

USA

NEW MEXICO

BLUEBERRY HILL FEE 24 35 19 PAD

BLUEBERRY HILL FEE 24 35 19 TB 3H

BLUEBERRY HILL FEE 24 35 19 TB 3H

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 TB 3H
Project:	NEW MEXICO	TVD Reference:	WELL @ 3364.5usft (Original Well Elev)
Site:	BLUEBERRY HILL FEE 24 35 19 PAD	MD Reference:	WELL @ 3364.5usft (Original Well Elev)
Well:	BLUEBERRY HILL FEE 24 35 19 TB 3H	North Reference:	Grid
Wellbore:	BLUEBERRY HILL FEE 24 35 19 TB 3H	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 TB 3H, WELL 2 OF 5			
Well Position	+N/-S	0.0 usft	Northing:	439,008.94 usft
	+E/-W	0.0 usft	Easting:	788,092.81 usft
Position Uncertainty	1.1 usft		Wellhead Elevation:	0.0 usft
			Ground Level:	3,338.0 usft

Wellbore	BLUEBERRY HILL FEE 24 35 19 TB 3H				
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	19,758.4	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	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W	
100.0	0.00	0.00	100.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W	
200.0	0.00	0.00	200.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W	
300.0	0.00	0.00	300.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W	
400.0	0.00	0.00	400.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W	
500.0	0.00	0.00	500.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W	
600.0	0.00	0.00	600.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W	
700.0	0.00	0.00	700.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W	
800.0	0.00	0.00	800.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W	
900.0	0.00	0.00	900.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W	

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Site:	BLUEBERRY HILL FEE 24 35 19 PAD	MD Reference:	WELL @ 3364.5usft (Original Well Elev)
Well:	BLUEBERRY HILL FEE 24 35 19 TB 3H	North Reference:	Grid
Wellbore:	BLUEBERRY HILL FEE 24 35 19 TB 3H	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	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
1,300.0	0.00	0.00	1,300.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
1,400.0	0.00	0.00	1,400.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
1,500.0	0.00	0.00	1,500.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
1,600.0	0.00	0.00	1,600.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
1,700.0	0.00	0.00	1,700.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
1,800.0	0.00	0.00	1,800.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
1,900.0	0.00	0.00	1,900.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
2,000.0	0.00	0.00	2,000.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
2,100.0	0.00	0.00	2,100.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
2,200.0	0.00	0.00	2,200.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
2,300.0	0.00	0.00	2,300.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
2,400.0	0.00	0.00	2,400.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
2,500.0	0.00	0.00	2,500.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
2,600.0	0.00	0.00	2,600.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
2,700.0	0.00	0.00	2,700.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
2,800.0	0.00	0.00	2,800.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
2,900.0	0.00	0.00	2,900.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
3,000.0	0.00	0.00	3,000.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
3,100.0	0.00	0.00	3,100.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
3,200.0	0.00	0.00	3,200.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
3,300.0	0.00	0.00	3,300.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
3,400.0	0.00	0.00	3,400.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
3,500.0	0.00	0.00	3,500.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
3,600.0	0.00	0.00	3,600.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
3,700.0	0.00	0.00	3,700.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
3,800.0	0.00	0.00	3,800.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
3,900.0	0.00	0.00	3,900.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
4,000.0	0.00	0.00	4,000.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
4,100.0	0.00	0.00	4,100.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
4,200.0	0.00	0.00	4,200.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
4,300.0	0.00	0.00	4,300.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
4,400.0	0.00	0.00	4,400.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
4,500.0	0.00	0.00	4,500.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
4,600.0	0.00	0.00	4,600.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
4,700.0	0.00	0.00	4,700.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
4,800.0	0.00	0.00	4,800.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
4,900.0	0.00	0.00	4,900.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
5,000.0	0.00	0.00	5,000.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
5,100.0	0.00	0.00	5,100.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
5,200.0	0.00	0.00	5,200.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
5,300.0	0.00	0.00	5,300.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
5,400.0	0.00	0.00	5,400.0	0.0	0.0	439,008.94	788,092.81	32° 12' 12.679 N	103° 24' 6.986 W
5,500.0	1.00	264.66	5,500.0	-0.1	-0.9	439,008.86	788,091.94	32° 12' 12.678 N	103° 24' 6.996 W
5,600.0	2.00	264.66	5,600.0	-0.3	-3.5	439,008.61	788,089.33	32° 12' 12.676 N	103° 24' 7.026 W
5,700.0	3.00	264.66	5,699.9	-0.7	-7.8	439,008.21	788,084.99	32° 12' 12.673 N	103° 24' 7.077 W
5,800.0	4.00	264.66	5,799.7	-1.3	-13.9	439,007.64	788,078.91	32° 12' 12.667 N	103° 24' 7.147 W
5,900.0	5.00	264.66	5,899.4	-2.0	-21.7	439,006.91	788,071.10	32° 12' 12.661 N	103° 24' 7.238 W
6,000.0	6.00	264.66	5,998.9	-2.9	-31.3	439,006.02	788,061.56	32° 12' 12.653 N	103° 24' 7.350 W
6,100.0	7.00	264.66	6,098.3	-4.0	-42.5	439,004.96	788,050.29	32° 12' 12.643 N	103° 24' 7.481 W
6,200.0	8.00	264.66	6,197.4	-5.2	-55.5	439,003.75	788,037.29	32° 12' 12.633 N	103° 24' 7.632 W
6,300.0	9.00	264.66	6,296.3	-6.6	-70.2	439,002.37	788,022.57	32° 12' 12.620 N	103° 24' 7.804 W
6,400.0	10.00	264.66	6,394.9	-8.1	-86.7	439,000.84	788,006.14	32° 12' 12.606 N	103° 24' 7.995 W
6,500.0	10.00	264.66	6,493.4	-9.7	-104.0	438,999.22	787,988.85	32° 12' 12.592 N	103° 24' 8.196 W
6,600.0	10.00	264.66	6,591.9	-11.3	-121.2	438,997.61	787,971.56	32° 12' 12.577 N	103° 24' 8.398 W

Marathon Oil

Survey Report - Geographic

Company:	USA	Local Co-ordinate Reference:	Well BLUEBERRY HILL FEE 24 35 19 TB 3H
Project:	NEW MEXICO	TVD Reference:	WELL @ 3364.5usft (Original Well Elev)
Site:	BLUEBERRY HILL FEE 24 35 19 PAD	MD Reference:	WELL @ 3364.5usft (Original Well Elev)
Well:	BLUEBERRY HILL FEE 24 35 19 TB 3H	North Reference:	Grid
Wellbore:	BLUEBERRY HILL FEE 24 35 19 TB 3H	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	10.00	264.66	6,690.4	-13.0	-138.5	438,995.99	787,954.27	32° 12' 12.563 N	103° 24' 8.599 W
6,800.0	10.00	264.66	6,788.9	-14.6	-155.8	438,994.37	787,936.98	32° 12' 12.548 N	103° 24' 8.800 W
6,900.0	10.00	264.66	6,887.3	-16.2	-173.1	438,992.76	787,919.69	32° 12' 12.534 N	103° 24' 9.002 W
7,000.0	10.00	264.66	6,985.8	-17.8	-190.4	438,991.14	787,902.40	32° 12' 12.519 N	103° 24' 9.203 W
7,100.0	10.00	264.66	7,084.3	-19.4	-207.7	438,989.52	787,885.11	32° 12' 12.505 N	103° 24' 9.404 W
7,200.0	10.00	264.66	7,182.8	-21.0	-225.0	438,987.91	787,867.82	32° 12' 12.490 N	103° 24' 9.606 W
7,300.0	10.00	264.66	7,281.3	-22.6	-242.3	438,986.29	787,850.54	32° 12' 12.476 N	103° 24' 9.807 W
7,400.0	10.00	264.66	7,379.7	-24.3	-259.6	438,984.68	787,833.25	32° 12' 12.461 N	103° 24' 10.009 W
7,500.0	10.00	264.66	7,478.2	-25.9	-276.9	438,983.06	787,815.96	32° 12' 12.447 N	103° 24' 10.210 W
7,600.0	10.00	264.66	7,576.7	-27.5	-294.1	438,981.44	787,798.67	32° 12' 12.432 N	103° 24' 10.411 W
7,700.0	10.00	264.66	7,675.2	-29.1	-311.4	438,979.83	787,781.38	32° 12' 12.418 N	103° 24' 10.613 W
7,800.0	10.00	264.66	7,773.7	-30.7	-328.7	438,978.21	787,764.09	32° 12' 12.403 N	103° 24' 10.814 W
7,900.0	10.00	264.66	7,872.1	-32.3	-346.0	438,976.59	787,746.80	32° 12' 12.389 N	103° 24' 11.015 W
8,000.0	10.00	264.66	7,970.6	-34.0	-363.3	438,974.98	787,729.51	32° 12' 12.374 N	103° 24' 11.217 W
8,100.0	10.00	264.66	8,069.1	-35.6	-380.6	438,973.36	787,712.22	32° 12' 12.360 N	103° 24' 11.418 W
8,200.0	10.00	264.66	8,167.6	-37.2	-397.9	438,971.74	787,694.93	32° 12' 12.345 N	103° 24' 11.620 W
8,300.0	10.00	264.66	8,266.1	-38.8	-415.2	438,970.13	787,677.64	32° 12' 12.331 N	103° 24' 11.821 W
8,400.0	10.00	264.66	8,364.5	-40.4	-432.5	438,968.51	787,660.35	32° 12' 12.316 N	103° 24' 12.022 W
8,500.0	10.00	264.66	8,463.0	-42.0	-449.7	438,966.90	787,643.06	32° 12' 12.302 N	103° 24' 12.224 W
8,600.0	10.00	264.66	8,561.5	-43.7	-467.0	438,965.28	787,625.77	32° 12' 12.287 N	103° 24' 12.425 W
8,700.0	10.00	264.66	8,660.0	-45.3	-484.3	438,963.66	787,608.48	32° 12' 12.273 N	103° 24' 12.626 W
8,800.0	10.00	264.66	8,758.5	-46.9	-501.6	438,962.05	787,591.19	32° 12' 12.258 N	103° 24' 12.828 W
8,900.0	10.00	264.66	8,857.0	-48.5	-518.9	438,960.43	787,573.90	32° 12' 12.244 N	103° 24' 13.029 W
9,000.0	10.00	264.66	8,955.4	-50.1	-536.2	438,958.81	787,556.62	32° 12' 12.229 N	103° 24' 13.230 W
9,100.0	10.00	264.66	9,053.9	-51.7	-553.5	438,957.20	787,539.33	32° 12' 12.215 N	103° 24' 13.432 W
9,200.0	10.00	264.66	9,152.4	-53.4	-570.8	438,955.58	787,522.04	32° 12' 12.200 N	103° 24' 13.633 W
9,300.0	10.00	264.66	9,250.9	-55.0	-588.1	438,953.97	787,504.75	32° 12' 12.186 N	103° 24' 13.835 W
9,400.0	10.00	264.66	9,349.4	-56.6	-605.4	438,952.35	787,487.46	32° 12' 12.171 N	103° 24' 14.036 W
9,500.0	10.00	264.66	9,447.8	-58.2	-622.6	438,950.73	787,470.17	32° 12' 12.157 N	103° 24' 14.237 W
9,600.0	10.00	264.66	9,546.3	-59.8	-639.9	438,949.12	787,452.88	32° 12' 12.142 N	103° 24' 14.439 W
9,700.0	10.00	264.66	9,644.8	-61.4	-657.2	438,947.50	787,435.59	32° 12' 12.127 N	103° 24' 14.640 W
9,800.0	10.00	264.66	9,743.3	-63.1	-674.5	438,945.88	787,418.30	32° 12' 12.113 N	103° 24' 14.841 W
9,900.0	10.00	264.66	9,841.8	-64.7	-691.8	438,944.27	787,401.01	32° 12' 12.098 N	103° 24' 15.043 W
10,000.0	10.00	264.66	9,940.2	-66.3	-709.1	438,942.65	787,383.72	32° 12' 12.084 N	103° 24' 15.244 W
10,100.0	10.00	264.66	10,038.7	-67.9	-726.4	438,941.04	787,366.43	32° 12' 12.069 N	103° 24' 15.445 W
10,200.0	10.00	264.66	10,137.2	-69.5	-743.7	438,939.42	787,349.14	32° 12' 12.055 N	103° 24' 15.647 W
10,300.0	10.00	264.66	10,235.7	-71.1	-761.0	438,937.80	787,331.85	32° 12' 12.040 N	103° 24' 15.848 W
10,400.0	10.00	264.66	10,334.2	-72.8	-778.2	438,936.19	787,314.56	32° 12' 12.026 N	103° 24' 16.050 W
10,500.0	10.00	264.66	10,432.6	-74.4	-795.5	438,934.57	787,297.27	32° 12' 12.011 N	103° 24' 16.251 W
10,600.0	10.00	264.66	10,531.1	-76.0	-812.8	438,932.95	787,279.98	32° 12' 11.997 N	103° 24' 16.452 W
10,700.0	10.00	264.66	10,629.6	-77.6	-830.1	438,931.34	787,262.69	32° 12' 11.982 N	103° 24' 16.654 W
10,800.0	10.00	264.66	10,728.1	-79.2	-847.4	438,929.72	787,245.41	32° 12' 11.968 N	103° 24' 16.855 W
10,900.0	10.00	264.66	10,826.6	-80.8	-864.7	438,928.11	787,228.12	32° 12' 11.953 N	103° 24' 17.056 W
11,000.0	10.00	264.66	10,925.0	-82.5	-882.0	438,926.49	787,210.83	32° 12' 11.939 N	103° 24' 17.258 W
11,100.0	10.00	264.66	11,023.5	-84.1	-899.3	438,924.87	787,193.54	32° 12' 11.924 N	103° 24' 17.459 W
11,200.0	10.00	264.66	11,122.0	-85.7	-916.6	438,923.26	787,176.25	32° 12' 11.910 N	103° 24' 17.660 W
11,254.2	10.00	264.66	11,175.4	-86.6	-925.9	438,922.38	787,166.88	32° 12' 11.902 N	103° 24' 17.770 W
11,300.0	9.08	264.66	11,220.6	-87.3	-933.5	438,921.67	787,159.32	32° 12' 11.896 N	103° 24' 17.858 W
11,400.0	7.08	264.66	11,319.6	-88.6	-947.5	438,920.36	787,145.32	32° 12' 11.884 N	103° 24' 18.021 W
11,500.0	5.08	264.66	11,419.0	-89.6	-958.0	438,919.38	787,134.77	32° 12' 11.875 N	103° 24' 18.144 W
11,600.0	3.08	264.66	11,518.7	-90.2	-965.1	438,918.72	787,127.68	32° 12' 11.869 N	103° 24' 18.226 W
11,700.0	1.08	264.66	11,618.7	-90.6	-968.8	438,918.38	787,124.06	32° 12' 11.866 N	103° 24' 18.268 W
11,754.2	0.00	0.00	11,672.8	-90.6	-969.3	438,918.33	787,123.55	32° 12' 11.866 N	103° 24' 18.274 W
11,792.6	0.00	0.00	11,711.3	-90.6	-969.3	438,918.33	787,123.55	32° 12' 11.866 N	103° 24' 18.274 W
11,800.0	0.74	359.49	11,718.6	-90.6	-969.3	438,918.38	787,123.55	32° 12' 11.866 N	103° 24' 18.274 W

Marathon Oil

Survey Report - Geographic

Company:	USA	Local Co-ordinate Reference:	Well BLUEBERRY HILL FEE 24 35 19 TB 3H
Project:	NEW MEXICO	TVD Reference:	WELL @ 3364.5usft (Original Well Elev)
Site:	BLUEBERRY HILL FEE 24 35 19 PAD	MD Reference:	WELL @ 3364.5usft (Original Well Elev)
Well:	BLUEBERRY HILL FEE 24 35 19 TB 3H	North Reference:	Grid
Wellbore:	BLUEBERRY HILL FEE 24 35 19 TB 3H	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
11,900.0	10.74	359.49	11,818.0	-80.6	-969.3	438,928.36	787,123.46	32° 12' 11.965 N	103° 24' 18.274 W
12,000.0	20.74	359.49	11,914.2	-53.5	-969.6	438,955.45	787,123.22	32° 12' 12.233 N	103° 24' 18.274 W
12,100.0	30.74	359.49	12,004.1	-10.1	-970.0	438,998.81	787,122.83	32° 12' 12.662 N	103° 24' 18.275 W
12,200.0	40.74	359.49	12,085.2	48.2	-970.5	439,057.14	787,122.31	32° 12' 13.239 N	103° 24' 18.275 W
12,300.0	50.74	359.49	12,154.9	119.7	-971.1	439,128.67	787,121.68	32° 12' 13.947 N	103° 24' 18.275 W
12,400.0	60.74	359.49	12,211.1	202.3	-971.9	439,211.20	787,120.94	32° 12' 14.764 N	103° 24' 18.275 W
12,500.0	70.74	359.49	12,252.2	293.3	-972.7	439,302.25	787,120.13	32° 12' 15.665 N	103° 24' 18.275 W
12,600.0	80.74	359.49	12,276.8	390.1	-973.5	439,399.04	787,119.27	32° 12' 16.623 N	103° 24' 18.276 W
12,700.0	90.74	359.49	12,284.2	489.7	-974.4	439,498.63	787,118.38	32° 12' 17.608 N	103° 24' 18.276 W
12,732.6	94.00	359.49	12,282.8	522.3	-974.7	439,531.23	787,118.09	32° 12' 17.931 N	103° 24' 18.276 W
12,800.0	94.00	359.49	12,278.1	589.5	-975.3	439,598.43	787,117.49	32° 12' 18.596 N	103° 24' 18.276 W
12,900.0	94.00	359.49	12,271.2	689.2	-976.2	439,698.19	787,116.61	32° 12' 19.583 N	103° 24' 18.277 W
13,000.0	94.00	359.49	12,264.2	789.0	-977.1	439,797.94	787,115.72	32° 12' 20.570 N	103° 24' 18.277 W
13,100.0	94.00	359.49	12,257.2	888.8	-978.0	439,897.69	787,114.83	32° 12' 21.557 N	103° 24' 18.277 W
13,200.0	94.00	359.49	12,250.2	988.5	-978.9	439,997.44	787,113.94	32° 12' 22.544 N	103° 24' 18.278 W
13,300.0	94.00	359.49	12,243.3	1,088.3	-979.8	440,097.20	787,113.05	32° 12' 23.531 N	103° 24' 18.278 W
13,400.0	94.00	359.49	12,236.3	1,188.0	-980.6	440,196.95	787,112.17	32° 12' 24.519 N	103° 24' 18.278 W
13,500.0	94.00	359.49	12,229.3	1,287.8	-981.5	440,296.70	787,111.28	32° 12' 25.506 N	103° 24' 18.279 W
13,600.0	94.00	359.49	12,222.3	1,387.5	-982.4	440,396.45	787,110.39	32° 12' 26.493 N	103° 24' 18.279 W
13,700.0	94.00	359.49	12,215.4	1,487.3	-983.3	440,496.21	787,109.50	32° 12' 27.480 N	103° 24' 18.279 W
13,800.0	94.00	359.49	12,208.4	1,587.0	-984.2	440,595.96	787,108.61	32° 12' 28.467 N	103° 24' 18.279 W
13,900.0	94.00	359.49	12,201.4	1,686.8	-985.1	440,695.71	787,107.73	32° 12' 29.454 N	103° 24' 18.280 W
14,000.0	94.00	359.49	12,194.4	1,786.5	-986.0	440,795.46	787,106.84	32° 12' 30.441 N	103° 24' 18.280 W
14,100.0	94.00	359.49	12,187.5	1,886.3	-986.9	440,895.22	787,105.95	32° 12' 31.429 N	103° 24' 18.280 W
14,200.0	94.00	359.49	12,180.5	1,986.0	-987.7	440,994.97	787,105.06	32° 12' 32.416 N	103° 24' 18.281 W
14,300.0	94.00	359.49	12,173.5	2,085.8	-988.6	441,094.72	787,104.17	32° 12' 33.403 N	103° 24' 18.281 W
14,400.0	94.00	359.49	12,166.5	2,185.5	-989.5	441,194.47	787,103.29	32° 12' 34.390 N	103° 24' 18.281 W
14,500.0	94.00	359.49	12,159.6	2,285.3	-990.4	441,294.23	787,102.40	32° 12' 35.377 N	103° 24' 18.282 W
14,600.0	94.00	359.49	12,152.6	2,385.0	-991.3	441,393.98	787,101.51	32° 12' 36.364 N	103° 24' 18.282 W
14,700.0	94.00	359.49	12,145.6	2,484.8	-992.2	441,493.73	787,100.62	32° 12' 37.351 N	103° 24' 18.282 W
14,800.0	94.00	359.49	12,138.6	2,584.5	-993.1	441,593.48	787,099.73	32° 12' 38.338 N	103° 24' 18.283 W
14,900.0	94.00	359.49	12,131.7	2,684.3	-994.0	441,693.24	787,098.85	32° 12' 39.326 N	103° 24' 18.283 W
15,000.0	94.00	359.49	12,124.7	2,784.0	-994.8	441,792.99	787,097.96	32° 12' 40.313 N	103° 24' 18.283 W
15,100.0	94.00	359.49	12,117.7	2,883.8	-995.7	441,892.74	787,097.07	32° 12' 41.300 N	103° 24' 18.283 W
15,200.0	94.00	359.49	12,110.7	2,983.6	-996.6	441,992.49	787,096.18	32° 12' 42.287 N	103° 24' 18.284 W
15,300.0	94.00	359.49	12,103.8	3,083.3	-997.5	442,092.25	787,095.30	32° 12' 43.274 N	103° 24' 18.284 W
15,400.0	94.00	359.49	12,096.8	3,183.1	-998.4	442,192.00	787,094.41	32° 12' 44.261 N	103° 24' 18.284 W
15,500.0	94.00	359.49	12,089.8	3,282.8	-999.3	442,291.75	787,093.52	32° 12' 45.248 N	103° 24' 18.285 W
15,600.0	94.00	359.49	12,082.8	3,382.6	-1,000.2	442,391.50	787,092.63	32° 12' 46.236 N	103° 24' 18.285 W
15,700.0	94.00	359.49	12,075.8	3,482.3	-1,001.1	442,491.26	787,091.74	32° 12' 47.223 N	103° 24' 18.285 W
15,800.0	94.00	359.49	12,068.9	3,582.1	-1,002.0	442,591.01	787,090.86	32° 12' 48.210 N	103° 24' 18.286 W
15,900.0	94.00	359.49	12,061.9	3,681.8	-1,002.8	442,690.76	787,089.97	32° 12' 49.197 N	103° 24' 18.286 W
16,000.0	94.00	359.49	12,054.9	3,781.6	-1,003.7	442,790.51	787,089.08	32° 12' 50.184 N	103° 24' 18.286 W
16,100.0	94.00	359.49	12,047.9	3,881.3	-1,004.6	442,890.27	787,088.19	32° 12' 51.171 N	103° 24' 18.287 W
16,200.0	94.00	359.49	12,041.0	3,981.1	-1,005.5	442,990.02	787,087.30	32° 12' 52.158 N	103° 24' 18.287 W
16,300.0	94.00	359.49	12,034.0	4,080.8	-1,006.4	443,089.77	787,086.42	32° 12' 53.146 N	103° 24' 18.287 W
16,400.0	94.00	359.49	12,027.0	4,180.6	-1,007.3	443,189.52	787,085.53	32° 12' 54.133 N	103° 24' 18.287 W
16,500.0	94.00	359.49	12,020.0	4,280.3	-1,008.2	443,289.28	787,084.64	32° 12' 55.120 N	103° 24' 18.288 W
16,600.0	94.00	359.49	12,013.1	4,380.1	-1,009.1	443,389.03	787,083.75	32° 12' 56.107 N	103° 24' 18.288 W
16,700.0	94.00	359.49	12,006.1	4,479.8	-1,009.9	443,488.78	787,082.86	32° 12' 57.094 N	103° 24' 18.288 W
16,800.0	94.00	359.49	11,999.1	4,579.6	-1,010.8	443,588.53	787,081.98	32° 12' 58.081 N	103° 24' 18.289 W
16,900.0	94.00	359.49	11,992.1	4,679.3	-1,011.7	443,688.29	787,081.09	32° 12' 59.068 N	103° 24' 18.289 W
17,000.0	94.00	359.49	11,985.2	4,779.1	-1,012.6	443,788.04	787,080.20	32° 13' 0.055 N	103° 24' 18.289 W
17,100.0	94.00	359.49	11,978.2	4,878.9	-1,013.5	443,887.79	787,079.31	32° 13' 1.043 N	103° 24' 18.290 W
17,200.0	94.00	359.49	11,971.2	4,978.6	-1,014.4	443,987.54	787,078.42	32° 13' 2.030 N	103° 24' 18.290 W

Marathon Oil

Survey Report - Geographic

Company:	USA	Local Co-ordinate Reference:	Well BLUEBERRY HILL FEE 24 35 19 TB 3H
Project:	NEW MEXICO	TVD Reference:	WELL @ 3364.5usft (Original Well Elev)
Site:	BLUEBERRY HILL FEE 24 35 19 PAD	MD Reference:	WELL @ 3364.5usft (Original Well Elev)
Well:	BLUEBERRY HILL FEE 24 35 19 TB 3H	North Reference:	Grid
Wellbore:	BLUEBERRY HILL FEE 24 35 19 TB 3H	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
17,300.0	94.00	359.49	11,964.2	5,078.4	-1,015.3	444,087.29	787,077.54	32° 13' 3.017 N	103° 24' 18.290 W
17,400.0	94.00	359.49	11,957.3	5,178.1	-1,016.2	444,187.05	787,076.65	32° 13' 4.004 N	103° 24' 18.291 W
17,500.0	94.00	359.49	11,950.3	5,277.9	-1,017.0	444,286.80	787,075.76	32° 13' 4.991 N	103° 24' 18.291 W
17,600.0	94.00	359.49	11,943.3	5,377.6	-1,017.9	444,386.55	787,074.87	32° 13' 5.978 N	103° 24' 18.291 W
17,700.0	94.00	359.49	11,936.3	5,477.4	-1,018.8	444,486.30	787,073.98	32° 13' 6.965 N	103° 24' 18.291 W
17,800.0	94.00	359.49	11,929.4	5,577.1	-1,019.7	444,586.06	787,073.10	32° 13' 7.953 N	103° 24' 18.292 W
17,900.0	94.00	359.49	11,922.4	5,676.9	-1,020.6	444,685.81	787,072.21	32° 13' 8.940 N	103° 24' 18.292 W
18,000.0	94.00	359.49	11,915.4	5,776.6	-1,021.5	444,785.56	787,071.32	32° 13' 9.927 N	103° 24' 18.292 W
18,100.0	94.00	359.49	11,908.4	5,876.4	-1,022.4	444,885.31	787,070.43	32° 13' 10.914 N	103° 24' 18.293 W
18,200.0	94.00	359.49	11,901.5	5,976.1	-1,023.3	444,985.07	787,069.55	32° 13' 11.901 N	103° 24' 18.293 W
18,300.0	94.00	359.49	11,894.5	6,075.9	-1,024.2	445,084.82	787,068.66	32° 13' 12.888 N	103° 24' 18.293 W
18,400.0	94.00	359.49	11,887.5	6,175.6	-1,025.0	445,184.57	787,067.77	32° 13' 13.875 N	103° 24' 18.294 W
18,500.0	94.00	359.49	11,880.5	6,275.4	-1,025.9	445,284.32	787,066.88	32° 13' 14.863 N	103° 24' 18.294 W
18,600.0	94.00	359.49	11,873.6	6,375.1	-1,026.8	445,384.08	787,065.99	32° 13' 15.850 N	103° 24' 18.294 W
18,700.0	94.00	359.49	11,866.6	6,474.9	-1,027.7	445,483.83	787,065.11	32° 13' 16.837 N	103° 24' 18.294 W
18,800.0	94.00	359.49	11,859.6	6,574.6	-1,028.6	445,583.58	787,064.22	32° 13' 17.824 N	103° 24' 18.295 W
18,900.0	94.00	359.49	11,852.6	6,674.4	-1,029.5	445,683.33	787,063.33	32° 13' 18.811 N	103° 24' 18.295 W
19,000.0	94.00	359.49	11,845.7	6,774.1	-1,030.4	445,783.09	787,062.44	32° 13' 19.798 N	103° 24' 18.295 W
19,100.0	94.00	359.49	11,838.7	6,873.9	-1,031.3	445,882.84	787,061.55	32° 13' 20.785 N	103° 24' 18.296 W
19,200.0	94.00	359.49	11,831.7	6,973.7	-1,032.1	445,982.59	787,060.67	32° 13' 21.772 N	103° 24' 18.296 W
19,300.0	94.00	359.49	11,824.7	7,073.4	-1,033.0	446,082.34	787,059.78	32° 13' 22.760 N	103° 24' 18.296 W
19,400.0	94.00	359.49	11,817.7	7,173.2	-1,033.9	446,182.10	787,058.89	32° 13' 23.747 N	103° 24' 18.297 W
19,500.0	94.00	359.49	11,810.8	7,272.9	-1,034.8	446,281.85	787,058.00	32° 13' 24.734 N	103° 24' 18.297 W
19,600.0	94.00	359.49	11,803.8	7,372.7	-1,035.7	446,381.60	787,057.11	32° 13' 25.721 N	103° 24' 18.297 W
19,700.0	94.00	359.49	11,796.8	7,472.4	-1,036.6	446,481.35	787,056.23	32° 13' 26.708 N	103° 24' 18.298 W
19,758.4	94.00	359.49	11,792.7	7,530.7	-1,037.1	446,539.62	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
12,700.0	12,284.2	7"	7	8-3/4
19,758.4	11,792.7	4 1/2"	4-1/2	6-1/8

Checked By: _____ Approved By: _____ Date: _____