

USA

NEW MEXICO

BLUEBERRY HILL FEE 24 35 19 PAD

BLUEBERRY HILL FEE 24 35 19 TB 10H

BLUEBERRY HILL FEE 24 35 19 TB 10H

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 10H
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 TB 10H	North Reference:	Grid
Wellbore:	BLUEBERRY HILL FEE 24 35 19 TB 10H	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 10H, WELL 5 OF 5					
Well Position	+N/-S	0.0 usft	Northing:	439,008.91 usft	Latitude:	32° 12' 12.671 N
	+E/-W	0.0 usft	Easting:	788,182.81 usft	Longitude:	103° 24' 5.938 W
Position Uncertainty		1.1 usft	Wellhead Elevation:	0.0 usft	Ground Level:	3,337.0 usft

Wellbore	BLUEBERRY HILL FEE 24 35 19 TB 10H				
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	19,753.8	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	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
100.0	0.00	0.00	100.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
200.0	0.00	0.00	200.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
300.0	0.00	0.00	300.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
400.0	0.00	0.00	400.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
500.0	0.00	0.00	500.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
600.0	0.00	0.00	600.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
700.0	0.00	0.00	700.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
800.0	0.00	0.00	800.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
900.0	0.00	0.00	900.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
1,000.0	0.00	0.00	1,000.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
1,100.0	0.00	0.00	1,100.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W

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Well:	BLUEBERRY HILL FEE 24 35 19 TB 10H	North Reference:	Grid
Wellbore:	BLUEBERRY HILL FEE 24 35 19 TB 10H	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	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
1,300.0	0.00	0.00	1,300.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
1,400.0	0.00	0.00	1,400.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
1,500.0	0.00	0.00	1,500.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
1,600.0	0.00	0.00	1,600.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
1,700.0	0.00	0.00	1,700.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
1,800.0	0.00	0.00	1,800.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
1,900.0	0.00	0.00	1,900.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
2,000.0	0.00	0.00	2,000.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
2,100.0	0.00	0.00	2,100.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
2,200.0	0.00	0.00	2,200.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
2,300.0	0.00	0.00	2,300.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
2,400.0	0.00	0.00	2,400.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
2,500.0	0.00	0.00	2,500.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
2,600.0	0.00	0.00	2,600.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
2,700.0	0.00	0.00	2,700.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
2,800.0	0.00	0.00	2,800.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
2,900.0	0.00	0.00	2,900.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
3,000.0	0.00	0.00	3,000.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
3,100.0	0.00	0.00	3,100.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
3,200.0	0.00	0.00	3,200.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
3,300.0	0.00	0.00	3,300.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
3,400.0	0.00	0.00	3,400.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
3,500.0	0.00	0.00	3,500.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
3,600.0	0.00	0.00	3,600.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
3,700.0	0.00	0.00	3,700.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
3,800.0	0.00	0.00	3,800.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
3,900.0	0.00	0.00	3,900.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
4,000.0	0.00	0.00	4,000.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
4,100.0	0.00	0.00	4,100.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
4,200.0	0.00	0.00	4,200.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
4,300.0	0.00	0.00	4,300.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
4,400.0	0.00	0.00	4,400.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
4,500.0	0.00	0.00	4,500.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
4,600.0	0.00	0.00	4,600.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
4,700.0	0.00	0.00	4,700.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
4,800.0	0.00	0.00	4,800.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
4,900.0	0.00	0.00	4,900.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
5,000.0	0.00	0.00	5,000.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
5,100.0	0.00	0.00	5,100.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
5,200.0	0.00	0.00	5,200.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
5,300.0	0.00	0.00	5,300.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
5,400.0	0.00	0.00	5,400.0	0.0	0.0	439,008.91	788,182.81	32° 12' 12.671 N	103° 24' 5.938 W
5,500.0	1.00	94.48	5,500.0	-0.1	0.9	439,008.84	788,183.68	32° 12' 12.670 N	103° 24' 5.928 W
5,600.0	2.00	94.48	5,600.0	-0.3	3.5	439,008.64	788,186.29	32° 12' 12.668 N	103° 24' 5.898 W
5,700.0	3.00	94.48	5,699.9	-0.6	7.8	439,008.30	788,190.64	32° 12' 12.664 N	103° 24' 5.847 W
5,800.0	4.00	94.48	5,799.7	-1.1	13.9	439,007.82	788,196.72	32° 12' 12.659 N	103° 24' 5.776 W
5,900.0	5.00	94.48	5,899.4	-1.7	21.7	439,007.21	788,204.54	32° 12' 12.652 N	103° 24' 5.685 W
6,000.0	6.00	94.48	5,998.9	-2.5	31.3	439,006.46	788,214.10	32° 12' 12.644 N	103° 24' 5.574 W
6,100.0	7.00	94.48	6,098.3	-3.3	42.6	439,005.58	788,225.38	32° 12' 12.635 N	103° 24' 5.443 W
6,200.0	8.00	94.48	6,197.4	-4.4	55.6	439,004.56	788,238.40	32° 12' 12.623 N	103° 24' 5.292 W
6,300.0	9.00	94.48	6,296.3	-5.5	70.3	439,003.40	788,253.13	32° 12' 12.611 N	103° 24' 5.120 W
6,400.0	10.00	94.48	6,394.9	-6.8	86.8	439,002.11	788,269.59	32° 12' 12.596 N	103° 24' 4.929 W
6,500.0	10.00	94.48	6,493.4	-8.2	104.1	439,000.76	788,286.90	32° 12' 12.582 N	103° 24' 4.728 W
6,600.0	10.00	94.48	6,591.9	-9.5	121.4	438,999.40	788,304.21	32° 12' 12.567 N	103° 24' 4.526 W

Marathon Oil

Survey Report - Geographic

Company:	USA	Local Co-ordinate Reference:	Well BLUEBERRY HILL FEE 24 35 19 TB 10H
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 TB 10H	North Reference:	Grid
Wellbore:	BLUEBERRY HILL FEE 24 35 19 TB 10H	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	94.48	6,690.4	-10.9	138.7	438,998.05	788,321.52	32° 12' 12.552 N	103° 24' 4.325 W
6,800.0	10.00	94.48	6,788.9	-12.2	156.0	438,996.69	788,338.83	32° 12' 12.537 N	103° 24' 4.124 W
6,900.0	10.00	94.48	6,887.3	-13.6	173.3	438,995.33	788,356.15	32° 12' 12.522 N	103° 24' 3.922 W
7,000.0	10.00	94.48	6,985.8	-14.9	190.7	438,993.98	788,373.46	32° 12' 12.507 N	103° 24' 3.721 W
7,100.0	10.00	94.48	7,084.3	-16.3	208.0	438,992.62	788,390.77	32° 12' 12.492 N	103° 24' 3.520 W
7,200.0	10.00	94.48	7,182.8	-17.6	225.3	438,991.27	788,408.08	32° 12' 12.477 N	103° 24' 3.318 W
7,300.0	10.00	94.48	7,281.3	-19.0	242.6	438,989.91	788,425.39	32° 12' 12.462 N	103° 24' 3.117 W
7,400.0	10.00	94.48	7,379.7	-20.4	259.9	438,988.56	788,442.71	32° 12' 12.447 N	103° 24' 2.916 W
7,500.0	10.00	94.48	7,478.2	-21.7	277.2	438,987.20	788,460.02	32° 12' 12.433 N	103° 24' 2.714 W
7,600.0	10.00	94.48	7,576.7	-23.1	294.5	438,985.84	788,477.33	32° 12' 12.418 N	103° 24' 2.513 W
7,700.0	10.00	94.48	7,675.2	-24.4	311.8	438,984.49	788,494.64	32° 12' 12.403 N	103° 24' 2.312 W
7,800.0	10.00	94.48	7,773.7	-25.8	329.1	438,983.13	788,511.95	32° 12' 12.388 N	103° 24' 2.110 W
7,900.0	10.00	94.48	7,872.1	-27.1	346.5	438,981.78	788,529.26	32° 12' 12.373 N	103° 24' 1.909 W
8,000.0	10.00	94.48	7,970.6	-28.5	363.8	438,980.42	788,546.58	32° 12' 12.358 N	103° 24' 1.708 W
8,100.0	10.00	94.48	8,069.1	-29.8	381.1	438,979.07	788,563.89	32° 12' 12.343 N	103° 24' 1.506 W
8,200.0	10.00	94.48	8,167.6	-31.2	398.4	438,977.71	788,581.20	32° 12' 12.328 N	103° 24' 1.305 W
8,300.0	10.00	94.48	8,266.1	-32.6	415.7	438,976.35	788,598.51	32° 12' 12.313 N	103° 24' 1.104 W
8,400.0	10.00	94.48	8,364.5	-33.9	433.0	438,975.00	788,615.82	32° 12' 12.298 N	103° 24' 0.902 W
8,500.0	10.00	94.48	8,463.0	-35.3	450.3	438,973.64	788,633.14	32° 12' 12.284 N	103° 24' 0.701 W
8,600.0	10.00	94.48	8,561.5	-36.6	467.6	438,972.29	788,650.45	32° 12' 12.269 N	103° 24' 0.500 W
8,700.0	10.00	94.48	8,660.0	-38.0	485.0	438,970.93	788,667.76	32° 12' 12.254 N	103° 24' 0.298 W
8,800.0	10.00	94.48	8,758.5	-39.3	502.3	438,969.58	788,685.07	32° 12' 12.239 N	103° 24' 0.097 W
8,900.0	10.00	94.48	8,857.0	-40.7	519.6	438,968.22	788,702.38	32° 12' 12.224 N	103° 23' 59.896 W
9,000.0	10.00	94.48	8,955.4	-42.0	536.9	438,966.86	788,719.69	32° 12' 12.209 N	103° 23' 59.695 W
9,100.0	10.00	94.48	9,053.9	-43.4	554.2	438,965.51	788,737.01	32° 12' 12.194 N	103° 23' 59.493 W
9,200.0	10.00	94.48	9,152.4	-44.8	571.5	438,964.15	788,754.32	32° 12' 12.179 N	103° 23' 59.292 W
9,300.0	10.00	94.48	9,250.9	-46.1	588.8	438,962.80	788,771.63	32° 12' 12.164 N	103° 23' 59.091 W
9,400.0	10.00	94.48	9,349.4	-47.5	606.1	438,961.44	788,788.94	32° 12' 12.149 N	103° 23' 58.889 W
9,500.0	10.00	94.48	9,447.8	-48.8	623.4	438,960.08	788,806.25	32° 12' 12.134 N	103° 23' 58.688 W
9,600.0	10.00	94.48	9,546.3	-50.2	640.8	438,958.73	788,823.57	32° 12' 12.120 N	103° 23' 58.487 W
9,700.0	10.00	94.48	9,644.8	-51.5	658.1	438,957.37	788,840.88	32° 12' 12.105 N	103° 23' 58.285 W
9,800.0	10.00	94.48	9,743.3	-52.9	675.4	438,956.02	788,858.19	32° 12' 12.090 N	103° 23' 58.084 W
9,900.0	10.00	94.48	9,841.8	-54.2	692.7	438,954.66	788,875.50	32° 12' 12.075 N	103° 23' 57.883 W
10,000.0	10.00	94.48	9,940.2	-55.6	710.0	438,953.31	788,892.81	32° 12' 12.060 N	103° 23' 57.681 W
10,100.0	10.00	94.48	10,038.7	-57.0	727.3	438,951.95	788,910.12	32° 12' 12.045 N	103° 23' 57.480 W
10,200.0	10.00	94.48	10,137.2	-58.3	744.6	438,950.59	788,927.44	32° 12' 12.030 N	103° 23' 57.279 W
10,300.0	10.00	94.48	10,235.7	-59.7	761.9	438,949.24	788,944.75	32° 12' 12.015 N	103° 23' 57.077 W
10,400.0	10.00	94.48	10,334.2	-61.0	779.3	438,947.88	788,962.06	32° 12' 12.000 N	103° 23' 56.876 W
10,500.0	10.00	94.48	10,432.6	-62.4	796.6	438,946.53	788,979.37	32° 12' 11.985 N	103° 23' 56.675 W
10,600.0	10.00	94.48	10,531.1	-63.7	813.9	438,945.17	788,996.68	32° 12' 11.971 N	103° 23' 56.473 W
10,700.0	10.00	94.48	10,629.6	-65.1	831.2	438,943.82	789,013.99	32° 12' 11.956 N	103° 23' 56.272 W
10,800.0	10.00	94.48	10,728.1	-66.4	848.5	438,942.46	789,031.31	32° 12' 11.941 N	103° 23' 56.071 W
10,900.0	10.00	94.48	10,826.6	-67.8	865.8	438,941.10	789,048.62	32° 12' 11.926 N	103° 23' 55.869 W
10,996.3	10.00	94.48	10,921.4	-69.1	882.5	438,939.80	789,065.30	32° 12' 11.911 N	103° 23' 55.675 W
11,000.0	9.93	94.48	10,925.0	-69.2	883.1	438,939.75	789,065.93	32° 12' 11.911 N	103° 23' 55.668 W
11,100.0	7.93	94.48	11,023.8	-70.4	898.6	438,938.54	789,081.40	32° 12' 11.898 N	103° 23' 55.488 W
11,200.0	5.93	94.48	11,123.1	-71.3	910.6	438,937.60	789,093.42	32° 12' 11.887 N	103° 23' 55.348 W
11,300.0	3.93	94.48	11,222.7	-72.0	919.2	438,936.92	789,101.98	32° 12' 11.880 N	103° 23' 55.249 W
11,400.0	1.93	94.48	11,322.6	-72.4	924.3	438,936.53	789,107.07	32° 12' 11.876 N	103° 23' 55.190 W
11,496.3	0.00	0.00	11,418.9	-72.5	925.9	438,936.40	789,108.69	32° 12' 11.874 N	103° 23' 55.171 W
11,500.0	0.00	0.00	11,422.6	-72.5	925.9	438,936.40	789,108.69	32° 12' 11.874 N	103° 23' 55.171 W
11,600.0	0.00	0.00	11,522.6	-72.5	925.9	438,936.40	789,108.69	32° 12' 11.874 N	103° 23' 55.171 W
11,700.0	0.00	0.00	11,622.6	-72.5	925.9	438,936.40	789,108.69	32° 12' 11.874 N	103° 23' 55.171 W
11,789.3	0.00	0.00	11,711.9	-72.5	925.9	438,936.40	789,108.69	32° 12' 11.874 N	103° 23' 55.171 W
11,800.0	1.07	359.49	11,722.6	-72.4	925.9	438,936.50	789,108.69	32° 12' 11.875 N	103° 23' 55.171 W

Marathon Oil

Survey Report - Geographic

Company:	USA	Local Co-ordinate Reference:	Well BLUEBERRY HILL FEE 24 35 19 TB 10H
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 TB 10H	North Reference:	Grid
Wellbore:	BLUEBERRY HILL FEE 24 35 19 TB 10H	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	11.07	359.49	11,821.9	-61.9	925.8	438,947.06	789,108.59	32° 12' 11.980 N	103° 23' 55.171 W
12,000.0	21.07	359.49	11,917.9	-34.2	925.5	438,974.70	789,108.35	32° 12' 12.253 N	103° 23' 55.171 W
12,100.0	31.07	359.49	12,007.6	9.7	925.1	439,018.59	789,107.96	32° 12' 12.687 N	103° 23' 55.171 W
12,200.0	41.07	359.49	12,088.3	68.5	924.6	439,077.39	789,107.43	32° 12' 13.269 N	103° 23' 55.171 W
12,300.0	51.07	359.49	12,157.6	140.4	924.0	439,149.31	789,106.79	32° 12' 13.981 N	103° 23' 55.171 W
12,400.0	61.07	359.49	12,213.3	223.3	923.2	439,232.17	789,106.05	32° 12' 14.801 N	103° 23' 55.171 W
12,500.0	71.07	359.49	12,253.8	314.5	922.4	439,323.46	789,105.24	32° 12' 15.704 N	103° 23' 55.172 W
12,600.0	81.07	359.49	12,277.9	411.5	921.6	439,420.39	789,104.38	32° 12' 16.664 N	103° 23' 55.172 W
12,700.0	91.07	359.49	12,284.7	511.1	920.7	439,520.02	789,103.49	32° 12' 17.650 N	103° 23' 55.172 W
12,729.3	94.00	359.49	12,283.4	540.4	920.4	439,549.30	789,103.23	32° 12' 17.939 N	103° 23' 55.172 W
12,800.0	94.00	359.49	12,278.5	610.9	919.8	439,619.81	789,102.60	32° 12' 18.637 N	103° 23' 55.172 W
12,900.0	94.00	359.49	12,271.5	710.7	918.9	439,719.57	789,101.72	32° 12' 19.624 N	103° 23' 55.173 W
13,000.0	94.00	359.49	12,264.6	810.4	918.0	439,819.32	789,100.83	32° 12' 20.611 N	103° 23' 55.173 W
13,100.0	94.00	359.49	12,257.6	910.2	917.1	439,919.07	789,099.94	32° 12' 21.598 N	103° 23' 55.173 W
13,200.0	94.00	359.49	12,250.6	1,009.9	916.2	440,018.82	789,099.05	32° 12' 22.586 N	103° 23' 55.173 W
13,300.0	94.00	359.49	12,243.6	1,109.7	915.4	440,118.58	789,098.16	32° 12' 23.573 N	103° 23' 55.174 W
13,400.0	94.00	359.49	12,236.7	1,209.4	914.5	440,218.33	789,097.28	32° 12' 24.560 N	103° 23' 55.174 W
13,500.0	94.00	359.49	12,229.7	1,309.2	913.6	440,318.08	789,096.39	32° 12' 25.547 N	103° 23' 55.174 W
13,600.0	94.00	359.49	12,222.7	1,408.9	912.7	440,417.83	789,095.50	32° 12' 26.534 N	103° 23' 55.174 W
13,700.0	94.00	359.49	12,215.7	1,508.7	911.8	440,517.59	789,094.61	32° 12' 27.521 N	103° 23' 55.175 W
13,800.0	94.00	359.49	12,208.8	1,608.4	910.9	440,617.34	789,093.72	32° 12' 28.508 N	103° 23' 55.175 W
13,900.0	94.00	359.49	12,201.8	1,708.2	910.0	440,717.09	789,092.84	32° 12' 29.496 N	103° 23' 55.175 W
14,000.0	94.00	359.49	12,194.8	1,807.9	909.1	440,816.84	789,091.95	32° 12' 30.483 N	103° 23' 55.175 W
14,100.0	94.00	359.49	12,187.8	1,907.7	908.3	440,916.60	789,091.06	32° 12' 31.470 N	103° 23' 55.175 W
14,200.0	94.00	359.49	12,180.9	2,007.4	907.4	441,016.35	789,090.17	32° 12' 32.457 N	103° 23' 55.176 W
14,300.0	94.00	359.49	12,173.9	2,107.2	906.5	441,116.10	789,089.29	32° 12' 33.444 N	103° 23' 55.176 W
14,400.0	94.00	359.49	12,166.9	2,206.9	905.6	441,215.85	789,088.40	32° 12' 34.431 N	103° 23' 55.176 W
14,500.0	94.00	359.49	12,159.9	2,306.7	904.7	441,315.60	789,087.51	32° 12' 35.418 N	103° 23' 55.176 W
14,600.0	94.00	359.49	12,152.9	2,406.4	903.8	441,415.36	789,086.62	32° 12' 36.406 N	103° 23' 55.177 W
14,700.0	94.00	359.49	12,146.0	2,506.2	902.9	441,515.11	789,085.73	32° 12' 37.393 N	103° 23' 55.177 W
14,800.0	94.00	359.49	12,139.0	2,606.0	902.0	441,614.86	789,084.85	32° 12' 38.380 N	103° 23' 55.177 W
14,900.0	94.00	359.49	12,132.0	2,705.7	901.1	441,714.61	789,083.96	32° 12' 39.367 N	103° 23' 55.177 W
15,000.0	94.00	359.49	12,125.0	2,805.5	900.3	441,814.37	789,083.07	32° 12' 40.354 N	103° 23' 55.178 W
15,100.0	94.00	359.49	12,118.1	2,905.2	899.4	441,914.12	789,082.18	32° 12' 41.341 N	103° 23' 55.178 W
15,200.0	94.00	359.49	12,111.1	3,005.0	898.5	442,013.87	789,081.29	32° 12' 42.328 N	103° 23' 55.178 W
15,300.0	94.00	359.49	12,104.1	3,104.7	897.6	442,113.62	789,080.41	32° 12' 43.315 N	103° 23' 55.178 W
15,400.0	94.00	359.49	12,097.1	3,204.5	896.7	442,213.38	789,079.52	32° 12' 44.303 N	103° 23' 55.179 W
15,500.0	94.00	359.49	12,090.2	3,304.2	895.8	442,313.13	789,078.63	32° 12' 45.290 N	103° 23' 55.179 W
15,600.0	94.00	359.49	12,083.2	3,404.0	894.9	442,412.88	789,077.74	32° 12' 46.277 N	103° 23' 55.179 W
15,700.0	94.00	359.49	12,076.2	3,503.7	894.0	442,512.63	789,076.85	32° 12' 47.264 N	103° 23' 55.179 W
15,800.0	94.00	359.49	12,069.2	3,603.5	893.2	442,612.39	789,075.97	32° 12' 48.251 N	103° 23' 55.180 W
15,900.0	94.00	359.49	12,062.3	3,703.2	892.3	442,712.14	789,075.08	32° 12' 49.238 N	103° 23' 55.180 W
16,000.0	94.00	359.49	12,055.3	3,803.0	891.4	442,811.89	789,074.19	32° 12' 50.225 N	103° 23' 55.180 W
16,100.0	94.00	359.49	12,048.3	3,902.7	890.5	442,911.64	789,073.30	32° 12' 51.213 N	103° 23' 55.180 W
16,200.0	94.00	359.49	12,041.3	4,002.5	889.6	443,011.40	789,072.41	32° 12' 52.200 N	103° 23' 55.180 W
16,300.0	94.00	359.49	12,034.4	4,102.2	888.7	443,111.15	789,071.53	32° 12' 53.187 N	103° 23' 55.181 W
16,400.0	94.00	359.49	12,027.4	4,202.0	887.8	443,210.90	789,070.64	32° 12' 54.174 N	103° 23' 55.181 W
16,500.0	94.00	359.49	12,020.4	4,301.7	886.9	443,310.65	789,069.75	32° 12' 55.161 N	103° 23' 55.181 W
16,600.0	94.00	359.49	12,013.4	4,401.5	886.1	443,410.41	789,068.86	32° 12' 56.148 N	103° 23' 55.181 W
16,700.0	94.00	359.49	12,006.5	4,501.2	885.2	443,510.16	789,067.97	32° 12' 57.135 N	103° 23' 55.182 W
16,800.0	94.00	359.49	11,999.5	4,601.0	884.3	443,609.91	789,067.09	32° 12' 58.122 N	103° 23' 55.182 W
16,900.0	94.00	359.49	11,992.5	4,700.8	883.4	443,709.66	789,066.20	32° 12' 59.110 N	103° 23' 55.182 W
17,000.0	94.00	359.49	11,985.5	4,800.5	882.5	443,809.42	789,065.31	32° 13' 0.097 N	103° 23' 55.182 W
17,100.0	94.00	359.49	11,978.6	4,900.3	881.6	443,909.17	789,064.42	32° 13' 1.084 N	103° 23' 55.183 W
17,200.0	94.00	359.49	11,971.6	5,000.0	880.7	444,008.92	789,063.54	32° 13' 2.071 N	103° 23' 55.183 W

Marathon Oil

Survey Report - Geographic

Company:	USA	Local Co-ordinate Reference:	Well BLUEBERRY HILL FEE 24 35 19 TB 10H
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 TB 10H	North Reference:	Grid
Wellbore:	BLUEBERRY HILL FEE 24 35 19 TB 10H	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	11,964.6	5,099.8	879.8	444,108.67	789,062.65	32° 13' 3.058 N	103° 23' 55.183 W
17,400.0	94.00	359.49	11,957.6	5,199.5	879.0	444,208.43	789,061.76	32° 13' 4.045 N	103° 23' 55.183 W
17,500.0	94.00	359.49	11,950.7	5,299.3	878.1	444,308.18	789,060.87	32° 13' 5.032 N	103° 23' 55.184 W
17,600.0	94.00	359.49	11,943.7	5,399.0	877.2	444,407.93	789,059.98	32° 13' 6.020 N	103° 23' 55.184 W
17,700.0	94.00	359.49	11,936.7	5,498.8	876.3	444,507.68	789,059.10	32° 13' 7.007 N	103° 23' 55.184 W
17,800.0	94.00	359.49	11,929.7	5,598.5	875.4	444,607.44	789,058.21	32° 13' 7.994 N	103° 23' 55.184 W
17,900.0	94.00	359.49	11,922.8	5,698.3	874.5	444,707.19	789,057.32	32° 13' 8.981 N	103° 23' 55.185 W
18,000.0	94.00	359.49	11,915.8	5,798.0	873.6	444,806.94	789,056.43	32° 13' 9.968 N	103° 23' 55.185 W
18,100.0	94.00	359.49	11,908.8	5,897.8	872.7	444,906.69	789,055.54	32° 13' 10.955 N	103° 23' 55.185 W
18,200.0	94.00	359.49	11,901.8	5,997.5	871.8	445,006.45	789,054.66	32° 13' 11.942 N	103° 23' 55.185 W
18,300.0	94.00	359.49	11,894.9	6,097.3	871.0	445,106.20	789,053.77	32° 13' 12.930 N	103° 23' 55.185 W
18,400.0	94.00	359.49	11,887.9	6,197.0	870.1	445,205.95	789,052.88	32° 13' 13.917 N	103° 23' 55.186 W
18,500.0	94.00	359.49	11,880.9	6,296.8	869.2	445,305.70	789,051.99	32° 13' 14.904 N	103° 23' 55.186 W
18,600.0	94.00	359.49	11,873.9	6,396.5	868.3	445,405.46	789,051.10	32° 13' 15.891 N	103° 23' 55.186 W
18,700.0	94.00	359.49	11,866.9	6,496.3	867.4	445,505.21	789,050.22	32° 13' 16.878 N	103° 23' 55.186 W
18,800.0	94.00	359.49	11,860.0	6,596.1	866.5	445,604.96	789,049.33	32° 13' 17.865 N	103° 23' 55.187 W
18,900.0	94.00	359.49	11,853.0	6,695.8	865.6	445,704.71	789,048.44	32° 13' 18.852 N	103° 23' 55.187 W
19,000.0	94.00	359.49	11,846.0	6,795.6	864.7	445,804.47	789,047.55	32° 13' 19.839 N	103° 23' 55.187 W
19,100.0	94.00	359.49	11,839.0	6,895.3	863.9	445,904.22	789,046.66	32° 13' 20.827 N	103° 23' 55.187 W
19,200.0	94.00	359.49	11,832.1	6,995.1	863.0	446,003.97	789,045.78	32° 13' 21.814 N	103° 23' 55.188 W
19,300.0	94.00	359.49	11,825.1	7,094.8	862.1	446,103.72	789,044.89	32° 13' 22.801 N	103° 23' 55.188 W
19,400.0	94.00	359.49	11,818.1	7,194.6	861.2	446,203.48	789,044.00	32° 13' 23.788 N	103° 23' 55.188 W
19,500.0	94.00	359.49	11,811.1	7,294.3	860.3	446,303.23	789,043.11	32° 13' 24.775 N	103° 23' 55.188 W
19,600.0	94.00	359.49	11,804.2	7,394.1	859.4	446,402.98	789,042.22	32° 13' 25.762 N	103° 23' 55.189 W
19,700.0	94.00	359.49	11,797.2	7,493.8	858.5	446,502.73	789,041.34	32° 13' 26.749 N	103° 23' 55.189 W
19,753.8	94.00	359.49	11,793.4	7,547.5	858.1	446,556.37	789,040.86	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	5,400.0	9 5/8"	9-5/8	12-1/4	
12,700.0	12,284.7	7"	7	8-3/4	
19,753.8	11,793.4	4 1/2"	4-1/2	6-1/8	

Checked By: _____	Approved By: _____	Date: _____
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