

State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Sarah Cottrell Propst
Cabinet Secretary

Todd E. Leahy, JD, PhD
Deputy Secretary

Adrienne Sandoval, Division Director
Oil Conservation Division



Notice of C-104 Denial and Request for Information

OCD denies your C-104 – *Request for Allowable and Authorization to Transport* because it is incomplete or conflicts with other information provided to OCD.

The sale or transport of product without a C-104 approved by OCD violates the Oil and Gas Act and the implementing rules, including 19.15.7.15 and 19.15.16.19 NMAC.

To avoid an enforcement action, you must submit the indicated information no later than 30 days after receipt of this notice.

Test Allowable, New Well and Recompleted Well

- ☐ C-103 (or BLM equivalent) for all casing strings
 - ☐ Spud Notice
 - ☒ Surface Casing
 - ☒ Intermediate Casing (if applicable)
 - ☒ Additional Intermediate Casing (if applicable)
 - ☒ Production Casing or Liner

} Amend C-103's
+ Submit

☐ Applicable Order (NSL, NSP, Other _____)

☐ Deviation Survey for Vertical Wells

☒ Directional Survey *Certified*

☐ C-102 (As-Drilled Plat for Horizontal Well)

New Well and Recompleted Well Only

☒ C-103 Completion Sundry (or BLM equivalent)

Amend C-103 (Online Denial)

☐ C-105 Completion Report (or BLM equivalent)

☐ All Logs Run on Well

If you have any questions please contact the local OCD District Office

Dr. A. J. C. M. &
M. J. C. M.

1911

Dr. A. J. C. M. &
M. J. C. M.

RECEIVED

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

DEC 06 2019

Form C-104
Revised August 1, 2011

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

DISTRICT IV ARTESIA O.C.D.

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 / 10/14/19
⁴ API Number 30-015-45303	⁵ Pool Name CEDAR CANYON; BONE SPRING	⁶ Pool Code 11520
⁷ Property Code 320827	⁸ Property Name SPUD MUFFIN 31-30	⁹ Well Number 334H

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
P	31	23S	29E		485	South	250	East	EDDY

¹¹ Bottom Hole Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	30	23S	29E		38	North	976	East	EDDY
¹² Lse Code F	¹³ Producing Method Code F	¹⁴ Gas Connection Date 10/14/19	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
036785	DCP Midstream P.O. Box 50020 Midland, TX 79710-0020	Gas
320009	EnLink Midstream Operating, LP 2501 Cedar Springs Road, Suite 100, Dallas, TX 75201	Oil

IV. Well Completion Data

²¹ Spud Date 1/9/19	²² Ready Date 10/14/19	²³ TD 19970	²⁴ PBTB 19908 ✓	²⁵ Perforations 9978 - 19794 ✓	²⁶ DHC, MC
²⁷ Hole Size	²⁸ Casing & Tubing Size	²⁹ Depth Set	³⁰ Sacks Cement		
17.5	13.375	377	625 SX CLC; Circ 380		
10.625	8.625	9125	1115 SX CLC; Circ 200		
7.875	5.5	19956	1845 SX CLC; Circ 391		
	Tubing:	0			

V. Well Test Data

³¹ Date New Oil 10/14/19	³² Gas Delivery Date 10/14/19	³³ Test Date 10/26/19	³⁴ Test Length 24 hrs	³⁵ Tbg. Pressure 2496 psi	³⁶ Csg. Pressure 1895 psi
³⁷ Choke Size	³⁸ Oil 1640 bbl	³⁹ Water 6312 bbl	⁴⁰ Gas 3711 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:

Printed name:

Erin Workman

Title:

Regulatory Analyst

E-mail Address:

Erin.Workman@dm.com

Date:

12/5/2019

Phone:

405-552-7970

Approved by:

Title:

Approval:

OIL CONSERVATION DIVISION

DENIED
See Attached Cover Sheet

RECEIVED

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

DEC 06 2019

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-45303	² Pool Code 11520	³ Pool Name CEDAR CANYON; BONE SPRING
⁴ Property Code	⁵ Property Name SPUD MUFFIN 31-30 FED COM	⁶ Well Number 334H
⁷ OGRID No. 6137	⁸ Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.	⁹ Elevation 2959.7

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
P	31	23 S	29 E		485	SOUTH	250	EAST	EDDY

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
A	30	23 S	29 E		38	NORTH	976	EAST	EDDY

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
320			

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.

88°16'48"E 2559.70 FT NW CORNER SEC. 30 LAT. = 32.2836076°N LONG. = 104.0322470°W NMSP EAST (FT) N = 467039.80 E = 634382.44 W/4 CORNER SEC. 30 LAT. = 32.2762567°N LONG. = 104.0322531°W NMSP EAST (FT) N = 464365.66 E = 634388.03 SECTION CORNER LAT. = 32.2689439°N LONG. = 104.0322843°W NMSP EAST (FT) N = 461705.34 E = 634385.85 W/4 CORNER SEC. 31 SCALED SW CORNER SEC. 31 LAT. = 32.2543216°N LONG. = 104.0323498°W NMSP EAST (FT) N = 456385.89 E = 634380.54		88°23'39"E 2610.85 FT N/4 CORNER SEC. 30 LAT. = 32.2833764°N LONG. = 104.0239703°W NMSP EAST (FT) N = 466963.00 E = 636940.42 LAST TAKE POINT 159° FNL, 962' FEL LAT. = 32.2827987°N LONG. = 104.0186407°W QUARTER CORNER LAT. = 32.2687693°N LONG. = 104.0241083°W S/4 CORNER SEC. 31 LAT. = 32.2542498°N LONG. = 104.0238067°W NMSP EAST (FT) N = 456367.27 E = 637021.56 SPUD MUFFIN 31-30 334H ELEV. = 2959.7' LAT. = 32.255517°N (NAD83) LONG. = 104.0160728°W NMSP EAST (FT) N = 456835.36 E = 639410.99 KICK OFF POINT 102° FSL, 894' FEL LAT. = 32.2544833°N LONG. = 104.0181359°W FIRST TAKE POINT 598° FSL, 895' FEL LAT. = 32.2558456°N LONG. = 104.0181965°W SURFACE LOCATION 250'		NE CORNER SEC. 30 LAT. = 32.2831544°N LONG. = 104.0155278°W NMSP EAST (FT) N = 466889.85 E = 639549.68 E/4 CORNER SEC. 30 SCALED SECTION CORNER LAT. = 32.2686163°N LONG. = 104.0155239°W NMSP EAST (FT) N = 461601.10 E = 639566.56 E/4 CORNER SEC. 31 LAT. = 32.2613968°N LONG. = 104.0153807°W NMSP EAST (FT) N = 458974.88 E = 639618.59 SE CORNER SEC. 31 LAT. = 32.2541772°N LONG. = 104.0152375°W NMSP EAST (FT) N = 456348.63 E = 639670.65	
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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.

Erin Workman 11/27/2019
Signature Date

Erin Workman

Printed Name

Erin.workman@dmn.co

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.

SEPTEMBER 12, 2018

Date of Survey

Signature and Seal of Professional Surveyor

Certificate Number FILMONT F. JARAMILLO, P.S. 12797

SURVEY NO. 6277C

RECEIVED

DEC 06 2019

Intent ☐ As Drilled ☒

DISTRICT 7 - ARTESIA O.C.D.

API # 30-015-45303		
Operator Name: DEVON ENERGY PRODUCTION COMPANY, L.P.	Property Name: SPUD MUFFIN 31-30	Well Number 334H

Kick Off Point (KOP)

UL P	Section 31	Township 23S	Range 29E	Lot	Feet 102	From N/S SOUTH	Feet 894	From E/W EAST	County EDDY
Latitude 32.2544833					Longitude 104.0181359			NAD 83	

First Take Point (FTP)

UL P	Section 31	Township 23S	Range 29E	Lot	Feet 598	From N/S SOUTH	Feet 905	From E/W EAST	County EDDY
Latitude 32.2558456					Longitude 104.0181965			NAD 83	

Last Take Point (LTP)

UL A	Section 30	Township 23S	Range 29E	Lot	Feet 159	From N/S NORTH	Feet 962	From E/W EAST	County EDDY
Latitude 32.2827987					Longitude 104.0186407			NAD 83	

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

KZ 06/29/2018

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DEC 06 2019

DISTRICT II - ARTESIA O.C.D.

Devon

SURVEY REPORT

Spud Muffin 31-30-334H

Cactus 167

This survey is correct to the best of my knowledge and is supported by actual field data.

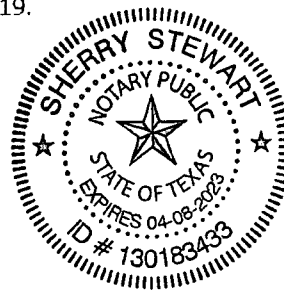
Notarized this data 6th of December, 2019.

Sherry Stewart

Notary Signature

County of Midland

State of Texas



The Ultimate Partner In Wellbore Placement



Scientific Drilling

Devon Energy

Eddy County, NM (NAD83 NME)

Spud Muffin 31-30

334H

OH

Survey: SDI Survey #1

Standard Survey Report

08 March, 2019



Scientific Drilling

www.scientificdrilling.com

Company:	Devon Energy	Local Co-ordinate Reference:	Well 334H
Project:	Eddy County, NM (NAD83 NME)	TVD Reference:	KB = 24' @ 2984.00usft (Cactus 167)
Site:	Spud Muffin 31-30	MD Reference:	KB = 24' @ 2984.00usft (Cactus 167)
Well:	334H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland District

Project	Eddy County, NM (NAD83 NME)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		Using geodetic scale factor

Site	Spud Muffin 31-30		
Site Position:		Northing:	456,686.87 usft
From:	Map	Easting:	639,208.90 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 15' 18.399 N
		Longitude:	104° 1' 0.221 W
		Grid Convergence:	0.17 °

Well	334H		
Well Position	+N/-S	0.00 usft	Northing: 456,835.59 usft
	+E/-W	0.00 usft	Easting: 639,380.98 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	32° 15' 19.865 N
		Longitude:	104° 0' 58.211 W
		Ground Level:	2,960.00 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	HDGM	12/4/2018	(°) 7.08
			Dip Angle (°) 60.02
			Field Strength (nT) 47,962

Design	OH		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction (bearing) 358.88

Survey Program	Date	3/7/2019	
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
269.00	19,067.00	SDI Survey #1 (OH)	MWD+HDGM
			Description
			OWSG MWD + HDGM

Survey									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn
Depth	(°)	(bearing)	Depth	(usft)	(usft)	Section	Rate	Rate	Rate
(usft)			(usft)			(usft)	(°/100usft)	(°/100usft)	(°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
269.00	0.33	355.40	269.00	0.77	-0.06	0.77	0.12	0.12	0.00
419.00	0.50	24.65	418.99	1.80	0.18	1.79	0.18	0.11	19.50
509.00	0.29	223.03	508.99	1.99	0.18	1.98	0.87	-0.23	-179.58
602.00	0.62	36.59	601.99	2.22	0.32	2.21	0.98	0.35	186.62
692.00	0.47	44.58	691.99	2.87	0.87	2.86	0.19	-0.17	8.88
783.00	0.79	49.20	782.98	3.55	1.61	3.52	0.36	0.35	5.08
875.00	0.76	56.22	874.97	4.30	2.60	4.25	0.11	-0.03	7.63
966.00	0.98	56.41	965.96	5.07	3.75	5.00	0.24	0.24	0.21
1,056.00	1.22	54.68	1,055.95	6.05	5.17	5.95	0.27	0.27	-1.92

Company:	Devon Energy	Local Co-ordinate Reference:	Well 334H
Project:	Eddy County, NM (NAD83 NME)	TVD Reference:	KB = 24' @ 2984.00usft (Cactus 167)
Site:	Spud Muffin 31-30	MD Reference:	KB = 24' @ 2984.00usft (Cactus 167)
Well:	334H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland District

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,146.00	1.00	59.50	1,145.93	7.00	6.63	6.87	0.27	-0.24	5.36
1,236.00	1.44	220.43	1,235.92	6.54	6.57	6.41	2.67	0.49	178.81
1,325.00	0.90	215.99	1,324.90	5.12	5.44	5.02	0.61	-0.61	-4.99
1,416.00	0.89	204.55	1,415.89	3.90	4.72	3.81	0.20	-0.01	-12.57
1,507.00	0.74	194.76	1,506.88	2.69	4.28	2.61	0.22	-0.16	-10.76
1,600.00	0.57	175.57	1,599.88	1.65	4.16	1.57	0.30	-0.18	-20.63
1,691.00	0.38	159.92	1,690.87	0.91	4.30	0.83	0.25	-0.21	-17.20
1,782.00	0.63	126.61	1,781.87	0.33	4.81	0.24	0.41	0.27	-36.60
1,876.00	0.32	267.29	1,875.87	0.01	4.96	-0.09	0.96	-0.33	149.66
1,971.00	0.84	277.72	1,970.86	0.09	4.00	0.01	0.56	0.55	10.98
2,066.00	0.41	8.68	2,065.86	0.52	3.36	0.46	0.99	-0.45	95.75
2,161.00	0.90	61.04	2,160.85	1.22	4.07	1.14	0.76	0.52	55.12
2,257.00	1.90	94.14	2,256.83	1.47	6.32	1.35	1.30	1.04	34.48
2,352.00	1.72	119.26	2,351.78	0.66	9.13	0.48	0.85	-0.19	26.44
2,448.00	2.24	173.26	2,447.73	-1.91	10.61	-2.12	1.93	0.54	56.25
2,543.00	3.58	206.20	2,542.61	-6.41	9.52	-6.60	2.20	1.41	34.67
2,639.00	4.65	221.42	2,638.37	-12.02	5.62	-12.13	1.58	1.11	15.85
2,734.00	4.88	224.04	2,733.04	-17.81	0.26	-17.82	0.33	0.24	2.76
2,830.00	5.30	240.39	2,828.66	-22.94	-6.43	-22.81	1.57	0.44	17.03
2,925.00	5.89	247.11	2,923.21	-27.00	-14.74	-26.71	0.93	0.62	7.07
3,020.00	6.21	248.21	3,017.68	-30.81	-24.00	-30.33	0.36	0.34	1.16
3,115.00	7.01	255.06	3,112.05	-34.21	-34.37	-33.53	1.18	0.84	7.21
3,211.00	6.51	252.40	3,207.38	-37.37	-45.22	-36.47	0.61	-0.52	-2.77
3,306.00	6.08	257.32	3,301.81	-40.10	-55.26	-39.01	0.73	-0.45	5.18
3,402.00	6.33	259.19	3,397.25	-42.21	-65.42	-40.92	0.33	0.26	1.95
3,497.00	7.56	260.08	3,491.55	-44.27	-76.72	-42.76	1.30	1.29	0.94
3,593.00	9.60	254.62	3,586.47	-47.48	-90.66	-45.70	2.29	2.13	-5.69
3,688.00	10.18	249.40	3,680.06	-52.53	-106.16	-50.45	1.12	0.61	-5.49
3,783.00	10.05	246.21	3,773.59	-58.83	-121.60	-56.44	0.61	-0.14	-3.36
3,879.00	10.02	238.42	3,868.12	-66.58	-136.38	-63.90	1.41	-0.03	-8.11
3,974.00	10.68	233.11	3,961.58	-76.20	-150.46	-73.24	1.22	0.69	-5.59
4,070.00	9.96	232.29	4,056.02	-86.61	-164.15	-83.39	0.77	-0.75	-0.85
4,165.00	9.66	233.98	4,149.64	-96.33	-177.09	-92.85	0.44	-0.32	1.78
4,260.00	9.17	232.91	4,243.36	-105.58	-189.58	-101.85	0.55	-0.52	-1.13
4,356.00	8.80	236.74	4,338.18	-114.22	-201.82	-110.25	0.73	-0.39	3.99
4,451.00	10.39	244.57	4,431.85	-121.88	-215.63	-117.65	2.16	1.67	8.24
4,547.00	10.99	244.69	4,526.18	-129.51	-231.72	-124.96	0.63	0.63	0.13
4,642.00	10.88	245.80	4,619.46	-137.06	-248.09	-132.18	0.25	-0.12	1.17
4,737.00	10.84	243.24	4,712.76	-144.76	-264.24	-139.56	0.51	-0.04	-2.69
4,832.00	11.73	234.55	4,805.93	-154.38	-280.09	-148.88	2.02	0.94	-9.15
4,928.00	11.46	233.56	4,899.97	-165.71	-295.71	-159.89	0.35	-0.28	-1.03
5,023.00	10.84	232.49	4,993.17	-176.75	-310.39	-170.65	0.69	-0.65	-1.13
5,118.00	10.87	232.88	5,086.47	-187.60	-324.62	-181.21	0.08	0.03	0.41
5,213.00	10.12	231.12	5,179.88	-198.24	-338.26	-191.59	0.86	-0.79	-1.85

Company:	Devon Energy	Local Co-ordinate Reference:	Well 334H
Project:	Eddy County, NM (NAD83 NME)	TVD Reference:	KB = 24' @ 2984.00usft (Cactus 167)
Site:	Spud Muffin 31-30	MD Reference:	KB = 24' @ 2984.00usft (Cactus 167)
Well:	334H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland District

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,308.00	8.92	231.59	5,273.57	-208.06	-350.52	-201.16	1.27	-1.26	0.49
5,403.00	8.24	229.58	5,367.51	-217.05	-361.48	-209.94	0.78	-0.72	-2.12
5,498.00	8.76	233.80	5,461.47	-225.73	-372.50	-218.41	0.85	0.55	4.44
5,593.00	9.10	239.22	5,555.32	-233.85	-384.79	-226.28	0.95	0.36	5.71
5,688.00	9.83	240.39	5,649.02	-241.70	-398.30	-233.87	0.79	0.77	1.23
5,783.00	10.48	242.61	5,742.54	-249.68	-413.02	-241.56	0.80	0.68	2.34
5,879.00	10.75	243.93	5,836.89	-257.63	-428.81	-249.20	0.38	0.28	1.38
5,974.00	10.33	244.70	5,930.29	-265.17	-444.47	-256.43	0.47	-0.44	0.81
6,070.00	9.45	244.18	6,024.86	-272.28	-459.35	-263.25	0.92	-0.92	-0.54
6,165.00	9.36	245.85	6,118.59	-278.84	-473.42	-269.53	0.30	-0.09	1.76
6,260.00	9.48	244.30	6,212.31	-285.39	-487.52	-275.81	0.30	0.13	-1.63
6,355.00	10.24	241.57	6,305.90	-292.80	-501.99	-282.93	0.94	0.80	-2.87
6,449.00	10.32	236.67	6,398.39	-301.41	-516.37	-291.26	0.93	0.09	-5.21
6,545.00	10.36	235.41	6,492.84	-311.03	-530.67	-300.60	0.24	0.04	-1.31
6,640.00	8.92	230.63	6,586.49	-320.55	-543.39	-309.87	1.73	-1.52	-5.03
6,736.00	7.75	232.50	6,681.48	-329.22	-554.28	-318.32	1.25	-1.22	1.95
6,831.00	6.33	238.52	6,775.76	-335.85	-563.83	-324.76	1.68	-1.49	6.34
6,926.00	5.69	238.39	6,870.24	-341.05	-572.31	-329.80	0.67	-0.67	-0.14
7,020.00	4.64	238.07	6,963.85	-345.51	-579.50	-334.11	1.12	-1.12	-0.34
7,115.00	4.41	241.93	7,058.56	-349.26	-585.99	-337.74	0.40	-0.24	4.06
7,210.00	3.73	244.23	7,153.32	-352.32	-591.99	-340.68	0.74	-0.72	2.42
7,305.00	3.69	256.35	7,248.12	-354.38	-597.75	-342.63	0.83	-0.04	12.76
7,401.00	3.41	257.23	7,343.94	-355.74	-603.53	-343.88	0.30	-0.29	0.92
7,496.00	2.71	256.54	7,438.80	-356.89	-608.47	-344.93	0.74	-0.74	-0.73
7,592.00	2.65	243.68	7,534.70	-358.40	-612.67	-346.36	0.63	-0.06	-13.40
7,687.00	2.23	239.44	7,629.61	-360.32	-616.23	-348.20	0.48	-0.44	-4.46
7,783.00	1.29	233.26	7,725.56	-361.91	-618.70	-349.75	1.00	-0.98	-6.44
7,878.00	0.61	211.23	7,820.55	-362.99	-619.82	-350.80	0.80	-0.72	-23.19
7,974.00	0.63	214.84	7,916.55	-363.86	-620.39	-351.66	0.05	0.02	3.76
8,069.00	1.22	222.05	8,011.53	-365.04	-621.36	-352.82	0.63	0.62	7.59
8,164.00	1.64	210.25	8,106.50	-366.96	-622.73	-354.72	0.54	0.44	-12.42
8,260.00	1.93	210.65	8,202.46	-369.54	-624.24	-357.27	0.30	0.30	0.42
8,355.00	2.32	202.05	8,297.39	-372.70	-625.78	-360.39	0.53	0.41	-9.05
8,451.00	2.34	199.10	8,393.31	-376.35	-627.15	-364.02	0.13	0.02	-3.07
8,545.00	2.31	197.39	8,487.23	-379.97	-628.34	-367.62	0.08	-0.03	-1.82
8,641.00	2.26	198.98	8,583.16	-383.61	-629.54	-371.23	0.08	-0.05	1.66
8,736.00	2.41	214.49	8,678.08	-387.02	-631.28	-374.61	0.68	0.16	16.33
8,832.00	2.68	213.26	8,773.99	-390.56	-633.65	-378.10	0.29	0.28	-1.28
8,927.00	2.25	214.20	8,868.90	-393.96	-635.92	-381.46	0.45	-0.45	0.99
9,021.00	2.24	214.23	8,962.82	-397.01	-637.99	-384.46	0.01	-0.01	0.03
9,064.00	2.11	215.11	9,005.79	-398.35	-638.92	-385.79	0.31	-0.30	2.05
9,215.00	3.49	345.43	9,156.70	-396.18	-641.67	-383.56	3.39	0.91	86.30
9,262.00	10.26	353.02	9,203.34	-390.63	-642.54	-378.00	14.50	14.40	16.15

Company:	Devon Energy	Local Co-ordinate Reference:	Well 334H
Project:	Eddy County, NM (NAD83 NME)	TVD Reference:	KB = 24' @ 2984.00usft (Cactus 167)
Site:	Spud Muffin 31-30	MD Reference:	KB = 24' @ 2984.00usft (Cactus 167)
Well:	334H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland District

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,311.00	17.35	354.09	9,250.89	-379.02	-643.83	-366.36	14.48	14.47	2.18
9,358.00	21.75	0.80	9,295.18	-363.33	-644.43	-350.66	10.50	9.36	14.28
9,406.00	27.65	0.41	9,338.77	-343.28	-644.22	-330.62	12.30	12.29	-0.81
9,453.00	33.96	357.39	9,379.12	-319.24	-644.74	-306.57	13.82	13.43	-6.43
9,502.00	40.22	354.39	9,418.19	-289.79	-646.92	-277.09	13.30	12.78	-6.12
9,549.00	44.65	356.36	9,452.87	-258.19	-649.45	-245.44	9.84	9.43	4.19
9,596.00	48.38	357.95	9,485.21	-224.14	-651.13	-211.37	8.31	7.94	3.38
9,643.00	50.58	358.58	9,515.74	-188.43	-652.21	-175.64	4.79	4.68	1.34
9,692.00	52.34	359.11	9,546.27	-150.11	-652.98	-137.32	3.69	3.59	1.08
9,739.00	54.11	359.58	9,574.41	-112.47	-653.40	-99.67	3.85	3.77	1.00
9,787.00	56.89	358.37	9,601.59	-72.92	-654.12	-60.12	6.15	5.79	-2.52
9,834.00	59.10	356.44	9,626.50	-33.11	-655.93	-20.28	5.85	4.70	-4.11
9,882.00	63.50	357.19	9,649.55	8.92	-658.26	21.78	9.27	9.17	1.56
9,929.00	68.81	358.96	9,668.54	51.86	-659.69	64.75	11.81	11.30	3.77
9,978.00	73.03	359.73	9,684.56	98.16	-660.22	111.04	8.74	8.61	1.57
10,025.00	75.91	359.31	9,697.14	143.44	-660.60	156.32	6.19	6.13	-0.89
10,072.00	79.79	359.02	9,707.03	189.37	-661.27	202.26	8.28	8.26	-0.62
10,098.85	82.42	358.43	9,711.18	215.88	-661.86	228.78	10.02	9.79	-2.18
FTP[SM\334H]									
10,119.00	84.39	358.00	9,713.50	235.89	-662.48	248.80	10.02	9.79	-2.16
10,167.00	86.48	357.94	9,717.32	283.71	-664.18	296.64	4.36	4.35	-0.13
10,214.00	89.67	358.28	9,718.90	330.65	-665.73	343.60	6.83	6.79	0.72
10,263.00	90.10	357.24	9,719.00	379.61	-667.64	392.59	2.30	0.88	-2.12
10,310.00	90.23	357.77	9,718.86	426.57	-669.69	439.57	1.16	0.28	1.13
10,358.00	90.57	357.54	9,718.52	474.52	-671.65	487.56	0.86	0.71	-0.48
10,453.00	87.59	358.08	9,720.05	569.43	-675.28	582.52	3.19	-3.14	0.57
10,549.00	87.22	357.50	9,724.40	665.26	-678.98	678.41	0.72	-0.39	-0.60
10,644.00	87.52	358.45	9,728.76	760.10	-682.33	773.29	1.05	0.32	1.00
10,740.00	88.25	357.58	9,732.30	855.98	-685.66	869.22	1.18	0.76	-0.91
10,835.00	89.40	357.66	9,734.25	950.87	-689.60	964.17	1.21	1.21	0.08
10,930.00	91.47	358.35	9,733.53	1,045.81	-692.91	1,059.15	2.30	2.18	0.73
11,025.00	90.97	358.25	9,731.50	1,140.74	-695.72	1,154.12	0.54	-0.53	-0.11
11,121.00	90.10	356.72	9,730.61	1,236.64	-699.94	1,250.09	1.83	-0.91	-1.59
11,214.00	92.55	359.57	9,728.46	1,329.55	-702.95	1,343.04	4.04	2.63	3.06
11,309.00	93.15	359.92	9,723.73	1,424.43	-703.37	1,437.91	0.73	0.63	0.37
11,404.00	92.21	0.44	9,719.29	1,519.33	-703.07	1,532.78	1.13	-0.99	0.55
11,499.00	89.93	0.75	9,717.52	1,614.30	-702.08	1,627.71	2.42	-2.40	0.33
11,594.00	89.63	359.81	9,717.88	1,709.30	-701.62	1,722.68	1.04	-0.32	-0.99
11,689.00	86.85	0.23	9,720.80	1,804.24	-701.59	1,817.61	2.96	-2.93	0.44
11,785.00	86.55	0.64	9,726.32	1,900.08	-700.86	1,913.42	0.53	-0.31	0.43
11,880.00	88.69	0.96	9,730.27	1,994.98	-699.53	2,008.28	2.28	2.25	0.34
11,975.00	90.57	0.81	9,730.88	2,089.97	-698.07	2,103.21	1.99	1.98	-0.16
12,071.00	89.83	1.42	9,730.55	2,185.95	-696.20	2,199.14	1.00	-0.77	0.64
12,167.00	90.60	2.71	9,730.19	2,281.88	-692.74	2,294.98	1.56	0.80	1.34

Company:	Devon Energy	Local Co-ordinate Reference:	Well 334H
Project:	Eddy County, NM (NAD83 NME)	TVD Reference:	KB = 24' @ 2984.00usft (Cactus 167)
Site:	Spud Muffin 31-30	MD Reference:	KB = 24' @ 2984.00usft (Cactus 167)
Well:	334H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland District

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,262.00	90.20	3.02	9,729.52	2,376.76	-687.99	2,389.75	0.53	-0.42	0.33
12,358.00	87.52	2.60	9,731.43	2,472.62	-683.29	2,485.50	2.83	-2.79	-0.44
12,452.00	88.39	0.40	9,734.79	2,566.52	-680.83	2,579.33	2.52	0.93	-2.34
12,548.00	90.23	0.10	9,735.95	2,662.50	-680.41	2,675.30	1.94	1.92	-0.31
12,643.00	90.60	359.76	9,735.26	2,757.50	-680.53	2,770.28	0.53	0.39	-0.36
12,739.00	86.95	356.09	9,737.31	2,853.38	-684.00	2,866.21	5.39	-3.80	-3.82
12,833.00	86.15	354.02	9,742.97	2,946.86	-692.08	2,959.82	2.36	-0.85	-2.20
12,838.56	86.15	354.06	9,743.34	2,952.37	-692.66	2,965.35	0.66	0.03	0.66
AP1[SM\334H]									
12,874.46	86.16	354.29	9,745.75	2,988.01	-696.30	3,001.05	0.66	0.03	0.66
T1[SM\334H]									
12,928.00	86.18	354.65	9,749.32	3,041.18	-701.44	3,054.31	0.66	0.03	0.66
13,023.00	86.92	356.46	9,755.04	3,135.72	-708.79	3,148.98	2.06	0.78	1.91
13,119.00	88.96	356.74	9,758.49	3,231.48	-714.48	3,244.83	2.14	2.13	0.29
13,214.00	88.96	358.99	9,760.21	3,326.40	-718.02	3,339.80	2.37	0.00	2.37
13,310.00	89.60	359.05	9,761.42	3,422.37	-719.66	3,435.79	0.67	0.67	0.06
13,405.00	91.68	358.31	9,760.36	3,517.34	-721.85	3,530.78	2.32	2.19	-0.78
13,501.00	90.97	358.14	9,758.14	3,613.27	-724.82	3,626.74	0.76	-0.74	-0.18
13,596.00	90.70	357.98	9,756.75	3,708.20	-728.04	3,721.72	0.33	-0.28	-0.17
13,691.00	91.54	357.92	9,754.90	3,803.12	-731.43	3,816.69	0.89	0.88	-0.06
13,781.00	89.13	356.94	9,754.37	3,893.02	-735.47	3,906.65	2.89	-2.68	-1.09
13,886.00	89.50	357.09	9,755.63	3,997.87	-740.94	4,011.59	0.38	0.35	0.14
13,977.00	90.91	357.23	9,755.30	4,088.76	-745.44	4,102.55	1.56	1.55	0.15
14,072.00	92.08	359.47	9,752.82	4,183.68	-748.18	4,197.50	2.66	1.23	2.36
14,167.00	90.17	359.96	9,750.96	4,278.65	-748.65	4,292.47	2.08	-2.01	0.52
14,263.00	90.20	359.72	9,750.65	4,374.65	-748.92	4,388.45	0.25	0.03	-0.25
14,358.00	90.27	359.68	9,750.26	4,469.65	-749.42	4,483.44	0.08	0.07	-0.04
14,453.00	90.37	359.79	9,749.73	4,564.65	-749.86	4,578.43	0.16	0.11	0.12
14,548.00	89.66	359.52	9,749.70	4,659.64	-750.43	4,673.42	0.80	-0.75	-0.28
14,643.00	89.16	358.93	9,750.68	4,754.63	-751.71	4,768.42	0.81	-0.53	-0.62
14,739.00	90.00	359.44	9,751.38	4,850.62	-753.08	4,864.41	1.02	0.88	0.53
14,835.00	88.22	357.66	9,752.88	4,946.57	-755.51	4,960.39	2.62	-1.85	-1.85
14,930.00	88.26	357.75	9,755.79	5,041.45	-759.31	5,055.32	0.10	0.04	0.09
15,024.00	91.27	2.01	9,756.18	5,135.41	-759.51	5,149.28	5.55	3.20	4.53
15,118.00	87.82	0.93	9,756.92	5,229.36	-757.09	5,243.16	3.85	-3.67	-1.15
15,211.00	89.03	359.67	9,759.48	5,322.32	-756.61	5,336.10	1.88	1.30	-1.35
15,303.00	90.94	359.28	9,759.51	5,414.31	-757.45	5,428.09	2.12	2.08	-0.42
15,397.00	88.16	358.52	9,760.24	5,508.28	-759.26	5,522.07	3.07	-2.96	-0.81
15,492.00	89.20	358.08	9,762.43	5,603.22	-762.07	5,617.04	1.19	1.09	-0.46
15,585.00	90.34	358.70	9,762.81	5,696.18	-764.69	5,710.04	1.40	1.23	0.67
15,679.00	92.02	357.70	9,760.87	5,790.11	-767.64	5,804.00	2.08	1.79	-1.06
15,774.00	92.99	359.47	9,756.72	5,884.98	-769.98	5,898.91	2.12	1.02	1.86
15,868.00	92.89	358.81	9,751.90	5,978.85	-771.39	5,992.78	0.71	-0.11	-0.70

Company:	Devon Energy	Local Co-ordinate Reference:	Well 334H
Project:	Eddy County, NM (NAD83 NME)	TVD Reference:	KB = 24' @ 2984.00usft (Cactus 167)
Site:	Spud Muffin 31-30	MD Reference:	KB = 24' @ 2984.00usft (Cactus 167)
Well:	334H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland District

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
15,963.00	89.73	1.23	9,749.72	6,073.80	-771.36	6,087.72	4.19	-3.33	2.55
16,057.00	89.46	0.41	9,750.39	6,167.79	-770.01	6,181.66	0.92	-0.29	-0.87
16,152.00	89.60	359.44	9,751.17	6,262.78	-770.14	6,276.64	1.03	0.15	-1.02
16,248.00	88.49	359.19	9,752.77	6,358.76	-771.28	6,372.62	1.19	-1.16	-0.26
16,343.00	88.46	359.26	9,755.30	6,453.72	-772.57	6,467.59	0.08	-0.03	0.07
16,438.00	89.23	359.57	9,757.21	6,548.70	-773.54	6,562.56	0.87	0.81	0.33
16,532.00	89.70	358.12	9,758.09	6,642.67	-775.43	6,656.56	1.62	0.50	-1.54
16,627.00	89.19	359.00	9,759.01	6,737.63	-777.82	6,751.55	1.07	-0.54	0.93
16,721.00	90.67	359.73	9,759.12	6,831.62	-778.86	6,845.54	1.76	1.57	0.78
16,816.00	91.04	358.81	9,757.71	6,926.61	-780.07	6,940.53	1.04	0.39	-0.97
16,910.00	90.94	358.74	9,756.08	7,020.57	-782.08	7,034.52	0.13	-0.11	-0.07
17,004.00	90.77	359.02	9,754.68	7,114.54	-783.92	7,128.50	0.35	-0.18	0.30
17,098.00	90.67	357.95	9,753.50	7,208.50	-786.40	7,222.49	1.14	-0.11	-1.14
17,193.00	90.40	359.95	9,752.61	7,303.47	-788.14	7,317.48	2.12	-0.28	2.11
17,287.00	89.13	0.35	9,753.00	7,397.47	-787.90	7,411.46	1.42	-1.35	0.43
17,382.00	90.34	0.19	9,753.44	7,492.47	-787.45	7,506.43	1.28	1.27	-0.17
17,477.00	90.27	0.18	9,752.93	7,587.47	-787.14	7,601.40	0.07	-0.07	-0.01
17,571.00	89.33	358.77	9,753.26	7,681.46	-788.00	7,695.39	1.80	-1.00	-1.50
17,666.00	88.72	358.27	9,754.87	7,776.41	-790.46	7,790.38	0.83	-0.64	-0.53
17,761.00	89.80	358.77	9,756.10	7,871.37	-792.91	7,885.37	1.25	1.14	0.53
17,856.00	89.33	358.01	9,756.82	7,966.33	-795.58	7,980.36	0.94	-0.49	-0.80
17,951.00	90.00	358.58	9,757.38	8,061.28	-798.41	8,075.35	0.93	0.71	0.60
18,046.00	90.23	358.44	9,757.19	8,156.25	-800.88	8,170.35	0.28	0.24	-0.15
18,142.00	91.88	0.21	9,755.42	8,252.22	-802.01	8,266.32	2.52	1.72	1.84
18,237.00	91.74	0.11	9,752.42	8,347.17	-801.74	8,361.25	0.18	-0.15	-0.11
18,332.00	90.44	358.27	9,750.61	8,442.14	-803.08	8,456.23	2.37	-1.37	-1.94
18,428.00	89.87	357.35	9,750.35	8,538.07	-806.75	8,552.21	1.13	-0.59	-0.96
18,523.00	89.36	358.17	9,750.99	8,632.99	-810.47	8,647.19	1.02	-0.54	0.86
18,619.00	89.36	358.61	9,752.06	8,728.95	-813.16	8,743.18	0.46	0.00	0.46
18,714.00	89.00	359.83	9,753.42	8,823.93	-814.46	8,838.16	1.34	-0.38	1.28
18,807.00	89.03	358.99	9,755.02	8,916.91	-815.41	8,931.14	0.90	0.03	-0.90
18,903.00	90.17	359.85	9,755.69	9,012.90	-816.39	9,027.14	1.49	1.19	0.90
18,998.00	90.47	0.24	9,755.16	9,107.90	-816.31	9,122.11	0.52	0.32	0.41
19,093.00	91.28	1.22	9,753.71	9,202.88	-815.10	9,217.05	1.34	0.85	1.03
19,188.00	91.34	1.72	9,751.54	9,297.82	-812.66	9,311.93	0.53	0.06	0.53
19,282.00	90.94	1.70	9,749.67	9,391.76	-809.86	9,405.80	0.43	-0.43	-0.02
19,376.00	91.01	1.03	9,748.07	9,485.72	-807.62	9,499.69	0.72	0.07	-0.71
19,470.00	90.03	359.96	9,747.22	9,579.71	-806.81	9,593.65	1.54	-1.04	-1.14
19,565.00	89.93	357.88	9,747.25	9,674.69	-808.60	9,688.64	2.19	-0.11	-2.19
19,659.00	90.77	356.56	9,746.67	9,768.57	-813.16	9,782.60	1.66	0.89	-1.40
19,753.00	91.44	355.22	9,744.86	9,862.31	-819.89	9,876.45	1.59	0.71	-1.43
19,848.00	91.88	353.12	9,742.11	9,956.77	-829.54	9,971.09	2.26	0.46	-2.21
MWD Survey (19848.00' MD)									
19,911.00	91.95	352.21	9,740.00	10,019.22	-837.58	10,033.68	1.45	0.11	-1.44

Company:	Devon Energy	Local Co-ordinate Reference:	Well 334H
Project:	Eddy County, NM (NAD83 NME)	TVD Reference:	KB = 24' @ 2984.00usft (Cactus 167)
Site:	Spud Muffin 31-30	MD Reference:	KB = 24' @ 2984.00usft (Cactus 167)
Well:	334H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland District

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Proj. to Bit (19911.00' MD) - BHL[SM334H]									

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
19,848.00	9,742.11	9,956.77	-829.54	MWD Survey (19848.00' MD)
19,911.00	9,740.00	10,019.22	-837.58	Proj. to Bit (19911.00' MD)

Checked By: _____	Approved By: _____	Date: _____
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