



Marathon Oil

Marathon Oil

Eddy County, NM

Rick Deckard State 25-28-4 (12-14-15-18)

WA #15H

OH

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APR 11 2019

DISTRICT II-ARTESIA O.C.D.

Design: MWD 174'-14235' PTB 14292'

Survey Report

12 November, 2018



Company:	Marathon Oil	Local Co-ordinate Reference:	Well WA #15H
Project:	Eddy County, NM	TVD Reference:	Well @ 2988.00usft (GL: 2963' + KB: 25' (Prec594))
Site:	Rick Deckard State 25-28-4 (12-14-15-18)	MD Reference:	Well @ 2988.00usft (GL: 2963' + KB: 25' (Prec594))
Well:	WA #15H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	MWD 174'-14235' PTB 14292'	Database:	WellPlanner1

Project	Eddy County, NM		
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	Rick Deckard State 25-28-4 (12-14-15-18)		
Site Position:		Northing:	419,495.00 usft
From:	Map	Easting:	576,032.96 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32.153070
		Longitude:	-104.087653
		Grid Convergence:	0.13 °

Well	WA #15H					
Well Position	+N/-S	0.00 usft	Northing:	419,495.10 usft	Latitude:	32.153070
	+E/-W	0.00 usft	Easting:	576,062.97 usft	Longitude:	-104.087556
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	2,963.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	User Defined	8/24/2018	7.25	59.93	47,955.60

Design		MWD 174'-14235' PTB 14292'		
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	359.87

Survey Program		Date 11/12/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
174.00	14,292.00	Survey #1 (OH)	MWD+IFR1	OWSG MWD + IFR1

Company: Marathon Oil
Project: Eddy County, NM
Site: Rick Deckard State 25-28-4 (12-14-15-18)
Well: WA #15H
Wellbore: OH
Design: MWD 174'-14235' PTB 14292'

Local Co-ordinate Reference: Well WA #15H
TVD Reference: Well @ 2988.00usft (GL: 2963' + KB: 25' (Prec594))
MD Reference: Well @ 2988.00usft (GL: 2963' + KB: 25' (Prec594))
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WellPlanner1

Survey												
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	419,495.10	576,062.97	
[RickDeckard#15H]FTP												
174.00	0.60	142.50	174.00	-0.72	-0.72	0.55	0.91	142.50	419,494.38	576,063.52		
205.00	0.70	147.90	204.99	-1.01	-1.01	0.75	1.26	143.31	419,494.09	576,063.72		
297.00	0.70	207.70	296.99	-1.99	-1.99	0.79	2.14	158.27	419,493.11	576,063.76		
380.00	0.80	228.70	379.98	-2.82	-2.82	0.12	2.82	177.55	419,492.28	576,063.09		
477.00	1.00	253.80	476.97	-3.50	-3.50	-1.20	3.70	198.94	419,491.60	576,061.77		
568.00	1.20	249.20	567.95	-4.05	-4.06	-2.85	4.96	215.11	419,491.04	576,060.12		
659.00	1.60	215.60	658.93	-5.42	-5.43	-4.48	7.04	219.55	419,489.67	576,058.49		
751.00	2.20	185.60	750.88	-8.22	-8.23	-5.40	9.85	213.28	419,486.87	576,057.57		
842.00	2.90	173.60	841.79	-12.25	-12.26	-5.32	13.36	203.45	419,482.84	576,057.65		
933.00	2.80	165.90	932.68	-16.69	-16.70	-4.52	17.30	195.14	419,478.40	576,058.45		
1,024.00	2.40	157.80	1,023.58	-20.61	-20.62	-3.26	20.88	188.98	419,474.48	576,059.71		
1,113.00	2.00	141.90	1,112.52	-23.57	-23.57	-1.60	23.62	183.88	419,471.53	576,061.37		
1,202.00	1.20	146.70	1,201.48	-25.57	-25.57	-0.13	25.57	180.28	419,469.53	576,062.84		
1,292.00	0.20	176.80	1,291.48	-26.52	-26.52	0.40	26.52	179.14	419,468.58	576,063.37		
1,381.00	0.30	74.50	1,380.47	-26.61	-26.61	0.63	26.62	178.64	419,468.49	576,063.60		
1,470.00	0.90	41.00	1,469.47	-26.02	-26.02	1.32	26.05	177.11	419,469.08	576,064.29		
1,560.00	2.00	47.70	1,559.44	-24.43	-24.43	2.94	24.60	173.13	419,470.67	576,065.91		
1,649.00	3.30	49.90	1,648.34	-21.75	-21.73	6.05	22.56	164.45	419,473.37	576,069.02		
1,738.00	4.10	53.90	1,737.16	-18.23	-18.21	10.58	21.06	149.84	419,476.89	576,073.55		
1,827.00	4.30	63.30	1,825.92	-14.87	-14.83	16.13	21.91	132.60	419,480.27	576,079.10		
1,917.00	3.90	79.30	1,915.69	-12.80	-12.75	22.15	25.56	119.92	419,482.35	576,085.12		
2,006.00	2.80	98.00	2,004.54	-12.55	-12.49	27.28	30.00	114.60	419,482.61	576,090.25		
2,095.00	0.50	141.90	2,093.50	-13.17	-13.10	29.67	32.44	113.82	419,482.00	576,092.64		
2,184.00	1.50	223.20	2,182.49	-14.32	-14.25	29.11	32.42	116.08	419,480.85	576,092.08		
2,274.00	2.10	222.40	2,272.44	-16.39	-16.33	27.20	31.72	120.98	419,478.77	576,090.17		

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Wellbore: OH
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Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well WA #15H
 Well @ 2988.00usft (GL: 2963' + KB: 25' (Prec594))
 Well @ 2988.00usft (GL: 2963' + KB: 25' (Prec594))
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 WellPlanner1

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)	
2,363.00	2.00	218.90	2,361.39	-18.80	-18.74	25.12	31.34	126.73	419,476.36	576,088.09	
2,452.00	1.90	226.70	2,450.33	-21.02	-20.96	23.07	31.17	132.26	419,474.14	576,086.04	
2,492.00	1.70	223.00	2,490.31	-21.90	-21.85	22.19	31.14	134.57	419,473.25	576,085.16	
2,664.00	1.60	222.50	2,662.24	-25.53	-25.49	18.82	31.69	143.55	419,469.61	576,081.79	
2,754.00	2.60	228.10	2,752.18	-27.82	-27.78	16.45	32.29	149.36	419,467.32	576,079.42	
2,843.00	2.90	221.30	2,841.08	-30.85	-30.82	13.47	33.63	156.40	419,464.28	576,076.44	
2,933.00	3.90	224.30	2,930.92	-34.74	-34.72	9.83	36.08	164.20	419,460.38	576,072.80	
3,023.00	6.60	228.50	3,020.53	-40.35	-40.34	3.81	40.52	174.60	419,454.76	576,066.78	
3,112.00	8.70	224.50	3,108.74	-48.52	-48.53	-4.74	48.76	185.57	419,446.57	576,058.23	
3,201.00	10.50	221.00	3,196.49	-59.42	-59.45	-14.78	61.26	193.96	419,435.65	576,048.19	
3,290.00	11.00	220.80	3,283.93	-71.94	-72.00	-25.64	76.43	199.60	419,423.10	576,037.33	
3,380.00	10.10	219.00	3,372.40	-84.55	-84.63	-36.22	92.06	203.17	419,410.47	576,026.75	
3,469.00	11.10	217.50	3,459.88	-97.39	-97.49	-46.35	107.95	205.43	419,397.61	576,016.62	
3,558.00	12.70	218.20	3,546.97	-111.85	-111.98	-57.61	125.93	207.23	419,383.12	576,005.36	
3,647.00	13.90	219.80	3,633.58	-127.72	-127.88	-70.51	146.03	208.87	419,367.22	575,992.46	
3,736.00	14.00	218.90	3,719.96	-144.28	-144.47	-84.11	167.17	210.21	419,350.63	575,978.86	
3,825.00	14.10	218.90	3,806.29	-161.07	-161.29	-97.68	188.56	211.20	419,333.81	575,965.29	
3,915.00	13.80	217.10	3,893.64	-178.13	-178.38	-111.04	210.12	211.90	419,316.72	575,951.93	
4,004.00	13.20	216.40	3,980.18	-194.75	-195.03	-123.47	230.82	212.34	419,300.07	575,939.50	
4,093.00	13.80	220.90	4,066.72	-210.92	-211.23	-136.45	251.47	212.86	419,283.87	575,926.52	
4,183.00	14.10	221.60	4,154.07	-227.20	-227.54	-150.76	272.95	213.53	419,267.56	575,912.21	
4,272.00	14.10	220.30	4,240.39	-243.54	-243.91	-164.97	294.46	214.07	419,251.19	575,898.00	
4,361.00	14.10	219.80	4,326.71	-260.11	-260.51	-178.92	316.03	214.48	419,234.59	575,884.05	
4,450.00	14.00	223.20	4,413.04	-276.25	-276.69	-193.23	337.48	214.93	419,218.41	575,869.74	
4,539.00	13.70	222.30	4,499.46	-291.86	-292.33	-207.69	358.60	215.39	419,202.77	575,855.28	
4,628.00	13.20	221.10	4,586.02	-307.28	-307.78	-221.46	379.18	215.74	419,187.32	575,841.51	
4,718.00	12.40	226.30	4,673.78	-321.67	-322.20	-235.20	398.92	216.13	419,172.90	575,827.77	

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 Well @ 2988.00usft (GL: 2963' + KB: 25' (Prec594))
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4,807.00	11.80	227.20	4,760.80	-334.42	-334.99	-248.79	417.27	216.60	419,160.11	575,814.18	
4,896.00	9.70	228.80	4,848.24	-345.52	-346.11	-261.11	433.56	217.03	419,148.99	575,801.86	
4,986.00	8.40	226.80	4,937.12	-354.99	-355.61	-271.61	447.47	217.37	419,139.49	575,791.36	
5,075.00	6.50	224.20	5,025.36	-363.03	-363.67	-279.86	458.89	217.58	419,131.43	575,783.11	
5,164.00	6.10	225.20	5,113.82	-369.96	-370.61	-286.73	468.58	217.73	419,124.49	575,776.24	
5,254.00	5.80	223.40	5,203.34	-376.62	-377.29	-293.24	477.85	217.86	419,117.81	575,769.73	
5,343.00	5.70	220.90	5,291.89	-383.21	-383.89	-299.23	486.74	217.93	419,111.21	575,763.74	
5,433.00	5.60	220.80	5,381.45	-389.90	-390.60	-305.02	495.59	217.99	419,104.50	575,757.95	
5,522.00	5.50	219.40	5,470.04	-396.47	-397.18	-310.57	504.19	218.02	419,097.92	575,752.40	
5,611.00	5.40	218.40	5,558.63	-403.04	-403.76	-315.88	512.64	218.04	419,091.34	575,747.09	
5,701.00	5.10	219.50	5,648.26	-409.43	-410.16	-321.05	520.87	218.05	419,084.94	575,741.92	
5,790.00	4.30	225.40	5,736.96	-414.82	-415.56	-325.94	528.14	218.11	419,079.54	575,737.03	
5,879.00	2.50	223.20	5,825.80	-418.57	-419.32	-329.65	533.38	218.17	419,075.78	575,733.32	
5,968.00	0.90	229.00	5,914.75	-420.44	-421.19	-331.50	536.00	218.21	419,073.91	575,731.47	
6,058.00	0.40	231.70	6,004.75	-421.09	-421.85	-332.28	537.00	218.23	419,073.25	575,730.69	
6,147.00	0.50	230.10	6,093.74	-421.53	-422.29	-332.83	537.68	218.24	419,072.81	575,730.14	
6,236.00	0.50	219.10	6,182.74	-422.08	-422.84	-333.37	538.45	218.25	419,072.26	575,729.60	
6,325.00	0.50	224.70	6,271.74	-422.66	-423.42	-333.89	539.22	218.26	419,071.68	575,729.08	
6,413.00	0.70	221.80	6,359.73	-423.33	-424.09	-334.52	540.14	218.27	419,071.01	575,728.45	
6,502.00	1.00	198.00	6,448.72	-424.47	-425.24	-335.12	541.41	218.24	419,069.86	575,727.85	
6,591.00	1.10	208.60	6,537.71	-425.96	-426.72	-335.77	542.99	218.20	419,068.38	575,727.20	
6,681.00	0.20	215.20	6,627.70	-426.85	-427.61	-336.27	543.99	218.18	419,067.49	575,726.70	
6,770.00	0.30	237.50	6,716.70	-427.10	-427.86	-336.56	544.37	218.19	419,067.24	575,726.41	
6,859.00	0.80	265.50	6,805.70	-427.27	-428.04	-337.37	545.01	218.24	419,067.06	575,725.60	
6,949.00	0.80	273.90	6,895.69	-427.27	-428.04	-338.63	545.79	218.35	419,067.06	575,724.34	
7,038.00	0.70	287.90	6,984.68	-427.06	-427.83	-339.76	546.33	218.45	419,067.27	575,723.21	
7,127.00	1.30	290.50	7,073.67	-426.54	-427.31	-341.23	546.84	218.61	419,067.79	575,721.74	

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Well WA #15H
 Well @ 2988.00usft (GL: 2963' + KB: 25' (Prec594))
 Well @ 2988.00usft (GL: 2963' + KB: 25' (Prec594))
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Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)	
7,217.00	1.70	274.20	7,163.64	-426.08	-426.86	-343.51	547.91	218.83	419,068.24	575,719.46	
7,306.00	1.50	271.50	7,252.60	-425.95	-426.73	-345.99	549.37	219.04	419,068.37	575,716.98	
7,395.00	0.60	323.30	7,341.59	-425.54	-426.33	-347.44	549.97	219.18	419,068.77	575,715.53	
7,484.00	1.30	290.40	7,430.57	-424.81	-425.60	-348.66	550.18	219.33	419,069.50	575,714.31	
7,574.00	2.40	309.50	7,520.53	-423.25	-424.05	-351.07	550.52	219.62	419,071.05	575,711.90	
7,663.00	2.10	353.10	7,609.46	-420.44	-421.24	-352.71	549.41	219.94	419,073.86	575,710.26	
7,753.00	1.50	1.60	7,699.42	-417.63	-418.43	-352.87	547.36	220.14	419,076.67	575,710.10	
7,842.00	1.30	258.00	7,788.40	-416.67	-417.47	-353.83	547.25	220.28	419,077.63	575,709.14	
7,931.00	0.30	157.10	7,877.40	-417.09	-417.90	-354.72	548.15	220.33	419,077.20	575,708.25	
8,020.00	1.70	99.40	7,966.38	-417.53	-418.33	-353.33	547.58	220.19	419,076.77	575,709.64	
8,109.00	1.90	107.20	8,055.34	-418.18	-418.98	-350.62	546.33	219.92	419,076.12	575,712.35	
8,199.00	1.50	104.90	8,145.30	-418.93	-419.72	-348.06	545.26	219.67	419,075.38	575,714.91	
8,289.00	0.80	86.00	8,235.28	-419.20	-419.98	-346.29	544.34	219.51	419,075.12	575,716.68	
8,378.00	0.20	112.70	8,324.28	-419.22	-420.00	-345.53	543.87	219.44	419,075.10	575,717.44	
8,468.00	0.30	245.70	8,414.28	-419.37	-420.16	-345.60	544.03	219.44	419,074.94	575,717.37	
8,557.00	1.20	200.90	8,503.27	-420.34	-421.12	-346.14	545.12	219.42	419,073.98	575,716.83	
8,647.00	1.20	181.00	8,593.25	-422.16	-422.95	-346.50	546.76	219.33	419,072.15	575,716.47	
8,737.00	2.40	117.80	8,683.21	-423.98	-424.77	-344.84	547.13	219.07	419,070.33	575,718.13	
8,826.00	2.40	110.80	8,772.13	-425.52	-426.30	-341.45	546.19	218.69	419,068.80	575,721.52	
8,915.00	1.50	128.50	8,861.08	-426.92	-427.69	-338.80	545.62	218.39	419,067.41	575,724.17	
8,995.39	1.19	287.16	8,941.46	-427.33	-428.10	-338.77	545.92	218.36	419,067.00	575,724.20	
[RickDeckard#15H]KOP											
9,002.00	1.40	289.00	8,948.07	-427.28	-428.05	-338.91	545.98	218.37	419,067.05	575,724.06	
9,092.00	11.70	1.20	9,037.41	-417.76	-418.54	-339.77	539.09	219.07	419,076.56	575,723.20	
9,181.00	25.20	355.20	9,121.65	-389.73	-390.50	-341.17	518.54	221.14	419,104.60	575,721.80	
9,270.00	34.50	352.70	9,198.76	-345.74	-346.52	-345.97	489.66	224.95	419,148.58	575,717.00	
9,360.00	41.10	357.70	9,269.85	-290.81	-291.61	-350.40	455.87	230.23	419,203.49	575,712.57	

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Well: WA #15H
Wellbore: OH
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Local Co-ordinate Reference: Well WA #15H
TVD Reference: Well @ 2988.00usft (GL: 2963' + KB: 25' (Prec594))
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North Reference: Grid
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Database: WellPlanner1

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)	
9,449.00	45.40	358.80	9,334.66	-229.87	-230.67	-352.24	421.05	236.78	419,264.43	575,710.73	
9,539.00	50.30	358.70	9,395.04	-163.18	-163.98	-353.70	389.86	245.13	419,331.12	575,709.27	
9,628.00	59.70	356.00	9,446.04	-90.44	-91.25	-357.16	368.63	255.67	419,403.85	575,705.81	
9,718.00	71.10	357.50	9,483.45	-8.87	-9.69	-361.74	361.87	268.47	419,485.41	575,701.23	
9,776.00	77.30	358.70	9,499.23	46.89	46.06	-363.58	366.49	277.22	419,541.16	575,699.39	
9,831.00	80.60	359.20	9,509.77	100.85	100.03	-364.57	378.04	285.34	419,595.13	575,698.40	
9,925.00	85.00	0.10	9,521.55	194.09	193.26	-365.14	413.13	297.89	419,688.36	575,697.83	
10,019.00	89.00	1.10	9,526.47	287.93	287.10	-364.15	463.72	308.25	419,782.20	575,698.82	
10,114.00	89.50	1.50	9,527.71	382.89	382.07	-362.00	526.33	316.55	419,877.17	575,700.97	
10,208.00	89.60	1.90	9,528.45	476.84	476.03	-359.21	596.35	322.96	419,971.13	575,703.76	
10,302.00	89.40	2.80	9,529.27	570.75	569.94	-355.35	671.65	328.06	420,065.04	575,707.62	
10,396.00	91.70	3.00	9,528.37	664.61	663.81	-350.60	750.71	332.16	420,158.91	575,712.37	
10,491.00	91.80	3.30	9,525.47	759.41	758.62	-345.38	833.55	335.52	420,253.72	575,717.59	
10,585.00	89.80	1.70	9,524.15	853.29	852.52	-341.28	918.29	338.18	420,347.62	575,721.69	
10,679.00	90.20	2.50	9,524.15	947.22	946.45	-337.84	1,004.94	340.36	420,441.55	575,725.13	
10,773.00	89.60	359.50	9,524.32	1,041.19	1,040.43	-336.20	1,093.40	342.09	420,535.53	575,726.77	
10,867.00	90.00	359.60	9,524.65	1,135.19	1,134.42	-336.94	1,183.40	343.46	420,629.52	575,726.03	
10,962.00	87.30	358.80	9,526.88	1,230.14	1,229.38	-338.26	1,275.07	344.62	420,724.48	575,724.71	
11,056.00	86.30	357.60	9,532.13	1,323.95	1,323.18	-341.21	1,366.47	345.54	420,818.28	575,721.76	
11,150.00	89.40	357.30	9,535.66	1,417.79	1,417.01	-345.39	1,458.50	346.30	420,912.11	575,717.58	
11,244.00	89.10	357.00	9,536.89	1,511.68	1,510.89	-350.06	1,550.91	346.96	421,005.99	575,712.91	
11,339.00	88.60	356.80	9,538.79	1,606.53	1,605.73	-355.20	1,644.55	347.53	421,100.83	575,707.77	
11,433.00	91.10	359.30	9,539.04	1,700.47	1,699.66	-358.40	1,737.04	348.09	421,194.76	575,704.57	
11,527.00	90.10	358.50	9,538.06	1,794.45	1,793.64	-360.20	1,829.45	348.64	421,288.74	575,702.77	
11,621.00	91.70	359.80	9,536.58	1,888.42	1,887.61	-361.59	1,921.93	349.16	421,382.71	575,701.38	
11,716.00	91.50	359.70	9,533.93	1,983.39	1,982.57	-362.01	2,015.35	349.65	421,477.67	575,700.96	
11,810.00	91.50	0.00	9,531.47	2,077.35	2,076.54	-362.26	2,107.90	350.10	421,571.64	575,700.71	

Company: Marathon Oil
Project: Eddy County, NM
Site: Rick Deckard State 25-28-4 (12-14-15-18)
Well: WA #15H
Wellbore: OH
Design: MWD 174'-14235' PTB 14292'

Local Co-ordinate Reference:
TVD Reference: Well WA #15H
MD Reference: Well @ 2988.00usft (GL: 2963' + KB: 25' (Prec594))
North Reference: Well @ 2988.00usft (GL: 2963' + KB: 25' (Prec594))
Survey Calculation Method: Grid
Database: Minimum Curvature
 WellPlanner1

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)
11,905.00	91.50	0.10	9,528.98	2,172.32	2,171.51	-362.17	2,201.50	350.53	421,666.61	575,700.80
11,999.00	88.20	0.50	9,529.23	2,266.31	2,265.49	-361.68	2,294.18	350.93	421,760.59	575,701.29
12,094.00	87.40	0.30	9,532.87	2,361.23	2,360.42	-361.02	2,387.87	351.30	421,855.52	575,701.95
12,188.00	86.90	1.10	9,537.55	2,455.10	2,454.29	-359.87	2,480.54	351.66	421,949.39	575,703.10
12,283.00	88.80	1.20	9,541.11	2,550.01	2,549.20	-357.97	2,574.21	352.01	422,044.30	575,705.00
12,375.00	86.30	359.00	9,545.04	2,641.91	2,641.11	-357.80	2,665.23	352.28	422,136.21	575,705.17
12,470.00	90.30	357.50	9,547.86	2,736.81	2,736.00	-360.70	2,759.67	352.49	422,231.10	575,702.27
12,565.00	92.30	357.70	9,545.71	2,831.70	2,830.88	-364.68	2,854.28	352.66	422,325.98	575,698.29
12,659.00	92.60	358.10	9,541.69	2,925.56	2,924.74	-368.12	2,947.81	352.83	422,419.84	575,694.85
12,753.00	91.60	358.20	9,538.24	3,019.46	3,018.62	-371.15	3,041.35	352.99	422,513.72	575,691.82
12,848.00	92.90	359.00	9,534.51	3,114.36	3,113.52	-373.47	3,135.84	353.16	422,608.62	575,689.50
12,943.00	92.30	2.50	9,530.20	3,209.23	3,208.40	-372.23	3,229.92	353.38	422,703.50	575,690.74
13,036.00	90.70	2.30	9,527.77	3,302.11	3,301.28	-368.34	3,321.76	353.63	422,796.38	575,694.63
13,130.00	88.20	3.30	9,528.67	3,395.97	3,395.15	-363.75	3,414.58	353.88	422,890.25	575,699.22
13,224.00	89.20	4.80	9,530.80	3,489.69	3,488.89	-357.11	3,507.12	354.16	422,983.99	575,705.86
13,318.00	85.20	1.30	9,535.40	3,583.40	3,582.61	-352.11	3,599.87	354.39	423,077.71	575,710.86
13,412.00	85.00	0.50	9,543.43	3,677.04	3,676.26	-350.64	3,692.94	354.55	423,171.36	575,712.33
13,506.00	86.30	359.10	9,550.56	3,770.77	3,769.98	-350.97	3,786.28	354.68	423,265.08	575,712.00
13,601.00	90.20	359.60	9,553.46	3,865.70	3,864.91	-352.05	3,880.91	354.80	423,360.01	575,710.92
13,695.00	90.90	359.20	9,552.55	3,959.69	3,958.90	-353.03	3,974.61	354.90	423,454.00	575,709.94
13,789.00	90.70	359.10	9,551.24	4,053.68	4,052.88	-354.42	4,068.35	355.00	423,547.98	575,708.55
13,883.00	90.30	357.50	9,550.42	4,147.63	4,146.83	-357.21	4,162.19	355.08	423,641.93	575,705.76
13,978.00	88.60	356.20	9,551.33	4,242.49	4,241.68	-362.43	4,257.14	355.12	423,736.78	575,700.54
14,073.00	89.80	358.20	9,552.66	4,337.37	4,336.55	-367.07	4,352.06	355.16	423,831.65	575,695.90
14,167.00	88.40	357.50	9,554.14	4,431.30	4,430.47	-370.60	4,445.94	355.22	423,925.57	575,692.37
14,235.00	88.00	357.60	9,556.27	4,499.21	4,498.37	-373.50	4,513.85	355.25	423,993.47	575,689.47
Last Survey: 14235'MD, 9556'TVD - [RickDeckard#15H]LTP/BHL										

Company: Marathon Oil
Project: Eddy County, NM
Site: Rick Deckard State 25-28-4 (12-14-15-18)
Well: WA #15H
Wellbore: OH
Design: MWD 174'-14235' PTB 14292'

Local Co-ordinate Reference:
TVD Reference: Well @ 2988.00usft (GL: 2963' + KB: 25' (Prec594))
MD Reference: Well @ 2988.00usft (GL: 2963' + KB: 25' (Prec594))
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WellPlanner1

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)
14,292.00	88.00	357.60	9,558.26	4,556.13	4,555.29	-375.89	4,570.77	355.28	424,050.39	575,687.08
PTB: 14292'MD, 9558'TVD										

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
14,235.00	9,556.27	4,498.37	-373.50	Last Survey: 14235'MD, 9556'TVD	
14,292.00	9,558.26	4,555.29	-375.89	PTB: 14292'MD, 9558'TVD	

US State Plane 1927 (Exact solution)
NAD 1927 (NADCON CONUS)
Clarke 1866
New Mexico East 3001
Mean Sea Level

RKB Elevation: Well @ 2988.00usft (GL: 2963' + KB: 25' (Prec594))

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	419495.10	576062.97	32.153070	-104.087556	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	V.Sect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	174.00	0.80	142.50	174.00	-0.72	0.55	0.34	-0.72
3	205.00	0.70	147.90	204.99	-1.01	0.75	0.38	-1.01
4	297.00	-0.70	207.70	296.99	-1.99	0.79	0.76	-1.99
5	380.00	0.80	228.70	379.98	-2.82	0.12	0.35	-2.82
6	460.00	0.80	228.70	459.97	-3.55	-0.72	0.00	-3.55
7	618.99	2.00	180.00	618.92	-7.06	-1.55	1.00	-7.06
8	1118.99	2.00	180.00	1118.62	-24.51	-1.55	0.00	-24.51
9	1318.99	0.00	0.00	1318.58	-28.00	-1.55	1.00	-28.00
10	2700.42	0.00	0.00	2700.00	-28.00	-1.55	0.00	-28.00
11	3200.42	10.00	222.04	3197.47	-60.32	-30.70	2.00	-60.25
12	5699.96	10.00	222.04	5659.03	-382.68	-321.35	0.00	-381.95
13	6199.96	0.00	0.00	6156.50	-415.00	-350.50	2.00	-414.20
14	8984.96	0.00	0.00	8941.50	-415.00	-350.50	0.00	-414.20
15	9879.97	89.50	359.87	9514.44	152.97	-351.80	10.00	153.77
16	14238.08	89.50	359.87	9552.37	4510.90	-361.76	0.00	4511.71
17	14283.08	89.50	359.87	9552.76	4555.90	-361.86	0.00	4556.71

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
[RickDeckard#15H]FTP	0.00	-186.02	-351.02	419309.08	575711.95
[RickDeckard#15H]KOP	8941.50	-415.00	-350.50	419080.10	575712.47
[RickDeckard#15H]LTP/BHL	9552.37	4510.90	-361.76	424006.00	575701.21

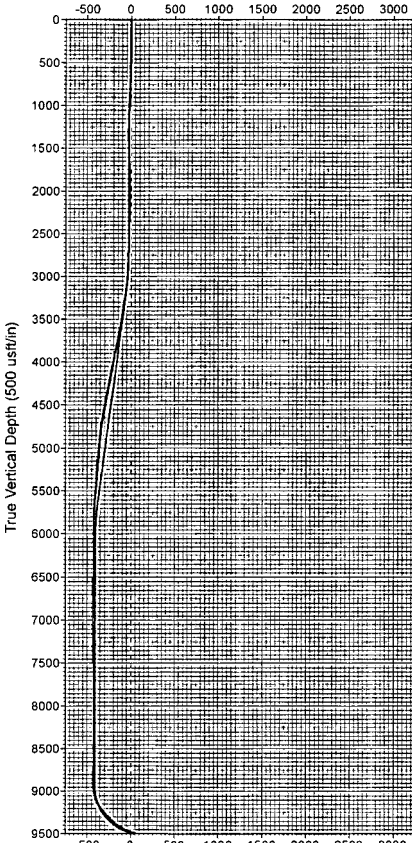


Azimuths to Grid North
True North: 0.13°
Magnetic North: 7.12°
Magnetic Field
Strength: 47955.6nT
Dip Angle: 59.93°
Date: 8/24/2018
Model: USER DEFINED

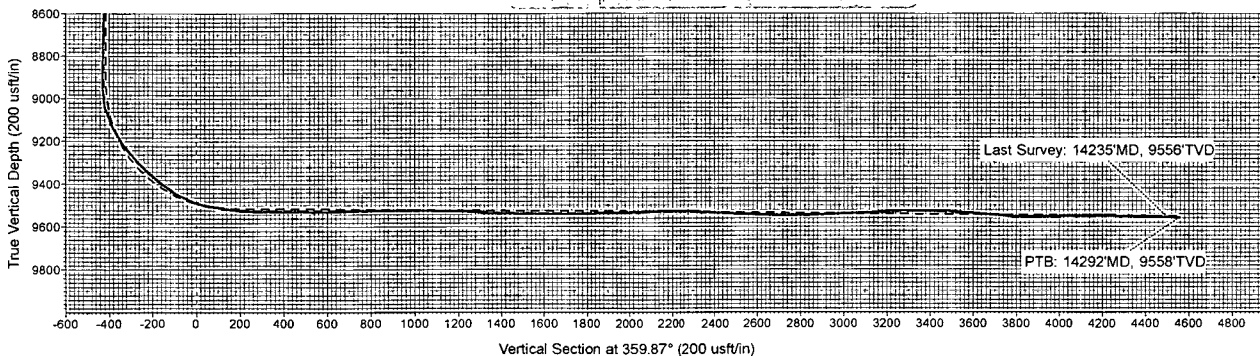
Azimuth Corrections

Total Magnetic Corr. (M to G): 7.12°

Declination (M to T): 7.25° East



Target Line: 9513' TVD @ 0' VS: 89.5° INC



36" x 48"

