



I **Larry Wright**, certify that I am employed by **Wellbenders Directional Services**. That I did on the day(s) of **10/18/19** thru **10/28/19** conduct or supervise the taking of a **MWD Survey** from a depth of **164'** to a depth of **14,240'**; that the data is true, correct, complete and within the limitations of the tool as set forth by **Wellbenders Directional Services**; that I am authorized and qualified to make this report; that this survey was conducted at the request of **Devon Energy** for the **Flagler 8 Fed Com #25H** API No. **30-025-45013** in **Lea County, New Mexico**; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by **Wellbenders Directional Services**.

Larry Wright

HOBBS OCD
FEB 27 2020
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Devon Energy

Lea Co., NM (Nad83 - East Zone)

Flagler 8 Fed

#25H

OH

Design: OH

End Of Well Report

29 October, 2019



Wellbenders End Of Well Report

Company: Devon Energy
Project: Lea Co., NM (Nad83 - East Zone)
Site: Flagler 8 Fed
Well: #25H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #25H
TVD Reference: RKB=30' @ 3476.50usft (Cactus 108)
MD Reference: RKB=30' @ 3476.50usft (Cactus 108)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WBDS_SQL_2

Project Lea Co., NM (Nad83 - East Zone)

Map System: US State Plane 1983
Geo Datum: North American Datum 1983
Map Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level

Site Flagler 8 Fed

Site Position:		Northing:	414,851.30 usft	Latitude:	32.138349
From:	Lat/Long	Easting:	769,983.95 usft	Longitude:	-103.594633
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.393 °

Well #25H

Well Position	+N/-S	0.00 usft	Northing:	415,051.66 usft	Latitude:	32.138899
	+E/-W	0.00 usft	Easting:	770,042.59 usft	Longitude:	-103.594439
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,446.50 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/19/2019	6.704	59.950	47,644.68908890

Design OH

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	359.66

Survey Program **Date** 10/28/2019

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
164.00	14,240.00	Survey #1 (OH)	MWD+IGRF	OWSG MWD + IGRF or WMM



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0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
164.00	0.22	36.58	164.00	0.25	0.19	0.25	164.00	36.58	0.13
257.00	0.35	35.84	257.00	0.63	0.46	0.62	93.00	36.13	0.14
359.00	0.35	4.29	359.00	1.19	0.67	1.19	102.00	20.07	0.19
451.00	0.40	7.63	450.99	1.79	0.73	1.78	92.00	6.07	0.06
545.00	0.44	27.84	544.99	2.43	0.94	2.43	94.00	18.22	0.16
637.00	0.26	8.42	636.99	2.95	1.14	2.94	92.00	20.65	0.23
729.00	0.31	327.29	728.99	3.37	1.03	3.36	92.00	345.97	0.22
821.00	0.62	286.86	820.99	3.72	0.42	3.72	92.00	300.08	0.47
913.00	0.75	281.50	912.98	3.99	-0.64	3.99	92.00	283.93	0.16
1,005.00	0.88	280.62	1,004.97	4.24	-1.93	4.25	92.00	281.02	0.14
1,155.00	0.92	281.76	1,154.95	4.69	-4.24	4.72	150.00	281.20	0.03
1,340.00	0.92	275.17	1,339.93	5.13	-7.17	5.17	185.00	278.46	0.06
1,526.00	0.88	273.41	1,525.91	5.35	-10.09	5.41	186.00	274.31	0.03
1,713.00	0.88	131.20	1,712.90	4.49	-10.44	4.55	187.00	202.31	0.89
1,901.00	2.07	104.22	1,900.83	2.70	-8.06	2.74	188.00	112.18	0.72
2,090.00	4.04	115.73	2,089.56	-1.03	3.25	-1.04	189.00	111.83	1.09
2,279.00	6.46	115.73	2,277.75	-8.53	18.82	-8.64	189.00	115.73	1.28
2,468.00	8.92	113.45	2,465.04	-18.98	41.85	-19.23	189.00	114.41	1.31
2,656.00	10.64	111.78	2,650.30	-31.22	71.34	-31.64	188.00	112.54	0.93
2,751.00	10.51	110.64	2,743.68	-37.53	87.59	-38.05	95.00	111.21	0.26
2,845.00	9.98	110.20	2,836.18	-43.36	103.26	-43.98	94.00	110.43	0.57
2,940.00	9.45	108.97	2,929.82	-48.74	118.36	-49.44	95.00	109.60	0.60
3,035.00	9.63	113.98	3,023.51	-54.51	133.00	-55.30	95.00	111.50	0.89
3,129.00	9.45	112.75	3,116.21	-60.69	147.30	-61.56	94.00	113.37	0.29
3,224.00	9.19	113.80	3,209.96	-66.76	161.43	-67.72	95.00	113.27	0.33
3,319.00	9.23	119.34	3,303.73	-73.56	175.01	-74.60	95.00	116.58	0.93



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Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	CL (usft)	CL Azi (°)	DLeg (°/100ft)
3,413.00	9.10	116.79	3,396.53	-80.60	188.22	-81.72	94.00	118.07	0.45
3,507.00	8.13	115.47	3,489.47	-86.81	200.86	-88.00	94.00	116.17	1.05
3,602.00	7.65	117.76	3,583.57	-92.65	212.52	-93.91	95.00	116.58	0.60
3,697.00	8.92	121.18	3,677.58	-99.40	224.41	-100.73	95.00	119.60	1.43
3,792.00	8.75	120.39	3,771.45	-106.87	236.95	-108.28	95.00	120.79	0.22
3,886.00	8.75	114.33	3,864.36	-113.44	249.63	-114.92	94.00	117.36	0.98
3,981.00	8.18	114.59	3,958.32	-119.23	262.36	-120.78	95.00	114.46	0.60
4,076.00	7.25	114.24	4,052.46	-124.50	273.97	-126.12	95.00	114.43	0.98
4,170.00	6.42	113.63	4,145.80	-129.04	284.20	-130.72	94.00	113.95	0.89
4,265.00	7.16	112.83	4,240.13	-133.47	294.52	-135.21	95.00	113.21	0.79
4,359.00	8.18	115.12	4,333.29	-138.58	305.97	-140.39	94.00	114.05	1.13
4,453.00	9.45	115.12	4,426.17	-144.69	319.01	-146.58	94.00	115.12	1.35
4,548.00	9.76	116.17	4,519.84	-151.56	333.30	-153.53	95.00	115.65	0.37
4,642.00	10.02	118.81	4,612.45	-159.01	347.62	-161.07	94.00	117.51	0.56
4,736.00	10.15	120.92	4,704.99	-167.21	361.89	-169.35	94.00	119.87	0.42
4,831.00	10.02	119.43	4,798.53	-175.57	376.27	-177.80	95.00	120.18	0.31
4,926.00	8.48	121.54	4,892.29	-183.30	389.44	-185.60	95.00	120.40	1.66
4,974.00	8.04	121.36	4,939.79	-186.89	395.32	-189.24	48.00	121.45	0.92
5,112.00	6.64	119.78	5,076.66	-195.88	410.49	-198.31	138.00	120.64	1.02
5,207.00	7.47	117.84	5,170.94	-201.49	420.72	-203.98	95.00	118.75	0.91
5,301.00	8.40	114.24	5,264.04	-207.16	432.38	-209.73	94.00	115.94	1.12
5,396.00	8.04	112.22	5,358.06	-212.52	444.86	-215.16	95.00	113.25	0.49
5,490.00	7.16	108.18	5,451.23	-216.84	456.51	-219.54	94.00	110.32	1.09
5,584.00	6.46	107.74	5,544.57	-220.28	467.11	-223.05	94.00	107.97	0.75
5,679.00	6.20	106.51	5,638.99	-223.36	477.12	-226.19	95.00	107.14	0.31
5,773.00	5.80	106.68	5,732.48	-226.17	486.54	-229.05	94.00	106.59	0.43
5,867.00	3.82	107.56	5,826.14	-228.48	494.07	-231.41	94.00	107.03	2.11



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5,962.00	3.12	108.62	5,920.96	-230.26	499.54	-233.22	95.00	108.04	0.74
6,056.00	0.84	128.13	6,014.90	-231.50	502.50	-234.48	94.00	112.72	2.49
6,151.00	0.53	171.55	6,109.90	-232.36	503.12	-235.35	95.00	144.69	0.61
6,245.00	0.53	170.31	6,203.89	-233.22	503.25	-236.21	94.00	170.93	0.01
6,340.00	0.44	176.47	6,298.89	-234.02	503.35	-237.00	95.00	173.10	0.11
6,434.00	0.35	205.38	6,392.89	-234.64	503.25	-237.62	94.00	189.24	0.23
6,528.00	0.31	239.48	6,486.89	-235.03	502.91	-238.01	94.00	221.37	0.21
6,623.00	0.26	257.24	6,581.88	-235.21	502.48	-238.18	95.00	247.57	0.11
6,718.00	0.18	259.61	6,676.88	-235.28	502.12	-238.26	95.00	258.21	0.08
6,812.00	0.40	268.75	6,770.88	-235.32	501.65	-238.29	94.00	265.92	0.24
6,906.00	0.48	239.75	6,864.88	-235.52	500.98	-238.49	94.00	252.90	0.25
7,001.00	0.53	249.33	6,959.88	-235.88	500.22	-238.84	95.00	244.78	0.10
7,096.00	0.92	104.48	7,054.87	-236.22	500.55	-239.19	95.00	136.57	1.46
7,191.00	0.84	116.79	7,149.86	-236.73	501.91	-239.70	95.00	110.35	0.22
7,285.00	0.57	137.00	7,243.85	-237.38	502.84	-240.36	94.00	124.94	0.39
7,380.00	0.44	157.04	7,338.85	-238.06	503.31	-241.04	95.00	145.72	0.23
7,475.00	0.40	191.67	7,433.85	-238.72	503.38	-241.70	95.00	173.50	0.27
7,569.00	0.66	200.02	7,527.84	-239.55	503.13	-242.53	94.00	196.87	0.29
7,664.00	1.05	203.19	7,622.83	-240.87	502.60	-243.84	95.00	201.97	0.41
7,759.00	1.01	188.33	7,717.82	-242.49	502.14	-245.47	95.00	195.91	0.28
7,854.00	0.79	155.11	7,812.81	-243.92	502.29	-246.89	95.00	173.81	0.59
7,948.00	0.66	132.70	7,906.80	-244.87	502.96	-247.85	94.00	144.92	0.33
8,042.00	0.84	143.33	8,000.79	-245.79	503.77	-248.78	94.00	138.65	0.24
8,137.00	1.19	145.18	8,095.78	-247.16	504.75	-250.15	95.00	144.41	0.37
8,231.00	1.27	149.31	8,189.76	-248.86	505.84	-251.85	94.00	147.31	0.13
8,325.00	1.32	149.22	8,283.73	-250.68	506.93	-253.69	94.00	149.26	0.05
8,420.00	1.23	155.55	8,378.71	-252.55	507.91	-255.56	95.00	152.27	0.18



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8,515.00	1.05	143.24	8,473.69	-254.18	508.85	-257.19	95.00	149.88	0.32
8,609.00	1.05	126.81	8,567.67	-255.38	510.06	-258.40	94.00	135.02	0.32
8,704.00	2.51	15.80	8,662.64	-253.90	511.32	-256.93	95.00	40.48	3.21
8,735.00	2.99	12.90	8,693.61	-252.46	511.69	-255.49	31.00	14.22	1.61
8,799.00	3.78	8.86	8,757.49	-248.75	512.38	-251.79	64.00	10.64	1.29
KOP@ 8799.00' MD 128.61' FSL 2178.71' FEL									
8,893.00	12.18	6.05	8,850.50	-235.80	513.91	-238.85	94.00	6.72	8.94
8,988.00	20.62	5.26	8,941.55	-209.13	516.50	-212.19	95.00	5.56	8.89
9,082.00	28.26	5.70	9,027.07	-170.45	520.24	-173.53	94.00	5.51	8.13
9,158.00	34.77	6.14	9,091.82	-130.96	524.34	-134.07	76.00	5.94	8.57
9,204.00	38.59	5.43	9,128.71	-103.62	527.11	-106.75	48.00	5.77	8.36
9,299.00	43.96	1.92	9,200.09	-41.12	531.02	-44.27	95.00	3.58	6.15
9,393.00	53.80	0.07	9,261.83	29.59	532.16	26.43	94.00	0.93	10.57
9,456.20	60.00	0.31	9,296.33	82.51	532.34	79.35	63.20	0.19	9.82
FTP@ 9456.20' MD 459.60' FSL 2156.78' FEL									
9,488.00	63.12	0.42	9,311.47	110.47	532.52	107.30	31.80	0.37	9.82
9,583.00	70.11	359.63	9,349.16	197.61	532.54	194.44	95.00	0.01	7.40
9,678.00	77.23	358.75	9,375.85	288.71	531.24	285.55	95.00	359.18	7.55
9,772.00	89.14	0.16	9,386.99	381.87	530.37	378.71	94.00	359.46	12.76
9,866.00	88.48	359.63	9,388.94	475.85	530.20	472.69	94.00	359.90	0.90
9,960.00	88.84	359.46	9,391.14	569.82	529.45	568.67	94.00	359.54	0.42
10,054.00	88.44	358.14	9,393.37	663.77	527.48	660.63	94.00	358.80	1.47
10,149.00	91.16	357.43	9,393.70	758.69	523.81	755.57	95.00	357.78	2.96
10,243.00	91.82	358.66	9,391.25	852.60	520.60	849.49	94.00	358.04	1.48
10,338.00	90.51	358.40	9,389.32	947.55	518.17	944.45	95.00	358.53	1.41
10,433.00	90.33	356.20	9,388.63	1,042.43	513.69	1,039.37	95.00	357.30	2.32
10,527.00	90.29	355.41	9,388.12	1,136.18	506.82	1,133.15	94.00	355.80	0.84



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10,622.00	90.55	357.43	9,387.42	1,230.98	500.89	1,227.99	95.00	356.42	2.14
10,717.00	90.37	356.38	9,386.66	1,325.84	495.76	1,322.88	95.00	356.90	1.12
10,812.00	91.43	358.58	9,385.17	1,420.73	491.58	1,417.79	95.00	357.48	2.57
10,907.00	91.12	1.30	9,383.05	1,515.70	491.48	1,512.76	95.00	359.94	2.88
11,001.00	92.48	2.18	9,380.10	1,609.61	494.33	1,606.64	94.00	1.74	1.72
11,096.00	90.68	1.21	9,377.48	1,704.52	497.14	1,701.54	95.00	1.69	2.15
11,191.00	91.03	1.56	9,376.08	1,799.48	499.44	1,796.49	95.00	1.38	0.52
11,285.00	90.51	1.13	9,374.80	1,893.45	501.64	1,890.44	94.00	1.34	0.72
11,380.00	88.79	1.92	9,375.38	1,988.41	504.17	1,985.38	95.00	1.52	1.99
11,474.00	87.87	1.13	9,378.12	2,082.33	506.67	2,079.29	94.00	1.53	1.29
11,569.00	88.13	0.86	9,381.43	2,177.26	508.32	2,174.21	95.00	0.99	0.39
11,664.00	88.31	0.42	9,384.39	2,272.21	509.38	2,269.15	95.00	0.64	0.50
11,758.00	91.56	0.07	9,384.49	2,366.20	509.78	2,363.13	94.00	0.24	3.48
11,853.00	92.40	1.30	9,381.21	2,461.13	510.92	2,458.06	95.00	0.68	1.57
11,948.00	89.58	0.95	9,379.57	2,556.09	512.78	2,553.00	95.00	1.12	2.99
12,043.00	90.11	0.42	9,379.83	2,651.08	513.92	2,647.98	95.00	0.68	0.79
12,138.00	90.81	0.16	9,379.06	2,746.08	514.40	2,742.97	95.00	0.29	0.79
12,233.00	90.59	358.75	9,377.90	2,841.06	513.50	2,837.96	95.00	359.45	1.50
12,327.00	90.02	356.99	9,377.40	2,934.99	510.00	2,931.91	94.00	357.87	1.97
12,422.00	89.01	355.59	9,378.21	3,029.79	503.86	3,026.74	95.00	356.29	1.82
12,517.00	88.62	358.84	9,380.17	3,124.64	499.24	3,121.62	95.00	357.21	3.44
12,612.00	89.49	0.07	9,381.74	3,219.62	498.34	3,216.61	95.00	359.46	1.59
12,707.00	89.67	359.63	9,382.43	3,314.62	498.09	3,311.60	95.00	359.85	0.50
12,801.00	89.27	359.28	9,383.30	3,408.61	497.20	3,405.60	94.00	359.46	0.57
12,896.00	89.05	359.10	9,384.70	3,503.59	495.85	3,500.58	95.00	359.19	0.30
12,990.00	89.01	358.58	9,386.29	3,597.56	493.95	3,594.56	94.00	358.84	0.55
13,085.00	89.19	357.79	9,387.78	3,692.50	490.94	3,689.52	95.00	358.18	0.85



Wellbenders End Of Well Report

Company: Devon Energy
Project: Lea Co., NM (Nad83 - East Zone)
Site: Flagler 8 Fed
Well: #25H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #25H
TVD Reference: RKB=30' @ 3476.50usft (Cactus 108)
MD Reference: RKB=30' @ 3476.50usft (Cactus 108)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WBDS_SQL_2

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	CL (usft)	CL Azi (°)	DLeg (°/100ft)
13,180.00	90.11	359.19	9,388.36	3,787.46	488.44	3,784.49	95.00	358.49	1.76
13,275.00	90.86	357.52	9,387.56	3,882.41	485.71	3,879.46	95.00	358.36	1.93
13,370.00	95.69	359.81	9,382.13	3,977.19	483.50	3,974.26	95.00	358.66	5.62
13,464.00	91.96	358.84	9,375.86	4,070.96	482.39	4,068.03	94.00	359.32	4.10
13,559.00	89.89	358.66	9,374.33	4,165.92	480.32	4,163.00	95.00	358.75	2.19
13,654.00	90.15	358.58	9,374.29	4,260.89	478.03	4,257.98	95.00	358.62	0.29
13,749.00	89.10	357.79	9,374.92	4,355.84	475.02	4,352.95	95.00	358.19	1.38
13,843.00	90.68	358.23	9,375.10	4,449.78	471.76	4,446.90	94.00	358.01	1.74
13,938.00	92.09	0.42	9,372.80	4,544.74	470.64	4,541.87	95.00	359.32	2.74
14,033.00	90.64	0.86	9,370.54	4,639.70	471.70	4,636.82	95.00	0.64	1.59
14,128.00	92.09	1.04	9,368.27	4,734.66	473.28	4,731.77	95.00	0.95	1.54
14,190.00	90.64	358.49	9,366.80	4,796.64	473.02	4,793.74	62.00	359.76	4.73
14,196.67	90.64	358.49	9,366.72	4,803.30	472.84	4,800.41	6.67	358.49	0.00
LTP@ 14196.67' MD 100' FNL 2189.00' FEL									
14,240.00	90.64	358.49	9,366.24	4,846.62	471.70	4,843.73	43.33	358.49	0.00
BHL@ 14240.00' MD 56.20' FNL 2189.11' FEL									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,799.00	8,757.49	-248.75	512.38	KOP@ 8799.00' MD 128.51' FSL 2178.71' FEL
9,456.20	9,296.33	82.51	532.34	FTP@ 9456.20' MD 459.60' FSL 2156.78' FEL
14,196.67	9,366.72	4,803.30	472.84	LTP@ 14196.67' MD 100' FNL 2189.00' FEL
14,240.00	9,366.24	4,846.62	471.70	BHL@ 14240.00' MD 56.20' FNL 2189.11' FEL

Checked By: _____

Approved By: _____

Date: _____