

USA

NEW MEXICO

BLUEBERRY HILL FEE 24 35 19 PAD

BLUEBERRY HILL FEE 24 35 19 WA 5H

BLUEBERRY HILL FEE 24 35 19 WA 5H

Plan: PLAN A

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 5H
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 5H	North Reference:	Grid
Wellbore:	BLUEBERRY HILL FEE 24 35 19 WA 5H	Survey Calculation Method:	Minimum Curvature
Design:	PLAN A	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 5H, WELL 1 OF 5					
Well Position	+N/-S	0.0 usft	Northing:	439,008.94 usft	Latitude:	32° 12' 12.682 N
	+E/-W	0.0 usft	Easting:	788,062.81 usft	Longitude:	103° 24' 7.335 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 5H				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	3/29/2018	6.79	60.06	47,864

Design		PLAN A			
Audit Notes:					
Version:		Phase:	PROTOTYPE		Tie On Depth: 0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	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	20,001.7	PLAN A (BLUEBERRY HILL FEE 24 35 19	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	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W	
100.0	0.00	0.00	100.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W	
200.0	0.00	0.00	200.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W	
300.0	0.00	0.00	300.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W	
400.0	0.00	0.00	400.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W	
500.0	0.00	0.00	500.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W	
600.0	0.00	0.00	600.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W	
700.0	0.00	0.00	700.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W	
800.0	0.00	0.00	800.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W	
900.0	0.00	0.00	900.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W	

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Well:	BLUEBERRY HILL FEE 24 35 19 WA 5H	North Reference:	Grid
Wellbore:	BLUEBERRY HILL FEE 24 35 19 WA 5H	Survey Calculation Method:	Minimum Curvature
Design:	PLAN A	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	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
1,300.0	0.00	0.00	1,300.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
1,400.0	0.00	0.00	1,400.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
1,500.0	0.00	0.00	1,500.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
1,600.0	0.00	0.00	1,600.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
1,700.0	0.00	0.00	1,700.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
1,800.0	0.00	0.00	1,800.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
1,900.0	0.00	0.00	1,900.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
2,000.0	0.00	0.00	2,000.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
2,100.0	0.00	0.00	2,100.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
2,200.0	0.00	0.00	2,200.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
2,300.0	0.00	0.00	2,300.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
2,400.0	0.00	0.00	2,400.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
2,500.0	0.00	0.00	2,500.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
2,600.0	0.00	0.00	2,600.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
2,700.0	0.00	0.00	2,700.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
2,800.0	0.00	0.00	2,800.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
2,900.0	0.00	0.00	2,900.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
3,000.0	0.00	0.00	3,000.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
3,100.0	0.00	0.00	3,100.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
3,200.0	0.00	0.00	3,200.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
3,300.0	0.00	0.00	3,300.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
3,400.0	0.00	0.00	3,400.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
3,500.0	0.00	0.00	3,500.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
3,600.0	0.00	0.00	3,600.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
3,700.0	0.00	0.00	3,700.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
3,800.0	0.00	0.00	3,800.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
3,900.0	0.00	0.00	3,900.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
4,000.0	0.00	0.00	4,000.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
4,100.0	0.00	0.00	4,100.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
4,200.0	0.00	0.00	4,200.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
4,300.0	0.00	0.00	4,300.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
4,400.0	0.00	0.00	4,400.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
4,500.0	0.00	0.00	4,500.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
4,600.0	0.00	0.00	4,600.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
4,700.0	0.00	0.00	4,700.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
4,800.0	0.00	0.00	4,800.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
4,900.0	0.00	0.00	4,900.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
5,000.0	0.00	0.00	5,000.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
5,100.0	0.00	0.00	5,100.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
5,200.0	0.00	0.00	5,200.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
5,300.0	0.00	0.00	5,300.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
5,400.0	0.00	0.00	5,400.0	0.0	0.0	439,008.94	788,062.81	32° 12' 12.682 N	103° 24' 7.335 W
5,500.0	0.75	264.49	5,500.0	-0.1	-0.7	439,008.88	788,062.16	32° 12' 12.681 N	103° 24' 7.342 W
5,600.0	1.50	264.49	5,600.0	-0.3	-2.6	439,008.69	788,060.20	32° 12' 12.679 N	103° 24' 7.365 W
5,700.0	2.25	264.49	5,699.9	-0.6	-5.9	439,008.37	788,056.95	32° 12' 12.677 N	103° 24' 7.403 W
5,800.0	3.00	264.49	5,799.8	-1.0	-10.4	439,007.93	788,052.39	32° 12' 12.673 N	103° 24' 7.456 W
5,900.0	3.75	264.49	5,899.6	-1.6	-16.3	439,007.37	788,046.53	32° 12' 12.668 N	103° 24' 7.524 W
6,000.0	4.50	264.49	5,999.4	-2.3	-23.4	439,006.68	788,039.37	32° 12' 12.661 N	103° 24' 7.608 W
6,100.0	5.25	264.49	6,099.0	-3.1	-31.9	439,005.86	788,030.91	32° 12' 12.654 N	103° 24' 7.706 W
6,200.0	6.00	264.49	6,198.5	-4.0	-41.7	439,004.92	788,021.15	32° 12' 12.646 N	103° 24' 7.820 W
6,300.0	6.75	264.49	6,297.9	-5.1	-52.7	439,003.86	788,010.10	32° 12' 12.636 N	103° 24' 7.949 W
6,400.0	7.50	264.49	6,397.1	-6.3	-65.1	439,002.66	787,997.75	32° 12' 12.625 N	103° 24' 8.092 W
6,500.0	8.25	264.49	6,496.2	-7.6	-78.7	439,001.35	787,984.12	32° 12' 12.613 N	103° 24' 8.251 W
6,600.0	9.00	264.49	6,595.1	-9.0	-93.6	438,999.91	787,969.19	32° 12' 12.600 N	103° 24' 8.425 W

Marathon Oil

Survey Report - Geographic

Company:	USA	Local Co-ordinate Reference:	Well BLUEBERRY HILL FEE 24 35 19 WA 5H
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 5H	North Reference:	Grid
Wellbore:	BLUEBERRY HILL FEE 24 35 19 WA 5H	Survey Calculation Method:	Minimum Curvature
Design:	PLAN A	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	9.75	264.49	6,693.7	-10.6	-109.8	438,998.34	787,952.97	32° 12' 12.586 N	103° 24' 8.614 W
6,733.3	10.00	264.49	6,726.6	-11.1	-115.5	438,997.80	787,947.28	32° 12' 12.581 N	103° 24' 8.680 W
6,800.0	10.00	264.49	6,792.2	-12.3	-127.0	438,996.68	787,935.76	32° 12' 12.571 N	103° 24' 8.814 W
6,900.0	10.00	264.49	6,890.7	-13.9	-144.3	438,995.02	787,918.48	32° 12' 12.556 N	103° 24' 9.016 W
7,000.0	10.00	264.49	6,989.2	-15.6	-161.6	438,993.35	787,901.19	32° 12' 12.541 N	103° 24' 9.217 W
7,100.0	10.00	264.49	7,087.7	-17.3	-178.9	438,991.68	787,883.91	32° 12' 12.526 N	103° 24' 9.418 W
7,200.0	10.00	264.49	7,186.2	-18.9	-196.2	438,990.01	787,866.62	32° 12' 12.511 N	103° 24' 9.620 W
7,300.0	10.00	264.49	7,284.6	-20.6	-213.5	438,988.35	787,849.34	32° 12' 12.496 N	103° 24' 9.821 W
7,400.0	10.00	264.49	7,383.1	-22.3	-230.8	438,986.68	787,832.05	32° 12' 12.481 N	103° 24' 10.022 W
7,500.0	10.00	264.49	7,481.6	-23.9	-248.0	438,985.01	787,814.77	32° 12' 12.466 N	103° 24' 10.224 W
7,600.0	10.00	264.49	7,580.1	-25.6	-265.3	438,983.34	787,797.48	32° 12' 12.451 N	103° 24' 10.425 W
7,700.0	10.00	264.49	7,678.6	-27.3	-282.6	438,981.68	787,780.20	32° 12' 12.436 N	103° 24' 10.626 W
7,800.0	10.00	264.49	7,777.0	-28.9	-299.9	438,980.01	787,762.91	32° 12' 12.421 N	103° 24' 10.828 W
7,900.0	10.00	264.49	7,875.5	-30.6	-317.2	438,978.34	787,745.63	32° 12' 12.406 N	103° 24' 11.029 W
8,000.0	10.00	264.49	7,974.0	-32.3	-334.5	438,976.67	787,728.35	32° 12' 12.391 N	103° 24' 11.230 W
8,100.0	10.00	264.49	8,072.5	-33.9	-351.7	438,975.01	787,711.06	32° 12' 12.376 N	103° 24' 11.431 W
8,200.0	10.00	264.49	8,171.0	-35.6	-369.0	438,973.34	787,693.78	32° 12' 12.361 N	103° 24' 11.633 W
8,300.0	10.00	264.49	8,269.4	-37.3	-386.3	438,971.67	787,676.49	32° 12' 12.346 N	103° 24' 11.834 W
8,400.0	10.00	264.49	8,367.9	-38.9	-403.6	438,970.00	787,659.21	32° 12' 12.331 N	103° 24' 12.035 W
8,500.0	10.00	264.49	8,466.4	-40.6	-420.9	438,968.34	787,641.92	32° 12' 12.316 N	103° 24' 12.237 W
8,600.0	10.00	264.49	8,564.9	-42.3	-438.2	438,966.67	787,624.64	32° 12' 12.301 N	103° 24' 12.438 W
8,700.0	10.00	264.49	8,663.4	-43.9	-455.5	438,965.00	787,607.35	32° 12' 12.286 N	103° 24' 12.639 W
8,800.0	10.00	264.49	8,761.8	-45.6	-472.7	438,963.33	787,590.07	32° 12' 12.271 N	103° 24' 12.841 W
8,900.0	10.00	264.49	8,860.3	-47.3	-490.0	438,961.67	787,572.78	32° 12' 12.256 N	103° 24' 13.042 W
9,000.0	10.00	264.49	8,958.8	-48.9	-507.3	438,960.00	787,555.50	32° 12' 12.241 N	103° 24' 13.243 W
9,100.0	10.00	264.49	9,057.3	-50.6	-524.6	438,958.33	787,538.22	32° 12' 12.226 N	103° 24' 13.445 W
9,200.0	10.00	264.49	9,155.8	-52.3	-541.9	438,956.67	787,520.93	32° 12' 12.211 N	103° 24' 13.646 W
9,300.0	10.00	264.49	9,254.2	-53.9	-559.2	438,955.00	787,503.65	32° 12' 12.196 N	103° 24' 13.847 W
9,400.0	10.00	264.49	9,352.7	-55.6	-576.4	438,953.33	787,486.36	32° 12' 12.181 N	103° 24' 14.049 W
9,500.0	10.00	264.49	9,451.2	-57.3	-593.7	438,951.66	787,469.08	32° 12' 12.166 N	103° 24' 14.250 W
9,600.0	10.00	264.49	9,549.7	-58.9	-611.0	438,950.00	787,451.79	32° 12' 12.151 N	103° 24' 14.451 W
9,700.0	10.00	264.49	9,648.2	-60.6	-628.3	438,948.33	787,434.51	32° 12' 12.136 N	103° 24' 14.652 W
9,800.0	10.00	264.49	9,746.7	-62.3	-645.6	438,946.66	787,417.22	32° 12' 12.121 N	103° 24' 14.854 W
9,900.0	10.00	264.49	9,845.1	-63.9	-662.9	438,944.99	787,399.94	32° 12' 12.106 N	103° 24' 15.055 W
10,000.0	10.00	264.49	9,943.6	-65.6	-680.2	438,943.33	787,382.65	32° 12' 12.091 N	103° 24' 15.256 W
10,100.0	10.00	264.49	10,042.1	-67.3	-697.4	438,941.66	787,365.37	32° 12' 12.076 N	103° 24' 15.458 W
10,200.0	10.00	264.49	10,140.6	-68.9	-714.7	438,939.99	787,348.09	32° 12' 12.061 N	103° 24' 15.659 W
10,300.0	10.00	264.49	10,239.1	-70.6	-732.0	438,938.32	787,330.80	32° 12' 12.046 N	103° 24' 15.860 W
10,400.0	10.00	264.49	10,337.5	-72.3	-749.3	438,936.66	787,313.52	32° 12' 12.031 N	103° 24' 16.062 W
10,500.0	10.00	264.49	10,436.0	-74.0	-766.6	438,934.99	787,296.23	32° 12' 12.016 N	103° 24' 16.263 W
10,600.0	10.00	264.49	10,534.5	-75.6	-783.9	438,933.32	787,278.95	32° 12' 12.001 N	103° 24' 16.464 W
10,700.0	10.00	264.49	10,633.0	-77.3	-801.1	438,931.65	787,261.66	32° 12' 11.986 N	103° 24' 16.666 W
10,800.0	10.00	264.49	10,731.5	-79.0	-818.4	438,929.99	787,244.38	32° 12' 11.971 N	103° 24' 16.867 W
10,900.0	10.00	264.49	10,829.9	-80.6	-835.7	438,928.32	787,227.09	32° 12' 11.956 N	103° 24' 17.068 W
10,997.8	10.00	264.49	10,926.2	-82.3	-852.6	438,926.65	787,210.19	32° 12' 11.941 N	103° 24' 17.265 W
11,000.0	9.98	264.49	10,928.4	-82.3	-853.0	438,926.65	787,209.81	32° 12' 11.940 N	103° 24' 17.270 W
11,100.0	8.98	264.49	11,027.1	-83.9	-869.4	438,925.07	787,193.42	32° 12' 11.926 N	103° 24' 17.460 W
11,200.0	7.98	264.49	11,126.0	-85.3	-884.1	438,923.65	787,178.74	32° 12' 11.913 N	103° 24' 17.631 W
11,300.0	6.98	264.49	11,225.1	-86.5	-897.0	438,922.40	787,165.79	32° 12' 11.902 N	103° 24' 17.782 W
11,400.0	5.98	264.49	11,324.5	-87.6	-908.2	438,921.32	787,154.56	32° 12' 11.892 N	103° 24' 17.913 W
11,500.0	4.98	264.49	11,424.0	-88.5	-917.7	438,920.40	787,145.06	32° 12' 11.884 N	103° 24' 18.024 W
11,600.0	3.98	264.49	11,523.7	-89.3	-925.5	438,919.66	787,137.29	32° 12' 11.877 N	103° 24' 18.114 W
11,700.0	2.98	264.49	11,623.5	-89.9	-931.6	438,919.07	787,131.25	32° 12' 11.872 N	103° 24' 18.185 W
11,800.0	1.98	264.49	11,723.4	-90.3	-935.9	438,918.66	787,126.95	32° 12' 11.868 N	103° 24' 18.235 W
11,900.0	0.98	264.49	11,823.4	-90.5	-938.4	438,918.41	787,124.38	32° 12' 11.866 N	103° 24' 18.265 W

Marathon Oil

Survey Report - Geographic

Company:	USA	Local Co-ordinate Reference:	Well BLUEBERRY HILL FEE 24 35 19 WA 5H
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 5H	North Reference:	Grid
Wellbore:	BLUEBERRY HILL FEE 24 35 19 WA 5H	Survey Calculation Method:	Minimum Curvature
Design:	PLAN A	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
11,997.8	0.00	0.00	11,921.2	-90.6	-939.3	438,918.33	787,123.55	32° 12' 11.866 N	103° 24' 18.274 W
12,000.0	0.00	0.00	11,923.4	-90.6	-939.3	438,918.33	787,123.55	32° 12' 11.866 N	103° 24' 18.274 W
12,035.9	0.00	0.00	11,959.3	-90.6	-939.3	438,918.33	787,123.55	32° 12' 11.866 N	103° 24' 18.274 W
12,100.0	6.41	359.49	12,023.3	-87.0	-939.3	438,921.91	787,123.52	32° 12' 11.901 N	103° 24' 18.274 W
12,200.0	16.41	359.49	12,121.2	-67.3	-939.5	438,941.67	787,123.34	32° 12' 12.096 N	103° 24' 18.274 W
12,300.0	26.41	359.49	12,214.1	-30.8	-939.8	438,978.12	787,123.02	32° 12' 12.457 N	103° 24' 18.274 W
12,400.0	36.41	359.49	12,299.4	21.2	-940.3	439,030.17	787,122.55	32° 12' 12.972 N	103° 24' 18.275 W
12,500.0	46.41	359.49	12,374.3	87.3	-940.8	439,096.23	787,121.96	32° 12' 13.626 N	103° 24' 18.275 W
12,600.0	56.41	359.49	12,436.6	165.3	-941.5	439,174.29	787,121.27	32° 12' 14.398 N	103° 24' 18.275 W
12,700.0	66.41	359.49	12,484.4	253.0	-942.3	439,261.98	787,120.49	32° 12' 15.266 N	103° 24' 18.275 W
12,800.0	76.41	359.49	12,516.2	347.7	-943.2	439,356.64	787,119.65	32° 12' 16.203 N	103° 24' 18.276 W
12,900.0	86.41	359.49	12,531.1	446.4	-944.0	439,455.38	787,118.77	32° 12' 17.180 N	103° 24' 18.276 W
12,975.9	94.00	359.49	12,530.9	522.3	-944.7	439,531.23	787,118.09	32° 12' 17.931 N	103° 24' 18.276 W
13,000.0	94.00	359.49	12,529.2	546.3	-944.9	439,555.27	787,117.88	32° 12' 18.169 N	103° 24' 18.276 W
13,100.0	94.00	359.49	12,522.2	646.1	-945.8	439,655.02	787,116.99	32° 12' 19.156 N	103° 24' 18.277 W
13,200.0	94.00	359.49	12,515.2	745.8	-946.7	439,754.77	787,116.10	32° 12' 20.143 N	103° 24' 18.277 W
13,300.0	94.00	359.49	12,508.2	845.6	-947.6	439,854.52	787,115.21	32° 12' 21.130 N	103° 24' 18.277 W
13,400.0	94.00	359.49	12,501.3	945.3	-948.5	439,954.28	787,114.33	32° 12' 22.117 N	103° 24' 18.277 W
13,500.0	94.00	359.49	12,494.3	1,045.1	-949.4	440,054.03	787,113.44	32° 12' 23.104 N	103° 24' 18.278 W
13,600.0	94.00	359.49	12,487.3	1,144.8	-950.3	440,153.78	787,112.55	32° 12' 24.091 N	103° 24' 18.278 W
13,700.0	94.00	359.49	12,480.3	1,244.6	-951.1	440,253.53	787,111.66	32° 12' 25.079 N	103° 24' 18.278 W
13,800.0	94.00	359.49	12,473.4	1,344.3	-952.0	440,353.29	787,110.77	32° 12' 26.066 N	103° 24' 18.279 W
13,900.0	94.00	359.49	12,466.4	1,444.1	-952.9	440,453.04	787,109.89	32° 12' 27.053 N	103° 24' 18.279 W
14,000.0	94.00	359.49	12,459.4	1,543.9	-953.8	440,552.79	787,109.00	32° 12' 28.040 N	103° 24' 18.279 W
14,100.0	94.00	359.49	12,452.4	1,643.6	-954.7	440,652.54	787,108.11	32° 12' 29.027 N	103° 24' 18.280 W
14,200.0	94.00	359.49	12,445.5	1,743.4	-955.6	440,752.30	787,107.22	32° 12' 30.014 N	103° 24' 18.280 W
14,300.0	94.00	359.49	12,438.5	1,843.1	-956.5	440,852.05	787,106.33	32° 12' 31.001 N	103° 24' 18.280 W
14,400.0	94.00	359.49	12,431.5	1,942.9	-957.4	440,951.80	787,105.45	32° 12' 31.988 N	103° 24' 18.281 W
14,500.0	94.00	359.49	12,424.5	2,042.6	-958.2	441,051.55	787,104.56	32° 12' 32.976 N	103° 24' 18.281 W
14,600.0	94.00	359.49	12,417.6	2,142.4	-959.1	441,151.31	787,103.67	32° 12' 33.963 N	103° 24' 18.281 W
14,700.0	94.00	359.49	12,410.6	2,242.1	-960.0	441,251.06	787,102.78	32° 12' 34.950 N	103° 24' 18.281 W
14,800.0	94.00	359.49	12,403.6	2,341.9	-960.9	441,350.81	787,101.90	32° 12' 35.937 N	103° 24' 18.282 W
14,900.0	94.00	359.49	12,396.6	2,441.6	-961.8	441,450.56	787,101.01	32° 12' 36.924 N	103° 24' 18.282 W
15,000.0	94.00	359.49	12,389.7	2,541.4	-962.7	441,550.32	787,100.12	32° 12' 37.911 N	103° 24' 18.282 W
15,100.0	94.00	359.49	12,382.7	2,641.1	-963.6	441,650.07	787,099.23	32° 12' 38.898 N	103° 24' 18.283 W
15,200.0	94.00	359.49	12,375.7	2,740.9	-964.5	441,749.82	787,098.34	32° 12' 39.886 N	103° 24' 18.283 W
15,300.0	94.00	359.49	12,368.7	2,840.6	-965.4	441,849.57	787,097.46	32° 12' 40.873 N	103° 24' 18.283 W
15,400.0	94.00	359.49	12,361.8	2,940.4	-966.2	441,949.33	787,096.57	32° 12' 41.860 N	103° 24' 18.284 W
15,500.0	94.00	359.49	12,354.8	3,040.1	-967.1	442,049.08	787,095.68	32° 12' 42.847 N	103° 24' 18.284 W
15,600.0	94.00	359.49	12,347.8	3,139.9	-968.0	442,148.83	787,094.79	32° 12' 43.834 N	103° 24' 18.284 W
15,700.0	94.00	359.49	12,340.8	3,239.6	-968.9	442,248.58	787,093.90	32° 12' 44.821 N	103° 24' 18.285 W
15,800.0	94.00	359.49	12,333.9	3,339.4	-969.8	442,348.34	787,093.02	32° 12' 45.808 N	103° 24' 18.285 W
15,900.0	94.00	359.49	12,326.9	3,439.1	-970.7	442,448.09	787,092.13	32° 12' 46.796 N	103° 24' 18.285 W
16,000.0	94.00	359.49	12,319.9	3,538.9	-971.6	442,547.84	787,091.24	32° 12' 47.783 N	103° 24' 18.285 W
16,100.0	94.00	359.49	12,312.9	3,638.7	-972.5	442,647.59	787,090.35	32° 12' 48.770 N	103° 24' 18.286 W
16,200.0	94.00	359.49	12,306.0	3,738.4	-973.3	442,747.34	787,089.46	32° 12' 49.757 N	103° 24' 18.286 W
16,300.0	94.00	359.49	12,299.0	3,838.2	-974.2	442,847.10	787,088.58	32° 12' 50.744 N	103° 24' 18.286 W
16,400.0	94.00	359.49	12,292.0	3,937.9	-975.1	442,946.85	787,087.69	32° 12' 51.731 N	103° 24' 18.287 W
16,500.0	94.00	359.49	12,285.0	4,037.7	-976.0	443,046.60	787,086.80	32° 12' 52.718 N	103° 24' 18.287 W
16,600.0	94.00	359.49	12,278.0	4,137.4	-976.9	443,146.35	787,085.91	32° 12' 53.705 N	103° 24' 18.287 W
16,700.0	94.00	359.49	12,271.1	4,237.2	-977.8	443,246.11	787,085.02	32° 12' 54.693 N	103° 24' 18.288 W
16,800.0	94.00	359.49	12,264.1	4,336.9	-978.7	443,345.86	787,084.14	32° 12' 55.680 N	103° 24' 18.288 W
16,900.0	94.00	359.49	12,257.1	4,436.7	-979.6	443,445.61	787,083.25	32° 12' 56.667 N	103° 24' 18.288 W
17,000.0	94.00	359.49	12,250.1	4,536.4	-980.4	443,545.36	787,082.36	32° 12' 57.654 N	103° 24' 18.289 W
17,100.0	94.00	359.49	12,243.2	4,636.2	-981.3	443,645.12	787,081.47	32° 12' 58.641 N	103° 24' 18.289 W

Marathon Oil

Survey Report - Geographic

Company:	USA	Local Co-ordinate Reference:	Well BLUEBERRY HILL FEE 24 35 19 WA 5H
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 5H	North Reference:	Grid
Wellbore:	BLUEBERRY HILL FEE 24 35 19 WA 5H	Survey Calculation Method:	Minimum Curvature
Design:	PLAN A	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
17,200.0	94.00	359.49	12,236.2	4,735.9	-982.2	443,744.87	787,080.58	32° 12' 59.628 N	103° 24' 18.289 W
17,300.0	94.00	359.49	12,229.2	4,835.7	-983.1	443,844.62	787,079.70	32° 13' 0.615 N	103° 24' 18.289 W
17,400.0	94.00	359.49	12,222.2	4,935.4	-984.0	443,944.37	787,078.81	32° 13' 1.603 N	103° 24' 18.290 W
17,500.0	94.00	359.49	12,215.3	5,035.2	-984.9	444,044.13	787,077.92	32° 13' 2.590 N	103° 24' 18.290 W
17,600.0	94.00	359.49	12,208.3	5,134.9	-985.8	444,143.88	787,077.03	32° 13' 3.577 N	103° 24' 18.290 W
17,700.0	94.00	359.49	12,201.3	5,234.7	-986.7	444,243.63	787,076.14	32° 13' 4.564 N	103° 24' 18.291 W
17,800.0	94.00	359.49	12,194.3	5,334.4	-987.6	444,343.38	787,075.26	32° 13' 5.551 N	103° 24' 18.291 W
17,900.0	94.00	359.49	12,187.4	5,434.2	-988.4	444,443.14	787,074.37	32° 13' 6.538 N	103° 24' 18.291 W
18,000.0	94.00	359.49	12,180.4	5,533.9	-989.3	444,542.89	787,073.48	32° 13' 7.525 N	103° 24' 18.292 W
18,100.0	94.00	359.49	12,173.4	5,633.7	-990.2	444,642.64	787,072.59	32° 13' 8.513 N	103° 24' 18.292 W
18,200.0	94.00	359.49	12,166.4	5,733.5	-991.1	444,742.39	787,071.71	32° 13' 9.500 N	103° 24' 18.292 W
18,300.0	94.00	359.49	12,159.5	5,833.2	-992.0	444,842.15	787,070.82	32° 13' 10.487 N	103° 24' 18.293 W
18,400.0	94.00	359.49	12,152.5	5,933.0	-992.9	444,941.90	787,069.93	32° 13' 11.474 N	103° 24' 18.293 W
18,500.0	94.00	359.49	12,145.5	6,032.7	-993.8	445,041.65	787,069.04	32° 13' 12.461 N	103° 24' 18.293 W
18,600.0	94.00	359.49	12,138.5	6,132.5	-994.7	445,141.40	787,068.15	32° 13' 13.448 N	103° 24' 18.293 W
18,700.0	94.00	359.49	12,131.6	6,232.2	-995.5	445,241.16	787,067.27	32° 13' 14.435 N	103° 24' 18.294 W
18,800.0	94.00	359.49	12,124.6	6,332.0	-996.4	445,340.91	787,066.38	32° 13' 15.422 N	103° 24' 18.294 W
18,900.0	94.00	359.49	12,117.6	6,431.7	-997.3	445,440.66	787,065.49	32° 13' 16.410 N	103° 24' 18.294 W
19,000.0	94.00	359.49	12,110.6	6,531.5	-998.2	445,540.41	787,064.60	32° 13' 17.397 N	103° 24' 18.295 W
19,100.0	94.00	359.49	12,103.7	6,631.2	-999.1	445,640.17	787,063.71	32° 13' 18.384 N	103° 24' 18.295 W
19,200.0	94.00	359.49	12,096.7	6,731.0	-1,000.0	445,739.92	787,062.83	32° 13' 19.371 N	103° 24' 18.295 W
19,300.0	94.00	359.49	12,089.7	6,830.7	-1,000.9	445,839.67	787,061.94	32° 13' 20.358 N	103° 24' 18.296 W
19,400.0	94.00	359.49	12,082.7	6,930.5	-1,001.8	445,939.42	787,061.05	32° 13' 21.345 N	103° 24' 18.296 W
19,500.0	94.00	359.49	12,075.8	7,030.2	-1,002.6	446,039.18	787,060.16	32° 13' 22.332 N	103° 24' 18.296 W
19,600.0	94.00	359.49	12,068.8	7,130.0	-1,003.5	446,138.93	787,059.27	32° 13' 23.320 N	103° 24' 18.296 W
19,700.0	94.00	359.49	12,061.8	7,229.7	-1,004.4	446,238.68	787,058.39	32° 13' 24.307 N	103° 24' 18.297 W
20,001.7	94.00	359.49	12,040.8	7,530.7	-1,007.1	446,539.68	787,055.71	32° 13' 27.285 N	103° 24' 18.298 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	5,400.0	9 5/8"	9-5/8	12-1/4	
13,000.0	12,529.2	7"	7	8-3/4	
20,001.8	12,040.8	4 1/2"	4-1/2	6-1/8	

Checked By: _____ Approved By: _____ Date: _____