



Scientific Drilling

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DISTRICT II-ARTESIA O.C.D.

Marathon Oil Permian, LLC

Eddy County, NM (NAD27)

Gravel Grinder Fee 23-28-18

WXY #10H

30-015-44630

OH

Survey: SDI Survey #1

Standard Survey Report

11 June, 2018



Scientific Drilling



Scientific Drilling, Intl

Survey Report



Company: Marathon Oil Permian, LLC
Project: Eddy County, NM (NAD27)
Site: Gravel Grinder Fee 23-28-18
Well: WXY #10H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well WXY #10H
TVD Reference: KB = 26.5' @ 3104.50usft (H&P 441)
MD Reference: KB = 26.5' @ 3104.50usft (H&P 441)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland District

Project	Eddy County, NM (NAD27)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		Using geodetic scale factor

Site	Gravel Grinder Fee 23-28-18		
Site Position:		Northing:	472,497.59 usft
From:	Map	Easting:	562,658.22 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 17' 55.858 N
		Longitude:	104° 7' 49.967 W
		Grid Convergence:	0.11 °

Well	WXY #10H		
Well Position	+N/-S	0.00 usft	Northing: 472,497.59 usft
	+E/-W	0.00 usft	Easting: 562,718.19 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	32° 17' 55.857 N
		Longitude:	104° 7' 49.268 W
		Ground Level:	3,078.00 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	HDGM	4/2/2018	(°) 7.30
			Dip Angle (°) 60.07
			Field Strength (nT) 48,019

Design	OH		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
Vertical Section:	Depth From (TVD)	+N/-S	Tie On Depth:
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction (bearing) 0.00

Survey Program	Date 6/8/2018		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
71.90	397.50	Gyro Survey (OH)	Gyrodata Gyro
444.00	13,043.00	SDI Survey #1 (OH)	MWD+IFR+MS
			Gyrocompass Gyro
			MWD + IFR + Multi Station

Survey									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn
Depth	(°)	(bearing)	Depth	(usft)	(usft)	Section	Rate	Rate	Rate
(usft)			(usft)			(usft)	(°/100usft)	(°/100usft)	(°/100usft)
397.50	0.50	220.76	397.49	1.92	1.90	1.92	0.00	0.00	0.00
444.00	0.39	126.79	443.98	1.67	1.90	1.67	1.41	-0.24	-202.09
504.00	0.52	137.39	503.98	1.35	2.24	1.35	0.26	0.22	17.67
594.00	0.69	134.76	593.98	0.67	2.91	0.67	0.19	0.19	-2.92
685.00	0.91	132.40	684.97	-0.20	3.83	-0.20	0.24	0.24	-2.59
776.00	0.91	114.09	775.96	-0.99	5.02	-0.99	0.32	0.00	-20.12
867.00	0.93	127.06	866.95	-1.73	6.27	-1.73	0.23	0.02	14.25
959.00	0.90	124.68	958.93	-2.59	7.46	-2.59	0.05	-0.03	-2.59
1,049.00	0.77	122.24	1,048.92	-3.31	8.55	-3.31	0.15	-0.14	-2.71
1,140.00	0.76	142.01	1,139.92	-4.11	9.44	-4.11	0.29	-0.01	21.73

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Well:	WXY #10H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland District

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,234.00	0.84	131.47	1,233.91	-5.06	10.34	-5.06	0.18	0.09	-11.21
1,329.00	0.79	135.64	1,328.90	-5.99	11.32	-5.99	0.08	-0.05	4.39
1,423.00	0.87	141.03	1,422.89	-7.01	12.22	-7.01	0.12	0.09	5.73
1,518.00	1.04	154.27	1,517.87	-8.35	13.05	-8.35	0.29	0.18	13.94
1,613.00	1.48	129.72	1,612.85	-9.91	14.37	-9.91	0.72	0.46	-25.84
1,707.00	2.59	125.98	1,706.79	-11.93	17.02	-11.93	1.19	1.18	-3.98
1,802.00	3.47	114.34	1,801.66	-14.38	21.38	-14.38	1.13	0.93	-12.25
1,897.00	3.53	109.36	1,896.48	-16.53	26.76	-16.53	0.33	0.06	-5.24
1,991.00	4.04	112.28	1,990.28	-18.75	32.55	-18.75	0.58	0.54	3.11
2,085.00	4.34	113.90	2,084.03	-21.44	38.87	-21.44	0.34	0.32	1.72
2,180.00	4.67	111.77	2,178.73	-24.33	45.75	-24.33	0.39	0.35	-2.24
2,274.00	4.88	111.45	2,272.41	-27.21	53.02	-27.21	0.23	0.22	-0.34
2,369.00	4.85	111.59	2,367.06	-30.17	60.52	-30.17	0.03	-0.03	0.15
2,463.00	4.67	110.27	2,460.74	-32.96	67.80	-32.96	0.22	-0.19	-1.40
2,559.00	4.50	114.96	2,556.43	-35.90	74.88	-35.90	0.43	-0.18	4.89
2,654.00	4.49	114.76	2,651.14	-39.03	81.64	-39.03	0.02	-0.01	-0.21
2,749.00	5.69	109.86	2,745.76	-42.19	89.44	-42.19	1.34	1.26	-5.16
2,843.00	7.58	104.53	2,839.13	-45.33	99.83	-45.33	2.11	2.01	-5.67
2,938.00	9.63	102.61	2,933.06	-48.63	113.65	-48.63	2.18	2.16	-2.02
3,032.00	11.71	100.38	3,025.43	-52.07	130.71	-52.07	2.26	2.21	-2.37
3,126.00	12.07	101.15	3,117.41	-55.69	149.73	-55.69	0.42	0.38	0.82
3,221.00	10.57	99.63	3,210.56	-59.07	168.07	-59.07	1.61	-1.58	-1.60
3,315.00	10.98	100.83	3,302.90	-62.19	185.36	-62.19	0.50	0.44	1.28
3,410.00	12.55	104.31	3,395.90	-66.44	204.25	-66.44	1.81	1.65	3.66
3,504.00	13.95	106.50	3,487.40	-72.19	225.01	-72.19	1.58	1.49	2.33
3,599.00	13.79	104.96	3,579.63	-78.36	246.93	-78.36	0.42	-0.17	-1.62
3,693.00	14.11	105.96	3,670.86	-84.40	268.77	-84.40	0.43	0.34	1.06
3,788.00	14.46	104.65	3,762.92	-90.59	291.38	-90.59	0.50	0.37	-1.38
3,882.00	13.71	106.95	3,854.10	-96.80	313.39	-96.80	1.00	-0.80	2.45
3,977.00	14.56	106.01	3,946.22	-103.38	335.64	-103.38	0.93	0.89	-0.99
4,071.00	15.55	104.90	4,036.99	-109.88	359.17	-109.88	1.10	1.05	-1.18
4,166.00	15.61	105.99	4,128.50	-116.67	383.76	-116.67	0.31	0.06	1.15
4,260.00	15.83	105.43	4,218.98	-123.57	408.28	-123.57	0.28	0.23	-0.60
4,355.00	15.62	104.32	4,310.43	-130.18	433.16	-130.18	0.39	-0.22	-1.17
4,449.00	14.73	104.98	4,401.15	-136.40	456.97	-136.40	0.96	-0.95	0.70
4,544.00	12.81	104.73	4,493.42	-142.20	478.82	-142.20	2.02	-2.02	-0.26
4,638.00	11.89	103.35	4,585.24	-147.08	498.32	-147.08	1.03	-0.98	-1.47
4,733.00	11.74	103.22	4,678.23	-151.55	517.25	-151.55	0.16	-0.16	-0.14
4,828.00	11.76	102.96	4,771.24	-155.93	536.10	-155.93	0.06	0.02	-0.27
4,922.00	11.99	103.56	4,863.22	-160.37	554.92	-160.37	0.28	0.24	0.64
5,017.00	13.53	102.85	4,955.88	-165.16	575.35	-165.16	1.63	1.62	-0.75
5,111.00	12.16	103.97	5,047.52	-169.99	595.68	-169.99	1.48	-1.46	1.19
5,206.00	11.57	103.97	5,140.49	-174.71	614.64	-174.71	0.62	-0.62	0.00

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Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,301.00	12.14	98.62	5,233.47	-178.51	633.76	-178.51	1.30	0.60	-5.63
5,395.00	12.46	101.37	5,325.31	-181.99	653.47	-181.99	0.71	0.34	2.93
5,490.00	11.68	99.19	5,418.21	-185.54	673.01	-185.54	0.95	-0.82	-2.29
5,584.00	12.96	98.72	5,510.04	-188.66	692.83	-188.66	1.37	1.36	-0.50
5,679.00	12.14	102.13	5,602.77	-192.38	713.12	-192.38	1.16	-0.86	3.59
5,774.00	11.99	105.69	5,695.68	-197.14	732.39	-197.14	0.80	-0.16	3.75
5,869.00	11.00	105.64	5,788.77	-202.25	750.62	-202.25	1.04	-1.04	-0.05
5,963.00	9.94	104.20	5,881.20	-206.66	767.12	-206.66	1.16	-1.13	-1.53
6,058.00	8.45	101.67	5,974.98	-210.09	781.90	-210.09	1.62	-1.57	-2.66
6,153.00	7.47	114.25	6,069.07	-214.03	794.37	-214.03	2.10	-1.03	13.24
6,247.00	8.34	104.61	6,162.18	-218.26	806.54	-218.26	1.68	0.93	-10.26
6,342.00	8.91	98.85	6,256.11	-221.13	820.48	-221.13	1.09	0.60	-6.06
6,437.00	8.18	103.19	6,350.05	-223.81	834.33	-223.81	1.02	-0.77	4.57
6,531.00	9.16	102.77	6,442.98	-226.99	848.13	-226.99	1.04	1.04	-0.45
6,625.00	7.88	100.40	6,535.94	-229.81	861.77	-229.81	1.41	-1.36	-2.52
6,720.00	7.48	106.83	6,630.09	-232.77	874.09	-232.77	1.00	-0.42	6.77
6,814.00	7.99	103.51	6,723.23	-236.07	886.30	-236.07	0.72	0.54	-3.53
6,909.00	9.08	105.68	6,817.18	-239.64	899.94	-239.64	1.20	1.15	2.28
7,003.00	8.35	107.66	6,910.10	-243.71	913.59	-243.71	0.84	-0.78	2.11
7,098.00	6.91	105.50	7,004.25	-247.33	925.67	-247.33	1.55	-1.52	-2.27
7,192.00	4.27	109.24	7,097.80	-250.00	934.42	-250.00	2.83	-2.81	3.98
7,287.00	2.19	109.54	7,192.64	-251.77	939.47	-251.77	2.19	-2.19	0.32
7,381.00	1.31	130.27	7,286.60	-253.07	941.98	-253.07	1.14	-0.94	22.05
7,476.00	2.04	137.84	7,381.56	-255.02	943.95	-255.02	0.80	0.77	7.97
7,570.00	2.35	148.06	7,475.49	-257.90	946.09	-257.90	0.53	0.33	10.87
7,665.00	1.95	163.56	7,570.42	-261.10	947.58	-261.10	0.74	-0.42	16.32
7,760.00	2.04	162.50	7,665.36	-264.26	948.54	-264.26	0.10	0.09	-1.12
7,854.00	0.73	152.59	7,759.33	-266.39	949.32	-266.39	1.41	-1.39	-10.54
7,948.00	0.44	142.23	7,853.33	-267.21	949.82	-267.21	0.33	-0.31	-11.02
8,043.00	0.38	173.63	7,948.33	-267.81	950.08	-267.81	0.24	-0.06	33.05
8,137.00	0.32	127.64	8,042.33	-268.28	950.32	-268.28	0.30	-0.06	-48.93
8,232.00	0.65	87.25	8,137.32	-268.41	951.07	-268.41	0.48	0.35	-42.52
8,327.00	1.08	126.66	8,232.31	-268.92	952.32	-268.92	0.75	0.45	41.48
8,421.00	1.16	106.43	8,326.29	-269.72	953.95	-269.72	0.43	0.09	-21.52
8,516.00	1.19	83.72	8,421.27	-269.88	955.85	-269.88	0.49	0.03	-23.91
8,611.00	0.79	87.86	8,516.26	-269.75	957.49	-269.75	0.43	-0.42	4.36
8,705.00	0.91	96.07	8,610.25	-269.81	958.88	-269.81	0.18	0.13	8.73
8,776.00	0.59	117.61	8,681.24	-270.04	959.76	-270.04	0.59	-0.45	30.34
8,894.00	0.53	193.78	8,799.24	-270.85	960.17	-270.85	0.59	-0.05	64.55
8,989.00	8.20	348.51	8,893.93	-264.62	958.71	-264.62	9.14	8.07	162.87
9,036.00	13.94	354.23	8,940.04	-255.70	957.47	-255.70	12.42	12.21	12.17
9,084.00	19.47	357.27	8,986.00	-241.94	956.51	-241.94	11.66	11.52	6.33
9,130.00	22.93	355.37	9,028.88	-225.35	955.42	-225.35	7.67	7.52	-4.13

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Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Bulld Rate (°/100usft)	Turn Rate (°/100usft)
9,178.00	27.80	359.32	9,072.24	-204.82	954.53	-204.82	10.74	10.15	8.23
9,225.00	33.03	356.52	9,112.76	-181.06	953.63	-181.06	11.53	11.13	-5.96
9,273.00	38.11	356.63	9,151.79	-153.20	951.96	-153.20	10.58	10.58	0.23
9,320.00	44.33	359.60	9,187.13	-122.27	950.99	-122.27	13.87	13.23	6.32
9,367.00	49.79	2.37	9,219.14	-87.88	951.62	-87.88	12.39	11.62	5.89
9,414.00	54.34	2.02	9,248.03	-50.85	953.03	-50.85	9.70	9.68	-0.74
9,462.00	58.56	2.08	9,274.55	-10.88	954.47	-10.88	8.79	8.79	0.13
9,509.00	62.51	0.63	9,297.66	30.02	955.42	30.02	8.82	8.40	-3.09
FTP[GGF/WXY#10H]									
9,557.00	66.36	359.86	9,318.37	73.31	955.60	73.31	8.15	8.02	-1.60
9,604.00	69.36	0.24	9,336.09	116.84	955.64	116.84	6.43	6.38	0.81
9,651.00	71.60	0.79	9,351.79	161.13	956.04	161.13	4.89	4.77	1.17
9,698.00	73.77	2.19	9,365.78	205.98	957.21	205.98	5.42	4.62	2.98
9,746.00	77.83	2.06	9,377.55	252.47	958.94	252.47	8.46	8.46	-0.27
9,783.00	80.29	2.19	9,384.57	288.77	960.28	288.77	6.66	6.65	0.35
9,869.00	87.61	359.06	9,393.63	374.22	961.20	374.22	9.25	8.51	-3.64
9,963.00	89.43	357.12	9,396.06	468.13	958.07	468.13	2.83	1.94	-2.06
10,058.00	88.22	355.85	9,398.01	562.93	952.25	562.93	1.85	-1.27	-1.34
10,152.00	89.87	357.49	9,399.57	656.75	946.79	656.75	2.47	1.76	1.74
10,247.00	90.91	358.10	9,398.93	751.67	943.13	751.67	1.27	1.09	0.64
10,341.00	91.34	357.29	9,397.08	845.58	939.35	845.58	0.98	0.46	-0.86
10,436.00	89.93	358.39	9,396.03	940.50	935.77	940.50	1.88	-1.48	1.16
10,530.00	91.68	357.87	9,394.71	1,034.44	932.71	1,034.44	1.94	1.86	-0.55
10,625.00	89.90	357.37	9,393.40	1,129.34	928.76	1,129.34	1.95	-1.87	-0.53
10,720.00	87.55	358.82	9,395.51	1,224.26	925.60	1,224.26	2.91	-2.47	1.53
10,815.00	88.59	359.37	9,398.71	1,319.19	924.10	1,319.19	1.24	1.09	0.58
10,910.00	88.69	358.33	9,400.97	1,414.14	922.20	1,414.14	1.10	0.11	-1.09
11,005.00	91.58	359.48	9,400.74	1,509.11	920.38	1,509.11	3.27	3.04	1.21
11,146.00	88.96	358.94	9,400.08	1,650.09	918.44	1,650.09	1.90	-1.86	-0.38
11,194.00	88.02	357.89	9,401.34	1,698.05	917.11	1,698.05	2.94	-1.96	-2.19
11,288.00	88.66	0.55	9,404.07	1,791.99	915.83	1,791.99	2.91	0.68	2.83
11,383.00	90.94	1.80	9,404.40	1,886.97	917.78	1,886.97	2.74	2.40	1.32
11,478.00	87.58	1.32	9,405.62	1,981.91	920.37	1,981.91	3.57	-3.54	-0.51
11,572.00	87.75	1.57	9,409.45	2,075.80	922.74	2,075.80	0.32	0.18	0.27
11,665.00	92.02	3.30	9,409.64	2,168.69	926.69	2,168.69	4.95	4.59	1.86
11,760.00	88.22	1.72	9,409.44	2,263.58	930.84	2,263.58	4.33	-4.00	-1.66
11,855.00	87.81	0.43	9,412.73	2,358.50	932.63	2,358.50	1.42	-0.43	-1.36
11,949.00	89.26	0.26	9,415.14	2,452.47	933.19	2,452.47	1.55	1.54	-0.18
12,044.00	91.38	0.49	9,414.61	2,547.46	933.81	2,547.46	2.24	2.23	0.24
12,139.00	89.80	358.96	9,413.63	2,642.45	933.36	2,642.45	2.32	-1.66	-1.61
12,233.00	90.13	358.46	9,413.68	2,736.42	931.24	2,736.42	0.64	0.35	-0.53
12,327.00	88.79	356.58	9,414.57	2,830.32	927.17	2,830.32	2.46	-1.43	-2.00
12,422.00	89.19	358.99	9,416.25	2,925.23	923.50	2,925.23	2.57	0.42	2.54
12,516.00	92.39	0.99	9,414.95	3,019.21	923.49	3,019.21	4.01	3.40	2.13



Scientific Drilling, Intl Survey Report



Company: Marathon Oil Permian, LLC
Project: Eddy County, NM (NAD27)
Site: Gravel Grinder Fee 23-28-18
Well: WXY #10H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well WXY #10H
TVD Reference: KB = 26.5' @ 3104.50usft (H&P 441)
MD Reference: KB = 26.5' @ 3104.50usft (H&P 441)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland District

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,611.00	88.82	0.77	9,413.95	3,114.17	924.95	3,114.17	3.77	-3.76	-0.23
12,706.00	90.17	1.23	9,414.78	3,209.15	926.60	3,209.15	1.50	1.42	0.48
12,801.00	87.45	359.78	9,416.76	3,304.12	927.44	3,304.12	3.24	-2.86	-1.53
12,896.00	87.88	359.62	9,420.63	3,399.04	926.94	3,399.04	0.48	0.45	-0.17
12,990.00	88.55	359.25	9,423.56	3,492.99	926.02	3,492.99	0.81	0.71	-0.39
13,085.00	89.23	359.17	9,425.40	3,587.96	924.71	3,587.96	0.72	0.72	-0.08
13,179.00	90.30	359.01	9,425.78	3,681.94	923.21	3,681.94	1.15	1.14	-0.17
13,274.00	91.11	358.33	9,424.61	3,776.91	921.01	3,776.91	1.11	0.85	-0.72
13,368.00	89.06	357.95	9,424.47	3,870.86	917.96	3,870.86	2.22	-2.18	-0.40
13,463.00	88.69	356.37	9,426.34	3,965.72	913.25	3,965.72	1.71	-0.39	-1.66
13,558.00	89.19	359.09	9,428.10	4,060.62	909.49	4,060.62	2.91	0.53	2.86
13,652.00	90.10	359.24	9,428.68	4,154.60	908.12	4,154.60	0.98	0.97	0.16
13,746.00	90.84	358.88	9,427.91	4,248.59	906.58	4,248.59	0.88	0.79	-0.38
13,841.00	89.02	358.93	9,428.02	4,343.57	904.76	4,343.57	1.92	-1.92	0.05
13,936.00	89.66	358.33	9,429.12	4,438.53	902.49	4,438.53	0.92	0.67	-0.63
14,031.00	91.92	359.32	9,427.81	4,533.50	900.55	4,533.50	2.60	2.38	1.04
14,114.00	92.79	359.29	9,424.40	4,616.42	899.54	4,616.42	1.05	1.05	-0.04
FINAL MWD Survey (14114.00' MD) - BHL[GGF/WXY#10H]									
14,167.00	92.79	359.29	9,421.82	4,669.35	898.88	4,669.35	0.00	0.00	0.00
FINAL Proj. to Bit (14167.00' MD)									

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
14,114.00	9,424.40	4,616.42	899.54	FINAL MWD Survey (14114.00' MD)
14,167.00	9,421.82	4,669.35	898.88	FINAL Proj. to Bit (14167.00' MD)

Checked By: _____ Approved By: _____ Date: _____



EDDY COUNTY, NM (NAD27)
GRAVEL GRINDER FEE 23-28-18
WXY #10H

PLAN #4
H&P 441

WELL DETAILS:

GROUND LEVEL: 3078.00
+N/-S 0.00 +E/-W 0.00
NORTHING 4724.97.59 EASTING 562718.19 32° 17' 55.857 N 104° 7' 49.268 W

SECTION DETAILS

SEC	10	42	7.0	+N/-S	+E/-W	CLUG	FACE	SECT	TARGET
23-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
24-28-18	4.00	05.00	2594.00	-22.72	32.23	2.00	05.00	-22.32	
25-28-18	4.00	05.00	652.25	-22.27	8.12	0.00	0.00	-23.29	
26-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
27-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
28-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
29-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
30-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
31-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
32-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
33-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
34-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
35-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
36-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
37-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
38-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
39-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
40-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
41-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
42-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
43-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
44-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
45-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
46-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
47-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
48-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
49-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
50-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
51-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
52-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
53-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
54-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
55-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
56-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
57-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
58-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
59-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
60-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
61-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
62-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
63-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
64-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
65-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
66-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
67-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
68-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
69-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
70-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
71-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
72-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
73-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
74-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
75-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
76-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
77-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
78-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
79-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
80-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
81-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
82-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
83-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
84-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
85-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
86-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
87-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
88-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
89-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
90-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
91-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
92-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
93-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
94-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
95-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
96-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
97-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
98-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
99-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100-28-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Eastng
FTP(GGF/WXY#10H)	9395.00	-19.44	954.45	472478.15	563672.56
BHL(GGF/WXY#10H)	9428.00	4624.93	920.38	477122.12	563638.49

DRILLING TARGET: 9395' TVD @ 0VS // 89.6° INC.

WINDOW: 10' UP // 10' DOWN
WINDOW: 40' LEFT // 20' RIGHT

SITE DETAILS: GRAVEL GRINDER FEE 23-28-18
SITE CENTRE NORTHING: 4724.97.59
EASTING: 562658.22

POSITIONAL UNCERTAINTY: 0.00
CONVERGENCE: 0.11
LOCAL NORTH: GRID

PROJECT DETAILS: EDDY COUNTY, NM (NAD27)
SECTION SYSTEM: U.S. STATE PLANE 927 (EAST) SECTION
DATUM: NAD 927 (EAST) SECTION
ELEVATION: 565
ZONE: 10N 10E 10E 10E 10E

SYSTEM DATUM: MEAN SEA LEVEL

FORMATION TOP DETAILS

TVD/PATH	MD/PATH	FORMATION
0.00	0.00	RUSTLER
425.00	425.00	GALADO
806.00	806.00	CASTILE
2180.00	2180.00	BASE OF GALT
2406.00	2406.00	LAMAR
2437.00	2437.27	BELL CANYON
3162.00	3177.18	CHERRY CANYON
4388.00	4440.71	BRUSHY CANYON
5903.00	6002.09	BONE SPRING
6836.00	6950.59	1ST BONE SPRING SAND
7607.00	7721.59	2ND BONE SPRING SAND
8916.00	9030.97	3RD BONE SPRING SAND
9267.00	9413.98	WOLFCAMP
9278.00	9462.07	WOLFCAMP X SAND
9347.00	9596.18	WOLFCAMP Y SAND
9599.00	9994.08	WOLFCAMP A

U.S. STATE PLANE 927 (EAST) SECTION
DATUM: NAD 927 (EAST) SECTION
ELEVATION: 565
ZONE: 10N 10E 10E 10E 10E

LOCAL ORIGIN: WELL X/Y # 0.00, 0.00

LATITUDE: 32° 17' 55.857 N

LONGITUDE: 104° 7' 49.268 W

GRID ELEVATION: 5627.59

GRID NORTH: 472478.15

SCALE FACTOR: 1.000

CONVERSION: 1.000

SCALE DATE: 02-09-03

MAGNETIC DECLINATION: 11.01

TRUE NORTH: 10.00

MAGNETIC FIELD STRENGTH: 48.9

TO CONVERT A MAGNETIC DIRECTION TO A TRUE DIRECTION, ADD 7.19°

TO CONVERT A TRUE DIRECTION TO A GRID DIRECTION, ADD 7.19°

TO CONVERT A GRID DIRECTION TO A TRUE DIRECTION, ADD 7.19°

TO CONVERT A TRUE DIRECTION TO A GRID DIRECTION, SUBTRACT 0.11°

