

Devon

Mean Green 23-35 Fed Com 4H

H&P 466

HOBBS OCD
AUG 28 2019
RECEIVED

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

Larry D. Buerer

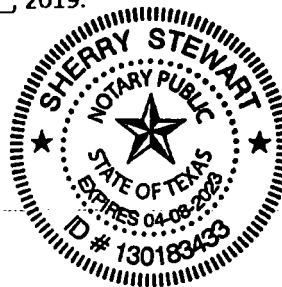
Notarized this data 8th of August, 2019.

Sherry Stewart

Notary Signature

County of Midland

State of Texas



Scientific Drilling

The

In Wellbore Placement

Devon Energy

Lea County, NM (NAD83 NME)

Mean Green 23-25 Fed Com

4H

OH

Survey: SDI Survey #1

Regulatory Report (Grid North)

01 March, 2019

Scientific Drilling, Intl
Regulatory Report (Grid North)

Company:	Devon Energy	Local Co-ordinate Reference:	Well 4H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	KB = 26' @ 3219.00usft (H&P 466)
Site:	Mean Green 23-25 Fed Com	MD Reference:	KB = 26' @ 3219.00usft (H&P 466)
Well:	4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland District

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	Mean Green 23-25 Fed Com		
Site Position:		Northing:	375,205.44 usft
From:	Map	Easting:	819,720.56 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 1' 42.017 N
		Longitude:	103° 26' 6.103 W
		Grid Convergence:	0.48 °

Well	4H		
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° 1' 42.020 N
		Longitude:	103° 26' 6.452 W
		Ground Level:	3,193.00 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
			(°)
			Dip Angle
			(°)
			Field Strength
			(nT)
	HDGM	1/31/2019	6.63
			59.67
			47,697

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)
			180.10

Survey Program	Date	2/19/2019		
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
149.00	16,325.00	SDI Survey #1 (OH)	MWD+HDGM	OWSG MWD + HDGM

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Database: Midland District

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MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Closure Azimuth (bearing)	Closure Distance (usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
149.00	0.27	208.84	149.00	0.31	-0.31	-0.17	0.18	208.84	0.35
241.00	0.48	177.94	241.00	0.88	-0.88	-0.26	0.31	196.42	0.92
333.00	0.49	220.95	332.99	1.57	-1.56	-0.50	0.39	197.85	1.64
425.00	0.52	220.52	424.99	2.18	-2.18	-1.03	0.03	205.36	2.41
517.00	0.68	225.46	516.99	2.88	-2.88	-1.69	0.18	210.46	3.34
609.00	0.74	231.16	608.98	3.64	-3.64	-2.55	0.10	215.00	4.44
701.00	0.92	240.48	700.97	4.38	-4.37	-3.65	0.24	219.87	5.70
793.00	1.01	244.75	792.96	5.09	-5.08	-5.03	0.13	224.69	7.15
886.00	1.11	246.38	885.94	5.80	-5.79	-6.59	0.11	228.70	8.78
978.00	1.18	248.69	977.92	6.51	-6.49	-8.29	0.09	231.94	10.53
998.00	1.18	248.32	997.92	6.66	-6.64	-8.68	0.04	232.55	10.93
1,163.00	0.64	245.23	1,162.90	7.68	-7.66	-11.09	0.33	235.37	13.48
1,255.00	0.57	284.15	1,254.89	7.78	-7.76	-12.00	0.44	237.11	14.29
1,346.00	0.42	309.89	1,345.89	7.46	-7.44	-12.70	0.29	239.64	14.71
1,438.00	0.27	319.47	1,437.89	7.08	-7.06	-13.10	0.17	241.68	14.88
1,531.00	0.33	292.05	1,530.89	6.81	-6.79	-13.49	0.17	243.28	15.10
1,623.00	0.14	237.38	1,622.88	6.77	-6.75	-13.83	0.30	243.98	15.39
1,715.00	0.14	271.50	1,714.88	6.83	-6.81	-14.03	0.09	244.12	15.60
1,809.00	0.20	211.21	1,808.88	6.97	-6.95	-14.23	0.19	243.99	15.84
1,903.00	0.44	312.71	1,902.88	6.87	-6.84	-14.58	0.55	244.87	16.11
1,997.00	1.29	342.67	1,996.87	5.61	-5.59	-15.16	0.99	249.78	16.16
2,092.00	2.53	342.55	2,091.82	2.59	-2.56	-16.11	1.31	260.96	16.31
2,186.00	3.80	340.32	2,185.67	-2.32	2.35	-17.78	1.36	277.52	17.94
2,280.00	5.31	341.70	2,279.37	-9.38	9.41	-20.20	1.61	294.98	22.28
2,374.00	7.12	342.24	2,372.82	-19.05	19.09	-23.34	1.93	309.28	30.15
2,468.00	9.09	341.53	2,465.87	-31.63	31.68	-27.47	2.10	319.07	41.93

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Company: Devon Energy
Project: Lea County, NM (NAD83 NME)
Site: Mean Green 23-25 Fed Com
Well: 4H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well 4H
TVD Reference: KB = 26' @ 3219.00usft (H&P 466)
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North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland District

Survey

MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Closure Azimuth (bearing)	Closure Distance (usft)
2,562.00	9.42	342.86	2,558.65	-46.02	46.07	-32.09	0.42	325.14	56.15
2,656.00	9.78	343.54	2,651.33	-61.02	61.08	-36.62	0.40	329.06	71.22
2,750.00	9.67	344.95	2,743.98	-76.29	76.36	-40.93	0.28	331.81	86.64
2,845.00	9.67	338.94	2,837.63	-91.43	91.51	-45.87	1.06	333.38	102.37
2,939.00	9.77	336.34	2,930.29	-106.10	106.19	-51.91	0.48	333.95	118.19
3,033.00	9.51	337.53	3,022.96	-120.57	120.67	-58.08	0.35	334.30	133.92
3,127.00	9.51	331.45	3,115.67	-134.55	134.66	-64.76	1.07	334.32	149.43
3,222.00	9.56	330.60	3,209.36	-148.30	148.43	-72.38	0.16	334.00	165.14
3,316.00	9.33	332.63	3,302.08	-161.86	162.00	-79.71	0.43	333.80	180.55
3,411.00	8.21	329.45	3,395.97	-174.53	174.68	-86.70	1.28	333.60	195.01
3,505.00	7.71	330.53	3,489.06	-185.79	185.95	-93.22	0.56	333.38	208.01
3,599.00	7.31	333.60	3,582.26	-196.62	196.80	-98.98	0.60	333.30	220.28
3,694.00	6.91	332.28	3,676.53	-207.09	207.27	-104.32	0.45	333.28	232.04
3,788.00	6.66	330.56	3,769.87	-216.83	217.02	-109.63	0.34	333.20	243.14
3,882.00	6.26	331.30	3,863.27	-226.06	226.26	-114.77	0.43	333.10	253.71
3,976.00	5.84	331.67	3,956.75	-234.76	234.97	-119.50	0.45	333.04	263.61
4,070.00	6.21	329.82	4,050.23	-243.35	243.57	-124.33	0.44	332.96	273.47
4,164.00	7.32	332.09	4,143.57	-253.03	253.26	-129.69	1.21	332.88	284.53
4,259.00	7.23	334.68	4,237.81	-263.77	264.01	-135.08	0.36	332.90	296.56
4,353.00	6.51	331.56	4,331.13	-273.80	274.04	-140.14	0.86	332.92	307.80
4,447.00	7.44	329.12	4,424.44	-283.70	283.95	-145.81	1.04	332.82	319.20
4,541.00	7.64	328.52	4,517.62	-294.24	294.50	-152.19	0.23	332.67	331.50
4,635.00	6.63	331.93	4,610.90	-304.35	304.62	-158.01	1.16	332.58	343.16
4,730.00	7.20	331.90	4,705.20	-314.43	314.71	-163.39	0.60	332.56	354.60
4,824.00	7.15	331.18	4,798.47	-324.74	325.03	-168.99	0.11	332.53	366.34
4,918.00	6.52	334.52	4,891.80	-334.67	334.98	-174.10	0.79	332.54	377.52
5,012.00	6.93	334.72	4,985.15	-344.61	344.92	-178.82	0.44	332.60	388.52

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Local Co-ordinate Reference: Well 4H
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Survey

MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Closure Azimuth (bearing)	Closure Distance (usft)
5,106.00	7.05	334.97	5,078.45	-354.96	355.28	-183.68	0.13	332.66	399.95
5,201.00	6.32	333.92	5,172.81	-364.93	365.26	-188.45	0.78	332.71	411.01
5,295.00	5.64	336.13	5,266.30	-373.79	374.13	-192.59	0.76	332.76	420.79
5,310.00	5.73	334.79	5,281.22	-375.14	375.48	-193.21	1.07	332.77	422.27
5,385.00	4.64	333.98	5,355.91	-381.25	381.59	-196.14	1.46	332.80	429.05
5,479.00	4.82	331.34	5,449.59	-388.13	388.48	-199.70	0.30	332.79	436.80
5,573.00	5.50	330.02	5,543.21	-395.49	395.84	-203.84	0.73	332.75	445.25
5,667.00	6.47	327.25	5,636.70	-403.83	404.20	-208.98	1.08	332.66	455.02
5,761.00	6.53	324.69	5,730.10	-412.64	413.02	-214.91	0.31	332.51	465.59
5,856.00	5.35	323.83	5,824.58	-420.61	421.00	-220.65	1.25	332.34	475.32
5,950.00	4.47	325.42	5,918.24	-427.16	427.55	-225.32	0.95	332.21	483.29
6,044.00	3.55	326.88	6,012.01	-432.61	433.01	-228.98	0.98	332.13	489.82
6,138.00	2.48	332.30	6,105.88	-436.84	437.24	-231.52	1.18	332.10	494.76
6,233.00	1.59	324.31	6,200.81	-439.73	440.13	-233.24	0.98	332.08	498.12
6,327.00	0.36	268.65	6,294.80	-440.78	441.19	-234.30	1.51	332.03	499.54
6,422.00	0.50	190.09	6,389.80	-440.36	440.77	-234.67	0.58	331.97	499.35
6,516.00	0.50	193.41	6,483.79	-439.56	439.97	-234.84	0.03	331.91	498.72
6,610.00	0.37	228.76	6,577.79	-438.96	439.37	-235.16	0.31	331.84	498.34
6,705.00	0.34	237.80	6,672.79	-438.61	439.02	-235.63	0.07	331.78	498.26
6,799.00	0.42	229.49	6,766.79	-438.23	438.65	-236.13	0.10	331.71	498.16
6,893.00	0.38	231.00	6,860.79	-437.81	438.23	-236.63	0.04	331.63	498.03
6,987.00	0.61	226.90	6,954.78	-437.27	437.69	-237.24	0.25	331.54	497.85
7,082.00	0.49	238.83	7,049.78	-436.72	437.13	-237.96	0.17	331.44	497.70
7,176.00	0.34	249.11	7,143.78	-436.41	436.82	-238.56	0.18	331.36	497.72
7,271.00	0.30	230.63	7,238.77	-436.15	436.57	-239.02	0.12	331.30	497.71
7,365.00	0.44	209.58	7,332.77	-435.68	436.10	-239.39	0.21	331.24	497.48
7,459.00	0.52	200.29	7,426.77	-434.96	435.38	-239.71	0.12	331.16	497.01

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7,553.00	0.74	192.25	7,520.76	-433.97	434.39	-239.99	0.25	331.08	496.27
7,647.00	1.14	191.64	7,614.75	-432.46	432.88	-240.31	0.43	330.96	495.11
7,741.00	1.40	190.73	7,708.73	-430.41	430.84	-240.71	0.28	330.81	493.52
7,835.00	1.55	192.22	7,802.70	-428.04	428.46	-241.19	0.16	330.62	491.69
7,929.00	1.41	197.00	7,896.66	-425.69	426.12	-241.80	0.20	330.43	489.94
8,023.00	1.33	200.75	7,990.64	-423.57	423.99	-242.52	0.13	330.23	488.45
8,118.00	1.57	198.33	8,085.61	-421.30	421.72	-243.32	0.26	330.02	486.89
8,212.00	1.59	206.43	8,179.57	-418.91	419.33	-244.31	0.24	329.77	485.31
8,307.00	1.45	239.88	8,274.54	-417.12	417.55	-245.94	0.93	329.50	484.59
8,401.00	1.26	241.89	8,368.51	-416.03	416.47	-247.88	0.21	329.24	484.65
8,495.00	1.28	237.10	8,462.49	-414.97	415.41	-249.67	0.11	328.99	484.66
8,589.00	0.20	255.06	8,556.48	-414.36	414.80	-250.71	1.16	328.85	484.68
8,684.00	0.28	70.29	8,651.48	-414.39	414.83	-250.65	0.50	328.86	484.68
8,778.00	0.24	120.53	8,745.48	-414.37	414.81	-250.26	0.24	328.90	484.46
8,872.00	0.55	141.46	8,839.48	-413.92	414.36	-249.81	0.36	328.91	483.84
8,966.00	0.62	163.36	8,933.47	-413.08	413.52	-249.39	0.25	328.91	482.90
9,060.00	0.92	174.37	9,027.46	-411.84	412.28	-249.17	0.35	328.85	481.72
9,155.00	1.12	184.77	9,122.45	-410.16	410.59	-249.17	0.29	328.75	480.28
9,249.00	0.78	222.82	9,216.44	-408.77	409.21	-249.68	0.74	328.61	479.37
9,343.00	0.50	253.33	9,310.43	-408.18	408.62	-250.51	0.46	328.49	479.30
9,438.00	0.88	264.80	9,405.42	-408.00	408.44	-251.63	0.42	328.36	479.73
9,532.00	0.39	233.16	9,499.42	-407.74	408.18	-252.61	0.62	328.25	480.02
9,626.00	0.59	187.00	9,593.42	-407.07	407.51	-252.92	0.45	328.17	479.62
9,721.00	0.34	157.78	9,688.41	-406.32	406.76	-252.88	0.35	328.13	478.96
9,815.00	0.48	168.00	9,782.41	-405.68	406.12	-252.69	0.17	328.11	478.31
9,910.00	0.63	188.05	9,877.41	-404.77	405.21	-252.68	0.26	328.05	477.54
10,004.00	1.47	165.92	9,971.39	-403.09	403.53	-252.46	0.98	327.97	476.00

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10,098.00	2.42	188.96	10,065.34	-399.96	400.40	-252.47	1.29	327.77	473.35
10,192.00	2.90	203.17	10,159.24	-395.81	396.25	-253.72	0.86	327.37	470.52
10,287.00	2.87	218.26	10,254.12	-391.73	392.18	-256.14	0.80	326.85	468.41
10,381.00	2.66	255.49	10,348.01	-389.33	389.78	-259.71	1.89	326.33	468.38
10,476.00	3.36	285.92	10,442.89	-389.53	389.99	-264.52	1.81	325.85	471.24
10,528.00	3.42	302.98	10,494.80	-390.79	391.26	-267.28	1.94	325.66	473.84
10,665.00	4.91	182.88	10,631.61	-387.15	387.62	-271.01	5.30	325.04	472.97
10,760.00	14.84	166.49	10,725.10	-371.22	371.69	-268.37	10.76	324.17	458.45
10,807.00	20.77	163.23	10,769.83	-357.38	357.84	-264.55	12.79	323.52	445.02
10,854.00	24.34	164.36	10,813.23	-340.08	340.53	-259.54	7.65	322.69	428.16
10,901.00	29.12	165.11	10,855.19	-319.70	320.14	-253.98	10.20	321.57	408.65
10,949.00	34.70	165.82	10,895.92	-295.16	295.59	-247.63	11.65	320.05	385.61
10,996.00	42.51	168.14	10,932.62	-266.61	267.03	-241.08	16.90	317.92	359.76
11,043.00	50.01	169.14	10,965.10	-233.35	233.76	-234.41	16.03	314.92	331.05
11,090.00	59.01	169.10	10,992.35	-195.82	196.22	-227.20	19.15	310.82	300.20
11,138.00	67.37	166.81	11,013.99	-153.99	154.37	-218.23	17.93	305.27	267.31
11,185.00	76.42	164.13	11,028.58	-110.82	111.18	-207.01	20.00	298.24	234.98
11,285.00	86.78	165.39	11,043.17	-15.55	15.86	-181.06	10.43	275.01	181.75
11,377.00	88.52	165.73	11,046.94	73.43	-73.15	-158.14	1.93	245.18	174.24
11,469.00	88.96	165.79	11,048.96	162.54	-162.30	-135.51	0.48	219.86	211.44
11,561.00	89.40	165.30	11,050.28	251.58	-251.38	-112.55	0.72	204.12	275.43
11,576.96	89.68	165.48	11,050.41	267.01	-266.82	-108.52	2.07	202.13	288.05
FTP[MG4H]									
11,653.00	91.01	166.31	11,049.95	340.73	-340.57	-89.99	2.07	194.80	352.26
11,745.00	91.81	169.01	11,047.69	430.53	-430.41	-70.34	3.06	189.28	436.12
11,837.00	92.52	171.43	11,044.21	521.09	-521.00	-54.72	2.74	186.00	523.86
11,929.00	92.62	173.84	11,040.09	612.21	-612.14	-42.94	2.62	184.01	613.64

Scientific Drilling, Intl Regulatory Report (Grid North)

Company: Devon Energy
Project: Lea County, NM (NAD83 NME)
Site: Mean Green 23-25 Fed Com
Well: 4H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well 4H
TVD Reference: KB = 26' @ 3219.00usft (H&P 466)
MD Reference: KB = 26' @ 3219.00usft (H&P 466)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland District

Survey

MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Closure Azimuth (bearing)	Closure Distance (usft)
12,021.00	90.81	175.84	11,037.33	703.78	-703.72	-34.67	2.93	182.82	704.57
12,113.00	90.40	177.49	11,036.36	795.60	-795.55	-29.32	1.85	182.11	796.09
12,205.00	90.13	179.42	11,035.94	887.56	-887.51	-26.84	2.12	181.73	887.92
12,297.00	87.88	181.26	11,037.53	979.54	-979.49	-27.38	3.16	181.60	979.87
12,391.00	87.45	181.07	11,041.36	1,073.44	-1,073.39	-29.29	0.50	181.56	1,073.79
12,486.00	88.36	181.15	11,044.84	1,168.36	-1,168.31	-31.13	0.96	181.53	1,168.72
12,580.00	88.76	180.85	11,047.20	1,262.32	-1,262.27	-32.77	0.53	181.49	1,262.69
12,674.00	90.71	180.88	11,047.63	1,356.31	-1,356.25	-34.19	2.07	181.44	1,356.68
12,769.00	91.81	180.29	11,045.54	1,451.28	-1,451.22	-35.16	1.31	181.39	1,451.64
12,863.00	90.34	181.31	11,043.78	1,545.25	-1,545.19	-36.47	1.90	181.35	1,545.62
12,958.00	90.54	181.58	11,043.05	1,640.22	-1,640.16	-38.87	0.35	181.36	1,640.62
13,052.00	88.45	180.16	11,043.88	1,734.20	-1,734.13	-40.30	2.69	181.33	1,734.60
13,146.00	88.05	179.54	11,046.75	1,828.16	-1,828.09	-40.05	0.78	181.26	1,828.53
13,240.00	87.88	179.41	11,050.09	1,922.09	-1,922.03	-39.19	0.23	181.17	1,922.43
13,335.00	89.13	178.47	11,052.57	2,017.04	-2,016.97	-37.43	1.65	181.06	2,017.32
13,430.00	89.87	178.00	11,053.39	2,111.98	-2,111.92	-34.51	0.92	180.94	2,112.21
13,524.00	91.21	178.09	11,052.51	2,205.92	-2,205.86	-31.30	1.43	180.81	2,206.09
13,618.00	90.54	179.20	11,051.07	2,299.87	-2,299.82	-29.08	1.38	180.72	2,300.01
13,712.00	90.91	179.40	11,049.88	2,393.86	-2,393.81	-27.93	0.45	180.67	2,393.97
13,807.00	90.34	181.09	11,048.85	2,488.85	-2,488.80	-28.34	1.88	180.65	2,488.96
13,901.00	90.10	181.42	11,048.49	2,582.83	-2,582.78	-30.40	0.43	180.67	2,582.95
13,995.00	89.83	181.39	11,048.54	2,676.80	-2,676.75	-32.70	0.29	180.70	2,676.95
14,089.00	90.37	181.37	11,048.38	2,770.78	-2,770.72	-34.96	0.57	180.72	2,770.94
14,184.00	90.74	180.91	11,047.46	2,865.76	-2,865.70	-36.85	0.62	180.74	2,865.93
14,278.00	91.38	181.01	11,045.72	2,959.73	-2,959.67	-38.43	0.69	180.74	2,959.92
14,373.00	89.33	180.79	11,045.13	3,054.71	-3,054.65	-39.92	2.17	180.75	3,054.91

Scientific Drilling, Intl Regulatory Report (Grid North)

Company: Devon Energy
Project: Lea County, NM (NAD83 NME)
Site: Mean Green 23-25 Fed Com
Well: 4H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well 4H
TVD Reference: KB = 26' @ 3219.00usft (H&P 466)
MD Reference: KB = 26' @ 3219.00usft (H&P 466)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland District

Survey

MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Closure Azimuth (bearing)	Closure Distance (usft)
14,418.92	89.21	180.79	11,045.72	3,100.63	-3,100.56	-40.55	0.26	180.75	3,100.83
T1[MG4H]									
14,466.00	89.09	180.79	11,046.41	3,147.70	-3,147.63	-41.20	0.26	180.75	3,147.90
14,561.00	89.19	180.98	11,047.84	3,242.68	-3,242.61	-42.67	0.23	180.75	3,242.89
14,655.00	89.46	180.49	11,048.95	3,336.66	-3,336.59	-43.88	0.60	180.75	3,336.88
14,749.00	89.93	180.51	11,049.45	3,430.66	-3,430.59	-44.70	0.50	180.75	3,430.88
14,843.00	89.70	180.55	11,049.75	3,524.66	-3,524.58	-45.57	0.25	180.74	3,524.88
14,938.00	89.23	180.42	11,050.64	3,619.65	-3,619.58	-46.37	0.51	180.73	3,619.87
15,032.00	89.50	180.37	11,051.68	3,713.64	-3,713.57	-47.02	0.29	180.73	3,713.87
15,126.00	89.87	179.93	11,052.20	3,807.64	-3,807.57	-47.26	0.61	180.71	3,807.86
15,220.00	89.56	179.61	11,052.67	3,901.64	-3,901.56	-46.89	0.47	180.69	3,901.85
15,314.00	88.52	179.38	11,054.24	3,995.62	-3,995.55	-46.06	1.13	180.66	3,995.81
15,408.00	89.09	178.48	11,056.20	4,089.58	-4,089.51	-44.30	1.13	180.62	4,089.75
15,502.00	90.23	178.18	11,056.76	4,183.53	-4,183.46	-41.56	1.25	180.57	4,183.67
15,597.00	90.34	178.21	11,056.29	4,278.48	-4,278.42	-38.57	0.12	180.52	4,278.59
15,691.00	90.60	178.18	11,055.51	4,372.42	-4,372.37	-35.61	0.28	180.47	4,372.51
15,786.00	90.74	177.96	11,054.40	4,467.35	-4,467.31	-32.41	0.27	180.42	4,467.42
15,880.00	90.50	177.94	11,053.39	4,561.28	-4,561.24	-29.05	0.26	180.36	4,561.33
15,974.00	90.47	177.80	11,052.59	4,655.21	-4,655.17	-25.56	0.15	180.31	4,655.24
16,068.00	90.64	177.77	11,051.68	4,749.13	-4,749.10	-21.92	0.18	180.26	4,749.15
16,162.00	91.28	177.97	11,050.11	4,843.04	-4,843.02	-18.43	0.71	180.22	4,843.05
16,256.00	91.38	177.93	11,047.92	4,936.95	-4,936.93	-15.07	0.11	180.17	4,936.96
MWD Survey (16256.00' MD)									
16,325.00	91.38	177.93	11,046.26	5,005.88	-5,005.87	-12.58	0.00	180.14	5,005.88
Proj. to Bit (16325.00' MD) - T[MG4H] - BHL.FINAL[MG4H] - BHL[MG4H]									

Scientific Drilling, Intl
Regulatory Report (Grid North)

Company: Devon Energy
Project: Lea County, NM (NAD83 NME)
Site: Mean Green 23-25 Fed Com
Well: 4H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well 4H
TVD Reference: KB = 26' @ 3219.00usft (H&P 466)
MD Reference: KB = 26' @ 3219.00usft (H&P 466)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland District

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
16,256.00	11,047.92	-4,936.93	-15.07	MWD Survey (16256.00' MD)
16,325.00	11,046.26	-5,005.87	-12.58	Proj. to Bit (16325.00' MD)

Checked By: _____ Approved By: _____ Date: _____

Devon Energy

Lea County, NM (NAD83 NME)

Mean Green 23-25 Fed Com

4H

ST01

Survey: SDI MWD - Lateral ST01

Regulatory Report (Grid North)

01 March, 2019

Scientific Drilling, Intl
Regulatory Report (Grid North)

Company:	Devon Energy	Local Co-ordinate Reference:	Well 4H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	KB = 26' @ 3219.00usft (H&P 466)
Site:	Mean Green 23-25 Fed Com	MD Reference:	KB = 26' @ 3219.00usft (H&P 466)
Well:	4H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01 Actual	Database:	Midland District

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	Mean Green 23-25 Fed Com		
Site Position:		Northing:	375,205.44 usft
From:	Map	Easting:	819,720.56 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 1' 42.017 N
		Longitude:	103° 26' 6.103 W
		Grid Convergence:	0.48 °

Well	4H		
Well Position	+N/-S	0.00 usft	Northing: 375,205.46 usft
	+E/-W	0.00 usft	Easting: 819,690.55 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	32° 1' 42.020 N
		Longitude:	103° 26' 6.452 W
		Ground Level:	3,193.00 usft

Wellbore	ST01		
Magnetics	Model Name	Sample Date	Declination (°)
	HDGM	2/20/2019	6.63
			Dip Angle (°) 59.67
			Field Strength (nT) 47,691

Design	ST01 Actual		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	15,408.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.00	0.00	0.00
			Direction (bearing) 180.58

Scientific Drilling, Intl
Regulatory Report (Grid North)

Company: Devon Energy
Project: Lea County, NM (NAD83 NME)
Site: Mean Green 23-25 Fed Com
Well: 4H
Wellbore: ST01
Design: ST01 Actual

Local Co-ordinate Reference: Well 4H
TVD Reference: KB = 26' @ 3219.00usft (H&P 466)
MD Reference: KB = 26' @ 3219.00usft (H&P 466)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland District

Survey Program **Date** 3/1/2019

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
149.00	15,408.00	SDI Survey #1 (OH)	MWD+HDGM	OWSG MWD + HDGM
15,501.00	21,510.00	SDI MWD - Lateral ST01 (ST01)	MWD+HDGM	OWSG MWD + HDGM

Survey

MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Closure Azimuth (bearing)	Closure Distance (usft)
15,408.00	89.09	178.48	11,056.20	4,089.75	-4,089.51	-44.30	0.00	180.62	4,089.75
15,501.00	88.46	179.33	11,058.19	4,182.68	-4,182.47	-42.53	1.14	180.58	4,182.68
15,595.00	86.20	183.57	11,082.57	4,276.54	-4,276.31	-44.90	5.11	180.60	4,276.54
15,690.00	87.18	184.22	11,068.05	4,371.22	-4,370.93	-51.34	1.24	180.67	4,371.23
15,784.00	88.12	184.37	11,071.91	4,464.95	-4,464.58	-58.37	1.01	180.75	4,464.97
15,879.00	86.10	184.43	11,076.70	4,559.61	-4,559.18	-65.65	2.13	180.83	4,559.65
15,973.00	86.70	185.02	11,082.60	4,653.18	-4,652.67	-73.38	0.89	180.90	4,653.25
16,067.00	87.31	184.72	11,087.51	4,746.79	-4,746.21	-81.35	0.72	180.98	4,746.90
16,161.00	88.29	185.06	11,091.12	4,840.45	-4,839.79	-89.36	1.10	181.06	4,840.62
16,255.00	90.07	184.18	11,092.47	4,934.20	-4,933.47	-96.93	2.11	181.13	4,934.43
16,349.00	91.75	181.48	11,090.97	5,028.11	-5,027.34	-101.57	3.38	181.16	5,028.36
16,444.00	91.51	177.86	11,088.27	5,123.04	-5,122.28	-101.02	3.82	181.13	5,123.28
16,538.00	92.62	174.58	11,084.88	5,216.69	-5,216.00	-94.83	3.68	181.04	5,216.86
16,632.00	93.56	174.07	11,079.81	5,310.00	-5,309.40	-85.55	1.14	180.92	5,310.09
16,726.00	92.29	174.47	11,075.02	5,403.30	-5,402.81	-76.18	1.42	180.81	5,403.35
16,821.00	92.79	174.24	11,070.81	5,497.65	-5,497.25	-66.84	0.58	180.70	5,497.66
16,915.00	91.68	175.44	11,067.14	5,591.10	-5,590.80	-58.39	1.74	180.60	5,591.10
17,009.00	90.10	176.59	11,065.68	5,684.79	-5,684.56	-51.86	2.08	180.52	5,684.79
17,104.00	91.45	180.13	11,064.40	5,779.69	-5,779.49	-49.14	3.99	180.49	5,779.70
17,198.00	92.42	180.25	11,061.22	5,873.64	-5,873.44	-49.45	1.04	180.48	5,873.64
17,292.00	93.73	180.25	11,056.18	5,967.50	-5,967.30	-49.86	1.39	180.48	5,967.51

Scientific Drilling, Intl
Regulatory Report (Grid North)

Company: Devon Energy
Project: Lea County, NM (NAD83 NME)
Site: Mean Green 23-25 Fed Com
Well: 4H
Wellbore: ST01
Design: ST01 Actual

Local Co-ordinate Reference: Well 4H
TVD Reference: KB = 26' @ 3219.00usft (H&P 466)
MD Reference: KB = 26' @ 3219.00usft (H&P 466)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland District

Survey

MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Closure Azimuth (bearing)	Closure Distance (usft)
17,387.00	92.28	178.67	11,051.20	6,062.34	-6,062.16	-48.97	2.26	180.46	6,062.36
17,481.00	90.07	178.76	11,049.27	6,156.27	-6,156.11	-46.86	2.35	180.44	6,156.29
17,576.00	90.24	178.38	11,049.02	6,251.21	-6,251.08	-44.49	0.44	180.41	6,251.24
17,670.00	90.84	178.50	11,048.13	6,345.14	-6,345.04	-41.93	0.65	180.38	6,345.18
17,764.00	92.38	178.57	11,045.49	6,439.04	-6,438.97	-39.53	1.64	180.35	6,439.09
17,858.00	90.37	178.72	11,043.23	6,532.95	-6,532.91	-37.31	2.14	180.33	6,533.02
17,953.00	91.41	178.76	11,041.76	6,627.89	-6,627.87	-35.22	1.10	180.30	6,627.97
18,047.00	93.26	178.61	11,037.93	6,721.76	-6,721.77	-33.06	1.97	180.28	6,721.85
18,141.00	91.94	178.15	11,033.66	6,815.59	-6,815.63	-30.41	1.49	180.26	6,815.70
18,235.00	89.90	178.11	11,032.15	6,909.48	-6,909.56	-27.34	2.17	180.23	6,909.62
18,329.00	89.19	177.26	11,032.90	7,003.36	-7,003.48	-23.55	1.18	180.19	7,003.52
18,424.00	89.97	177.28	11,033.60	7,098.20	-7,098.37	-19.02	0.82	180.15	7,098.40
18,518.00	90.91	177.85	11,032.88	7,192.06	-7,192.28	-15.03	1.17	180.12	7,192.30
18,612.00	91.51	177.46	11,030.89	7,285.92	-7,286.18	-11.18	0.76	180.09	7,286.19
18,707.00	90.64	178.97	11,029.11	7,380.82	-7,381.12	-8.22	1.83	180.06	7,381.12
18,801.00	89.36	180.18	11,029.11	7,474.80	-7,475.11	-7.53	1.87	180.06	7,475.11
18,895.00	90.20	179.91	11,029.47	7,568.79	-7,569.11	-7.60	0.94	180.06	7,569.11
18,990.00	90.74	181.24	11,028.69	7,663.79	-7,664.10	-8.55	1.51	180.06	7,664.10
19,085.00	90.90	181.30	11,027.33	7,758.77	-7,759.06	-10.66	0.18	180.08	7,759.07
19,179.00	92.59	181.29	11,024.47	7,852.72	-7,852.99	-12.78	1.80	180.09	7,853.00
19,273.00	90.64	181.75	11,021.82	7,946.66	-7,946.92	-15.28	2.13	180.11	7,946.93
19,368.00	92.89	182.32	11,018.89	8,041.58	-8,041.81	-18.65	2.44	180.13	8,041.83
19,463.00	90.64	181.68	11,015.97	8,136.50	-8,136.70	-21.96	2.46	180.15	8,136.73
19,557.00	88.76	181.17	11,016.46	8,230.48	-8,230.66	-24.30	2.07	180.17	8,230.70
19,651.00	89.87	181.18	11,017.58	8,324.47	-8,324.63	-26.22	1.18	180.18	8,324.67
19,746.00	91.31	181.29	11,016.60	8,419.46	-8,419.60	-28.27	1.52	180.19	8,419.65
19,840.00	92.38	180.29	11,013.58	8,513.40	-8,513.54	-29.57	1.56	180.20	8,513.60

Scientific Drilling, Intl
Regulatory Report (Grid North)

Company: Devon Energy
Project: Lea County, NM (NAD83 NME)
Site: Mean Green 23-25 Fed Com
Well: 4H
Wellbore: ST01
Design: ST01 Actual

Local Co-ordinate Reference: Well 4H
TVD Reference: KB = 26' @ 3219.00usft (H&P 466)
MD Reference: KB = 26' @ 3219.00usft (H&P 466)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland District

Survey

MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Closure Azimuth (bearing)	Closure Distance (usft)
19,934.00	91.31	179.96	11,010.55	8,607.35	-8,607.49	-29.77	1.19	180.20	8,607.54
20,028.00	89.53	179.01	11,009.86	8,701.33	-8,701.48	-28.93	2.15	180.19	8,701.53
20,123.00	90.34	179.19	11,009.97	8,796.29	-8,796.47	-27.44	0.87	180.18	8,796.51
20,217.00	92.36	179.53	11,007.76	8,890.24	-8,890.43	-26.39	2.18	180.17	8,890.47
20,312.00	92.62	178.79	11,003.63	8,985.12	-8,985.33	-24.99	0.82	180.16	8,985.37
20,406.00	87.85	179.46	11,003.24	9,079.06	-9,079.29	-23.56	5.12	180.15	9,079.32
20,503.00	88.22	179.20	11,006.57	9,175.98	-9,176.23	-22.43	0.47	180.14	9,176.26
20,597.00	89.26	179.23	11,008.64	9,269.93	-9,270.20	-21.14	1.11	180.13	9,270.22
20,692.00	89.80	179.21	11,009.42	9,364.90	-9,365.18	-19.85	0.57	180.12	9,365.20
20,786.00	89.80	178.91	11,009.74	9,458.87	-9,459.17	-18.30	0.32	180.11	9,459.19
20,880.00	91.64	179.90	11,008.56	9,552.83	-9,553.15	-17.33	2.22	180.10	9,553.17
20,974.00	92.15	179.99	11,005.45	9,646.78	-9,647.10	-17.24	0.55	180.10	9,647.12
21,069.00	92.32	179.99	11,001.75	9,741.70	-9,742.03	-17.22	0.18	180.10	9,742.04
21,163.00	92.55	180.06	10,997.76	9,835.61	-9,835.94	-17.26	0.26	180.10	9,835.96
21,257.00	92.38	179.48	10,993.71	9,929.51	-9,929.86	-16.88	0.64	180.10	9,929.87
21,331.25	92.59	179.45	10,990.49	10,003.68	-10,004.04	-16.19	0.29	180.09	10,004.05
BHL[MG4H]									
21,352.00	92.65	179.44	10,989.54	10,024.40	-10,024.76	-15.99	0.29	180.09	10,024.77
21,445.00	92.65	179.51	10,985.24	10,117.29	-10,117.66	-15.14	0.08	180.09	10,117.67
FINAL MWD Survey (21445.00' MD)									
21,510.00	92.65	179.51	10,982.24	10,182.21	-10,182.58	-14.58	0.00	180.08	10,182.59
FINAL Proj. to Bit (21510.00' MD) - BHL.FINAL[MG4H]									

Scientific Drilling, Intl
Regulatory Report (Grid North)

Company: Devon Energy
Project: Lea County, NM (NAD83 NME)
Site: Mean Green 23-25 Fed Com
Well: 4H
Wellbore: ST01
Design: ST01 Actual

Local Co-ordinate Reference: Well 4H
TVD Reference: KB = 26' @ 3219.00usft (H&P 466)
MD Reference: KB = 26' @ 3219.00usft (H&P 466)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland District

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
21,445.00	10,985.24	-10,117.66	-15.14	FINAL MWD Survey (21445.00' MD)
21,510.00	10,982.24	-10,182.58	-14.58	FINAL Proj. to Bit (21510.00' MD)

Checked By: _____ Approved By: _____ Date: _____