

NM OIL CONSERVATION
ARTESIA DISTRICT

MAR 07 2019

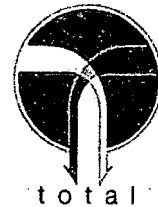
RECEIVED

**NGL WATER SOLUTIONS PERMIAN,
LLC**

EDDY COUNTY, NEW MEXICO (NAD 83)
NW NW SEC. 23 T23S R31E
STRIKER 2 SWD #1
24 September, 2018

30. 015-44416

Survey: FINAL SURVEYS - SIDETRACK



Accepted for record
NMOCD

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea 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	3,591.00	0.00	0.00	0.00	0.00	0.00	0.00
904.00	5.90	279.90	902.40	2,688.60	8.00	-45.81	8.00	0.65	0.65	0.00
966.00	5.40	276.10	964.10	2,626.90	8.85	-51.85	8.85	1.01	-0.81	-6.13
1,058.00	3.70	266.40	1,055.81	2,535.19	9.13	-59.12	9.13	2.02	-1.85	-10.54
1,150.00	2.90	248.00	1,147.66	2,443.34	8.07	-64.24	8.07	1.43	-0.87	-20.00
1,241.00	1.90	264.40	1,238.58	2,352.42	7.06	-67.88	7.06	1.32	-1.10	18.02
1,333.00	1.00	293.80	1,330.55	2,260.45	7.23	-70.13	7.23	1.24	-0.98	31.96
1,426.00	0.70	309.20	1,423.54	2,167.46	7.92	-71.31	7.92	0.40	-0.32	16.56
1,518.00	0.50	352.40	1,515.54	2,075.46	8.67	-71.80	8.67	0.52	-0.22	46.96
1,612.00	0.40	8.00	1,609.53	1,981.47	9.41	-71.81	9.41	0.17	-0.11	16.60
1,707.00	0.60	93.80	1,704.53	1,886.47	9.70	-71.27	9.70	0.73	0.21	90.32
1,802.00	0.70	70.80	1,799.52	1,791.48	9.86	-70.22	9.86	0.29	0.11	-24.21
1,896.00	0.50	68.70	1,893.52	1,697.48	10.20	-69.30	10.20	0.21	-0.21	-2.22

Survey Report



Company:	NGL WATER SOLUTIONS PERMIAN, LLC	Local Co-ordinate Reference:	Well STRIKER 2 SWD #1
Project:	EDDY COUNTY, NEW MEXICO (NAD 83)	TVD Reference:	KB @ 3591.00usft (LATSHAW 21)
Site:	NW NW SEC. 23 T23S R31E	MD Reference:	KB @ 3591.00usft (LATSHAW 21)
Well:	STRIKER 2 SWD #1	North Reference:	True
Wellbore:	JOB # 2018-213-21 - SIDETRACK SURV	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS SIDETRACK	Database:	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Bulld Rate (°/100usft)	Turn Rate (°/100usft)
1,991.00	0.10	45.10	1,988.52	1,602.48	10.41	-68.85	10.41	0.43	-0.42	-24.84
2,086.00	0.10	223.00	2,083.52	1,507.48	10.40	-68.85	10.40	0.21	0.00	187.26
2,180.00	0.30	256.80	2,177.52	1,413.48	10.29	-69.14	10.29	0.24	0.21	35.96
2,274.00	0.40	293.70	2,271.51	1,319.49	10.36	-69.68	10.36	0.26	0.11	39.26
2,369.00	0.20	152.70	2,366.51	1,224.49	10.35	-69.91	10.35	0.60	-0.21	-148.42
2,464.00	0.30	197.60	2,461.51	1,129.49	9.96	-69.91	9.96	0.22	0.11	47.26
2,558.00	0.20	104.90	2,555.51	1,035.49	9.69	-69.83	9.69	0.39	-0.11	-98.62
2,653.00	0.50	207.40	2,650.51	940.49	9.28	-69.86	9.28	0.61	0.32	107.89
2,749.00	0.60	161.90	2,746.51	844.49	8.43	-69.89	8.43	0.45	0.10	-47.40
2,844.00	0.40	160.10	2,841.50	749.50	7.64	-69.63	7.64	0.21	-0.21	-1.89
2,938.00	0.00	274.60	2,935.50	655.50	7.33	-69.52	7.33	0.43	-0.43	0.00
3,033.00	0.20	43.30	3,030.50	560.50	7.45	-69.40	7.45	0.21	0.21	0.00
3,128.00	0.10	322.70	3,125.50	465.50	7.64	-69.34	7.64	0.22	-0.11	-84.84
3,222.00	0.40	50.80	3,219.50	371.50	7.91	-69.13	7.91	0.44	0.32	93.72
3,316.00	0.30	61.50	3,313.50	277.50	8.24	-68.66	8.24	0.13	-0.11	11.38
3,411.00	0.50	45.80	3,408.50	182.50	8.65	-68.15	8.65	0.24	0.21	-16.53
3,506.00	0.30	167.40	3,503.50	87.50	8.69	-67.80	8.69	0.74	-0.21	128.00
3,600.00	1.00	72.50	3,597.49	-6.49	8.70	-66.96	8.70	1.14	0.74	-100.96
3,695.00	0.40	167.10	3,692.49	-101.49	8.63	-66.10	8.63	1.16	-0.63	99.58
3,789.00	0.60	158.70	3,786.48	-195.48	7.85	-65.84	7.85	0.23	0.21	-8.94
3,884.00	0.60	142.40	3,881.48	-290.48	6.99	-65.36	6.99	0.18	0.00	-17.16
3,978.00	0.80	118.20	3,975.47	-384.47	6.29	-64.48	6.29	0.38	0.21	-25.74
4,073.00	1.00	123.70	4,070.46	-479.46	5.52	-63.21	5.52	0.23	0.21	5.79
4,168.00	1.20	151.40	4,165.44	-574.44	4.18	-62.04	4.18	0.59	0.21	29.16
4,263.00	0.90	142.00	4,260.43	-669.43	2.72	-61.10	2.72	0.36	-0.32	-9.89
4,358.00	0.80	133.80	4,355.42	-764.42	1.67	-60.17	1.67	0.17	-0.11	-8.63
4,452.00	0.50	159.00	4,449.41	-858.41	0.84	-59.55	0.84	0.43	-0.32	26.81
4,521.00	0.10	223.80	4,518.41	-927.41	0.51	-59.48	0.51	0.68	-0.58	93.91
13 3/8" INT CASING										
4,583.00	0.06	23.01	4,580.41	-989.41	0.50	-59.51	0.50	0.25	-0.07	256.79
4,640.00	0.20	32.40	4,637.41	-1,046.41	0.61	-59.44	0.61	0.25	0.25	16.47
4,736.00	0.10	14.10	4,733.41	-1,142.41	0.84	-59.33	0.84	0.11	-0.10	-19.06
4,830.00	0.20	352.50	4,827.41	-1,236.41	1.08	-59.33	1.08	0.12	0.11	-22.98
4,925.00	0.10	340.00	4,922.41	-1,331.41	1.32	-59.38	1.32	0.11	-0.11	-13.16
5,019.00	0.20	353.00	5,016.41	-1,425.41	1.56	-59.43	1.56	0.11	0.11	13.83
5,114.00	0.10	309.30	5,111.41	-1,520.41	1.78	-59.51	1.78	0.15	-0.11	-46.00
5,208.00	0.10	298.20	5,205.41	-1,614.41	1.87	-59.65	1.87	0.02	0.00	-11.81
5,303.00	0.00	79.10	5,300.41	-1,709.41	1.91	-59.72	1.91	0.11	-0.11	0.00
5,398.00	0.30	324.10	5,395.41	-1,804.41	2.11	-59.87	2.11	0.32	0.32	0.00
5,492.00	0.10	341.00	5,489.41	-1,898.41	2.39	-60.04	2.39	0.22	-0.21	17.98
5,587.00	0.10	13.10	5,584.41	-1,993.41	2.54	-60.05	2.54	0.06	0.00	33.79
5,682.00	0.30	343.80	5,679.40	-2,088.40	2.86	-60.10	2.86	0.23	0.21	-30.84
5,776.00	0.20	335.20	5,773.40	-2,182.40	3.25	-60.24	3.25	0.11	-0.11	-9.15
5,871.00	0.30	329.40	5,868.40	-2,277.40	3.61	-60.43	3.61	0.11	0.11	-6.11
5,966.00	0.20	325.10	5,963.40	-2,372.40	3.96	-60.65	3.96	0.11	-0.11	-4.53
6,060.00	0.30	7.10	6,057.40	-2,466.40	4.34	-60.72	4.34	0.21	0.11	44.68
6,156.00	0.30	10.40	6,153.40	-2,562.40	4.84	-60.64	4.84	0.02	0.00	3.44
6,249.00	0.30	17.10	6,246.40	-2,655.40	5.31	-60.53	5.31	0.04	0.00	7.20
6,344.00	0.30	30.90	6,341.40	-2,750.40	5.76	-60.32	5.76	0.08	0.00	14.53
6,438.00	0.30	55.20	6,435.40	-2,844.40	6.11	-60.00	6.11	0.13	0.00	25.85
6,533.00	0.20	16.90	6,530.39	-2,939.39	6.42	-59.74	6.42	0.20	-0.11	-40.32
6,627.00	0.30	64.70	6,624.39	-3,033.39	6.68	-59.47	6.68	0.24	0.11	50.85
6,721.00	0.20	28.60	6,718.39	-3,127.39	6.93	-59.17	6.93	0.19	-0.11	-38.40

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6,816.00	0.10	6.80	6,813.39	-3,222.39	7.15	-59.08	7.15	0.12	-0.11	-22.95	
6,859.00	0.30	44.00	6,856.39	-3,265.39	7.27	-59.00	7.27	0.53	0.47	86.51	
6,953.00	0.30	71.00	6,950.39	-3,359.39	7.53	-58.60	7.53	0.15	0.00	28.72	
7,058.00	0.20	119.80	7,055.39	-3,464.39	7.53	-58.18	7.53	0.21	-0.10	46.48	
7,152.00	0.10	155.90	7,149.39	-3,558.39	7.37	-58.00	7.37	0.14	-0.11	38.40	
7,246.00	0.30	209.00	7,243.39	-3,652.39	7.08	-58.09	7.08	0.27	0.21	56.49	
7,341.00	0.40	227.20	7,338.39	-3,747.39	6.84	-58.45	6.84	0.16	0.11	19.16	
7,435.00	0.80	213.10	7,432.38	-3,841.38	5.87	-59.05	5.87	0.45	0.43	-15.00	
7,528.00	0.50	205.20	7,525.38	-3,934.38	4.96	-59.58	4.96	0.34	-0.32	-8.49	
7,623.00	0.60	211.60	7,620.37	-4,029.37	4.16	-60.02	4.16	0.12	0.11	6.74	
7,716.00	0.70	198.40	7,713.37	-4,122.37	3.20	-60.45	3.20	0.19	0.11	-14.19	
7,812.00	0.80	207.10	7,809.36	-4,218.36	2.05	-60.94	2.05	0.16	0.10	9.06	
7,906.00	0.80	203.00	7,903.35	-4,312.35	0.86	-61.50	0.86	0.06	0.00	-4.36	
8,001.00	1.00	198.60	7,998.34	-4,407.34	-0.53	-62.02	-0.53	0.22	0.21	-4.63	
8,095.00	1.40	194.20	8,092.32	-4,501.32	-2.43	-62.56	-2.43	0.44	0.43	-4.68	
8,190.00	1.30	195.20	8,187.29	-4,596.29	-4.59	-63.13	-4.59	0.11	-0.11	1.05	
8,285.00	1.20	185.20	8,282.27	-4,691.27	-6.62	-63.50	-6.62	0.25	-0.11	-10.53	
8,379.00	1.30	180.60	8,376.24	-4,785.24	-8.67	-63.60	-8.67	0.15	0.11	-4.89	
8,473.00	1.30	194.90	8,470.22	-4,879.22	-10.76	-63.89	-10.76	0.34	0.00	15.21	
8,567.00	1.10	201.70	8,564.20	-4,973.20	-12.63	-64.50	-12.63	0.26	-0.21	7.23	
8,663.00	0.80	187.20	8,660.19	-5,069.19	-14.15	-64.92	-14.15	0.40	-0.31	-15.10	
8,756.00	0.50	178.90	8,753.18	-5,162.18	-15.20	-64.99	-15.20	0.34	-0.32	-8.92	
8,851.00	0.50	171.60	8,848.18	-5,257.18	-16.03	-64.93	-16.03	0.07	0.00	-7.68	
8,946.00	0.90	146.70	8,943.17	-5,352.17	-17.06	-64.46	-17.06	0.52	0.42	-26.21	
9,040.00	0.80	124.60	9,037.16	-5,446.16	-18.05	-63.51	-18.05	0.36	-0.11	-23.51	
9,135.00	1.00	151.40	9,132.15	-5,541.15	-19.16	-62.57	-19.16	0.48	0.21	28.21	
9,229.00	0.80	140.30	9,226.14	-5,635.14	-20.38	-61.76	-20.38	0.28	-0.21	-11.81	
9,321.00	0.80	172.90	9,318.13	-5,727.13	-21.51	-61.27	-21.51	0.49	0.00	35.43	
9,417.00	1.20	171.50	9,414.11	-5,823.11	-23.17	-61.03	-23.17	0.42	0.42	-1.46	
9,510.00	1.10	170.50	9,507.10	-5,916.10	-25.02	-60.74	-25.02	0.11	-0.11	-1.08	
9,603.00	1.20	186.90	9,600.08	-6,009.08	-26.86	-60.71	-26.86	0.37	0.11	17.63	
9,699.00	1.00	185.10	9,696.06	-6,105.06	-28.70	-60.91	-28.70	0.21	-0.21	-1.87	
9,793.00	1.20	206.10	9,790.04	-6,199.04	-30.40	-61.41	-30.40	0.48	0.21	22.34	
9,889.00	1.00	217.40	9,886.02	-6,295.02	-31.96	-62.37	-31.96	0.31	-0.21	11.77	
9,984.00	0.60	188.80	9,981.02	-6,390.02	-33.11	-62.94	-33.11	0.58	-0.42	-30.11	
10,079.00	0.50	163.30	10,076.01	-6,485.01	-34.00	-62.90	-34.00	0.28	-0.11	-26.84	
10,174.00	0.60	106.30	10,171.01	-6,580.01	-34.54	-62.31	-34.54	0.56	0.11	-60.00	
10,268.00	0.60	132.40	10,265.00	-6,674.00	-35.01	-61.47	-35.01	0.29	0.00	27.77	
10,362.00	0.60	186.80	10,359.00	-6,768.00	-35.83	-61.16	-35.83	0.58	0.00	57.87	
10,457.00	0.60	219.60	10,453.99	-6,862.99	-36.71	-61.54	-36.71	0.36	0.00	34.53	
10,551.00	0.70	221.80	10,547.99	-6,956.99	-37.51	-62.24	-37.51	0.11	0.11	2.34	
10,646.00	0.80	194.40	10,642.98	-7,051.98	-38.59	-62.79	-38.59	0.39	0.11	-28.84	
10,833.00	1.10	167.60	10,829.95	-7,238.95	-41.61	-62.73	-41.61	0.28	0.16	-14.33	
10,928.00	1.00	160.20	10,924.94	-7,333.94	-43.28	-62.25	-43.28	0.18	-0.11	-7.79	
TIE ON TO ORIGINAL WELLBORE											
11,023.00	0.80	128.90	11,019.93	-7,428.93	-44.47	-61.45	-44.47	0.55	-0.21	-32.95	
INT PNT-NO GYRO											
11,085.00	2.70	144.50	11,081.90	-7,490.90	-45.94	-60.27	-45.94	3.13	3.06	25.16	
1ST CLEAN MAG MWD SVY											
11,277.00	2.20	102.00	11,273.73	-7,682.73	-50.38	-54.04	-50.38	0.96	-0.26	-22.14	
11,327.00	1.90	81.10	11,323.70	-7,732.70	-50.45	-52.28	-50.45	1.60	-0.60	-41.80	
11,371.00	2.00	131.00	11,367.68	-7,776.68	-50.85	-50.98	-50.85	3.74	0.23	113.41	
11,465.00	3.00	133.40	11,461.59	-7,870.59	-53.61	-47.95	-53.61	1.07	1.06	2.55	

Survey Report



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11,516.00	3.00	133.40	11,512.52	-7,921.52	-55.45	-46.02	-55.45	0.00	0.00	0.00
11,558.00	3.60	129.60	11,554.45	-7,963.45	-57.04	-44.20	-57.04	1.52	1.43	-9.05
11,653.00	4.20	131.80	11,649.23	-8,058.23	-61.26	-39.31	-61.26	0.65	0.63	2.32
11,749.00	3.30	124.90	11,745.02	-8,154.02	-65.19	-34.42	-65.19	1.05	-0.94	-7.19
11,844.00	2.30	110.10	11,839.91	-8,248.91	-67.41	-30.39	-67.41	1.29	-1.05	-15.58
11,939.00	2.50	95.00	11,934.83	-8,343.83	-68.24	-26.54	-68.24	0.70	0.21	-15.89
12,034.00	2.90	98.10	12,029.72	-8,438.72	-68.76	-22.09	-68.76	0.45	0.42	3.26
12,128.00	2.60	87.60	12,123.61	-8,532.61	-69.01	-17.61	-69.01	0.62	-0.32	-11.17
12,223.00	2.20	89.60	12,218.53	-8,627.53	-68.90	-13.63	-68.90	0.43	-0.42	2.11
12,317.00	1.90	68.60	12,312.47	-8,721.47	-68.32	-10.38	-68.32	0.85	-0.32	-22.34
12,412.00	2.00	63.80	12,407.42	-8,816.42	-67.02	-7.42	-67.02	0.20	0.11	-5.05
12,506.00	1.90	60.90	12,501.36	-8,910.36	-65.53	-4.59	-65.53	0.15	-0.11	-3.09
12,601.00	1.70	76.70	12,596.32	-9,005.32	-64.44	-1.84	-64.44	0.56	-0.21	16.63
12,695.00	1.00	78.40	12,690.29	-9,099.29	-63.96	0.32	-63.96	0.75	-0.74	1.81
12,789.00	0.40	59.60	12,784.28	-9,193.28	-63.63	1.41	-63.63	0.68	-0.64	-20.00
12,883.00	0.20	283.90	12,878.28	-9,287.28	-63.42	1.53	-63.42	0.60	-0.21	-144.36
12,978.00	0.80	292.80	12,973.28	-9,382.28	-63.12	0.76	-63.12	0.63	0.63	9.37
13,072.00	1.10	297.00	13,067.26	-9,476.26	-62.46	-0.65	-62.46	0.33	0.32	4.47
13,166.00	1.70	304.10	13,161.24	-9,570.24	-61.27	-2.61	-61.27	0.66	0.64	7.55
13,260.00	2.30	305.10	13,255.18	-9,664.18	-59.40	-5.31	-59.40	0.64	0.64	1.06
13,354.00	1.90	329.90	13,349.12	-9,758.12	-56.97	-7.63	-56.97	1.05	-0.43	26.38
13,448.00	1.60	10.80	13,443.08	-9,852.08	-54.33	-8.17	-54.33	1.33	-0.32	43.51
13,543.00	2.00	21.50	13,538.03	-9,947.03	-51.49	-7.31	-51.49	0.55	0.42	11.26
13,637.00	1.50	19.90	13,631.99	-10,040.99	-48.80	-6.29	-48.80	0.53	-0.53	-1.70
13,732.00	1.10	1.40	13,726.96	-10,135.96	-46.72	-5.85	-46.72	0.61	-0.42	-19.47
13,826.00	1.50	341.60	13,820.94	-10,229.94	-44.65	-6.21	-44.65	0.63	0.43	-21.06
13,921.00	2.00	341.80	13,915.89	-10,324.89	-41.90	-7.12	-41.90	0.53	0.53	0.21
14,016.00	1.40	354.30	14,010.85	-10,419.85	-39.17	-7.76	-39.17	0.74	-0.63	13.16
14,110.00	0.50	103.40	14,104.84	-10,513.84	-38.12	-7.47	-38.12	1.74	-0.96	116.06
14,204.00	0.90	222.50	14,198.84	-10,607.84	-38.76	-7.57	-38.76	1.30	0.43	126.70
14,301.00	1.30	227.90	14,295.82	-10,704.82	-40.06	-8.90	-40.06	0.43	0.41	5.57
14,395.00	0.70	241.40	14,389.81	-10,798.81	-41.05	-10.20	-41.05	0.68	-0.64	14.36
14,490.00	0.70	269.10	14,484.80	-10,893.80	-41.34	-11.29	-41.34	0.35	0.00	29.16
14,584.00	0.80	293.00	14,578.79	-10,987.79	-41.09	-12.47	-41.09	0.35	0.11	25.43
14,678.00	0.90	272.00	14,672.78	-11,081.78	-40.81	-13.81	-40.81	0.35	0.11	-22.34
14,771.00	0.80	284.60	14,765.77	-11,174.77	-40.62	-15.17	-40.62	0.23	-0.11	13.55
14,866.00	0.80	286.00	14,860.76	-11,269.76	-40.27	-16.45	-40.27	0.02	0.00	1.47
14,962.00	1.00	294.00	14,956.75	-11,365.75	-39.74	-17.85	-39.74	0.25	0.21	8.33
15,055.00	0.10	321.80	15,049.74	-11,458.74	-39.35	-18.65	-39.35	0.98	-0.97	29.89
15,149.00	0.30	240.70	15,143.74	-11,552.74	-39.41	-18.91	-39.41	0.32	0.21	-86.28
15,244.00	0.60	254.00	15,238.74	-11,647.74	-39.66	-19.61	-39.66	0.33	0.32	14.00
15,339.00	0.90	265.10	15,333.73	-11,742.73	-39.86	-20.83	-39.66	0.35	0.32	11.68
15,431.00	0.90	275.00	15,425.72	-11,834.72	-39.86	-22.27	-39.66	0.17	0.00	10.76
15,524.00	0.80	276.60	15,518.71	-11,927.71	-39.73	-23.64	-39.73	0.11	-0.11	1.72
15,619.00	1.00	277.40	15,613.70	-12,022.70	-39.54	-25.12	-39.54	0.21	0.21	0.84
15,714.00	1.30	278.40	15,708.68	-12,117.68	-39.28	-27.01	-39.28	0.32	0.32	1.05
15,808.00	1.40	285.40	15,802.65	-12,211.65	-38.82	-29.17	-38.82	0.20	0.11	7.45
15,903.00	1.80	293.20	15,897.62	-12,306.62	-37.92	-31.66	-37.92	0.48	0.42	8.21
15,998.00	2.70	297.50	15,992.54	-12,401.54	-36.30	-35.02	-36.30	0.96	0.95	4.53
16,092.00	3.80	306.70	16,086.39	-12,495.39	-33.42	-39.48	-33.42	1.29	1.17	9.79
16,186.00	4.50	306.30	16,180.14	-12,589.14	-29.37	-44.95	-29.37	0.75	0.74	-0.43
16,281.00	5.10	308.40	16,274.81	-12,683.81	-24.54	-51.26	-24.54	0.66	0.63	2.21
16,376.00	5.60	308.10	16,369.40	-12,778.40	-19.06	-58.22	-19.06	0.53	0.53	-0.32

Survey Report



Company:	NGL WATER SOLUTIONS PERMIAN, LLC	Local Co-ordinate Reference:	Well STRIKER 2 SWD #1
Project:	EDDY COUNTY, NEW MEXICO (NAD 83)	TVD Reference:	KB @ 3591.00usft (LATSHAW 21)
Site:	NW NW SEC. 23 T23S R31E	MD Reference:	KB @ 3591.00usft (LATSHAW 21)
Well:	STRIKER 2 SWD #1	North Reference:	True
Wellbore:	JOB # 2018-213-21 - SIDETRACK SURV	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS SIDETRACK	Database:	EDM 5000.1 Single User Db

Survey											
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
16,470.00	6.30	305.80	16,462.89	-12,871.89	-13.21	-66.01	-13.21	0.79	0.74	-2.45	
16,564.00	7.90	306.50	16,556.17	-12,965.17	-6.35	-75.39	-6.35	1.70	1.70	0.74	
16,658.00	9.90	305.10	16,649.03	-13,058.03	2.14	-87.19	2.14	2.14	2.13	-1.49	
16,702.00	10.70	304.50	16,692.32	-13,101.32	6.63	-93.65	6.63	1.83	1.82	-1.36	
16,853.00	10.50	305.50	16,840.74	-13,249.74	22.55	-116.41	22.55	0.18	-0.13	0.66	
16,948.00	8.10	301.10	16,934.49	-13,343.49	31.04	-129.19	31.04	2.63	-2.53	-4.63	
17,042.00	5.40	297.30	17,027.83	-13,436.83	36.49	-138.79	36.49	2.91	-2.87	-4.04	
17,137.00	4.00	283.50	17,122.51	-13,531.51	39.31	-145.98	39.31	1.88	-1.47	-14.53	
17,231.00	2.20	270.50	17,216.37	-13,625.37	40.10	-150.98	40.10	2.04	-1.91	-13.83	
17,294.00	1.80	288.30	17,279.33	-13,688.33	40.42	-153.13	40.42	1.17	-0.63	28.25	
17,389.00	2.80	63.30	17,374.30	-13,783.30	41.93	-152.47	41.93	4.49	1.05	142.11	
17,483.00	6.90	60.80	17,467.94	-13,876.94	45.72	-145.49	45.72	4.37	4.36	-2.66	
17,578.00	9.10	72.10	17,562.01	-13,971.01	50.81	-133.35	50.81	2.84	2.32	11.89	
17,672.00	13.10	92.90	17,654.27	-14,063.27	52.56	-115.63	52.56	5.96	4.26	22.13	
17,766.00	16.80	100.00	17,745.08	-14,154.08	49.66	-91.60	49.66	4.39	3.94	7.55	
17,861.00	17.40	110.60	17,835.91	-14,244.91	42.27	-64.78	42.27	3.34	0.63	11.16	
17,956.00	16.90	120.10	17,926.70	-14,335.70	30.35	-39.53	30.35	2.99	-0.53	10.00	
LAST SURVEY SEP 23, 2018											
18,037.00	18.40	133.10	18,003.91	-14,412.91	15.70	-20.00	15.70	5.19	1.85	16.05	
PROJECTION TO TD - SIDETRACK											
18,088.00	18.40	133.10	18,052.31	-14,461.31	4.70	-8.25	4.70	0.00	0.00	0.00	

Survey Report



Company:	NGL WATER SOLUTIONS PERMIAN, LLC	Local Co-ordinate Reference:	Well STRIKER 2 SWD #1
Project:	EDDY COUNTY, NEW MEXICO (NAD 83)	TVD Reference:	KB @ 3591.00usft (LATSHAW 21)
Site:	NW NW SEC. 23 T23S R31E	MD Reference:	KB @ 3591.00usft (LATSHAW 21)
Well:	STRIKER 2 SWD #1	North Reference:	True
Wellbore:	JOB # 2018-213-21 - SIDETRACK SURV	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS SIDETRACK	Database:	EDM 5000.1 Single User Db

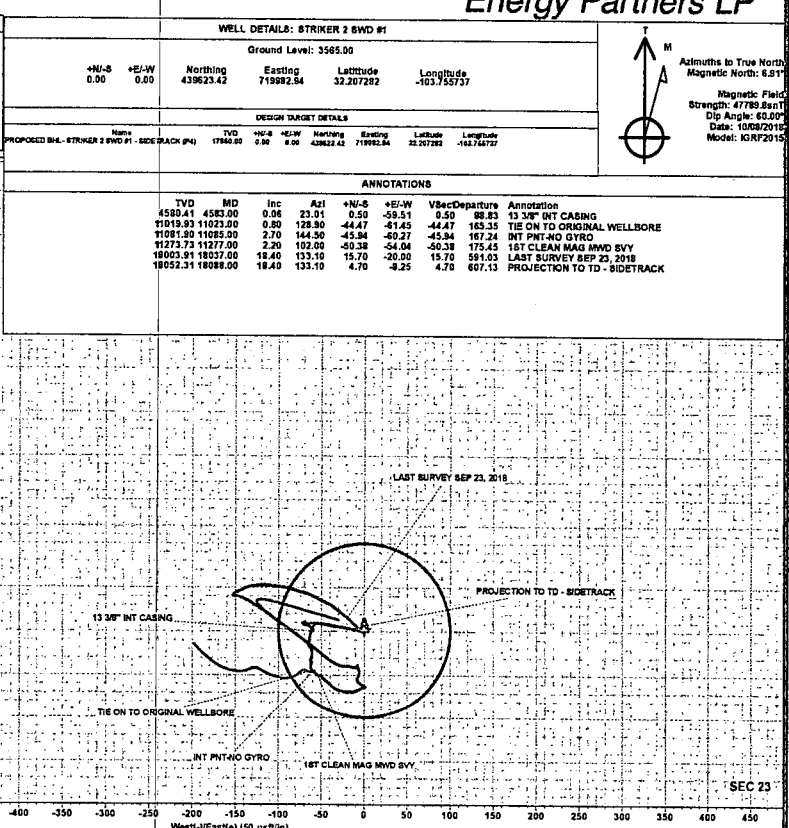
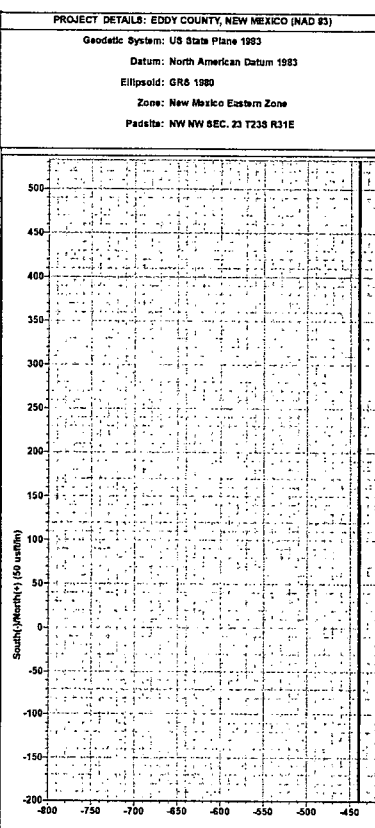
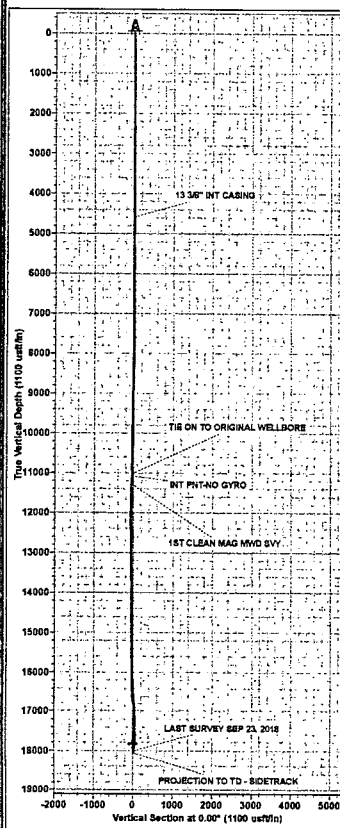
Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
hl/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
Shape									
EXIST VERT COTTON I	0.00	0.00	15,461.00	-960.17	231.06	438,664.56	720,219.14	32.204643	-103.754990
- survey misses target center by 954.71usft at 15461.17usft MD (15455.89 TVD, -39.82 N, -22.73 E)									
- Circle (radius 30.00)									
PROPOSED BHL - STR	0.00	0.00	17,850.00	-14.46	-138.93	439,608.21	719,844.10	32.207243	-103.756186
- survey misses target center by 94.43usft at 17857.95usft MD (17832.99 TVD, 42.59 N, -65.63 E)									
- Circle (radius 20.00)									
EXIST VERT POKER BI	0.00	0.00	8,520.00	689.98	-99.33	440,312.82	719,879.91	32.209179	-103.756058
- survey misses target center by 702.52usft at 8509.07usft MD (8506.28 TVD, -11.53 N, -64.11 E)									
- Circle (radius 30.00)									
PROPOSED BHL - STR	0.00	0.00	17,850.00	0.00	0.00	439,623.42	719,982.94	32.207282	-103.755737
- survey misses target center by 69.89usft at 17897.00usft MD (17870.28 TVD, 38.21 N, -54.89 E)									
- Circle (radius 100.00)									
PROPOSED BHL - STR	0.00	0.00	17,850.00	0.00	0.00	439,623.42	719,982.94	32.207282	-103.755737
- survey misses target center by 69.89usft at 17897.00usft MD (17870.28 TVD, 38.21 N, -54.89 E)									
- Circle (radius 40.00)									

Survey Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	
4,583.00	4,580.41	0.50	-59.51	13 3/8" INT CASING
11,023.00	11,019.93	-44.47	-61.45	TIE ON TO ORIGINAL WELLBORE
11,085.00	11,081.80	-45.94	-60.27	INT PNT-NO GYRO
11,277.00	11,273.73	-50.38	-54.04	1ST CLEAN MAG MWD SVY
18,037.00	18,003.91	15.70	-20.00	LAST SURVEY SEP 23, 2018
18,088.00	18,052.31	4.70	-8.25	PROJECTION TO TD - SIDETRACK

Checked By: _____ Approved By: _____ Date: _____



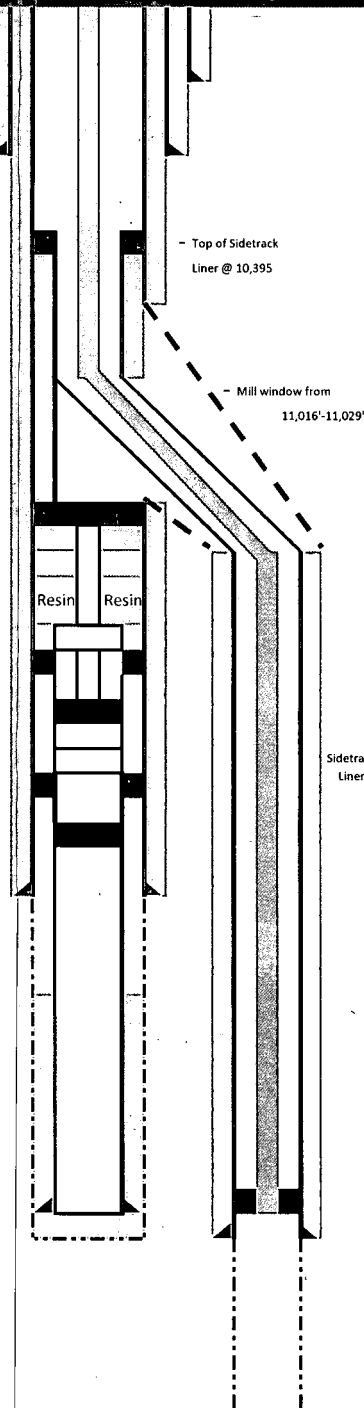
Project: EDDY COUNTY, NEW MEXICO (NAD 83)
Site: NW NW SEC. 23 T23S R31E
Well: STRIKER 2 SWD #1
Wellbore: JOB # 2018-213-21 - SIDETRACK SURVEYS
Design: FINAL SURVEYS SIDETRACK



TUBULARS					
STRING DETAILS (Size, WPF, Grade, Conn)	HOLE SIZE (in.)	O.D. (in.)	I.D. (in.)	HOLE DEPTH (MD)	SET DEPTH (MD)
20" 94# I-55 BTC	24.000	20.000	19.124	883'	881'
13-3/8" 72# HCL80 BTC	17.50	13.325	12.347	4,583'	4,575'
9-5/8" 53.5 HCP110 BTC	12.25	9.625	8.535	12,150'	12,116'
7-5/8" 39# Q125 VAM SLU II (1st Liner)	8.500	7.625	6.625	16,750'	16,697'
7-5/8" 39# Q125 VAM SLU II FJ ('Scab' Liner)	-	7.625	6.625	16,750'	11,808'
7-5/8" 39# Q125/P110 VAM FJ Gas Tight (Sidetrack Liner)	8.500	7.625	6.625	16,750'	16,733'
Open Hole Injection Interval	6.500	-	-	18,088'	

WELL INFORMATION	
RIG:	LATSHAW 21
API:	
COUNTY:	LEA
S/T/R:	
LATITUDE:	
LONGITUDE:	
SPUD DATE:	4/29/2018
RR Date:	
INJECTION FORMATIONS:	

STRING COMPONENTS				
COMPONENT	O.D.	I.D.	Top	Btm
20" Surface Casing Shoe	24	19.124	-	881'
13-3/8" 1st Intermediate Shoe	13.325	12.347	-	4,575'
HES Versa Tech Liner Hanger (2 sealing elements)	8.535	6.625	10,395'	10,457'
Weatherford Quick Cut Casing Exit Whipstock Mill Window	8.535	0	11,016'	11,029'
Bridge Plug	8.535	0	11,039'	11,051'
95 sx Class H Balanced Cement Plug	8.535	0	11,076'	11,277'
DP - 4" 14ppf S135, XT39 Conn Stuck in Resin	4	3.34		
7-5/8" Q125 FJ, (Scab Liner) PBR	8.535	6.625	11,598'	11,623'
Weatherford Cement Retainer	6.625	0	11,766'	-
7-5/8" 39ppf Q125 FJ, (1st Liner) PBR	8.535	6.625	11,828'	11,812'
Liner Packer Leaking				11,822'
Bridge Plug	6.625	0	-	11,839'
9-5/8" 2nd Intermediate Shoe	9.625	8.535	-	12,116'
7-5/8" 3rd Intermediate (1st Liner) Shoe	7.625	6.625	-	16,697'
7-5/8" 3rd Intermediate (Sidetrack Liner) Shoe	7.625	6.625	-	16,733'
Injection Interval Open Hole	6.5	-	-	18,088'



Rustler Anh - 530'

Bone Springs - 8,368'

Wolfecamp - 11,730'

Penn - 13,383'

Strawn - 13,741'

Atoka - 13,881'

Morrow - 14,535'

Morrow Lime - 14,610'

Morrow Clastic - 14,808'

Morrow D - 15,397'

Mississippian SH - 15,487'

Barnett - 15,947'

Mississippian Lime - 16,231'

Woodford - 16,525'

Devonian - 16,691'

Silurian Shale - 17,165'

Montoya - 18,053'