

NM OIL CONSERVATION
ARTESIA DISTRICT

FEB 27 2018

RECEIVED

Marathon Oil Permian, LLC

Eddy County, NM (NAD27)

Macho Grande State 23-29-32

SB #7H

30-015-44788

OH

Plan: Plan #1

Standard Planning Report

20 February, 2018



www.scientificdrilling.com

Planning Report

Midland District Marathon Oil Permian, LLC Eddy County, NM (NAD27) Macho Grande State 23-29-32 SB #7H OH Plan #1	Well SB #7H KB = 26.5' @ 3015.50usft (H&P Rig) KB = 26.5' @ 3015.50usft (H&P Rig) Grid Minimum Curvature
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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

Macho Grande State 23-29-32				
Site Position:	Map	Northings:	456,528.72 usft	Latitude: 32° 15' 16.828 N
From:		Easting:	603,060.91 usft	Longitude: 103° 59' 59.817 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"	Grid Convergence: 0.18 °

SB #7H				
Well Position	+N-S	0.00 usft	Northings:	456,528.72 usft
	+E-W	60.00 usft	Easting:	603,120.91 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level: 2,989.00 usft

OH				
HDGM	2/20/2018	7.15	60.05	48,048

Plan #1				
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth (ft)	174	174	Direction (ft)
	0.00	0.00	0.00	0.00

Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)
0.00	0.00	0.00	0.00	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
3,200.00	4.00	179.50	3,199.84	-6.98	0.06	2.00	2.00	0.00	179.50
5,800.00	4.00	179.50	5,793.50	-188.34	1.64	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	5,993.34	-195.32	1.70	2.00	-2.00	0.00	180.00
8,109.73	0.00	0.00	8,103.07	-195.32	1.70	0.00	0.00	0.00	0.00
9,011.73	90.20	358.77	8,676.02	379.51	-10.64	10.00	10.00	0.00	358.77
13,315.93	90.20	358.77	8,661.00	4,682.69	-103.07	0.00	0.00	0.00	0.00 BHL[MGS\SB#7H]
13,360.94	90.20	358.77	8,660.84	4,727.69	-104.03	0.00	0.00	0.00	0.00

Planning Report

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Planning Report

Midland District Marathon Oil Permian, LLC Eddy County, NM (NAD27) Macho Grande State 23-29-32 SB #7H OH Plan #1						Well SB #7H KB = 26.5' @ 3015.50usft (H&P Rig) KB = 26.5' @ 3015.50usft (H&P Rig) Grid Minimum Curvature			
Planned Survey									
3,900.00	4.00	179.50	3,898.13	-55.81	0.49	-55.81	0.00	0.00	0.00
4,000.00	4.00	179.50	3,997.89	-62.78	0.55	-62.78	0.00	0.00	0.00
4,100.00	4.00	179.50	4,097.65	-69.76	0.61	-69.76	0.00	0.00	0.00
4,200.00	4.00	179.50	4,197.40	-76.73	0.67	-76.73	0.00	0.00	0.00
4,300.00	4.00	179.50	4,297.16	-83.71	0.73	-83.71	0.00	0.00	0.00
4,400.00	4.00	179.50	4,396.91	-90.68	0.79	-90.68	0.00	0.00	0.00
4,500.00	4.00	179.50	4,496.67	-97.66	0.85	-97.66	0.00	0.00	0.00
4,600.00	4.00	179.50	4,596.43	-104.63	0.91	-104.63	0.00	0.00	0.00
4,700.00	4.00	179.50	4,696.18	-111.61	0.97	-111.61	0.00	0.00	0.00
4,800.00	4.00	179.50	4,795.94	-118.58	1.03	-118.58	0.00	0.00	0.00
4,900.00	4.00	179.50	4,895.70	-125.56	1.10	-125.56	0.00	0.00	0.00
4,989.52	4.00	179.50	4,985.00	-131.80	1.15	-131.80	0.00	0.00	0.00
Brushy Canyon									
5,000.00	4.00	179.50	4,995.45	-132.54	1.16	-132.54	0.00	0.00	0.00
5,100.00	4.00	179.50	5,095.21	-139.51	1.22	-139.51	0.00	0.00	0.00
5,200.00	4.00	179.50	5,194.97	-146.49	1.28	-146.49	0.00	0.00	0.00
5,300.00	4.00	179.50	5,294.72	-153.46	1.34	-153.46	0.00	0.00	0.00
5,400.00	4.00	179.50	5,394.48	-160.44	1.40	-160.44	0.00	0.00	0.00
5,500.00	4.00	179.50	5,494.24	-167.41	1.46	-167.41	0.00	0.00	0.00
5,600.00	4.00	179.50	5,593.99	-174.39	1.52	-174.39	0.00	0.00	0.00
5,700.00	4.00	179.50	5,693.75	-181.36	1.58	-181.36	0.00	0.00	0.00
5,800.00	4.00	179.50	5,793.50	-188.34	1.64	-188.34	0.00	0.00	0.00
DROP 2.0° / 100									
5,900.00	2.00	179.50	5,893.36	-193.57	1.69	-193.57	2.00	-2.00	0.00
6,000.00	0.00	0.00	5,993.34	-195.32	1.70	-195.32	2.00	-2.00	0.00
EOD - HOLD									
6,100.00	0.00	0.00	6,093.34	-195.32	1.70	-195.32	0.00	0.00	0.00
6,200.00	0.00	0.00	6,193.34	-195.32	1.70	-195.32	0.00	0.00	0.00
6,300.00	0.00	0.00	6,293.34	-195.32	1.70	-195.32	0.00	0.00	0.00
6,400.00	0.00	0.00	6,393.34	-195.32	1.70	-195.32	0.00	0.00	0.00
6,500.00	0.00	0.00	6,493.34	-195.32	1.70	-195.32	0.00	0.00	0.00
6,600.00	0.00	0.00	6,593.34	-195.32	1.70	-195.32	0.00	0.00	0.00
6,628.66	0.00	0.00	6,622.00	-195.32	1.70	-195.32	0.00	0.00	0.00
Bone Spring									
6,700.00	0.00	0.00	6,693.34	-195.32	1.70	-195.32	0.00	0.00	0.00
6,800.00	0.00	0.00	6,793.34	-195.32	1.70	-195.32	0.00	0.00	0.00
6,900.00	0.00	0.00	6,893.34	-195.32	1.70	-195.32	0.00	0.00	0.00
7,000.00	0.00	0.00	6,993.34	-195.32	1.70	-195.32	0.00	0.00	0.00
7,100.00	0.00	0.00	7,093.34	-195.32	1.70	-195.32	0.00	0.00	0.00
7,200.00	0.00	0.00	7,193.34	-195.32	1.70	-195.32	0.00	0.00	0.00
7,300.00	0.00	0.00	7,293.34	-195.32	1.70	-195.32	0.00	0.00	0.00
7,400.00	0.00	0.00	7,393.34	-195.32	1.70	-195.32	0.00	0.00	0.00
7,500.00	0.00	0.00	7,493.34	-195.32	1.70	-195.32	0.00	0.00	0.00
7,600.00	0.00	0.00	7,593.34	-195.32	1.70	-195.32	0.00	0.00	0.00
7,630.66	0.00	0.00	7,624.00	-195.32	1.70	-195.32	0.00	0.00	0.00
1st Bone Spring Sand									
7,700.00	0.00	0.00	7,693.34	-195.32	1.70	-195.32	0.00	0.00	0.00
7,800.00	0.00	0.00	7,793.34	-195.32	1.70	-195.32	0.00	0.00	0.00
7,900.00	0.00	0.00	7,893.34	-195.32	1.70	-195.32	0.00	0.00	0.00
8,000.00	0.00	0.00	7,993.34	-195.32	1.70	-195.32	0.00	0.00	0.00
8,109.73	0.00	0.00	8,103.07	-195.32	1.70	-195.32	0.00	0.00	0.00
Curve KOP - Build 10.0° / 100									
8,150.00	4.03	358.77	8,143.31	-193.90	1.67	-193.90	10.00	10.00	0.00

Marathon Oil Permian, LLC
SB #7H - Plan #1

Eddy County, NM (NAD27)

Macho Grande State 23-29-32

Your Ref:

2/20/2018

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Grid X	Grid Y
0	0	0	0	0	0	0	0	603120.9	456528.7
3000	0	0	3000	0	0	0	0	603120.9	456528.7
3100	2	179.5	3099.98	-1.75	0.02	-1.75	2	603120.9	456527
3200	4	179.5	3199.84	-6.98	0.06	-6.98	2	603121	456521.7
3300	4	179.5	3299.59	-13.95	0.12	-13.95	0	603121	456514.8
3400	4	179.5	3399.35	-20.93	0.18	-20.93	0	603121.1	456507.8
3500	4	179.5	3499.11	-27.9	0.24	-27.9	0	603121.2	456500.8
3600	4	179.5	3598.86	-34.88	0.3	-34.88	0	603121.2	456493.8
3700	4	179.5	3698.62	-41.86	0.37	-41.86	0	603121.3	456486.9
3800	4	179.5	3798.38	-48.83	0.43	-48.83	0	603121.3	456479.9
3900	4	179.5	3898.13	-55.81	0.49	-55.81	0	603121.4	456472.9
4000	4	179.5	3997.89	-62.78	0.55	-62.78	0	603121.5	456465.9
4100	4	179.5	4097.65	-69.76	0.61	-69.76	0	603121.5	456459
4200	4	179.5	4197.4	-76.73	0.67	-76.73	0	603121.6	456452
4300	4	179.5	4297.16	-83.71	0.73	-83.71	0	603121.6	456445
4400	4	179.5	4396.91	-90.68	0.79	-90.68	0	603121.7	456438
4500	4	179.5	4496.67	-97.66	0.85	-97.66	0	603121.8	456431.1

4600	4	179.5	4596.43	-104.63	0.91	-104.63	0	603121.8	456424.1
4700	4	179.5	4696.18	-111.61	0.97	-111.61	0	603121.9	456417.1
4800	4	179.5	4795.94	-118.58	1.03	-118.58	0	603121.9	456410.2
4900	4	179.5	4895.7	-125.56	1.1	-125.56	0	603122	456403.2
5000	4	179.5	4995.45	-132.54	1.16	-132.54	0	603122.1	456396.2
5100	4	179.5	5095.21	-139.51	1.22	-139.51	0	603122.1	456389.2
5200	4	179.5	5194.97	-146.49	1.28	-146.49	0	603122.2	456382.3
5300	4	179.5	5294.72	-153.46	1.34	-153.46	0	603122.3	456375.3
5400	4	179.5	5394.48	-160.44	1.4	-160.44	0	603122.3	456368.3
5500	4	179.5	5494.23	-167.41	1.46	-167.41	0	603122.4	456361.3
5600	4	179.5	5593.99	-174.39	1.52	-174.39	0	603122.4	456354.4
5700	4	179.5	5693.75	-181.36	1.58	-181.36	0	603122.5	456347.4
5800	4	179.5	5793.5	-188.34	1.64	-188.34	0	603122.6	456340.4
5900	2	179.5	5893.36	-193.57	1.69	-193.57	2	603122.6	456335.2
6000	0	0	5993.34	-195.32	1.7	-195.32	2	603122.6	456333.4
6100	0	0	6093.34	-195.32	1.7	-195.32	0	603122.6	456333.4
6200	0	0	6193.34	-195.32	1.7	-195.32	0	603122.6	456333.4
6300	0	0	6293.34	-195.32	1.7	-195.32	0	603122.6	456333.4
6400	0	0	6393.34	-195.32	1.7	-195.32	0	603122.6	456333.4
6500	0	0	6493.34	-195.32	1.7	-195.32	0	603122.6	456333.4
6600	0	0	6593.34	-195.32	1.7	-195.32	0	603122.6	456333.4
6700	0	0	6693.34	-195.32	1.7	-195.32	0	603122.6	456333.4
6800	0	0	6793.34	-195.32	1.7	-195.32	0	603122.6	456333.4
6900	0	0	6893.34	-195.32	1.7	-195.32	0	603122.6	456333.4
7000	0	0	6993.34	-195.32	1.7	-195.32	0	603122.6	456333.4
7100	0	0	7093.34	-195.32	1.7	-195.32	0	603122.6	456333.4
7200	0	0	7193.34	-195.32	1.7	-195.32	0	603122.6	456333.4
7300	0	0	7293.34	-195.32	1.7	-195.32	0	603122.6	456333.4
7400	0	0	7393.34	-195.32	1.7	-195.32	0	603122.6	456333.4
7500	0	0	7493.34	-195.32	1.7	-195.32	0	603122.6	456333.4
7600	0	0	7593.34	-195.32	1.7	-195.32	0	603122.6	456333.4
7700	0	0	7693.34	-195.32	1.7	-195.32	0	603122.6	456333.4
7800	0	0	7793.34	-195.32	1.7	-195.32	0	603122.6	456333.4
7900	0	0	7893.34	-195.32	1.7	-195.32	0	603122.6	456333.4

8000	0	0	7993.34	-195.32	1.7	-195.32	0	603122.6	456333.4
8109.73	0	0	8103.07	-195.32	1.7	-195.32	0	603122.6	456333.4
8150	4.027	358.77	8143.31	-193.9	1.67	-193.9	10	603122.6	456334.8
8200	9.027	358.77	8192.97	-188.22	1.55	-188.22	10	603122.5	456340.5
8250	14.027	358.77	8241.94	-178.24	1.34	-178.24	10	603122.3	456350.5
8300	19.027	358.77	8289.86	-164.02	1.03	-164.02	10	603121.9	456364.7
8350	24.027	358.77	8336.36	-145.68	0.64	-145.68	10	603121.6	456383.1
8400	29.027	358.77	8381.08	-123.36	0.16	-123.36	10	603121.1	456405.4
8450	34.027	358.77	8423.69	-97.23	-0.4	-97.23	10	603120.5	456431.5
8500	39.027	358.77	8463.86	-67.49	-1.04	-67.49	10	603119.9	456461.2
8550	44.027	358.77	8501.28	-34.36	-1.75	-34.36	10	603119.2	456494.4
8600	49.027	358.77	8535.66	1.91	-2.53	1.91	10	603118.4	456530.6
8650	54.027	358.77	8566.76	41.03	-3.37	41.03	10	603117.5	456569.8
8700	59.027	358.77	8594.33	82.72	-4.27	82.72	10	603116.6	456611.4
8750	64.027	358.77	8618.16	126.64	-5.21	126.64	10	603115.7	456655.4
8800	69.027	358.77	8638.07	172.48	-6.2	172.48	10	603114.7	456701.2
8850	74.027	358.77	8653.91	219.88	-7.21	219.88	10	603113.7	456748.6
8900	79.027	358.77	8665.55	268.48	-8.26	268.48	10	603112.7	456797.2
8950	84.027	358.77	8672.92	317.9	-9.32	317.9	10	603111.6	456846.6
9000	89.027	358.77	8675.95	367.78	-10.39	367.78	10	603110.5	456896.5
9011.73	90.2	358.77	8676.02	379.51	-10.64	379.51	10	603110.3	456908.2
9100	90.2	358.77	8675.72	467.76	-12.54	467.76	0	603108.4	456996.4
9200	90.2	358.77	8675.37	567.74	-14.68	567.74	0	603106.2	457096.4
9300	90.2	358.77	8675.02	667.71	-16.83	667.71	0	603104.1	457196.4
9400	90.2	358.77	8674.67	767.69	-18.98	767.69	0	603101.9	457296.4
9500	90.2	358.77	8674.32	867.66	-21.13	867.66	0	603099.8	457396.3
9600	90.2	358.77	8673.97	967.64	-23.27	967.64	0	603097.6	457496.3
9700	90.2	358.77	8673.62	1067.62	-25.42	1067.62	0	603095.5	457596.3
9800	90.2	358.77	8673.27	1167.59	-27.57	1167.59	0	603093.3	457696.2
9900	90.2	358.77	8672.92	1267.57	-29.72	1267.57	0	603091.2	457796.2
10000	90.2	358.77	8672.57	1367.55	-31.86	1367.55	0	603089.1	457896.2
10100	90.2	358.77	8672.23	1467.52	-34.01	1467.52	0	603086.9	457996.1
10200	90.2	358.77	8671.88	1567.5	-36.16	1567.5	0	603084.8	458096.1
10300	90.2	358.77	8671.53	1667.48	-38.31	1667.48	0	603082.6	458196.1

10400	90.2	358.77	8671.18	1767.45	-40.45	1767.45	0	603080.5	458296
10500	90.2	358.77	8670.83	1867.43	-42.6	1867.43	0	603078.3	458396
10600	90.2	358.77	8670.48	1967.4	-44.75	1967.4	0	603076.2	458496
10700	90.2	358.77	8670.13	2067.38	-46.9	2067.38	0	603074	458595.9
10800	90.2	358.77	8669.78	2167.36	-49.04	2167.36	0	603071.9	458695.9
10900	90.2	358.77	8669.43	2267.33	-51.19	2267.33	0	603069.7	458795.9
11000	90.2	358.77	8669.08	2367.31	-53.34	2367.31	0	603067.6	458895.8
11100	90.2	358.77	8668.74	2467.29	-55.48	2467.29	0	603065.4	458995.8
11200	90.2	358.77	8668.39	2567.26	-57.63	2567.26	0	603063.3	459095.8
11300	90.2	358.77	8668.04	2667.24	-59.78	2667.24	0	603061.1	459195.8
11400	90.2	358.77	8667.69	2767.22	-61.93	2767.22	0	603059	459295.7
11500	90.2	358.77	8667.34	2867.19	-64.07	2867.19	0	603056.8	459395.7
11600	90.2	358.77	8666.99	2967.17	-66.22	2967.17	0	603054.7	459495.7
11700	90.2	358.77	8666.64	3067.14	-68.37	3067.14	0	603052.6	459595.6
11800	90.2	358.77	8666.29	3167.12	-70.52	3167.12	0	603050.4	459695.6
11900	90.2	358.77	8665.94	3267.1	-72.66	3267.1	0	603048.3	459795.6
12000	90.2	358.77	8665.59	3367.07	-74.81	3367.07	0	603046.1	459895.5
12100	90.2	358.77	8665.24	3467.05	-76.96	3467.05	0	603044	459995.5
12200	90.2	358.77	8664.9	3567.03	-79.11	3567.03	0	603041.8	460095.5
12300	90.2	358.77	8664.55	3667	-81.25	3667	0	603039.7	460195.4
12400	90.2	358.77	8664.2	3766.98	-83.4	3766.98	0	603037.5	460295.4
12500	90.2	358.77	8663.85	3866.95	-85.55	3866.95	0	603035.4	460395.4
12600	90.2	358.77	8663.5	3966.93	-87.69	3966.93	0	603033.2	460495.3
12700	90.2	358.77	8663.15	4066.91	-89.84	4066.91	0	603031.1	460595.3
12800	90.2	358.77	8662.8	4166.88	-91.99	4166.88	0	603028.9	460695.3
12900	90.2	358.77	8662.45	4266.86	-94.14	4266.86	0	603026.8	460795.2
13000	90.2	358.77	8662.1	4366.84	-96.28	4366.84	0	603024.6	460895.2
13100	90.2	358.77	8661.75	4466.81	-98.43	4466.81	0	603022.5	460995.2
13200	90.2	358.77	8661.4	4566.79	-100.58	4566.79	0	603020.3	461095.2
13300	90.2	358.77	8661.06	4666.77	-102.73	4666.77	0	603018.2	461195.1
13315.93	90.2	358.77	8661	4682.69	-103.07	4682.69	0	603017.9	461211
13360.94	90.2	358.77	8660.84	4727.69	-104.03	4727.69	0	603016.9	461256

All data are in feet unless otherwise stated. Directions and coordinates are relative to Grid North.

Vertical depths are relative to KB = 26.5'. Northings and Eastings are relative to Well.

The Dogleg Severity is in Degrees per 100 feet.

Vertical Section is from Slot and calculated along an Azimuth of 0.000° (Grid).

Coordinate System is NAD 1927 (NADCON CONUS) US State Plane 1927 (Exact solution), New Mexico East 3001.

Central meridian is -104.333°.

Grid Convergence at Surface is 0.178°.

Based upon Minimum Curvature type calculations, at a Measured Depth of 13360.94ft., the Bottom Hole Displacement is 4728.83ft., in the Direction of 0.000° (Grid).