

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 Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form C-101
August 1, 2011

Permit 289553

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

1. Operator Name and Address DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102		2. OGRID Number 6137
		3. API Number 30-025-48097
4. Property Code 30884	5. Property Name THISTLE UNIT	6. Well No. 182H

7. Surface Location

UL - Lot C	Section 22	Township 23S	Range 33E	Lot Idn C	Feet From 160	N/S Line N	Feet From 1800	E/W Line W	County Lea
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8. Proposed Bottom Hole Location

UL - Lot N	Section 34	Township 23S	Range 33E	Lot Idn N	Feet From 20	N/S Line S	Feet From 2180	E/W Line W	County Lea
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9. Pool Information

WC-025 G-09 S243310P;UPPER WOLFCAMP	98135
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Additional Well Information

11. Work Type New Well	12. Well Type OIL	13. Cable/Rotary	14. Lease Type State	15. Ground Level Elevation 3718
16. Multiple N	17. Proposed Depth 28008	18. Formation Wolfcamp	19. Contractor	20. Spud Date 2/15/2021
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

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

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	17.5	13.375	48	1390	1044	0
Int1	9.875	8.625	32	11981	998	0
Prod	7.875	5.5	17	28008	2235	10008

Casing/Cement Program: Additional Comments

See attached drilling plan for as needed Int Squeeze.

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Annular	5000	5000	
Double Ram	5000	5000	
Blind	5000	5000	
Annular	10000	10000	
Double Ram	10000	10000	
Blind	10000	10000	

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief.
I further certify I have complied with 19.15.14.9 (A) NMAC ☒ and/or 19.15.14.9 (B) NMAC ☒, if applicable.

Signature:

OIL CONSERVATION DIVISION

Printed Name: Electronically filed by Jeff Walla	Approved By: Paul F Kautz
Title: Supervisor Land	Title: Geologist
Email Address: Jeff.Walla@dmv.com	Approved Date: 12/3/2020 Expiration Date: 12/3/2022
Date: 11/30/2020 Phone: 575-748-9925	Conditions of Approval Attached

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Phone: (505) 476-3460 Fax: (505) 476-3462

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	² Pool Code 98135	³ Pool Name WC-025 G-09 S243310P;UPPER WOLFCAMP
⁴ Property Code	⁵ Property Name THISTLE UNIT	⁶ Well Number 182H
⁷ OGRID No. 6137	⁸ Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.	⁹ Elevation 3718.3

¹⁰ Surface Location

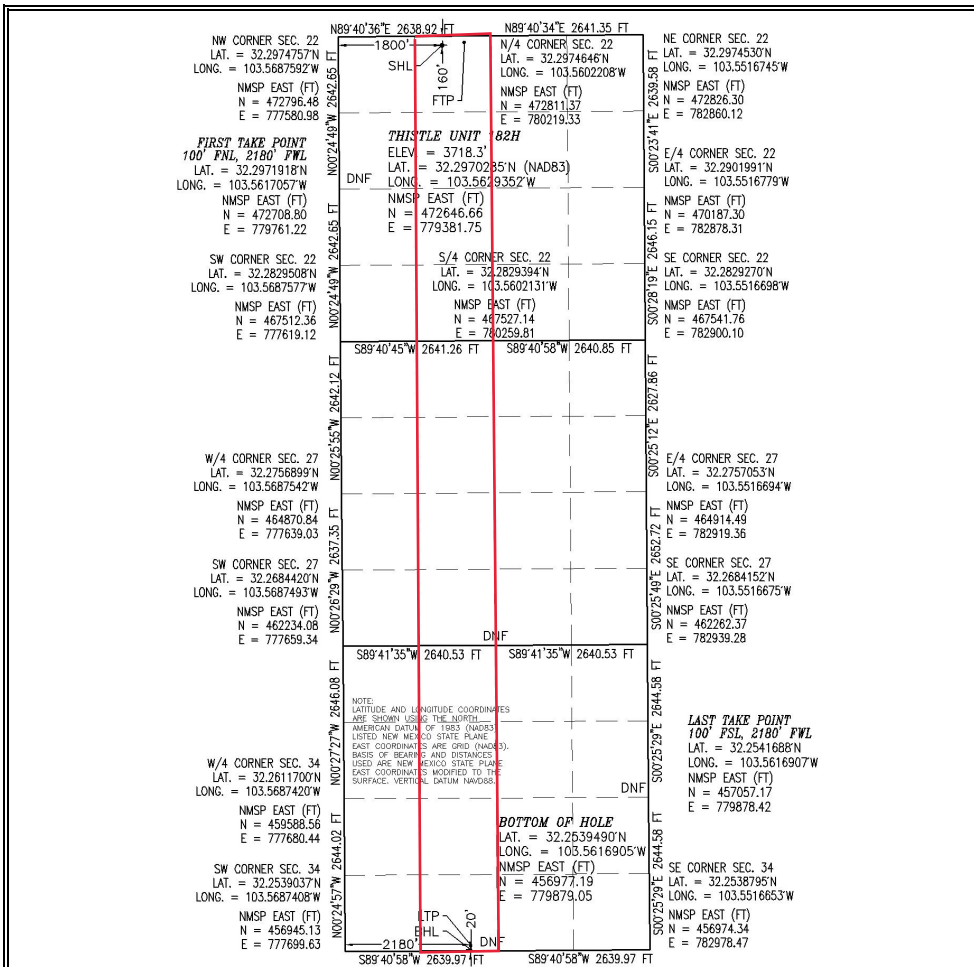
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	22	23 S	33 E		160	NORTH	1800	WEST	LEA

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	34	23 S	33 E		20	SOUTH	2180	WEST	LEA

¹² Dedicated Acres 480	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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.

¹⁷ OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Rebecca Deal 11/30/2020
Signature Date

Rebecca Deal, Regulatory Analyst
Printed Name

rebecca.deal@dmn.com
E-mail Address

¹⁸ SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

NOVEMBER 16, 2020

Date of Survey

Signature and Seal of Professional Surveyor:
Certificate Number: 12797
NO. 8630A

Intent ☒ As Drilled ☐

API #

Operator Name:	Property Name:	Well Number
DEVON ENERGY PRODUCTION CO., L.P.	THISTLE UNIT	182H

Kick Off Point (KOP)

UL	Section 22	Township 23S	Range 33E	Lot	Feet 163	From N/S FNL	Feet 2297	From E/W FWL	County LEA
Latitude 32.2969					Longitude -103.5614			NAD 83	

First Take Point (FTP)

UL C	Section 22	Township 23S	Range 33E	Lot	Feet 100	From N/S NORTH	Feet 2180	From E/W WEST	County LEA
Latitude 32.2971918					Longitude 103.5617057			NAD 83	

Last Take Point (LTP)

UL N	Section 34	Township 23S	Range 33E	Lot	Feet 100	From N/S SOUTH	Feet 2180	From E/W WEST	County LEA
Latitude 32.2541688					Longitude 103.5616907			NAD 83	

Is this well the defining well for the Horizontal Spacing Unit? ☐Is this well an infill well? ☐

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

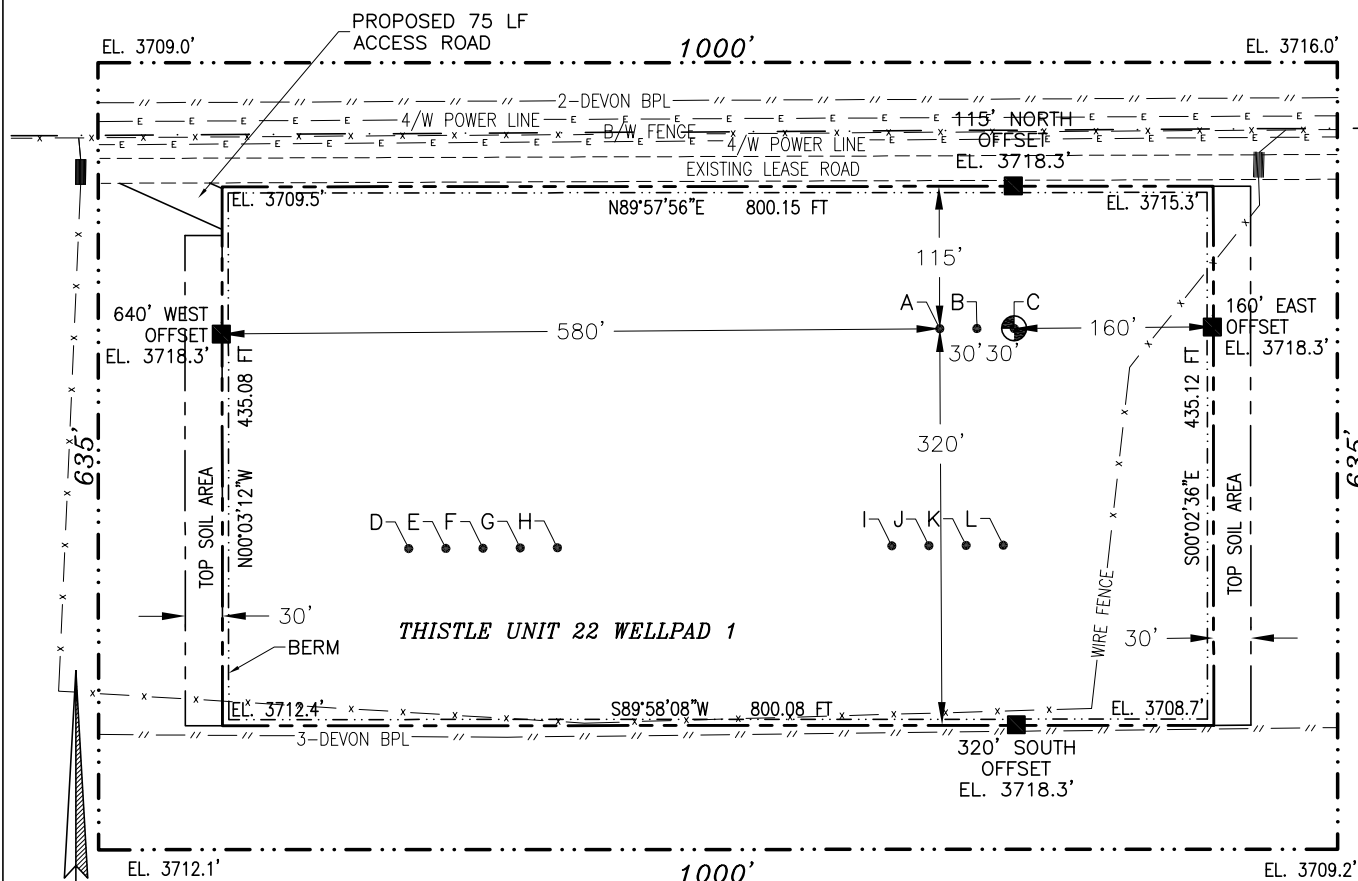
API #

Operator Name:	Property Name:	Well Number

KZ 06/29/2018

SECTION 22, TOWNSHIP 23 SOUTH, RANGE 33 EAST, N.M.P.M. LEA 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. VERTICAL DATUM NAVD88.



D = DRILLED

- | | |
|--------------------------|--------------------------|
| A - THISTLE UNIT 180H | G - THISTLE UNIT 86H -D |
| B - THISTLE UNIT 181H | H - THISTLE UNIT 160H |
| C - THISTLE UNIT 182H | I - THISTLE UNIT 114H -D |
| D - THISTLE UNIT 142H | J - THISTLE UNIT 133H -D |
| E - THISTLE UNIT 110H -D | K - THISTLE UNIT 99H -D |
| F - THISTLE UNIT 125H -D | L - THISTLE UNIT 113H -D |

THISTLE UNIT 182H

ELEV. = 3718.3'

7.992± ACRES

LAT. = 32.2970285°N (NAD83)

LONG. = 103.5629352°W

NMSP EAST (FT)

N = 472646.66

E = 779381.75

015 75 150 300

SCALE 1" = 150'

DIRECTIONS TO LOCATION

FROM STATE HIGHWAY 128 AND CR 21 (DELAWARE BASIN) GO NORTH ON CR 21 3.95 MILES, TURN LEFT ON PAVED ROAD (XL ROAD) AND GO WEST 3.4 MILES, TURN RIGHT AND GO NORTH 0.9 OF A MILE, BEND LEFT AND GO NORTHWEST 0.15 OF A MILE, BEND RIGHT AND GO NORTHEAST 0.1 OF A MILE, BEND LEFT AND GO NORTH 0.95 OF A MILE, TURN RIGHT AND GO EAST 1810', TURN RIGHT GO SOUTHEAST 75° TO NORTHWEST PAD CORNER FOR THIS LOCATION.

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

FILMON F. JARAMILLO, P.E., S. 12794

MADRON SURVEYING, INC.

301 SOUTH CANAL
(575) 234-3341

CARLSBAD, NEW MEXICO

DEVON ENERGY PRODUCTION COMPANY, L.P.
THISTLE UNIT 182H

LOCATED 160 FT. FROM THE NORTH LINE
AND 1800 FT. FROM THE WEST LINE OF
SECTION 22, TOWNSHIP 23 SOUTH,
RANGE 33 EAST, N.M.P.M.

LEA COUNTY, STATE OF NEW MEXICO
LAND STATUS: STATE

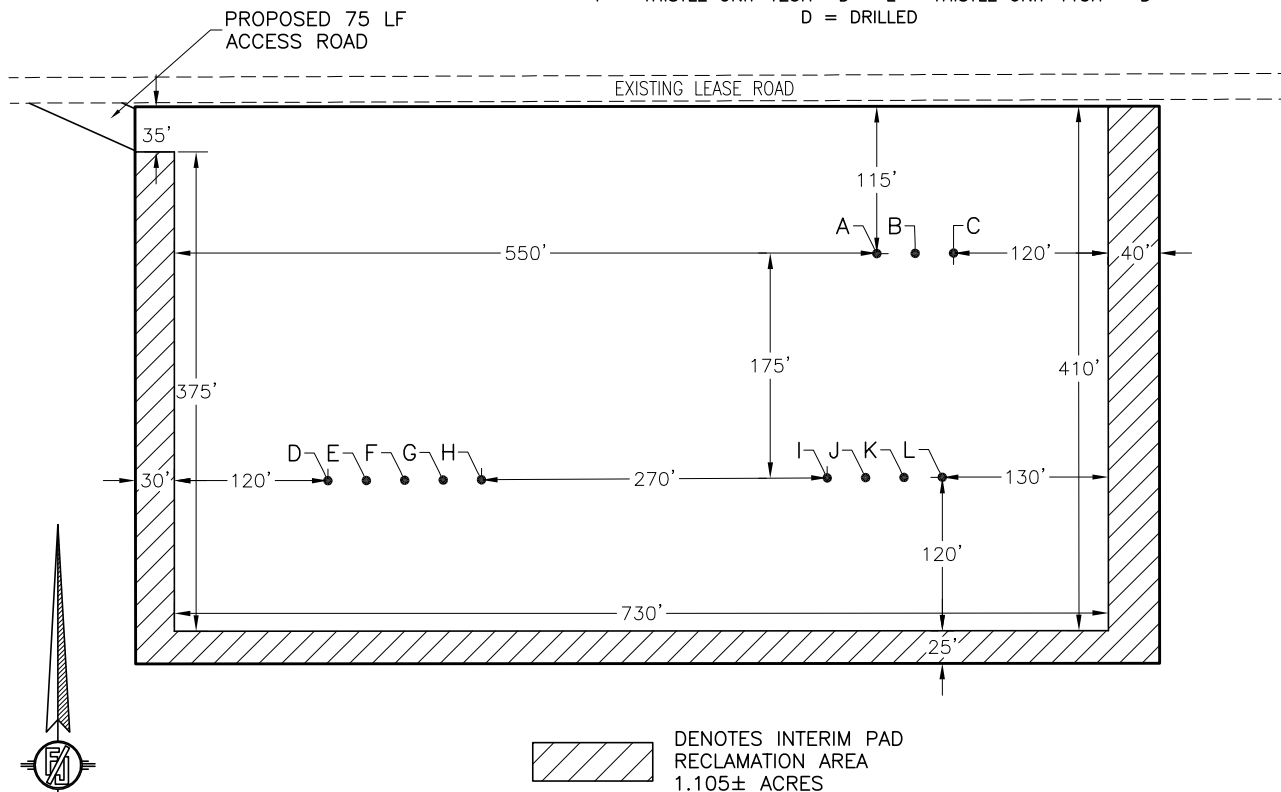
NOVEMBER 16, 2020

SURVEY NO. 8630A

SECTION 22, TOWNSHIP 23 SOUTH, RANGE 33 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
INTERIM SITE BUILD PLAN

A - THISTLE UNIT 180H	G - THISTLE UNIT 86H -D
B - THISTLE UNIT 181H	H - THISTLE UNIT 160H
C - THISTLE UNIT 182H	I - THISTLE UNIT 114H - D
D - THISTLE UNIT 142H	J - THISTLE UNIT 133H -D
E - THISTLE UNIT 110H -D	K - THISTLE UNIT 99H - D
F - THISTLE UNIT 125H -D	L - THISTLE UNIT 113H - D

D = DRILLED



015 75 150 300
SCALE 1" = 150'

DEVON ENERGY PRODUCTION COMPANY, L.P.
THISTLE UNIT 182H
LOCATED 160 FT. FROM THE NORTH LINE
AND 1800 FT. FROM THE WEST LINE OF
SECTION 22, TOWNSHIP 23 SOUTH,
RANGE 33 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
LAND STATUS: STATE

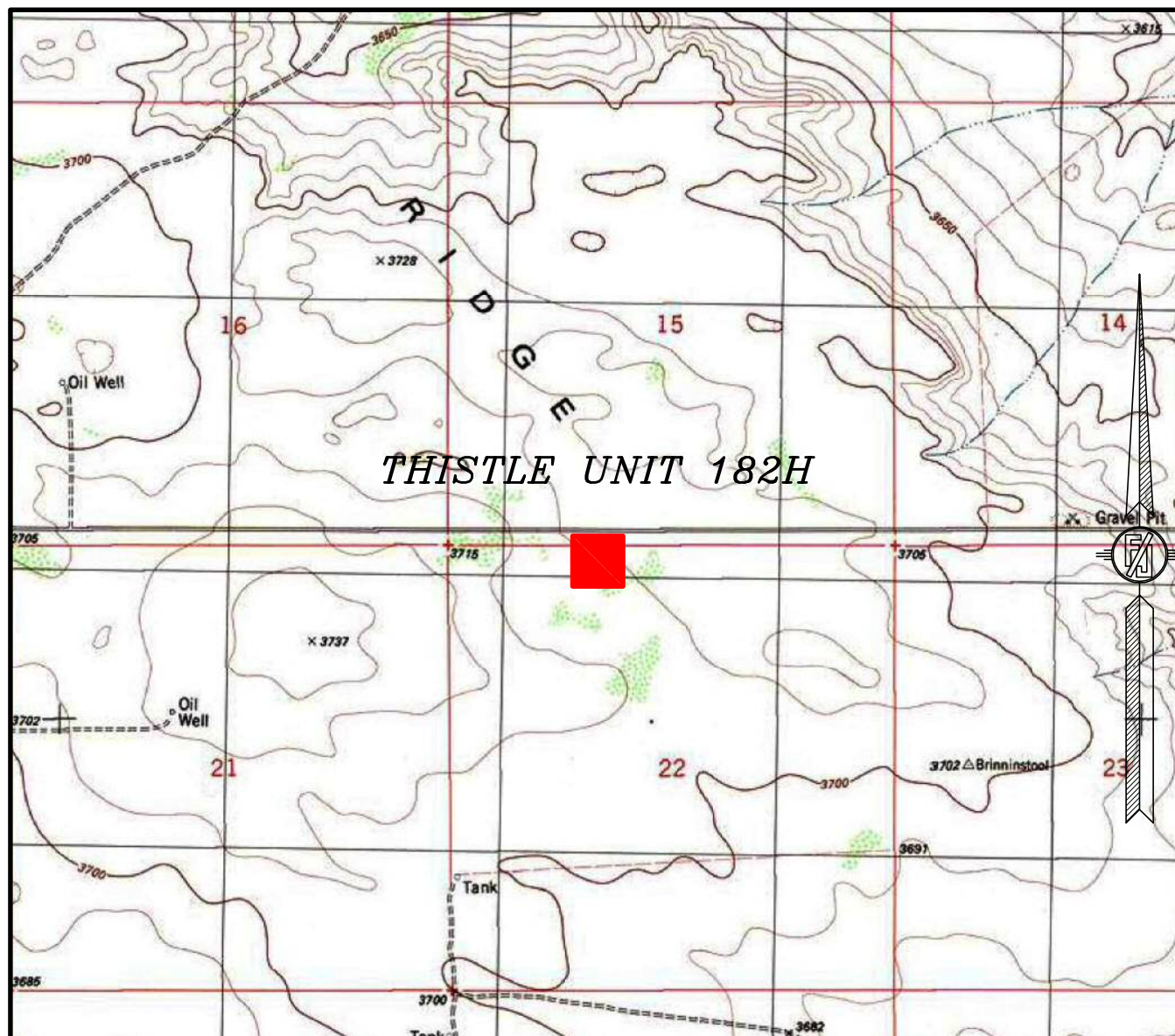
NOVEMBER 16, 2020

SURVEY NO. 8630A

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

CARLSBAD, NEW MEXICO

SECTION 22, TOWNSHIP 23 SOUTH, RANGE 33 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
LOCATION VERIFICATION MAP



USGS QUAD MAP:
TIP TOP WELLS

NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.

THISTLE UNIT 182H

LOCATED 160 FT. FROM THE NORTH LINE
AND 1800 FT. FROM THE WEST LINE OF

SECTION 22, TOWNSHIP 23 SOUTH,
RANGE 33 EAST, N.M.P.M.

LEA COUNTY, STATE OF NEW MEXICO

LAND STATUS: STATE

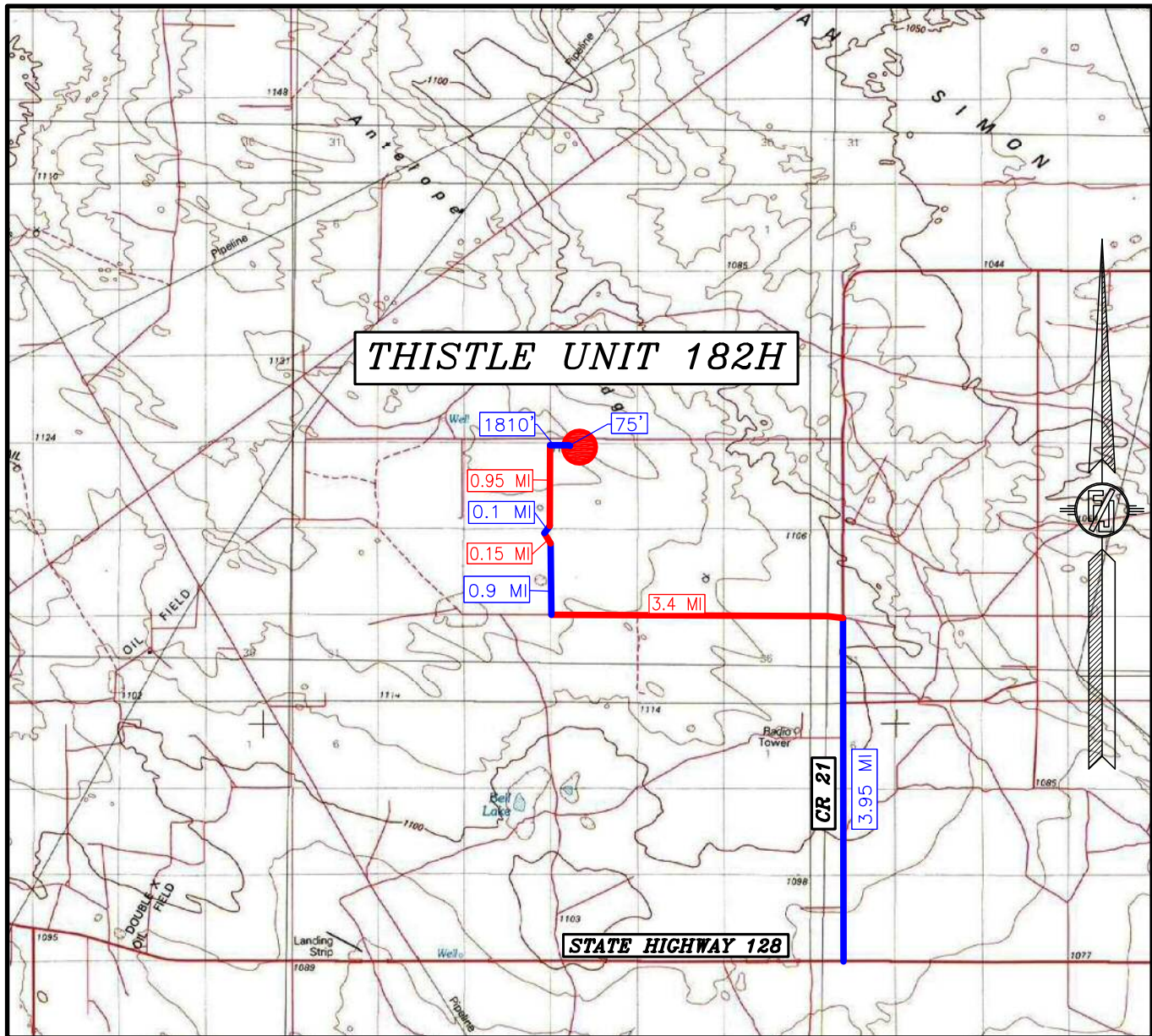
NOVEMBER 16, 2020

SURVEY NO. 8630A

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

CARLSBAD, NEW MEXICO

SECTION 22, TOWNSHIP 23 SOUTH, RANGE 33 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
VICINITY MAP



DISTANCES IN MILES

NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.

THISTLE UNIT 182H

LOCATED 160 FT. FROM THE NORTH LINE
AND 1800 FT. FROM THE WEST LINE OF
SECTION 22, TOWNSHIP 23 SOUTH,
RANGE 33 EAST, N.M.P.M.

LEA COUNTY, STATE OF NEW MEXICO
LAND STATUS: STATE

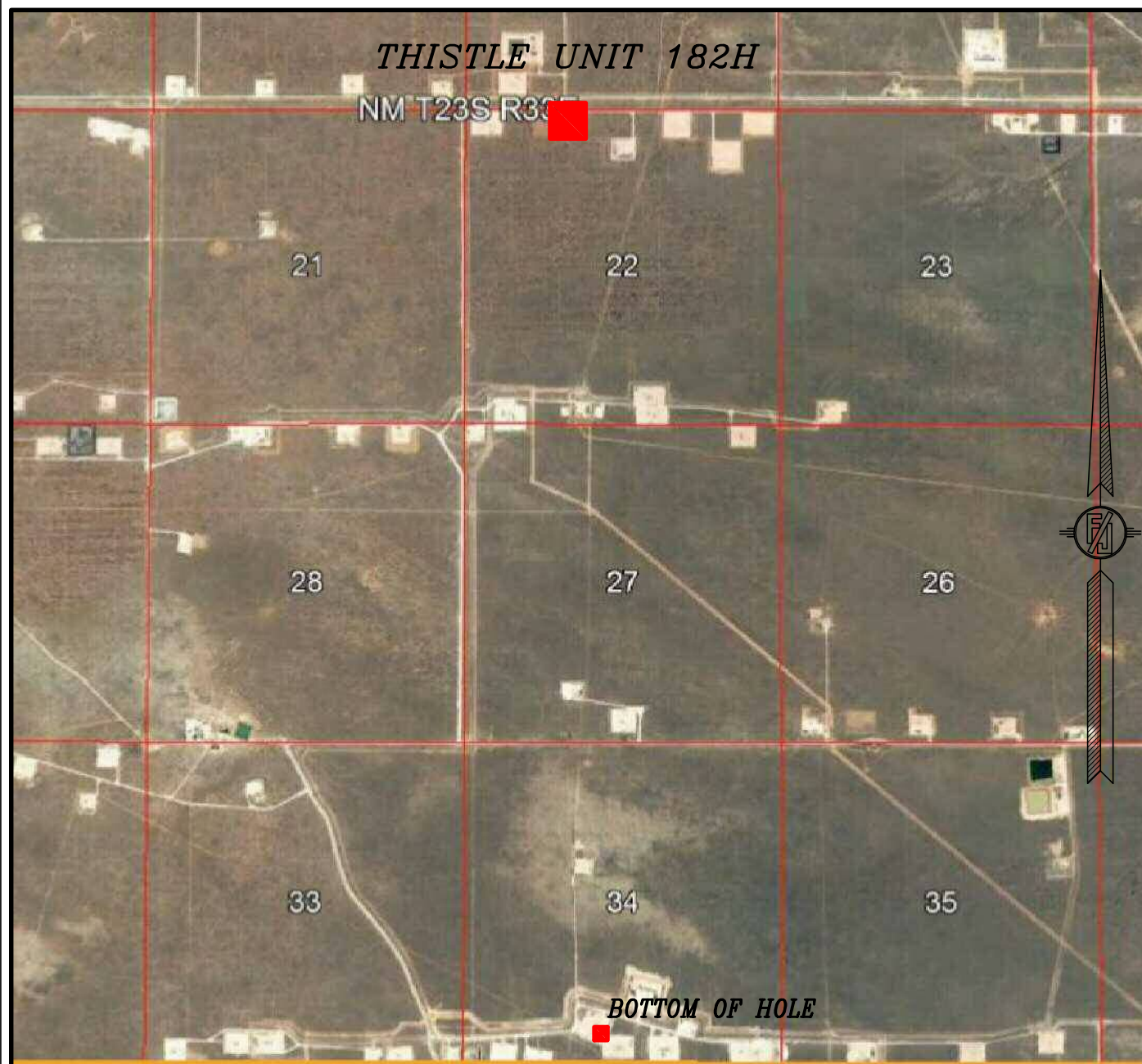
NOVEMBER 16, 2020

SURVEY NO. 8630A

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

CARLSBAD, NEW MEXICO

SECTION 22, TOWNSHIP 23 SOUTH, RANGE 33 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
AERIAL PHOTO



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
NOVEMBER 2017

DEVON ENERGY PRODUCTION COMPANY, L.P.

THISTLE UNIT 182H

LOCATED 160 FT. FROM THE NORTH LINE
AND 1800 FT. FROM THE WEST LINE OF
SECTION 22, TOWNSHIP 23 SOUTH,
RANGE 33 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
LAND STATUS: STATE

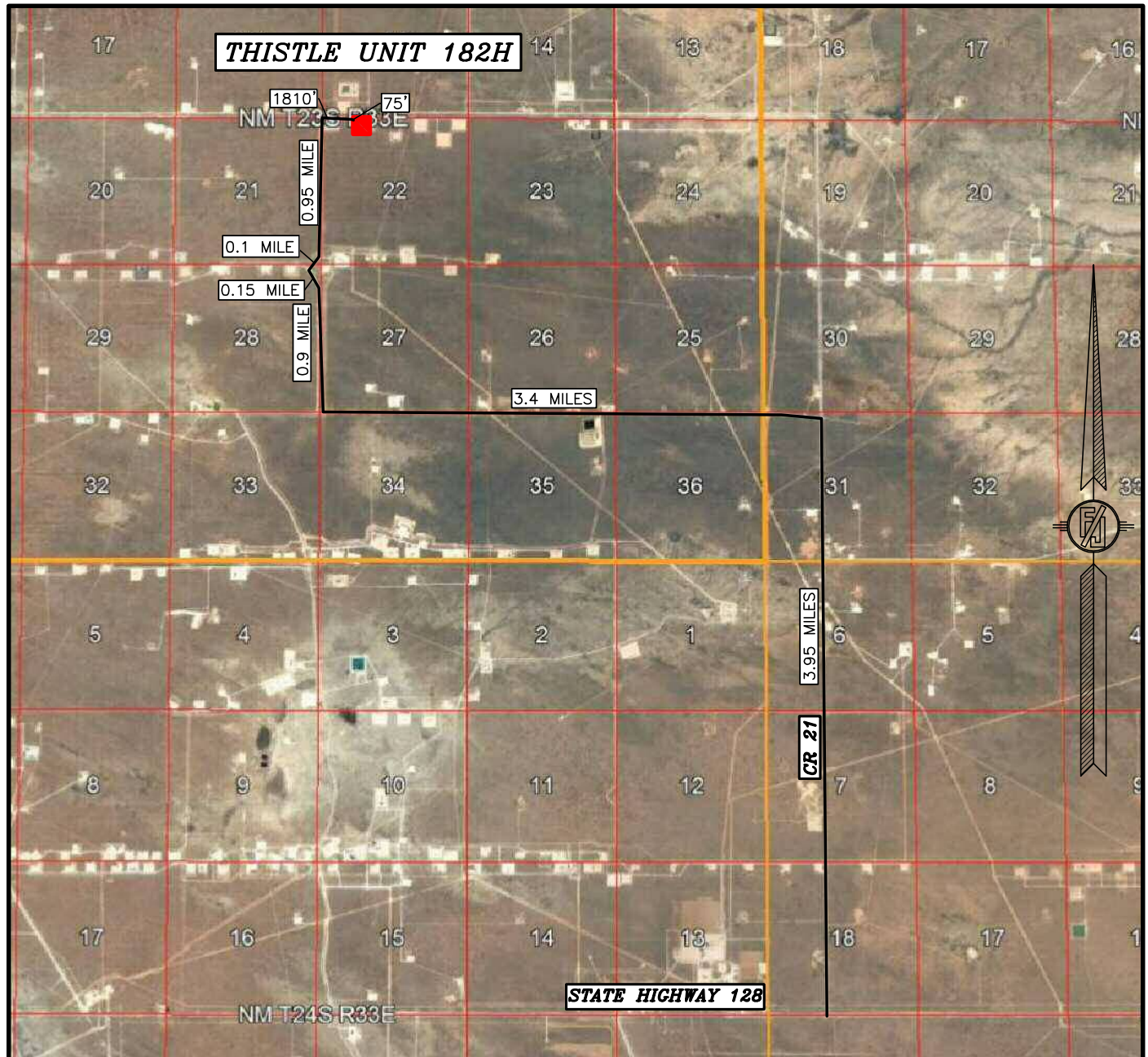
NOVEMBER 16, 2020

SURVEY NO. 8630A

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

CARLSBAD, NEW MEXICO

SECTION 22, TOWNSHIP 23 SOUTH, RANGE 33 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
ACCESS AERIAL ROUTE MAP



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
NOVEMBER 2017

DEVON ENERGY PRODUCTION COMPANY, L.P.

THISTLE UNIT 182H

LOCATED 160 FT. FROM THE NORTH LINE
AND 1800 FT. FROM THE WEST LINE OF
SECTION 22, TOWNSHIP 23 SOUTH,
RANGE 33 EAST, N.M.P.M.

LEA COUNTY, STATE OF NEW MEXICO
LAND STATUS: STATE

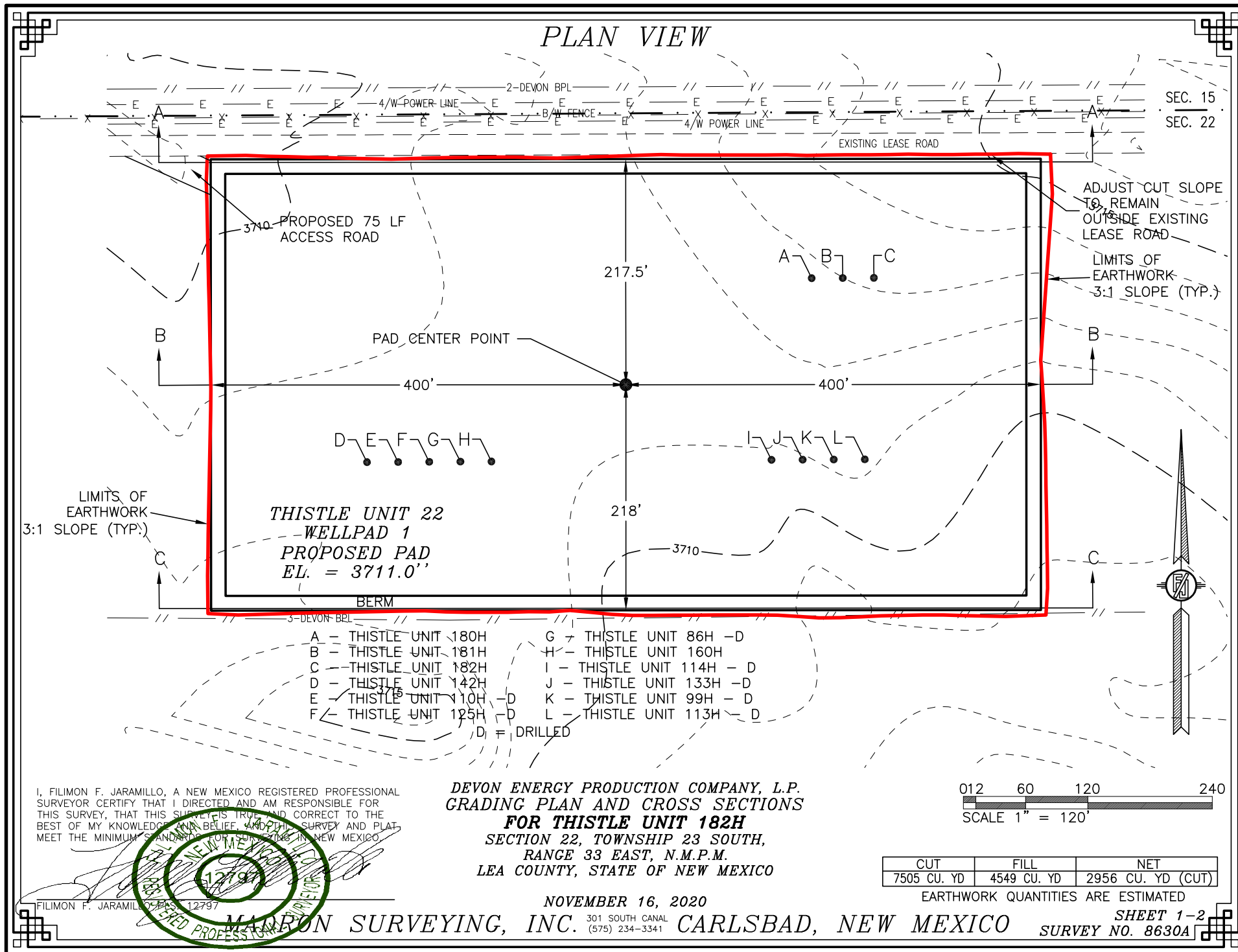
NOVEMBER 16, 2020

SURVEY NO. 8630A

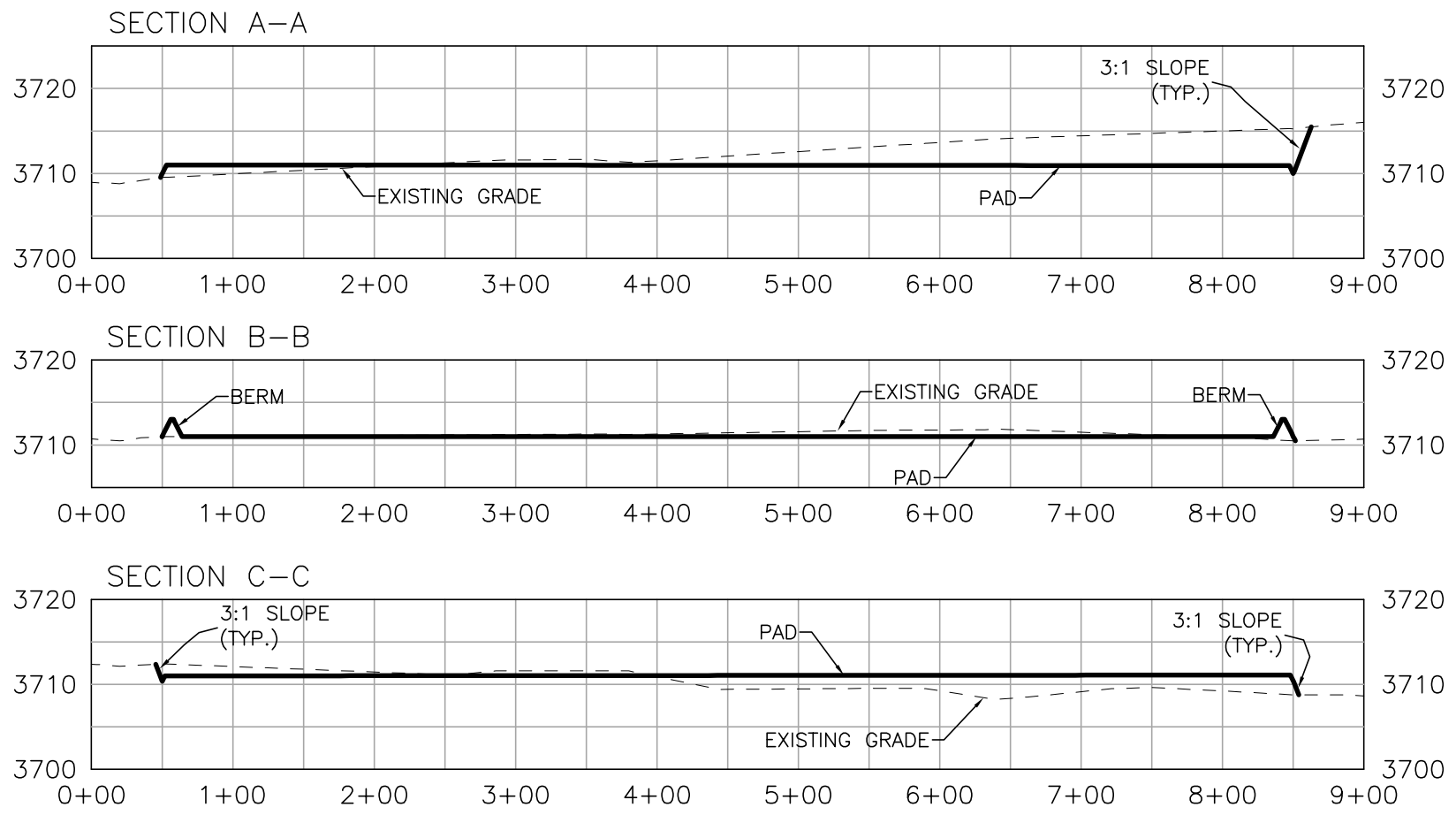
MADRON SURVEYING, INC.

301 SOUTH CANAL
(575) 234-3341

CARLSBAD, NEW MEXICO



CROSS SECTIONS



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

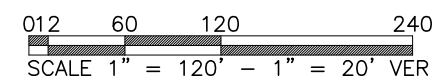


DEVON ENERGY PRODUCTION COMPANY, L.P.
GRADING PLAN AND CROSS SECTIONS
FOR THISTLE UNIT 182H
SECTION 22, TOWNSHIP 23 SOUTH,
RANGE 33 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

NOVEMBER 16, 2020

FILIMON F. JARAMILLO, 12797

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



CUT	FILL	NET
7505 CU. YD	4549 CU. YD	2956 CU. YD (CUT)

EARTHWORK QUANTITIES ARE ESTIMATED

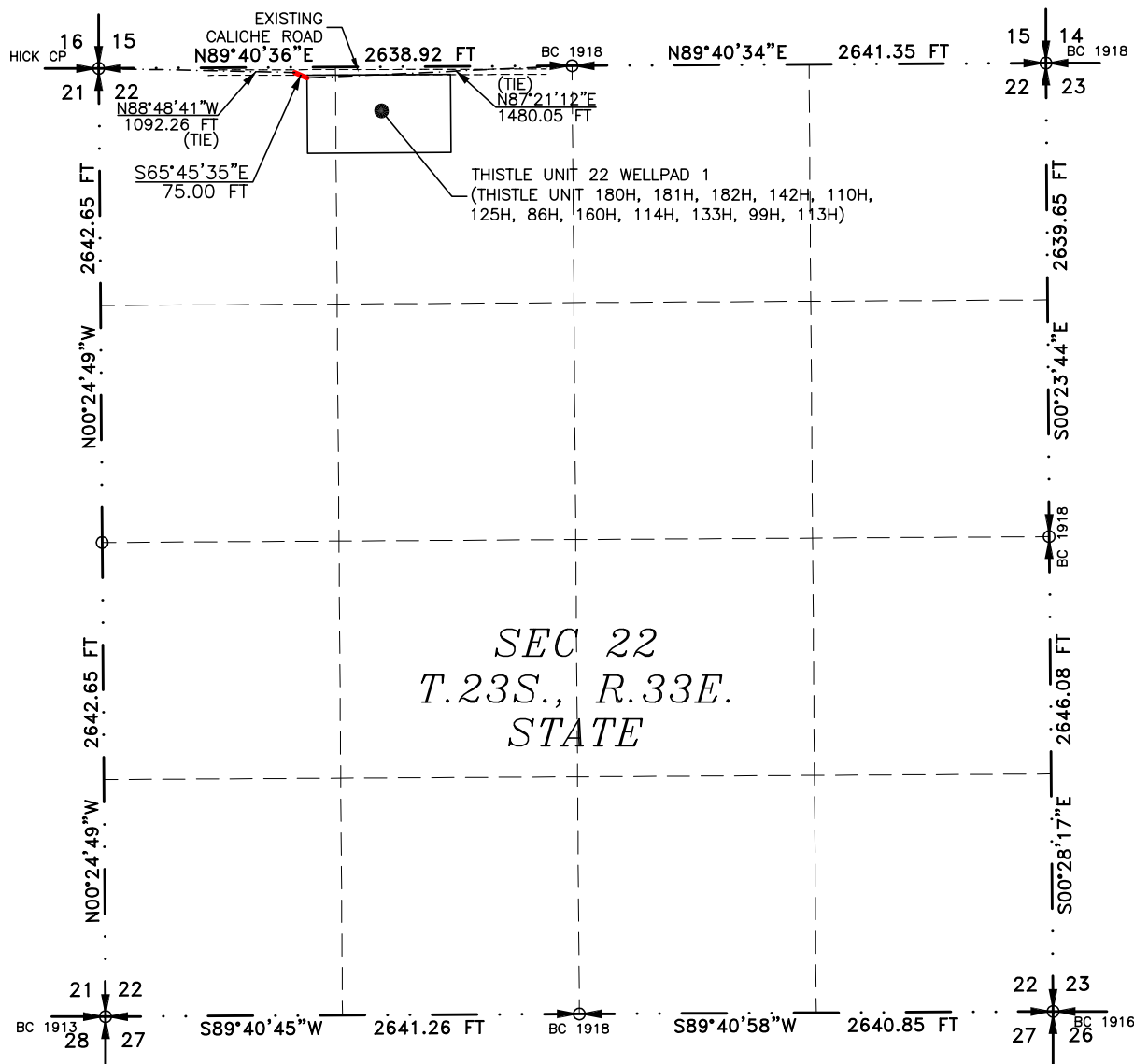
SHEET 2-2
SURVEY NO. 8630A

ACCESS ROAD PLAT (AA000084090)

ACCESS ROAD TO THISTLE UNIT 22 WELLPAD 1

(THISTLE UNIT 180H, 181H, 182H, 142H, 110H, 125H, 86H, 160H, 114H, 133H, 99H, 113H)

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 22, TOWNSHIP 23 SOUTH, RANGE 33 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
NOVEMBER 16, 2020



SEE NEXT SHEET (2-2) 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 17TH DAY OF NOVEMBER 2020.

FILIMON F. JARAMILLO, PLS. 12797
 NEW MEXICO SURVEYOR
 12797

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

SURVEY NO. 8630A

MADRON SURVEYING, INC. 301 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 AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SHEET: 1-2

ACCESS ROAD PLAT (AA000084090)

ACCESS ROAD TO THISTLE UNIT 22 WELLPAD 1

(THISTLE UNIT 180H, 181H, 182H, 142H, 110H, 125H, 86H, 160H, 114H, 133H, 99H, 113H)

**DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 22, TOWNSHIP 23 SOUTH, RANGE 33 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
NOVEMBER 16, 2020**

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING STATE OF NEW MEXICO LAND IN SECTION 22, TOWNSHIP 23 SOUTH, RANGE 33 EAST, N.M.P.M., LEA 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 22, TOWNSHIP 23 SOUTH, RANGE 33 EAST, N.M.P.M., WHENCE THE NORTHWEST CORNER OF SAID SECTION 22, TOWNSHIP 23 SOUTH, RANGE 33 EAST, N.M.P.M. BEARS N88°48'41"W, A DISTANCE OF 1092.26 FEET;

THENCE S65°45'35"E A DISTANCE OF 75.00 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 22, TOWNSHIP 23 SOUTH, RANGE 33 EAST, N.M.P.M. BEARS N87°21'12"E, A DISTANCE OF 1480.05 FEET;

SAID STRIP OF LAND BEING 75.00 FEET OR 4.55 RODS IN LENGTH, CONTAINING 0.052 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NW/4 NW/4 75.00 L.F. 4.55 RODS 0.052 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: 2-2

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

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 17TH DAY OF NOVEMBER 2020.

FILIMON F. JARAMILLO, PLS. 12797
MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

SURVEY NO. 8630A

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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

GAS CAPTURE PLAN

Date: 12/3/2020

☒ Original

Operator & OGRID No.: [6137] DEVON ENERGY PRODUCTION COMPANY, LP

☐ Amended - Reason for
Amendment: _____

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomple to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
THISTLE UNIT #182H	30-025-48097	C-22-23S-33E	0160N 1800W	7	None	

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to LUCID ENERGY DELAWARE, LLC and will be connected to LUCID ENERGY DELAWARE, LLC High/Low Pressure gathering system located in Lea County, New Mexico. It will require 0' of pipeline to connect the facility to High/Low Pressure gathering system. DEVON ENERGY PRODUCTION COMPANY, LP provides (periodically) to LUCID ENERGY DELAWARE, LLC a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, DEVON ENERGY PRODUCTION COMPANY, LP and LUCID ENERGY DELAWARE, LLC have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at LUCID ENERGY DELAWARE, LLC Processing Plant located in Sec. 03, Twn. 22S, Rng. 37E, Lea County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on LUCID ENERGY DELAWARE, LLC system at that time. Based on current information, it is DEVON ENERGY PRODUCTION COMPANY, LP's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
 - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
 - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
 - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

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

District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form APD Comments

Permit 289553

PERMIT COMMENTS

Operator Name and Address: DEVON ENERGY PRODUCTION COMPANY, LP [6137] 333 West Sheridan Ave. Oklahoma City, OK 73102		API Number: 30-025-48097
		Well: THISTLE UNIT #182H
Created By	Comment	Comment Date

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 Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form APD Conditions

Permit 289553

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address: DEVON ENERGY PRODUCTION COMPANY, LP [6137] 333 West Sheridan Ave. Oklahoma City, OK 73102	API Number: 30-025-48097
	Well: THISTLE UNIT #182H

OCD Reviewer	Condition
pkautz	Will require a directional survey with the C-104
pkautz	1) SURFACE & INTERMEDIATE CASING - Cement must circulate to surface -- 2) PRODUCTION CASING - Cement must tie back into intermediate casing --
pkautz	If cement does not circulate to surface, must run temperature survey or other log to determine top of cement
pkautz	Surface casing must be set 25' below top of Rustler Anhydrite in order to seal off protectable water
pkautz	1)- The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud 2)- Drilling Sundries Form C-103 (Casing and Cement test are to be submitted within 10 days 3)- Completion Reports & Logs are to be submitted within 45 days 4)- Deviation / Directional Drill Survey are to be filed with or prior to C-104
pkautz	It is the operator's responsibility to monitor cancellation dates of approved APDs. APD's are good for 2 years and may be extended for one year. Only one 1 year extension will be granted if submitted by C-103 before expiration date. After expiration date or after a 1 year extension must submit new APD. If an APD expires and if site construction has occurred, site remediation is required.
pkautz	Stage Tool 1) Must notify OCD Hobbs Office prior to running Stage Tool at 5753703186 2) If using Stage Tool on Surface casing, Stage Tool must be set greater than 350' from surface and a minimum of 200 feet above surface shoe. 3) When using a Stage Tool on Intermediate or Production Casing Stage must be a minimum of 50 feet below previous casing shoe.

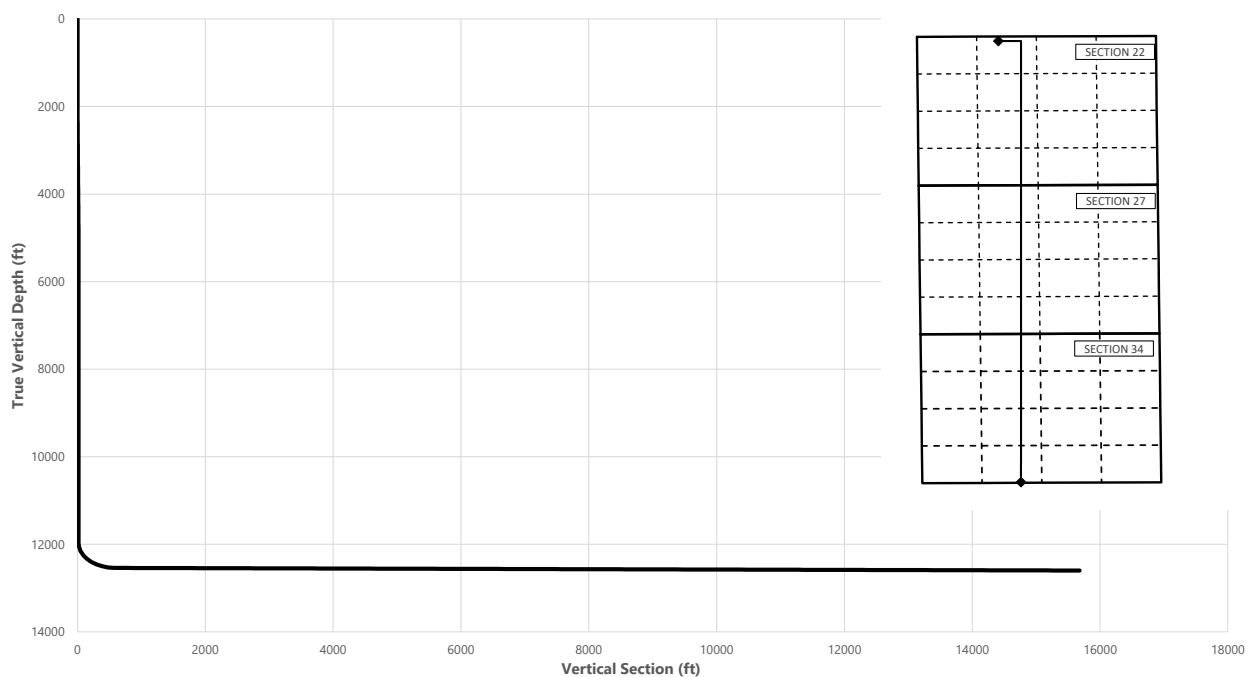
Thistle Unit 182H



Well: Thistle Unit 182H
County: Lea
Wellbore: Permit Plan
Design: Permit Plan #1

Geodetic System: US State Plane 1983
Datum: North American Datum 1927
Ellipsoid: Clarke 1866
Zone: 3001 - NM East (NAD83)

MD (ft)	INC (°)	AZI (°)	TVD (ft)	NS (ft)	EW (ft)	VS (ft)	DLS (°/100ft)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL
2000.00	0.00	90.00	2000.00	0.00	0.00	0.00	0.00	Start Tangent
2500.00	10.00	90.00	2497.47	0.00	43.52	1.38	1.00	Hold Tangent
4863.16	10.00	90.00	4824.72	0.00	453.88	14.40	0.00	Drop to Vertical
5363.16	0.00	90.00	5322.19	0.00	497.40	15.78	2.00	Hold Vertical
12008.02	0.00	180.00	11967.05	0.00	497.40	15.78	0.00	KOP
12905.74	89.77	180.00	12540.00	-570.68	497.40	586.17	10.00	Landing Point
28007.70	89.77	180.00	12600.00	-15672.52	497.40	15680.41	0.00	BHL



Key Depths	MD (ft)	TVD (ft)
Rustler	0.00	0.00
Salt	1869.00	1869.00
Base of Salt	5220.91	5180.00
Lamar	5220.91	5180.00
Delaware	5297.97	5257.00
Cherry Canyon	6235.97	6195.00
Brushy Canyon	7631.97	7591.00
1st Bone Spring Lime	9109.97	9069.00
Bone Spring 1st	10282.97	10242.00
Bone Spring 2nd	10870.97	10830.00
3rd Bone Spring Lime	11446.97	11406.00
Bone Spring 3rd	12021.97	11981.00
Wolfcamp / Point of Penetration	12360.85	12298.00
exit	27927.70	12599.70

SHL
KOP
Point of Penetration
Exit
BHL

MD (ft)	TVD (ft)	Lat (°)	Long (°)	Section Footages
0.00	0.00	32.2969	-103.5630	160' FNL, 1800' FWL of Sec 22 in T23S, R33E
12008.02	11967.05	32.2969	-103.5614	163' FNL, 2297' FWL of Sec 22 in T23S, R33E
12360.85	12298.00	32.2972	-103.5617	100' FNL, 2180' FWL of Sec 22 in T23S, R33E
27927.70	12599.70	32.2542	-103.5617	100' FSL, 2180' FWL of Sec 34 in T23S, R33E
28007.70	12600.00	32.2538	-103.5618	20' FSL, 2180' FWL of Sec 34 in T23S, R33E

Thistle Unit 182H



Well: Thistle Unit 182H
County: Lea
Wellbore: Permit Plan
Design: Permit Plan #1

Geodetic System: US State Plane 1983
Datum: North American Datum 1927
Ellipsoid: Clarke 1866
Zone: 3001 - NM East (NAD83)

MD (ft)	INC (°)	AZI (°)	TVD (ft)	NS (ft)	EW (ft)	VS (ft)	DLS (°/100ft)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL
100.00	0.00	90.00	100.00	0.00	0.00	0.00	0.00	
200.00	0.00	90.00	200.00	0.00	0.00	0.00	0.00	
300.00	0.00	90.00	300.00	0.00	0.00	0.00	0.00	
400.00	0.00	90.00	400.00	0.00	0.00	0.00	0.00	
500.00	0.00	90.00	500.00	0.00	0.00	0.00	0.00	
600.00	0.00	90.00	600.00	0.00	0.00	0.00	0.00	
700.00	0.00	90.00	700.00	0.00	0.00	0.00	0.00	
800.00	0.00	90.00	800.00	0.00	0.00	0.00	0.00	
900.00	0.00	90.00	900.00	0.00	0.00	0.00	0.00	
1000.00	0.00	90.00	1000.00	0.00	0.00	0.00	0.00	
1100.00	0.00	90.00	1100.00	0.00	0.00	0.00	0.00	
1200.00	0.00	90.00	1200.00	0.00	0.00	0.00	0.00	
1300.00	0.00	90.00	1300.00	0.00	0.00	0.00	0.00	
1365.00	0.00	90.00	1365.00	0.00	0.00	0.00	0.00	Rustler
1400.00	0.00	90.00	1400.00	0.00	0.00	0.00	0.00	
1500.00	0.00	90.00	1500.00	0.00	0.00	0.00	0.00	
1600.00	0.00	90.00	1600.00	0.00	0.00	0.00	0.00	
1700.00	0.00	90.00	1700.00	0.00	0.00	0.00	0.00	
1800.00	0.00	90.00	1800.00	0.00	0.00	0.00	0.00	
1869.00	0.00	90.00	1869.00	0.00	0.00	0.00	0.00	Salt
1900.00	0.00	90.00	1900.00	0.00	0.00	0.00	0.00	
2000.00	0.00	90.00	2000.00	0.00	0.00	0.00	0.00	Start Tangent
2100.00	2.00	90.00	2099.98	0.00	1.75	0.06	2.00	
2200.00	4.00	90.00	2199.84	0.00	6.98	0.22	2.00	
2300.00	6.00	90.00	2299.45	0.00	15.69	0.50	2.00	
2400.00	8.00	90.00	2398.70	0.00	27.88	0.88	2.00	
2500.00	10.00	90.00	2497.47	0.00	43.52	1.38	1.00	Hold Tangent
2600.00	10.00	90.00	2595.95	0.00	60.89	1.93	0.00	
2700.00	10.00	90.00	2694.43	0.00	78.25	2.48	0.00	
2800.00	10.00	90.00	2792.91	0.00	95.62	3.03	0.00	
2900.00	10.00	90.00	2891.39	0.00	112.98	3.58	0.00	
3000.00	10.00	90.00	2989.87	0.00	130.35	4.13	0.00	
3100.00	10.00	90.00	3088.35	0.00	147.71	4.69	0.00	
3200.00	10.00	90.00	3186.83	0.00	165.08	5.24	0.00	
3300.00	10.00	90.00	3285.31	0.00	182.44	5.79	0.00	
3400.00	10.00	90.00	3383.79	0.00	199.81	6.34	0.00	
3500.00	10.00	90.00	3482.27	0.00	217.17	6.89	0.00	
3600.00	10.00	90.00	3580.75	0.00	234.54	7.44	0.00	
3700.00	10.00	90.00	3679.23	0.00	251.90	7.99	0.00	
3800.00	10.00	90.00	3777.72	0.00	269.27	8.54	0.00	
3900.00	10.00	90.00	3876.20	0.00	286.63	9.09	0.00	
4000.00	10.00	90.00	3974.68	0.00	303.99	9.64	0.00	
4100.00	10.00	90.00	4073.16	0.00	321.36	10.19	0.00	
4200.00	10.00	90.00	4171.64	0.00	338.72	10.74	0.00	
4300.00	10.00	90.00	4270.12	0.00	356.09	11.30	0.00	
4400.00	10.00	90.00	4368.60	0.00	373.45	11.85	0.00	
4500.00	10.00	90.00	4467.08	0.00	390.82	12.40	0.00	
4600.00	10.00	90.00	4565.56	0.00	408.18	12.95	0.00	
4700.00	10.00	90.00	4664.04	0.00	425.55	13.50	0.00	
4800.00	10.00	90.00	4762.52	0.00	442.91	14.05	0.00	
4863.16	10.00	90.00	4824.72	0.00	453.88	14.40	0.00	Drop to Vertical
4900.00	9.26	90.00	4861.04	0.00	460.04	14.59	2.00	
5000.00	7.26	90.00	4960.00	0.00	474.42	15.05	2.00	
5100.00	5.26	90.00	5059.40	0.00	485.32	15.40	2.00	
5200.00	3.26	90.00	5159.12	0.00	492.76	15.63	2.00	
5220.91	2.84	90.00	5180.00	0.00	493.87	15.67	2.00	Base of Salt, Lamar
5297.97	1.30	90.00	5257.00	0.00	496.66	15.76	2.00	Delaware
5300.00	1.26	90.00	5259.03	0.00	496.71	15.76	2.00	
5363.16	0.00	90.00	5322.19	0.00	497.40	15.78	2.00	Hold Vertical
5400.00	0.00	180.00	5359.03	0.00	497.40	15.78	0.00	
5500.00	0.00	180.00	5459.03	0.00	497.40	15.78	0.00	
5600.00	0.00	180.00	5559.03	0.00	497.40	15.78	0.00	
5700.00	0.00	180.00	5659.03	0.00	497.40	15.78	0.00	
5800.00	0.00	180.00	5759.03	0.00	497.40	15.78	0.00	
5900.00	0.00	180.00	5859.03	0.00	497.40	15.78	0.00	
6000.00	0.00	180.00	5959.03	0.00	497.40	15.78	0.00	
6100.00	0.00	180.00	6059.03	0.00	497.40	15.78	0.00	
6200.00	0.00	180.00	6159.03	0.00	497.40	15.78	0.00	
6235.97	0.00	180.00	6195.00	0.00	497.40	15.78	0.00	Cherry Canyon

Thistle Unit 182H



Well: Thistle Unit 182H
County: Lea
Wellbore: Permit Plan
Design: Permit Plan #1

Geodetic System: US State Plane 1983
Datum: North American Datum 1927
Ellipsoid: Clarke 1866
Zone: 3001 - NM East (NAD83)

MD (ft)	INC (")	AZI (")	TVD (ft)	NS (ft)	EW (ft)	VS (ft)	DLS (°/100ft)	Comment
6300.00	0.00	180.00	6259.03	0.00	497.40	15.78	0.00	
6400.00	0.00	180.00	6359.03	0.00	497.40	15.78	0.00	
6500.00	0.00	180.00	6459.03	0.00	497.40	15.78	0.00	
6600.00	0.00	180.00	6559.03	0.00	497.40	15.78	0.00	
6700.00	0.00	180.00	6659.03	0.00	497.40	15.78	0.00	
6800.00	0.00	180.00	6759.03	0.00	497.40	15.78	0.00	
6900.00	0.00	180.00	6859.03	0.00	497.40	15.78	0.00	
7000.00	0.00	180.00	6959.03	0.00	497.40	15.78	0.00	
7100.00	0.00	180.00	7059.03	0.00	497.40	15.78	0.00	
7200.00	0.00	180.00	7159.03	0.00	497.40	15.78	0.00	
7300.00	0.00	180.00	7259.03	0.00	497.40	15.78	0.00	
7400.00	0.00	180.00	7359.03	0.00	497.40	15.78	0.00	
7500.00	0.00	180.00	7459.03	0.00	497.40	15.78	0.00	
7600.00	0.00	180.00	7559.03	0.00	497.40	15.78	0.00	
7631.97	0.00	180.00	7591.00	0.00	497.40	15.78	0.00	Brushy Canyon
7700.00	0.00	180.00	7659.03	0.00	497.40	15.78	0.00	
7800.00	0.00	180.00	7759.03	0.00	497.40	15.78	0.00	
7900.00	0.00	180.00	7859.03	0.00	497.40	15.78	0.00	
8000.00	0.00	180.00	7959.03	0.00	497.40	15.78	0.00	
8100.00	0.00	180.00	8059.03	0.00	497.40	15.78	0.00	
8200.00	0.00	180.00	8159.03	0.00	497.40	15.78	0.00	
8300.00	0.00	180.00	8259.03	0.00	497.40	15.78	0.00	
8400.00	0.00	180.00	8359.03	0.00	497.40	15.78	0.00	
8500.00	0.00	180.00	8459.03	0.00	497.40	15.78	0.00	
8600.00	0.00	180.00	8559.03	0.00	497.40	15.78	0.00	
8700.00	0.00	180.00	8659.03	0.00	497.40	15.78	0.00	
8800.00	0.00	180.00	8759.03	0.00	497.40	15.78	0.00	
8900.00	0.00	180.00	8859.03	0.00	497.40	15.78	0.00	
9000.00	0.00	180.00	8959.03	0.00	497.40	15.78	0.00	
9100.00	0.00	180.00	9059.03	0.00	497.40	15.78	0.00	
9109.97	0.00	180.00	9069.00	0.00	497.40	15.78	0.00	1st Bone Spring Lime
9200.00	0.00	180.00	9159.03	0.00	497.40	15.78	0.00	
9300.00	0.00	180.00	9259.03	0.00	497.40	15.78	0.00	
9400.00	0.00	180.00	9359.03	0.00	497.40	15.78	0.00	
9500.00	0.00	180.00	9459.03	0.00	497.40	15.78	0.00	
9600.00	0.00	180.00	9559.03	0.00	497.40	15.78	0.00	
9700.00	0.00	180.00	9659.03	0.00	497.40	15.78	0.00	
9800.00	0.00	180.00	9759.03	0.00	497.40	15.78	0.00	
9900.00	0.00	180.00	9859.03	0.00	497.40	15.78	0.00	
10000.00	0.00	180.00	9959.03	0.00	497.40	15.78	0.00	
10100.00	0.00	180.00	10059.03	0.00	497.40	15.78	0.00	
10200.00	0.00	180.00	10159.03	0.00	497.40	15.78	0.00	
10282.97	0.00	180.00	10242.00	0.00	497.40	15.78	0.00	Bone Spring 1st
10300.00	0.00	180.00	10259.03	0.00	497.40	15.78	0.00	
10400.00	0.00	180.00	10359.03	0.00	497.40	15.78	0.00	
10500.00	0.00	180.00	10459.03	0.00	497.40	15.78	0.00	
10600.00	0.00	180.00	10559.03	0.00	497.40	15.78	0.00	
10700.00	0.00	180.00	10659.03	0.00	497.40	15.78	0.00	
10800.00	0.00	180.00	10759.03	0.00	497.40	15.78	0.00	
10870.97	0.00	180.00	10830.00	0.00	497.40	15.78	0.00	Bone Spring 2nd
10900.00	0.00	180.00	10859.03	0.00	497.40	15.78	0.00	
11000.00	0.00	180.00	10959.03	0.00	497.40	15.78	0.00	
11100.00	0.00	180.00	11059.03	0.00	497.40	15.78	0.00	
11200.00	0.00	180.00	11159.03	0.00	497.40	15.78	0.00	
11300.00	0.00	180.00	11259.03	0.00	497.40	15.78	0.00	
11400.00	0.00	180.00	11359.03	0.00	497.40	15.78	0.00	
11446.97	0.00	180.00	11406.00	0.00	497.40	15.78	0.00	3rd Bone Spring Lime
11500.00	0.00	180.00	11459.03	0.00	497.40	15.78	0.00	
11600.00	0.00	180.00	11559.03	0.00	497.40	15.78	0.00	
11700.00	0.00	180.00	11659.03	0.00	497.40	15.78	0.00	
11800.00	0.00	180.00	11759.03	0.00	497.40	15.78	0.00	
11900.00	0.00	180.00	11859.03	0.00	497.40	15.78	0.00	
12000.00	0.00	180.00	11959.03	0.00	497.40	15.78	0.00	
12008.02	0.00	180.00	11967.05	0.00	497.40	15.78	0.00	KOP
12021.97	1.40	180.00	11981.00	-0.17	497.40	15.95	10.00	Bone Spring 3rd
12100.00	9.20	180.00	12058.63	-7.37	497.40	23.14	10.00	
12200.00	19.20	180.00	12155.46	-31.86	497.40	47.63	10.00	
12300.00	29.20	180.00	12246.55	-72.80	497.40	88.54	10.00	
12360.85	35.28	180.00	12298.00	-105.25	497.40	120.98	10.00	Wolfcamp / Point of Penetration
12400.00	39.20	180.00	12329.16	-128.94	497.40	144.65	10.00	

Thistle Unit 182H



Well: Thistle Unit 182H
County: Lea
Wellbore: Permit Plan
Design: Permit Plan #1

Geodetic System: US State Plane 1983
Datum: North American Datum 1927
Ellipsoid: Clarke 1866
Zone: 3001 - NM East (NAD83)

MD (ft)	INC (°)	AZI (°)	TVD (ft)	NS (ft)	EW (ft)	VS (ft)	DLS (°/100ft)	Comment
12500.00	49.20	180.00	12400.76	-198.56	497.40	214.24	10.00	
12600.00	59.20	180.00	12459.19	-279.56	497.40	295.20	10.00	
12700.00	69.20	180.00	12502.66	-369.48	497.40	385.07	10.00	
12800.00	79.20	180.00	12529.85	-465.58	497.40	481.12	10.00	
12900.00	89.20	180.00	12539.95	-564.94	497.40	580.44	10.00	
12905.74	89.77	180.00	12540.00	-570.68	497.40	586.17	10.00	Landing Point
13000.00	89.77	180.00	12540.37	-664.94	497.40	680.38	0.00	
13100.00	89.77	180.00	12540.77	-764.94	497.40	780.33	0.00	
13200.00	89.77	180.00	12541.17	-864.94	497.40	880.28	0.00	
13300.00	89.77	180.00	12541.57	-964.94	497.40	980.23	0.00	
13400.00	89.77	180.00	12541.96	-1064.94	497.40	1080.18	0.00	
13500.00	89.77	180.00	12542.36	-1164.94	497.40	1180.13	0.00	
13600.00	89.77	180.00	12542.76	-1264.94	497.40	1280.08	0.00	
13700.00	89.77	180.00	12543.16	-1364.93	497.40	1380.03	0.00	
13800.00	89.77	180.00	12543.55	-1464.93	497.41	1479.98	0.00	
13900.00	89.77	180.00	12543.95	-1564.93	497.41	1579.92	0.00	
14000.00	89.77	180.00	12544.35	-1664.93	497.41	1679.87	0.00	
14100.00	89.77	180.00	12544.75	-1764.93	497.41	1779.82	0.00	
14200.00	89.77	180.00	12545.14	-1864.93	497.41	1879.77	0.00	
14300.00	89.77	180.00	12545.54	-1964.93	497.41	1979.72	0.00	
14400.00	89.77	180.00	12545.94	-2064.93	497.41	2079.67	0.00	
14500.00	89.77	180.00	12546.34	-2164.93	497.41	2179.62	0.00	
14600.00	89.77	180.00	12546.73	-2264.93	497.41	2279.57	0.00	
14700.00	89.77	180.00	12547.13	-2364.93	497.41	2379.52	0.00	
14800.00	89.77	180.00	12547.53	-2464.93	497.41	2479.46	0.00	
14900.00	89.77	180.00	12547.93	-2564.92	497.41	2579.41	0.00	
15000.00	89.77	180.00	12548.32	-2664.92	497.41	2679.36	0.00	
15100.00	89.77	180.00	12548.72	-2764.92	497.41	2779.31	0.00	
15200.00	89.77	180.00	12549.12	-2864.92	497.41	2879.26	0.00	
15300.00	89.77	180.00	12549.52	-2964.92	497.41	2979.21	0.00	
15400.00	89.77	180.00	12549.91	-3064.92	497.41	3079.16	0.00	
15500.00	89.77	180.00	12550.31	-3164.92	497.41	3179.11	0.00	
15600.00	89.77	180.00	12550.71	-3264.92	497.41	3279.06	0.00	
15700.00	89.77	180.00	12551.11	-3364.92	497.41	3379.00	0.00	
15800.00	89.77	180.00	12551.50	-3464.92	497.41	3478.95	0.00	
15900.00	89.77	180.00	12551.90	-3564.92	497.41	3578.90	0.00	
16000.00	89.77	180.00	12552.30	-3664.92	497.41	3678.85	0.00	
16100.00	89.77	180.00	12552.70	-3764.92	497.41	3778.80	0.00	
16200.00	89.77	180.00	12553.09	-3864.91	497.41	3878.75	0.00	
16300.00	89.77	180.00	12553.49	-3964.91	497.41	3978.70	0.00	
16400.00	89.77	180.00	12553.89	-4064.91	497.41	4078.65	0.00	
16500.00	89.77	180.00	12554.28	-4164.91	497.41	4178.60	0.00	
16600.00	89.77	180.00	12554.68	-4264.91	497.41	4278.54	0.00	
16700.00	89.77	180.00	12555.08	-4364.91	497.41	4378.49	0.00	
16800.00	89.77	180.00	12555.48	-4464.91	497.41	4478.44	0.00	
16900.00	89.77	180.00	12555.87	-4564.91	497.41	4578.39	0.00	
17000.00	89.77	180.00	12556.27	-4664.91	497.41	4678.34	0.00	
17100.00	89.77	180.00	12556.67	-4764.91	497.41	4778.29	0.00	
17200.00	89.77	180.00	12557.07	-4864.91	497.41	4878.24	0.00	
17300.00	89.77	180.00	12557.46	-4964.91	497.41	4978.19	0.00	
17400.00	89.77	180.00	12557.86	-5064.91	497.41	5078.14	0.00	
17500.00	89.77	180.00	12558.26	-5164.90	497.42	5178.08	0.00	
17600.00	89.77	180.00	12558.66	-5264.90	497.42	5278.03	0.00	
17700.00	89.77	180.00	12559.05	-5364.90	497.42	5377.98	0.00	
17800.00	89.77	180.00	12559.45	-5464.90	497.42	5477.93	0.00	
17900.00	89.77	180.00	12559.85	-5564.90	497.42	5577.88	0.00	
18000.00	89.77	180.00	12560.25	-5664.90	497.42	5677.83	0.00	
18100.00	89.77	180.00	12560.64	-5764.90	497.42	5777.78	0.00	
18200.00	89.77	180.00	12561.04	-5864.90	497.42	5877.73	0.00	
18300.00	89.77	180.00	12561.44	-5964.90	497.42	5977.68	0.00	
18400.00	89.77	180.00	12561.84	-6064.90	497.42	6077.62	0.00	
18500.00	89.77	180.00	12562.23	-6164.90	497.42	6177.57	0.00	
18600.00	89.77	180.00	12562.63	-6264.90	497.42	6277.52	0.00	
18700.00	89.77	180.00	12563.03	-6364.89	497.42	6377.47	0.00	
18800.00	89.77	180.00	12563.43	-6464.89	497.42	6477.42	0.00	
18900.00	89.77	180.00	12563.82	-6564.89	497.42	6577.37	0.00	
19000.00	89.77	180.00	12564.22	-6664.89	497.42	6677.32	0.00	
19100.00	89.77	180.00	12564.62	-6764.89	497.42	6777.27	0.00	
19200.00	89.77	180.00	12565.02	-6864.89	497.42	6877.22	0.00	
19300.00	89.77	180.00	12565.41	-6964.89	497.42	6977.16	0.00	

Thistle Unit 182H



Well: Thistle Unit 182H
County: Lea
Wellbore: Permit Plan
Design: Permit Plan #1

Geodetic System: US State Plane 1983
Datum: North American Datum 1927
Ellipsoid: Clarke 1866
Zone: 3001 - NM East (NAD83)

MD (ft)	INC (°)	AZI (°)	TVD (ft)	NS (ft)	EW (ft)	VS (ft)	DLS (°/100ft)	Comment
19400.00	89.77	180.00	12565.81	-7064.89	497.42	7077.11	0.00	
19500.00	89.77	180.00	12566.21	-7164.89	497.42	7177.06	0.00	
19600.00	89.77	180.00	12566.61	-7264.89	497.42	7277.01	0.00	
19700.00	89.77	180.00	12567.00	-7364.89	497.42	7376.96	0.00	
19800.00	89.77	180.00	12567.40	-7464.89	497.42	7476.91	0.00	
19900.00	89.77	180.00	12567.80	-7564.89	497.42	7576.86	0.00	
20000.00	89.77	180.00	12568.19	-7664.88	497.42	7676.81	0.00	
20100.00	89.77	180.00	12568.59	-7764.88	497.42	7776.76	0.00	
20200.00	89.77	180.00	12568.99	-7864.88	497.42	7876.70	0.00	
20300.00	89.77	180.00	12569.39	-7964.88	497.42	7976.65	0.00	
20400.00	89.77	180.00	12569.78	-8064.88	497.42	8076.60	0.00	
20500.00	89.77	180.00	12570.18	-8164.88	497.42	8176.55	0.00	
20600.00	89.77	180.00	12570.58	-8264.88	497.42	8276.50	0.00	
20700.00	89.77	180.00	12570.98	-8364.88	497.42	8376.45	0.00	
20800.00	89.77	180.00	12571.37	-8464.88	497.42	8476.40	0.00	
20900.00	89.77	180.00	12571.77	-8564.88	497.42	8576.35	0.00	
21000.00	89.77	180.00	12572.17	-8664.88	497.42	8676.30	0.00	
21100.00	89.77	180.00	12572.57	-8764.88	497.42	8776.24	0.00	
21200.00	89.77	180.00	12572.96	-8864.88	497.42	8876.19	0.00	
21300.00	89.77	180.00	12573.36	-8964.87	497.43	8976.14	0.00	
21400.00	89.77	180.00	12573.76	-9064.87	497.43	9076.09	0.00	
21500.00	89.77	180.00	12574.16	-9164.87	497.43	9176.04	0.00	
21600.00	89.77	180.00	12574.55	-9264.87	497.43	9275.99	0.00	
21700.00	89.77	180.00	12574.95	-9364.87	497.43	9375.94	0.00	
21800.00	89.77	180.00	12575.35	-9464.87	497.43	9475.89	0.00	
21900.00	89.77	180.00	12575.75	-9564.87	497.43	9575.84	0.00	
22000.00	89.77	180.00	12576.14	-9664.87	497.43	9675.78	0.00	
22100.00	89.77	180.00	12576.54	-9764.87	497.43	9775.73	0.00	
22200.00	89.77	180.00	12576.94	-9864.87	497.43	9875.68	0.00	
22300.00	89.77	180.00	12577.34	-9964.87	497.43	9975.63	0.00	
22400.00	89.77	180.00	12577.73	-10064.87	497.43	10075.58	0.00	
22500.00	89.77	180.00	12578.13	-10164.86	497.43	10175.53	0.00	
22600.00	89.77	180.00	12578.53	-10264.86	497.43	10275.48	0.00	
22700.00	89.77	180.00	12578.93	-10364.86	497.43	10375.43	0.00	
22800.00	89.77	180.00	12579.32	-10464.86	497.43	10475.38	0.00	
22900.00	89.77	180.00	12579.72	-10564.86	497.43	10575.32	0.00	
23000.00	89.77	180.00	12580.12	-10664.86	497.43	10675.27	0.00	
23100.00	89.77	180.00	12580.52	-10764.86	497.43	10775.22	0.00	
23200.00	89.77	180.00	12580.91	-10864.86	497.43	10875.17	0.00	
23300.00	89.77	180.00	12581.31	-10964.86	497.43	10975.12	0.00	
23400.00	89.77	180.00	12581.71	-11064.86	497.43	11075.07	0.00	
23500.00	89.77	180.00	12582.10	-11164.86	497.43	11175.02	0.00	
23600.00	89.77	180.00	12582.50	-11264.86	497.43	11274.97	0.00	
23700.00	89.77	180.00	12582.90	-11364.86	497.43	11374.92	0.00	
23800.00	89.77	180.00	12583.30	-11464.85	497.43	11474.86	0.00	
23900.00	89.77	180.00	12583.69	-11564.85	497.43	11574.81	0.00	
24000.00	89.77	180.00	12584.09	-11664.85	497.43	11674.76	0.00	
24100.00	89.77	180.00	12584.49	-11764.85	497.43	11774.71	0.00	
24200.00	89.77	180.00	12584.89	-11864.85	497.43	11874.66	0.00	
24300.00	89.77	180.00	12585.28	-11964.85	497.43	11974.61	0.00	
24400.00	89.77	180.00	12585.68	-12064.85	497.43	12074.56	0.00	
24500.00	89.77	180.00	12586.08	-12164.85	497.43	12174.51	0.00	
24600.00	89.77	180.00	12586.48	-12264.85	497.43	12274.46	0.00	
24700.00	89.77	180.00	12586.87	-12364.85	497.43	12374.40	0.00	
24800.00	89.77	180.00	12587.27	-12464.85	497.43	12474.35	0.00	
24900.00	89.77	180.00	12587.67	-12564.85	497.43	12574.30	0.00	
25000.00	89.77	180.00	12588.07	-12664.85	497.43	12674.25	0.00	
25100.00	89.77	180.00	12588.46	-12764.84	497.44	12774.20	0.00	
25200.00	89.77	180.00	12588.86	-12864.84	497.44	12874.15	0.00	
25300.00	89.77	180.00	12589.26	-12964.84	497.44	12974.10	0.00	
25400.00	89.77	180.00	12589.66	-13064.84	497.44	13074.05	0.00	
25500.00	89.77	180.00	12590.05	-13164.84	497.44	13174.00	0.00	#####
25600.00	89.77	180.00	12590.45	-13264.84	497.44	13273.94	0.00	#####
25700.00	89.77	180.00	12590.85	-13364.84	497.44	13373.89	0.00	#####
25800.00	89.77	180.00	12591.25	-13464.84	497.44	13473.84	0.00	#####
25900.00	89.77	180.00	12591.64	-13564.84	497.44	13573.79	0.00	#####
26000.00	89.77	180.00	12592.04	-13664.84	497.44	13673.74	0.00	#####
26100.00	89.77	180.00	12592.44	-13764.84	497.44	13773.69	0.00	#####
26200.00	89.77	180.00	12592.84	-13864.84	497.44	13873.64	0.00	#####
26300.00	89.77	180.00	12593.23	-13964.83	497.44	13973.59	0.00	#####

Thistle Unit 182H

1. Geologic Formations

TVD of target	12600	Pilot hole depth	N/A
MD at TD:	28008	Deepest expected fresh water	

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone?	Hazards*
Rustler	1365		
Salt	1869		
Base of Salt	5180		
Lamar	5180		
Delaware	5257		
Cherry Canyon	6195		
Brushy Canyon	7591		
1st Bone Spring Lime	9069		
Bone Spring 1st	10242		
Bone Spring 2nd	10830		
3rd Bone Spring Lime	11406		
Bone Spring 3rd	11981		
Wolfcamp	12298		

*H2S, water flows, loss of circulation, abnormal pressures, etc.

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2. Casing Program (Primary Design)

Hole Size	Csg. Size	Wt (PPF)	Grade	Conn	Casing Interval		Casing Interval	
					From (MD)	To (MD)	From (TVD)	To (TVD)
17 1/2	13 3/8	48	H40	STC	0	1390	0	1390
9 7/8	8 5/8	32	P110	TLW	0	11981	0	11981
7 7/8	5 1/2	17	P110	BTC	0	28008	0	12600

• All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 IILB.1.h Must have table for contingency casing.

3. Cementing Program (Primary Design)

Casing	# Sks	TOC	Wt. ppg	Yld (ft3/sack)	Slurry Description
Surface	1044	Surf	13.2	1.44	Lead: Class C Cement + additives
Int 1	533	Surf	9	3.27	Lead: Class C Cement + additives
	465	4000' above	13.2	1.44	Tail: Class H / C + additives
Int 1 Intermediate Squeeze	As Needed	Surf	13.2	1.44	Squeeze Lead: Class C Cement + additives
	533	Surf	9	3.27	Lead: Class C Cement + additives
	465	4000' above	13.2	1.44	Tail: Class H / C + additives
Production	117	10008	9	3.27	Lead: Class H / C + additives
	2118	12008	13.2	1.44	Tail: Class H / C + additives

Casing String	% Excess
Surface	50%
Intermediate 1	30%
Intermediate 1 (Two Stage)	25%
Prod	10%

Thistle Unit 182H

4. Pressure Control Equipment (Three String Design)

BOP installed and tested before drilling which hole?		Size?	Min. Required WP	Type	✓	Tested to:
Int 1	13-5/8"	5M	Annular		X	50% of rated working pressure
			Blind Ram		X	5M
			Pipe Ram			
			Double Ram		X	
			Other*			
Production	13-5/8"	5M	Annular (5M)		X	100% of rated working pressure
			Blind Ram		X	10M
			Pipe Ram			
			Double Ram		X	
			Other*			
			Annular (5M)			
			Blind Ram			
			Pipe Ram			
			Double Ram			
			Other*			
N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.					
Y	A variance is requested to run a 5 M annular on a 10M system					

Thistle Unit 182H

5. Mud Program (Three String Design)

Section	Type	Weight (ppg)
Surface	FW Gel	8.5-9
Intermediate	DBE / Cut Brine	10-10.5
Production	OBM	10-10.5

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring
---	-----------------------------

6. Logging and Testing Procedures

Logging, Coring and Testing	
X	Will run GR/CNL from TD to surface (horizontal well - vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain.
	Coring? If yes, explain.

Additional logs planned		Interval
	Resistivity	Int. shoe to KOP
	Density	Int. shoe to KOP
X	CBL	Production casing
X	Mud log	Intermediate shoe to TD
	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH pressure at deepest TVD	6879
Abnormal temperature	No

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers.

Hydrogen Sulfide (H₂S) monitors will be installed prior to drilling out the surface shoe. If H₂S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered measured values and formations will be provided to the BLM.

N	H ₂ S is present
Y	H ₂ S plan attached.

8. Other facets of operation

Is this a walking operation? Potentially

- 1 If operator elects, drilling rig will batch drill the surface holes and run/cement surface casing; walking the rig to next wells on the pad.
- 2 The drilling rig will then batch drill the intermediate sections and run/cement intermediate casing; the wellbore will be isolated with a blind flange and pressure gauge installed for monitoring the well before walking to the next well.
- 3 The drilling rig will then batch drill the production hole sections on the wells with OBM, run/cement production casing, and install TA caps or tubing heads for completions.

NOTE: During batch operations the drilling rig will be moved from well to well however, it will not be removed

Thistle Unit 182H

from the pad until all wells have production casing run/cemented.

Will be pre-setting casing? Potentially

- 1 Spudder rig will move in and batch drill surface hole.
 - a. Rig will utilize fresh water based mud to drill surface hole to TD. Solids control will be handled entirely on a closed loop basis.,
- 2 After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
- 3 The wellhead will be installed and tested once the surface casing is cut off and the WOC time has been reached.
- 4 A blind flange with the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with a pressure gauge installed on the wellhead.
- 5 Spudder rig operations is expected to take 4-5 days per well on a multi-well pa.
- 6 The NMOCD will be contacted and notified 24 hours prior to commencing spudder rig operations.
- 7 Drilling operations will be performed with drilling rig. A that time an approved BOP stack will be nipped up and tested on the wellhead before drilling operations commences on each well.
 - a. The NMOCD will be contacted / notified 24 hours before the drilling rig moves back on to the pad with the pre-set surface casing.

Attachments

X Directional Plan
 Other, describe



**Devon Energy Center
333 West Sheridan Avenue
Oklahoma City, Oklahoma 73102-5015**

Hydrogen Sulfide (H₂S) Contingency Plan

For

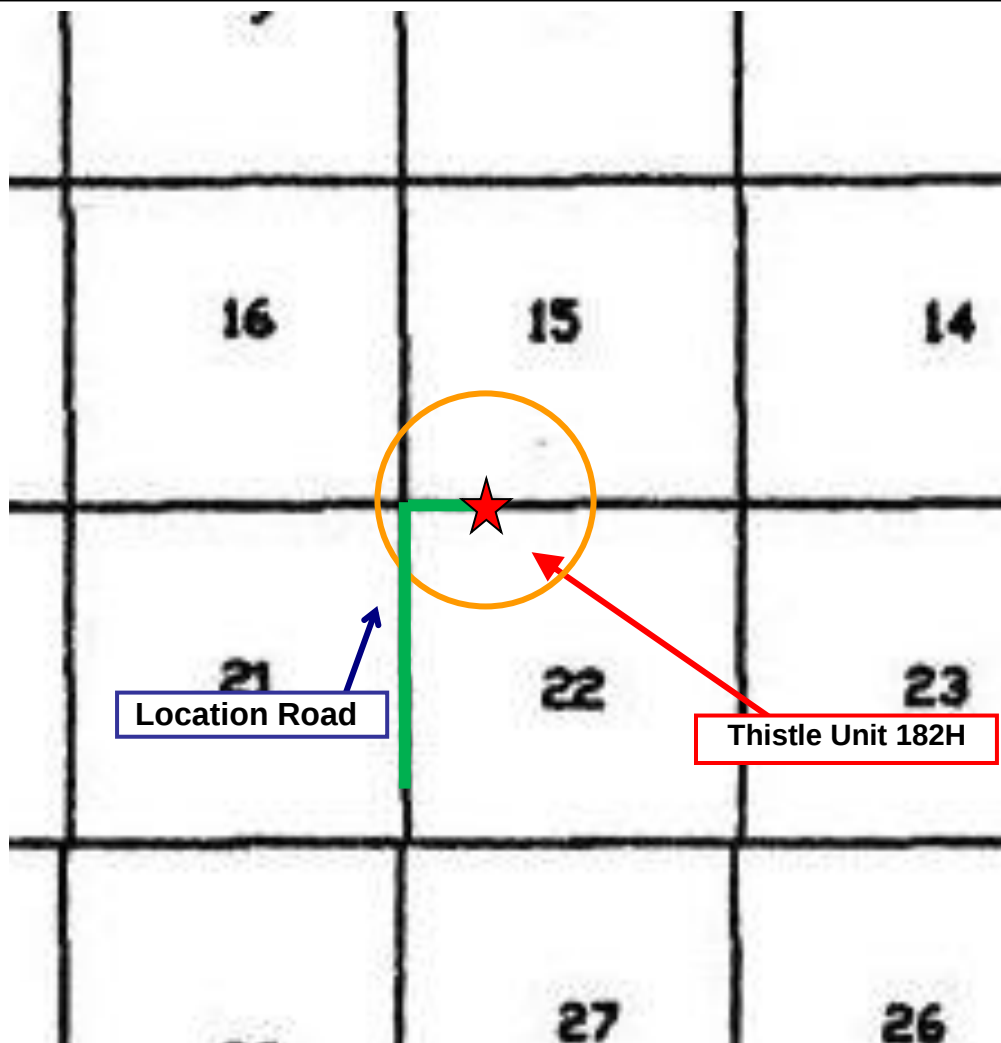
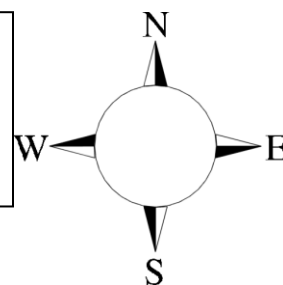
Thistle Unit 182H

**Sec-22 T-23S R-33E
160' FNL & 1800' FWL
LAT. = 32.2970285' N (NAD83)
LONG = 103.5629352' W**

Lea County NM

Thistle Unit 182H

This is an open drilling site. H₂S monitoring equipment and emergency response equipment will be used within 500' of zones known to contain H₂S, including warning signs, wind indicators and H₂S monitor.



Assumed 100 ppm **ROE = 3000'** (Radius of Exposure)
100 ppm H₂S concentration shall trigger activation of this plan.

Escape

Crews shall escape upwind of escaping gas in the event of an emergency release of gas. Escape can be facilitated from the location entrance road. Crews should then block the entrance to the location from the lease road so as not to allow anyone traversing into a hazardous area. The blockade should be at a safe distance outside of the ROE. There are no homes or buildings in or near the ROE.

Assumed 100 ppm ROE = 3000'

100 ppm H₂S concentration shall trigger activation of this plan.

Emergency Procedures

In the event of a release of gas containing H₂S, the first responder(s) must

- Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- Evacuate any public places encompassed by the 100 ppm ROE.
- Be equipped with H₂S monitors and air packs in order to control the release.
- Use the “buddy system” to ensure no injuries occur during the response
- Take precautions to avoid personal injury during this operation.
- Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
- Have received training in the
 - Detection of H₂S, and
 - Measures for protection against the gas,
 - Equipment used for protection and emergency response.

Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO₂). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas

Characteristics of H₂S and SO₂

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H ₂ S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO ₂	2.21 Air = 1	2 ppm	N/A	1000 ppm

Contacting Authorities

Devon Energy Corp. personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available. The following call list of essential and potential responders has been prepared for use during a release. Devon Energy Corp. Company response must be in coordination with the State of New Mexico's 'Hazardous Materials Emergency Response Plan' (HMER)

Hydrogen Sulfide Drilling Operation Plan

I. HYDROGEN SULFIDE (H₂S) TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

1. The hazards and characteristics of hydrogen sulfide (H₂S)
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H₂S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H₂S metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
3. The contents and requirements of the H₂S Drilling Operations Plan and Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H₂S zone (within 3 days or 500 feet) and weekly H₂S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H₂S Drilling Operations Plan and the Public Protection Plan.

II. HYDROGEN SULFIDE TRAINING

Note: All H₂S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H₂S.

1. Well Control Equipment

- A. Flare line
- B. Choke manifold – Remotely Operated
- C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit
- D. Auxiliary equipment may include if applicable: annular preventer and rotating head.
- E. Mud/Gas Separator

2. Protective equipment for essential personnel:

30-minute SCBA units located at briefing areas, as indicated on well site diagram, with escape units available in the top doghouse. As it may be difficult to communicate audibly while wearing these units, hand signals shall be utilized.

3. H₂S detection and monitoring equipment:

Portable H₂S monitors positioned on location for best coverage and response. These units have warning lights which activate when H₂S levels reach 10 ppm and audible sirens which activate at 15 ppm. Sensor locations:

- Bell nipple
- Possum Belly/Shale shaker
- Rig floor
- Choke manifold
- Cellar

Visual warning systems:

- A. Wind direction indicators as shown on well site diagram
- B. Caution/ Danger signs shall be posted on roads providing direct access to locations. Signs will be painted a high visibility yellow with black lettering of sufficient size to be reasonable distance from the immediate location. Bilingual signs will be used when appropriate.

4. Mud program:

The mud program has been designed to minimize the volume of H₂S circulated to surface. Proper mud weight, safe drilling practices and the use of H₂S scavengers will minimize hazards when penetrating H₂S bearing zones.

5. Metallurgy:

- A. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold lines, and valves shall be H₂S trim.
- B. All elastomers used for packing and seals shall be H₂S trim.

6. Communication:

- A. Company personnel have/use cellular telephones in the field.
- B. Land line (telephone) communications at Office

7. Well testing:

- A. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity, which are necessary to safety and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill-stem-testing operations conducted in an H₂S environment will use the closed chamber method of testing.
- B. There will be no drill stem testing.

<u>Devon Energy Corp. Company Call List</u>		
Drilling Supervisor – Basin – Mark Kramer		405-823-4796
EHS Professional – Laura Wright		405-439-8129
<u>Agency Call List</u>		
<u>Lea County (575)</u>	Hobbs	
	Lea County Communication Authority	393-3981
	State Police	392-5588
	City Police	397-9265
	Sheriff's Office	393-2515
	Ambulance	911
	Fire Department	397-9308
	LEPC (Local Emergency Planning Committee)	393-2870
	NMOCD	393-6161
	US Bureau of Land Management	393-3612
<u>Eddy County (575)</u>	Carlsbad	
	State Police	885-3137
	City Police	885-2111
	Sheriff's Office	887-7551
	Ambulance	911
	Fire Department	885-3125
	LEPC (Local Emergency Planning Committee)	887-3798
	US Bureau of Land Management	887-6544
	NM Emergency Response Commission (Santa Fe)	(505) 476-9600
	24 HR	(505) 827-9126
	National Emergency Response Center	(800) 424-8802
	National Pollution Control Center: Direct	(703) 872-6000
	For Oil Spills	(800) 280-7118
	Emergency Services	
	Wild Well Control	(281) 784-4700
	Cudd Pressure Control	(915) 699-0139 (915) 563-3356
	Halliburton	(575) 746-2757
	B. J. Services	(575) 746-3569
	Give GPS position:	
	Native Air – Emergency Helicopter – Hobbs (TX & NM)	(800) 642-7828
	Flight For Life - Lubbock, TX	(806) 743-9911
	Aerocare - Lubbock, TX	(806) 747-8923
	Med Flight Air Amb - Albuquerque, NM	(575) 842-4433
	Lifeguard Air Med Svc. Albuquerque, NM	(800) 222-1222
	Poison Control (24/7)	(575) 272-3115
	Oil & Gas Pipeline 24 Hour Service	(800) 364-4366
	NOAA – Website - www.nhc.noaa.gov	

Prepared in conjunction with
Dave Small



Devon Energy - Well Pad Rig Location Layout Safety Equipment Location

