

USA

NEW MEXICO

BLUEBERRY HILL FEE 24 35 19 PAD

BLUEBERRY HILL FEE 24 35 19 WA 6H

BLUEBERRY HILL FEE 24 35 19 WA 6H

Plan: Design #1

Survey Report - Geographic

29 March, 2018

Marathon Oil

Survey Report - Geographic

Company:	USA	Local Co-ordinate Reference:	Well BLUEBERRY HILL FEE 24 35 19 WA 6H
Project:	NEW MEXICO	TVD Reference:	WELL @ 3363.5usft (Original Well Elev)
Site:	BLUEBERRY HILL FEE 24 35 19 PAD	MD Reference:	WELL @ 3363.5usft (Original Well Elev)
Well:	BLUEBERRY HILL FEE 24 35 19 WA 6H	North Reference:	Grid
Wellbore:	BLUEBERRY HILL FEE 24 35 19 WA 6H	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDMPROD

Project	NEW MEXICO		
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		

Site		BLUEBERRY HILL FEE 24 35 19 PAD			
Site Position:		Northing:	439,008.94 usft	Latitude:	32° 12' 12.682 N
From:	Map	Easting:	788,062.81 usft	Longitude:	103° 24' 7.335 W
Position Uncertainty:	3.3 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.50 °

Well	BLUEBERRY HILL FEE 24 35 19 WA 6H, WELL 4 OF 5					
Well Position	+N/-S	0.0 usft	Northing:	439,008.91 usft	Latitude:	32° 12' 12.674 N
	+E/-W	0.0 usft	Easting:	788,152.82 usft	Longitude:	103° 24' 6.287 W
Position Uncertainty		1.1 usft	Wellhead Elevation:	0.0 usft	Ground Level:	3,337.0 usft

Wellbore	BLUEBERRY HILL FEE 24 35 19 WA 6H				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	3/29/2018	6.79	60.06	47,864

Design		Design #1			
Audit Notes:					
Version:		Phase:		PROTOTYPE	
				Tie On Depth:	
				0.0	
Vertical Section:		Depth From (TVD)		+N/-S	
		(usft)		(usft)	
		0.0		0.0	
				0.0	
				359.49	

Survey Tool Program	Date	3/29/2018			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	20,003.7	Design #1 (BLUEBERRY HILL FEE 24 35	MWD	OWSG MWD - Standard	

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
0.0	0.00	0.00	0.0	0.0	0.0	439,008.91	788,152.82	32° 12' 12.674 N	103° 24' 6.287 W	
100.0	0.00	0.00	100.0	0.0	0.0	439,008.91	788,152.82	32° 12' 12.674 N	103° 24' 6.287 W	
200.0	0.00	0.00	200.0	0.0	0.0	439,008.91	788,152.82	32° 12' 12.674 N	103° 24' 6.287 W	
300.0	0.00	0.00	300.0	0.0	0.0	439,008.91	788,152.82	32° 12' 12.674 N	103° 24' 6.287 W	
400.0	0.00	0.00	400.0	0.0	0.0	439,008.91	788,152.82	32° 12' 12.674 N	103° 24' 6.287 W	
500.0	0.00	0.00	500.0	0.0	0.0	439,008.91	788,152.82	32° 12' 12.674 N	103° 24' 6.287 W	
600.0	0.00	0.00	600.0	0.0	0.0	439,008.91	788,152.82	32° 12' 12.674 N	103° 24' 6.287 W	
700.0	0.00	0.00	700.0	0.0	0.0	439,008.91	788,152.82	32° 12' 12.674 N	103° 24' 6.287 W	
800.0	0.00	0.00	800.0	0.0	0.0	439,008.91	788,152.82	32° 12' 12.674 N	103° 24' 6.287 W	
900.0	0.00	0.00	900.0	0.0	0.0	439,008.91	788,152.82	32° 12' 12.674 N	103° 24' 6.287 W	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	439,008.91	788,152.82	32° 12' 12.674 N	103° 24' 6.287 W	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	439,008.91	788,152.82	32° 12' 12.674 N	103° 24' 6.287 W	

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Site:	BLUEBERRY HILL FEE 24 35 19 PAD	MD Reference:	WELL @ 3363.5usft (Original Well Elev)
Well:	BLUEBERRY HILL FEE 24 35 19 WA 6H	North Reference:	Grid
Wellbore:	BLUEBERRY HILL FEE 24 35 19 WA 6H	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDMPROD

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,200.0	0.00	0.00	1,200.0	0.0	0.0	439,008.91	788,152.82	32° 12' 12.674 N	103° 24' 6.287 W
1,300.0	0.00	0.00	1,300.0	0.0	0.0	439,008.91	788,152.82	32° 12' 12.674 N	103° 24' 6.287 W
1,400.0	0.00	0.00	1,400.0	0.0	0.0	439,008.91	788,152.82	32° 12' 12.674 N	103° 24' 6.287 W
1,500.0	0.00	0.00	1,500.0	0.0	0.0	439,008.91	788,152.82	32° 12' 12.674 N	103° 24' 6.287 W
1,600.0	1.00	94.34	1,600.0	-0.1	0.9	439,008.84	788,153.69	32° 12' 12.673 N	103° 24' 6.277 W
1,700.0	2.00	94.34	1,700.0	-0.3	3.5	439,008.65	788,156.30	32° 12' 12.671 N	103° 24' 6.247 W
1,800.0	3.00	94.34	1,799.9	-0.6	7.8	439,008.32	788,160.65	32° 12' 12.667 N	103° 24' 6.196 W
1,900.0	4.00	94.34	1,899.7	-1.1	13.9	439,007.85	788,166.73	32° 12' 12.662 N	103° 24' 6.125 W
2,000.0	5.00	94.34	1,999.4	-1.6	21.7	439,007.26	788,174.56	32° 12' 12.656 N	103° 24' 6.034 W
2,100.0	6.00	94.34	2,098.9	-2.4	31.3	439,006.54	788,184.11	32° 12' 12.648 N	103° 24' 5.923 W
2,200.0	7.00	94.34	2,198.3	-3.2	42.6	439,005.68	788,195.40	32° 12' 12.638 N	103° 24' 5.792 W
2,300.0	8.00	94.34	2,297.4	-4.2	55.6	439,004.69	788,208.42	32° 12' 12.627 N	103° 24' 5.641 W
2,400.0	9.00	94.34	2,396.3	-5.3	70.3	439,003.57	788,223.16	32° 12' 12.615 N	103° 24' 5.469 W
2,500.0	10.00	94.34	2,494.9	-6.6	86.8	439,002.33	788,239.61	32° 12' 12.601 N	103° 24' 5.278 W
2,600.0	10.00	94.34	2,593.4	-7.9	104.1	439,001.01	788,256.93	32° 12' 12.587 N	103° 24' 5.076 W
2,700.0	10.00	94.34	2,691.9	-9.2	121.4	438,999.70	788,274.24	32° 12' 12.572 N	103° 24' 4.875 W
2,800.0	10.00	94.34	2,790.4	-10.5	138.7	438,998.39	788,291.56	32° 12' 12.558 N	103° 24' 4.674 W
2,900.0	10.00	94.34	2,888.9	-11.8	156.1	438,997.07	788,308.87	32° 12' 12.543 N	103° 24' 4.472 W
3,000.0	10.00	94.34	2,987.3	-13.2	173.4	438,995.76	788,326.19	32° 12' 12.529 N	103° 24' 4.271 W
3,100.0	10.00	94.34	3,085.8	-14.5	190.7	438,994.44	788,343.50	32° 12' 12.514 N	103° 24' 4.070 W
3,200.0	10.00	94.34	3,184.3	-15.8	208.0	438,993.13	788,360.82	32° 12' 12.500 N	103° 24' 3.868 W
3,300.0	10.00	94.34	3,282.8	-17.1	225.3	438,991.82	788,378.13	32° 12' 12.485 N	103° 24' 3.667 W
3,400.0	10.00	94.34	3,381.3	-18.4	242.6	438,990.50	788,395.45	32° 12' 12.471 N	103° 24' 3.465 W
3,500.0	10.00	94.34	3,479.7	-19.7	259.9	438,989.19	788,412.76	32° 12' 12.456 N	103° 24' 3.264 W
3,600.0	10.00	94.34	3,578.2	-21.0	277.3	438,987.88	788,430.08	32° 12' 12.442 N	103° 24' 3.063 W
3,700.0	10.00	94.34	3,676.7	-22.3	294.6	438,986.56	788,447.39	32° 12' 12.427 N	103° 24' 2.861 W
3,800.0	10.00	94.34	3,775.2	-23.7	311.9	438,985.25	788,464.71	32° 12' 12.413 N	103° 24' 2.660 W
3,900.0	10.00	94.34	3,873.7	-25.0	329.2	438,983.94	788,482.02	32° 12' 12.398 N	103° 24' 2.459 W
4,000.0	10.00	94.34	3,972.1	-26.3	346.5	438,982.62	788,499.34	32° 12' 12.384 N	103° 24' 2.257 W
4,100.0	10.00	94.34	4,070.6	-27.6	363.8	438,981.31	788,516.65	32° 12' 12.369 N	103° 24' 2.056 W
4,200.0	10.00	94.34	4,169.1	-28.9	381.2	438,980.00	788,533.97	32° 12' 12.355 N	103° 24' 1.855 W
4,300.0	10.00	94.34	4,267.6	-30.2	398.5	438,978.68	788,551.28	32° 12' 12.340 N	103° 24' 1.653 W
4,400.0	10.00	94.34	4,366.1	-31.5	415.8	438,977.37	788,568.60	32° 12' 12.326 N	103° 24' 1.452 W
4,500.0	10.00	94.34	4,464.5	-32.9	433.1	438,976.06	788,585.91	32° 12' 12.311 N	103° 24' 1.250 W
4,600.0	10.00	94.34	4,563.0	-34.2	450.4	438,974.74	788,603.23	32° 12' 12.297 N	103° 24' 1.049 W
4,700.0	10.00	94.34	4,661.5	-35.5	467.7	438,973.43	788,620.55	32° 12' 12.282 N	103° 24' 0.848 W
4,800.0	10.00	94.34	4,760.0	-36.8	485.0	438,972.12	788,637.86	32° 12' 12.268 N	103° 24' 0.646 W
4,900.0	10.00	94.34	4,858.5	-38.1	502.4	438,970.80	788,655.18	32° 12' 12.254 N	103° 24' 0.445 W
5,000.0	10.00	94.34	4,957.0	-39.4	519.7	438,969.49	788,672.49	32° 12' 12.239 N	103° 24' 0.244 W
5,100.0	10.00	94.34	5,055.4	-40.7	537.0	438,968.18	788,689.81	32° 12' 12.225 N	103° 24' 0.042 W
5,200.0	10.00	94.34	5,153.9	-42.0	554.3	438,966.86	788,707.12	32° 12' 12.210 N	103° 23' 59.841 W
5,300.0	10.00	94.34	5,252.4	-43.4	571.6	438,965.55	788,724.44	32° 12' 12.196 N	103° 23' 59.639 W
5,400.0	10.00	94.34	5,350.9	-44.7	588.9	438,964.24	788,741.75	32° 12' 12.181 N	103° 23' 59.438 W
5,500.0	10.00	94.34	5,449.4	-46.0	606.2	438,962.92	788,759.07	32° 12' 12.167 N	103° 23' 59.237 W
5,600.0	10.00	94.34	5,547.8	-47.3	623.6	438,961.61	788,776.38	32° 12' 12.152 N	103° 23' 59.035 W
5,700.0	10.00	94.34	5,646.3	-48.6	640.9	438,960.29	788,793.70	32° 12' 12.138 N	103° 23' 58.834 W
5,800.0	10.00	94.34	5,744.8	-49.9	658.2	438,958.98	788,811.01	32° 12' 12.123 N	103° 23' 58.633 W
5,900.0	10.00	94.34	5,843.3	-51.2	675.5	438,957.67	788,828.33	32° 12' 12.109 N	103° 23' 58.431 W
6,000.0	10.00	94.34	5,941.8	-52.6	692.8	438,956.35	788,845.64	32° 12' 12.094 N	103° 23' 58.230 W
6,100.0	10.00	94.34	6,040.2	-53.9	710.1	438,955.04	788,862.96	32° 12' 12.080 N	103° 23' 58.029 W
6,200.0	10.00	94.34	6,138.7	-55.2	727.5	438,953.73	788,880.27	32° 12' 12.065 N	103° 23' 57.827 W
6,300.0	10.00	94.34	6,237.2	-56.5	744.8	438,952.41	788,897.59	32° 12' 12.051 N	103° 23' 57.626 W
6,400.0	10.00	94.34	6,335.7	-57.8	762.1	438,951.10	788,914.90	32° 12' 12.036 N	103° 23' 57.424 W
6,500.0	10.00	94.34	6,434.2	-59.1	779.4	438,949.79	788,932.22	32° 12' 12.022 N	103° 23' 57.223 W
6,600.0	10.00	94.34	6,532.6	-60.4	796.7	438,948.47	788,949.53	32° 12' 12.007 N	103° 23' 57.022 W

Marathon Oil

Survey Report - Geographic

Company: USA
Project: NEW MEXICO
Site: BLUEBERRY HILL FEE 24 35 19 PAD
Well: BLUEBERRY HILL FEE 24 35 19 WA 6H
Wellbore: BLUEBERRY HILL FEE 24 35 19 WA 6H
Design: Design #1

Local Co-ordinate Reference: Well BLUEBERRY HILL FEE 24 35 19 WA 6H
TVD Reference: WELL @ 3363.5usft (Original Well Elev)
MD Reference: WELL @ 3363.5usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDMPROD

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
6,700.0	10.00	94.34	6,631.1	-61.7	814.0	438,947.16	788,966.85	32° 12' 11.993 N	103° 23' 56.820 W
6,800.0	10.00	94.34	6,729.6	-63.1	831.3	438,945.85	788,984.16	32° 12' 11.978 N	103° 23' 56.619 W
6,900.0	10.00	94.34	6,828.1	-64.4	848.7	438,944.53	789,001.48	32° 12' 11.964 N	103° 23' 56.418 W
7,000.0	10.00	94.34	6,926.6	-65.7	866.0	438,943.22	789,018.79	32° 12' 11.949 N	103° 23' 56.216 W
7,100.0	10.00	94.34	7,025.0	-67.0	883.3	438,941.91	789,036.11	32° 12' 11.935 N	103° 23' 56.015 W
7,200.0	10.00	94.34	7,123.5	-68.3	900.6	438,940.59	789,053.42	32° 12' 11.920 N	103° 23' 55.813 W
7,268.6	10.00	94.34	7,191.1	-69.2	912.5	438,939.69	789,065.30	32° 12' 11.910 N	103° 23' 55.675 W
7,300.0	9.37	94.34	7,222.0	-69.6	917.8	438,939.29	789,070.57	32° 12' 11.906 N	103° 23' 55.614 W
7,400.0	7.37	94.34	7,321.0	-70.7	932.3	438,938.19	789,085.09	32° 12' 11.894 N	103° 23' 55.445 W
7,500.0	5.37	94.34	7,420.3	-71.6	943.3	438,937.35	789,096.15	32° 12' 11.885 N	103° 23' 55.317 W
7,600.0	3.37	94.34	7,520.0	-72.1	950.9	438,936.77	789,103.75	32° 12' 11.878 N	103° 23' 55.228 W
7,700.0	1.37	94.34	7,620.0	-72.4	955.1	438,936.46	789,107.88	32° 12' 11.875 N	103° 23' 55.180 W
7,768.6	0.00	0.00	7,688.5	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
7,800.0	0.00	0.00	7,720.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
7,900.0	0.00	0.00	7,820.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
8,000.0	0.00	0.00	7,920.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
8,100.0	0.00	0.00	8,020.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
8,200.0	0.00	0.00	8,120.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
8,300.0	0.00	0.00	8,220.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
8,400.0	0.00	0.00	8,320.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
8,500.0	0.00	0.00	8,420.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
8,600.0	0.00	0.00	8,520.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
8,700.0	0.00	0.00	8,620.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
8,800.0	0.00	0.00	8,720.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
8,900.0	0.00	0.00	8,820.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
9,000.0	0.00	0.00	8,920.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
9,100.0	0.00	0.00	9,020.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
9,200.0	0.00	0.00	9,120.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
9,300.0	0.00	0.00	9,220.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
9,400.0	0.00	0.00	9,320.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
9,500.0	0.00	0.00	9,420.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
9,600.0	0.00	0.00	9,520.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
9,700.0	0.00	0.00	9,620.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
9,800.0	0.00	0.00	9,720.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
9,900.0	0.00	0.00	9,820.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
10,000.0	0.00	0.00	9,920.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
10,100.0	0.00	0.00	10,020.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
10,200.0	0.00	0.00	10,120.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
10,300.0	0.00	0.00	10,220.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
10,400.0	0.00	0.00	10,320.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
10,500.0	0.00	0.00	10,420.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
10,600.0	0.00	0.00	10,520.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
10,700.0	0.00	0.00	10,620.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
10,800.0	0.00	0.00	10,720.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
10,900.0	0.00	0.00	10,820.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
11,000.0	0.00	0.00	10,920.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
11,100.0	0.00	0.00	11,020.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
11,200.0	0.00	0.00	11,120.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
11,300.0	0.00	0.00	11,220.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
11,400.0	0.00	0.00	11,320.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
11,500.0	0.00	0.00	11,420.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
11,600.0	0.00	0.00	11,520.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
11,700.0	0.00	0.00	11,620.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
11,800.0	0.00	0.00	11,720.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
11,900.0	0.00	0.00	11,820.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W

Marathon Oil

Survey Report - Geographic

Company:	USA	Local Co-ordinate Reference:	Well BLUEBERRY HILL FEE 24 35 19 WA 6H
Project:	NEW MEXICO	TVD Reference:	WELL @ 3363.5usft (Original Well Elev)
Site:	BLUEBERRY HILL FEE 24 35 19 PAD	MD Reference:	WELL @ 3363.5usft (Original Well Elev)
Well:	BLUEBERRY HILL FEE 24 35 19 WA 6H	North Reference:	Grid
Wellbore:	BLUEBERRY HILL FEE 24 35 19 WA 6H	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDMPROD

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
12,000.0	0.00	0.00	11,920.0	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
12,039.3	0.00	0.00	11,959.2	-72.5	955.9	438,936.40	789,108.70	32° 12' 11.874 N	103° 23' 55.171 W
12,100.0	6.07	359.49	12,019.8	-69.3	955.9	438,939.62	789,108.67	32° 12' 11.906 N	103° 23' 55.171 W
12,200.0	16.07	359.49	12,117.8	-50.1	955.7	438,958.80	789,108.50	32° 12' 12.096 N	103° 23' 55.171 W
12,300.0	26.07	359.49	12,211.0	-14.2	955.4	438,994.71	789,108.18	32° 12' 12.451 N	103° 23' 55.171 W
12,400.0	36.07	359.49	12,296.6	37.3	954.9	439,046.26	789,107.72	32° 12' 12.961 N	103° 23' 55.171 W
12,500.0	46.07	359.49	12,371.9	103.0	954.3	439,111.87	789,107.14	32° 12' 13.611 N	103° 23' 55.171 W
12,600.0	56.07	359.49	12,434.6	180.7	953.6	439,189.57	789,106.44	32° 12' 14.379 N	103° 23' 55.171 W
12,700.0	66.07	359.49	12,482.9	268.1	952.8	439,276.98	789,105.67	32° 12' 15.244 N	103° 23' 55.171 W
12,800.0	76.07	359.49	12,515.3	362.5	952.0	439,371.45	789,104.83	32° 12' 16.179 N	103° 23' 55.172 W
12,900.0	86.07	359.49	12,530.8	461.2	951.1	439,470.11	789,103.95	32° 12' 17.156 N	103° 23' 55.172 W
12,979.3	94.00	359.49	12,530.8	540.4	950.4	439,549.30	789,103.24	32° 12' 17.939 N	103° 23' 55.172 W
13,000.0	94.00	359.49	12,529.3	561.1	950.2	439,569.99	789,103.06	32° 12' 18.144 N	103° 23' 55.172 W
13,100.0	94.00	359.49	12,522.3	660.8	949.4	439,669.74	789,102.17	32° 12' 19.131 N	103° 23' 55.172 W
13,200.0	94.00	359.49	12,515.4	760.6	948.5	439,769.49	789,101.28	32° 12' 20.118 N	103° 23' 55.173 W
13,300.0	94.00	359.49	12,508.4	860.3	947.6	439,869.25	789,100.39	32° 12' 21.105 N	103° 23' 55.173 W
13,400.0	94.00	359.49	12,501.4	960.1	946.7	439,969.00	789,099.51	32° 12' 22.093 N	103° 23' 55.173 W
13,500.0	94.00	359.49	12,494.4	1,059.8	945.8	440,068.75	789,098.62	32° 12' 23.080 N	103° 23' 55.173 W
13,600.0	94.00	359.49	12,487.5	1,159.6	944.9	440,168.50	789,097.73	32° 12' 24.067 N	103° 23' 55.174 W
13,700.0	94.00	359.49	12,480.5	1,259.3	944.0	440,268.26	789,096.84	32° 12' 25.054 N	103° 23' 55.174 W
13,800.0	94.00	359.49	12,473.5	1,359.1	943.1	440,368.01	789,095.95	32° 12' 26.041 N	103° 23' 55.174 W
13,900.0	94.00	359.49	12,466.5	1,458.9	942.2	440,467.76	789,095.07	32° 12' 27.028 N	103° 23' 55.174 W
14,000.0	94.00	359.49	12,459.6	1,558.6	941.4	440,567.51	789,094.18	32° 12' 28.015 N	103° 23' 55.175 W
14,100.0	94.00	359.49	12,452.6	1,658.4	940.5	440,667.27	789,093.29	32° 12' 29.003 N	103° 23' 55.175 W
14,200.0	94.00	359.49	12,445.6	1,758.1	939.6	440,767.02	789,092.40	32° 12' 29.990 N	103° 23' 55.175 W
14,300.0	94.00	359.49	12,438.6	1,857.9	938.7	440,866.77	789,091.51	32° 12' 30.977 N	103° 23' 55.175 W
14,400.0	94.00	359.49	12,431.7	1,957.6	937.8	440,966.52	789,090.63	32° 12' 31.964 N	103° 23' 55.176 W
14,500.0	94.00	359.49	12,424.7	2,057.4	936.9	441,066.28	789,089.74	32° 12' 32.951 N	103° 23' 55.176 W
14,600.0	94.00	359.49	12,417.7	2,157.1	936.0	441,166.03	789,088.85	32° 12' 33.938 N	103° 23' 55.176 W
14,700.0	94.00	359.49	12,410.7	2,256.9	935.1	441,265.78	789,087.96	32° 12' 34.925 N	103° 23' 55.176 W
14,800.0	94.00	359.49	12,403.8	2,356.6	934.3	441,365.53	789,087.07	32° 12' 35.912 N	103° 23' 55.176 W
14,900.0	94.00	359.49	12,396.8	2,456.4	933.4	441,465.29	789,086.19	32° 12' 36.900 N	103° 23' 55.177 W
15,000.0	94.00	359.49	12,389.8	2,556.1	932.5	441,565.04	789,085.30	32° 12' 37.887 N	103° 23' 55.177 W
15,100.0	94.00	359.49	12,382.8	2,655.9	931.6	441,664.79	789,084.41	32° 12' 38.874 N	103° 23' 55.177 W
15,200.0	94.00	359.49	12,375.9	2,755.6	930.7	441,764.54	789,083.52	32° 12' 39.861 N	103° 23' 55.177 W
15,300.0	94.00	359.49	12,368.9	2,855.4	929.8	441,864.30	789,082.64	32° 12' 40.848 N	103° 23' 55.178 W
15,400.0	94.00	359.49	12,361.9	2,955.1	928.9	441,964.05	789,081.75	32° 12' 41.835 N	103° 23' 55.178 W
15,500.0	94.00	359.49	12,354.9	3,054.9	928.0	442,063.80	789,080.86	32° 12' 42.822 N	103° 23' 55.178 W
15,600.0	94.00	359.49	12,348.0	3,154.6	927.2	442,163.55	789,079.97	32° 12' 43.810 N	103° 23' 55.178 W
15,700.0	94.00	359.49	12,341.0	3,254.4	926.3	442,263.31	789,079.08	32° 12' 44.797 N	103° 23' 55.179 W
15,800.0	94.00	359.49	12,334.0	3,354.1	925.4	442,363.06	789,078.20	32° 12' 45.784 N	103° 23' 55.179 W
15,900.0	94.00	359.49	12,327.0	3,453.9	924.5	442,462.81	789,077.31	32° 12' 46.771 N	103° 23' 55.179 W
16,000.0	94.00	359.49	12,320.1	3,553.7	923.6	442,562.56	789,076.42	32° 12' 47.758 N	103° 23' 55.179 W
16,100.0	94.00	359.49	12,313.1	3,653.4	922.7	442,662.32	789,075.53	32° 12' 48.745 N	103° 23' 55.180 W
16,200.0	94.00	359.49	12,306.1	3,753.2	921.8	442,762.07	789,074.64	32° 12' 49.732 N	103° 23' 55.180 W
16,300.0	94.00	359.49	12,299.1	3,852.9	920.9	442,861.82	789,073.76	32° 12' 50.720 N	103° 23' 55.180 W
16,400.0	94.00	359.49	12,292.2	3,952.7	920.1	442,961.57	789,072.87	32° 12' 51.707 N	103° 23' 55.180 W
16,500.0	94.00	359.49	12,285.2	4,052.4	919.2	443,061.33	789,071.98	32° 12' 52.694 N	103° 23' 55.180 W
16,600.0	94.00	359.49	12,278.2	4,152.2	918.3	443,161.08	789,071.09	32° 12' 53.681 N	103° 23' 55.181 W
16,700.0	94.00	359.49	12,271.2	4,251.9	917.4	443,260.83	789,070.20	32° 12' 54.668 N	103° 23' 55.181 W
16,800.0	94.00	359.49	12,264.3	4,351.7	916.5	443,360.58	789,069.32	32° 12' 55.655 N	103° 23' 55.181 W
16,900.0	94.00	359.49	12,257.3	4,451.4	915.6	443,460.34	789,068.43	32° 12' 56.642 N	103° 23' 55.181 W
17,000.0	94.00	359.49	12,250.3	4,551.2	914.7	443,560.09	789,067.54	32° 12' 57.629 N	103° 23' 55.182 W
17,100.0	94.00	359.49	12,243.3	4,650.9	913.8	443,659.84	789,066.65	32° 12' 58.617 N	103° 23' 55.182 W
17,200.0	94.00	359.49	12,236.3	4,750.7	912.9	443,759.59	789,065.76	32° 12' 59.604 N	103° 23' 55.182 W

Marathon Oil

Survey Report - Geographic

Company:	USA	Local Co-ordinate Reference:	Well BLUEBERRY HILL FEE 24 35 19 WA 6H
Project:	NEW MEXICO	TVD Reference:	WELL @ 3363.5usft (Original Well Elev)
Site:	BLUEBERRY HILL FEE 24 35 19 PAD	MD Reference:	WELL @ 3363.5usft (Original Well Elev)
Well:	BLUEBERRY HILL FEE 24 35 19 WA 6H	North Reference:	Grid
Wellbore:	BLUEBERRY HILL FEE 24 35 19 WA 6H	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDMPROD

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
17,300.0	94.00	359.49	12,229.4	4,850.4	912.1	443,859.35	789,064.88	32° 13' 0.591 N	103° 23' 55.182 W
17,400.0	94.00	359.49	12,222.4	4,950.2	911.2	443,959.10	789,063.99	32° 13' 1.578 N	103° 23' 55.183 W
17,500.0	94.00	359.49	12,215.4	5,049.9	910.3	444,058.85	789,063.10	32° 13' 2.565 N	103° 23' 55.183 W
17,600.0	94.00	359.49	12,208.4	5,149.7	909.4	444,158.60	789,062.21	32° 13' 3.552 N	103° 23' 55.183 W
17,700.0	94.00	359.49	12,201.5	5,249.4	908.5	444,258.36	789,061.32	32° 13' 4.539 N	103° 23' 55.183 W
17,800.0	94.00	359.49	12,194.5	5,349.2	907.6	444,358.11	789,060.44	32° 13' 5.527 N	103° 23' 55.184 W
17,900.0	94.00	359.49	12,187.5	5,449.0	906.7	444,457.86	789,059.55	32° 13' 6.514 N	103° 23' 55.184 W
18,000.0	94.00	359.49	12,180.5	5,548.7	905.8	444,557.61	789,058.66	32° 13' 7.501 N	103° 23' 55.184 W
18,100.0	94.00	359.49	12,173.6	5,648.5	905.0	444,657.37	789,057.77	32° 13' 8.488 N	103° 23' 55.184 W
18,200.0	94.00	359.49	12,166.6	5,748.2	904.1	444,757.12	789,056.89	32° 13' 9.475 N	103° 23' 55.185 W
18,300.0	94.00	359.49	12,159.6	5,848.0	903.2	444,856.87	789,056.00	32° 13' 10.462 N	103° 23' 55.185 W
18,400.0	94.00	359.49	12,152.6	5,947.7	902.3	444,956.62	789,055.11	32° 13' 11.449 N	103° 23' 55.185 W
18,500.0	94.00	359.49	12,145.7	6,047.5	901.4	445,056.37	789,054.22	32° 13' 12.436 N	103° 23' 55.185 W
18,600.0	94.00	359.49	12,138.7	6,147.2	900.5	445,156.13	789,053.33	32° 13' 13.424 N	103° 23' 55.185 W
18,700.0	94.00	359.49	12,131.7	6,247.0	899.6	445,255.88	789,052.45	32° 13' 14.411 N	103° 23' 55.186 W
18,800.0	94.00	359.49	12,124.7	6,346.7	898.7	445,355.63	789,051.56	32° 13' 15.398 N	103° 23' 55.186 W
18,900.0	94.00	359.49	12,117.8	6,446.5	897.9	445,455.38	789,050.67	32° 13' 16.385 N	103° 23' 55.186 W
19,000.0	94.00	359.49	12,110.8	6,546.2	897.0	445,555.14	789,049.78	32° 13' 17.372 N	103° 23' 55.186 W
19,100.0	94.00	359.49	12,103.8	6,646.0	896.1	445,654.89	789,048.89	32° 13' 18.359 N	103° 23' 55.187 W
19,200.0	94.00	359.49	12,096.8	6,745.7	895.2	445,754.64	789,048.01	32° 13' 19.346 N	103° 23' 55.187 W
19,300.0	94.00	359.49	12,089.9	6,845.5	894.3	445,854.39	789,047.12	32° 13' 20.334 N	103° 23' 55.187 W
19,400.0	94.00	359.49	12,082.9	6,945.2	893.4	445,954.15	789,046.23	32° 13' 21.321 N	103° 23' 55.187 W
19,500.0	94.00	359.49	12,075.9	7,045.0	892.5	446,053.90	789,045.34	32° 13' 22.308 N	103° 23' 55.188 W
19,600.0	94.00	359.49	12,068.9	7,144.7	891.6	446,153.65	789,044.45	32° 13' 23.295 N	103° 23' 55.188 W
19,700.0	94.00	359.49	12,062.0	7,244.5	890.7	446,253.40	789,043.57	32° 13' 24.282 N	103° 23' 55.188 W
20,003.7	94.00	359.49	12,040.8	7,547.4	888.1	446,556.33	789,040.87	32° 13' 27.280 N	103° 23' 55.189 W

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,100.0	1,100.0	13 3/8"	13-3/8	17-1/2	
5,400.0	5,350.9	9 5/8"	9-5/8	12-1/4	
13,000.0	12,529.3	7"	7	8-3/4	
20,003.7	12,040.8	4 1/2"	4-1/2	6-1/8	

Checked By: _____ Approved By: _____ Date: _____