

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  
1200 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

NM OIL CONSERVATION  
ARTESIA DISTRICT

Form C-101  
Revised July 18, 2013

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

NOV 07 2018

AMENDED Report

RECEIVED

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

Operator Name and Address Lime Rock Resources II-A, L P 1111 Bagby Street, Suite 4600 Houston, Texas 77002		UGRID Number 277558
Property Code S15922 322878	Property Name Choate-Davis 23 State	API Number 30-015- 45445
		Well No #4

7 Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
D	23	18S	27E		570	N	750	W	Eddy

8 Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
D	23	18S	27E		570	N	750	W	Eddy

9 Pool Information

Wolfcamp/Cisco	97967
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Additional Well Information

Work Type N	Well Type S	Cable/Rotary R	Lease Type S	Ground Level Elevation 3459 S
Multiple N	Proposed Depth 8700' MD / 8700' TVD	Formation ABO/Wolfcamp / Cisco	Contractor United Drilling, Inc.	Spud Date After 1/1/2019
Depth to Ground Water: 40 Ft		Distance from nearest fresh water well: 15.01 Miles		Distance from nearest surface water: 92.4 Miles

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

19 Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Conductor	26"	20"	91.5	40	40	Surface
Surface	17-1/2"	13-3/8"	48	300	350	Surface
Intermediate	12-1/4"	9-5/8"	36	2800	845	Surface
Production	8 3/4"	7"	26	7530	1250	Surface

Casing/Cement Program: Additional Comments

8 3/4" Open Hole 7530' - 8700'

Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
XLT 11"	5000	2000	National Varco

I hereby certify that the information given above is true and complete to the best of my knowledge and belief

I further certify that I have complied with 19.15.14.9 (A) NMAC  and/or 19.15.14.9 (B) NMAC 0, if applicable.

Signature: *Eric P. McClusky*  
Printed Name: Eric McClusky

Title: Operations Engineer

E-mail Address: emcclusky@limerockresources.com

Date: 11/6/2018

Phone: 713-360-5714

OIL CONSERVATION DIVISION

Approved By:

*Raymond W. Godang*

Title: *Geologist*

Approved Date: 11-15-18

Expiration Date: 11-15-20

Conditions of Approval Attached: *Approved C 108.*

**NM OIL CONSERVATION**  
ARTESIA DISTRICT

State of New Mexico

NOV 07 2018

Form C-102

Energy, Minerals & Natural Resources Department

Revised August 1, 2011

OIL CONSERVATION DIVISION

RECEIVED

Submit one copy to appropriate

1220 S. St. Francis Dr.

District Office

Santa Fe, NM 87505

AMENDED REPORT

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

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

1 API Number <b>90-015-45445</b>		2 Pool Code <b>97767</b>		3 Pool Name <b>SND; Abo-Wolfcamp-CISCO</b>	
4 Property Code <del>322878</del> <b>322878</b>		5 Property Name <b>CHOATE DAVIS 23 STATE</b>			6 Well Number <b>4</b>
7 OGRID No. <b>277558</b>		8 Operator Name <b>LIME ROCK RESOURCES II-A, L.P.</b>			9 Elevation <b>3459.5</b>

**\* 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>D</b>	<b>23</b>	<b>18 S</b>	<b>27 E</b>		<b>570</b>	<b>NORTH</b>	<b>750</b>	<b>WEST</b>	<b>EDDY</b>

**" 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

10 Dedicated Acres	11 Joint or Infill	12 Consolidation Code	13 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.

**CHOATE DAVIS 23 STATE 4**  
 AREA = 3449.5'  
 PERCENTAGE OF SECTION = 4.1  
 LONG = 104.2561755W  
 NWSR EAST (FT)  
 N = 630470.40  
 E = 565307.75

NOTE: LATITUDE AND LONGITUDE COORDINATES ARE SHOWN USING THE NORTH AMERICAN DATUM OF 1983 (NAD83). LISTED NEW MEXICO STATE PLATE EAST COORDINATES ARE GRID (NAD83) BASED ON BEARING AND DISTANCES. SEC ARE NEW MEXICO STATE PLANE EAST COORDINATES ADJUSTED TO THE S. PLATE.

**OPERATOR CERTIFICATION**

I hereby certify that the information presented on this plat is true to the best of my knowledge and belief and that this information was prepared by a qualified person or persons who are duly licensed and qualified to perform such duties and that the information presented is a true and correct copy of the original information presented to me.

Signature: *Eric McCluskey* Date: **11/6/18**

Printed Name: **Eric McCluskey**

E-mail Address: **emccluskey@limerockresources.com**

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**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.

Date of Survey: \_\_\_\_\_

Signature and Seal of Professional Surveyor: \_\_\_\_\_

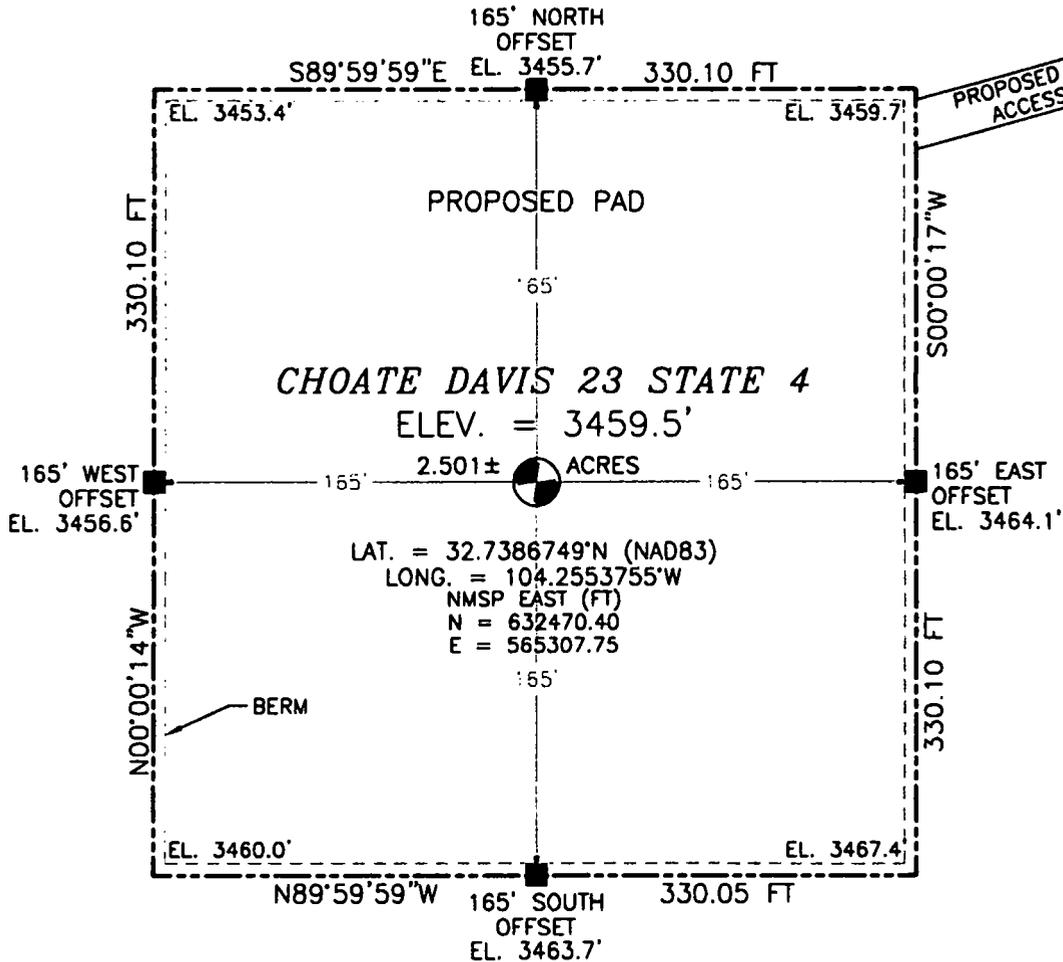
Certificate Number: **1180N.L. JAR 11/11/10, PLS 12797**

SURVY NO 6577

*RWP 11-15-18*

**SECTION 23, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M.  
EDDY COUNTY, STATE OF NEW MEXICO  
SITE MAP**

NOTE: LATITUDE AND LONGITUDE COORDINATES ARE SHOWN USING THE NORTH AMERICAN DATUM OF 1983 (NAD83). LISTED NEW MEXICO STATE PLANE EAST COORDINATES ARE GRID (NAD83). BASIS OF BEARING AND DISTANCES USED ARE NEW MEXICO STATE PLANE EAST COORDINATES MODIFIED TO THE SURFACE.



0 8 40 80 160

SCALE 1" = 80'

**DIRECTIONS TO LOCATION**

FROM CR. 206 (ILLINOIS CAMP) & CR. 234 (OIL CENTER), GO NORTH ON CR. 206 0.7 MILE, TURN LEFT ON CALICHE ROAD AND GO WEST 2.1 MILES, TURN RIGHT AND GO NORTH 0.52 MILE, TURN LEFT AND GO SOUTHWEST 0.31 MILE, STAY RIGHT AND GO WEST-NORTHWEST 0.44 MILE, TURN LEFT AND GO SOUTH 0.44 MILE, TO ROAD SURVEY AND FOLLOW FLAGS WEST-SOUTHWEST 830' TO THE NORTHEAST PAD CORNER FOR THIS LOCATION.

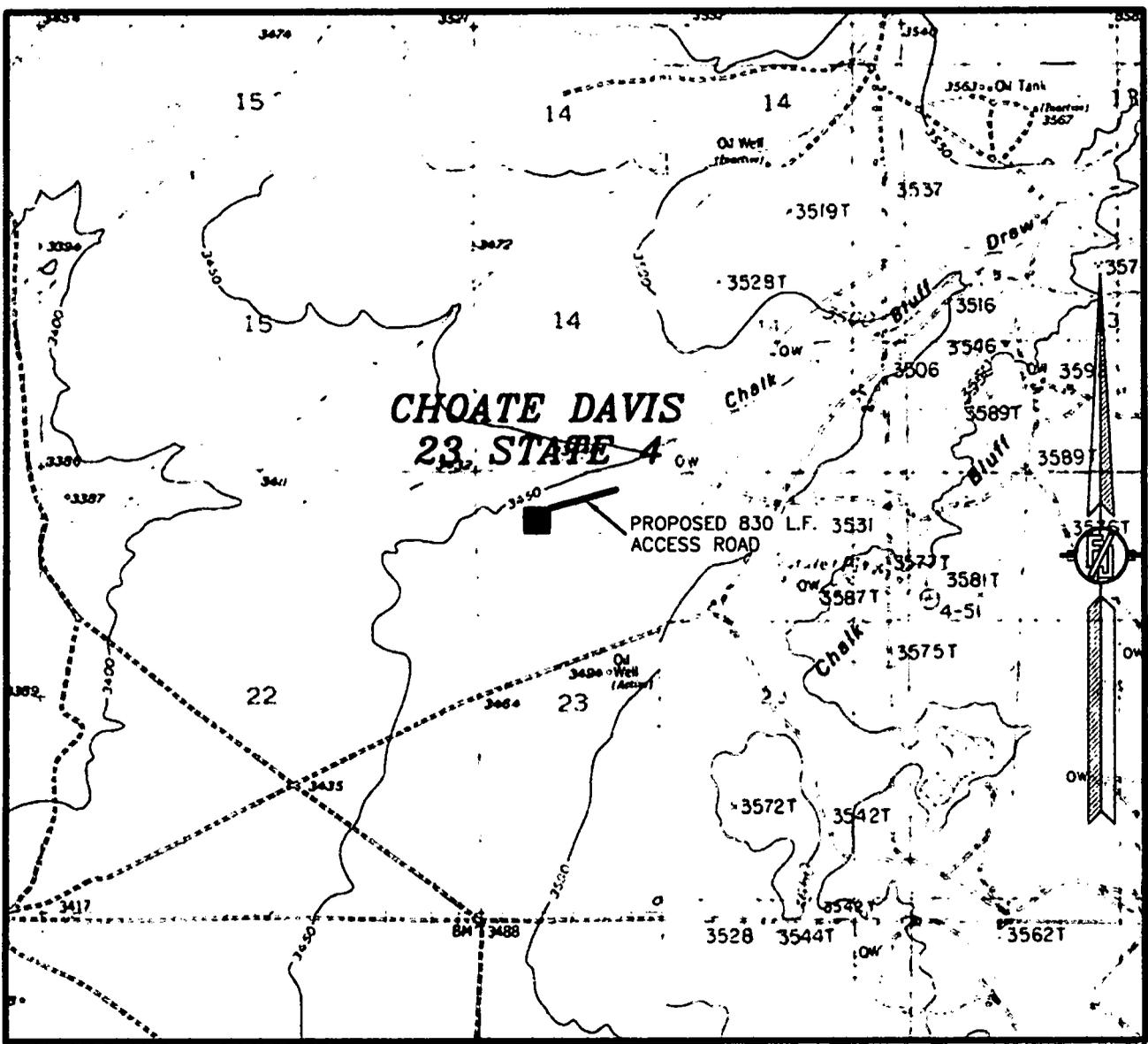
**LIME ROCK RESOURCES II-A, L.P.  
CHOATE DAVIS 23 STATE 4  
LOCATED 570 FT. FROM THE NORTH LINE  
AND 750 FT. FROM THE WEST LINE OF  
SECTION 23, TOWNSHIP 18 SOUTH,  
RANGE 27 EAST, N.M.P.M.  
EDDY COUNTY, STATE OF NEW MEXICO**

OCTOBER 2, 2018

SURVEY NO. 6577

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

SECTION 23, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M.  
 EDDY COUNTY, STATE OF NEW MEXICO  
 LOCATION VERIFICATION MAP



USGS QUAD MAP:  
 LAKE McMILAN NORTH  
 ILLINOIS CAP

NOT TO SCALE

LIME ROCK RESOURCES II-A, L.P.  
 CHOATE DAVIS 23 STATE 4  
 LOCATED 570 FT. FROM THE NORTH LINE  
 AND 750 FT. FROM THE WEST LINE OF  
 SECTION 23, TOWNSHIP 18 SOUTH,  
 RANGE 27 EAST, N.M.P.M.  
 EDDY COUNTY, STATE OF NEW MEXICO

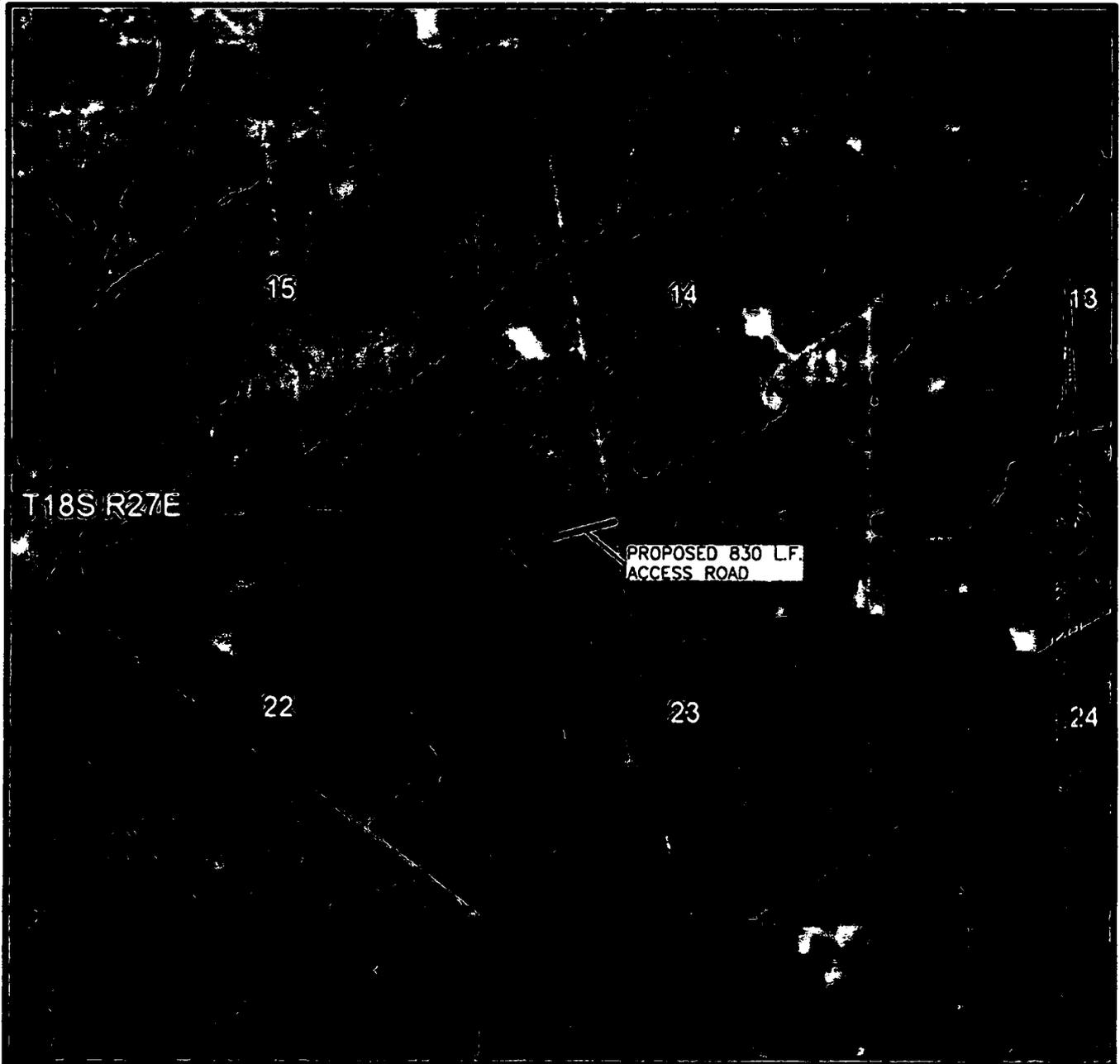
OCTOBER 2, 2018

SURVEY NO. 6577

MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO



SECTION 23, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M.  
EDDY COUNTY, STATE OF NEW MEXICO  
AERIAL PHOTO



NOT TO SCALE  
AERIAL PHOTO:  
GOOGLE EARTH  
MAR. 2018

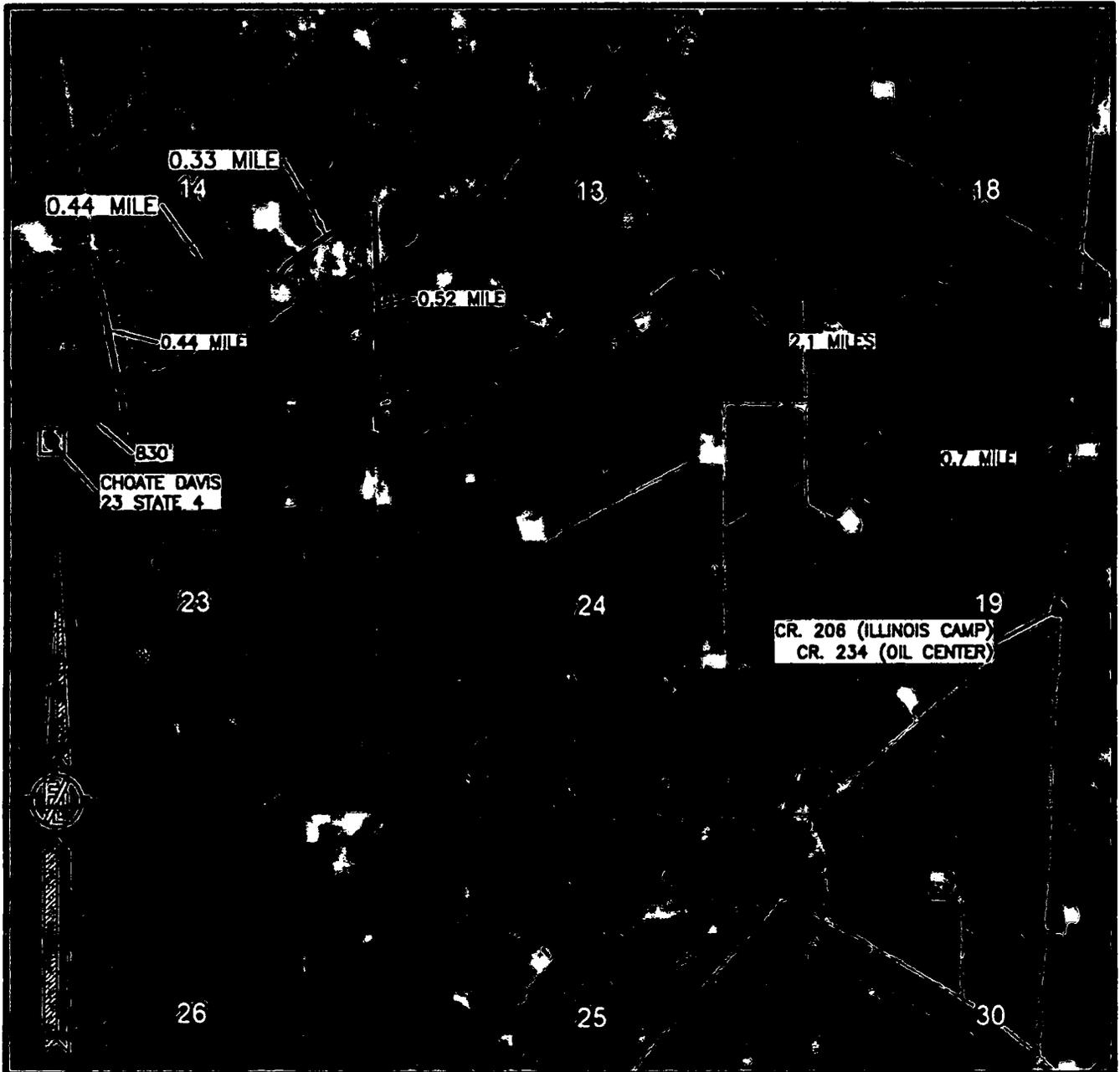
LIME ROCK RESOURCES II-A, L.P.  
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RANGE 27 EAST, N.M.P.M.  
EDDY COUNTY, STATE OF NEW MEXICO

OCTOBER 2, 2018

SURVEY NO. 6577

MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

SECTION 23, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M.  
 EDDY COUNTY, STATE OF NEW MEXICO  
 AERIAL ACCESS ROUTE MAP



NOT TO SCALE  
 AERIAL PHOTO:  
 GOOGLE EARTH  
 MAR. 2018

LIME ROCK RESOURCES II-A, L.P.  
 CHOATE DAVIS 23 STATE 4  
 LOCATED 570 FT. FROM THE NORTH LINE  
 AND 750 FT. FROM THE WEST LINE OF  
 SECTION 23, TOWNSHIP 18 SOUTH,  
 RANGE 27 EAST, N.M.P.M.  
 EDDY COUNTY, STATE OF NEW MEXICO

OCTOBER 2, 2018

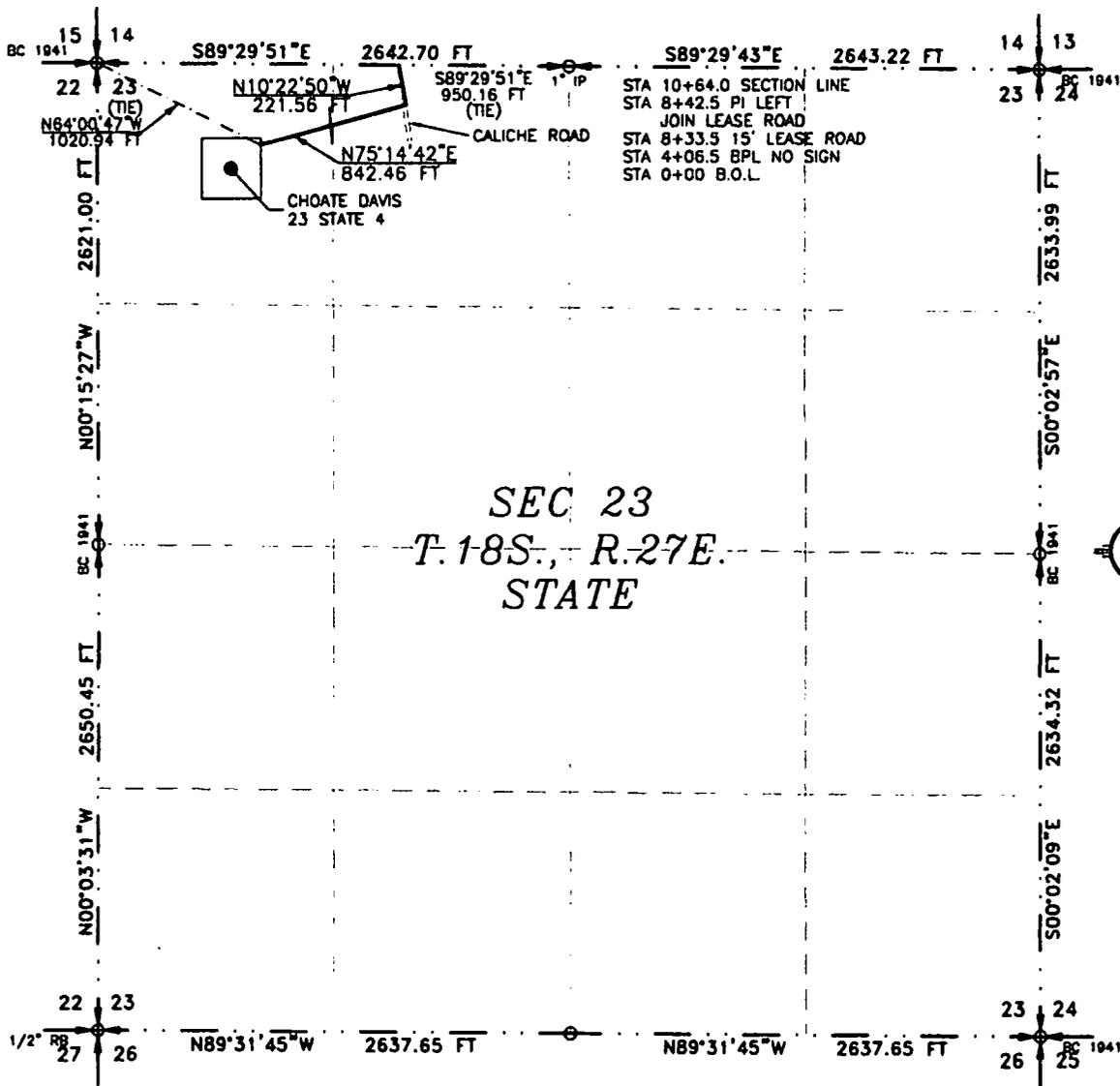
SURVEY NO. 6577

MADRON SURVEYING, INC. 331 SOUTH DANA CARLSBAD, NEW MEXICO  
575) 254-3341

**FLOWLINE PLAT**

FOUR-4" SDR 7 POLY SURFACE PRODUCED WATERLINES FROM  
CHOATE DAVIS 23 STATE 4 TO CHOATE DAVIS 14 STATE SWD 1

**LIME ROCK RESOURCES II-A, L.P.**  
CENTERLINE SURVEY OF A PIPELINE CROSSING  
SECTION 23, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M.  
EDDY COUNTY, STATE OF NEW MEXICO  
OCTOBER 18, 2018



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 18 DAY OF OCTOBER 2018

*Filmon F. Jaramillo*  
FILMON F. JARAMILLO PLS. 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. 6577**

**GENERAL NOTES**

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

**SHEET: 1-6**

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

**FLOWLINE PLAT**

FOUR-4" SDR 7 POLY SURFACE PRODUCED WATERLINES FROM  
CHOATE DAVIS 23 STATE 4 TO CHOATE DAVIS 14 STATE SWD 1

**LIME ROCK RESOURCES II-A, L.P.  
CENTERLINE SURVEY OF A PIPELINE CROSSING  
SECTION 23, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M.  
EDDY COUNTY, STATE OF NEW MEXICO  
OCTOBER 18, 2018**

**DESCRIPTION**

A STRIP OF LAND 30 FEET WIDE CROSSING STATE OF NEW MEXICO LAND IN SECTION 23, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M., EDDY COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

BEGINNING AT A POINT WITHIN THE NW/4 NW/4 OF SAID SECTION 23, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M., WHENCE THE NORTHWEST CORNER OF SAID SECTION 23, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M. BEARS N64°00'47"W, A DISTANCE OF 1020.94 FEET;  
THENCE N75°14'42"E A DISTANCE OF 842.46 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;  
THENCE N10°22'50"W A DISTANCE OF 221.56 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 23, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M. BEARS S89°29'51"E, A DISTANCE OF 950.16 FEET;

SAID STRIP OF LAND BEING 1064.02 FEET OR 64.49 RODS IN LENGTH, CONTAINING 0.733 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NW/4 NW/4	418.12 L.F.	25.34 RODS	0.288 ACRES
NE/4 NW/4	645.90 L.F.	39.15 RODS	0.445 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 18 DAY OF OCTOBER 2018

*[Signature]*  
FILMON F. JARAMILLO, PLS. 12797

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

**SURVEY NO. 6577**

**GENERAL NOTES**

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

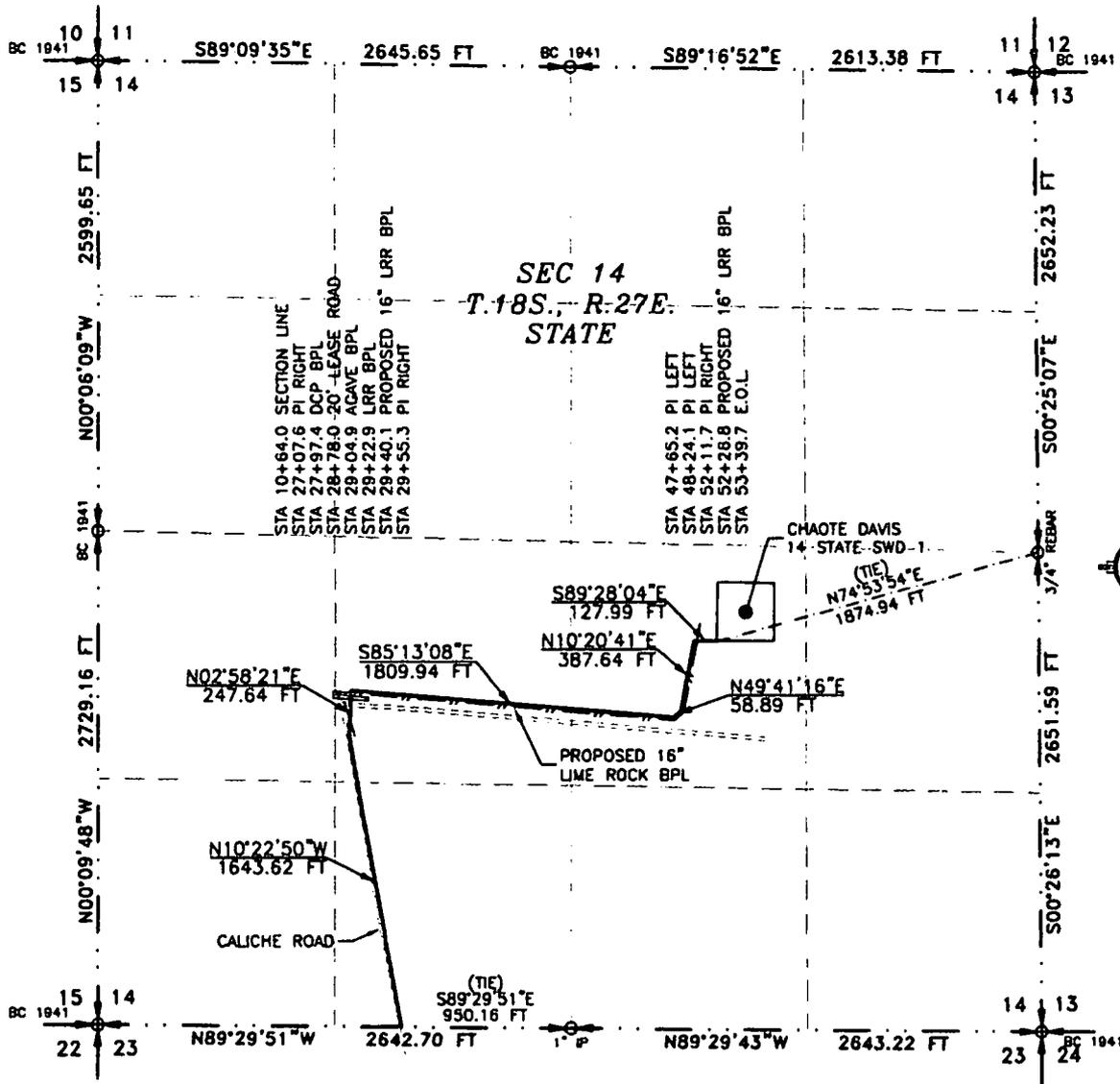
**SHEET: 2-6**

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

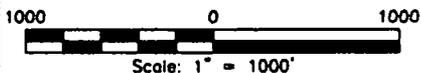
**FLOWLINE PLAT**

FOUR-4" SDR 7 POLY SURFACE PRODUCED WATERLINES FROM  
CHOATE DAVIS 23 STATE 4 TO CHOATE DAVIS 14 STATE SWD 1

**LIME ROCK RESOURCES II-A, L.P.**  
CENTERLINE SURVEY OF A PIPELINE CROSSING  
SECTION 14, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M.  
EDDY COUNTY, STATE OF NEW MEXICO  
OCTOBER 18, 2018



SEE NEXT SHEET (4-6) FOR DESCRIPTION



**GENERAL NOTES**

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

**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 18th DAY OF OCTOBER 2018

FILMON F. JARAMILLO, PLS. 12797  
 301 SOUTH CANAL  
 CARLSBAD, NEW MEXICO 88222  
 Phone (575) 234-3341

MADRON SURVEYING, INC  
 301 SOUTH CANAL  
 CARLSBAD, NEW MEXICO 88222  
 Phone (575) 234-3341

**SURVEY NO. 6577**

**SHEET: 3-6**

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

**FLOWLINE PLAT**

**FOUR-4" SDR 7 POLY SURFACE PRODUCED WATERLINES FROM  
CHOATE DAVIS 23 STATE 4 TO CHOATE DAVIS 14 STATE SWD 1**

**LIME ROCK RESOURCES II-A, L.P.  
CENTERLINE SURVEY OF A PIPELINE CROSSING  
SECTION 14, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M.  
EDDY COUNTY, STATE OF NEW MEXICO  
OCTOBER 18, 2018**

**DESCRIPTION**

A STRIP OF LAND 30 FEET WIDE CROSSING STATE OF NEW MEXICO LAND IN SECTION 14, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M., EDDY COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

BEGINNING AT A POINT WITHIN THE SE/4 SW/4 OF SAID SECTION 14, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M., WHENCE THE SOUTH QUARTER CORNER OF SAID SECTION 14, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M. BEARS S89°29'51"E, A DISTANCE OF 950.16 FEET;  
THENCE N10°22'50"W A DISTANCE OF 1643.62 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;  
THENCE N02°58'21"E A DISTANCE OF 247.64 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;  
THENCE S85°13'08"E A DISTANCE OF 1809.94 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;  
THENCE N49°41'16"E A DISTANCE OF 58.89 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;  
THENCE N10°20'41"E A DISTANCE OF 387.64 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;  
THENCE S89°28'04"E A DISTANCE OF 127.99 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE EAST QUARTER CORNER OF SAID SECTION 14, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M. BEARS N74°53'54"E, A DISTANCE OF 1874.94 FEET;

SAID STRIP OF LAND BEING 4275.72 FEET OR 259.13 RODS IN LENGTH, CONTAINING 2.945 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

SE/4 SW/4	1378.59 L.F.	83.55 RODS	0.949 ACRES
NE/4 SW/4	1747.19 L.F.	105.89 RODS	1.203 ACRES
NW/4 SE/4	1149.94 L.F.	69.69 RODS	0.792 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 18 DAY OF OCTOBER 2018

*[Signature]*  
FILMON F. JARAMILLO, PLS. 12797

MADRON SURVEYING, INC  
301 SOUTH CANAL  
CARLSBAD, NEW MEXICO 88220  
Phone (575) 734-3341

**SURVEY NO. 6577**

**GENERAL NOTES**

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

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

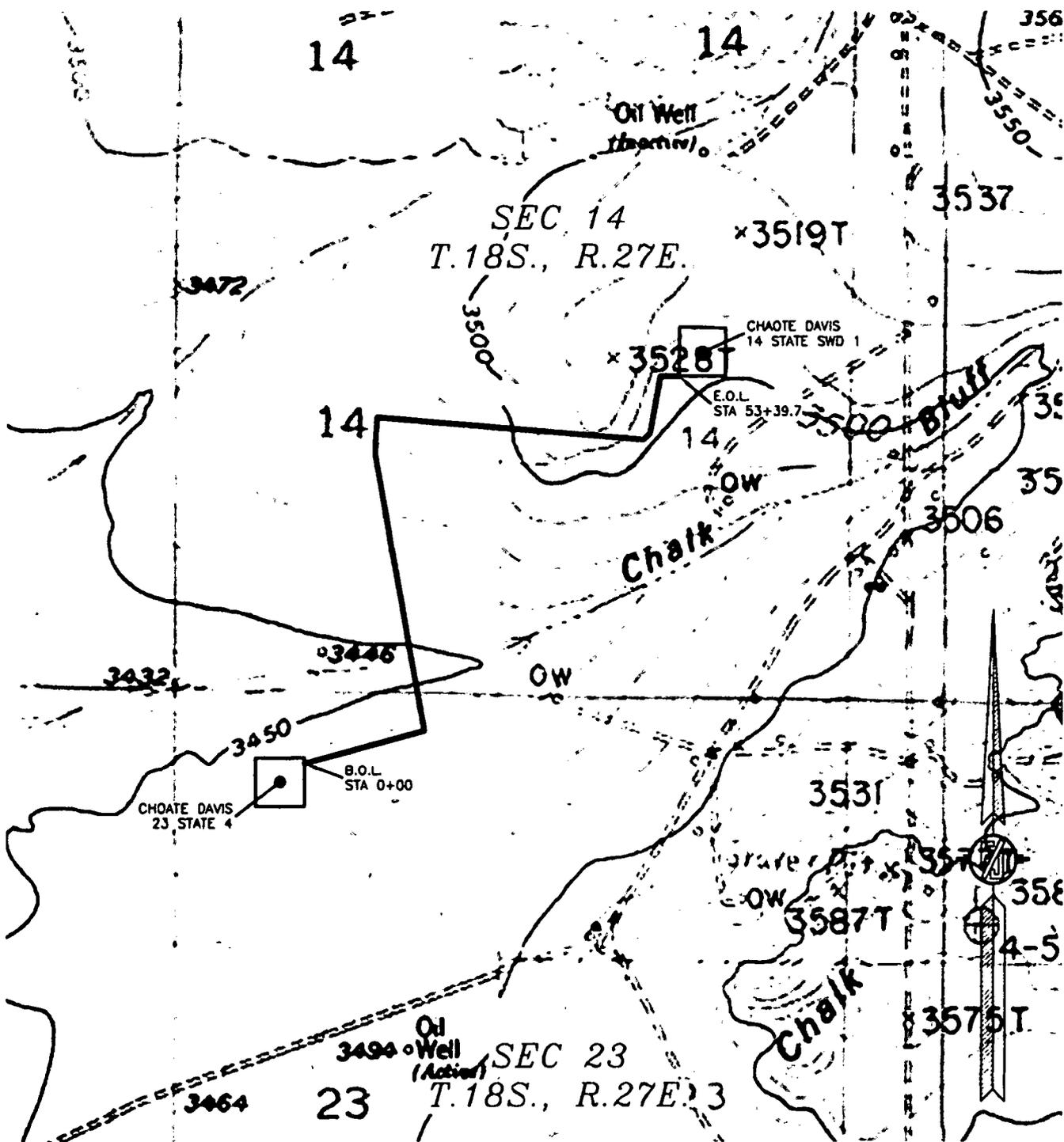
**SHEET: 4-6**

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

**FLOWLINE PLAT**

FOUR-4" SDR 7 POLY SURFACE PRODUCED WATERLINES FROM  
CHOATE DAVIS 23 STATE 4 TO CHOATE DAVIS 14 STATE SWD 1

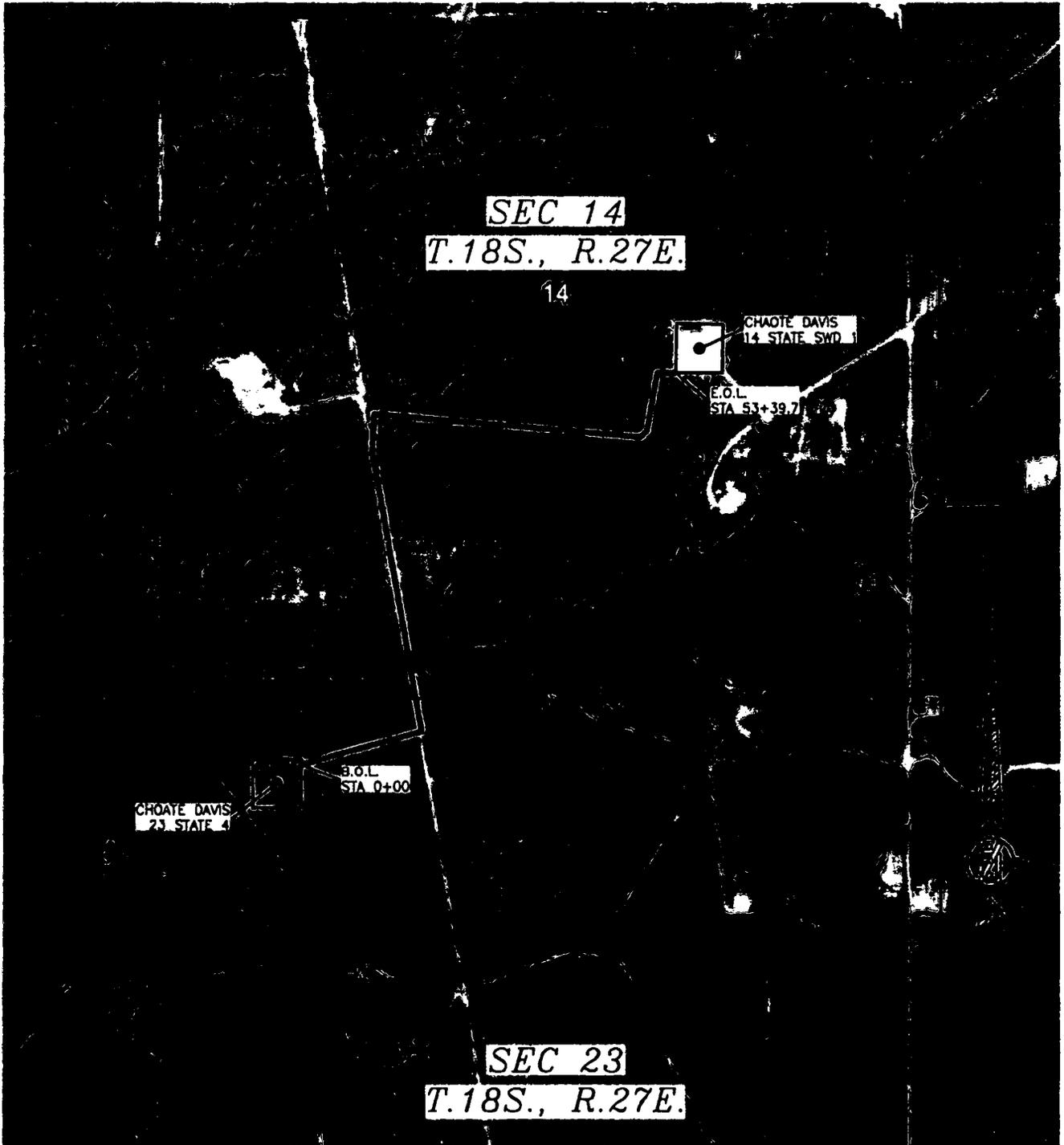
LIME ROCK RESOURCES II-A, L.P.  
CENTERLINE SURVEY OF A PIPELINE CROSSING  
SECTIONS 23 & 14, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M.  
EDDY COUNTY, STATE OF NEW MEXICO  
OCTOBER 18, 2018



**FLOWLINE PLAT**

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CENTERLINE SURVEY OF A PIPELINE CROSSING  
SECTIONS 23 & 14, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M.  
EDDY COUNTY, STATE OF NEW MEXICO  
OCTOBER 18, 2018



# CHOATE DAVIS 23 STATE SWD #4

Proposed new SWD Well

Abo, Wolfcamp, & Cisco

(D) Section 23, T-18-S, R-27-E, Eddy County, NM

Today's Date: 10/19/18

Lat N 32.7528547 / Long W 104.2387836

Elevation: 3557' GL

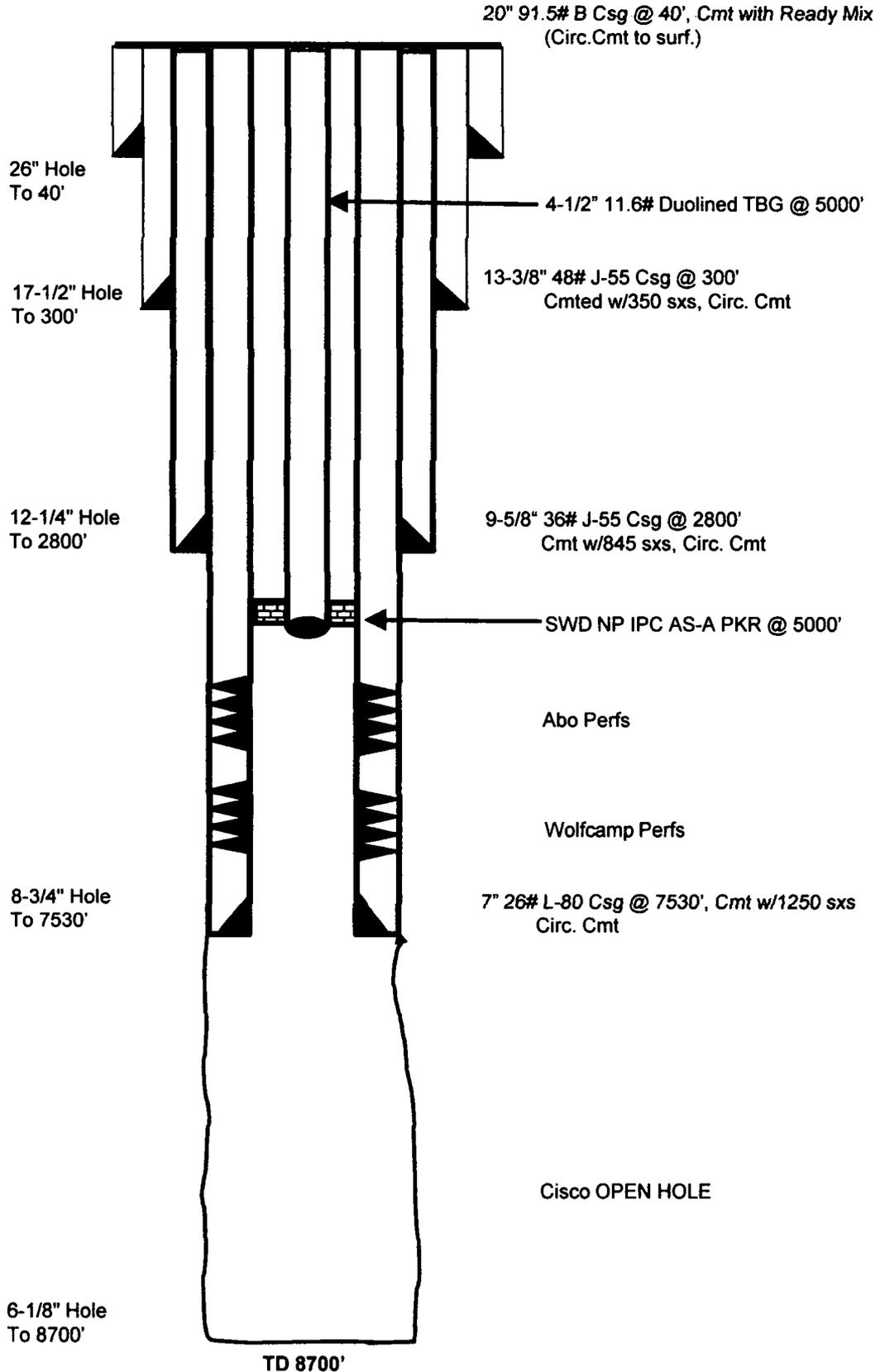
7 Rivers @ 405'  
Queen @ 1000'  
San Andres @ 1810'

Glorieta @ 3425'  
Yeso @ 3620'

Abo @ 5055'

Wolfcamp @ 6500'

Cisco @ 7530'



Glorieta @ 3425'  
Yeso @ 3620'

Abo @ 5055'

Wolfcamp @ 6500'

Cisco @ 7530'

20" 91.5# B Csg @ 40', Cmt with Ready Mix (Circ. Cmt to surf.)

4-1/2" 11.6# Duolined TBG @ 5000'

13-3/8" 48# J-55 Csg @ 300' Cmted w/350 sxs, Circ. Cmt

9-5/8" 36# J-55 Csg @ 2800' Cmt w/845 sxs, Circ. Cmt

SWD NP IPC AS-A PKR @ 5000'

Abo Perfs

Wolfcamp Perfs

7" 26# L-80 Csg @ 7530', Cmt w/1250 sxs Circ. Cmt

Cisco OPEN HOLE

TD 8700'

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

**Choate-Davis 23 State #4  
570' FNL 750' FWL  
(D) 23-18S-27E  
Eddy County, NM**

1. The elevation of the unprepared ground is 3459.5 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 8700'MD, TVD and run casing to 7530'. This equipment will down and the well will be completed with a workover rig.
4. Well will be drilled to a total proposed depth of 8700' MD, TVD.

5. Estimated tops of geologic markers:

	MD	TVD
Quaternary – Alluvium	Surface	Surface
Yates	NA	NA
7 Rivers	405	405
Queen	1000	1000
San Andres	1810	1810
Glorieta	3425	3425
Yeso	3620	3620
Abo	5055	5055
Wolfcamp	6500	6500
Cisco	7530	7530
TD	8700	8700

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	405	405
Queen	1000	1000
San Andres	1810	1810
Glorieta	3425	3425
Yeso	3620	3620
Abo	5055	5055
Wolfcamp	6500	6500
Cisco	7530	7530
TD	8700	8700

7. Proposed Casing and Cement program is as follows:

Type	Hole	Casing	Wt	Grade	Thread	Depth	Sx	Density	Yield	Components
Conductor	26"	20"	91.5	B	Welded	40	40			Ready Mix
Surface	17-1/2"	13-3/8"	48	J-55	ST&C	300	350	14.8	1.35	Cl C Cmt + 0.25 lbs/sk Cello Flake + 2% CaCl <sub>2</sub>
Intermediate	12-1/4"	9-5/8"	36	J-55	LT&C	2800	320		1.903	35/65/8 Poz/Cl C/Gel w/ 5% Cl, 5 pps LCM-1, 0.3% R-3 and 1/4 pps Cello Flake
							525	14.8	1.33	Cl C w/ 1/4 pps Cello Flake and 0.6% R-3
Production	8-3/4"	7"	26	L-80	LT&C	7530	480	13.2	1.84	(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
							770	15.2	1.18	Cl H w/ 0.6% R-3, 0.125% Cello Flake, 2% Gel

8. Proposed Mud Program is as follows

Depth	0-300	300-2800	2800-8700
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:

Coring Program: No full or sidewall cores are anticipated.

11. Potential Hazards:

No abnormal temperatures or pressures are expected. There is 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 psi based on 0.44 x TD. The estimated BHT is 125 degrees F.

12. Duration of Operations:

Anticipated spud date will be soon after approval and as soon as a rig will be available. Move in operations and drilling is expected to take 15 days. An additional 14 days will be needed it complete the well and to construct surface facilities.

## 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 H2S service.
- b. All elastomers used for packing and seals shall be H2S trim.

☐ Communication:

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

## H2S CONTINGENCY DRILLING PLAN EMERGENCY CONTACTS

<b>Company Offices -</b> Lime Rock Houston Office	713-292-9510
Answering Service (After Hours)	713-292-9555
Artesia, NM Office	575-748-9724
Roswell, NM	575-623-8424

### KEY PERSONNEL

Name	Title	Location	Office #	Cell #	Home #
Steve Hunter	Production Manager	Houston	713-292-9516	832-330-7313	Same as Cell
Spencer Cox	Operations Engineer	Houston	713-292-9528	432-254-5140	Same as Cell
Eric McClusky	Operations Engineer	Houston	713-360-5714	832-491-3079	405-821-0534
Jerry Smith	Assistant Production Supervisor	Artesia	575-748-9724	505-918-0556	575-746-2478
Michael Barrett	Production Supervisor	Roswell	575-623-8424	505-353-2644	575-623-4707
Gary 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 Commission ("NMERC")	505-476-9600
State Wide	NMERC 24 Hour Number	505-827-9126
State Wide	New Mexico State Emergency Operations Center	505-476-9635
National	National Emergency Response Center (Washington D.C.)	800-424-8802

**Emergency Services**

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

## **Pressure Control Equipment**

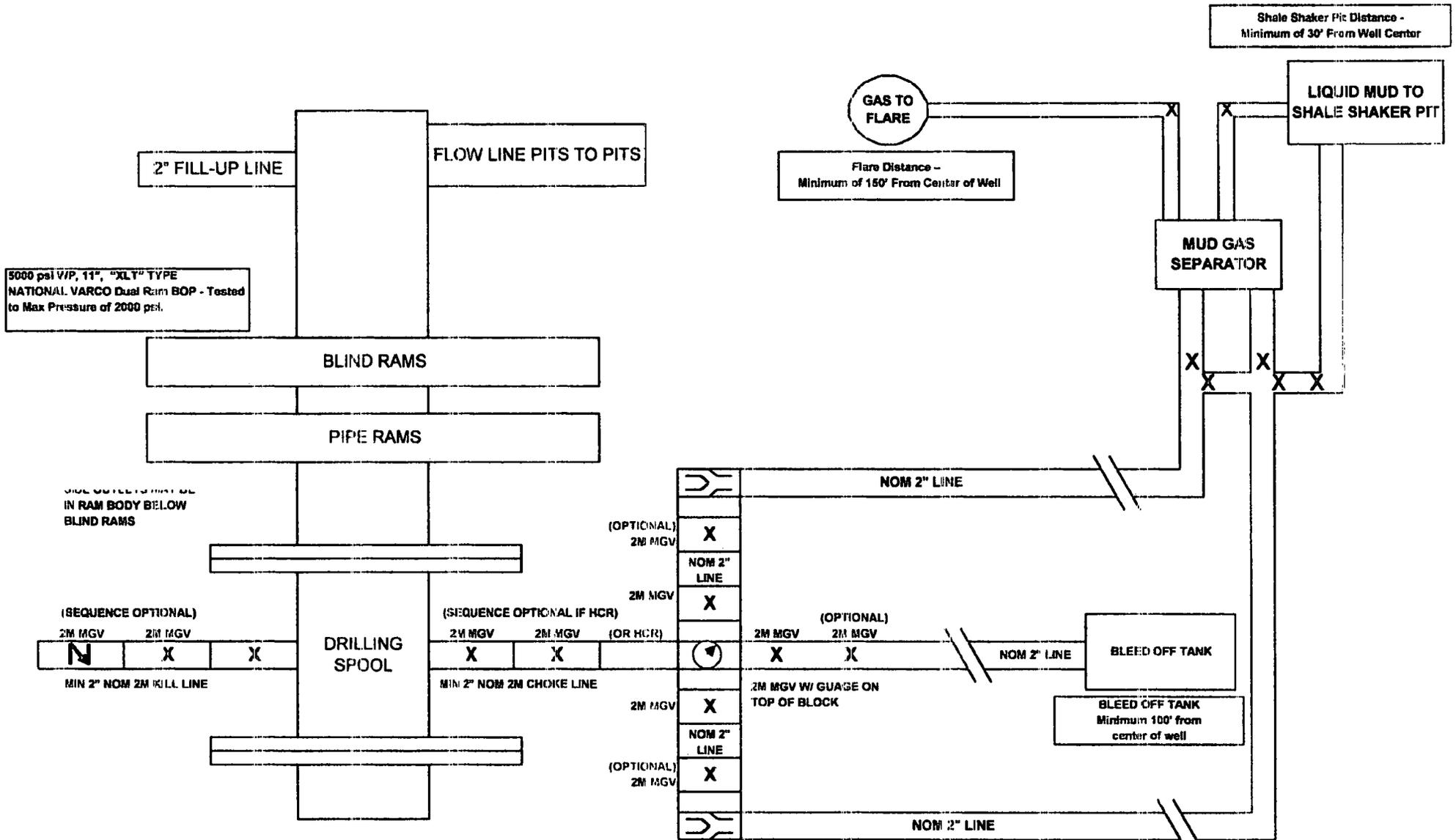
**The blowout preventer equipment (BOP) will consist of a 5000 psi rated, "XLT" type, National VARCO double ram preventer that will be tested to a maximum pressure of 2000 psi. The unit will be hydraulically operated and the ram type preventer will be equipped with blind rams on top and drill pipe rams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

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

**The BOP equipment will consist of the following:**

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

# 2M BOP SCHEMATIC



Shale Shaker Pic Distance - Minimum of 30' From Well Center

Flare Distance - Minimum of 150' From Center of Well

5000 psi V/P, 11", "XLT" TYPE NATIONAL VARCO Dual Ram BOP - Tested to Max Pressure of 2000 psi.

SIDE CONNECTIONS MUST BE IN RAM BODY BELOW BLIND RAMS

(SEQUENCE OPTIONAL)

2M MGV 2M MGV

MIN 2" NOM 2M KILL LINE

DRILLING SPOOL

(SEQUENCE OPTIONAL IF HCR)

2M MGV 2M MGV (OR HCR)

MIN 2" NOM 2M CHOKE LINE

(OPTIONAL) 2M MGV

X

NOM 2" LINE

2M MGV

X

(OPTIONAL)

2M MGV 2M MGV

X

X

2M MGV

X

NOM 2" LINE

(OPTIONAL) 2M MGV

X

2M ADJUSTABLE CHOKE (REMOTE OPERATED CHOKE OPTIONAL FOR ONE SIDE ONLY)

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.**

## **Choate-Davis 23 State #4**

### **Unit D, S23-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

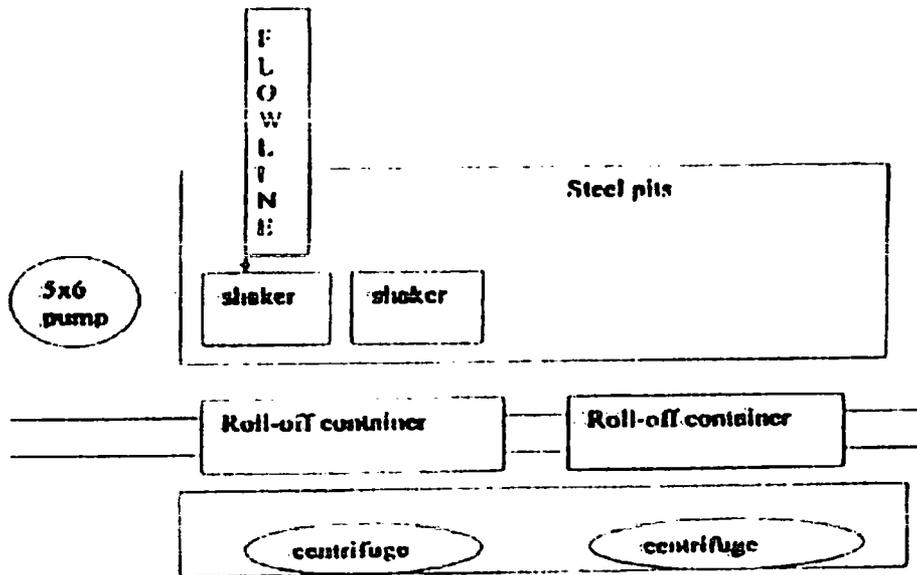
2-500 bbl frac tanks for brine water

#### **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**



**CLOSED LOOP  
SPECIALTY**

Office: 575.746.1689

Cell: 575.746.6307