

Devon

Mean Green 23-35 Fed Com 2H

H&P 466

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

Lacey D. Brate

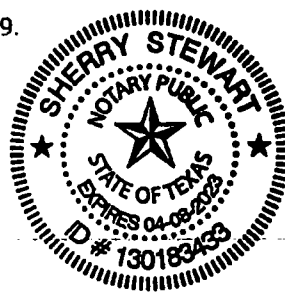
Notarized this data 8th of August, 2019.

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

2H

Sidetrack 1

Survey: SDI ST Survey #1

Regulatory Report (Grid North)

05 February, 2019

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AUG 19 2019
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Scientific Drilling, Intl
Regulatory Report (Grid North)

Company:	Devon Energy	Local Co-ordinate Reference:	Well 2H
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:	2H	North Reference:	Grid
Wellbore:	Sidetrack 1	Survey Calculation Method:	Minimum Curvature
Design:	ST 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	2H		
Well Position	+N/-S	0.00 usft	Northing: 375,205.47 usft
	+E/-W	0.00 usft	Easting: 819,750.55 usft
Position Uncertainty		0.00 usft	Wellhead Elevation: 0.00 usft
			Latitude: 32° 1' 42.015 N
			Longitude: 103° 26' 5.755 W
			Ground Level: 3,193.00 usft

Wellbore	Sidetrack 1		
Magnetics	Model Name	Sample Date	Declination (°)
			Dip Angle (°)
			Field Strength (nT)
	HDGM	12/15/2018	6.65
			59.68
			47,704

Design	ST OH		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	12,503.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
			Direction (bearing)
	0.00	0.00	0.00
			176.80

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Wellbore:	Sidetrack 1	Survey Calculation Method:	Minimum Curvature
Design:	ST OH	Database:	Midland District

Survey Program		Date	2/5/2019		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
179.00	12,503.00	SDI Survey #1 (OH)	MWD+HDGM	OWSG MWD + HDGM	
12,540.00	23,745.00	SDI ST Survey #1 (Sidetrack 1)	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)
12,503.00	29.54	81.86	12,431.18	-745.21	752.83	115.50	0.00	8.72	761.64
12,540.00	30.11	90.67	12,463.30	-745.37	754.02	133.82	11.93	10.06	765.80
12,570.00	26.77	98.42	12,489.68	-743.50	752.94	148.04	16.57	11.12	767.35
12,615.00	26.52	112.97	12,529.95	-737.02	747.53	167.33	14.48	12.62	766.03
12,665.00	31.11	118.35	12,573.75	-725.33	737.03	189.00	10.54	14.38	760.88
12,710.00	36.21	125.74	12,611.21	-710.88	723.73	210.04	14.52	16.18	753.59
12,759.00	40.05	132.92	12,649.76	-690.40	704.53	233.35	11.96	18.33	742.16
12,806.00	44.07	135.44	12,684.65	-667.22	682.57	255.90	9.28	20.55	728.97
12,853.00	47.51	138.28	12,717.43	-641.39	657.98	278.91	8.50	22.97	714.65
12,898.00	50.83	141.51	12,746.85	-614.15	631.93	300.82	9.16	25.46	699.88
12,947.00	55.93	149.94	12,776.10	-580.48	599.44	322.85	17.28	28.31	680.85
12,992.00	61.64	157.13	12,799.44	-545.15	565.01	339.91	18.64	31.03	659.37
13,042.00	69.20	164.68	12,820.24	-501.47	522.08	354.67	20.41	34.19	631.16
13,096.00	76.91	171.91	12,835.99	-450.45	471.56	365.07	19.17	37.75	596.36
13,145.00	81.08	174.13	12,845.34	-402.47	423.83	370.91	9.60	41.19	563.21
13,192.00	86.47	177.09	12,850.44	-355.78	377.27	374.48	13.06	44.79	531.57
13,239.00	89.23	178.76	12,852.20	-308.83	330.34	376.18	6.86	48.71	500.63
13,333.00	89.87	179.22	12,852.94	-214.90	236.36	377.83	0.84	57.97	445.67
13,428.00	90.17	179.63	12,852.91	-120.00	141.36	378.79	0.53	69.53	404.31
13,522.00	89.29	178.94	12,853.35	-26.09	47.37	379.96	1.19	82.89	382.90
13,616.00	88.76	178.89	12,854.95	67.83	-46.60	381.74	0.57	96.96	384.57

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Design: ST OH

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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)
13,710.00	90.30	178.62	12,855.72	161.77	-140.57	383.78	1.66	110.12	408.71
13,804.00	90.03	178.19	12,855.45	255.73	-234.53	386.40	0.54	121.26	452.00
13,939.00	90.00	177.06	12,855.41	390.72	-369.41	391.99	0.84	133.30	538.63
14,033.00	90.10	178.97	12,855.33	484.69	-463.35	395.25	2.03	139.54	609.03
14,127.00	90.07	179.59	12,855.19	578.60	-557.34	396.43	0.66	144.58	683.95
14,222.00	90.03	179.84	12,855.11	673.48	-652.34	396.90	0.27	148.68	763.60
14,316.00	90.24	180.09	12,854.89	767.34	-746.34	396.96	0.35	151.99	845.34
14,411.00	89.97	180.39	12,854.71	862.17	-841.34	396.56	0.42	154.76	930.12
14,505.00	89.83	180.88	12,854.88	955.95	-935.33	395.52	0.54	157.08	1,015.52
14,599.00	90.34	179.31	12,854.74	1,049.80	-1,029.33	395.36	1.76	158.99	1,102.65
14,693.00	90.37	179.82	12,854.16	1,143.68	-1,123.33	396.08	0.54	160.58	1,191.11
14,787.00	90.44	180.50	12,853.49	1,237.52	-1,217.32	395.81	0.73	161.99	1,280.06
14,881.00	90.34	180.21	12,852.85	1,331.34	-1,311.32	395.23	0.33	163.23	1,369.59
14,976.00	90.37	179.17	12,852.26	1,426.21	-1,406.31	395.75	1.10	164.28	1,460.94
15,070.00	90.47	180.02	12,851.57	1,520.10	-1,500.31	396.41	0.91	165.20	1,551.79
15,164.00	90.27	179.39	12,850.97	1,613.97	-1,594.30	396.89	0.70	166.02	1,642.96
15,258.00	90.40	179.78	12,850.42	1,707.86	-1,688.30	397.58	0.44	166.75	1,734.48
15,353.00	90.23	179.61	12,849.89	1,802.74	-1,783.30	398.08	0.25	167.42	1,827.19
15,447.00	90.27	179.22	12,849.48	1,896.64	-1,877.29	399.04	0.42	168.00	1,919.23
15,542.00	90.27	179.63	12,849.04	1,991.54	-1,972.29	399.99	0.43	168.54	2,012.44
15,636.00	90.20	179.05	12,848.65	2,085.44	-2,066.28	401.08	0.62	169.02	2,104.84
15,730.00	90.44	179.24	12,848.13	2,179.36	-2,160.27	402.48	0.33	169.45	2,197.44
15,825.00	90.20	179.26	12,847.60	2,274.28	-2,255.26	403.72	0.25	169.85	2,291.11
15,919.00	90.34	179.02	12,847.15	2,368.20	-2,349.24	405.13	0.30	170.22	2,383.92
16,013.00	90.34	178.90	12,846.59	2,462.13	-2,443.23	406.84	0.13	170.55	2,476.87
16,108.00	90.64	179.56	12,845.78	2,557.04	-2,538.21	408.12	0.76	170.87	2,570.82
16,202.00	90.57	180.32	12,844.79	2,650.89	-2,632.21	408.22	0.81	171.18	2,663.67

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Project: Lea County, NM (NAD83 NME)
Site: Mean Green 23-25 Fed Com
Well: 2H
Wellbore: Sidetrack 1
Design: ST OH

Local Co-ordinate Reference: Well 2H
TVD Reference: KB = 26' @ 3219.00usft (H&P 466)
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North Reference: Grid
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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)
16,297.00	90.44	179.45	12,843.95	2,745.75	-2,727.20	408.41	0.93	171.48	2,757.61
16,391.00	90.10	179.21	12,843.51	2,839.66	-2,821.20	409.51	0.44	171.74	2,850.76
16,485.00	90.37	178.97	12,843.12	2,933.58	-2,915.18	411.00	0.38	171.98	2,944.01
16,551.58	90.23	178.76	12,842.78	3,000.11	-2,981.74	412.31	0.37	172.13	3,010.12
T1[MG12H-STPlan#2]									
16,579.00	90.17	178.68	12,842.68	3,027.52	-3,009.16	412.93	0.37	172.19	3,037.36
16,674.00	90.84	179.66	12,841.84	3,122.43	-3,104.15	414.30	1.25	172.40	3,131.67
16,768.00	90.57	178.99	12,840.69	3,216.33	-3,198.13	415.41	0.77	172.60	3,225.00
16,862.00	91.28	179.23	12,839.17	3,310.25	-3,292.11	416.87	0.80	172.78	3,318.40
16,956.00	88.49	176.98	12,839.36	3,404.21	-3,386.04	419.98	3.81	172.93	3,411.99
17,050.00	90.07	178.17	12,840.54	3,498.18	-3,479.95	423.95	2.10	173.05	3,505.67
17,145.00	91.85	179.28	12,838.95	3,593.11	-3,574.90	426.07	2.21	173.20	3,600.20
17,239.00	92.08	180.00	12,835.72	3,686.94	-3,668.85	426.66	0.80	173.37	3,693.57
17,333.00	92.18	180.14	12,832.23	3,780.72	-3,762.78	426.54	0.18	173.53	3,786.88
17,427.00	92.18	180.31	12,828.66	3,874.49	-3,856.71	426.17	0.18	173.69	3,880.19
17,522.00	92.15	180.15	12,825.07	3,969.25	-3,951.64	425.79	0.17	173.85	3,974.52
17,617.00	91.21	179.40	12,822.28	4,064.08	-4,046.60	426.17	1.27	173.99	4,068.98
17,711.00	92.12	180.17	12,819.55	4,157.91	-4,140.56	426.52	1.27	174.12	4,162.47
17,806.00	91.91	180.26	12,816.21	4,252.68	-4,235.50	426.16	0.24	174.25	4,256.88
17,900.00	90.37	180.03	12,814.34	4,346.50	-4,329.48	425.92	1.66	174.38	4,350.38
17,995.00	90.57	182.87	12,813.56	4,441.18	-4,424.43	423.52	3.00	174.53	4,444.66
18,089.00	91.38	183.31	12,811.98	4,534.60	-4,518.28	418.45	0.98	174.71	4,537.62
18,183.00	91.98	181.11	12,809.20	4,628.13	-4,612.17	414.83	2.42	174.86	4,630.78
18,278.00	91.28	178.76	12,808.50	4,722.94	-4,707.12	414.94	2.58	174.96	4,725.37
18,372.00	90.54	176.66	12,805.01	4,816.91	-4,801.03	418.69	2.37	175.02	4,819.25
18,466.00	90.57	177.84	12,804.10	4,910.90	-4,894.91	423.20	1.26	175.06	4,913.17
18,560.00	91.24	179.78	12,802.61	5,004.83	-4,988.88	425.16	2.18	175.13	5,006.96

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Company: Devon Energy
Project: Lea County, NM (NAD83 NME)
Site: Mean Green 23-25 Fed Com
Well: 2H
Wellbore: Sidetrack 1
Design: ST OH

Local Co-ordinate Reference: Well 2H
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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)
18,655.00	91.14	178.82	12,800.64	5,099.72	-5,083.85	426.32	1.02	175.21	5,101.69
18,749.00	90.94	178.87	12,798.93	5,193.64	-5,177.81	428.21	0.22	175.27	5,195.49
18,844.00	90.91	178.69	12,797.40	5,288.57	-5,272.78	430.23	0.19	175.34	5,290.30
18,938.00	90.91	179.27	12,795.91	5,382.49	-5,366.75	431.91	0.62	175.40	5,384.10
19,033.00	90.84	179.40	12,794.46	5,477.39	-5,461.73	433.01	0.16	175.47	5,478.87
19,127.00	90.60	178.57	12,793.28	5,571.31	-5,555.71	434.67	0.92	175.53	5,572.69
19,221.00	91.04	179.35	12,791.93	5,665.23	-5,649.68	436.38	0.95	175.58	5,666.51
19,316.00	90.27	178.42	12,790.84	5,760.16	-5,744.66	438.23	1.27	175.64	5,761.35
19,410.00	90.03	178.03	12,790.60	5,854.13	-5,838.61	441.14	0.49	175.68	5,855.25
19,504.00	90.81	178.76	12,789.91	5,948.09	-5,932.57	443.77	1.14	175.72	5,949.15
19,598.00	90.60	179.09	12,788.75	6,042.02	-6,026.55	445.54	0.42	175.77	6,042.99
19,693.00	90.50	179.13	12,787.84	6,136.94	-6,121.53	447.01	0.11	175.82	6,137.83
19,787.00	90.84	181.43	12,786.74	6,230.75	-6,215.52	448.55	2.47	175.89	6,231.54
19,882.00	90.71	181.28	12,785.46	6,325.45	-6,310.48	444.31	0.21	175.97	6,326.10
19,976.00	91.17	181.69	12,783.91	6,419.12	-6,404.44	441.87	0.66	176.05	6,419.66
20,070.00	90.84	181.50	12,782.27	6,512.77	-6,498.39	439.25	0.41	176.13	6,513.22
20,164.00	90.54	181.28	12,781.13	6,606.47	-6,592.35	436.97	0.40	176.21	6,606.82
20,259.00	89.13	180.87	12,781.41	6,701.20	-6,687.33	435.19	1.55	176.28	6,701.48
20,354.00	89.90	181.44	12,782.21	6,795.92	-6,782.31	433.28	1.01	176.34	6,796.13
20,448.00	91.11	181.42	12,781.38	6,889.61	-6,876.27	430.93	1.29	176.41	6,889.76
20,542.00	90.91	180.31	12,779.73	6,983.36	-6,970.25	429.51	1.20	176.47	6,983.47
20,637.00	91.31	180.16	12,777.89	7,078.17	-7,065.23	429.12	0.45	176.52	7,078.25
20,730.00	91.58	180.23	12,775.54	7,170.97	-7,158.20	428.81	0.30	176.57	7,171.03
20,825.00	91.11	178.91	12,773.31	7,265.83	-7,253.17	429.52	1.47	176.61	7,265.87
20,919.00	91.41	178.95	12,771.24	7,359.75	-7,347.13	431.27	0.32	176.64	7,359.77
21,013.00	91.51	178.49	12,768.85	7,453.66	-7,441.07	433.37	0.50	176.67	7,453.68
21,108.00	91.17	178.44	12,766.63	7,548.60	-7,536.01	435.92	0.36	176.69	7,548.61

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Design: ST OH

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21,202.00	92.15	177.67	12,763.90	7,642.53	-7,629.92	439.11	1.33	176.71	7,642.54
21,296.00	91.17	177.68	12,761.18	7,736.48	-7,723.80	442.92	1.04	176.72	7,736.49
21,390.00	91.21	178.43	12,759.23	7,830.44	-7,817.72	446.11	0.80	176.73	7,830.44
21,484.00	91.04	179.51	12,757.38	7,924.35	-7,911.69	447.80	1.16	176.76	7,924.35
21,579.00	91.11	179.93	12,755.60	8,019.21	-8,006.67	448.26	0.45	176.80	8,019.21
21,673.00	91.24	179.54	12,753.67	8,113.07	-8,100.65	448.70	0.44	176.83	8,113.07
21,769.00	91.17	178.89	12,751.65	8,208.96	-8,196.62	450.01	0.68	176.86	8,208.96
21,864.00	91.48	179.45	12,749.46	8,303.85	-8,291.58	451.39	0.67	176.88	8,303.86
21,959.00	91.31	179.32	12,747.14	8,398.73	-8,386.55	452.41	0.23	176.91	8,398.74
22,054.00	92.88	179.69	12,743.67	8,493.56	-8,481.48	453.23	1.70	176.94	8,493.58
22,149.00	91.48	179.59	12,740.06	8,588.37	-8,576.41	453.82	1.48	176.97	8,588.41
22,243.00	91.31	179.52	12,737.77	8,682.23	-8,670.38	454.55	0.20	177.00	8,682.28
22,337.00	91.14	178.97	12,735.76	8,776.12	-8,764.35	455.79	0.61	177.02	8,776.19
22,432.00	91.58	179.87	12,733.51	8,871.00	-8,859.31	456.75	1.05	177.05	8,871.08
22,526.00	90.94	179.36	12,731.44	8,964.86	-8,953.29	457.38	0.87	177.08	8,964.96
22,620.00	91.17	179.71	12,729.71	9,058.74	-9,047.27	458.15	0.45	177.10	9,058.86
22,714.00	91.21	179.50	12,727.76	9,152.60	-9,141.25	458.80	0.23	177.13	9,152.75
22,809.00	91.01	179.56	12,725.92	9,247.48	-9,236.23	459.57	0.22	177.15	9,247.65
22,904.00	91.04	179.85	12,724.22	9,342.34	-9,331.21	460.06	0.31	177.18	9,342.54
22,999.00	90.95	179.92	12,722.57	9,437.19	-9,426.19	460.25	0.12	177.20	9,437.42
23,093.00	89.56	179.22	12,722.15	9,531.08	-9,520.19	460.96	1.66	177.23	9,531.34
23,188.00	89.83	178.97	12,722.65	9,626.00	-9,615.17	462.46	0.39	177.25	9,626.29
23,282.00	90.74	179.16	12,722.19	9,719.92	-9,709.16	463.99	0.99	177.26	9,720.24
23,376.00	91.38	179.99	12,720.45	9,813.79	-9,803.14	464.69	1.11	177.29	9,814.15
23,471.00	91.71	179.83	12,717.89	9,908.62	-9,898.11	464.84	0.39	177.31	9,909.01
23,565.00	90.90	179.35	12,715.74	10,002.48	-9,992.08	465.51	1.00	177.33	10,002.92

Scientific Drilling, Intl
Regulatory Report (Grid North)

Company:	Devon Energy	Local Co-ordinate Reference:	Well 2H
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:	2H	North Reference:	Grid
Wellbore:	Sidetrack 1	Survey Calculation Method:	Minimum Curvature
Design:	ST OH	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)	
23,570.59	90.88	179.33	12,715.66	10,008.07	-9,997.67	465.58	0.46	177.33	10,008.50	
BHL.PLAT[MG12H]										
23,576.74	90.86	179.31	12,715.56	10,014.21	-10,003.82	465.65	0.46	177.33	10,014.65	
BHL.PLAT[MG12H-STPlan#2]										
23,659.00	90.60	179.04	12,714.51	10,096.39	-10,086.06	466.83	0.46	177.35	10,096.86	
23,723.00	90.00	179.13	12,714.18	10,160.34	-10,150.05	467.86	0.95	177.36	10,160.83	
FINAL MWD Survey (23723.00' MD)										
23,745.00	90.00	179.13	12,714.18	10,182.32	-10,172.05	468.19	0.00	177.36	10,182.82	
FINAL Proj. to Bit (23745.00' MD) - BHL[MG#2H-STPlan#2] - BHL.FINAL[MG12H]										

Survey Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
23,723.00	12,714.18	-10,150.05	467.86	FINAL MWD Survey (23723.00' MD)	
23,745.00	12,714.18	-10,172.05	468.19	FINAL Proj. to Bit (23745.00' MD)	

Checked By: _____ Approved By: _____ Date: _____