

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources

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

Form C-104
Revised August 1, 2011

Submit one copy to appropriate District Office

☐ AMENDED REPORT

I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

¹ Operator name and Address Devon Energy Production Company, L.P. 333 West Sheridan, Oklahoma City, OK 73102		² OGRID Number 6137
		³ Reason for Filing Code/ Effective Date NW / 7/14/21
⁴ API Number 30-025-48096	⁵ Pool Name WC-025 G-09 S243310P; UPPER WOLFCAMP	⁶ Pool Code 98135
⁷ Property Code 30884	⁸ Property Name Thistle Unit	⁹ Well Number 181H

II. 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	23S	33E		160	North	1350	West	Lea

¹¹ Bottom Hole Location

UL or lot no. M	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
	34	23S	33E		29	South	1219	West	Lea
¹² Lse Code S	¹³ Producing Method Code F	¹⁴ Gas Connection Date 7/14/21	¹⁵ C-129 Permit Number	¹⁶ C-129 Effective Date	¹⁷ C-129 Expiration Date				

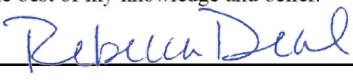
III. Oil and Gas Transporters

¹⁸ Transporter OGRID	¹⁹ Transporter Name and Address	²⁰ O/G/W
020809	Lucid Energy Group 3100 McKinnon St. Ste 800 Dallas, TX 75201	Gas
174238	Enterprise 201 Park Avenue, Ste 1600 Oklahoma City, OK 73102	Oil

IV. Well Completion Data

²¹ Spud Date 1/21/21	²² Ready Date 7/14/21	²³ TD 27,907'	²⁴ PBDT 27,839'	²⁵ Perforations 12700 - 27781	²⁶ DHC, MC
²⁷ Hole Size	²⁸ Casing & Tubing Size	²⁹ Depth Set	³⁰ Sacks Cement		
17-1/2"	13-3/8"	1477'	1265 sx CIC; Circ 610 sx		
9-7/8"	8-5/8"	12,541'	710 sx CIC; Circ 0		
			SQUEEZE - 750 sx CIC; Circ 0		
7-7/8"	6" & 5-1/2"	27,891'	2430 sx CIH; Circ 538 sx		

V. Well Test Data

			Tubing: 0		
³¹ Date New Oil 8/4/21	³² Gas Delivery Date 8/4/21	³³ Test Date 8/4/21	³⁴ Test Length 24 hrs	³⁵ Tbg. Pressure psi	³⁶ Csg. Pressure 923 psi
³⁷ Choke Size	³⁸ Oil 4464 bbl	³⁹ Water 5702 bbl	⁴⁰ Gas 7834 mcf		⁴¹ Test Method
⁴² I hereby certify that the rules of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief. Signature: 			OIL CONSERVATION DIVISION		
Printed name: Rebecca Deal			Approved by: PATRICIA MARTINEZ		
Title: Regulatory Analyst			Title: NMOCD		
E-mail Address: Rebecca.Deal@dmn.com			Approval Date: 10/6/2021		
Date: 8/17/2021		Phone: 405-228-8429			

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & 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 30-025-48096	² Pool Code 98135	³ Pool Name WC-025 G-09 S243310P; UPPER WOLFCAMP
⁴ Property Code 30884	⁵ Property Name THISTLE UNIT	⁶ Well Number 181H
⁷ OGRID No. 6137	⁸ Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.	⁹ Elevation 3710.5

¹⁰ Surface Location

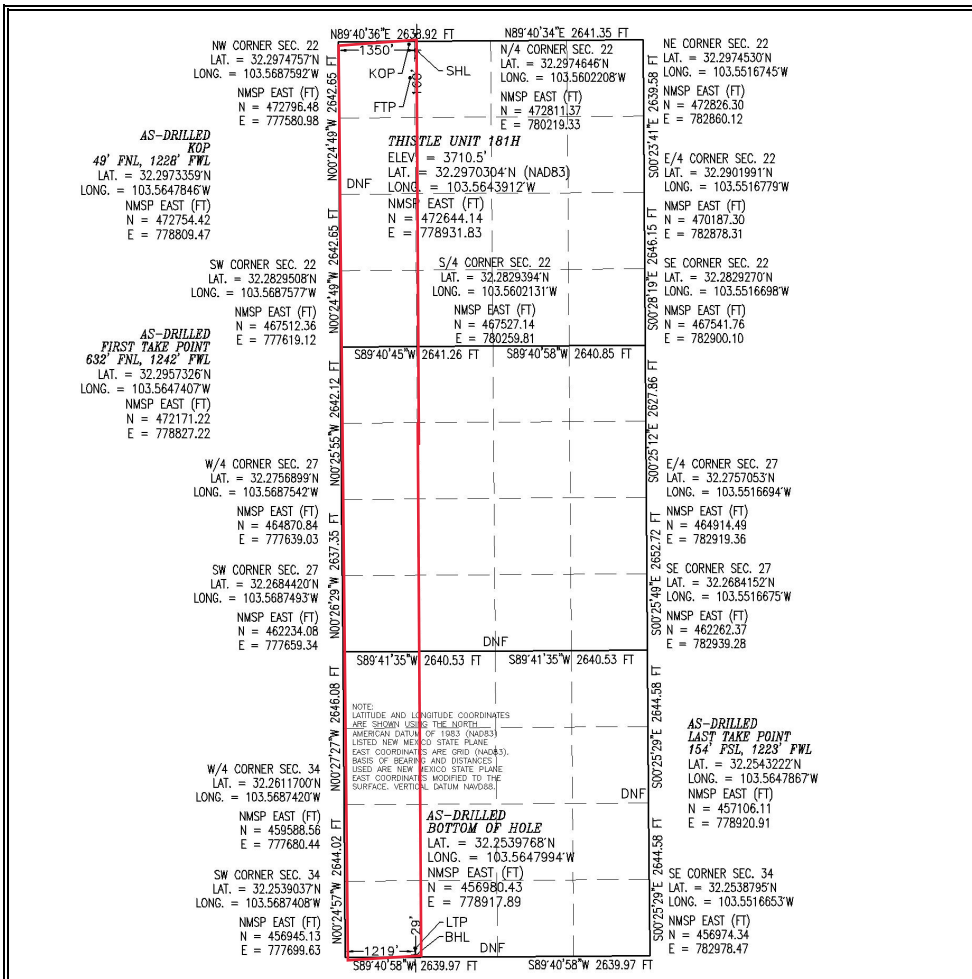
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	22	23 S	33 E		160	NORTH	1350	WEST	LEA

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
M	34	23 S	33 E		29	SOUTH	1219	WEST	LEA

¹² Dedicated Acres 480	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.

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 8/12/2021
Signature Date

Rebecca Deal, Regulatory Analyst
Printed Name

rebecca.deal@dvn.com
E-mail Address

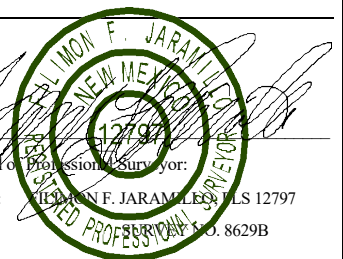
¹⁸ SURVEYOR CERTIFICATION

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.

AUGUST 6, 2021

Date of Survey

Simon F. Jaramilla
Signature and Seal of Professional Surveyor
Certificate Number: 12797



Intent ☐ As Drilled ☒API #
30-025-48096

Operator Name: DEVON ENERGY PRODUCTION CO., L.P.	Property Name: THISTLE UNIT	Well Number 181H
--	---------------------------------------	----------------------------

Kick Off Point (KOP)

UL D	Section 22	Township 23S	Range 33E	Lot	Feet 49	From N/S NORTH	Feet 1228	From E/W WEST	County LEA
Latitude 32.2973359					Longitude 103.5647846			NAD 83	

First Take Point (FTP)

UL D	Section 22	Township 23S	Range 33E	Lot	Feet 632	From N/S NORTH	Feet 1242	From E/W WEST	County LEA
Latitude 32.2957326					Longitude 103.5647407			NAD 83	

Last Take Point (LTP)

UL M	Section 34	Township 23S	Range 33E	Lot	Feet 154	From N/S SOUTH	Feet 1223	From E/W WEST	County LEA
Latitude 32.2543222					Longitude 103.5647867			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



Devon Energy

Lea County, NM (NAD83)
Sec 22-T23S-R33E (Thistle)
Thistle Unit 181H

OH

Design: OH

Survey Report - Geographic

24 March, 2021





Total Directional Services

Survey Report - Geographic



Company:	Devon Energy	Local Co-ordinate Reference:	Well Thistle Unit 181H
Project:	Lea County, NM (NAD83)	TVD Reference:	Cactus 129': 3710.5'+30' @ 3740.50usft
Site:	Sec 22-T23S-R33E (Thistle)	MD Reference:	Cactus 129': 3710.5'+30' @ 3740.50usft
Well:	Thistle Unit 181H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.15 Single User Db

Project	Lea County, NM (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		Sec 22-T23S-R33E (Thistle)			
Site Position:		Northing:	467,679.66 usft	Latitude:	32.283349
From:	Map	Easting:	780,748.91 usft	Longitude:	-103.558627
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.41 °

Well	Thistle Unit 181H					
Well Position	+N/-S	0.00 usft	Northing:	472,644.14 usft	Latitude:	32.297030
	+E/-W	0.00 usft	Easting:	778,931.83 usft	Longitude:	-103.564391
Position Uncertainty		0.00 usft	Wellhead Elevation:	3,710.50 usft	Ground Level:	3,710.50 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	12/23/2020	6.57	60.08	47,618.04609611

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	11,765.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	180.00	

Survey Program	Date	3/24/2021			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
200.00	579.00	Survey #1 (Pilot Hole)	MWD	OWSG MWD - Standard	
674.00	11,765.00	Survey #2 - MWD (Pilot Hole)	OWSG (Rev2) MWD	OWSG MWD - Standard	
11,879.00	27,849.00	Survey #1 - MWD (OH)	OWSG (Rev2) MWD	OWSG MWD - Standard	
27,907.00	27,907.00	Survey #2 - Proj to TD (OH)	BLIND	OWSG BLIND	

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	472,644.14	778,931.83	32.297030	-103.564391	
SHL (Thistle Unit 181H)										
200.00	0.13	77.89	200.00	0.05	0.22	472,644.19	778,932.05	32.297031	-103.564391	
295.00	0.40	66.46	295.00	0.20	0.63	472,644.34	778,932.46	32.297031	-103.564389	
390.00	0.48	59.34	390.00	0.54	1.28	472,644.68	778,933.10	32.297032	-103.564387	
484.00	0.48	39.74	483.99	1.04	1.87	472,645.18	778,933.70	32.297033	-103.564385	
579.00	0.44	45.54	578.99	1.60	2.38	472,645.74	778,934.21	32.297035	-103.564384	
674.00	0.62	42.47	673.99	2.24	2.99	472,646.38	778,934.82	32.297037	-103.564382	
768.00	0.53	58.64	767.98	2.84	3.70	472,646.98	778,935.53	32.297038	-103.564379	



Total Directional Services

Survey Report - Geographic



Company:	Devon Energy	Local Co-ordinate Reference:	Well Thistle Unit 181H
Project:	Lea County, NM (NAD83)	TVD Reference:	Cactus 129': 3710.5'+30' @ 3740.50usft
Site:	Sec 22-T23S-R33E (Thistle)	MD Reference:	Cactus 129': 3710.5'+30' @ 3740.50usft
Well:	Thistle Unit 181H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.15 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
863.00	0.66	42.12	862.98	3.47	4.45	472,647.61	778,936.27	32.297040	-103.564377
956.00	0.66	58.11	955.97	4.15	5.26	472,648.29	778,937.09	32.297042	-103.564374
1,051.00	0.79	48.01	1,050.96	4.88	6.21	472,649.02	778,938.04	32.297044	-103.564371
1,146.00	0.88	50.82	1,145.95	5.78	7.26	472,649.92	778,939.09	32.297046	-103.564368
1,240.00	0.75	43.88	1,239.94	6.68	8.25	472,650.82	778,940.08	32.297049	-103.564365
1,335.00	0.84	52.49	1,334.93	7.55	9.23	472,651.69	778,941.06	32.297051	-103.564361
1,405.00	0.66	41.06	1,404.93	8.17	9.91	472,652.31	778,941.73	32.297053	-103.564359
1,560.00	0.57	20.31	1,559.92	9.56	10.76	472,653.70	778,942.59	32.297057	-103.564356
1,656.00	2.15	346.21	1,655.89	11.76	10.50	472,655.90	778,942.32	32.297063	-103.564357
1,751.00	2.81	345.15	1,750.80	15.74	9.47	472,659.88	778,941.30	32.297074	-103.564360
1,847.00	3.82	332.59	1,846.64	20.86	7.40	472,665.00	778,939.23	32.297088	-103.564367
1,942.00	4.88	329.69	1,941.36	27.15	3.90	472,671.29	778,935.73	32.297105	-103.564378
2,038.00	5.10	328.89	2,037.00	34.33	-0.36	472,678.47	778,931.47	32.297125	-103.564392
2,133.00	5.05	327.05	2,131.63	41.46	-4.82	472,685.60	778,927.01	32.297145	-103.564406
2,228.00	5.05	325.55	2,226.26	48.41	-9.46	472,692.55	778,922.37	32.297164	-103.564421
2,324.00	5.27	325.91	2,321.87	55.55	-14.32	472,699.69	778,917.51	32.297183	-103.564437
2,419.00	5.27	326.35	2,416.47	62.79	-19.18	472,706.93	778,912.65	32.297203	-103.564452
2,515.00	5.27	326.43	2,512.06	70.14	-24.06	472,714.28	778,907.76	32.297224	-103.564468
2,610.00	5.67	316.24	2,606.63	77.16	-29.72	472,721.30	778,902.11	32.297243	-103.564486
2,705.00	6.15	313.95	2,701.13	84.08	-36.63	472,728.22	778,895.20	32.297262	-103.564508
2,800.00	6.20	314.13	2,795.58	91.19	-43.98	472,735.33	778,887.85	32.297282	-103.564532
2,896.00	6.29	312.81	2,891.01	98.37	-51.56	472,742.51	778,880.27	32.297302	-103.564556
2,991.00	6.20	313.34	2,985.44	105.43	-59.10	472,749.57	778,872.72	32.297321	-103.564580
3,086.00	6.46	311.93	3,079.86	112.52	-66.81	472,756.66	778,865.02	32.297341	-103.564605
3,182.00	5.80	307.98	3,175.31	119.11	-74.65	472,763.25	778,857.18	32.297359	-103.564630
3,277.00	4.79	302.00	3,269.91	124.17	-81.80	472,768.31	778,850.03	32.297373	-103.564653
3,372.00	3.38	295.85	3,364.67	127.49	-87.68	472,771.63	778,844.14	32.297383	-103.564672
3,468.00	2.29	288.03	3,460.55	129.32	-92.05	472,773.46	778,839.77	32.297388	-103.564686
3,563.00	1.10	256.47	3,555.51	129.69	-94.75	472,773.83	778,837.08	32.297389	-103.564695
3,659.00	0.97	259.28	3,651.49	129.33	-96.44	472,773.47	778,835.39	32.297388	-103.564701
3,754.00	0.92	255.51	3,746.48	128.99	-97.97	472,773.13	778,833.86	32.297387	-103.564706
3,849.00	0.31	138.79	3,841.47	128.60	-98.54	472,772.74	778,833.29	32.297386	-103.564707
3,945.00	0.31	128.33	3,937.47	128.25	-98.16	472,772.39	778,833.66	32.297385	-103.564706
4,039.00	0.35	149.42	4,031.47	127.84	-97.82	472,771.98	778,834.01	32.297384	-103.564705
4,135.00	0.26	176.23	4,127.47	127.37	-97.65	472,771.51	778,834.17	32.297383	-103.564705
4,230.00	0.18	167.26	4,222.47	127.01	-97.61	472,771.15	778,834.22	32.297382	-103.564704
4,325.00	0.70	135.10	4,317.47	126.45	-97.16	472,770.59	778,834.66	32.297380	-103.564703
4,421.00	1.32	130.35	4,413.45	125.32	-95.91	472,769.46	778,835.92	32.297377	-103.564699
4,516.00	2.02	120.42	4,508.41	123.77	-93.63	472,767.91	778,838.20	32.297373	-103.564692
4,611.00	2.20	123.32	4,603.34	121.92	-90.66	472,766.06	778,841.16	32.297367	-103.564682
4,706.00	1.41	127.71	4,698.30	120.20	-88.21	472,764.34	778,843.61	32.297363	-103.564674
4,801.00	1.76	136.15	4,793.26	118.43	-86.28	472,762.57	778,845.55	32.297358	-103.564668
4,896.00	2.11	133.16	4,888.21	116.19	-83.99	472,760.33	778,847.83	32.297351	-103.564661
4,992.00	1.10	117.43	4,984.17	114.55	-81.89	472,758.69	778,849.94	32.297347	-103.564654
5,087.00	0.31	295.23	5,079.16	114.24	-81.31	472,758.38	778,850.52	32.297346	-103.564652
5,183.00	0.70	277.48	5,175.16	114.43	-82.13	472,758.57	778,849.70	32.297347	-103.564655
5,278.00	0.84	270.53	5,270.15	114.51	-83.40	472,758.65	778,848.43	32.297347	-103.564659
5,374.00	0.75	249.27	5,366.14	114.29	-84.69	472,758.44	778,847.14	32.297346	-103.564663
5,469.00	0.75	260.69	5,461.13	113.97	-85.88	472,758.11	778,845.94	32.297345	-103.564667
5,564.00	0.70	267.11	5,556.13	113.84	-87.08	472,757.98	778,844.75	32.297345	-103.564671
5,659.00	0.70	263.15	5,651.12	113.75	-88.23	472,757.89	778,843.60	32.297345	-103.564674
5,754.00	0.75	271.77	5,746.11	113.70	-89.43	472,757.84	778,842.40	32.297345	-103.564678
5,849.00	0.62	269.92	5,841.10	113.71	-90.57	472,757.85	778,841.26	32.297345	-103.564682
5,945.00	0.57	261.39	5,937.10	113.64	-91.56	472,757.78	778,840.27	32.297345	-103.564685
6,040.00	0.57	265.09	6,032.09	113.53	-92.49	472,757.67	778,839.33	32.297344	-103.564688



Total Directional Services

Survey Report - Geographic



Company:	Devon Energy	Local Co-ordinate Reference:	Well Thistle Unit 181H
Project:	Lea County, NM (NAD83)	TVD Reference:	Cactus 129': 3710.5'+30' @ 3740.50usft
Site:	Sec 22-T23S-R33E (Thistle)	MD Reference:	Cactus 129': 3710.5'+30' @ 3740.50usft
Well:	Thistle Unit 181H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.15 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
6,135.00	0.53	258.85	6,127.09	113.41	-93.40	472,757.55	778,838.43	32.297344	-103.564691
6,230.00	0.70	264.91	6,222.08	113.27	-94.41	472,757.41	778,837.42	32.297344	-103.564694
6,326.00	0.53	246.98	6,318.08	113.04	-95.40	472,757.18	778,836.43	32.297343	-103.564698
6,421.00	0.70	243.64	6,413.07	112.61	-96.32	472,756.75	778,835.50	32.297342	-103.564701
6,516.00	0.57	258.32	6,508.07	112.26	-97.31	472,756.40	778,834.52	32.297341	-103.564704
6,612.00	0.53	260.87	6,604.06	112.09	-98.21	472,756.23	778,833.62	32.297341	-103.564707
6,707.00	0.79	261.48	6,699.06	111.93	-99.29	472,756.07	778,832.53	32.297340	-103.564710
6,803.00	0.79	263.15	6,795.05	111.75	-100.60	472,755.89	778,831.22	32.297340	-103.564714
6,899.00	0.75	249.62	6,891.04	111.45	-101.85	472,755.59	778,829.98	32.297339	-103.564718
6,994.00	0.79	243.46	6,986.03	110.94	-103.02	472,755.08	778,828.81	32.297337	-103.564722
7,089.00	0.70	254.80	7,081.02	110.50	-104.17	472,754.64	778,827.66	32.297336	-103.564726
7,185.00	0.62	255.07	7,177.02	110.21	-105.23	472,754.35	778,826.59	32.297335	-103.564729
7,281.00	0.75	263.50	7,273.01	110.01	-106.36	472,754.15	778,825.47	32.297335	-103.564733
7,376.00	0.79	265.88	7,368.00	109.89	-107.63	472,754.03	778,824.20	32.297335	-103.564737
7,472.00	0.84	267.55	7,463.99	109.81	-108.99	472,753.95	778,822.83	32.297334	-103.564742
7,568.00	0.66	320.19	7,559.98	110.20	-110.05	472,754.35	778,821.78	32.297336	-103.564745
7,663.00	0.79	9.24	7,654.98	111.27	-110.30	472,755.41	778,821.53	32.297339	-103.564746
7,758.00	0.92	15.83	7,749.97	112.65	-109.98	472,756.79	778,821.85	32.297342	-103.564745
7,853.00	0.97	12.31	7,844.95	114.17	-109.60	472,758.31	778,822.22	32.297346	-103.564744
7,949.00	0.57	7.21	7,940.94	115.44	-109.37	472,759.58	778,822.46	32.297350	-103.564743
8,044.00	0.62	348.41	8,035.94	116.41	-109.41	472,760.55	778,822.41	32.297353	-103.564743
8,140.00	0.57	312.90	8,131.93	117.24	-109.87	472,761.39	778,821.96	32.297355	-103.564744
8,235.00	0.44	300.51	8,226.93	117.75	-110.53	472,761.89	778,821.30	32.297356	-103.564746
8,331.00	0.40	25.06	8,322.93	118.24	-110.70	472,762.38	778,821.12	32.297358	-103.564747
8,426.00	1.05	71.73	8,417.92	118.82	-109.74	472,762.96	778,822.09	32.297359	-103.564744
8,522.00	0.97	83.50	8,513.91	119.18	-108.09	472,763.32	778,823.73	32.297360	-103.564739
8,617.00	0.97	84.38	8,608.89	119.35	-106.49	472,763.49	778,825.33	32.297361	-103.564733
8,712.00	0.97	98.01	8,703.88	119.32	-104.90	472,763.46	778,826.93	32.297361	-103.564728
8,808.00	0.92	109.43	8,799.87	118.95	-103.37	472,763.09	778,828.46	32.297359	-103.564723
8,903.00	0.88	111.72	8,894.86	118.43	-101.97	472,762.57	778,829.86	32.297358	-103.564719
8,998.00	0.70	132.11	8,989.85	117.77	-100.86	472,761.91	778,830.97	32.297356	-103.564715
9,093.00	0.88	141.42	9,084.84	116.81	-99.98	472,760.95	778,831.85	32.297354	-103.564712
9,189.00	0.70	167.70	9,180.83	115.66	-99.39	472,759.80	778,832.44	32.297350	-103.564710
9,285.00	0.66	197.15	9,276.82	114.56	-99.43	472,758.70	778,832.40	32.297347	-103.564711
9,380.00	0.48	209.63	9,371.82	113.69	-99.79	472,757.83	778,832.04	32.297345	-103.564712
9,476.00	0.40	277.57	9,467.82	113.38	-100.32	472,757.52	778,831.51	32.297344	-103.564713
9,571.00	0.57	298.13	9,562.81	113.65	-101.06	472,757.79	778,830.76	32.297345	-103.564716
9,667.00	1.10	292.95	9,658.80	114.23	-102.33	472,758.38	778,829.49	32.297346	-103.564720
9,761.00	1.63	277.04	9,752.77	114.75	-104.49	472,758.89	778,827.34	32.297348	-103.564727
9,856.00	1.58	283.02	9,847.74	115.21	-107.11	472,759.35	778,824.72	32.297349	-103.564735
9,951.00	1.71	263.77	9,942.70	115.35	-109.79	472,759.49	778,822.03	32.297350	-103.564744
10,047.00	1.32	258.41	10,038.67	114.97	-112.30	472,759.12	778,819.53	32.297349	-103.564752
10,142.00	1.49	249.88	10,133.64	114.33	-114.53	472,758.47	778,817.29	32.297347	-103.564759
10,237.00	2.11	244.26	10,228.59	113.15	-117.27	472,757.29	778,814.56	32.297344	-103.564768
10,333.00	2.15	239.25	10,324.52	111.46	-120.41	472,755.60	778,811.42	32.297339	-103.564779
10,429.00	2.07	249.79	10,420.46	109.94	-123.58	472,754.08	778,808.25	32.297335	-103.564789
10,523.00	1.63	252.25	10,514.41	108.94	-126.45	472,753.08	778,805.38	32.297332	-103.564798
10,619.00	0.79	253.13	10,610.39	108.34	-128.38	472,752.48	778,803.45	32.297331	-103.564804
10,714.00	0.75	83.59	10,705.38	108.21	-128.39	472,752.36	778,803.44	32.297330	-103.564804
10,810.00	1.45	74.19	10,801.37	108.62	-126.60	472,752.76	778,805.23	32.297332	-103.564799
10,905.00	0.88	72.25	10,896.35	109.17	-124.75	472,753.31	778,807.08	32.297333	-103.564793
11,001.00	0.62	33.49	10,992.34	109.82	-123.76	472,753.96	778,808.07	32.297335	-103.564789
11,096.00	0.79	315.18	11,087.33	110.72	-123.94	472,754.86	778,807.89	32.297337	-103.564790
11,192.00	0.92	289.61	11,183.32	111.44	-125.13	472,755.59	778,806.70	32.297339	-103.564794
11,287.00	1.01	24.00	11,278.31	112.47	-125.51	472,756.61	778,806.32	32.297342	-103.564795



Total Directional Services

Survey Report - Geographic



Company:	Devon Energy	Local Co-ordinate Reference:	Well Thistle Unit 181H
Project:	Lea County, NM (NAD83)	TVD Reference:	Cactus 129': 3710.5'+30' @ 3740.50usft
Site:	Sec 22-T23S-R33E (Thistle)	MD Reference:	Cactus 129': 3710.5'+30' @ 3740.50usft
Well:	Thistle Unit 181H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.15 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
11,383.00	1.63	48.00	11,374.29	114.15	-124.15	472,758.29	778,807.68	32.297347	-103.564791
11,478.00	1.54	58.54	11,469.25	115.72	-122.05	472,759.86	778,809.77	32.297351	-103.564784
11,574.00	0.75	52.83	11,565.23	116.78	-120.45	472,760.92	778,811.37	32.297354	-103.564779
11,669.00	0.40	278.01	11,660.23	117.20	-120.29	472,761.34	778,811.54	32.297355	-103.564778
11,765.00	0.79	243.46	11,756.23	116.95	-121.21	472,761.09	778,810.62	32.297354	-103.564781
KOP									
11,879.00	12.26	186.95	11,869.32	104.54	-123.39	472,748.68	778,808.44	32.297320	-103.564788
11,975.00	21.19	187.30	11,961.17	77.16	-126.83	472,721.30	778,805.00	32.297245	-103.564800
12,070.00	31.74	177.02	12,046.14	35.03	-127.72	472,679.17	778,804.11	32.297129	-103.564804
12,166.00	40.18	175.61	12,123.77	-21.17	-124.03	472,622.97	778,807.80	32.296975	-103.564793
12,261.00	46.90	176.58	12,192.60	-86.42	-119.61	472,557.72	778,812.22	32.296795	-103.564781
12,356.00	52.97	175.53	12,253.72	-158.92	-114.58	472,485.22	778,817.25	32.296596	-103.564766
12,451.00	58.59	175.61	12,307.12	-237.20	-108.51	472,406.94	778,823.31	32.296381	-103.564748
12,547.00	70.90	180.18	12,348.02	-323.78	-105.51	472,320.36	778,826.32	32.296143	-103.564740
12,581.21	73.72	180.05	12,358.41	-356.37	-105.57	472,287.77	778,826.25	32.296053	-103.564741
LP (Thistle Unit 181H)									
12,642.00	78.73	179.83	12,372.88	-415.39	-105.51	472,228.75	778,826.32	32.295891	-103.564743
12,737.00	90.11	178.43	12,382.11	-509.77	-104.07	472,134.37	778,827.76	32.295631	-103.564740
12,832.00	90.51	177.28	12,381.59	-604.70	-100.51	472,039.44	778,831.32	32.295370	-103.564731
12,928.00	90.95	176.76	12,380.37	-700.56	-95.52	471,943.58	778,836.31	32.295107	-103.564717
13,023.00	88.79	178.60	12,380.59	-795.47	-91.67	471,848.67	778,840.15	32.294846	-103.564707
13,119.00	87.60	177.90	12,383.61	-891.38	-88.74	471,752.76	778,843.08	32.294582	-103.564699
13,214.00	85.85	177.20	12,389.04	-986.13	-84.69	471,658.01	778,847.14	32.294322	-103.564688
13,309.00	84.48	177.02	12,397.04	-1,080.67	-79.92	471,563.47	778,851.91	32.294062	-103.564675
13,405.00	86.77	177.72	12,404.37	-1,176.29	-75.53	471,467.85	778,856.30	32.293799	-103.564663
13,500.00	88.44	180.10	12,408.34	-1,271.18	-73.72	471,372.96	778,858.10	32.293538	-103.564660
13,596.00	87.52	180.10	12,411.72	-1,367.11	-73.89	471,277.03	778,857.94	32.293274	-103.564662
13,691.00	86.46	179.74	12,416.71	-1,461.98	-73.76	471,182.16	778,858.07	32.293014	-103.564664
13,786.00	89.27	180.01	12,420.25	-1,556.91	-73.55	471,087.23	778,858.28	32.292753	-103.564666
13,882.00	89.05	179.30	12,421.66	-1,652.89	-72.97	470,991.25	778,858.85	32.292489	-103.564666
13,977.00	89.14	179.30	12,423.16	-1,747.87	-71.81	470,896.27	778,860.01	32.292228	-103.564664
14,073.00	89.23	179.48	12,424.52	-1,843.86	-70.79	470,800.28	778,861.04	32.291964	-103.564663
14,168.00	89.45	179.74	12,425.62	-1,938.85	-70.14	470,705.29	778,861.68	32.291703	-103.564663
14,263.00	90.59	180.01	12,425.58	-2,033.85	-69.94	470,610.29	778,861.89	32.291442	-103.564665
14,359.00	91.25	180.27	12,424.04	-2,129.84	-70.17	470,514.30	778,861.66	32.291178	-103.564668
14,455.00	90.55	180.53	12,422.53	-2,225.82	-70.84	470,418.32	778,860.99	32.290914	-103.564672
14,550.00	90.11	181.50	12,421.99	-2,320.80	-72.52	470,323.34	778,859.30	32.290653	-103.564680
14,645.00	89.63	180.53	12,422.20	-2,415.79	-74.21	470,228.35	778,857.62	32.290392	-103.564688
14,740.00	90.55	181.06	12,422.05	-2,510.78	-75.53	470,133.36	778,856.30	32.290131	-103.564694
14,836.00	89.85	181.41	12,421.72	-2,606.75	-77.59	470,037.39	778,854.23	32.289867	-103.564703
14,932.00	87.47	181.85	12,423.96	-2,702.68	-80.32	469,941.46	778,851.50	32.289603	-103.564714
15,027.00	85.80	181.94	12,429.54	-2,797.46	-83.46	469,846.68	778,848.37	32.289343	-103.564726
15,121.00	85.19	181.85	12,436.92	-2,891.12	-86.56	469,753.02	778,845.27	32.289086	-103.564739
15,164.00	85.23	181.41	12,440.51	-2,933.95	-87.78	469,710.19	778,844.05	32.288968	-103.564744
15,260.00	87.78	180.10	12,446.36	-3,029.75	-89.04	469,614.39	778,842.79	32.288705	-103.564750
15,355.00	87.25	179.13	12,450.48	-3,124.66	-88.40	469,519.48	778,843.43	32.288444	-103.564750
15,450.00	87.43	179.30	12,454.89	-3,219.55	-87.10	469,424.59	778,844.73	32.288183	-103.564748
15,545.00	87.30	178.34	12,459.26	-3,314.43	-85.15	469,329.71	778,846.68	32.287922	-103.564744
15,640.00	88.35	178.87	12,462.86	-3,409.33	-82.84	469,234.81	778,848.99	32.287661	-103.564739
15,735.00	88.31	178.51	12,465.63	-3,504.26	-80.66	469,139.88	778,851.16	32.287400	-103.564734
15,831.00	90.02	179.04	12,467.03	-3,600.23	-78.61	469,043.91	778,853.21	32.287136	-103.564729
15,926.00	90.42	179.04	12,466.67	-3,695.21	-77.02	468,948.93	778,854.81	32.286875	-103.564726
16,021.00	90.24	180.36	12,466.12	-3,790.21	-76.52	468,853.93	778,855.30	32.286614	-103.564727
16,117.00	89.41	180.71	12,466.41	-3,886.20	-77.42	468,757.94	778,854.41	32.286350	-103.564732
16,212.00	89.05	179.92	12,467.69	-3,981.19	-77.94	468,662.95	778,853.88	32.286089	-103.564736



Total Directional Services

Survey Report - Geographic



Company:	Devon Energy	Local Co-ordinate Reference:	Well Thistle Unit 181H
Project:	Lea County, NM (NAD83)	TVD Reference:	Cactus 129': 3710.5'+30' @ 3740.50usft
Site:	Sec 22-T23S-R33E (Thistle)	MD Reference:	Cactus 129': 3710.5'+30' @ 3740.50usft
Well:	Thistle Unit 181H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.15 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
16,308.00	89.05	179.48	12,469.28	-4,077.18	-77.44	468,566.96	778,854.39	32.285825	-103.564737
16,403.00	88.48	179.22	12,471.33	-4,172.15	-76.36	468,471.99	778,855.46	32.285564	-103.564735
16,499.00	88.40	178.78	12,473.94	-4,268.10	-74.69	468,376.04	778,857.14	32.285301	-103.564732
16,594.00	89.10	178.60	12,476.02	-4,363.05	-72.52	468,281.09	778,859.31	32.285040	-103.564727
16,690.00	89.05	178.60	12,477.57	-4,459.01	-70.17	468,185.13	778,861.66	32.284776	-103.564722
16,786.00	88.79	178.60	12,479.37	-4,554.96	-67.83	468,089.18	778,864.00	32.284512	-103.564717
16,881.00	88.31	177.99	12,481.78	-4,649.89	-65.00	467,994.25	778,866.83	32.284251	-103.564710
16,976.00	87.69	178.43	12,485.09	-4,744.79	-62.03	467,899.35	778,869.79	32.283990	-103.564702
17,072.00	87.96	178.07	12,488.74	-4,840.67	-59.11	467,803.47	778,872.72	32.283726	-103.564695
17,167.00	89.01	178.25	12,491.25	-4,935.59	-56.06	467,708.55	778,875.77	32.283465	-103.564687
17,231.42	89.54	178.31	12,492.06	-4,999.98	-54.12	467,644.16	778,877.70	32.283288	-103.564683
5000' VS TGT (Thistle Unit 181H)									
17,263.00	89.80	178.34	12,492.25	-5,031.54	-53.20	467,612.60	778,878.63	32.283202	-103.564680
17,356.25	90.79	178.43	12,491.76	-5,124.75	-50.57	467,519.39	778,881.26	32.282945	-103.564674
S22/24 Crossing									
17,358.00	90.81	178.43	12,491.74	-5,126.50	-50.52	467,517.64	778,881.30	32.282941	-103.564674
17,453.00	88.18	179.48	12,492.58	-5,221.47	-48.79	467,422.67	778,883.04	32.282680	-103.564670
17,549.00	91.38	180.36	12,492.95	-5,317.46	-48.66	467,326.68	778,883.17	32.282416	-103.564672
17,644.00	89.80	179.30	12,491.97	-5,412.45	-48.37	467,231.69	778,883.45	32.282155	-103.564674
17,740.00	88.44	179.66	12,493.44	-5,508.43	-47.50	467,135.71	778,884.32	32.281891	-103.564673
17,836.00	88.48	179.30	12,496.02	-5,604.39	-46.63	467,039.75	778,885.20	32.281627	-103.564672
17,931.00	87.12	178.43	12,499.67	-5,699.30	-44.75	466,944.84	778,887.08	32.281366	-103.564668
18,027.00	87.56	178.34	12,504.12	-5,795.16	-42.05	466,848.98	778,889.78	32.281103	-103.564662
18,122.00	89.89	178.07	12,506.24	-5,890.08	-39.07	466,754.06	778,892.75	32.280842	-103.564655
18,217.00	89.89	177.72	12,506.42	-5,985.02	-35.59	466,659.13	778,896.24	32.280581	-103.564645
18,312.00	89.89	178.34	12,506.60	-6,079.96	-32.32	466,564.18	778,899.51	32.280320	-103.564637
18,408.00	89.54	180.62	12,507.08	-6,175.95	-31.45	466,468.19	778,900.38	32.280056	-103.564636
18,504.00	90.02	180.27	12,507.45	-6,271.94	-32.19	466,372.20	778,899.63	32.279792	-103.564641
18,599.00	90.73	179.74	12,506.83	-6,366.94	-32.20	466,277.20	778,899.63	32.279531	-103.564643
18,694.00	89.93	180.97	12,506.28	-6,461.93	-32.79	466,182.21	778,899.04	32.279270	-103.564647
18,790.00	90.20	180.97	12,506.17	-6,557.92	-34.42	466,086.22	778,897.41	32.279006	-103.564655
18,885.00	88.40	179.22	12,507.33	-6,652.90	-34.57	465,991.24	778,897.25	32.278745	-103.564658
18,980.00	87.74	178.34	12,510.53	-6,747.83	-32.55	465,896.31	778,899.28	32.278484	-103.564653
19,076.00	89.41	178.87	12,512.92	-6,843.77	-30.22	465,800.37	778,901.61	32.278220	-103.564648
19,171.00	89.23	178.78	12,514.05	-6,938.74	-28.27	465,705.40	778,903.56	32.277959	-103.564644
19,266.00	89.32	179.66	12,515.25	-7,033.72	-26.97	465,610.42	778,904.85	32.277698	-103.564642
19,362.00	88.35	179.22	12,517.20	-7,129.70	-26.04	465,514.44	778,905.79	32.277434	-103.564641
19,457.00	88.84	179.30	12,519.53	-7,224.66	-24.81	465,419.48	778,907.02	32.277173	-103.564639
19,552.00	89.98	181.33	12,520.51	-7,319.65	-25.33	465,324.49	778,906.49	32.276912	-103.564643
19,648.00	88.62	181.50	12,521.68	-7,415.61	-27.70	465,228.53	778,904.12	32.276648	-103.564653
19,744.00	87.65	182.38	12,524.80	-7,511.50	-30.95	465,132.64	778,900.88	32.276385	-103.564666
19,839.00	88.48	182.12	12,528.01	-7,606.37	-34.68	465,037.77	778,897.15	32.276124	-103.564680
19,935.00	93.41	181.50	12,526.43	-7,702.28	-37.71	464,941.86	778,894.12	32.275861	-103.564692
20,030.00	89.54	178.87	12,523.98	-7,797.22	-38.01	464,846.92	778,893.81	32.275600	-103.564695
20,126.00	91.12	179.57	12,523.43	-7,893.21	-36.71	464,750.93	778,895.12	32.275336	-103.564693
20,221.00	90.59	180.18	12,522.01	-7,988.20	-36.50	464,655.94	778,895.33	32.275075	-103.564695
20,317.00	89.45	180.01	12,521.98	-8,084.19	-36.66	464,559.95	778,895.17	32.274811	-103.564698
20,412.00	88.66	180.10	12,523.55	-8,179.18	-36.75	464,464.96	778,895.08	32.274550	-103.564700
20,508.00	88.66	179.83	12,525.79	-8,275.15	-36.69	464,368.99	778,895.14	32.274286	-103.564702
20,604.00	87.65	179.92	12,528.88	-8,371.10	-36.48	464,273.04	778,895.34	32.274022	-103.564704
20,699.00	87.08	179.57	12,533.25	-8,466.00	-36.06	464,178.14	778,895.77	32.273761	-103.564704
20,794.00	87.56	180.36	12,537.69	-8,560.90	-36.00	464,083.24	778,895.82	32.273500	-103.564707
20,890.00	89.19	180.62	12,540.41	-8,656.85	-36.82	463,987.29	778,895.00	32.273237	-103.564711
20,985.00	94.73	182.56	12,537.17	-8,751.72	-39.45	463,892.42	778,892.37	32.272976	-103.564722
21,080.00	94.73	181.77	12,529.33	-8,846.33	-43.03	463,797.81	778,888.80	32.272716	-103.564736



Total Directional Services

Survey Report - Geographic



Company:	Devon Energy	Local Co-ordinate Reference:	Well Thistle Unit 181H
Project:	Lea County, NM (NAD83)	TVD Reference:	Cactus 129': 3710.5'+30' @ 3740.50usft
Site:	Sec 22-T23S-R33E (Thistle)	MD Reference:	Cactus 129': 3710.5'+30' @ 3740.50usft
Well:	Thistle Unit 181H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.15 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
21,176.00	92.66	181.94	12,523.15	-8,942.07	-46.13	463,702.07	778,885.70	32.272453	-103.564748
21,271.00	89.49	181.77	12,521.36	-9,036.99	-49.21	463,607.15	778,882.62	32.272192	-103.564760
21,366.00	88.48	180.45	12,523.05	-9,131.96	-51.05	463,512.18	778,880.78	32.271931	-103.564768
21,462.00	87.65	180.36	12,526.29	-9,227.90	-51.72	463,416.24	778,880.10	32.271667	-103.564773
21,557.00	84.84	179.66	12,532.51	-9,322.68	-51.74	463,321.46	778,880.09	32.271407	-103.564775
21,652.00	83.65	179.48	12,542.04	-9,417.20	-51.03	463,226.94	778,880.80	32.271147	-103.564775
21,747.00	85.49	179.22	12,551.02	-9,511.76	-49.96	463,132.38	778,881.87	32.270887	-103.564774
21,843.00	86.77	179.39	12,557.50	-9,607.54	-48.80	463,036.60	778,883.03	32.270624	-103.564772
21,938.00	85.93	179.04	12,563.55	-9,702.33	-47.50	462,941.81	778,884.33	32.270363	-103.564770
22,034.00	86.29	177.55	12,570.06	-9,798.07	-44.65	462,846.07	778,887.18	32.270100	-103.564763
22,129.00	86.64	177.28	12,575.92	-9,892.79	-40.37	462,751.35	778,891.46	32.269840	-103.564752
22,225.00	86.29	176.32	12,581.84	-9,988.46	-35.02	462,655.68	778,896.80	32.269577	-103.564736
22,320.00	86.20	175.61	12,588.06	-10,083.02	-28.35	462,561.12	778,903.47	32.269317	-103.564717
22,415.00	86.37	176.40	12,594.22	-10,177.59	-21.75	462,466.55	778,910.08	32.269056	-103.564698
22,511.00	86.37	175.53	12,600.30	-10,273.16	-15.01	462,370.99	778,916.82	32.268794	-103.564678
22,606.00	88.97	177.55	12,604.16	-10,367.89	-9.28	462,276.25	778,922.55	32.268533	-103.564662
22,641.43	88.52	177.94	12,604.94	-10,403.28	-7.89	462,240.86	778,923.94	32.268436	-103.564658
S24/34 Crossing									
22,702.00	87.74	178.60	12,606.92	-10,463.79	-6.06	462,180.35	778,925.77	32.268269	-103.564654
22,797.00	89.89	179.39	12,608.88	-10,558.75	-4.39	462,085.39	778,927.44	32.268008	-103.564651
22,892.00	90.20	179.30	12,608.81	-10,653.75	-3.31	461,990.39	778,928.52	32.267747	-103.564649
22,987.00	89.36	179.22	12,609.17	-10,748.74	-2.08	461,895.40	778,929.75	32.267486	-103.564647
23,083.00	86.95	178.95	12,612.26	-10,844.67	-0.55	461,799.47	778,931.28	32.267222	-103.564645
23,179.00	88.62	178.69	12,615.97	-10,940.57	1.43	461,703.57	778,933.26	32.266959	-103.564641
23,274.00	90.46	178.51	12,616.73	-11,035.54	3.75	461,608.60	778,935.58	32.266698	-103.564635
23,369.00	91.03	178.60	12,615.50	-11,130.50	6.14	461,513.64	778,937.97	32.266437	-103.564630
23,464.00	90.68	177.37	12,614.08	-11,225.43	9.48	461,418.71	778,941.31	32.266176	-103.564621
23,560.00	92.62	179.04	12,611.32	-11,321.33	12.49	461,322.81	778,944.32	32.265912	-103.564614
23,655.00	91.78	180.45	12,607.67	-11,416.26	12.91	461,227.88	778,944.74	32.265651	-103.564614
23,751.00	91.82	180.01	12,604.65	-11,512.21	12.53	461,131.93	778,944.36	32.265387	-103.564618
23,846.00	91.12	179.30	12,602.22	-11,607.17	13.10	461,036.97	778,944.93	32.265126	-103.564618
23,941.00	90.46	178.87	12,600.91	-11,702.15	14.62	460,941.99	778,946.44	32.264865	-103.564616
24,037.00	90.99	179.39	12,599.69	-11,798.13	16.07	460,846.01	778,947.90	32.264601	-103.564613
24,133.00	91.96	179.66	12,597.22	-11,894.10	16.87	460,750.04	778,948.70	32.264338	-103.564613
24,228.00	91.34	179.48	12,594.49	-11,989.05	17.58	460,655.09	778,949.41	32.264077	-103.564613
24,323.00	91.38	179.39	12,592.23	-12,084.02	18.52	460,560.12	778,950.35	32.263816	-103.564612
24,419.00	91.21	180.45	12,590.06	-12,180.00	18.65	460,464.14	778,950.48	32.263552	-103.564614
24,515.00	91.47	182.03	12,587.82	-12,275.95	16.58	460,368.20	778,948.40	32.263288	-103.564622
24,610.00	90.90	182.12	12,585.85	-12,370.86	13.14	460,273.28	778,944.96	32.263027	-103.564636
24,706.00	90.73	182.20	12,584.49	-12,466.78	9.52	460,177.36	778,941.35	32.262764	-103.564650
24,802.00	90.81	182.12	12,583.20	-12,562.71	5.90	460,081.43	778,937.73	32.262500	-103.564664
24,897.00	90.33	181.68	12,582.25	-12,657.65	2.75	459,986.49	778,934.58	32.262239	-103.564676
24,992.00	89.85	180.60	12,582.10	-12,752.63	0.86	459,891.51	778,932.69	32.261978	-103.564684
25,088.00	90.29	180.53	12,581.98	-12,848.62	-0.08	459,795.52	778,931.74	32.261714	-103.564690
25,183.00	90.77	180.36	12,581.11	-12,943.62	-0.82	459,700.52	778,931.00	32.261453	-103.564694
25,279.00	90.68	180.01	12,579.89	-13,039.61	-1.13	459,604.53	778,930.69	32.261189	-103.564697
25,374.00	90.15	179.92	12,579.20	-13,134.61	-1.07	459,509.53	778,930.75	32.260928	-103.564699
25,469.00	90.15	180.10	12,578.95	-13,229.61	-1.09	459,414.53	778,930.74	32.260667	-103.564702
25,565.00	89.49	179.39	12,579.26	-13,325.60	-0.66	459,318.54	778,931.16	32.260403	-103.564703
25,660.00	88.84	179.39	12,580.64	-13,420.59	0.35	459,223.55	778,932.17	32.260142	-103.564702
25,756.00	90.33	180.10	12,581.34	-13,516.58	0.77	459,127.56	778,932.60	32.259878	-103.564702
25,850.00	90.11	180.10	12,580.97	-13,610.58	0.61	459,033.56	778,932.44	32.259620	-103.564705
25,946.00	90.20	180.10	12,580.71	-13,706.58	0.44	458,937.56	778,932.27	32.259356	-103.564708
26,041.00	89.98	180.45	12,580.57	-13,801.58	-0.01	458,842.56	778,931.81	32.259095	-103.564712
26,137.00	90.20	180.53	12,580.41	-13,897.57	-0.83	458,746.57	778,930.99	32.258831	-103.564716



Total Directional Services

Survey Report - Geographic



Company:	Devon Energy	Local Co-ordinate Reference:	Well Thistle Unit 181H
Project:	Lea County, NM (NAD83)	TVD Reference:	Cactus 129': 3710.5'+30' @ 3740.50usft
Site:	Sec 22-T23S-R33E (Thistle)	MD Reference:	Cactus 129': 3710.5'+30' @ 3740.50usft
Well:	Thistle Unit 181H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.15 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
26,232.00	90.51	180.97	12,579.83	-13,992.56	-2.08	458,651.58	778,929.75	32.258570	-103.564723
26,327.00	89.76	180.80	12,579.60	-14,087.55	-3.54	458,556.59	778,928.28	32.258309	-103.564730
26,423.00	89.63	180.62	12,580.11	-14,183.54	-4.73	458,460.60	778,927.09	32.258045	-103.564736
26,518.00	89.49	180.62	12,580.84	-14,278.53	-5.76	458,365.61	778,926.07	32.257784	-103.564741
26,613.00	88.75	180.45	12,582.30	-14,373.52	-6.65	458,270.62	778,925.18	32.257523	-103.564746
26,709.00	89.67	179.92	12,583.63	-14,469.51	-6.96	458,174.63	778,924.87	32.257259	-103.564749
26,805.00	89.01	179.74	12,584.73	-14,565.50	-6.67	458,078.64	778,925.15	32.256995	-103.564751
26,900.00	90.24	179.39	12,585.35	-14,660.49	-5.95	457,983.65	778,925.87	32.256734	-103.564751
26,996.00	89.36	179.04	12,585.69	-14,756.48	-4.64	457,887.66	778,927.19	32.256470	-103.564749
27,091.00	90.15	180.27	12,586.09	-14,851.48	-4.07	457,792.66	778,927.76	32.256209	-103.564749
27,187.00	90.20	180.18	12,585.80	-14,947.48	-4.44	457,696.66	778,927.38	32.255945	-103.564752
27,282.00	89.32	180.27	12,586.20	-15,042.47	-4.82	457,601.67	778,927.01	32.255684	-103.564756
27,378.00	88.84	180.27	12,587.74	-15,138.46	-5.27	457,505.68	778,926.56	32.255420	-103.564759
27,473.00	88.22	180.27	12,590.18	-15,233.43	-5.72	457,410.71	778,926.11	32.255159	-103.564763
27,569.00	87.78	180.80	12,593.53	-15,329.36	-6.61	457,314.78	778,925.22	32.254896	-103.564768
27,665.00	87.03	181.15	12,597.87	-15,425.25	-8.24	457,218.89	778,923.58	32.254632	-103.564776
27,760.00	86.86	181.50	12,602.94	-15,520.09	-10.44	457,124.05	778,921.39	32.254372	-103.564785
27,849.00	86.15	181.33	12,608.36	-15,608.90	-12.63	457,035.24	778,919.20	32.254128	-103.564794
27,907.00	86.15	181.33	12,612.26	-15,666.75	-13.97	456,977.39	778,917.85	32.253969	-103.564800
BHL - PBHL (Thistle Unit 181H)									

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
11,765.00	11,756.23	116.95	-121.21	KOP	
17,356.25	12,491.76	-5,124.75	-50.57	S22/24 Crossing	
22,641.43	12,604.94	-10,403.28	-7.89	S24/34 Crossing	
27,907.00	12,612.26	-15,666.75	-13.97	BHL	

Checked By: _____ Approved By: _____ Date: _____



Devon Energy

**Lea County, NM (NAD83)
Sec 22-T23S-R33E (Thistle)
Thistle Unit 181H**

Pilot Hole

Design: Pilot Hole

Survey Report - Geographic

24 March, 2021





Total Directional Services

Survey Report - Geographic



Company:	Devon Energy	Local Co-ordinate Reference:	Well Thistle Unit 181H
Project:	Lea County, NM (NAD83)	TVD Reference:	Cactus 129': 3710.5'+30' @ 3740.50usft
Site:	Sec 22-T23S-R33E (Thistle)	MD Reference:	Cactus 129': 3710.5'+30' @ 3740.50usft
Well:	Thistle Unit 181H	North Reference:	Grid
Wellbore:	Pilot Hole	Survey Calculation Method:	Minimum Curvature
Design:	Pilot Hole	Database:	EDM 5000.15 Single User Db

Project	Lea County, NM (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		Sec 22-T23S-R33E (Thistle)			
Site Position:		Northing:	467,679.66 usft	Latitude:	32.283349
From:	Map	Easting:	780,748.91 usft	Longitude:	-103.558627
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.41 °

Well	Thistle Unit 181H					
Well Position	+N/-S	0.00 usft	Northing:	472,644.14 usft	Latitude:	32.297030
	+E/-W	0.00 usft	Easting:	778,931.83 usft	Longitude:	-103.564391
Position Uncertainty		0.00 usft	Wellhead Elevation:	3,710.50 usft	Ground Level:	3,710.50 usft

Wellbore	Pilot Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	12/8/2020	6.58	60.08	47,622.26186658

Design	Pilot Hole				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	180.00	

Survey Program	Date	3/24/2021			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
200.00	579.00	Survey #1 (Pilot Hole)	MWD	OWSG MWD - Standard	
674.00	12,529.00	Survey #2 - MWD (Pilot Hole)	OWSG (Rev2) MWD	OWSG MWD - Standard	
12,621.00	13,670.00	Survey #3 - Proj to TD (Pilot Hole)	BLIND	OWSG BLIND	

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	472,644.14	778,931.83	32.297030	-103.564391	
200.00	0.13	77.89	200.00	0.05	0.22	472,644.19	778,932.05	32.297031	-103.564391	
First Survey										
295.00	0.40	66.46	295.00	0.20	0.63	472,644.34	778,932.46	32.297031	-103.564389	
390.00	0.48	59.34	390.00	0.54	1.28	472,644.68	778,933.10	32.297032	-103.564387	
475.00	0.48	41.59	474.99	0.98	1.82	472,645.13	778,933.65	32.297033	-103.564386	
Last Survey										
484.00	0.48	39.74	483.99	1.04	1.87	472,645.18	778,933.70	32.297033	-103.564385	
579.00	0.44	45.54	578.99	1.60	2.38	472,645.74	778,934.21	32.297035	-103.564384	
674.00	0.62	42.47	673.99	2.24	2.99	472,646.38	778,934.82	32.297037	-103.564382	



Total Directional Services

Survey Report - Geographic



Company:	Devon Energy	Local Co-ordinate Reference:	Well Thistle Unit 181H
Project:	Lea County, NM (NAD83)	TVD Reference:	Cactus 129': 3710.5'+30' @ 3740.50usft
Site:	Sec 22-T23S-R33E (Thistle)	MD Reference:	Cactus 129': 3710.5'+30' @ 3740.50usft
Well:	Thistle Unit 181H	North Reference:	Grid
Wellbore:	Pilot Hole	Survey Calculation Method:	Minimum Curvature
Design:	Pilot Hole	Database:	EDM 5000.15 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
768.00	0.53	58.64	767.98	2.84	3.70	472,646.98	778,935.53	32.297038	-103.564379
863.00	0.66	42.12	862.98	3.47	4.45	472,647.61	778,936.27	32.297040	-103.564377
956.00	0.66	58.11	955.97	4.15	5.26	472,648.29	778,937.09	32.297042	-103.564374
1,051.00	0.79	48.01	1,050.96	4.88	6.21	472,649.02	778,938.04	32.297044	-103.564371
1,146.00	0.88	50.82	1,145.95	5.78	7.26	472,649.92	778,939.09	32.297046	-103.564368
1,240.00	0.75	43.88	1,239.94	6.68	8.25	472,650.82	778,940.08	32.297049	-103.564365
1,335.00	0.84	52.49	1,334.93	7.55	9.23	472,651.69	778,941.06	32.297051	-103.564361
1,405.00	0.66	41.06	1,404.93	8.17	9.91	472,652.31	778,941.73	32.297053	-103.564359
1,560.00	0.57	20.31	1,559.92	9.56	10.76	472,653.70	778,942.59	32.297057	-103.564356
1,656.00	2.15	346.21	1,655.89	11.76	10.50	472,655.90	778,942.32	32.297063	-103.564357
1,751.00	2.81	345.15	1,750.80	15.74	9.47	472,659.88	778,941.30	32.297074	-103.564360
1,847.00	3.82	332.59	1,846.64	20.86	7.40	472,665.00	778,939.23	32.297088	-103.564367
1,942.00	4.88	329.69	1,941.36	27.15	3.90	472,671.29	778,935.73	32.297105	-103.564378
2,038.00	5.10	328.89	2,037.00	34.33	-0.36	472,678.47	778,931.47	32.297125	-103.564392
2,133.00	5.05	327.05	2,131.63	41.46	-4.82	472,685.60	778,927.01	32.297145	-103.564406
2,228.00	5.05	325.55	2,226.26	48.41	-9.46	472,692.55	778,922.37	32.297164	-103.564421
2,324.00	5.27	325.91	2,321.87	55.55	-14.32	472,699.69	778,917.51	32.297183	-103.564437
2,419.00	5.27	326.35	2,416.47	62.79	-19.18	472,706.93	778,912.65	32.297203	-103.564452
2,515.00	5.27	326.43	2,512.06	70.14	-24.06	472,714.28	778,907.76	32.297224	-103.564468
2,610.00	5.67	316.24	2,606.63	77.16	-29.72	472,721.30	778,902.11	32.297243	-103.564486
2,705.00	6.15	313.95	2,701.13	84.08	-36.63	472,728.22	778,895.20	32.297262	-103.564508
2,800.00	6.20	314.13	2,795.58	91.19	-43.98	472,735.33	778,887.85	32.297282	-103.564532
2,896.00	6.29	312.81	2,891.01	98.37	-51.56	472,742.51	778,880.27	32.297302	-103.564556
2,991.00	6.20	313.34	2,985.44	105.43	-59.10	472,749.57	778,872.72	32.297321	-103.564580
3,086.00	6.46	311.93	3,079.86	112.52	-66.81	472,756.66	778,865.02	32.297341	-103.564605
3,182.00	5.80	307.98	3,175.31	119.11	-74.65	472,763.25	778,857.18	32.297359	-103.564630
3,277.00	4.79	302.00	3,269.91	124.17	-81.80	472,768.31	778,850.03	32.297373	-103.564653
3,372.00	3.38	295.85	3,364.67	127.49	-87.68	472,771.63	778,844.14	32.297383	-103.564672
3,468.00	2.29	288.03	3,460.55	129.32	-92.05	472,773.46	778,839.77	32.297388	-103.564686
3,563.00	1.10	256.47	3,555.51	129.69	-94.75	472,773.83	778,837.08	32.297389	-103.564695
3,659.00	0.97	259.28	3,651.49	129.33	-96.44	472,773.47	778,835.39	32.297388	-103.564701
3,754.00	0.92	255.51	3,746.48	128.99	-97.97	472,773.13	778,833.86	32.297387	-103.564706
3,849.00	0.31	138.79	3,841.47	128.60	-98.54	472,772.74	778,833.29	32.297386	-103.564707
3,945.00	0.31	128.33	3,937.47	128.25	-98.16	472,772.39	778,833.66	32.297385	-103.564706
4,039.00	0.35	149.42	4,031.47	127.84	-97.82	472,771.98	778,834.01	32.297384	-103.564705
4,135.00	0.26	176.23	4,127.47	127.37	-97.65	472,771.51	778,834.17	32.297383	-103.564705
4,230.00	0.18	167.26	4,222.47	127.01	-97.61	472,771.15	778,834.22	32.297382	-103.564704
4,325.00	0.70	135.10	4,317.47	126.45	-97.16	472,770.59	778,834.66	32.297380	-103.564703
4,421.00	1.32	130.35	4,413.45	125.32	-95.91	472,769.46	778,835.92	32.297377	-103.564699
4,516.00	2.02	120.42	4,508.41	123.77	-93.63	472,767.91	778,838.20	32.297373	-103.564692
4,611.00	2.20	123.32	4,603.34	121.92	-90.66	472,766.06	778,841.16	32.297367	-103.564682
4,706.00	1.41	127.71	4,698.30	120.20	-88.21	472,764.34	778,843.61	32.297363	-103.564674
4,801.00	1.76	136.15	4,793.26	118.43	-86.28	472,762.57	778,845.55	32.297358	-103.564668
4,896.00	2.11	133.16	4,888.21	116.19	-83.99	472,760.33	778,847.83	32.297351	-103.564661
4,992.00	1.10	117.43	4,984.17	114.55	-81.89	472,758.69	778,849.94	32.297347	-103.564654
5,087.00	0.31	295.23	5,079.16	114.24	-81.31	472,758.38	778,850.52	32.297346	-103.564652
5,183.00	0.70	277.48	5,175.16	114.43	-82.13	472,758.57	778,849.70	32.297347	-103.564655
5,278.00	0.84	270.53	5,270.15	114.51	-83.40	472,758.65	778,848.43	32.297347	-103.564659
5,374.00	0.75	249.27	5,366.14	114.29	-84.69	472,758.44	778,847.14	32.297346	-103.564663
5,469.00	0.75	260.69	5,461.13	113.97	-85.88	472,758.11	778,845.94	32.297345	-103.564667
5,564.00	0.70	267.11	5,556.13	113.84	-87.08	472,757.98	778,844.75	32.297345	-103.564671
5,659.00	0.70	263.15	5,651.12	113.75	-88.23	472,757.89	778,843.60	32.297345	-103.564674
5,754.00	0.75	271.77	5,746.11	113.70	-89.43	472,757.84	778,842.40	32.297345	-103.564678
5,849.00	0.62	269.92	5,841.10	113.71	-90.57	472,757.85	778,841.26	32.297345	-103.564682
5,945.00	0.57	261.39	5,937.10	113.64	-91.56	472,757.78	778,840.27	32.297345	-103.564685



Total Directional Services

Survey Report - Geographic



Company:	Devon Energy	Local Co-ordinate Reference:	Well Thistle Unit 181H
Project:	Lea County, NM (NAD83)	TVD Reference:	Cactus 129': 3710.5'+30' @ 3740.50usft
Site:	Sec 22-T23S-R33E (Thistle)	MD Reference:	Cactus 129': 3710.5'+30' @ 3740.50usft
Well:	Thistle Unit 181H	North Reference:	Grid
Wellbore:	Pilot Hole	Survey Calculation Method:	Minimum Curvature
Design:	Pilot Hole	Database:	EDM 5000.15 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
6,040.00	0.57	265.09	6,032.09	113.53	-92.49	472,757.67	778,839.33	32.297344	-103.564688
6,135.00	0.53	258.85	6,127.09	113.41	-93.40	472,757.55	778,838.43	32.297344	-103.564691
6,230.00	0.70	264.91	6,222.08	113.27	-94.41	472,757.41	778,837.42	32.297344	-103.564694
6,326.00	0.53	246.98	6,318.08	113.04	-95.40	472,757.18	778,836.43	32.297343	-103.564698
6,421.00	0.70	243.64	6,413.07	112.61	-96.32	472,756.75	778,835.50	32.297342	-103.564701
6,516.00	0.57	258.32	6,508.07	112.26	-97.31	472,756.40	778,834.52	32.297341	-103.564704
6,612.00	0.53	260.87	6,604.06	112.09	-98.21	472,756.23	778,833.62	32.297341	-103.564707
6,707.00	0.79	261.48	6,699.06	111.93	-99.29	472,756.07	778,832.53	32.297340	-103.564710
6,803.00	0.79	263.15	6,795.05	111.75	-100.60	472,755.89	778,831.22	32.297340	-103.564714
6,899.00	0.75	249.62	6,891.04	111.45	-101.85	472,755.59	778,829.98	32.297339	-103.564718
6,994.00	0.79	243.46	6,986.03	110.94	-103.02	472,755.08	778,828.81	32.297337	-103.564722
7,089.00	0.70	254.80	7,081.02	110.50	-104.17	472,754.64	778,827.66	32.297336	-103.564726
7,185.00	0.62	255.07	7,177.02	110.21	-105.23	472,754.35	778,826.59	32.297335	-103.564729
7,281.00	0.75	263.50	7,273.01	110.01	-106.36	472,754.15	778,825.47	32.297335	-103.564733
7,376.00	0.79	265.88	7,368.00	109.89	-107.63	472,754.03	778,824.20	32.297335	-103.564737
7,472.00	0.84	267.55	7,463.99	109.81	-108.99	472,753.95	778,822.83	32.297334	-103.564742
7,568.00	0.66	320.19	7,559.98	110.20	-110.05	472,754.35	778,821.78	32.297336	-103.564745
7,663.00	0.79	9.24	7,654.98	111.27	-110.30	472,755.41	778,821.53	32.297339	-103.564746
7,758.00	0.92	15.83	7,749.97	112.65	-109.98	472,756.79	778,821.85	32.297342	-103.564745
7,853.00	0.97	12.31	7,844.95	114.17	-109.60	472,758.31	778,822.22	32.297346	-103.564744
7,949.00	0.57	7.21	7,940.94	115.44	-109.37	472,759.58	778,822.46	32.297350	-103.564743
8,044.00	0.62	348.41	8,035.94	116.41	-109.41	472,760.55	778,822.41	32.297353	-103.564743
8,140.00	0.57	312.90	8,131.93	117.24	-109.87	472,761.39	778,821.96	32.297355	-103.564744
8,235.00	0.44	300.51	8,226.93	117.75	-110.53	472,761.89	778,821.30	32.297356	-103.564746
8,331.00	0.40	25.06	8,322.93	118.24	-110.70	472,762.38	778,821.12	32.297358	-103.564747
8,426.00	1.05	71.73	8,417.92	118.82	-109.74	472,762.96	778,822.09	32.297359	-103.564744
8,522.00	0.97	83.50	8,513.91	119.18	-108.09	472,763.32	778,823.73	32.297360	-103.564739
8,617.00	0.97	84.38	8,608.89	119.35	-106.49	472,763.49	778,825.33	32.297361	-103.564733
8,712.00	0.97	98.01	8,703.88	119.32	-104.90	472,763.46	778,826.93	32.297361	-103.564728
8,808.00	0.92	109.43	8,799.87	118.95	-103.37	472,763.09	778,828.46	32.297359	-103.564723
8,903.00	0.88	111.72	8,894.86	118.43	-101.97	472,762.57	778,829.86	32.297358	-103.564719
8,998.00	0.70	132.11	8,989.85	117.77	-100.86	472,761.91	778,830.97	32.297356	-103.564715
9,093.00	0.88	141.42	9,084.84	116.81	-99.98	472,760.95	778,831.85	32.297354	-103.564712
9,189.00	0.70	167.70	9,180.83	115.66	-99.39	472,759.80	778,832.44	32.297350	-103.564710
9,285.00	0.66	197.15	9,276.82	114.56	-99.43	472,758.70	778,832.40	32.297347	-103.564711
9,380.00	0.48	209.63	9,371.82	113.69	-99.79	472,757.83	778,832.04	32.297345	-103.564712
9,476.00	0.40	277.57	9,467.82	113.38	-100.32	472,757.52	778,831.51	32.297344	-103.564713
9,571.00	0.57	298.13	9,562.81	113.65	-101.06	472,757.79	778,830.76	32.297345	-103.564716
9,667.00	1.10	292.95	9,658.80	114.23	-102.33	472,758.38	778,829.49	32.297346	-103.564720
9,761.00	1.63	277.04	9,752.77	114.75	-104.49	472,758.89	778,827.34	32.297348	-103.564727
9,856.00	1.58	283.02	9,847.74	115.21	-107.11	472,759.35	778,824.72	32.297349	-103.564735
9,951.00	1.71	263.77	9,942.70	115.35	-109.79	472,759.49	778,822.03	32.297350	-103.564744
10,047.00	1.32	258.41	10,038.67	114.97	-112.30	472,759.12	778,819.53	32.297349	-103.564752
10,142.00	1.49	249.88	10,133.64	114.33	-114.53	472,758.47	778,817.29	32.297347	-103.564759
10,237.00	2.11	244.26	10,228.59	113.15	-117.27	472,757.29	778,814.56	32.297344	-103.564768
10,333.00	2.15	239.25	10,324.52	111.46	-120.41	472,755.60	778,811.42	32.297339	-103.564779
10,429.00	2.07	249.79	10,420.46	109.94	-123.58	472,754.08	778,808.25	32.297335	-103.564789
10,523.00	1.63	252.25	10,514.41	108.94	-126.45	472,753.08	778,805.38	32.297332	-103.564798
10,619.00	0.79	253.13	10,610.39	108.34	-128.38	472,752.48	778,803.45	32.297331	-103.564804
10,714.00	0.75	83.59	10,705.38	108.21	-128.39	472,752.36	778,803.44	32.297330	-103.564804
10,810.00	1.45	74.19	10,801.37	108.62	-126.60	472,752.76	778,805.23	32.297332	-103.564799
10,905.00	0.88	72.25	10,896.35	109.17	-124.75	472,753.31	778,807.08	32.297333	-103.564793
11,001.00	0.62	33.49	10,992.34	109.82	-123.76	472,753.96	778,808.07	32.297335	-103.564789
11,096.00	0.79	315.18	11,087.33	110.72	-123.94	472,754.86	778,807.89	32.297337	-103.564790
11,192.00	0.92	289.61	11,183.32	111.44	-125.13	472,755.59	778,806.70	32.297339	-103.564794



Total Directional Services

Survey Report - Geographic



Company:	Devon Energy	Local Co-ordinate Reference:	Well Thistle Unit 181H
Project:	Lea County, NM (NAD83)	TVD Reference:	Cactus 129': 3710.5'+30' @ 3740.50usft
Site:	Sec 22-T23S-R33E (Thistle)	MD Reference:	Cactus 129': 3710.5'+30' @ 3740.50usft
Well:	Thistle Unit 181H	North Reference:	Grid
Wellbore:	Pilot Hole	Survey Calculation Method:	Minimum Curvature
Design:	Pilot Hole	Database:	EDM 5000.15 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
11,287.00	1.01	24.00	11,278.31	112.47	-125.51	472,756.61	778,806.32	32.297342	-103.564795
11,383.00	1.63	48.00	11,374.29	114.15	-124.15	472,758.29	778,807.68	32.297347	-103.564791
11,478.00	1.54	58.54	11,469.25	115.72	-122.05	472,759.86	778,809.77	32.297351	-103.564784
11,574.00	0.75	52.83	11,565.23	116.78	-120.45	472,760.92	778,811.37	32.297354	-103.564779
11,669.00	0.40	278.01	11,660.23	117.20	-120.29	472,761.34	778,811.54	32.297355	-103.564778
11,765.00	0.79	243.46	11,756.23	116.95	-121.21	472,761.09	778,810.62	32.297354	-103.564781
11,860.00	1.10	233.80	11,851.21	116.12	-122.53	472,760.26	778,809.30	32.297352	-103.564785
11,956.00	0.88	231.69	11,947.20	115.12	-123.85	472,759.26	778,807.97	32.297349	-103.564790
12,051.00	0.84	222.46	12,042.19	114.15	-124.90	472,758.29	778,806.93	32.297347	-103.564793
12,147.00	1.58	204.27	12,138.17	112.42	-125.92	472,756.56	778,805.91	32.297342	-103.564796
12,242.00	2.42	200.22	12,233.11	109.35	-127.15	472,753.49	778,804.68	32.297334	-103.564800
12,338.00	1.54	194.86	12,329.05	106.20	-128.18	472,750.34	778,803.65	32.297325	-103.564804
12,433.00	1.63	229.05	12,424.01	104.08	-129.53	472,748.22	778,802.30	32.297319	-103.564808
12,529.00	1.98	230.28	12,519.97	102.13	-131.83	472,746.27	778,799.99	32.297314	-103.564816
13,612.00	1.63	237.93	13,602.43	81.99	-159.28	472,726.13	778,772.55	32.297259	-103.564905
13,670.00	1.63	237.93	13,660.41	81.11	-160.67	472,725.26	778,771.15	32.297257	-103.564910
Pilot BHL									

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
200.00	200.00	0.05	0.22	First Survey	
475.00	474.99	0.98	1.82	Last Survey	
13,670.00	13,660.41	81.11	-160.67	Pilot BHL	

Checked By: _____ Approved By: _____ Date: _____

Submit 1 Copy To Appropriate District Office
 District I – (575) 393-6161
 1625 N. French Dr., Hobbs, NM 88240
 District II – (575) 748-1283
 811 S. First St., Artesia, NM 88210
 District III – (505) 334-6178
 1000 Rio Brazos Rd., Aztec, NM 87410
 District IV – (505) 476-3460
 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 C-103
 Revised August 1, 2011

WELL API NO.	30-025-48096
5. Indicate Type of Lease STATE ☒ FEE ☐	
6. State Oil & Gas Lease No.	
7. Lease Name or Unit Agreement Name	Thistle Unit
8. Well Number	181H
9. OGRID Number	6137
10. Pool name or Wildcat	WC-025 G-09 S243310P; UPPER WOLFCAMP

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.) 1. Type of Well: Oil Well ☒ Gas Well ☐ Other ☐ 2. Name of Operator Devon Energy Production Company, L.P. 3. Address of Operator 333 West Sheridan, Oklahoma City, OK 73102 4. Well Location Unit Letter <u>C</u> : <u>160</u> feet from the <u>North</u> line and <u>1350</u> feet from the <u>West</u> line Section <u>22</u> Township <u>23S</u> Range <u>33E</u> NMPM County <u>Lea</u> 11. Elevation (Show whether DR, RKB, RT, GR, etc.) GL: 3710.5'	
---	--

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO: PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐ TEMPORARILY ABANDON ☐ CHANGE PLANS ☐ PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐ DOWNHOLE COMMINGLE ☐ OTHER: ☐		SUBSEQUENT REPORT OF: REMEDIAL WORK ☐ ALTERING CASING ☐ COMMENCE DRILLING OPNS. ☐ P AND A ☐ CASING/CEMENT JOB ☐ OTHER: Completion ☒	
---	--	---	--

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

5/19/21-7/14/21: MIRU WL & PT. TIH & ran CBL, found ETOC @ 11,478'. TIH w/pump through frac plug and guns.
 Perf Wolfcamp, 12,700'-27,781'. Frac totals 37,345,244# proppant, 25 bbl acid.
 ND frac, MIRU PU, NU BOP, DO plugs & CO to PBTD 27,839'. CHC, FWB, ND BOP. Tubing to be ran at later date. TOP.

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

SIGNATURE Rebecca Deal TITLE Regulatory Analyst DATE 8/17/2021

Type or print name Rebecca Deal E-mail address: Rebecca.Deal@dmn.com PHONE: 405-228-8429
For State Use Only

APPROVED BY: _____ TITLE _____ DATE _____
 Conditions of Approval (if any): _____

Submit To Appropriate District Office Two Copies District I 1625 N. French Dr., Hobbs, NM 88240 District II 811 S. First St., Artesia, NM 88210 District III 1000 Rio Brazos Rd., Aztec, NM 87410 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 C-105 Revised August 1, 2011					
		1. WELL API NO. 30-025-48096		2. Type of Lease ☒ STATE ☐ FEE ☐ FED/INDIAN		3. State Oil & Gas Lease No.					
WELL COMPLETION OR RECOMPLETION REPORT AND LOG											
4. Reason for filing: ☒ COMPLETION REPORT (Fill in boxes #1 through #31 for State and Fee wells only) ☐ C-144 CLOSURE ATTACHMENT (Fill in boxes #1 through #9, #15 Date Rig Released and #32 and/or #33; attach this and the plat to the C-144 closure report in accordance with 19.15.17.13.K NMAC)						5. Lease Name or Unit Agreement Name Thistle Unit 6. Well Number: 181H					
7. Type of Completion: ☒ NEW WELL ☐ WORKOVER ☐ DEEPENING ☐ PLUGBACK ☐ DIFFERENT RESERVOIR ☐ OTHER											
8. Name of Operator Devon Energy Production Company, L.P.						9. OGRID 6137					
10. Address of Operator 333 West Sheridan Avenue, Oklahoma City, OK 73102						11. Pool name or Wildcat WC-025 G-09 S243310P; UPPER WOLFCAMP					
12. Location	Unit Ltr	Section	Township	Range	Lot	Feet from the	N/S Line	Feet from the	E/W Line	County	
Surface:	C	22	23S	33E		160	North	1350	West	Lea	
BH:	M	34	23S	33E		29	South	1219	West	Lea	
13. Date Spudded 1/21/21	14. Date T.D. Reached 5/11/21 3/16/2021	15. Date Rig Released 3/19/21		16. Date Completed (Ready to Produce) 7/14/21		17. Elevations (DF and RKB, RT, GR, etc.) 3710.5' GL					
18. Total Measured Depth of Well 27,907' MD, 12,612' TVD			19. Plug Back Measured Depth 27,839'		20. Was Directional Survey Made? Yes		21. Type Electric and Other Logs Run CBL				
22. Producing Interval(s), of this completion - Top, Bottom, Name 12700-27781, UPPER WOLFCAMP											
23. CASING RECORD (Report all strings set in well)											
CASING SIZE		WEIGHT LB./FT.		DEPTH SET		HOLE SIZE		CEMENTING RECORD		AMOUNT PULLED	
13-3/8"		54.5		1477'		17-1/2"		1265 sx C/C; circ 610 sx		TOC @ 1300'	
8-5/8"		32		12,541'		9-7/8"		710 sx C/C; circ 0		TOC @ 1300'	
								SQUEEZE - 750 sx C/C; circ 0			
6" & 5-1/2"		24.5 & 20		27,891'		7-7/8"		2430 sx C/H; circ 538 sx		TOC @ 4043'	
								CMT PLUG - 120 sx C/H; circ 0		TOC @ 12,192'	
24. LINER RECORD								25. TUBING RECORD			
SIZE		TOP		BOTTOM		SACKS CEMENT		SCREEN		SIZE	
										DEPTH SET	
										PACKER SET	
26. Perforation record (interval, size, and number) 12700 - 27781, total 2254 holes						27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC. DEPTH INTERVAL 12700-27781 AMOUNT AND KIND MATERIAL USED Acidize and frac in 76 stages. See detailed summary attached.					
28. PRODUCTION											
Date First Production 7/14/21			Production Method (Flowing, gas lift, pumping - Size and type pump) Flowing					Well Status (Prod. or Shut-in) Producing			
Date of Test 8/4/21	Hours Tested 24	Choke Size	Prod'n For Test Period	Oil - Bbl 4464	Gas - MCF 7834	Water - Bbl. 5702	Gas - Oil Ratio 1455				
Flow Tubing Press. psi	Casing Pressure 923 psi	Calculated 24-Hour Rate	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API - (Corr.)					
29. Disposition of Gas (Sold, used for fuel, vented, etc.) Sold								30. Test Witnessed By			
31. List Attachments Directional Survey, Logs											
32. If a temporary pit was used at the well, attach a plat with the location of the temporary pit.											
33. If an on-site burial was used at the well, report the exact location of the on-site burial:											
Latitude				Longitude				NAD 1927 1983			
I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief											
Signature Rebecca Deal			Printed Name Rebecca Deal		Title Regulatory Analyst		Date 8/17/2021				
E-mail Address Rebecca.Deal@dmn.com											

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or deepened well and not later than 60 days after completion of closure. When submitted as a completion report, this shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, items 11, 12 and 26-31 shall be reported for each zone.

[illegible]

No. 1, from..... N/Ato..... N/A
 No. 2, from..... N/Ato..... N/A
 No. 3, from..... N/Ato..... N/A
 No. 4, from..... N/Ato..... N/A

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from.....to.....feet.....
 No. 2, from.....to.....feet.....
 No. 3, from.....to.....feet.....

LITHOLOGY RECORD (Attach additional sheet if necessary)

From	To	Thickness In Feet	Lithology

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

ACKNOWLEDGMENTS

Action 42435

ACKNOWLEDGMENTS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 42435
	Action Type: [C-104] Completion Packet (C-104C)

ACKNOWLEDGMENTS

☒	I hereby certify that the required Water Use Report has been, or will be, submitted for this wells completion.
☒	I hereby certify that the required FracFocus disclosure has been, or will be, submitted for this wells completion.

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

CONDITIONS

Action 42435

CONDITIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 42435
	Action Type: [C-104] Completion Packet (C-104C)

CONDITIONS

Created By	Condition	Condition Date
plmartinez	None	10/6/2021