

DISTRICT I
1625 N. FRENCH DR., HOBBBS, NM 86240
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) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

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

☒ AMENDED REPORT
AS-DRILLED

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-45379	Pool Code [53805]	Pool Name SAND DUNES; BONE SPRING, SOUTH
Property Code 3522	Property Name TODD 36 STATE	Well Number 231H
OGRID No. 6137	Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.	Elevation 3504.7'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	36	23-S	31-E		330	SOUTH	1629	WEST	EDDY

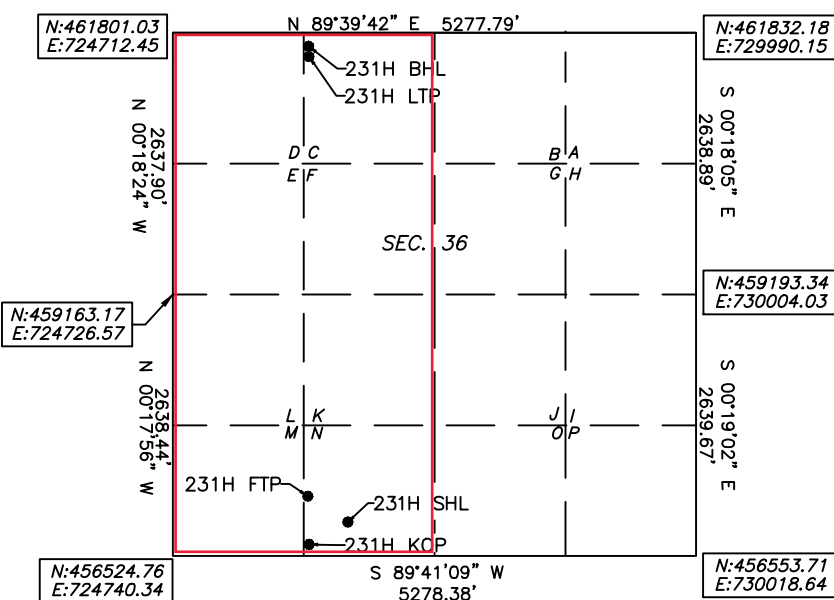
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	36	23-S	31-E		190	NORTH	1328	WEST	EDDY

Dedicated Acres 320	Joint or Infill	Consolidation Code	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

<u>TODD 36 STATE 231H</u> ELEV: 3504.7' LAT:32.254576 LONG:103.734784 N:456863.69 E:726367.59	<u>KICK OFF POINT</u> 107' FSL 1316' FWL LAT:32.253964 LON:103.735798 N:456639.35 E:726055.51	<u>FIRST TAKE POINT</u> 594' FSL 1335' FWL LAT:32.255302 LON:103.735733 N:457126.19 E:726072.63	<u>LAST TAKE POINT</u> 244' FNL 1327' FWL LAT:32.267502 LON:103.735758 N:461564.51 E:726040.33	<u>BOTTOM OF HOLE</u> LAT:32.267650 LON:103.735752 N:461618.47 E:726041.74
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Note: All bearings recited herein are based on the New Mexico State Plane Coordinate System, NAD 83, New Mexico East Zone 3001, US Survey Feet, all distances are grid.

OPERATOR CERTIFICATION

I hereby certify that the information 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 mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Jenny Harms

8-26-2020

Signature Date

JENNY HARMS

Printed Name

JENNY.HARMS@DVN.COM

E-mail Address

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.

10/18

Date of Survey

Signature & Seal of Professional Surveyor



REV: 8/26/20

Certificate No. 22404

B.L. LAMAN

DRAWN BY: CM

Intent ☐ As Drilled ☐

API #		
Operator Name:	Property Name:	Well Number

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

Is this well the defining well for the Horizontal Spacing Unit? ☐ YES

Is this well an infill well? ☐ NO

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



Final MWD Survey Certification

County, State: Eddy County, New Mexico

Client: Devon Energy

Well Name: Todd 36 State 231H

API No: 30-015-45379

Start Date: June 20, 2019

End Date: July 7, 2019

Measure Start Depth: 186.00'

Measured End Depth: 15153.00'

Vertical Section from SHL to TD: 356.46° Azm

I, Jason Turner, MWD Coordinator, hereby certify that; I am employed by Newsco International Energy Services, Inc. and we conducted or supervised the taking of these open hole MWD surveys at the request of this client. This data is true, correct, complete and within the limitations of the tool as set forth by Newsco International Energy Services, Inc. I am authorized and qualified to make this report and have reviewed this report and find that it conforms to the principals and procedures as set forth by Newsco International Energy Services, Inc.

Date: 04/13/2020

Sign: *Jason Turner*



Devon Energy

Eddy County, NM (N83-NME)

Todd State 36

Todd 36 State 231H

30-015-45379

231H

Design: Surveys

Standard Survey Report

13 April, 2020



Company:	Devon Energy	Local Co-ordinate Reference:	Well Todd36 State 231H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3504.7+23.5 @ 3528.20usft (Cactus 168)
Site:	Todd State 36	MD Reference:	3504.7+23.5 @ 3528.20usft (Cactus 168)
Well:	Todd 36 State 231H	North Reference:	Grid
Wellbore:	231H	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM 5000.15 Single User Db

Project	Eddy County, NM (N83-NME)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Todd State 36		
Site Position:		Northing:	456,863.71 usft
From:	Map	Easting:	726,367.59 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 15' 16.473 N
		Longitude:	103° 44' 5.223 W
		Grid Convergence:	0.32 °

Well	Todd 36 State 231H		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft		Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	231H		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2015	06/13/19	6.82
			Dip Angle (°)
			60.04
			Field Strength (nT)
			47,734.05

Design	Surveys		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.00	0.00	0.00
			Direction (°)
			356.46

Survey Program	Date	10/17/19		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
186.00	15,153.00	Newsco Surveys (231H)	MWD	OWSG MWD - Standard
15,207.00	15,207.00	Survey #2 - PTB (231H)	MWD	OWSG MWD - Standard

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
186.00	0.35	288.95	186.00	0.18	-0.54	0.22	0.19	0.19	0.00
277.00	0.44	267.24	277.00	0.26	-1.15	0.33	0.19	0.10	-23.86
368.00	0.40	272.34	367.99	0.25	-1.82	0.37	0.06	-0.04	5.60
460.00	0.40	278.70	459.99	0.32	-2.45	0.47	0.05	0.00	6.91
644.00	0.30	231.90	643.99	0.12	-3.47	0.33	0.16	-0.05	-25.43
736.00	0.30	243.30	735.99	-0.14	-3.87	0.10	0.06	0.00	12.39
759.00	0.30	225.00	758.99	-0.21	-3.97	0.03	0.41	0.00	-79.57
897.00	0.30	272.00	896.99	-0.45	-4.59	-0.17	0.17	0.00	34.06
986.00	0.10	314.50	985.99	-0.39	-4.87	-0.09	0.27	-0.22	47.75

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Site:	Todd State 36	MD Reference:	3504.7+23.5 @ 3528.20usft (Cactus 168)
Well:	Todd 36 State 231H	North Reference:	Grid
Wellbore:	231H	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM 5000.15 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,077.00	0.30	280.60	1,076.98	-0.29	-5.16	0.03	0.25	0.22	-37.25
1,169.00	0.30	270.00	1,168.98	-0.25	-5.64	0.10	0.06	0.00	-11.52
1,261.00	0.40	280.10	1,260.98	-0.19	-6.20	0.19	0.13	0.11	10.98
1,354.00	0.70	260.90	1,353.98	-0.22	-7.08	0.21	0.37	0.32	-20.65
1,444.00	0.60	239.20	1,443.97	-0.55	-8.03	-0.06	0.29	-0.11	-24.11
1,536.00	0.60	254.60	1,535.97	-0.93	-8.91	-0.37	0.17	0.00	16.74
1,628.00	0.40	267.90	1,627.96	-1.07	-9.69	-0.47	0.25	-0.22	14.46
1,719.00	0.60	253.80	1,718.96	-1.21	-10.47	-0.56	0.26	0.22	-15.49
1,813.00	0.40	259.90	1,812.96	-1.41	-11.26	-0.71	0.22	-0.21	6.49
1,907.00	0.40	289.70	1,906.95	-1.35	-11.89	-0.62	0.22	0.00	31.70
2,002.00	0.50	264.40	2,001.95	-1.28	-12.62	-0.50	0.23	0.11	-26.63
2,096.00	0.60	302.30	2,095.95	-1.06	-13.44	-0.23	0.39	0.11	40.32
2,191.00	0.70	304.80	2,190.94	-0.46	-14.34	0.43	0.11	0.11	2.63
2,285.00	0.90	319.40	2,284.93	0.43	-15.29	1.37	0.30	0.21	15.53
2,379.00	0.80	347.10	2,378.92	1.63	-15.92	2.61	0.45	-0.11	29.47
2,473.00	0.80	337.30	2,472.91	2.87	-16.32	3.87	0.15	0.00	-10.43
2,568.00	1.00	1.50	2,567.90	4.31	-16.55	5.33	0.45	0.21	25.47
2,662.00	1.10	5.80	2,661.89	6.03	-16.44	7.03	0.14	0.11	4.57
2,757.00	1.40	23.00	2,756.86	8.01	-15.89	8.97	0.50	0.32	18.11
2,851.00	1.60	23.70	2,850.83	10.26	-14.92	11.17	0.21	0.21	0.74
2,945.00	2.00	26.60	2,944.78	12.93	-13.66	13.75	0.44	0.43	3.09
3,039.00	2.20	35.80	3,038.72	15.86	-11.87	16.57	0.42	0.21	9.79
3,133.00	2.30	33.20	3,132.65	18.90	-9.78	19.47	0.15	0.11	-2.77
3,227.00	2.40	40.60	3,226.57	21.98	-7.46	22.40	0.34	0.11	7.87
3,322.00	2.60	40.00	3,321.48	25.14	-4.78	25.39	0.21	0.21	-0.63
3,416.00	2.60	43.30	3,415.38	28.32	-1.95	28.39	0.16	0.00	3.51
3,512.00	2.80	43.50	3,511.28	31.61	1.16	31.48	0.21	0.21	0.21
3,606.00	3.00	43.20	3,605.16	35.07	4.42	34.73	0.21	0.21	-0.32
3,701.00	1.50	61.00	3,700.08	37.48	7.21	36.97	1.72	-1.58	18.74
3,796.00	1.40	93.00	3,795.05	38.02	9.46	37.37	0.85	-0.11	33.68
3,890.00	2.40	112.30	3,889.00	37.22	12.42	36.38	1.25	1.06	20.53
3,985.00	2.10	146.50	3,983.93	35.01	15.22	34.00	1.42	-0.32	36.00
4,080.00	3.60	184.30	4,078.82	30.58	15.96	29.54	2.45	1.58	39.79
4,175.00	6.70	198.70	4,173.43	22.36	13.96	21.45	3.51	3.26	15.16
4,269.00	8.20	201.90	4,266.63	10.94	9.70	10.32	1.66	1.60	3.40
4,363.00	7.10	212.20	4,359.80	-0.19	4.11	-0.45	1.87	-1.17	10.96
4,458.00	5.40	233.90	4,454.24	-7.80	-2.64	-7.62	3.03	-1.79	22.84
4,553.00	5.20	240.50	4,548.84	-12.55	-9.99	-11.91	0.67	-0.21	6.95
4,647.00	5.80	244.70	4,642.40	-16.68	-18.00	-15.53	0.77	0.64	4.47
4,741.00	6.70	244.60	4,735.84	-21.06	-27.24	-19.34	0.96	0.96	-0.11
4,835.00	7.80	242.70	4,829.09	-26.34	-37.87	-23.95	1.20	1.17	-2.02
4,930.00	8.00	234.80	4,923.19	-33.10	-49.00	-30.01	1.16	0.21	-8.32
5,025.00	7.60	230.90	5,017.31	-40.88	-59.27	-37.14	0.70	-0.42	-4.11

Company:	Devon Energy	Local Co-ordinate Reference:	Well Todd36 State 231H
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Site:	Todd State 36	MD Reference:	3504.7+23.5 @ 3528.20usft (Cactus 168)
Well:	Todd 36 State 231H	North Reference:	Grid
Wellbore:	231H	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM 5000.15 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,119.00	7.10	221.40	5,110.55	-49.16	-67.94	-44.87	1.40	-0.53	-10.11
5,213.00	7.20	216.20	5,203.82	-58.27	-75.26	-53.51	0.70	0.11	-5.53
5,307.00	7.60	212.30	5,297.03	-68.27	-82.06	-63.08	0.68	0.43	-4.15
5,402.00	7.10	210.10	5,391.25	-78.66	-88.36	-73.06	0.60	-0.53	-2.32
5,497.00	6.20	203.30	5,485.61	-88.46	-93.34	-82.52	1.26	-0.95	-7.16
5,592.00	6.00	207.60	5,580.08	-97.57	-97.67	-91.35	0.52	-0.21	4.53
5,687.00	6.80	210.60	5,674.48	-106.81	-102.83	-100.25	0.91	0.84	3.16
5,781.00	8.60	205.40	5,767.63	-117.95	-108.68	-111.01	2.05	1.91	-5.53
5,876.00	8.80	212.30	5,861.54	-130.51	-115.61	-123.12	1.12	0.21	7.26
5,970.00	7.60	218.00	5,954.58	-141.48	-123.28	-133.60	1.54	-1.28	6.06
6,064.00	6.00	232.40	6,047.92	-149.38	-131.00	-141.00	2.47	-1.70	15.32
6,159.00	5.00	243.80	6,142.49	-154.24	-138.65	-145.38	1.55	-1.05	12.00
6,253.00	5.20	247.80	6,236.12	-157.66	-146.27	-148.32	0.43	0.21	4.26
6,348.00	5.80	242.50	6,330.68	-161.50	-154.51	-151.65	0.83	0.63	-5.58
6,442.00	6.60	241.70	6,424.13	-166.25	-163.48	-155.84	0.86	0.85	-0.85
6,537.00	6.40	240.20	6,518.52	-171.47	-172.88	-160.47	0.28	-0.21	-1.58
6,632.00	7.10	242.40	6,612.86	-176.82	-182.68	-165.20	0.79	0.74	2.32
6,724.00	6.10	237.00	6,704.25	-182.12	-191.82	-169.93	1.28	-1.09	-5.87
6,818.00	5.80	236.90	6,797.74	-187.44	-199.98	-174.73	0.32	-0.32	-0.11
6,913.00	5.10	238.20	6,892.31	-192.28	-207.59	-179.09	0.75	-0.74	1.37
7,102.00	4.00	238.40	7,080.71	-200.16	-220.35	-186.17	0.58	-0.58	0.11
7,196.00	3.60	237.40	7,174.51	-203.47	-225.63	-189.15	0.43	-0.43	-1.06
7,291.00	3.30	236.90	7,269.33	-206.57	-230.43	-191.94	0.32	-0.32	-0.53
7,386.00	3.20	237.30	7,364.18	-209.50	-234.95	-194.59	0.11	-0.11	0.42
7,481.00	2.30	231.30	7,459.07	-212.12	-238.67	-196.97	0.99	-0.95	-6.32
7,575.00	1.90	237.10	7,553.01	-214.15	-241.45	-198.83	0.48	-0.43	6.17
7,669.00	1.60	238.60	7,646.96	-215.68	-243.88	-200.20	0.32	-0.32	1.60
7,764.00	1.50	244.60	7,741.93	-216.90	-246.14	-201.28	0.20	-0.11	6.32
7,859.00	1.40	235.70	7,836.90	-218.09	-248.22	-202.34	0.26	-0.11	-9.37
7,952.00	1.40	240.50	7,929.87	-219.29	-250.15	-203.42	0.13	0.00	5.16
8,047.00	1.50	238.40	8,024.84	-220.51	-252.21	-204.51	0.12	0.11	-2.21
8,142.00	1.40	232.80	8,119.81	-221.86	-254.20	-205.74	0.18	-0.11	-5.89
8,237.00	1.70	228.90	8,214.78	-223.49	-256.18	-207.24	0.33	0.32	-4.11
8,332.00	1.40	226.50	8,309.74	-225.22	-258.09	-208.85	0.32	-0.32	-2.53
8,390.00	1.30	227.20	8,367.73	-226.15	-259.08	-209.72	0.17	-0.17	1.21
8,503.00	1.10	226.10	8,480.70	-227.78	-260.81	-211.23	0.18	-0.18	-0.97
8,598.00	0.70	226.20	8,575.69	-228.81	-261.88	-212.20	0.42	-0.42	0.11
8,693.00	0.70	215.90	8,670.68	-229.68	-262.64	-213.02	0.13	0.00	-10.84
8,787.00	0.40	221.30	8,764.68	-230.39	-263.20	-213.70	0.32	-0.32	5.74
8,882.00	0.30	44.80	8,859.68	-230.47	-263.24	-213.77	0.74	-0.11	-185.79
8,976.00	0.80	300.40	8,953.67	-229.96	-263.63	-213.24	0.98	0.53	-111.06
9,069.00	1.50	296.80	9,046.65	-229.08	-265.28	-212.26	0.76	0.75	-3.87
9,163.00	1.40	294.40	9,140.62	-228.05	-267.42	-211.10	0.12	-0.11	-2.55

Company:	Devon Energy	Local Co-ordinate Reference:	Well Todd36 State 231H
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Site:	Todd State 36	MD Reference:	3504.7+23.5 @ 3528.20usft (Cactus 168)
Well:	Todd 36 State 231H	North Reference:	Grid
Wellbore:	231H	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM 5000.15 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,257.00	1.70	298.40	9,234.59	-226.91	-269.69	-209.82	0.34	0.32	4.26
9,351.00	2.10	291.20	9,328.54	-225.63	-272.53	-208.37	0.49	0.43	-7.66
9,445.00	1.80	285.80	9,422.48	-224.60	-275.55	-207.16	0.37	-0.32	-5.74
9,671.00	1.60	260.10	9,648.39	-224.18	-282.08	-206.33	0.35	-0.09	-11.37
9,765.00	1.70	250.70	9,742.35	-224.87	-284.68	-206.85	0.31	0.11	-10.00
9,859.00	1.80	244.00	9,836.30	-225.97	-287.33	-207.80	0.24	0.11	-7.13
9,920.00	1.69	17.41	9,897.29	-225.54	-287.92	-207.32	5.25	-0.18	218.71
KOP: 9920.00' MD, 9897.29' TVD									
9,954.00	3.40	29.80	9,931.26	-224.18	-287.27	-206.01	5.25	5.03	36.43
10,048.00	17.30	3.30	10,023.53	-207.72	-285.07	-189.72	15.25	14.79	-28.19
10,095.00	24.00	3.30	10,067.49	-191.19	-284.11	-173.27	14.26	14.26	0.00
10,142.00	27.80	4.70	10,109.76	-170.71	-282.66	-152.93	8.19	8.09	2.98
10,189.00	33.10	3.00	10,150.26	-146.96	-281.09	-129.31	11.42	11.28	-3.62
10,236.00	38.80	3.10	10,188.29	-119.41	-279.62	-101.92	12.13	12.13	0.21
10,283.00	42.50	6.70	10,223.95	-88.93	-276.97	-71.65	9.32	7.87	7.66
10,330.00	46.30	7.40	10,257.53	-56.30	-272.93	-39.34	8.15	8.09	1.49
10,377.00	49.80	4.60	10,288.94	-21.55	-269.30	-4.87	8.66	7.45	-5.96
10,424.00	52.50	3.60	10,318.42	14.96	-266.69	31.40	5.98	5.74	-2.13
10,471.00	54.70	2.50	10,346.31	52.73	-264.69	68.98	5.05	4.68	-2.34
10,518.00	58.70	0.80	10,372.11	91.99	-263.57	108.09	9.03	8.51	-3.62
10,565.00	61.60	0.10	10,395.50	132.75	-263.25	148.75	6.30	6.17	-1.49
10,612.00	64.10	359.60	10,416.95	174.57	-263.36	190.50	5.40	5.32	-1.06
10,659.00	65.20	359.00	10,437.07	217.04	-263.88	232.92	2.61	2.34	-1.28
10,708.00	72.30	358.30	10,454.82	262.66	-264.96	278.53	14.55	14.49	-1.43
10,755.00	76.60	359.30	10,467.42	307.92	-265.91	323.76	9.38	9.15	2.13
10,786.00	78.90	359.80	10,473.99	338.21	-266.15	354.00	7.58	7.42	1.61
10,802.00	80.20	359.30	10,476.90	353.95	-266.27	369.72	8.69	8.13	-3.13
10,849.00	84.10	358.30	10,483.31	400.49	-267.25	416.23	8.56	8.30	-2.13
10,897.00	84.50	358.50	10,488.08	448.23	-268.58	463.96	0.93	0.83	0.42
10,944.00	86.23	358.25	10,491.88	495.06	-269.91	510.78	3.72	3.68	-0.53
EOC: 10944.00' MD, 10491.88' TVD									
10,992.00	88.00	358.00	10,494.29	542.97	-271.48	558.70	3.72	3.68	-0.53
11,086.00	88.40	357.90	10,497.25	636.86	-274.84	652.62	0.44	0.43	-0.11
11,181.00	89.00	357.50	10,499.40	731.76	-278.65	747.57	0.76	0.63	-0.42
11,275.00	90.00	357.20	10,500.22	825.65	-282.99	841.56	1.11	1.06	-0.32
11,370.00	90.80	357.20	10,499.56	920.54	-287.63	936.54	0.84	0.84	0.00
11,465.00	88.70	358.60	10,499.97	1,015.46	-291.12	1,031.51	2.66	-2.21	1.47
11,560.00	89.90	358.80	10,501.13	1,110.43	-293.27	1,126.42	1.28	1.26	0.21
11,654.00	91.30	358.40	10,500.15	1,204.40	-295.57	1,220.35	1.55	1.49	-0.43
11,749.00	88.80	358.50	10,500.07	1,299.35	-298.14	1,315.29	2.63	-2.63	0.11
11,844.00	89.00	358.90	10,501.89	1,394.31	-300.29	1,410.20	0.47	0.21	0.42
11,938.00	89.80	359.80	10,502.88	1,488.30	-301.36	1,504.07	1.28	0.85	0.96
12,033.00	90.40	0.50	10,502.71	1,583.30	-301.11	1,598.87	0.97	0.63	0.74
12,128.00	91.00	1.20	10,501.55	1,678.28	-299.70	1,693.58	0.97	0.63	0.74

Company:	Devon Energy	Local Co-ordinate Reference:	Well Todd36 State 231H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3504.7+23.5 @ 3528.20usft (Cactus 168)
Site:	Todd State 36	MD Reference:	3504.7+23.5 @ 3528.20usft (Cactus 168)
Well:	Todd 36 State 231H	North Reference:	Grid
Wellbore:	231H	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM 5000.15 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,221.00	88.70	1.60	10,501.79	1,771.24	-297.43	1,786.23	2.51	-2.47	0.43
12,316.00	89.30	1.70	10,503.45	1,866.19	-294.69	1,880.83	0.64	0.63	0.11
12,410.00	89.80	1.70	10,504.19	1,960.14	-291.90	1,974.43	0.53	0.53	0.00
12,505.00	89.10	1.10	10,505.10	2,055.11	-289.58	2,069.07	0.97	-0.74	-0.63
12,600.00	89.80	1.60	10,506.01	2,150.08	-287.34	2,163.72	0.91	0.74	0.53
12,695.00	90.60	1.50	10,505.68	2,245.04	-284.78	2,258.35	0.85	0.84	-0.11
12,789.00	89.30	359.70	10,505.76	2,339.03	-283.79	2,352.09	2.36	-1.38	-1.91
12,884.00	88.80	357.80	10,507.34	2,433.99	-285.86	2,447.00	2.07	-0.53	-2.00
12,979.00	89.60	357.40	10,508.66	2,528.90	-289.84	2,541.97	0.94	0.84	-0.42
13,074.00	88.70	358.40	10,510.07	2,623.82	-293.32	2,636.93	1.42	-0.95	1.05
13,169.00	89.20	358.50	10,511.81	2,718.77	-295.89	2,731.86	0.54	0.53	0.11
13,263.00	89.20	357.50	10,513.13	2,812.70	-299.17	2,825.81	1.06	0.00	-1.06
13,358.00	89.90	356.60	10,513.87	2,907.57	-304.06	2,920.80	1.20	0.74	-0.95
13,453.00	88.60	358.80	10,515.12	3,002.48	-307.87	3,015.76	2.69	-1.37	2.32
13,548.00	88.60	358.30	10,517.44	3,097.42	-310.28	3,110.67	0.53	0.00	-0.53
13,643.00	89.30	358.60	10,519.18	3,192.37	-312.84	3,205.60	0.80	0.74	0.32
13,737.00	89.90	357.80	10,519.83	3,286.32	-315.80	3,299.55	1.06	0.64	-0.85
13,831.00	89.30	359.30	10,520.49	3,380.28	-318.18	3,393.48	1.72	-0.64	1.60
13,925.00	89.20	0.30	10,521.72	3,474.27	-318.50	3,487.31	1.07	-0.11	1.06
14,020.00	88.60	2.30	10,523.55	3,569.23	-316.35	3,581.95	2.20	-0.63	2.11
14,115.00	89.00	2.00	10,525.54	3,664.14	-312.79	3,676.46	0.53	0.42	-0.32
14,209.00	86.00	2.20	10,529.63	3,757.98	-309.35	3,769.91	3.20	-3.19	0.21
14,304.00	86.10	1.30	10,536.18	3,852.71	-306.45	3,864.28	0.95	0.11	-0.95
14,399.00	86.40	1.00	10,542.39	3,947.48	-304.55	3,958.76	0.45	0.32	-0.32
14,493.00	86.50	0.70	10,548.21	4,041.29	-303.16	4,052.30	0.34	0.11	-0.32
14,587.00	88.90	359.90	10,551.99	4,135.21	-302.67	4,146.01	2.69	2.55	-0.85
14,682.00	89.00	359.80	10,553.73	4,230.19	-302.91	4,240.82	0.15	0.11	-0.11
14,777.00	89.30	359.80	10,555.14	4,325.18	-303.25	4,335.65	0.32	0.32	0.00
14,871.00	89.90	0.10	10,555.79	4,419.18	-303.33	4,429.47	0.71	0.64	0.32
14,965.00	88.00	1.50	10,557.51	4,513.15	-302.02	4,523.18	2.51	-2.02	1.49
15,058.00	87.90	1.40	10,560.84	4,606.06	-299.66	4,615.77	0.15	-0.11	-0.11
15,153.00	88.50	1.50	10,563.82	4,700.98	-297.26	4,710.36	0.64	0.63	0.11
Final MWD Survey: 15153.00' MD, 88.50°INC, 1.50°AZ									
15,207.00	88.50	1.50	10,565.24	4,754.94	-295.85	4,764.14	0.00	0.00	0.00
PTB: 15207.00' MD, 10565.24' TVD									

Company:	Devon Energy	Local Co-ordinate Reference:	Well Todd36 State 231H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3504.7+23.5 @ 3528.20usft (Cactus 168)
Site:	Todd State 36	MD Reference:	3504.7+23.5 @ 3528.20usft (Cactus 168)
Well:	Todd 36 State 231H	North Reference:	Grid
Wellbore:	231H	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM 5000.15 Single User Db

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
LP(TS231) - actual wellpath misses target center by 27.62usft at 10791.15usft MD (10474.97 TVD, 343.27 N, -266.17 E) - Point	0.00	0.00	10,498.0 0	338.91	-280.78	457,202.62	726,086.81	32° 15' 19.842 N	103° 44' 8.470 W
LTP(TS231) - actual wellpath misses target center by 91.43usft at 15207.00usft MD (10565.24 TVD, 4754.94 N, -295.85 E) - Point	0.00	0.00	10,555.3 7	4,845.44	-304.35	461,709.15	726,063.24	32° 16' 4.437 N	103° 44' 8.453 W
PBHL(TS231) - actual wellpath misses target center by 170.98usft at 15207.00usft MD (10565.24 TVD, 4754.94 N, -295.85 E) - Point	0.00	0.00	10,556.0 7	4,925.44	-304.79	461,789.15	726,062.80	32° 16' 5.229 N	103° 44' 8.453 W
TW(TS231) - actual wellpath misses target center by 170.98usft at 15207.00usft MD (10565.24 TVD, 4754.94 N, -295.85 E) - Rectangle (sides W0.00 H1,635.00 D10.00)	0.58	359.71	10,556.0 7	4,925.44	-304.79	461,789.15	726,062.80	32° 16' 5.229 N	103° 44' 8.453 W

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
9,920.00	9,897.29	-225.54	-287.92	KOP: 9920.00' MD, 9897.29' TVD
10,944.00	10,491.88	495.06	-269.91	EOC: 10944.00' MD, 10491.88' TVD
15,153.00	10,563.82	4,700.98	-297.26	Final MWD Survey: 15153.00' MD, 88.50°INC, 1.50°AZ
15,207.00	10,565.24	4,754.94	-295.85	PTB: 15207.00' MD, 10565.24' TVD