

DIRECTIONAL

May 15, 2019

New Mexico Energy, Minerals and Natural Resources Department
Attn: Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

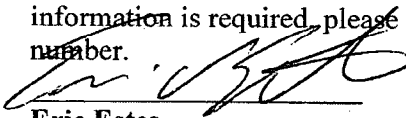
Attn: Jackie Lathan

Re: Mewbourne Oil Company
Buffalo Trace 1 36 WIPA Fed Com #1H
Purple Sage; Wolfcamp
Eddy County, New Mexico
API# 30-015-43914

Enclosed please find the original and one (1) copy of the survey performed on the reference well by STRYKER ENERGY DIRECTIONAL SERVICES, L.L.C. Other information required by your office is as follows:

<u>Name & Title</u>	<u>Drainhole No.</u>	<u>Survey Depths</u>	<u>Dates Performed</u>	<u>Type Survey</u>
Cody Hash	Original Hole	1,039ft. to 20,778ft.	02-04-19 to 03-26-19	MWD Survey

A certified plat on which the bottom-hole location is oriented to both surface location and to the lease lines (or unit lines in case of pooling) is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.


Eric Estes

Enclosures

CC:

Mewbourne Oil Company
Attn: Frosty Lathan
P.O. Box 5720
Hobbs, NM 88241

Mewbourne Oil Company
Attn: Robin Terrell
P.O. Box 5720
Hobbs, NM 88241

NMEMaNRD\Mewbourne Oil Company\Buffalo Trace 1 36 WIPA Fed Com #1H\M191007

STRYKER ENERGY DIRECTIONAL SERVICES, L.L.C.
P.O. Box 1250
Montgomery, TX 77356
Office (936) 582-7296 * Fax (936)-588-4163



May 15, 2019

Survey Certification Report

STATE OF TEXAS
COUNTY OF Montgomery

I, Eric Estes, certify that I am employed by STRYKER ENERGY DIRECTIONAL SERVICES, L.L.C., and that I did on the day(s) of February 4, 2019, through March 26, 2019 conduct or supervise the taking of a SEDS Original Hole MWD Survey from a depth of 1,039feet to a depth of 20,778feet; that I am authorized and qualified to make this report; that this survey was conducted at the request of Mewbourne Oil Company, for the Buffalo Trace 1 36 WIPA Federal Com #1H,well API # 30-015-43914 in Eddy County, New Mexico; and that I have reviewed this report and find that it conforms to the principles as set forth by STRYKER ENERGY DIRECTIONAL SERVICES, L.L.C.

A handwritten signature in black ink, appearing to read "Eric Estes", is written over a horizontal line.

Eric Estes

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Stryker Directional MWD Surveys



Company: Mewbourne Oil Company
Project: Eddy County, N.M. Nad (83)
Site: Section 1-36-W1PA Fed Com 1H
Well: Buffalo Trace 1 36 W1PA Fed Com 1H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well Buffalo Trace 1 36 W1PA Fed Com 1H
TVD Reference: 3042 + 27 @ 3069.0usft (Patterson 562)
MD Reference: 3042 + 27 @ 3069.0usft (Patterson 562)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: STYKER_EDM

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	
865.0	3.75	47.70	864.7	2,204.3	17.0	2.9	17.3	9.62	Tie-In
MS Gryo Survey									
1,039.0	3.40	23.00	1,038.4	2,030.6	25.6	9.1	27.2	19.58	
1,230.0	2.50	10.10	1,229.1	1,839.9	34.9	12.1	37.0	19.04	
1,420.0	0.30	318.60	1,419.1	1,649.9	39.4	12.5	41.3	17.55	
1,610.0	0.70	1.50	1,609.1	1,459.9	40.9	12.2	42.7	16.54	
1,800.0	0.50	347.80	1,799.0	1,270.0	42.9	12.0	44.6	15.64	
1,990.0	0.40	332.60	1,989.0	1,080.0	44.3	11.5	45.8	14.59	
2,179.0	0.60	289.80	2,178.0	891.0	45.2	10.3	46.4	12.83	
2,370.0	0.90	306.00	2,369.0	700.0	46.4	8.1	47.2	9.95	
2,560.0	0.70	307.20	2,559.0	510.0	48.0	6.0	48.4	7.14	
2,750.0	1.30	122.80	2,749.0	320.0	47.6	6.9	48.1	8.25	
2,940.0	1.60	124.50	2,938.9	130.1	44.9	10.9	46.2	13.65	
3,130.0	1.00	127.40	3,128.9	-59.9	42.4	14.4	44.8	18.77	
3,278.0	1.10	114.30	3,276.9	-207.9	41.0	16.7	44.3	22.18	
3,450.0	0.40	188.00	3,448.8	-379.8	39.7	18.1	43.7	24.54	
3,641.0	1.30	328.90	3,639.8	-570.8	40.9	16.9	44.3	22.47	
3,830.0	3.10	320.90	3,828.7	-759.7	46.7	12.6	48.4	15.09	
4,020.0	4.00	315.40	4,018.3	-949.3	55.4	4.7	55.6	4.85	
4,211.0	3.70	312.20	4,208.9	-1,139.9	64.3	-4.5	64.5	355.96	
4,400.0	4.20	309.40	4,397.4	-1,328.4	72.8	-14.4	74.2	348.81	
4,591.0	3.90	307.60	4,588.0	-1,519.0	81.2	-25.0	85.0	342.92	
4,781.0	3.60	301.30	4,777.5	-1,708.5	88.3	-35.2	95.0	338.27	
4,970.0	3.60	327.70	4,966.2	-1,897.2	96.4	-43.4	105.7	335.75	
5,159.0	5.30	324.40	5,154.6	-2,085.6	108.5	-51.7	120.1	334.53	
5,349.0	5.10	318.60	5,343.8	-2,274.8	121.9	-62.4	137.0	332.91	
5,539.0	4.70	316.30	5,533.1	-2,464.1	133.9	-73.3	152.7	331.30	



Stryker Directional MWD Surveys



Company: Mewbourne Oil Company
Project: Eddy County, N.M. Nad (83)
Site: Section 1-36-W1PA Fed Com 1H
Well: Buffalo Trace 1 36 W1PA Fed Com 1H
Wellbore: Original Hole
Design: Original Hole

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Database: STYKER_EDM

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
5,729.0	4.20	313.00	5,722.6	-2,653.6	144.3	-83.8	166.8	329.85
5,919.0	3.90	308.60	5,912.1	-2,843.1	153.0	-93.9	179.6	328.46
6,109.0	3.30	302.20	6,101.7	-3,032.7	160.0	-103.6	190.6	327.07
6,299.0	3.10	293.40	6,291.4	-3,222.4	164.9	-112.9	199.9	325.60
6,489.0	3.60	312.30	6,481.1	-3,412.1	171.0	-122.1	210.1	324.48
6,678.0	3.50	307.10	6,669.7	-3,600.7	178.5	-131.1	221.4	323.71
6,868.0	3.60	304.30	6,859.4	-3,790.4	185.3	-140.6	232.6	322.81
7,059.0	3.70	316.40	7,050.0	-3,981.0	193.2	-149.8	244.5	322.20
7,248.0	2.80	308.30	7,238.7	-4,169.7	200.5	-157.6	255.0	321.82
7,441.0	3.10	313.70	7,431.4	-4,362.4	207.0	-165.1	264.8	321.42
7,631.0	3.30	304.80	7,621.1	-4,552.1	213.7	-173.3	275.1	320.95
7,821.0	2.80	321.20	7,810.9	-4,741.9	220.4	-180.7	285.0	320.65
8,012.0	3.50	324.80	8,001.6	-4,932.6	228.8	-187.0	295.5	320.74
8,201.0	2.70	321.60	8,190.3	-5,121.3	237.0	-193.1	305.7	320.83
8,391.0	3.40	324.20	8,380.0	-5,311.0	245.1	-199.2	315.8	320.90
8,581.0	3.70	323.80	8,569.7	-5,500.7	254.6	-206.1	327.5	321.01
8,771.0	3.70	325.30	8,759.3	-5,690.3	264.6	-213.2	339.8	321.14
8,960.0	1.30	58.30	8,948.1	-5,879.1	270.7	-214.8	345.6	321.56
9,151.0	1.50	124.00	9,139.1	-6,070.1	270.5	-210.9	343.0	322.05
9,342.0	2.80	150.20	9,329.9	-6,260.9	265.0	-206.5	336.0	322.07
9,531.0	1.50	259.70	9,518.9	-6,449.9	260.6	-206.7	332.6	321.58
9,720.0	1.70	278.30	9,707.8	-6,638.8	260.5	-211.9	335.8	320.88
9,813.1	1.51	271.06	9,800.8	-6,731.8	260.7	-214.5	337.6	320.56
B.B.2 Buffalo Trace 1/36 W1PA Com 1H								
9,816.0	1.50	270.80	9,803.7	-6,734.7	260.7	-214.6	337.7	320.55
9,839.9	1.33	269.30	9,827.6	-6,758.6	260.7	-215.1	338.0	320.47

B.B. Buffalo Trace 1/36 W1PA Fed Com 1H



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9,844.0	1.30	269.00	9,831.7	-6,762.7	260.7	-215.2	338.1	320.46
9,939.0	7.60	344.10	9,926.4	-6,857.4	266.8	-218.0	344.5	320.74
9,984.0	13.40	347.80	9,970.7	-6,901.7	274.7	-220.0	351.9	321.32
10,034.0	20.00	341.20	10,018.5	-6,949.5	288.5	-223.9	365.2	322.18
10,084.0	26.00	340.90	10,064.5	-6,995.5	307.0	-230.3	383.8	323.12
10,129.0	27.80	343.30	10,104.7	-7,035.7	326.4	-236.5	403.1	324.07
10,179.0	31.70	346.10	10,148.1	-7,079.1	350.3	-243.0	426.3	325.25
10,224.0	38.20	350.70	10,184.9	-7,115.9	375.5	-248.1	450.1	326.54
10,273.0	43.60	353.70	10,222.0	-7,153.0	407.3	-252.4	479.2	328.21
10,318.0	48.10	353.90	10,253.3	-7,184.3	439.4	-255.9	508.5	329.78
10,367.0	52.20	356.30	10,284.7	-7,215.7	476.9	-259.1	542.7	331.48
10,413.0	53.40	357.80	10,312.5	-7,243.5	513.5	-261.0	576.0	333.05
10,463.0	54.40	358.40	10,342.0	-7,273.0	553.8	-262.3	612.8	334.65
10,508.0	60.80	1.30	10,366.1	-7,297.1	591.8	-262.4	647.4	336.09
10,554.0	68.70	4.80	10,385.7	-7,316.7	633.3	-260.2	684.6	337.67
10,569.0	69.50	5.00	10,391.0	-7,322.0	647.3	-259.0	697.1	338.19
10,633.0	72.50	359.00	10,411.9	-7,342.9	707.7	-256.9	752.9	340.05
10,681.0	73.60	4.10	10,425.9	-7,356.9	753.6	-255.6	795.8	341.26
10,729.0	73.70	3.00	10,439.4	-7,370.4	799.5	-252.8	838.6	342.46
10,776.0	73.90	1.60	10,452.5	-7,383.5	844.6	-251.0	881.1	343.45
10,824.0	76.60	0.40	10,464.7	-7,395.7	891.0	-250.2	925.5	344.32
10,837.8	77.06	0.02	10,467.9	-7,398.9	904.5	-250.1	938.5	344.54
LP Buffalo Trace 1/36 W1PA Fed Com 1H								
10,872.0	78.20	359.10	10,475.2	-7,406.2	937.9	-250.4	970.7	345.05
10,920.0	79.60	358.40	10,484.5	-7,415.5	985.0	-251.4	1,016.6	345.68
10,969.0	84.30	357.80	10,491.3	-7,422.3	1,033.5	-253.0	1,064.0	346.24
11,016.0	89.10	358.30	10,494.0	-7,425.0	1,080.3	-254.6	1,109.9	346.74



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11,111.0	91.90	359.90	10,493.2	-7,424.2	1,175.3	-256.1	1,202.9	347.71
11,206.0	92.10	0.30	10,489.9	-7,420.9	1,270.2	-255.9	1,295.8	348.61
11,301.0	93.00	0.70	10,485.6	-7,416.6	1,365.2	-255.1	1,388.8	349.42
11,396.0	92.80	0.90	10,480.8	-7,411.8	1,460.0	-253.8	1,481.9	350.14
11,491.0	91.70	1.10	10,477.1	-7,408.1	1,554.9	-252.1	1,575.2	350.79
11,587.0	92.30	2.30	10,473.8	-7,404.8	1,650.8	-249.3	1,669.5	351.41
11,682.0	90.40	3.20	10,471.5	-7,402.5	1,745.7	-244.7	1,762.8	352.02
11,745.0	90.30	3.40	10,471.1	-7,402.1	1,808.6	-241.1	1,824.6	352.41
11,776.0	88.00	3.50	10,471.6	-7,402.6	1,839.5	-239.2	1,855.0	352.59
11,808.0	88.30	3.60	10,472.6	-7,403.6	1,871.4	-237.2	1,886.4	352.78
11,839.0	88.20	3.10	10,473.6	-7,404.6	1,902.4	-235.4	1,916.9	352.95
11,871.0	87.60	3.10	10,474.7	-7,405.7	1,934.3	-233.7	1,948.4	353.11
11,903.0	87.10	3.20	10,476.2	-7,407.2	1,966.2	-231.9	1,979.9	353.27
11,935.0	87.10	1.60	10,477.8	-7,408.8	1,998.2	-230.6	2,011.4	353.42
11,966.0	87.10	359.90	10,479.4	-7,410.4	2,029.1	-230.2	2,042.1	353.53
11,998.0	87.00	0.10	10,481.1	-7,412.1	2,061.1	-230.2	2,073.9	353.63
12,030.0	87.20	0.40	10,482.7	-7,413.7	2,093.0	-230.1	2,105.6	353.73
12,062.0	86.90	0.40	10,484.3	-7,415.3	2,125.0	-229.8	2,137.4	353.83
12,093.0	87.30	358.80	10,485.9	-7,416.9	2,155.9	-230.1	2,168.2	353.91
12,125.0	88.00	358.50	10,487.2	-7,418.2	2,187.9	-230.8	2,200.0	353.98
12,156.0	88.80	358.40	10,488.1	-7,419.1	2,218.9	-231.6	2,230.9	354.04
12,188.0	89.70	359.00	10,488.5	-7,419.5	2,250.9	-232.4	2,262.8	354.11
12,220.0	90.00	359.10	10,488.6	-7,419.6	2,282.9	-232.9	2,294.7	354.17
12,252.0	90.10	359.10	10,488.5	-7,419.5	2,314.9	-233.4	2,326.6	354.24
12,283.0	90.70	359.10	10,488.3	-7,419.3	2,345.9	-233.9	2,357.5	354.31
12,314.0	90.70	359.20	10,488.0	-7,419.0	2,376.8	-234.3	2,388.4	354.37
12,346.0	91.10	359.50	10,487.5	-7,418.5	2,408.8	-234.7	2,420.3	354.43



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12,439.0	87.60	359.10	10,488.5	-7,419.5	2,501.8	-235.8	2,512.9	354.61
12,534.0	87.50	359.20	10,492.6	-7,423.6	2,596.7	-237.3	2,607.5	354.78
12,630.0	89.50	358.30	10,495.1	-7,426.1	2,692.7	-239.3	2,703.3	354.92
12,725.0	86.80	357.00	10,498.1	-7,429.1	2,787.5	-243.2	2,798.1	355.01
12,821.0	88.90	356.40	10,501.7	-7,432.7	2,883.3	-248.8	2,894.0	355.07
12,916.0	92.70	358.20	10,500.4	-7,431.4	2,978.1	-253.2	2,988.9	355.14
13,012.0	92.90	359.20	10,495.7	-7,426.7	3,074.0	-255.4	3,084.6	355.25
13,107.0	91.00	359.00	10,492.5	-7,423.5	3,168.9	-256.9	3,179.3	355.37
13,202.0	90.20	358.40	10,491.5	-7,422.5	3,263.9	-259.1	3,274.2	355.46
13,298.0	89.80	359.50	10,491.5	-7,422.5	3,359.9	-260.8	3,370.0	355.56
13,393.0	89.30	359.40	10,492.3	-7,423.3	3,454.9	-261.7	3,464.8	355.67
13,488.0	89.00	359.10	10,493.7	-7,424.7	3,549.9	-263.0	3,559.6	355.76
13,583.0	90.30	359.20	10,494.2	-7,425.2	3,644.8	-264.4	3,654.4	355.85
13,678.0	91.10	359.90	10,493.1	-7,424.1	3,739.8	-265.1	3,749.2	355.94
13,774.0	92.40	2.10	10,490.1	-7,421.1	3,835.8	-263.5	3,844.8	356.07
13,869.0	91.20	2.90	10,487.2	-7,418.2	3,930.6	-259.3	3,939.2	356.23
13,964.0	89.70	2.30	10,486.4	-7,417.4	4,025.5	-255.0	4,033.6	356.38
14,060.0	88.80	1.60	10,487.7	-7,418.7	4,121.5	-251.7	4,129.1	356.50
14,154.0	87.60	0.00	10,490.6	-7,421.6	4,215.4	-250.4	4,222.8	356.60
14,249.0	90.90	359.20	10,491.9	-7,422.9	4,310.4	-251.1	4,317.7	356.67
14,343.0	91.60	359.30	10,489.8	-7,420.8	4,404.3	-252.3	4,411.6	356.72
14,438.0	90.00	359.10	10,488.5	-7,419.5	4,499.3	-253.6	4,506.5	356.77
14,533.0	89.30	359.60	10,489.1	-7,420.1	4,594.3	-254.7	4,601.4	356.83
14,628.0	88.70	0.90	10,490.7	-7,421.7	4,689.3	-254.3	4,696.2	356.90
14,723.0	88.20	0.10	10,493.3	-7,424.3	4,784.3	-253.5	4,791.0	356.97
14,819.0	88.90	359.10	10,495.7	-7,426.7	4,880.2	-254.2	4,886.8	357.02
14,914.0	91.40	358.70	10,495.5	-7,426.5	4,975.2	-256.0	4,981.8	357.05



Stryker Directional MWD Surveys



Company: Mewbourne Oil Company
Project: Eddy County, N.M. Nad (83)
Site: Section 1-36-W1PA Fed Com 1H
Well: Buffalo Trace 1 36 W1PA Fed Com 1H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well Buffalo Trace 1 36 W1PA Fed Com 1H
TVD Reference: 3042 + 27 @ 3069.0usft (Patterson 562)
MD Reference: 3042 + 27 @ 3069.0usft (Patterson 562)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: STYKER_EDM

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
15,009.0	91.40	0.20	10,493.2	-7,424.2	5,070.2	-256.9	5,076.7	357.10
15,105.0	90.20	0.80	10,491.8	-7,422.8	5,166.1	-256.0	5,172.5	357.16
15,200.0	88.90	358.50	10,492.6	-7,423.6	5,261.1	-256.6	5,267.4	357.21
15,296.0	90.90	358.20	10,492.7	-7,423.7	5,357.1	-259.4	5,363.4	357.23
15,391.0	89.90	356.90	10,492.1	-7,423.1	5,452.0	-263.5	5,458.4	357.23
15,516.0	87.80	357.20	10,494.6	-7,425.6	5,576.8	-269.9	5,583.3	357.23
16,611.0	90.90	355.30	10,495.7	-7,426.7	5,671.6	-276.1	5,678.3	357.21
15,707.0	92.10	356.00	10,493.1	-7,424.1	5,767.3	-283.4	5,774.2	357.19
15,802.0	91.60	356.40	10,490.1	-7,421.1	5,862.0	-289.7	5,869.2	357.17
15,897.0	92.90	358.00	10,486.3	-7,417.3	5,956.8	-294.3	5,964.1	357.17
15,992.0	92.90	359.60	10,481.5	-7,412.5	6,051.7	-296.3	6,058.9	357.20
16,024.0	93.20	1.50	10,479.8	-7,410.8	6,083.6	-296.0	6,090.8	357.21
16,087.0	92.30	2.30	10,476.8	-7,407.8	6,146.5	-293.9	6,153.5	357.26
16,182.0	87.90	0.90	10,476.7	-7,407.7	6,241.4	-291.2	6,248.2	357.33
16,213.0	87.80	0.70	10,477.8	-7,408.8	6,272.4	-290.8	6,279.2	357.35
16,276.0	88.60	0.60	10,479.8	-7,410.8	6,335.4	-290.1	6,342.0	357.38
16,308.0	90.20	1.60	10,480.1	-7,411.1	6,367.4	-289.5	6,374.0	357.40
16,371.0	88.50	0.70	10,480.8	-7,411.8	6,430.4	-288.2	6,436.8	357.43
16,403.0	88.20	0.70	10,481.8	-7,412.8	6,462.3	-287.8	6,468.7	357.45
16,467.0	88.30	0.80	10,483.7	-7,414.7	6,526.3	-287.0	6,532.6	357.48
16,561.0	88.80	1.00	10,486.1	-7,417.1	6,620.3	-285.5	6,626.4	357.53
16,593.0	88.80	0.90	10,486.8	-7,417.8	6,652.3	-285.0	6,658.4	357.55
16,656.0	91.30	2.20	10,486.7	-7,417.7	6,715.2	-283.3	6,721.2	357.58
16,751.0	88.30	1.00	10,487.0	-7,418.0	6,810.2	-280.6	6,816.0	357.64
16,845.0	94.60	4.10	10,484.7	-7,415.7	6,904.0	-276.5	6,909.5	357.71
16,877.0	94.40	4.20	10,482.2	-7,413.2	6,935.8	-274.1	6,941.2	357.74
16,909.0	92.30	3.00	10,480.3	-7,411.3	6,967.7	-272.1	6,973.0	357.76



Stryker Directional MWD Surveys



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Site: Section 1-36-W1PA Fed Com 1H
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Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well Buffalo Trace 1 36 W1PA Fed Com 1H
TVD Reference: 3042 + 27 @ 3069.0usft (Patterson 562)
MD Reference: 3042 + 27 @ 3069.0usft (Patterson 562)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: STYKER_EDM

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
16,940.0	90.50	2.60	10,479.5	-7,410.5	6,998.6	-270.6	7,003.9	357.79
16,972.0	88.40	1.50	10,479.8	-7,410.8	7,030.6	-269.5	7,035.8	357.80
17,035.0	86.30	1.70	10,482.7	-7,413.7	7,093.5	-267.7	7,098.6	357.84
17,129.0	88.10	1.90	10,487.3	-7,418.3	7,187.4	-264.8	7,192.2	357.89
17,192.0	88.20	0.40	10,489.4	-7,420.4	7,250.3	-263.5	7,255.1	357.92
17,223.0	88.00	359.80	10,490.4	-7,421.4	7,281.3	-263.5	7,286.1	357.93
17,286.0	91.50	357.20	10,490.7	-7,421.7	7,344.3	-265.1	7,349.0	357.93
17,318.0	89.70	354.20	10,490.3	-7,421.3	7,376.2	-267.5	7,381.0	357.92
17,350.0	88.50	352.80	10,490.8	-7,421.8	7,407.9	-271.1	7,412.9	357.90
17,381.0	87.30	352.20	10,492.0	-7,423.0	7,438.7	-275.2	7,443.7	357.88
17,413.0	89.50	352.90	10,492.9	-7,423.9	7,470.4	-279.3	7,475.6	357.86
17,444.0	91.30	351.90	10,492.7	-7,423.7	7,501.1	-283.4	7,506.5	357.84
17,476.0	91.60	351.20	10,491.8	-7,422.8	7,532.7	-288.1	7,538.3	357.81
17,507.0	92.90	351.90	10,490.6	-7,421.6	7,563.4	-292.7	7,569.0	357.78
17,539.0	95.70	353.00	10,488.2	-7,419.2	7,595.0	-296.9	7,600.8	357.76
17,570.0	95.70	353.50	10,485.2	-7,416.2	7,625.6	-300.5	7,631.6	357.74
17,602.0	95.30	352.20	10,482.1	-7,413.1	7,657.2	-304.5	7,663.3	357.72
17,633.0	95.30	352.20	10,479.2	-7,410.2	7,687.8	-308.6	7,694.0	357.70
17,665.0	96.60	353.50	10,475.9	-7,406.9	7,719.4	-312.6	7,725.7	357.68
17,697.0	96.70	354.50	10,472.2	-7,403.2	7,751.0	-315.9	7,757.5	357.67
17,728.0	97.30	354.90	10,468.4	-7,399.4	7,781.7	-318.8	7,788.2	357.65
17,791.0	96.80	357.50	10,460.7	-7,391.7	7,844.0	-322.9	7,850.7	357.64
17,823.0	94.10	0.40	10,457.6	-7,388.6	7,875.9	-323.5	7,882.5	357.65
17,854.0	93.50	0.90	10,455.6	-7,386.6	7,906.8	-323.1	7,913.4	357.66
17,885.0	93.40	1.00	10,453.7	-7,384.7	7,937.8	-322.6	7,944.3	357.67
17,917.0	92.40	1.10	10,452.1	-7,383.1	7,969.7	-322.0	7,976.2	357.69
17,948.0	91.80	2.50	10,451.0	-7,382.0	8,000.7	-321.1	8,007.1	357.70



Stryker Directional MWD Surveys



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Well: Buffalo Trace 1 36 W1PA Fed Com 1H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well Buffalo Trace 1 36 W1PA Fed Com 1H
TVD Reference: 3042 + 27 @ 3069.0usft (Patterson 562)
MD Reference: 3042 + 27 @ 3069.0usft (Patterson 562)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: STYKER_EDM

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
17,980.0	92.00	2.80	10,449.9	-7,380.9	8,032.6	-319.6	8,039.0	357.72
18,011.0	90.60	2.10	10,449.2	-7,380.2	8,063.6	-318.3	8,069.9	357.74
18,043.0	89.80	1.70	10,449.1	-7,380.1	8,095.6	-317.2	8,101.8	357.76
18,075.0	89.80	1.80	10,449.2	-7,380.2	8,127.5	-316.2	8,133.7	357.77
18,107.0	89.00	1.60	10,449.5	-7,380.5	8,159.5	-315.3	8,165.6	357.79
18,170.0	88.70	1.50	10,450.8	-7,381.8	8,222.5	-313.6	8,228.5	357.82
18,266.0	88.70	2.30	10,453.0	-7,384.0	8,318.4	-310.4	8,324.2	357.86
18,361.0	90.60	4.50	10,453.6	-7,384.6	8,413.2	-304.8	8,418.8	357.93
18,456.0	90.90	3.50	10,452.3	-7,383.3	8,508.0	-298.1	8,513.2	357.99
18,550.0	91.50	3.00	10,450.4	-7,381.4	8,601.8	-292.8	8,606.8	358.05
18,616.0	91.60	3.00	10,448.6	-7,379.6	8,667.7	-289.4	8,672.5	358.09
18,647.0	90.60	3.60	10,448.0	-7,379.0	8,698.6	-287.6	8,703.4	358.11
18,711.0	90.50	1.90	10,447.4	-7,378.4	8,762.6	-284.5	8,767.2	358.14
18,742.0	90.20	1.60	10,447.2	-7,378.2	8,793.6	-283.6	8,798.1	358.15
18,774.0	89.80	1.90	10,447.2	-7,378.2	8,825.5	-282.6	8,830.1	358.17
18,806.0	88.70	2.40	10,447.6	-7,378.6	8,857.5	-281.4	8,862.0	358.18
18,838.0	88.00	2.30	10,448.5	-7,379.5	8,889.5	-280.1	8,893.9	358.20
18,933.0	87.80	2.20	10,452.0	-7,383.0	8,984.3	-276.3	8,988.6	358.24
19,028.0	87.50	2.20	10,455.9	-7,386.9	9,079.2	-272.7	9,083.3	358.28
19,123.0	90.20	3.00	10,457.8	-7,388.8	9,174.1	-268.4	9,178.0	358.32
19,218.0	90.20	3.20	10,457.5	-7,388.5	9,268.9	-263.2	9,272.7	358.37
19,313.0	90.30	4.80	10,457.0	-7,388.0	9,363.7	-256.6	9,367.2	358.43
19,408.0	90.50	4.70	10,456.4	-7,387.4	9,458.4	-248.8	9,461.6	358.49
19,478.0	89.90	4.00	10,456.1	-7,387.1	9,528.2	-243.4	9,531.3	358.54
19,503.0	87.90	3.00	10,456.6	-7,387.6	9,553.1	-241.9	9,556.2	358.55
19,535.0	85.30	1.60	10,458.5	-7,389.5	9,585.0	-240.6	9,588.0	358.56
19,567.0	85.20	1.60	10,461.2	-7,392.2	9,616.9	-239.7	9,619.9	358.57



Stryker Directional MWD Surveys



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Site: Section 1-36-W1PA Fed Com 1H
Well: Buffalo Trace 1 36 W1PA Fed Com 1H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well Buffalo Trace 1 36 W1PA Fed Com 1H
TVD Reference: 3042 + 27 @ 3069.0usft (Patterson 562)
MD Reference: 3042 + 27 @ 3069.0usft (Patterson 562)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: STYKER_EDM

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
19,598.0	85.90	1.20	10,463.6	-7,394.6	9,647.8	-239.0	9,650.7	358.58
19,630.0	86.60	359.20	10,465.7	-7,396.7	9,679.7	-238.9	9,682.7	358.59
19,661.0	86.70	357.20	10,467.5	-7,398.5	9,710.6	-239.9	9,713.6	358.59
19,693.0	87.00	357.20	10,469.2	-7,400.2	9,742.6	-241.4	9,745.6	358.58
19,724.0	87.60	356.40	10,470.7	-7,401.7	9,773.5	-243.1	9,776.5	358.57
19,756.0	87.50	355.80	10,472.1	-7,403.1	9,805.4	-245.3	9,808.4	358.57
19,787.0	87.40	356.00	10,473.4	-7,404.4	9,836.3	-247.5	9,839.4	358.56
19,850.0	89.10	356.50	10,475.4	-7,406.4	9,899.1	-251.6	9,902.3	358.54
19,881.0	89.10	357.10	10,475.9	-7,406.9	9,930.0	-253.4	9,933.3	358.54
19,945.0	89.30	356.50	10,476.7	-7,407.7	9,993.9	-257.0	9,997.2	358.53
19,976.0	92.30	356.30	10,476.3	-7,407.3	10,024.9	-258.9	10,028.2	358.52
20,008.0	92.40	356.50	10,475.0	-7,406.0	10,056.8	-260.9	10,060.2	358.51
20,040.0	92.70	356.70	10,473.6	-7,404.6	10,088.7	-262.8	10,092.1	358.51
20,072.0	93.10	356.70	10,472.0	-7,403.0	10,120.6	-264.6	10,124.1	358.50
20,103.0	93.20	357.20	10,470.3	-7,401.3	10,151.5	-266.3	10,155.0	358.50
20,135.0	90.80	357.20	10,469.1	-7,400.1	10,183.5	-267.9	10,187.0	358.49
20,167.0	89.90	358.10	10,468.9	-7,399.9	10,215.4	-269.2	10,219.0	358.49
20,262.0	91.50	0.60	10,467.8	-7,398.8	10,310.4	-270.2	10,313.9	358.50
20,357.0	91.90	0.90	10,465.0	-7,396.0	10,405.3	-269.0	10,408.8	358.52
20,451.0	90.40	0.30	10,463.1	-7,394.1	10,499.3	-268.0	10,502.7	358.54
20,547.0	89.50	359.50	10,463.2	-7,394.2	10,595.3	-268.2	10,598.7	358.55
20,642.0	88.40	359.50	10,464.9	-7,395.9	10,690.3	-269.0	10,693.7	358.56
20,737.0	89.30	0.00	10,466.8	-7,397.8	10,785.3	-269.4	10,788.6	358.57
20,778.0	89.30	0.10	10,467.3	-7,398.3	10,826.3	-269.4	10,829.6	358.57
20,830.0	89.30	0.10	10,467.9	-7,398.9	10,878.3	-269.3	10,881.6	358.58

20830.0' MD Projected to Bit - PBHL Buffalo Trace 1 36 W1PA Fed Com 1H



Stryker Directional MWD Surveys



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Site: Section 1-36-W1PA Fed Com 1H
Well: Buffalo Trace 1 36 W1PA Fed Com 1H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well Buffalo Trace 1 36 W1PA Fed Com 1H
TVD Reference: 3042 + 27 @ 3069.0usft (Patterson 562)
MD Reference: 3042 + 27 @ 3069.0usft (Patterson 562)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: STYKER_EDM

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
865.0	864.7	17.0	2.9	MS Gryo Survey
20,830.0	10,467.9	10,878.3	-269.3	20830.0' MD Projected to Bit