

HOBBS OCD

Devon

Fluffy Cat 16-21 State Fed Com 216H

Cactus 167

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

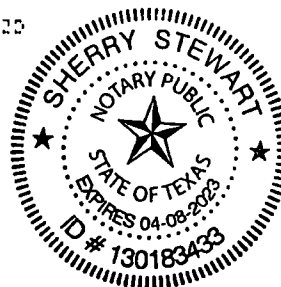
Notarized this data 6th of January 2020

Sherry Stewart

Notary Signature

County of Midland

State of Texas



Scientific Drilling

The

In Wellbore Placement



Scientific Drilling

Devon Energy

**Lea County, NM (NAD83 NME)
Fluffy Cat 16-21 State Fed Com
216H**

OH

Design: OH

Standard Survey Report

06 January, 2020



Scientific Drilling

www.scientificdrilling.com



Scientific Drilling, Intl Survey Report



Company: Devon Energy
Project: Lea County, NM (NAD83 NME)
Site: Fluffy Cat 16-21 State Fed Com
Well: 216H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well 216H
TVD Reference: KB = 23' @ 3713.00usft (Cactus 167)
MD Reference: KB = 23' @ 3713.00usft (Cactus 167)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland

Project	Lea 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	Fluffy Cat 16-21 State Fed Com		
Site Position:	Map	Northing:	474,853.07 usft
From:		Easting:	744,870.62 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 18' 13.411 N
		Longitude:	103° 40' 28.470 W
		Grid Convergence:	0.35 °

Well	216H		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	32° 18' 13.377 N
		Longitude:	103° 40' 40.934 W
		Ground Level:	3,690.00 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination (°)
	HDGM	3/27/2019	6.77
		Dip Angle (°)	60.02
		Field Strength (nT)	47,997.70000000

Design	OH		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.00	0.00	0.00
		Direction (bearing)	180.25

Survey Program	Date 6/24/2019		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
209.00	18,377.00	SDI Surveys (OH)	MWD+HDGM
			Description
			OWSG MWD + HDGM

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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
209.00	0.68	234.60	209.00	-0.72	-1.01	0.72	0.33	0.33	0.00
360.00	0.88	239.78	359.98	-1.82	-2.74	1.83	0.14	0.13	3.43
450.00	1.07	240.80	449.97	-2.58	-4.07	2.60	0.21	0.21	1.13
540.00	0.93	246.58	539.95	-3.28	-5.48	3.30	0.19	-0.16	6.42
630.00	0.88	237.97	629.94	-3.94	-6.73	3.97	0.16	-0.06	-9.57
720.00	0.80	234.46	719.93	-4.67	-7.83	4.70	0.11	-0.09	-3.90
812.00	0.84	226.52	811.92	-5.51	-8.84	5.54	0.13	0.04	-8.63
902.00	0.81	233.34	901.91	-6.34	-9.83	6.38	0.11	-0.03	7.58
993.00	0.73	228.39	992.91	-7.11	-10.78	7.15	0.11	-0.09	-5.44

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Well:	216H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland

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)
1,084.00	0.53	228.08	1,083.90	-7.77	-11.53	7.82	0.22	-0.22	-0.34
1,174.00	0.60	224.22	1,173.90	-8.39	-12.17	8.44	0.09	0.08	-4.29
1,338.00	1.34	261.08	1,337.87	-9.30	-14.66	9.37	0.57	0.45	22.48
1,428.00	0.97	250.92	1,427.85	-9.71	-16.42	9.79	0.47	-0.41	-11.29
1,519.00	0.89	199.44	1,518.84	-10.63	-17.38	10.71	0.89	-0.09	-56.57
1,610.00	0.51	92.93	1,609.84	-11.32	-17.21	11.40	1.26	-0.42	-117.04
1,700.00	1.47	63.10	1,699.83	-10.82	-15.78	10.89	1.18	1.07	-33.14
1,791.00	1.26	63.22	1,790.80	-9.84	-13.85	9.90	0.23	-0.23	0.13
1,887.00	0.94	63.29	1,886.78	-9.01	-12.20	9.06	0.33	-0.33	0.07
1,982.00	0.89	75.74	1,981.77	-8.48	-10.79	8.53	0.22	-0.05	13.11
2,077.00	0.69	97.16	2,076.76	-8.37	-9.51	8.41	0.37	-0.21	22.55
2,172.00	0.81	73.96	2,171.75	-8.25	-8.30	8.29	0.34	0.13	-24.42
2,267.00	0.36	102.77	2,266.75	-8.13	-7.36	8.17	0.55	-0.47	30.33
2,362.00	0.45	91.35	2,361.75	-8.21	-6.70	8.24	0.13	0.09	-12.02
2,457.00	0.69	81.83	2,456.74	-8.14	-5.76	8.16	0.27	0.25	-10.02
2,551.00	0.59	57.43	2,550.74	-7.80	-4.79	7.82	0.31	-0.11	-25.96
2,645.00	0.44	53.50	2,644.73	-7.32	-4.09	7.34	0.16	-0.16	-4.18
2,739.00	0.47	68.47	2,738.73	-6.96	-3.44	6.98	0.13	0.03	15.93
2,835.00	0.32	90.15	2,834.73	-6.82	-2.81	6.83	0.22	-0.16	22.58
2,930.00	0.45	79.88	2,929.72	-6.76	-2.18	6.76	0.15	0.14	-10.81
3,025.00	0.28	54.24	3,024.72	-6.55	-1.62	6.56	0.24	-0.18	-26.99
3,121.00	0.38	65.97	3,120.72	-6.29	-1.14	6.29	0.13	0.10	12.22
3,214.00	0.31	15.52	3,213.72	-5.92	-0.79	5.92	0.32	-0.08	-54.25
3,309.00	0.14	105.43	3,308.72	-5.70	-0.61	5.70	0.36	-0.18	94.64
3,405.00	0.46	126.15	3,404.72	-5.96	-0.19	5.96	0.35	0.33	21.58
3,500.00	1.30	34.07	3,499.71	-5.29	0.73	5.29	1.47	0.88	-96.93
3,595.00	1.36	49.48	3,594.68	-3.67	2.19	3.66	0.38	0.06	16.22
3,690.00	2.17	29.96	3,689.64	-1.38	3.94	1.36	1.05	0.85	-20.55
3,784.00	3.43	6.41	3,783.53	2.96	5.15	-2.98	1.79	1.34	-25.05
3,878.00	4.91	3.34	3,877.28	9.77	5.69	-9.79	1.59	1.57	-3.27
3,973.00	6.93	9.89	3,971.77	19.48	6.92	-19.51	2.24	2.13	6.89
4,068.00	6.95	13.09	4,066.07	30.72	9.20	-30.76	0.41	0.02	3.37
4,164.00	6.39	7.96	4,161.42	41.67	11.26	-41.72	0.85	-0.58	-5.34
4,259.00	6.84	4.75	4,255.79	52.54	12.46	-52.60	0.61	0.47	-3.38
4,355.00	6.33	0.33	4,351.15	63.53	12.96	-63.59	0.75	-0.53	-4.60
4,449.00	4.81	357.38	4,444.71	72.65	12.81	-72.71	1.64	-1.62	-3.14
4,544.00	4.50	2.30	4,539.40	80.35	12.78	-80.41	0.53	-0.33	5.18
4,640.00	6.09	9.07	4,634.98	89.15	13.73	-89.20	1.78	1.66	7.05
4,735.00	6.13	8.46	4,729.44	99.14	15.27	-99.20	0.08	0.04	-0.64
4,830.00	5.52	6.97	4,823.95	108.69	16.57	-108.76	0.66	-0.64	-1.57
4,925.00	5.36	8.21	4,918.53	117.62	17.76	-117.69	0.21	-0.17	1.31
5,020.00	6.72	8.93	5,013.00	127.50	19.26	-127.58	1.43	1.43	0.76
5,115.00	7.30	9.35	5,107.29	138.95	21.10	-139.04	0.61	0.61	0.44
5,211.00	7.04	9.79	5,202.53	150.76	23.09	-150.86	0.28	-0.27	0.46



Scientific Drilling, Intl
Survey Report



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Well:	216H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland

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)
5,306.00	6.32	9.82	5,296.89	161.65	24.97	-161.76	0.76	-0.76	0.03
5,401.00	6.38	8.99	5,391.31	172.02	26.69	-172.13	0.12	0.06	-0.87
5,497.00	6.78	0.41	5,486.68	182.95	27.56	-183.07	1.10	0.42	-8.94
5,592.00	7.05	355.17	5,580.99	194.37	27.11	-194.49	0.72	0.28	-5.52
5,688.00	6.68	357.04	5,676.30	205.82	26.33	-205.93	0.45	-0.39	1.95
5,783.00	6.40	354.07	5,770.68	216.60	25.50	-216.71	0.46	-0.29	-3.13
5,879.00	6.34	353.67	5,866.09	227.19	24.36	-227.30	0.08	-0.06	-0.42
5,974.00	6.68	354.28	5,960.47	237.90	23.23	-238.00	0.37	0.36	0.64
6,069.00	7.17	1.13	6,054.78	249.33	22.80	-249.43	1.01	0.52	7.21
6,164.00	7.61	3.64	6,148.99	261.53	23.31	-261.63	0.57	0.46	2.64
6,259.00	7.45	1.31	6,243.17	273.97	23.85	-274.07	0.36	-0.17	-2.45
6,353.00	7.56	1.59	6,336.37	286.24	24.16	-286.35	0.12	0.12	0.30
6,448.00	6.94	3.54	6,430.61	298.22	24.69	-298.32	0.70	-0.65	2.05
6,544.00	6.69	2.81	6,525.93	309.59	25.32	-309.70	0.28	-0.26	-0.76
6,639.00	6.71	1.90	6,620.28	320.67	25.78	-320.78	0.11	0.02	-0.96
6,735.00	6.62	3.18	6,715.63	331.80	26.27	-331.91	-0.18	-0.09	1.33
6,830.00	6.74	2.97	6,809.99	342.83	26.87	-342.95	0.13	0.13	-0.22
6,926.00	6.58	2.88	6,905.34	353.95	27.43	-354.07	0.17	-0.17	-0.09
7,021.00	6.25	359.73	6,999.75	364.56	27.68	-364.68	0.51	-0.35	-3.32
7,117.00	5.46	2.54	7,095.24	374.35	27.86	-374.46	0.88	-0.82	2.93
7,212.00	4.17	5.42	7,189.91	382.30	28.39	-382.42	1.38	-1.36	3.03
7,308.00	3.04	359.12	7,285.72	388.32	28.68	-388.44	1.25	-1.18	-6.56
7,403.00	2.50	347.52	7,380.61	392.86	28.19	-392.98	0.82	-0.57	-12.21
7,498.00	2.18	343.00	7,475.53	396.61	27.22	-396.73	0.39	-0.34	-4.76
7,593.00	2.04	344.70	7,570.46	399.97	26.24	-400.08	0.16	-0.15	1.79
7,782.00	1.01	343.56	7,759.39	404.81	24.88	-404.92	0.55	-0.54	-0.60
7,876.00	1.04	332.61	7,853.38	406.37	24.26	-406.47	0.21	0.03	-11.65
7,972.00	0.96	329.11	7,949.36	407.83	23.44	-407.93	0.10	-0.08	-3.65
8,067.00	0.83	330.60	8,044.35	409.11	22.70	-409.21	0.14	-0.14	1.57
8,161.00	0.89	313.28	8,138.34	410.21	21.83	-410.30	0.28	0.06	-18.43
8,258.00	0.72	306.42	8,233.33	411.07	20.81	-411.15	0.21	-0.18	-7.22
8,350.00	0.62	310.25	8,327.32	411.75	19.95	-411.83	0.12	-0.11	4.07
8,444.00	0.74	284.90	8,421.32	412.23	18.97	-412.31	0.34	0.13	-26.97
8,538.00	0.71	280.37	8,515.31	412.49	17.81	-412.57	0.07	-0.03	-4.82
8,633.00	0.81	260.80	8,610.30	412.49	16.57	-412.56	0.29	0.11	-20.60
8,704.00	0.82	248.34	8,681.30	412.22	15.60	-412.29	0.25	0.01	-17.55
8,816.00	1.03	223.35	8,793.28	411.19	14.17	-411.25	0.40	0.19	-22.31
8,911.00	0.67	199.33	8,888.27	410.05	13.40	-410.10	0.53	-0.38	-25.28
9,006.00	0.63	172.44	8,983.27	409.01	13.28	-409.06	0.32	-0.04	-28.31
9,099.00	0.77	174.47	9,076.26	407.88	13.41	-407.93	0.15	0.15	2.18
9,195.00	1.04	181.36	9,172.25	406.37	13.45	-406.42	0.30	0.28	7.18
9,290.00	1.43	170.23	9,267.22	404.34	13.63	-404.39	0.48	0.41	-11.72
9,386.00	2.47	156.76	9,363.17	401.25	14.65	-401.31	1.18	1.08	-14.03



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9,481.00	2.05	147.34	9,458.09	397.94	16.38	-398.01	0.59	-0.44	-9.92
9,577.00	1.03	222.52	9,554.07	395.86	16.72	-395.93	2.13	-1.06	78.31
9,672.00	0.87	201.24	9,649.05	394.56	15.88	-394.63	0.40	-0.17	-22.40
9,768.00	1.09	190.13	9,745.04	392.98	15.46	-393.05	0.30	0.23	-11.57
9,863.00	1.83	185.41	9,840.01	390.58	15.16	-390.64	0.79	0.78	-4.97
9,959.00	1.81	191.44	9,935.96	387.57	14.71	-387.63	0.20	-0.02	6.28
10,036.00	1.86	197.88	10,012.92	385.19	14.09	-385.25	0.28	0.06	8.36
10,055.00	1.68	196.25	10,031.91	384.63	13.91	-384.69	0.98	-0.95	-8.58
10,151.00	7.97	184.95	10,127.52	376.64	12.94	-376.69	6.59	6.55	-11.77
10,246.00	19.30	181.36	10,219.70	354.31	12.00	-354.36	11.95	11.93	-3.78
10,294.00	26.08	179.06	10,263.96	335.81	11.99	-335.86	14.24	14.13	-4.79
10,341.00	30.90	179.03	10,305.25	313.40	12.36	-313.45	10.26	10.26	-0.06
10,389.00	33.88	180.84	10,345.78	287.69	12.37	-287.74	6.53	6.21	3.77
10,437.00	37.06	184.14	10,384.87	259.88	11.13	-259.92	7.73	6.63	6.88
10,484.00	42.28	186.44	10,421.04	230.02	8.33	-230.05	11.54	11.11	4.89
10,532.00	47.52	186.22	10,455.03	196.36	4.60	-196.37	10.92	10.92	-0.46
10,580.00	50.59	184.48	10,486.48	160.26	1.23	-160.27	6.96	6.40	-3.63
10,628.00	54.88	184.44	10,515.54	122.19	-1.73	-122.18	8.94	8.94	-0.08
10,676.00	59.27	185.02	10,541.62	82.04	-5.06	-82.02	9.20	9.15	1.21
10,724.00	62.44	184.09	10,565.00	40.26	-8.38	-40.22	6.82	6.60	-1.94
10,771.00	65.90	182.64	10,585.47	-1.96	-10.86	2.01	7.87	7.36	-3.09
10,819.00	67.80	181.75	10,604.34	-46.06	-12.55	46.12	4.31	3.96	-1.85
10,866.00	70.81	180.92	10,620.95	-90.01	-13.57	90.07	6.61	6.40	-1.77
10,914.00	72.73	181.22	10,635.97	-135.59	-14.42	135.66	4.04	4.00	0.63
10,961.00	74.78	181.37	10,649.11	-180.70	-15.44	180.77	4.37	4.36	0.32
11,008.00	76.38	181.51	10,660.82	-226.21	-16.58	226.28	3.42	3.40	0.30
11,038.00	78.48	181.73	10,667.35	-255.48	-17.41	255.55	7.04	7.00	0.73
11,097.00	82.45	181.88	10,677.12	-313.62	-19.25	313.70	6.73	6.73	0.25
11,145.00	83.50	181.77	10,682.99	-361.23	-20.76	361.32	2.20	2.19	-0.23
11,192.00	87.44	180.39	10,686.70	-408.07	-21.64	408.16	8.88	8.38	-2.94
11,239.00	87.92	180.12	10,688.60	-455.03	-21.85	455.12	1.17	1.02	-0.57
11,287.00	89.76	179.65	10,689.57	-503.02	-21.76	503.11	3.96	3.83	-0.98
11,334.00	91.14	180.08	10,689.20	-550.01	-21.65	550.10	3.08	2.94	0.91
11,382.00	90.94	180.30	10,688.33	-598.01	-21.80	598.10	0.62	-0.42	0.46
11,478.00	91.10	180.48	10,686.62	-693.99	-22.46	694.08	0.25	0.17	0.19
11,573.00	91.31	180.67	10,684.63	-788.96	-23.41	789.06	0.30	0.22	0.20
11,668.00	93.09	180.48	10,680.98	-883.88	-24.36	883.98	1.88	1.87	-0.20
11,763.00	93.58	180.98	10,675.45	-978.72	-25.57	978.82	0.74	0.52	0.53
11,858.00	91.61	180.83	10,671.15	-1,073.60	-27.07	1,073.71	2.08	-2.07	-0.16
11,954.00	91.31	180.60	10,668.71	-1,169.56	-28.27	1,169.67	0.39	-0.31	-0.24
12,049.00	90.57	180.62	10,667.15	-1,264.54	-29.28	1,264.66	0.78	-0.78	0.02
12,144.00	90.37	180.70	10,666.37	-1,359.53	-30.37	1,359.65	0.23	-0.21	0.08
12,239.00	89.80	180.29	10,666.23	-1,454.53	-31.19	1,454.65	0.74	-0.60	-0.43

Company:	Devon Energy	Local Co-ordinate Reference:	Well 216H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	KB = 23' @ 3713.00usft (Cactus 167)
Site:	Fluffy Cat 16-21 State Fed Com	MD Reference:	KB = 23' @ 3713.00usft (Cactus 167)
Well:	216H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland

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)
12,335.00	89.66	180.34	10,666.68	-1,550.53	-31.72	1,550.65	0.15	-0.15	0.05
12,430.00	89.26	180.24	10,667.58	-1,645.52	-32.20	1,645.65	0.43	-0.42	-0.11
12,526.00	89.46	180.65	10,668.65	-1,741.51	-32.95	1,741.64	0.48	0.21	0.43
12,620.00	90.54	180.90	10,668.65	-1,835.50	-34.22	1,835.63	1.18	1.15	0.27
12,716.00	91.47	180.78	10,666.96	-1,931.48	-35.63	1,931.61	0.98	0.97	-0.13
12,811.00	91.11	180.58	10,664.83	-2,026.45	-36.75	2,026.59	0.43	-0.38	-0.21
12,906.00	90.74	180.60	10,663.29	-2,121.43	-37.73	2,121.57	0.39	-0.39	0.02
13,001.00	90.20	180.45	10,662.51	-2,216.42	-38.60	2,216.57	0.59	-0.57	-0.16
13,096.00	89.73	180.64	10,662.57	-2,311.42	-39.51	2,311.57	0.53	-0.49	0.20
13,192.00	90.71	179.59	10,662.20	-2,407.41	-39.70	2,407.56	1.50	1.02	-1.09
13,286.00	90.64	179.65	10,661.09	-2,501.40	-39.08	2,501.55	0.10	-0.07	0.06
13,381.00	90.77	180.06	10,659.93	-2,596.40	-38.84	2,596.54	0.45	0.14	0.43
13,476.00	90.57	179.63	10,658.81	-2,691.39	-38.58	2,691.53	0.50	-0.21	-0.45
13,571.00	90.71	179.63	10,657.75	-2,786.38	-37.97	2,786.52	0.15	0.15	0.00
13,667.00	90.27	179.28	10,656.93	-2,882.37	-37.05	2,882.51	0.59	-0.46	-0.36
13,762.00	90.20	178.50	10,656.54	-2,977.35	-35.21	2,977.48	0.82	-0.07	-0.82
13,857.00	90.40	178.60	10,656.05	-3,072.32	-32.81	3,072.44	0.24	0.21	0.11
13,953.00	90.47	178.38	10,655.32	-3,168.29	-30.28	3,168.39	0.24	0.07	-0.23
14,048.00	90.27	178.48	10,654.70	-3,263.25	-27.68	3,263.34	0.24	-0.21	0.11
14,144.00	90.20	179.81	10,654.31	-3,359.23	-26.24	3,359.32	1.39	-0.07	1.39
14,238.00	90.03	180.19	10,654.12	-3,453.23	-26.24	3,453.32	0.44	-0.18	0.40
14,333.00	89.93	180.01	10,654.15	-3,548.23	-26.41	3,548.31	0.22	-0.11	-0.19
14,428.00	89.23	180.04	10,654.85	-3,643.23	-26.45	3,643.31	0.74	-0.74	0.03
14,523.00	89.93	179.66	10,655.55	-3,738.23	-26.20	3,738.31	0.84	0.74	-0.40
14,618.00	90.30	179.45	10,655.36	-3,833.22	-25.46	3,833.30	0.45	0.39	-0.22
14,714.00	91.24	179.87	10,654.07	-3,929.21	-24.89	3,929.28	1.07	0.98	0.44
14,809.00	91.34	179.72	10,651.93	-4,024.19	-24.55	4,024.26	0.19	0.11	-0.16
14,904.00	91.00	181.92	10,649.99	-4,119.15	-25.91	4,119.23	2.34	-0.36	2.32
14,999.00	89.40	181.19	10,649.66	-4,214.11	-28.49	4,214.20	1.85	-1.68	-0.77
15,094.00	88.63	180.85	10,651.29	-4,309.08	-30.18	4,309.17	0.89	-0.81	-0.36
15,190.00	88.22	181.26	10,653.93	-4,405.03	-31.95	4,405.13	0.60	-0.43	0.43
15,284.00	89.90	180.47	10,655.47	-4,499.00	-33.37	4,499.10	1.97	1.79	-0.84
15,380.00	90.20	181.04	10,655.39	-4,594.99	-34.63	4,595.10	0.67	0.31	0.59
15,474.00	90.60	181.81	10,654.73	-4,688.96	-36.97	4,689.08	0.92	0.43	0.82
15,569.00	90.54	182.56	10,653.78	-4,783.89	-40.59	4,784.02	0.79	-0.06	0.79
15,665.00	90.60	182.18	10,652.83	-4,879.80	-44.56	4,879.95	0.40	0.06	-0.40
15,760.00	91.34	180.58	10,651.22	-4,974.75	-46.85	4,974.91	1.86	0.78	-1.68
15,856.00	91.58	179.98	10,648.77	-5,070.72	-47.32	5,070.88	0.67	0.25	-0.63
15,951.00	89.09	179.43	10,648.22	-5,165.71	-46.83	5,165.87	2.68	-2.62	-0.58
16,046.00	88.66	179.71	10,650.08	-5,260.69	-46.12	5,260.84	0.54	-0.45	0.29
16,141.00	88.73	179.54	10,652.25	-5,355.66	-45.50	5,355.81	0.19	0.07	-0.18
16,236.00	90.30	179.54	10,653.05	-5,450.65	-44.73	5,450.80	1.65	1.65	0.00
16,331.00	91.11	179.72	10,651.88	-5,545.64	-44.12	5,545.78	0.87	0.85	0.19
16,426.00	91.14	179.56	10,650.02	-5,640.62	-43.52	5,640.76	0.17	0.03	-0.17



Scientific Drilling, Intl
Survey Report



Company: Devon Energy
Project: Lea County, NM (NAD83 NME)
Site: Fluffy Cat 16-21 State Fed Com
Well: 216H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well 216H
TVD Reference: KB = 23' @ 3713.00usft (Cactus 167)
MD Reference: KB = 23' @ 3713.00usft (Cactus 167)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland

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)
16,520.00	91.37	179.55	10,647.96	-5,734.60	-42.79	5,734.73	0.24	0.24	-0.01
16,616.00	91.71	180.35	10,645.38	-5,830.56	-42.71	5,830.69	0.91	0.35	0.83
MWD Survey (16616.00' MD)									
16,711.00	92.08	180.17	10,642.24	-5,925.51	-43.14	5,925.64	0.43	0.39	-0.19
16,761.00	90.81	180.13	10,640.98	-5,975.49	-43.27	5,975.62	2.55	-2.55	-0.08
Proj. to Bit (16761.00' MD)									
16,806.00	89.66	180.09	10,640.80	-6,020.49	-43.35	6,020.62	2.55	-2.55	-0.08
16,901.00	89.77	180.23	10,641.27	-6,115.49	-43.62	6,115.62	0.19	0.12	0.15
16,997.00	89.77	180.76	10,641.65	-6,211.48	-44.45	6,211.62	0.55	0.00	0.55
17,092.00	89.70	181.06	10,642.09	-6,306.47	-45.96	6,306.61	0.32	-0.07	0.32
17,186.00	89.73	181.33	10,642.56	-6,400.45	-47.92	6,400.60	0.29	0.03	0.29
17,282.00	89.73	181.25	10,643.01	-6,496.42	-50.08	6,496.58	0.08	0.00	-0.08
17,377.00	90.34	179.62	10,642.95	-6,591.42	-50.80	6,591.58	1.83	0.64	-1.72
17,470.00	90.34	179.32	10,642.40	-6,684.41	-49.94	6,684.57	0.32	0.00	-0.32
17,566.00	90.44	179.65	10,641.75	-6,780.41	-49.08	6,780.56	0.36	0.10	0.34
17,661.00	90.44	179.66	10,641.02	-6,875.40	-48.51	6,875.55	0.01	0.00	0.01
17,755.00	90.27	179.74	10,640.44	-6,969.40	-48.01	6,969.54	0.20	-0.18	0.09
18,362.44	90.27	179.74	10,637.58	-7,576.82	-45.26	7,576.95	0.00	0.00	0.00
BHL[FCL216H]									
18,377.00	90.27	179.74	10,637.51	-7,591.38	-45.19	7,591.51	0.00	0.00	0.00

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
16,616.00	10,645.38	-5,830.56	-42.71	MWD Survey (16616.00' MD)
16,761.00	10,640.98	-5,975.49	-43.27	Proj. to Bit (16761.00' MD)

Checked By: _____ Approved By: _____ Date: _____