

Marathon Oil Permian, LLC

Eddy County, NM (NAD27)

Southern Comfort State 24-28-25

WA #5H

30-015-44831

OH

**NM OIL CONSERVATION
ARTESIA DISTRICT**

MAR 26 2018

RECEIVED

Plan: Plan #1

Standard Planning Report

26 March, 2018



Scientific Drilling

www.scientificdrilling.com

Planning Report

Database:	Midland District	Local Co-ordinate Reference:	Well WA #5H
Company:	Marathon Oil Permian, LLC	TVD Reference:	KB = 26.5' @ 2945.50usft (H&P 498)
Project:	Eddy County, NM (NAD27)	MD Reference:	KB = 26.5' @ 2945.50usft (H&P 498)
Site:	Southern Comfort State 24-28-25	North Reference:	Grid
Well:	WA #5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Project	Eddy County, NM (NAD27)		
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		Using geodetic scale factor

Site	Southern Comfort State 24-28-25			
Site Position:		Northing:	432,128.89 usft	Latitude: 32° 11' 15.695 N
From: Map		Easting:	591,559.01 usft	Longitude: 104° 2' 14.542 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.16 °

Well	WA #5H			
Well Position	+N/-S	0.00 usft	Northing:	432,128.89 usft
	+E/-W	0.00 usft	Easting:	591,559.01 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	0.00 usft
			Ground Level:	2,919.00 usft

Wellbore	OH			
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)
	HDGM	3/26/2018	7.15	59.97
				Field Strength (nT) 48,017

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(bearing)
	0.00	0.00	0.00	180.00

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,300.00	6.00	72.00	4,299.45	4.85	14.93	2.00	2.00	0.00	72.00	
8,275.00	6.00	72.00	8,252.68	133.25	410.09	0.00	0.00	0.00	0.00	
8,575.00	0.00	0.00	8,552.13	138.10	425.02	2.00	-2.00	0.00	180.00	
9,367.91	0.00	0.00	9,345.04	138.10	425.02	0.00	0.00	0.00	0.00	
10,267.91	90.00	179.94	9,918.00	-434.86	425.58	10.00	10.00	0.00	179.94	
17,264.34	90.00	179.94	9,918.00	-7,431.28	432.47	0.00	0.00	0.00	0.00	BHL[SCS WA#5H]
17,309.34	90.00	179.94	9,918.00	-7,476.28	432.51	0.00	0.00	0.00	0.00	

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Well:	WA #5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
539.00	0.00	0.00	539.00	0.00	0.00	0.00	0.00	0.00	0.00	
Salado										
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,180.00	0.00	0.00	1,180.00	0.00	0.00	0.00	0.00	0.00	0.00	
Castile										
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,532.00	0.00	0.00	2,532.00	0.00	0.00	0.00	0.00	0.00	0.00	
Base of Salt										
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,663.00	0.00	0.00	2,663.00	0.00	0.00	0.00	0.00	0.00	0.00	
Lamar										
2,690.00	0.00	0.00	2,690.00	0.00	0.00	0.00	0.00	0.00	0.00	
Bell Canyon										
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,568.00	0.00	0.00	3,568.00	0.00	0.00	0.00	0.00	0.00	0.00	
Cherry Canyon										
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00	

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Company:	Marathon Oil Permian, LLC	TVD Reference:	KB = 26.5' @ 2945.50usft (H&P 498)
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Well:	WA #5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
KOP - Build 2.0° / 100									
4,100.00	2.00	72.00	4,099.98	0.54	1.66	-0.54	2.00	2.00	0.00
4,200.00	4.00	72.00	4,199.84	2.16	6.64	-2.16	2.00	2.00	0.00
4,300.00	6.00	72.00	4,299.45	4.85	14.93	-4.85	2.00	2.00	0.00
EOB - HOLD									
4,400.00	6.00	72.00	4,398.90	8.08	24.87	-8.08	0.00	0.00	0.00
4,500.00	6.00	72.00	4,498.36	11.31	34.81	-11.31	0.00	0.00	0.00
4,600.00	6.00	72.00	4,597.81	14.54	44.75	-14.54	0.00	0.00	0.00
4,700.00	6.00	72.00	4,697.26	17.77	54.69	-17.77	0.00	0.00	0.00
4,800.00	6.00	72.00	4,796.71	21.00	64.63	-21.00	0.00	0.00	0.00
4,805.32	6.00	72.00	4,802.00	21.17	65.16	-21.17	0.00	0.00	0.00
Brushy Canyon									
4,900.00	6.00	72.00	4,896.17	24.23	74.57	-24.23	0.00	0.00	0.00
5,000.00	6.00	72.00	4,995.62	27.46	84.51	-27.46	0.00	0.00	0.00
5,100.00	6.00	72.00	5,095.07	30.69	94.46	-30.69	0.00	0.00	0.00
5,200.00	6.00	72.00	5,194.52	33.92	104.40	-33.92	0.00	0.00	0.00
5,300.00	6.00	72.00	5,293.97	37.15	114.34	-37.15	0.00	0.00	0.00
5,400.00	6.00	72.00	5,393.43	40.38	124.28	-40.38	0.00	0.00	0.00
5,500.00	6.00	72.00	5,492.88	43.61	134.22	-43.61	0.00	0.00	0.00
5,600.00	6.00	72.00	5,592.33	46.84	144.16	-46.84	0.00	0.00	0.00
5,700.00	6.00	72.00	5,691.78	50.07	154.10	-50.07	0.00	0.00	0.00
5,800.00	6.00	72.00	5,791.23	53.30	164.04	-53.30	0.00	0.00	0.00
5,900.00	6.00	72.00	5,890.69	56.53	173.99	-56.53	0.00	0.00	0.00
6,000.00	6.00	72.00	5,990.14	59.76	183.93	-59.76	0.00	0.00	0.00
6,100.00	6.00	72.00	6,089.59	62.99	193.87	-62.99	0.00	0.00	0.00
6,200.00	6.00	72.00	6,189.04	66.22	203.81	-66.22	0.00	0.00	0.00
6,300.00	6.00	72.00	6,288.50	69.45	213.75	-69.45	0.00	0.00	0.00
6,384.97	6.00	72.00	6,373.00	72.20	222.20	-72.20	0.00	0.00	0.00
Bone Spring									
6,400.00	6.00	72.00	6,387.95	72.68	223.69	-72.68	0.00	0.00	0.00
6,500.00	6.00	72.00	6,487.40	75.91	233.63	-75.91	0.00	0.00	0.00
6,600.00	6.00	72.00	6,586.85	79.14	243.57	-79.14	0.00	0.00	0.00
6,700.00	6.00	72.00	6,686.30	82.37	253.52	-82.37	0.00	0.00	0.00
6,800.00	6.00	72.00	6,785.76	85.60	263.46	-85.60	0.00	0.00	0.00
6,900.00	6.00	72.00	6,885.21	88.83	273.40	-88.83	0.00	0.00	0.00
7,000.00	6.00	72.00	6,984.66	92.06	283.34	-92.06	0.00	0.00	0.00
7,100.00	6.00	72.00	7,084.11	95.29	293.28	-95.29	0.00	0.00	0.00
7,200.00	6.00	72.00	7,183.57	98.52	303.22	-98.52	0.00	0.00	0.00
7,300.00	6.00	72.00	7,283.02	101.75	313.16	-101.75	0.00	0.00	0.00
7,337.19	6.00	72.00	7,320.00	102.95	316.86	-102.95	0.00	0.00	0.00
1st Bone Spring Sand									
7,400.00	6.00	72.00	7,382.47	104.98	323.10	-104.98	0.00	0.00	0.00
7,500.00	6.00	72.00	7,481.92	108.21	333.05	-108.21	0.00	0.00	0.00
7,600.00	6.00	72.00	7,581.37	111.44	342.99	-111.44	0.00	0.00	0.00
7,700.00	6.00	72.00	7,680.83	114.67	352.93	-114.67	0.00	0.00	0.00
7,800.00	6.00	72.00	7,780.28	117.90	362.87	-117.90	0.00	0.00	0.00
7,900.00	6.00	72.00	7,879.73	121.13	372.81	-121.13	0.00	0.00	0.00
8,000.00	6.00	72.00	7,979.18	124.36	382.75	-124.36	0.00	0.00	0.00
8,100.00	6.00	72.00	8,078.64	127.59	392.69	-127.59	0.00	0.00	0.00
8,156.68	6.00	72.00	8,135.00	129.42	398.33	-129.42	0.00	0.00	0.00
2nd Bone Spring Sand									
8,200.00	6.00	72.00	8,178.09	130.82	402.63	-130.82	0.00	0.00	0.00
8,275.00	6.00	72.00	8,252.68	133.25	410.09	-133.25	0.00	0.00	0.00

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Project:	Eddy County, NM (NAD27)	MD Reference:	KB = 26.5' @ 2945.50usft (H&P 498)
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DROP 2.0° / 100									
8,300.00	5.50	72.00	8,277.55	134.02	412.47	-134.02	2.00	-2.00	0.00
8,400.00	3.50	72.00	8,377.24	136.44	419.93	-136.44	2.00	-2.00	0.00
8,500.00	1.50	72.00	8,477.14	137.79	424.08	-137.79	2.00	-2.00	0.00
8,575.00	0.00	0.00	8,552.13	138.10	425.02	-138.10	2.00	-2.00	0.00
EOD - HOLD									
8,600.00	0.00	0.00	8,577.13	138.10	425.02	-138.10	0.00	0.00	0.00
8,700.00	0.00	0.00	8,677.13	138.10	425.02	-138.10	0.00	0.00	0.00
8,800.00	0.00	0.00	8,777.13	138.10	425.02	-138.10	0.00	0.00	0.00
8,900.00	0.00	0.00	8,877.13	138.10	425.02	-138.10	0.00	0.00	0.00
9,000.00	0.00	0.00	8,977.13	138.10	425.02	-138.10	0.00	0.00	0.00
9,100.00	0.00	0.00	9,077.13	138.10	425.02	-138.10	0.00	0.00	0.00
9,200.00	0.00	0.00	9,177.13	138.10	425.02	-138.10	0.00	0.00	0.00
9,262.87	0.00	0.00	9,240.00	138.10	425.02	-138.10	0.00	0.00	0.00
3rd Bone Spring Sand									
9,300.00	0.00	0.00	9,277.13	138.10	425.02	-138.10	0.00	0.00	0.00
9,367.91	0.00	0.00	9,345.04	138.10	425.02	-138.10	0.00	0.00	0.00
Curve KOP - Build 10.0° / 100									
9,400.00	3.21	179.94	9,377.11	137.20	425.02	-137.20	10.00	10.00	0.00
9,450.00	8.21	179.94	9,426.85	132.23	425.02	-132.23	10.00	10.00	0.00
9,500.00	13.21	179.94	9,475.96	122.94	425.03	-122.94	10.00	10.00	0.00
9,550.00	18.21	179.94	9,524.08	109.41	425.04	-109.41	10.00	10.00	0.00
9,600.00	23.21	179.94	9,570.83	91.73	425.06	-91.73	10.00	10.00	0.00
9,639.98	27.21	179.94	9,607.00	74.71	425.08	-74.71	10.00	10.00	0.00
Wolfcamp									
9,650.00	28.21	179.94	9,615.87	70.05	425.08	-70.05	10.00	10.00	0.00
9,700.00	33.21	179.94	9,658.85	44.52	425.11	-44.52	10.00	10.00	0.00
9,750.00	38.21	179.94	9,699.43	15.35	425.14	-15.35	10.00	10.00	0.00
9,800.00	43.21	179.94	9,737.32	-17.25	425.17	17.25	10.00	10.00	0.00
9,834.88	46.70	179.94	9,762.00	-41.89	425.19	41.89	10.00	10.00	0.00
Wolfcamp A									
9,850.00	48.21	179.94	9,772.23	-53.03	425.20	53.03	10.00	10.00	0.00
9,900.00	53.21	179.94	9,803.88	-91.72	425.24	91.72	10.00	10.00	0.00
9,950.00	58.21	179.94	9,832.04	-133.01	425.28	133.01	10.00	10.00	0.00
9,955.75	58.78	179.94	9,835.04	-137.91	425.29	137.91	10.00	10.00	0.00
FTP[SCSIWA#5H]									
10,000.00	63.21	179.94	9,856.50	-176.60	425.33	176.60	10.00	10.00	0.00
10,050.00	68.21	179.94	9,877.06	-222.16	425.37	222.16	10.00	10.00	0.00
10,100.00	73.21	179.94	9,893.57	-269.34	425.42	269.34	10.00	10.00	0.00
10,150.00	78.21	179.94	9,905.91	-317.78	425.46	317.78	10.00	10.00	0.00
10,200.00	83.21	179.94	9,913.98	-367.11	425.51	367.11	10.00	10.00	0.00
10,250.00	88.21	179.94	9,917.72	-416.95	425.56	416.95	10.00	10.00	0.00
10,267.91	90.00	179.94	9,918.00	-434.86	425.58	434.86	10.00	10.00	0.00
EOC - HOLD									
10,300.00	90.00	179.94	9,918.00	-466.95	425.61	466.95	0.00	0.00	0.00
10,400.00	90.00	179.94	9,918.00	-566.95	425.71	566.95	0.00	0.00	0.00
10,500.00	90.00	179.94	9,918.00	-666.95	425.81	666.95	0.00	0.00	0.00
10,600.00	90.00	179.94	9,918.00	-766.95	425.91	766.95	0.00	0.00	0.00
10,700.00	90.00	179.94	9,918.00	-866.95	426.00	866.95	0.00	0.00	0.00
10,800.00	90.00	179.94	9,918.00	-966.95	426.10	966.95	0.00	0.00	0.00
10,900.00	90.00	179.94	9,918.00	-1,066.95	426.20	1,066.95	0.00	0.00	0.00
11,000.00	90.00	179.94	9,918.00	-1,166.95	426.30	1,166.95	0.00	0.00	0.00
11,100.00	90.00	179.94	9,918.00	-1,266.95	426.40	1,266.95	0.00	0.00	0.00

Planning Report

Database:	Midland District	Local Co-ordinate Reference:	Well WA #5H
Company:	Marathon Oil Permian, LLC	TVD Reference:	KB = 26.5' @ 2945.50usft (H&P 498)
Project:	Eddy County, NM (NAD27)	MD Reference:	KB = 26.5' @ 2945.50usft (H&P 498)
Site:	Southern Comfort State 24-28-25	North Reference:	Grid
Well:	WA #5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,200.00	90.00	179.94	9,918.00	-1,366.95	426.50	1,366.95	0.00	0.00	0.00
11,300.00	90.00	179.94	9,918.00	-1,466.95	426.60	1,466.95	0.00	0.00	0.00
11,400.00	90.00	179.94	9,918.00	-1,566.95	426.69	1,566.95	0.00	0.00	0.00
11,500.00	90.00	179.94	9,918.00	-1,666.95	426.79	1,666.95	0.00	0.00	0.00
11,600.00	90.00	179.94	9,918.00	-1,766.95	426.89	1,766.95	0.00	0.00	0.00
11,700.00	90.00	179.94	9,918.00	-1,866.95	426.99	1,866.95	0.00	0.00	0.00
11,800.00	90.00	179.94	9,918.00	-1,966.95	427.09	1,966.95	0.00	0.00	0.00
11,900.00	90.00	179.94	9,918.00	-2,066.95	427.19	2,066.95	0.00	0.00	0.00
12,000.00	90.00	179.94	9,918.00	-2,166.95	427.28	2,166.95	0.00	0.00	0.00
12,100.00	90.00	179.94	9,918.00	-2,266.95	427.38	2,266.95	0.00	0.00	0.00
12,200.00	90.00	179.94	9,918.00	-2,366.95	427.48	2,366.95	0.00	0.00	0.00
12,300.00	90.00	179.94	9,918.00	-2,466.95	427.58	2,466.95	0.00	0.00	0.00
12,400.00	90.00	179.94	9,918.00	-2,566.95	427.68	2,566.95	0.00	0.00	0.00
12,500.00	90.00	179.94	9,918.00	-2,666.95	427.78	2,666.95	0.00	0.00	0.00
12,600.00	90.00	179.94	9,918.00	-2,766.95	427.87	2,766.95	0.00	0.00	0.00
12,700.00	90.00	179.94	9,918.00	-2,866.95	427.97	2,866.95	0.00	0.00	0.00
12,800.00	90.00	179.94	9,918.00	-2,966.95	428.07	2,966.95	0.00	0.00	0.00
12,900.00	90.00	179.94	9,918.00	-3,066.95	428.17	3,066.95	0.00	0.00	0.00
13,000.00	90.00	179.94	9,918.00	-3,166.95	428.27	3,166.95	0.00	0.00	0.00
13,100.00	90.00	179.94	9,918.00	-3,266.95	428.37	3,266.95	0.00	0.00	0.00
13,200.00	90.00	179.94	9,918.00	-3,366.95	428.47	3,366.95	0.00	0.00	0.00
13,300.00	90.00	179.94	9,918.00	-3,466.95	428.56	3,466.95	0.00	0.00	0.00
13,400.00	90.00	179.94	9,918.00	-3,566.95	428.66	3,566.95	0.00	0.00	0.00
13,500.00	90.00	179.94	9,918.00	-3,666.95	428.76	3,666.95	0.00	0.00	0.00
13,600.00	90.00	179.94	9,918.00	-3,766.95	428.86	3,766.95	0.00	0.00	0.00
13,700.00	90.00	179.94	9,918.00	-3,866.95	428.96	3,866.95	0.00	0.00	0.00
13,800.00	90.00	179.94	9,918.00	-3,966.95	429.06	3,966.95	0.00	0.00	0.00
13,900.00	90.00	179.94	9,918.00	-4,066.95	429.15	4,066.95	0.00	0.00	0.00
14,000.00	90.00	179.94	9,918.00	-4,166.95	429.25	4,166.95	0.00	0.00	0.00
14,100.00	90.00	179.94	9,918.00	-4,266.95	429.35	4,266.95	0.00	0.00	0.00
14,200.00	90.00	179.94	9,918.00	-4,366.95	429.45	4,366.95	0.00	0.00	0.00
14,300.00	90.00	179.94	9,918.00	-4,466.95	429.55	4,466.95	0.00	0.00	0.00
14,400.00	90.00	179.94	9,918.00	-4,566.95	429.65	4,566.95	0.00	0.00	0.00
14,500.00	90.00	179.94	9,918.00	-4,666.95	429.74	4,666.95	0.00	0.00	0.00
14,600.00	90.00	179.94	9,918.00	-4,766.95	429.84	4,766.95	0.00	0.00	0.00
14,700.00	90.00	179.94	9,918.00	-4,866.95	429.94	4,866.95	0.00	0.00	0.00
14,800.00	90.00	179.94	9,918.00	-4,966.95	430.04	4,966.95	0.00	0.00	0.00
14,900.00	90.00	179.94	9,918.00	-5,066.95	430.14	5,066.95	0.00	0.00	0.00
15,000.00	90.00	179.94	9,918.00	-5,166.95	430.24	5,166.95	0.00	0.00	0.00
15,100.00	90.00	179.94	9,918.00	-5,266.95	430.34	5,266.95	0.00	0.00	0.00
15,200.00	90.00	179.94	9,918.00	-5,366.95	430.43	5,366.95	0.00	0.00	0.00
15,300.00	90.00	179.94	9,918.00	-5,466.95	430.53	5,466.95	0.00	0.00	0.00
15,400.00	90.00	179.94	9,918.00	-5,566.95	430.63	5,566.95	0.00	0.00	0.00
15,500.00	90.00	179.94	9,918.00	-5,666.95	430.73	5,666.95	0.00	0.00	0.00
15,600.00	90.00	179.94	9,918.00	-5,766.95	430.83	5,766.95	0.00	0.00	0.00
15,700.00	90.00	179.94	9,918.00	-5,866.95	430.93	5,866.95	0.00	0.00	0.00
15,800.00	90.00	179.94	9,918.00	-5,966.95	431.02	5,966.95	0.00	0.00	0.00
15,900.00	90.00	179.94	9,918.00	-6,066.95	431.12	6,066.95	0.00	0.00	0.00
16,000.00	90.00	179.94	9,918.00	-6,166.95	431.22	6,166.95	0.00	0.00	0.00
16,100.00	90.00	179.94	9,918.00	-6,266.95	431.32	6,266.95	0.00	0.00	0.00
16,200.00	90.00	179.94	9,918.00	-6,366.95	431.42	6,366.95	0.00	0.00	0.00
16,300.00	90.00	179.94	9,918.00	-6,466.95	431.52	6,466.95	0.00	0.00	0.00
16,400.00	90.00	179.94	9,918.00	-6,566.95	431.61	6,566.95	0.00	0.00	0.00
16,500.00	90.00	179.94	9,918.00	-6,666.95	431.71	6,666.95	0.00	0.00	0.00

Planning Report

Database:	Midland District	Local Co-ordinate Reference:	Well WA #5H
Company:	Marathon Oil Permian, LLC	TVD Reference:	KB = 26.5' @ 2945.50usft (H&P 498)
Project:	Eddy County, NM (NAD27)	MD Reference:	KB = 26.5' @ 2945.50usft (H&P 498)
Site:	Southern Comfort State 24-28-25	North Reference:	Grid
Well:	WA #5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
16,600.00	90.00	179.94	9,918.00	-6,766.94	431.81	6,766.94	0.00	0.00	0.00
16,700.00	90.00	179.94	9,918.00	-6,866.94	431.91	6,866.94	0.00	0.00	0.00
16,800.00	90.00	179.94	9,918.00	-6,966.94	432.01	6,966.94	0.00	0.00	0.00
16,900.00	90.00	179.94	9,918.00	-7,066.94	432.11	7,066.94	0.00	0.00	0.00
17,000.00	90.00	179.94	9,918.00	-7,166.94	432.21	7,166.94	0.00	0.00	0.00
17,100.00	90.00	179.94	9,918.00	-7,266.94	432.30	7,266.94	0.00	0.00	0.00
17,200.00	90.00	179.94	9,918.00	-7,366.94	432.40	7,366.94	0.00	0.00	0.00
17,264.34	90.00	179.94	9,918.00	-7,431.28	432.47	7,431.28	0.00	0.00	0.00
TD at 17264.34 - BHL[SCSWA#5H]									
17,309.34	90.00	179.94	9,918.00	-7,476.28	432.51	7,476.28	0.00	0.00	0.00
TD + 45' VS									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (bearing)	TVD (usft)	+N-S (usft)	+E-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP[SCSWA#5H]	0.00	0.00	9,918.00	-91.38	424.33	432,037.52	591,983.31	32° 11' 14.779 N	104° 2' 9.607 W
- hit/miss target									
- Shape									
- plan misses target center by 95.12usft at 9955.75usft MD (9835.04 TVD, -137.91 N, 425.29 E)									
- Point									
BHL[SCSWA#5H]	-90.00	179.94	9,918.00	-7,431.28	432.47	424,698.21	591,991.44	32° 10' 2.147 N	104° 2' 9.749 W
- plan hits target center									
- Rectangle (sides W60.00 H30.00 D6,900.00)									

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (bearing)	
539.00	539.00	Salado				
1,180.00	1,180.00	Castile				
2,532.00	2,532.00	Base of Salt				
2,663.00	2,663.00	Lamar				
2,690.00	2,690.00	Bell Canyon				
3,568.00	3,568.00	Cherry Canyon				
4,805.32	4,802.00	Brushy Canyon				
6,384.97	6,373.00	Bone Spring				
7,337.19	7,320.00	1st Bone Spring Sand				
8,156.68	8,135.00	2nd Bone Spring Sand				
9,262.87	9,240.00	3rd Bone Spring Sand				
9,639.98	9,607.00	Wolfcamp				
9,834.88	9,762.00	Wolfcamp A				

Planning Report

Database:	Midland District	Local Co-ordinate Reference:	Well WA #5H
Company:	Marathon Oil Permian, LLC	TVD Reference:	KB = 26.5' @ 2945.50usft (H&P 498)
Project:	Eddy County, NM (NAD27)	MD Reference:	KB = 26.5' @ 2945.50usft (H&P 498)
Site:	Southern Comfort State 24-28-25	North Reference:	Grid
Well:	WA #5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
4,000.00	4,000.00	0.00	0.00	KOP - Build 2.0° / 100
4,300.00	4,299.45	4.85	14.93	EOB - HOLD
8,275.00	8,252.68	133.25	410.09	DROP 2.0° / 100
8,575.00	8,552.13	138.10	425.02	EOD - HOLD
9,367.91	9,345.04	138.10	425.02	Curve KOP - Build 10.0° / 100
10,267.91	9,918.00	-434.86	425.58	EOC - HOLD
17,264.34	9,918.00	-7,431.28	432.47	TD at 17264.34
17,309.34	9,918.00	-7,476.28	432.51	TD + 45' VS