



Marathon Oil

Marathon Oil

Eddy County, NM

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

WXY #18H

OH

Design: MWD 174'-14253' PTB 14310'

Survey Report

05 November, 2018

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APR 12 2019

DISTRICT II-ARTESIA O.C.D.



Company:	Marathon Oil	Local Co-ordinate Reference:	Well WXY #18H
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:	WXY #18H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	MWD 174'-14253' PTB 14310'	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	WXY #18H					
Well Position	+N/-S	0.00 usft	Northing:	419,495.00 usft	Latitude:	32.153070
	+E/-W	0.00 usft	Easting:	576,093.01 usft	Longitude:	-104.087459
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	47,953.90

Design		MWD 174'-14253' PTB 14310'		
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	359.85

Survey Program		Date 11/5/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
174.00	14,310.00	Survey #1 (OH)	MWD+IFR1	OWSG MWD + IFR1

Company:	Marathon Oil	Local Co-ordinate Reference:	Well WXY #18H
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:	WXY #18H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	MWD 174'-14253' PTB 14310'	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	419,495.00	576,093.01	
1.25	0.01	182.80	1.25	0.00	0.00	0.00	0.00	182.80	419,495.00	576,093.01	
[RickDeckard#18H]FTP											
174.00	0.80	182.80	173.99	-1.21	-1.21	-0.06	1.21	182.80	419,493.79	576,092.95	
205.00	0.80	191.40	204.99	-1.64	-1.64	-0.11	1.65	183.93	419,493.36	576,092.90	
297.00	1.10	210.30	296.98	-3.03	-3.03	-0.69	3.11	192.73	419,491.97	576,092.32	
380.00	1.10	206.30	379.96	-4.43	-4.44	-1.44	4.66	197.99	419,490.56	576,091.57	
476.00	0.80	229.70	475.95	-5.69	-5.70	-2.36	6.16	202.50	419,489.30	576,090.65	
567.00	1.30	318.40	566.94	-5.32	-5.33	-3.53	6.40	213.49	419,489.67	576,089.48	
658.00	2.50	333.50	657.89	-2.77	-2.79	-5.10	5.81	241.36	419,492.21	576,087.91	
750.00	2.70	334.50	749.79	0.98	0.97	-6.93	7.00	277.93	419,495.97	576,086.08	
841.00	2.50	353.10	840.70	4.89	4.87	-8.09	9.44	301.05	419,499.87	576,084.92	
932.00	2.90	13.50	931.60	9.10	9.08	-7.79	11.96	319.37	419,504.08	576,085.22	
1,023.00	3.60	17.90	1,022.46	14.05	14.04	-6.38	15.42	335.57	419,509.04	576,086.63	
1,112.00	3.60	21.80	1,111.28	19.30	19.29	-4.48	19.80	346.93	419,514.29	576,088.53	
1,202.00	3.30	22.30	1,201.12	24.32	24.31	-2.45	24.43	354.25	419,519.31	576,090.56	
1,291.00	3.20	28.30	1,289.97	28.87	28.87	-0.30	28.87	359.41	419,523.87	576,092.71	
1,380.00	2.70	35.90	1,378.86	32.75	32.75	2.11	32.82	3.69	419,527.75	576,095.12	
1,469.00	1.60	42.80	1,467.79	35.35	35.36	4.18	35.61	6.75	419,530.36	576,097.19	
1,559.00	0.20	160.70	1,557.78	36.12	36.14	5.09	36.49	8.02	419,531.14	576,098.10	
1,648.00	2.20	235.60	1,646.76	35.01	35.02	3.73	35.22	6.08	419,530.02	576,096.74	
1,737.00	1.50	240.80	1,735.71	33.49	33.49	1.30	33.52	2.23	419,528.49	576,094.31	
1,826.00	0.40	242.60	1,824.70	32.78	32.78	0.01	32.78	0.02	419,527.78	576,093.02	
1,916.00	0.50	70.50	1,914.70	32.77	32.77	0.10	32.77	0.18	419,527.77	576,093.11	
2,005.00	0.60	69.60	2,003.69	33.06	33.06	0.91	33.07	1.57	419,528.06	576,093.92	
2,094.00	0.70	204.20	2,092.69	32.72	32.72	1.12	32.74	1.96	419,527.72	576,094.13	
2,184.00	1.00	151.50	2,182.68	31.53	31.53	1.27	31.56	2.30	419,526.53	576,094.28	

Company: Marathon Oil
Project: Eddy County, NM
Site: Rick Deckard State 25-28-4 (12-14-15-18)
Well: WXY #18H
Wellbore: OH
Design: MWD 174'-14253' PTB 14310'

Local Co-ordinate Reference: Well WXY #18H
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)	
2,273.00	2.50	123.60	2,271.64	29.77	29.78	3.26	29.95	6.24	419,524.78	576,096.27	
2,362.00	1.50	129.70	2,360.58	27.94	27.96	5.77	28.55	11.66	419,522.96	576,098.78	
2,451.00	3.00	292.20	2,449.55	28.08	28.09	4.51	28.45	9.12	419,523.09	576,097.52	
2,488.00	3.70	294.40	2,486.49	28.95	28.95	2.53	29.06	4.98	419,523.95	576,095.54	
2,653.00	2.10	289.80	2,651.27	32.19	32.18	-5.17	32.59	350.88	419,527.18	576,087.84	
2,743.00	1.30	149.30	2,741.25	31.87	31.86	-6.20	32.45	348.99	419,526.86	576,086.81	
2,832.00	3.00	133.00	2,830.19	29.41	29.40	-3.98	29.67	352.29	419,524.40	576,089.03	
2,922.00	5.10	132.60	2,919.96	25.08	25.09	0.69	25.10	1.57	419,520.09	576,093.70	
3,012.00	6.90	136.80	3,009.46	18.42	18.44	7.33	19.84	21.69	419,513.44	576,100.34	
3,101.00	9.00	140.10	3,097.60	9.16	9.20	15.46	17.99	59.25	419,504.20	576,108.47	
3,190.00	11.30	143.40	3,185.21	-3.21	-3.14	25.13	25.32	97.13	419,491.86	576,118.14	
3,279.00	13.70	147.10	3,272.09	-19.09	-19.00	36.05	40.75	117.79	419,476.00	576,129.06	
3,369.00	13.40	146.90	3,359.59	-36.81	-36.68	47.53	60.04	127.66	419,458.32	576,140.54	
3,458.00	13.10	145.30	3,446.22	-53.77	-53.61	58.91	79.65	132.31	419,441.39	576,151.92	
3,547.00	13.00	145.20	3,532.92	-70.31	-70.12	70.36	99.34	134.90	419,424.88	576,163.37	
3,636.00	13.30	144.30	3,619.58	-86.87	-86.66	82.05	119.34	136.56	419,408.34	576,175.06	
3,725.00	13.30	144.50	3,706.20	-103.55	-103.31	93.97	139.65	137.71	419,391.69	576,186.98	
3,814.00	13.40	144.30	3,792.79	-120.29	-120.02	105.93	160.08	138.57	419,374.98	576,198.94	
3,904.00	12.90	143.40	3,880.43	-136.86	-136.55	118.01	180.48	139.17	419,358.45	576,211.02	
3,993.00	12.30	145.60	3,967.29	-152.69	-152.35	129.29	199.81	139.68	419,342.65	576,222.30	
4,082.00	11.70	148.40	4,054.34	-168.22	-167.86	139.37	218.17	140.30	419,327.14	576,232.38	
4,172.00	11.80	147.90	4,142.46	-183.81	-183.42	149.04	236.34	140.90	419,311.58	576,242.05	
4,261.00	11.90	147.90	4,229.56	-199.32	-198.91	158.75	254.49	141.41	419,296.09	576,251.76	
4,350.00	12.00	148.00	4,316.63	-214.97	-214.53	168.53	272.81	141.85	419,280.47	576,261.54	
4,439.00	12.00	146.90	4,403.69	-230.59	-230.12	178.49	291.23	142.20	419,264.88	576,271.50	
4,528.00	11.80	146.90	4,490.78	-245.99	-245.50	188.51	309.52	142.48	419,249.50	576,281.52	
4,617.00	11.30	146.50	4,577.97	-260.91	-260.39	198.29	327.30	142.71	419,234.61	576,291.30	

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4,707.00	11.10	146.60	4,666.26	-275.52	-274.98	207.93	344.74	142.90	419,220.02	576,300.94	
4,796.00	10.60	145.40	4,753.67	-289.43	-288.87	217.29	361.47	143.05	419,206.13	576,310.30	
4,885.00	10.50	145.20	4,841.16	-302.86	-302.26	226.57	377.75	143.15	419,192.74	576,319.58	
4,975.00	9.60	144.60	4,929.78	-315.73	-315.12	235.60	393.45	143.22	419,179.88	576,328.61	
5,064.00	9.10	143.20	5,017.60	-327.44	-326.80	244.11	407.91	143.24	419,168.20	576,337.12	
5,153.00	8.70	144.00	5,105.53	-338.54	-337.88	252.28	421.68	143.25	419,157.12	576,345.29	
5,243.00	8.20	144.10	5,194.55	-349.27	-348.59	260.05	434.90	143.28	419,146.41	576,353.06	
5,332.00	8.20	144.20	5,282.64	-359.58	-358.88	267.48	447.59	143.30	419,136.12	576,360.49	
5,422.00	7.60	143.40	5,371.78	-369.58	-368.86	274.79	459.96	143.32	419,126.14	576,367.80	
5,511.00	7.30	145.30	5,460.03	-378.97	-378.23	281.51	471.50	143.34	419,116.77	576,374.52	
5,600.00	7.30	145.80	5,548.31	-388.31	-387.56	287.91	482.80	143.39	419,107.44	576,380.92	
5,690.00	7.40	145.20	5,637.57	-397.82	-397.05	294.43	494.31	143.44	419,097.95	576,387.44	
5,779.00	5.90	148.20	5,725.97	-406.43	-405.64	300.12	504.59	143.50	419,089.36	576,393.13	
5,868.00	4.20	152.10	5,814.62	-413.20	-412.41	304.05	512.38	143.60	419,082.59	576,397.06	
5,957.00	1.90	172.30	5,903.49	-417.55	-416.75	305.77	516.90	143.73	419,078.25	576,398.78	
6,047.00	1.40	194.00	5,993.46	-420.10	-419.30	305.71	518.91	143.90	419,075.70	576,398.72	
6,136.00	1.50	193.20	6,082.43	-422.29	-421.49	305.18	520.37	144.09	419,073.51	576,398.19	
6,225.00	1.30	183.60	6,171.40	-424.43	-423.63	304.85	521.91	144.26	419,071.37	576,397.86	
6,314.00	1.40	184.00	6,260.38	-426.52	-425.72	304.71	523.53	144.41	419,069.28	576,397.72	
6,404.00	1.00	192.50	6,350.36	-428.38	-427.59	304.46	524.91	144.55	419,067.41	576,397.47	
6,493.00	0.80	208.80	6,439.35	-429.68	-428.89	304.00	525.70	144.67	419,066.11	576,397.01	
6,582.00	0.80	248.00	6,528.34	-430.46	-429.67	303.12	525.83	144.80	419,065.33	576,396.13	
6,671.00	1.00	288.10	6,617.33	-430.45	-429.66	301.81	525.06	144.91	419,065.34	576,394.82	
6,761.00	1.40	306.60	6,707.31	-429.54	-428.76	300.18	523.39	145.00	419,066.24	576,393.19	
6,850.00	0.60	108.60	6,796.30	-429.04	-428.26	299.75	522.74	145.01	419,066.74	576,392.76	
6,939.00	1.70	103.90	6,885.28	-429.51	-428.72	301.47	524.11	144.89	419,066.28	576,394.48	
7,028.00	1.40	116.00	6,974.25	-430.31	-429.52	303.73	526.06	144.73	419,065.48	576,396.74	

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Wellbore: OH
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Local Co-ordinate Reference: Well WXY #18H
TVD Reference: Well @ 2988.00usft (GL: 2963' + KB: 25' (Prec594))
MD Reference: Well @ 2988.00usft (GL: 2963' + KB: 25' (Prec594))
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Survey											
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7,118.00	1.90	130.70	7,064.21	-431.77	-430.97	305.85	528.47	144.64	419,064.03	576,398.86	
7,207.00	2.40	156.40	7,153.15	-434.45	-433.64	307.71	531.73	144.64	419,061.36	576,400.72	
7,296.00	2.20	202.10	7,242.09	-437.74	-436.93	307.82	534.47	144.84	419,058.07	576,400.83	
7,386.00	2.30	218.90	7,332.02	-440.74	-439.94	306.03	535.91	145.18	419,055.06	576,399.04	
7,475.00	0.90	268.60	7,420.99	-442.14	-441.35	304.21	536.03	145.42	419,053.65	576,397.22	
7,565.00	1.00	300.20	7,510.97	-441.76	-440.97	302.83	534.94	145.52	419,054.03	576,395.84	
7,654.00	0.70	186.60	7,599.97	-441.91	-441.12	302.09	534.64	145.60	419,053.88	576,395.10	
7,743.00	0.90	157.70	7,688.96	-443.09	-442.30	302.29	535.74	145.65	419,052.70	576,395.30	
7,832.00	1.30	344.80	7,777.95	-442.77	-441.98	302.30	535.47	145.63	419,053.02	576,395.31	
7,921.00	0.80	306.50	7,866.94	-441.42	-440.63	301.53	533.93	145.62	419,054.37	576,394.54	
8,011.00	0.80	220.90	7,956.93	-441.52	-440.73	300.61	533.49	145.70	419,054.27	576,393.62	
8,100.00	1.30	205.00	8,045.92	-442.90	-442.12	299.78	534.17	145.86	419,052.88	576,392.79	
8,190.00	1.50	203.90	8,135.89	-444.90	-444.12	298.87	535.32	146.06	419,050.88	576,391.88	
8,280.00	1.00	245.70	8,225.87	-446.30	-445.52	297.68	535.82	146.25	419,049.48	576,390.69	
8,369.00	1.30	244.30	8,314.85	-447.05	-446.28	296.06	535.55	146.44	419,048.72	576,389.07	
8,458.00	1.40	225.60	8,403.83	-448.25	-447.48	294.38	535.62	146.66	419,047.52	576,387.39	
8,548.00	1.50	237.50	8,493.80	-449.64	-448.88	292.60	535.82	146.90	419,046.12	576,385.61	
8,638.00	1.60	232.10	8,583.77	-451.04	-450.28	290.61	535.92	147.16	419,044.72	576,383.62	
8,727.00	1.30	210.70	8,672.74	-452.67	-451.91	289.12	536.48	147.39	419,043.09	576,382.13	
8,817.00	1.30	185.60	8,762.72	-454.56	-453.81	288.49	537.75	147.56	419,041.19	576,381.50	
8,906.00	1.20	204.40	8,851.70	-456.41	-455.66	288.01	539.05	147.70	419,039.34	576,381.02	
9,002.00	2.60	319.40	8,947.66	-455.67	-454.92	286.18	537.45	147.83	419,040.08	576,379.19	
9,022.10	4.31	336.47	8,967.73	-454.63	-453.88	285.58	536.25	147.82	419,041.12	576,378.59	
[RickDeckard#18H]KOP											
9,091.00	10.90	350.40	9,035.99	-445.82	-445.08	283.46	527.67	147.51	419,049.92	576,376.47	
9,180.00	19.60	345.90	9,121.77	-422.98	-422.26	278.41	505.78	146.60	419,072.74	576,371.42	
9,268.00	29.20	347.90	9,201.82	-387.57	-386.87	270.29	471.94	145.06	419,108.13	576,363.30	

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Well: WXY #18H
Wellbore: OH
Design: MWD 174'-14253' PTB 14310'

Local Co-ordinate Reference: Well WXY #18H
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)	
9,357.00	38.50	353.80	9,275.67	-338.67	-337.98	262.73	428.09	142.14	419,157.02	576,355.74	
9,446.00	49.80	354.50	9,339.43	-277.08	-276.41	256.46	377.06	137.14	419,218.59	576,349.47	
9,536.00	63.80	356.70	9,388.59	-202.16	-201.51	250.81	321.73	128.78	419,293.49	576,343.82	
9,625.00	74.10	359.30	9,420.52	-119.26	-118.61	247.98	274.89	115.56	419,376.39	576,340.99	
9,736.00	78.70	359.00	9,446.62	-11.41	-10.77	246.38	246.62	92.50	419,484.23	576,339.39	
9,831.00	84.60	1.10	9,460.41	82.53	83.18	246.48	260.13	71.35	419,578.18	576,339.49	
9,925.00	85.80	1.10	9,468.27	176.18	176.83	248.27	304.81	54.54	419,671.83	576,341.28	
10,019.00	89.00	2.30	9,472.54	270.02	270.68	251.06	369.19	42.85	419,765.68	576,344.07	
10,114.00	91.70	3.10	9,471.96	364.89	365.56	255.54	446.02	34.95	419,860.56	576,348.55	
10,209.00	88.30	2.50	9,471.96	459.75	460.43	260.18	528.86	29.47	419,955.43	576,353.19	
10,302.00	89.10	2.70	9,474.07	552.62	553.31	264.39	613.24	25.54	420,048.31	576,357.40	
10,397.00	91.00	3.20	9,473.98	647.47	648.18	269.28	701.89	22.56	420,143.18	576,362.29	
10,491.00	89.00	2.70	9,473.98	741.33	742.05	274.12	791.06	20.27	420,237.05	576,367.13	
10,585.00	90.00	3.50	9,474.80	835.18	835.91	279.20	881.30	18.47	420,330.91	576,372.21	
10,679.00	90.10	1.50	9,474.72	929.07	929.81	283.30	972.02	16.95	420,424.81	576,376.31	
10,773.00	89.30	1.10	9,475.21	1,023.04	1,023.79	285.44	1,062.83	15.58	420,518.79	576,378.45	
10,867.00	89.10	1.20	9,476.53	1,117.00	1,117.76	287.32	1,154.10	14.42	420,612.76	576,380.33	
10,963.00	88.70	1.10	9,478.37	1,212.96	1,213.72	289.25	1,247.71	13.40	420,708.72	576,382.26	
11,056.00	88.30	1.10	9,480.80	1,305.91	1,306.67	291.03	1,338.69	12.56	420,801.67	576,384.04	
11,150.00	87.30	0.70	9,484.41	1,399.82	1,400.59	292.51	1,430.81	11.80	420,895.59	576,385.52	
11,245.00	91.20	2.70	9,485.65	1,494.74	1,495.52	295.33	1,524.40	11.17	420,990.52	576,388.34	
11,339.00	89.20	359.90	9,485.33	1,588.70	1,589.48	297.46	1,617.07	10.60	421,084.48	576,390.47	
11,433.00	88.70	359.20	9,487.05	1,682.68	1,683.46	296.72	1,709.41	10.00	421,178.46	576,389.73	
11,528.00	88.30	359.40	9,489.54	1,777.64	1,778.42	295.56	1,802.81	9.44	421,273.42	576,388.57	
11,622.00	90.10	357.20	9,490.85	1,871.59	1,872.36	292.77	1,895.11	8.89	421,367.36	576,385.78	
11,716.00	90.80	357.00	9,490.11	1,965.48	1,966.24	288.02	1,987.22	8.33	421,461.24	576,381.03	
11,811.00	89.80	356.60	9,489.61	2,060.34	2,061.09	282.71	2,080.38	7.81	421,556.09	576,375.72	

Company: Marathon Oil
Project: Eddy County, NM
Site: Rick Deckard State 25-28-4 (12-14-15-18)
Well: WXY #18H
Wellbore: OH
Design: MWD 174'-14253' PTB 14310'

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

Well WXY #18H
 Well @ 2988.00usft (GL: 2963' + KB: 25' (Prec594))
 Well @ 2988.00usft (GL: 2963' + KB: 25' (Prec594))
 Grid
 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	89.80	356.30	9,489.94	2,154.17	2,154.90	276.89	2,172.62	7.32	421,649.90	576,369.90	
12,000.00	91.80	358.80	9,488.61	2,249.07	2,249.80	272.83	2,266.28	6.91	421,744.80	576,365.84	
12,094.00	89.40	356.80	9,487.63	2,343.00	2,343.71	269.22	2,359.12	6.55	421,838.71	576,362.23	
12,189.00	88.30	355.90	9,489.54	2,437.80	2,438.50	263.18	2,452.66	6.16	421,933.50	576,356.19	
12,283.00	88.60	355.00	9,492.08	2,531.49	2,532.16	255.72	2,545.04	5.77	422,027.16	576,348.73	
12,376.00	89.10	356.10	9,493.95	2,624.20	2,624.86	248.51	2,636.60	5.41	422,119.86	576,341.52	
12,471.00	93.80	1.10	9,491.54	2,719.09	2,719.75	246.19	2,730.87	5.17	422,214.75	576,339.20	
12,565.00	93.20	1.20	9,485.80	2,812.89	2,813.55	248.07	2,824.47	5.04	422,308.55	576,341.08	
12,659.00	89.30	358.10	9,483.75	2,906.84	2,907.50	247.49	2,918.01	4.87	422,402.50	576,340.50	
12,754.00	91.40	358.90	9,483.17	3,001.81	3,002.46	245.01	3,012.44	4.67	422,497.46	576,338.02	
12,849.00	92.10	2.40	9,480.27	3,096.74	3,097.39	246.08	3,107.15	4.54	422,592.39	576,339.09	
12,943.00	90.70	2.70	9,477.97	3,190.60	3,191.27	250.26	3,201.07	4.48	422,686.27	576,343.27	
13,037.00	90.60	3.60	9,476.91	3,284.44	3,285.12	255.43	3,295.04	4.45	422,780.12	576,348.44	
13,131.00	86.60	358.00	9,479.20	3,378.34	3,379.03	256.74	3,388.77	4.35	422,874.03	576,349.75	
13,224.00	93.40	2.00	9,479.20	3,471.27	3,471.95	256.74	3,481.43	4.23	422,966.95	576,349.75	
13,318.00	93.20	2.00	9,473.79	3,565.05	3,565.74	260.02	3,575.21	4.17	423,060.74	576,353.03	
13,413.00	90.90	1.10	9,470.40	3,659.94	3,660.64	262.59	3,670.04	4.10	423,155.64	576,355.60	
13,507.00	87.90	1.40	9,471.38	3,753.89	3,754.60	264.64	3,763.91	4.03	423,249.60	576,357.65	
13,601.00	89.10	1.90	9,473.84	3,847.81	3,848.53	267.34	3,857.80	3.97	423,343.53	576,360.35	
13,695.00	88.90	1.70	9,475.48	3,941.74	3,942.46	270.29	3,951.72	3.92	423,437.46	576,363.30	
13,789.00	90.20	2.00	9,476.22	4,035.68	4,036.41	273.33	4,045.65	3.87	423,531.41	576,366.34	
13,883.00	88.90	2.20	9,476.96	4,129.60	4,130.34	276.77	4,139.61	3.83	423,625.34	576,369.78	
13,979.00	86.40	1.60	9,480.89	4,225.45	4,226.20	279.95	4,235.46	3.79	423,721.20	576,372.96	
14,073.00	86.20	1.80	9,486.96	4,319.21	4,319.96	282.74	4,329.21	3.74	423,814.96	576,375.75	
14,167.00	88.90	1.10	9,490.98	4,413.08	4,413.84	285.11	4,423.04	3.70	423,908.84	576,378.12	
14,253.00	91.20	1.60	9,490.90	4,499.04	4,499.81	287.14	4,508.96	3.65	423,994.81	576,380.15	
Last Survey: 14253' MD, 9491' TVD - [RickDeckard#18H]LTP/BHL											

Company: Marathon Oil
Project: Eddy County, NM
Site: Rick Deckard State 25-28-4 (12-14-15-18)
Well: WXY #18H
Wellbore: OH
Design: MWD 174'-14253' PTB 14310'

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

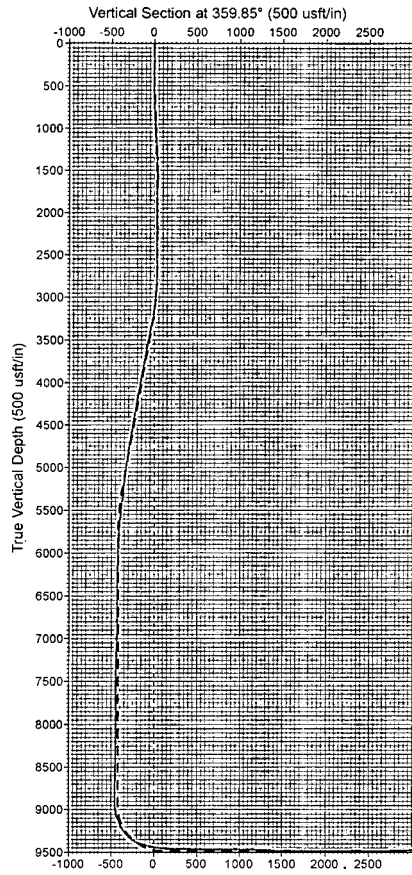
Well WXY #18H
 Well @ 2988.00usft (GL: 2963' + KB: 25' (Prec594))
 Well @ 2988.00usft (GL: 2963' + KB: 25' (Prec594))
 Grid
 Minimum Curvature
 WellPlanner1

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)	
14,310.00	91.20	1.60	9,489.71	4,556.00	4,556.77	288.73	4,565.91	3.63	424,051.77	576,381.74	
PTB: 14310' MD, 9490' TVD											

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
14,253.00	9,490.90	4,499.81	287.14	Last Survey: 14253' MD, 9491' TVD	
14,310.00	9,489.71	4,556.77	288.73	PTB: 14310' MD, 9490' TVD	



Marathon Oil
Eddy County, NM
Rick Deckard State 25-28-4 (12-14-15-18)
WXY #18H
Plan #5
GL: 2963' + KB: 25' (Prec594)



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	Spot
0.00	0.00	419495.00	576093.01	32.153070	-104.087459	

SECTION-DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSec
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00
3	700.00	2.00	0.00	699.96	3.49	0.00	1.00	3.49
4	1400.00	2.00	0.00	1399.53	27.92	0.00	0.00	27.92
5	1600.00	0.00	0.00	1599.49	31.41	0.00	1.00	31.41
6	2700.51	0.00	0.00	2700.00	31.41	0.00	0.00	31.41
7	3298.62	11.96	147.97	3293.78	-21.33	32.99	2.00	-21.42
8	5272.94	11.96	147.97	5225.22	-368.26	250.01	0.00	-368.91
9	5871.05	0.00	0.00	5819.00	-421.00	283.00	2.00	-421.74
10	9016.05	0.00	0.00	8964.00	-421.00	283.00	0.00	-421.74
11	9833.28	89.90	359.85	9484.87	98.92	281.62	11.00	98.18
12	14246.86	89.90	359.85	9492.95	4512.47	269.94	0.00	4511.75
13	14291.86	89.90	359.85	9493.03	4557.47	269.82	0.00	4556.75

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
[RickDeckard#18H]FTP	0.00	-192.73	282.41	419302.27	576375.42
[RickDeckard#18H]KOP	8964.00	-421.00	283.00	419074.00	576376.01
[RickDeckard#18H]LTP/BHL	9492.95	4512.47	269.94	424007.47	576362.95



Azimuths to Grid North
True North: 0.13°
Magnetic North: 7.12°

Magnetic Field
Strength: 47953.9nT
Dip Angle: 59.93°
Date: 9/24/2018
Model: USER DEFINED

Azimuth Corrections

Total Magnetic Corr. (M to G): 7.12°

Declination (M to T): 7.25° East

Target Line: 9485' TVD @ 0° VS: 89.9° INC

