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M. BEARS N08°23'01"E, A DISTANCE OF 1166.34 FEET;
THENCE N01°01'44"E A DISTANCE OF 1106.91 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S89°28'17"E A DISTANCE OF 150.75 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 N00°18'34"W, A DISTANCE OF 50.52 FEET;

SAID STRIP OF LAND BEING 1257.66 FEET OR 76.22 RODS IN LENGTH, CONTAINING 0.866 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NE/4 NE/4 1257.66 L.F. 76.22 RODS 0.866 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 17 DAY OF MARCH 2017

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. 201 SOUTH CANAL CARLSBAD, NEW MEXICO

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

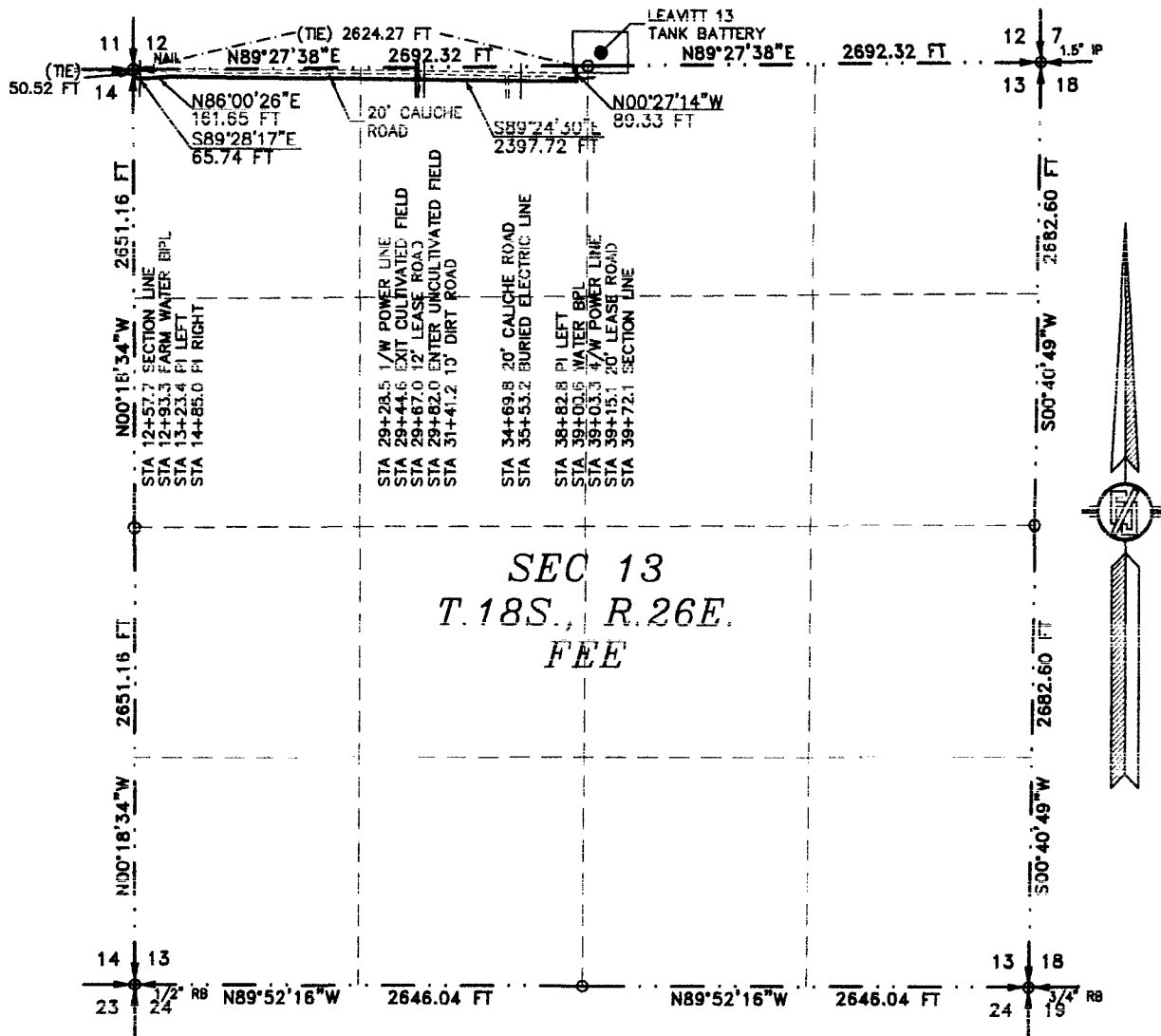
SURVEY NO. 1098B

FILIMON F. JARAMILLO PES 12797
201 SOUTH CANAL
(575) 234-3341

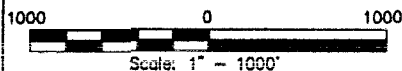
FLOWLINE PLAT

TWO-3" SDR 7 BURIED POLYS (ONE PRODUCTION AND ONE GAS)
FROM LEAVITT 14A 2 TO LEAVITT TANK BATTERY

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
MARCH 15, 2017



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. CARLSBAD, NEW MEXICO

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 17 DAY OF MARCH, 2017

[Signature]
FILMON F. JARAMILLO, P.S. 12797
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
(575) 234-3341

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

SURVEY NO. 1098B

FLOWLINE PLAT

TWO-3" SDR 7 BURIED POLYS (ONE PRODUCTION AND ONE GAS)
FROM LEAVITT 14A 2 TO LEAVITT TANK BATTERY

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
MARCH 15, 2017

DESCRIPTION

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

BEGINNING AT A POINT WITHIN THE 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 N00°18'34"W, A DISTANCE OF 50.52 FEET;
THENCE S89°28'17"E A DISTANCE OF 65.74 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE N86°00'26"E A DISTANCE OF 161.65 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S89°24'30"E A DISTANCE OF 2397.72 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE N00°27'14"W A DISTANCE OF 89.33 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTHWEST CORNER OF SAID SECTION 13, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M. BEARS S89°27'38"W, A DISTANCE OF 2624.27 FEET;

SAID STRIP OF LAND BEING 2714.44 FEET OR 164.51 RODS IN LENGTH, CONTAINING 1.869 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NW/4 NW/4	1346.35 L.F.	81.60 RODS	0.927 ACRES
NE/4 NW/4	1368.09 L.F.	82.91 RODS	0.942 ACRES

GENERAL NOTES

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

SHEET: 4-8

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

SURVEYOR CERTIFICATE

I, FILIMON 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 17 DAY OF MARCH 2017

Filimon F. Jaramillo
FILIMON F. JARAMILLO, PLS. 12787

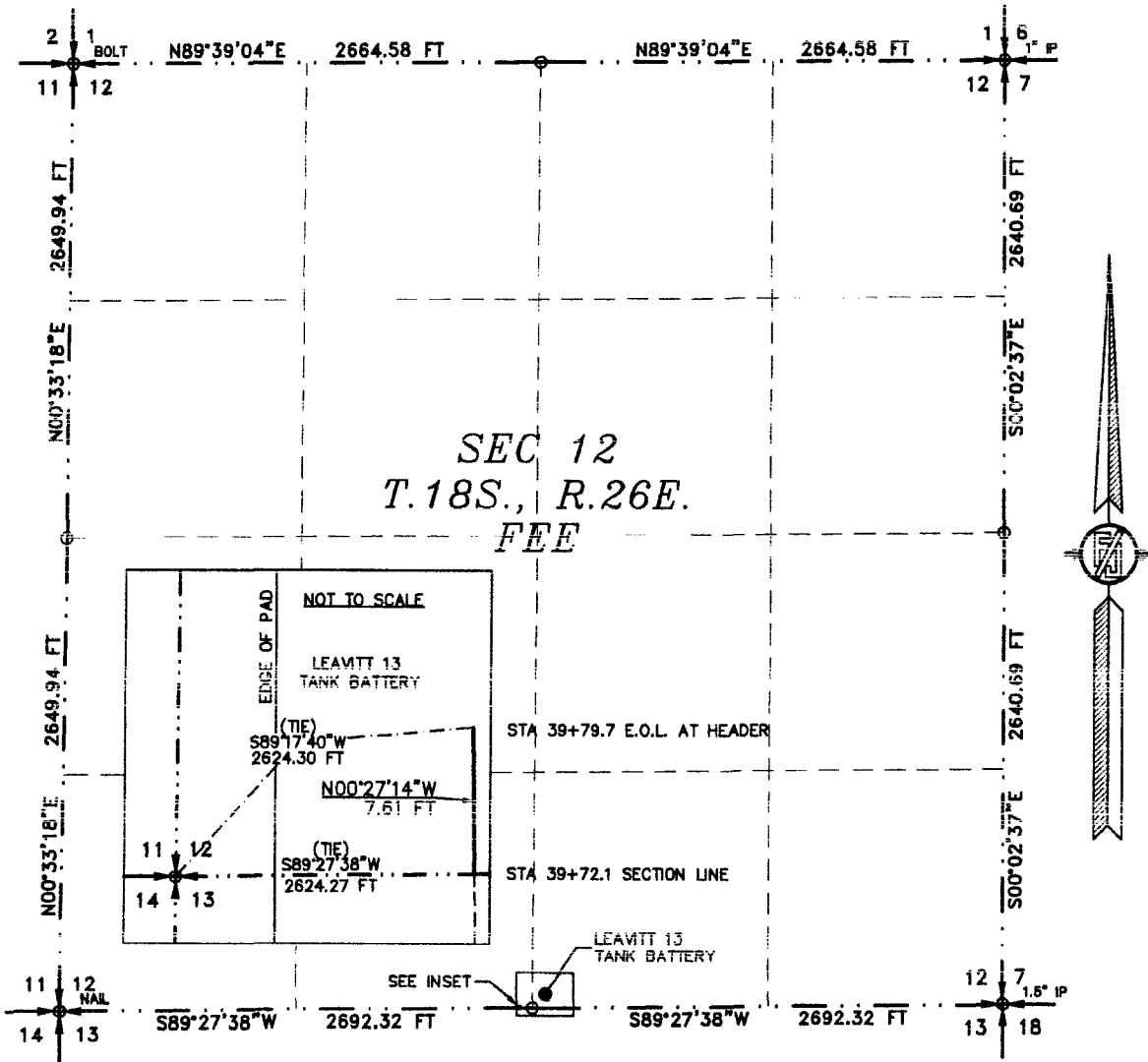
MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

SURVEY NO. 1098B

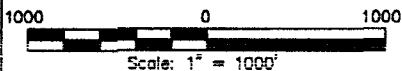
FLOWLINE PLAT

TWO-3" SDR 7 BURIED POLYS (ONE PRODUCTION AND ONE GAS)
FROM LEAVITT 14A 2 TO LEAVITT TANK BATTERY

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
MARCH 15, 2017



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. CARLSBAD, NEW MEXICO

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 17 DAY OF MARCH 2017

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

FILIMON F. JARAMILLO, PLS 12797
SURVEY NO. 1098B

FLOWLINE PLAT

**TWO-3" SDR 7 BURIED POLYS (ONE PRODUCTION AND ONE GAS)
FROM LEAVITT 14A 2 TO LEAVITT TANK BATTERY**

**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
MARCH 15, 2017**

DESCRIPTION

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

BEGINNING AT A POINT WITHIN THE SE/4 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 S89°27'38"W, A DISTANCE OF 2624.27 FEET;
THENCE N00°27'14"W A DISTANCE OF 7.61 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°17'40"W, A DISTANCE OF 2624.30 FEET;

SAID STRIP OF LAND BEING 7.61 FEET OR 0.46 RODS IN LENGTH, CONTAINING 0.005 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

SE/4 SW/4 7.61 L.F. 0.46 RODS 0.005 ACRES

GENERAL NOTES

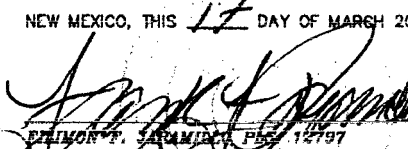
- 1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.
- 2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SHEET: 6-8

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 17 DAY OF MARCH 2017


FILMON F. JARAMILLO, PLS 12797

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

SURVEY NO. 1098B

MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

FLOWLINE PLAT

TWO-3" SDR 7 BURIED POLYS (ONE PRODUCTION AND ONE GAS)
FROM LEAVITT 14A 2 TO LEAVITT TANK BATTERY

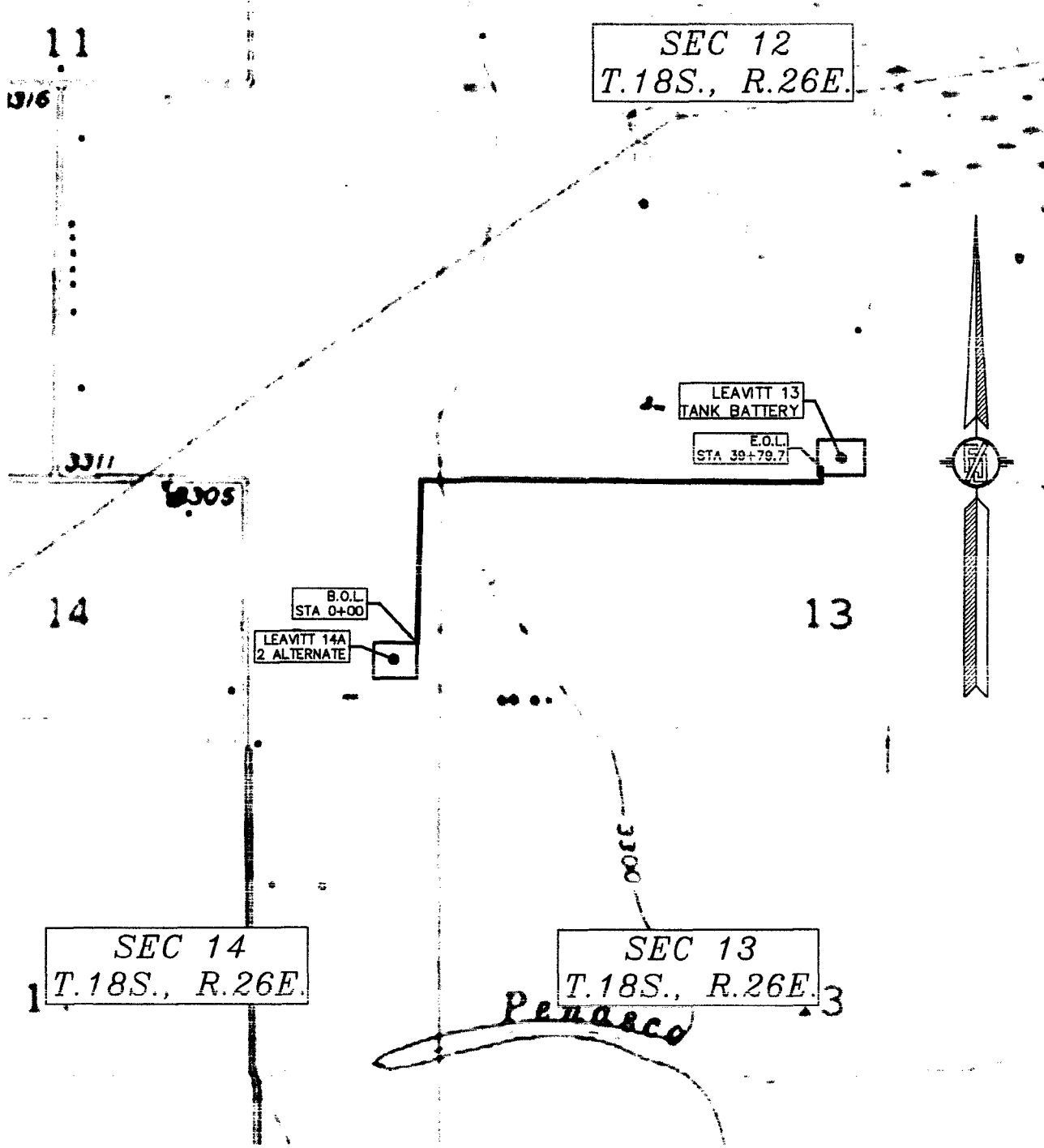
LIME ROCK RESOURCES II-A, L.P.

CENTERLINE SURVEY OF A PIPELINE CROSSING

SECTIONS 14, 13, & 12, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M.

EDDY COUNTY, STATE OF NEW MEXICO

MARCH 15, 2017



FLOWLINE PLAT

TWO-3" SDR 7 BURIED POLYS (ONE PRODUCTION AND ONE GAS)
FROM LEAVITT 14A 2 TO LEAVITT TANK BATTERY

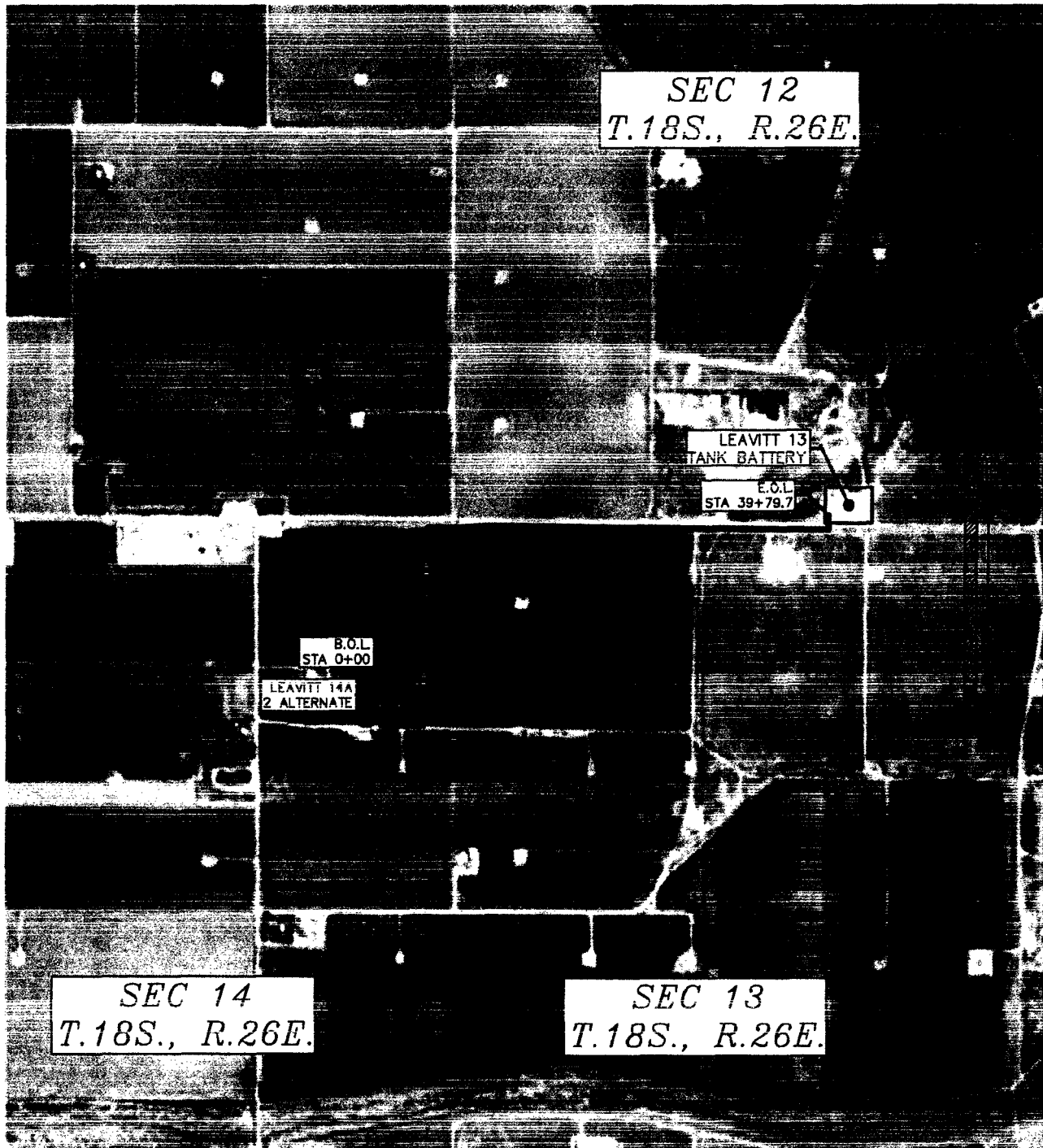
LIME ROCK RESOURCES II-A, L.P.

CENTERLINE SURVEY OF A PIPELINE CROSSING

SECTIONS 14, 13, & 12, TOWNSHIP 18 SOUTH, RANGE 26 EAST, N.M.P.M.

EDDY COUNTY, STATE OF NEW MEXICO

MARCH 15, 2017



SEC 12
T.18S., R.26E.

LEAVITT 13
TANK BATTERY

E.O.L.
STA 39+79.7

B.O.L.
STA 0+00

LEAVITT 14A
2 ALTERNATE

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

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



Lime Rock Resources

Eddy County, New Mexico NAD83

Leavitt 14 A

Leavitt 14 A Well No. 2

Original Hole

Plan: rev1

WATER CONSERVATION
ARTESIA DISTRICT

APR 11 2017

RECEIVED

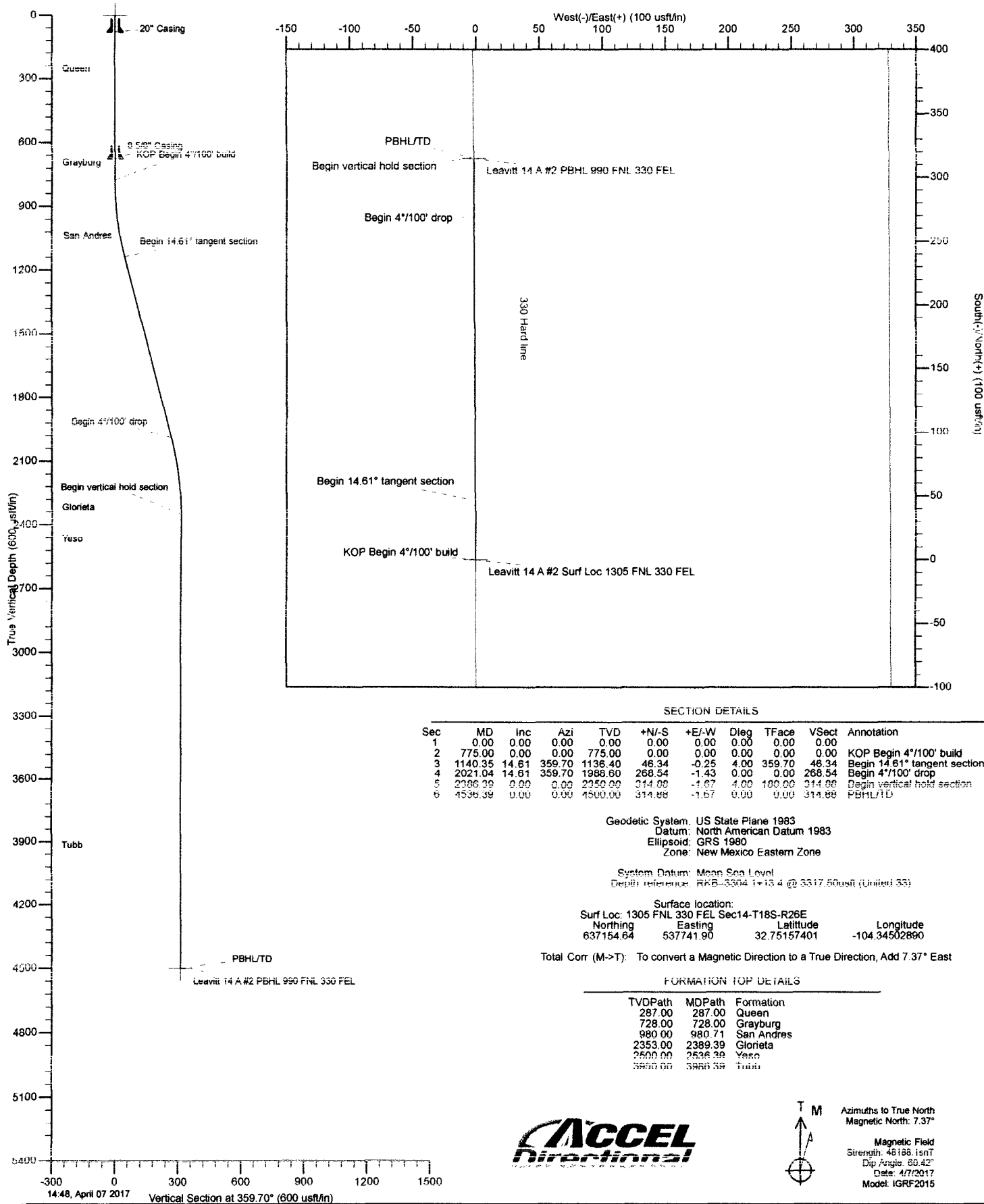
Standard Planning Report

07 April, 2017





Well: Leavitt 14 A Well No. 2
 Site: Leavitt 14 A
 Project: Eddy County, New Mexico NAD83
 Design: rev1
 Rig: United 33



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	775.00	0.00	0.00	775.00	0.00	0.00	0.00	0.00	0.00	KOP Begin 4"/100' build
3	1140.35	14.61	359.70	1136.40	46.34	-0.25	4.00	359.70	46.34	Begin 14.61° tangent section
4	2021.04	14.61	359.70	1988.60	268.54	-1.43	0.00	0.00	268.54	Begin 4"/100' drop
5	2386.39	0.00	0.00	2350.00	314.88	-1.67	4.00	100.00	314.88	Begin vertical hold section
6	4536.39	0.00	0.00	4500.00	314.88	-1.67	0.00	0.00	314.88	PBHL/TD

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level
 Depth reference: RKB-3304 1+13.4 @ 3317.50usft (United 33)

Surface location:
 Surf Loc: 1305 FNL 330 FEL Sec14-T18S-R26E
 Northing: 637154.64 Easting: 537741.90 Latitude: 32.75157401 Longitude: -104.34502890

Total Corr (M->T): To convert a Magnetic Direction to a True Direction, Add 7.37° East

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
287.00	287.00	Queen
728.00	728.00	Grayburg
980.00	980.71	San Andres
2353.00	2389.39	Glorieta
2600.00	2636.39	Yeso
3950.00	3986.39	Tubb



Azimuths to True North
 Magnetic North: 7.37°
 Magnetic Field
 Strength: 48188.1snT
 Dip Angle: 60.42°
 Date: 4/7/2017
 Model: IGRF2015

14.48, April 07 2017

Vertical Section at 359.70° (600 usft/in)

Database: DB_Jul2216dt_v14
Company: Lime Rock Resources
Project: Eddy County, New Mexico NAD83
Site: Leavitt 14 A Alternate
Well: Leavitt 14 A Alternate Well No. 2
Wellbore: Original Hole
Design: rev1

Local Co-ordinate Reference: Well Leavitt 14 A Well No. 2
TVD Reference: RKB=3304.1+13.4 @ 3317.50usft (United 33)
MD Reference: RKB=3304.1+13.4 @ 3317.50usft (United 33)
North Reference: True
Survey Calculation Method: Minimum Curvature

Project	Eddy County, New Mexico NAD83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Leavitt 14 A Alternate			
Site Position:		Northing:	637,154.64 usft	Latitude: 32.75157401
From:	Map	Easting:	537,741.90 usft	Longitude: -104.34502890
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: -0.01 °

Well	Leavitt 14 A Alternate Well No. 2, Surf Loc: 1305 FNL 330 FEL Sec14-T18S-R26E			
Well Position	+N/-S	0.00 usft	Northing:	637,154.64 usft
	+E/-W	0.00 usft	Easting:	537,741.90 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	Ground Level: 3,304.10 usft

Wellbore	Original Hole			
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	4/7/2017	7.37	60.42	48,188.13950500

Design	rev1			
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Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	359.70

Plan Survey Tool Program	Date	4/7/2017		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	4,536.39 rev1 (Original Hole)	MWD	
			MWD - Standard	

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	
775.00	0.00	0.00	775.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,140.35	14.61	359.70	1,136.40	46.34	-0.25	4.00	4.00	0.00	359.70	
2,021.04	14.61	359.70	1,988.60	268.54	-1.43	0.00	0.00	0.00	0.00	
2,388.39	0.00	0.00	2,350.00	314.88	-1.67	4.00	-4.00	0.00	180.00	
4,536.39	0.00	0.00	4,500.00	314.88	-1.67	0.00	0.00	0.00	0.00	Leavitt 14 A #2 PBHL

Database: DB_Jul2216dt_v14
Company: Lime Rock Resources
Project: Eddy County, New Mexico NAD83
Site: Leavitt 14 A Alternate
Well: Leavitt 14 A Alternate Well No. 2
Wellbore: Original Hole
Design: rev1

Local Co-ordinate Reference: Well Leavitt 14 A, Well No. 2
TVD Reference: RKB=3304.1+13.4 @ 3317.50usft (United 33)
MD Reference: RKB=3304.1+13.4 @ 3317.50usft (United 33)
North Reference: True
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)
0.00	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
287.00	0.00	0.00	287.00	0.00	0.00	0.00	0.00	0.00	0.00
Queen									
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
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
728.00	0.00	0.00	728.00	0.00	0.00	0.00	0.00	0.00	0.00
Grayburg									
775.00	0.00	0.00	775.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP Begin 4°/100' build									
800.00	1.00	359.70	800.00	0.22	0.00	0.22	4.00	4.00	0.00
900.00	5.00	359.70	899.84	5.45	-0.03	5.45	4.00	4.00	0.00
980.71	8.23	359.70	980.00	14.75	-0.08	14.75	4.00	4.00	0.00
San Andres									
1,000.00	9.00	359.70	999.08	17.63	-0.09	17.64	4.00	4.00	0.00
1,100.00	13.00	359.70	1,097.22	36.71	-0.20	36.71	4.00	4.00	0.00
1,140.35	14.61	359.70	1,136.40	46.34	-0.25	46.34	4.00	4.00	0.00
Begin 14.61° tangent section									
1,200.00	14.61	359.70	1,194.12	61.39	-0.33	61.39	0.00	0.00	0.00
1,300.00	14.61	359.70	1,290.69	86.62	-0.46	86.62	0.00	0.00	0.00
1,400.00	14.61	359.70	1,387.65	111.85	-0.59	111.85	0.00	0.00	0.00
1,500.00	14.61	359.70	1,484.42	137.08	-0.73	137.08	0.00	0.00	0.00
1,600.00	14.61	359.70	1,581.18	162.31	-0.86	162.31	0.00	0.00	0.00
1,700.00	14.61	359.70	1,677.95	187.54	-1.00	187.54	0.00	0.00	0.00
1,800.00	14.61	359.70	1,774.71	212.77	-1.13	212.77	0.00	0.00	0.00
1,900.00	14.61	359.70	1,871.48	238.00	-1.27	238.00	0.00	0.00	0.00
2,000.00	14.61	359.70	1,968.24	263.23	-1.40	263.23	0.00	0.00	0.00
2,021.04	14.61	359.70	1,988.60	268.54	-1.43	268.54	0.00	0.00	0.00
Begin 4°/100' drop									
2,100.00	11.46	359.70	2,065.52	286.35	-1.52	286.35	4.00	-4.00	0.00
2,200.00	7.46	359.70	2,164.14	302.77	-1.61	302.77	4.00	-4.00	0.00
2,300.00	3.46	359.70	2,263.66	312.28	-1.66	312.28	4.00	-4.00	0.00
2,386.39	0.00	0.00	2,350.00	314.88	-1.67	314.88	4.00	-4.00	0.00
Begin vertical hold section									
2,389.39	0.00	0.00	2,353.00	314.88	-1.67	314.88	0.00	0.00	0.00
Glorieta									
2,400.00	0.00	0.00	2,363.61	314.88	-1.67	314.88	0.00	0.00	0.00
2,500.00	0.00	0.00	2,463.61	314.88	-1.67	314.88	0.00	0.00	0.00
2,536.39	0.00	0.00	2,500.00	314.88	-1.67	314.88	0.00	0.00	0.00
Yeso									
2,600.00	0.00	0.00	2,563.61	314.88	-1.67	314.88	0.00	0.00	0.00
2,700.00	0.00	0.00	2,663.61	314.88	-1.67	314.88	0.00	0.00	0.00
2,800.00	0.00	0.00	2,763.61	314.88	-1.67	314.88	0.00	0.00	0.00
2,900.00	0.00	0.00	2,863.61	314.88	-1.67	314.88	0.00	0.00	0.00
3,000.00	0.00	0.00	2,963.61	314.88	-1.67	314.88	0.00	0.00	0.00
3,100.00	0.00	0.00	3,063.61	314.88	-1.67	314.88	0.00	0.00	0.00
3,200.00	0.00	0.00	3,163.61	314.88	-1.67	314.88	0.00	0.00	0.00
3,300.00	0.00	0.00	3,263.61	314.88	-1.67	314.88	0.00	0.00	0.00
3,400.00	0.00	0.00	3,363.61	314.88	-1.67	314.88	0.00	0.00	0.00

Database: DB_Jul2216dt_v14
Company: Lime Rock Resources
Project: Eddy County, New Mexico NAD83
Site: Leavitt 14 A
Well: Leavitt 14 A . Well No. 2
Wellbore: Original Hole
Design: rev1

Local Co-ordinate Reference: Well Leavitt 14 A, Well No. 2
TVD Reference: RKB=3304.1+13.4 @ 3317.50usft (United 33)
MD Reference: RKB=3304.1+13.4 @ 3317.50usft (United 33)
North Reference: True
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)
3,500.00	0.00	0.00	3,463.61	314.88	-1.67	314.88	0.00	0.00	0.00
3,600.00	0.00	0.00	3,563.61	314.88	-1.67	314.88	0.00	0.00	0.00
3,700.00	0.00	0.00	3,663.61	314.88	-1.67	314.88	0.00	0.00	0.00
3,800.00	0.00	0.00	3,763.61	314.88	-1.67	314.88	0.00	0.00	0.00
3,900.00	0.00	0.00	3,863.61	314.88	-1.67	314.88	0.00	0.00	0.00
3,986.39	0.00	0.00	3,950.00	314.88	-1.67	314.88	0.00	0.00	0.00
Tubb									
4,000.00	0.00	0.00	3,963.61	314.88	-1.67	314.88	0.00	0.00	0.00
4,100.00	0.00	0.00	4,063.61	314.88	-1.67	314.88	0.00	0.00	0.00
4,200.00	0.00	0.00	4,163.61	314.88	-1.67	314.88	0.00	0.00	0.00
4,300.00	0.00	0.00	4,263.61	314.88	-1.67	314.88	0.00	0.00	0.00
4,400.00	0.00	0.00	4,363.61	314.88	-1.67	314.88	0.00	0.00	0.00
4,500.00	0.00	0.00	4,463.61	314.88	-1.67	314.88	0.00	0.00	0.00
4,536.39	0.00	0.00	4,500.00	314.88	-1.67	314.88	0.00	0.00	0.00
PBHL/TD									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Leavitt 14 A #2 Surf Loc	0.00	0.00	0.00	0.00	0.00	637,154.64	537,741.90	32.75157401	-104.34502890
- plan hits target center									
- Point									
Leavitt 14 A #2 PBHL 99	0.00	0.00	4,500.00	314.88	-1.67	637,469.52	537,740.26	32.75243951	-104.34503435
- plan hits target center									
- Point									

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
80.00	80.00	20" Casing	20	26
675.00	675.00	8 5/8" Casing	8-5/8	11

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
287.00	287.00	Queen		0.00	
728.00	728.00	Grayburg		0.00	
980.71	980.00	San Andres		0.00	
2,389.39	2,353.00	Glorieta		0.00	
2,536.39	2,500.00	Yeso		0.00	
3,986.39	3,950.00	Tubb		0.00	

Database: DB_Jul2216dt_v14
Company: Lime Rock Resources
Project: Eddy County, New Mexico NAD83
Site: Leavitt 14 A
Well: Leavitt 14 A Well No. 2
Wellbore: Original Hole
Design: rev1

Local Co-ordinate Reference: Well Leavitt 14 A Alternate Well No. 2
TVD Reference: RKB=3304.1+13.4 @ 3317.50usft (United 33)
MD Reference: RKB=3304.1+13.4 @ 3317.50usft (United 33)
North Reference: True
Survey Calculation Method: Minimum Curvature

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
775.00	775.00	0.00	0.00	KOP Begin 4°/100' build
1,140.35	1,136.40	46.34	-0.25	Begin 14.61° tangent section
2,021.04	1,988.60	268.54	-1.43	Begin 4°/100' drop
2,386.39	2,350.00	314.88	-1.67	Begin vertical hold section
4,536.39	4,500.00	314.88	-1.67	PBHI /TD

Database: DB_Jul2216dt_v14
Company: Lime Rock Resources
Project: Eddy County, New Mexico NAD83
Site: Leavitt 14 A
Well: Leavitt 14 A = Well No. 2
Wellbore: Original Hole
Design: rev1

Local Co-ordinate Reference: Well Leavitt 14 A Well No. 2
TVD Reference: RKB=3304.1+13.4 @ 3317.50usft (United 33)
MD Reference: RKB=3304.1+13.4 @ 3317.50usft (United 33)
North Reference: True
Survey Calculation Method: Minimum Curvature

Project	Eddy County, New Mexico NAD83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Leavitt 14 A Alternate			
Site Position:		Northing:	637,154.64 usft	Latitude: 32.75157401
From:	Map	Easting:	537,741.90 usft	Longitude: -104.34502890
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: -0.01 °

Well	Leavitt 14 A Alternate Well No. 2, Surf Loc: 1305 FNL 330 FEL Sec14-T18S-R26E			
Well Position	+N/-S	0.00 usft	Northing:	637,154.64 usft
	+E/-W	0.00 usft	Easting:	537,741.90 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	Ground Level: 3,304.10 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	4/7/2017	7.37	60.42	48,188.13950500

Design	rev1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	359.70

Plan Survey Tool Program	Date	4/7/2017		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	4,536.39 rev1 (Original Hole)	MWD	
			MWD - Standard	

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	
775.00	0.00	0.00	775.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,140.35	14.61	359.70	1,136.40	46.34	-0.25	4.00	4.00	0.00	359.70	
2,021.04	14.61	359.70	1,988.60	268.54	-1.43	0.00	0.00	0.00	0.00	
2,386.39	0.00	0.00	2,350.00	314.88	-1.67	4.00	-4.00	0.00	180.00	
4,536.39	0.00	0.00	4,500.00	314.88	-1.67	0.00	0.00	0.00	0.00	Leavitt 14 A #2 PBHL

Database: DB_Jul2216dt_v14
Company: Lime Rock Resources
Project: Eddy County, New Mexico NAD83
Site: Leavitt 14 A.
Well: Leavitt 14 A Well No. 2
Wellbore: Original Hole
Design: rev1

Local Co-ordinate Reference: Well Leavitt 14 A. a Well No. 2
TVD Reference: RKB=3304.1+13.4 @ 3317.50usft (United 33)
MD Reference: RKB=3304.1+13.4 @ 3317.50usft (United 33)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	637,154.64	537,741.90	32.75157401	-104.34502890
100.00	0.00	0.00	100.00	0.00	0.00	637,154.64	537,741.90	32.75157401	-104.34502890
200.00	0.00	0.00	200.00	0.00	0.00	637,154.64	537,741.90	32.75157401	-104.34502890
287.00	0.00	0.00	287.00	0.00	0.00	637,154.64	537,741.90	32.75157401	-104.34502890
Queen									
300.00	0.00	0.00	300.00	0.00	0.00	637,154.64	537,741.90	32.75157401	-104.34502890
400.00	0.00	0.00	400.00	0.00	0.00	637,154.64	537,741.90	32.75157401	-104.34502890
500.00	0.00	0.00	500.00	0.00	0.00	637,154.64	537,741.90	32.75157401	-104.34502890
600.00	0.00	0.00	600.00	0.00	0.00	637,154.64	537,741.90	32.75157401	-104.34502890
700.00	0.00	0.00	700.00	0.00	0.00	637,154.64	537,741.90	32.75157401	-104.34502890
728.00	0.00	0.00	728.00	0.00	0.00	637,154.64	537,741.90	32.75157401	-104.34502890
Grayburg									
775.00	0.00	0.00	775.00	0.00	0.00	637,154.64	537,741.90	32.75157401	-104.34502890
KOP Begin 4°/100' build									
800.00	1.00	359.70	800.00	0.22	0.00	637,154.86	537,741.90	32.75157461	-104.34502890
900.00	5.00	359.70	899.84	5.45	-0.03	637,160.09	537,741.87	32.75158899	-104.34502899
980.71	8.23	359.70	980.00	14.75	-0.08	637,169.39	537,741.83	32.75161454	-104.34502916
San Andres									
1,000.00	9.00	359.70	999.08	17.63	-0.09	637,172.28	537,741.81	32.75162248	-104.34502921
1,100.00	13.00	359.70	1,097.22	36.71	-0.20	637,191.36	537,741.71	32.75167482	-104.34502954
1,140.35	14.61	359.70	1,136.40	46.34	-0.25	637,200.98	537,741.66	32.75170139	-104.34502970
Begin 14.61° tangent section									
1,200.00	14.61	359.70	1,194.12	61.39	-0.33	637,216.03	537,741.58	32.75174276	-104.34502996
1,300.00	14.61	359.70	1,290.89	86.62	-0.46	637,241.26	537,741.45	32.75181210	-104.34503040
1,400.00	14.61	359.70	1,387.65	111.85	-0.59	637,266.49	537,741.32	32.75188145	-104.34503084
1,500.00	14.61	359.70	1,484.42	137.08	-0.73	637,291.72	537,741.19	32.75195080	-104.34503127
1,600.00	14.61	359.70	1,581.18	162.31	-0.86	637,316.96	537,741.06	32.75202015	-104.34503171
1,700.00	14.61	359.70	1,677.95	187.54	-1.00	637,342.19	537,740.93	32.75208950	-104.34503215
1,800.00	14.61	359.70	1,774.71	212.77	-1.13	637,367.42	537,740.79	32.75215885	-104.34503258
1,900.00	14.61	359.70	1,871.48	238.00	-1.27	637,392.65	537,740.66	32.75222820	-104.34503302
2,000.00	14.61	359.70	1,968.24	263.23	-1.40	637,417.88	537,740.53	32.75229755	-104.34503345
2,021.04	14.61	359.70	1,988.60	268.54	-1.43	637,423.18	537,740.50	32.75231214	-104.34503355
Begin 4°/100' drop									
2,100.00	11.46	359.70	2,065.52	286.35	-1.52	637,440.99	537,740.41	32.75236108	-104.34503385
2,200.00	7.46	359.70	2,164.14	302.77	-1.61	637,457.41	537,740.33	32.75240623	-104.34503414
2,300.00	3.46	359.70	2,263.66	312.28	-1.66	637,466.92	537,740.28	32.75243236	-104.34503430
2,386.39	0.00	0.00	2,350.00	314.88	-1.67	637,469.52	537,740.26	32.75243951	-104.34503435
Begin vertical hold section									
2,389.39	0.00	0.00	2,353.00	314.88	-1.67	637,469.52	537,740.26	32.75243951	-104.34503435
Glorieta									
2,400.00	0.00	0.00	2,363.61	314.88	-1.67	637,469.52	537,740.26	32.75243951	-104.34503435
2,500.00	0.00	0.00	2,463.61	314.88	-1.67	637,469.52	537,740.26	32.75243951	-104.34503435
2,536.39	0.00	0.00	2,500.00	314.88	-1.67	637,469.52	537,740.26	32.75243951	-104.34503435
Yeso									
2,600.00	0.00	0.00	2,563.61	314.88	-1.67	637,469.52	537,740.26	32.75243951	-104.34503435
2,700.00	0.00	0.00	2,663.61	314.88	-1.67	637,469.52	537,740.26	32.75243951	-104.34503435
2,800.00	0.00	0.00	2,763.61	314.88	-1.67	637,469.52	537,740.26	32.75243951	-104.34503435
2,900.00	0.00	0.00	2,863.61	314.88	-1.67	637,469.52	537,740.26	32.75243951	-104.34503435
3,000.00	0.00	0.00	2,963.61	314.88	-1.67	637,469.52	537,740.26	32.75243951	-104.34503435
3,100.00	0.00	0.00	3,063.61	314.88	-1.67	637,469.52	537,740.26	32.75243951	-104.34503435
3,200.00	0.00	0.00	3,163.61	314.88	-1.67	637,469.52	537,740.26	32.75243951	-104.34503435
3,300.00	0.00	0.00	3,263.61	314.88	-1.67	637,469.52	537,740.26	32.75243951	-104.34503435
3,400.00	0.00	0.00	3,363.61	314.88	-1.67	637,469.52	537,740.26	32.75243951	-104.34503435

Database: DB_Jul2216dt_v14
Company: Lime Rock Resources
Project: Eddy County, New Mexico NAD83
Site: Leavitt 14 A
Well: Leavitt 14 A
Wellbore: Original Hole
Design: rev1

Local Co-ordinate Reference: Well Leavitt 14 A
TVD Reference: RKB=3304.1+13.4 @ 3317.50usft (United 33)
MD Reference: RKB=3304.1+13.4 @ 3317.50usft (United 33)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
3,500.00	0.00	0.00	3,463.61	314.88	-1.67	637,469.52	537,740.26	32.75243951	-104.34503435
3,600.00	0.00	0.00	3,563.61	314.88	-1.67	637,469.52	537,740.26	32.75243951	-104.34503435
3,700.00	0.00	0.00	3,663.61	314.88	-1.67	637,469.52	537,740.26	32.75243951	-104.34503435
3,800.00	0.00	0.00	3,763.61	314.88	-1.67	637,469.52	537,740.26	32.75243951	-104.34503435
3,900.00	0.00	0.00	3,863.61	314.88	-1.67	637,469.52	537,740.26	32.75243951	-104.34503435
3,986.39	0.00	0.00	3,950.00	314.88	-1.67	637,469.52	537,740.26	32.75243951	-104.34503435
Tubb									
4,000.00	0.00	0.00	3,963.61	314.88	-1.67	637,469.52	537,740.26	32.75243951	-104.34503435
4,100.00	0.00	0.00	4,063.61	314.88	-1.67	637,469.52	537,740.26	32.75243951	-104.34503435
4,200.00	0.00	0.00	4,163.61	314.88	-1.67	637,469.52	537,740.26	32.75243951	-104.34503435
4,300.00	0.00	0.00	4,263.61	314.88	-1.67	637,469.52	537,740.26	32.75243951	-104.34503435
4,400.00	0.00	0.00	4,363.61	314.88	-1.67	637,469.52	537,740.26	32.75243951	-104.34503435
4,500.00	0.00	0.00	4,463.61	314.88	-1.67	637,469.52	537,740.26	32.75243951	-104.34503435
4,536.39	0.00	0.00	4,500.00	314.88	-1.67	637,469.52	537,740.26	32.75243951	-104.34503435
PBHL/TD									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Leavitt 14 A #2 Surf Loc	0.00	0.00	0.00	0.00	0.00	637,154.64	537,741.90	32.75157401	-104.34502890
- plan hits target center									
- Point									
Leavitt 14 A #2 PBHL 99	0.00	0.00	4,500.00	314.88	-1.67	637,469.52	537,740.26	32.75243951	-104.34503435
- plan hits target center									
- Point									

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
80.00	80.00	20" Casing	20	26
675.00	675.00	8 5/8" Casing	8-5/8	11

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
287.00	287.00	Queen		0.00	
728.00	728.00	Grayburg		0.00	
980.71	980.00	San Andres		0.00	
2,389.39	2,353.00	Glorieta		0.00	
2,536.39	2,500.00	Yeso		0.00	
3,986.39	3,950.00	Tubb		0.00	

Database: DB_Jul2216dt_v14
Company: Lime Rock Resources
Project: Eddy County, New Mexico NAD83
Site: Leavitt 14 A Alternate Well No. 2
Well: Leavitt 14 A Alternate Well No. 2
Wellbore: Original Hole
Design: rev1

Local Co-ordinate Reference: Well Leavitt 14 A Alternate Well No. 2
TVD Reference: RKB=3304.1+13.4 @ 3317.50usft (United 33)
MD Reference: RKB=3304.1+13.4 @ 3317.50usft (United 33)
North Reference: True
Survey Calculation Method: Minimum Curvature

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
775.00	775.00	0.00	0.00	KOP Begin 4°/100' build
1,140.35	1,136.40	46.34	-0.25	Begin 14.61° tangent section
2,021.04	1,988.60	268.54	-1.43	Begin 4°/100' drop
2,386.39	2,350.00	314.88	1.67	Begin vertical hold section
4,536.39	4,500.00	314.88	-1.67	PBHL/TD

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES
OIL CONSERVATION DIVISION

PERMIT CONDITIONS OF APPROVAL

Operator Name Lime Rock Resources
API Number 30-0 15-
Well Name and Number Leavitt 14 A #2

- ☒ Will require a Directional Survey and "As Drilled" C-102 with the C-104
- ☒ 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.
- ☒ If cement does not circulate to surface, must run temperature survey or other log to determine top of cement.
- ☐ NSL approval required prior to sale of product
- ☐ NSP approval required for requested acreage dedication
- ☐ Initial injection cannot commence until all regulatory requirements have been met and drilling and completion data conforms to approved SWD order

Prior to Spud, Operator will review and adhere to NMOCD order R-14164 for current changes or any amendments which may pertain to the drilling and completion of this well.