

30 015 35698

Pathfinder Energy Planning Report

Company: Marbob Energy
Field: Twizzler State #1
Site: Twizzler State #1
Well: Twizzler State #1
Wellpath: OH

Date: 6/27/2007 Time: 10:45:50 Page: 2
Co-ordinate(N/E) Reference: Twizzler State #1, Grid North
Vertical (TVD) Reference: SITE 3084.0
Section (VS) Reference: Well (0.00N,0.00E,357.22Azi)
Plan: Plan #1 6-27-07

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
1600.00	0.00	0 00	1600.00	0.00	0.00	0.00	0 00	0.00	0.00	
1700 00	0.00	0.00	1700.00	0 00	0.00	0.00	0.00	0.00	0.00	
1800 00	0.00	0.00	1800 00	0 00	0.00	0.00	0.00	0 00	0.00	
1900 00	0.00	0.00	1900 00	0.00	0.00	0.00	0.00	0 00	0.00	
2000 00	0.00	0.00	2000.00	0.00	0.00	0 00	0.00	0 00	0.00	
2100 00	0.00	0 00	2100.00	0.00	0.00	0.00	0.00	0.00	0 00	
2200.00	0 00	0.00	2200.00	0.00	0 00	0.00	0.00	0.00	0.00	
2300 00	0.00	0.00	2300.00	0.00	0.00	0.00	0 00	0.00	0 00	
2400.00	0 00	0.00	2400.00	0 00	0.00	0.00	0.00	0.00	0 00	
2500.00	0.00	0.00	2500.00	0.00	0 00	0 00	0.00	0.00	0 00	
2600.00	0 00	0.00	2600.00	0 00	0.00	0.00	0.00	0.00	0 00	
2700.00	0.00	0.00	2700.00	0.00	0.00	0 00	0.00	0.00	0.00	
2800.00	0.00	0.00	2800.00	0 00	0.00	0.00	0.00	0 00	0 00	
2900.00	0.00	0.00	2900.00	0.00	0.00	0.00	0.00	0.00	0.00	
3000.00	0 00	0.00	3000.00	0.00	0 00	0.00	0.00	0.00	0.00	
3100.00	0.00	0.00	3100.00	0 00	0.00	0.00	0 00	0.00	0.00	
3200 00	0.00	0.00	3200 00	0.00	0.00	0.00	0.00	0.00	0.00	
3300.00	0.00	0.00	3300 00	0 00	0.00	0.00	0 00	0.00	0 00	
3400.00	0.00	0 00	3400.00	0 00	0.00	0.00	0 00	0.00	0.00	
3500 00	0 00	0.00	3500.00	0.00	0.00	0.00	0.00	0.00	0.00	
3600.00	0.00	0.00	3600.00	0.00	0.00	0 00	0.00	0 00	0.00	
3700.00	0 00	0.00	3700.00	0.00	0.00	0.00	0 00	0.00	0.00	
3800.00	0.00	0.00	3800.00	0 00	0.00	0.00	0 00	0.00	0.00	
3900.00	0.00	0.00	3900.00	0 00	0.00	0.00	0 00	0.00	0.00	
4000.00	0.00	0.00	4000.00	0.00	0 00	0 00	0.00	0 00	0.00	
4100.00	0.00	0.00	4100.00	0.00	0.00	0.00	0.00	0.00	0.00	
4200.00	0.00	0 00	4200.00	0.00	0 00	0.00	0 00	0.00	0.00	
4300.00	0 00	0.00	4300.00	0 00	0.00	0.00	0.00	0.00	0.00	
4400.00	0.00	0 00	4400.00	0.00	0.00	0.00	0 00	0.00	0.00	
4500.00	0.00	0.00	4500.00	0 00	0 00	0.00	0.00	0.00	0 00	
4600.00	0 00	0.00	4600 00	0.00	0 00	0.00	0.00	0 00	0.00	
4700.00	0 00	0.00	4700.00	0.00	0 00	0 00	0.00	0 00	0.00	
4800 00	0.00	0 00	4800.00	0.00	0.00	0.00	0.00	0.00	0.00	
4900.00	0.00	0 00	4900.00	0.00	0.00	0.00	0 00	0.00	0.00	
5000.00	0.00	0.00	5000 00	0.00	0.00	0.00	0.00	0.00	0.00	
5100.00	0.00	0.00	5100.00	0 00	0.00	0.00	0.00	0.00	0 00	
5200.00	0.00	0.00	5200 00	0.00	0.00	0.00	0.00	0 00	0.00	
5300.00	0.00	0.00	5300 00	0.00	0.00	0 00	0.00	0.00	0.00	
5400.00	0.00	0.00	5400.00	0 00	0.00	0.00	0 00	0.00	0.00	
5500.00	0 00	0.00	5500.00	0.00	0.00	0.00	0 00	0.00	0.00	
5600 00	0.00	0.00	5600 00	0.00	0 00	0.00	0.00	0.00	0.00	
5700.00	0 00	0.00	5700.00	0.00	0.00	0.00	0.00	0.00	0.00	
5800 00	0.00	0 00	5800.00	0.00	0.00	0.00	0 00	0.00	0.00	
5900.00	0.00	0 00	5900.00	0.00	0.00	0.00	0.00	0.00	0.00	
6000.00	0.00	0.00	6000.00	0.00	0.00	0.00	0.00	0.00	0.00	
6100.00	0.00	0.00	6100.00	0 00	0.00	0 00	0.00	0 00	0.00	
6200.00	0.00	0.00	6200.00	0.00	0 00	0 00	0 00	0 00	0.00	
6300.00	0.00	0.00	6300.00	0.00	0 00	0.00	0.00	0 00	0.00	
6400 00	0.00	0.00	6400 00	0.00	0 00	0 00	0 00	0.00	0.00	
6500.00	0 00	0 00	6500.00	0.00	0 00	0.00	0 00	0.00	0 00	
6600.00	0.00	0.00	6600.00	0.00	0.00	0.00	0 00	0.00	0 00	
6700.00	0.00	0.00	6700.00	0.00	0.00	0.00	0.00	0 00	0.00	
6800.00	0.00	0.00	6800.00	0.00	0.00	0.00	0.00	0.00	0.00	
6900 00	0.00	0.00	6900 00	0.00	0 00	0.00	0.00	0.00	0.00	

Pathfinder Energy

Planning Report

Company: Marbob Energy Field: Twizzler State #1 Site: Twizzler State #1 Well: Twizzler State #1 Wellpath: OH	Date: 6/27/2007 Time: 10:45:50 Page: 3 Co-ordinate(NE) Reference: Site: Twizzler State #1, Grid North Vertical (TVD) Reference: SITE 3084 0 Section (VS) Reference: Well (0.00N,0.00E,357.22Azi) Plan: Plan #1.6-27-07
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Survey

MD ft	Incl deg	Azim deg	TVD ft	+N-S ft	+E-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
7000.00	0.00	0.00	7000.00	0.00	0.00	0.00	0.00	0.00	0.00	
7100.00	0.00	0.00	7100.00	0.00	0.00	0.00	0.00	0.00	0.00	
7200.00	0.00	0.00	7200.00	0.00	0.00	0.00	0.00	0.00	0.00	
7300.00	0.00	0.00	7300.00	0.00	0.00	0.00	0.00	0.00	0.00	
7400.00	0.00	0.00	7400.00	0.00	0.00	0.00	0.00	0.00	0.00	
7500.00	0.00	0.00	7500.00	0.00	0.00	0.00	0.00	0.00	0.00	
7600.00	0.00	0.00	7600.00	0.00	0.00	0.00	0.00	0.00	0.00	
7700.00	0.00	0.00	7700.00	0.00	0.00	0.00	0.00	0.00	0.00	
7800.00	0.00	0.00	7800.00	0.00	0.00	0.00	0.00	0.00	0.00	
7900.00	0.00	0.00	7900.00	0.00	0.00	0.00	0.00	0.00	0.00	
8000.00	0.00	0.00	8000.00	0.00	0.00	0.00	0.00	0.00	0.00	
8100.00	0.00	0.00	8100.00	0.00	0.00	0.00	0.00	0.00	0.00	
8200.00	0.00	0.00	8200.00	0.00	0.00	0.00	0.00	0.00	0.00	
8300.00	0.00	0.00	8300.00	0.00	0.00	0.00	0.00	0.00	0.00	
8400.00	0.00	0.00	8400.00	0.00	0.00	0.00	0.00	0.00	0.00	
8500.00	0.00	0.00	8500.00	0.00	0.00	0.00	0.00	0.00	0.00	
8600.00	0.00	0.00	8600.00	0.00	0.00	0.00	0.00	0.00	0.00	
8700.00	0.00	0.00	8700.00	0.00	0.00	0.00	0.00	0.00	0.00	
8800.00	0.00	0.00	8800.00	0.00	0.00	0.00	0.00	0.00	0.00	
8900.00	0.00	0.00	8900.00	0.00	0.00	0.00	0.00	0.00	0.00	
9000.00	0.00	0.00	9000.00	0.00	0.00	0.00	0.00	0.00	0.00	
9100.00	0.00	0.00	9100.00	0.00	0.00	0.00	0.00	0.00	0.00	
9200.00	0.00	0.00	9200.00	0.00	0.00	0.00	0.00	0.00	0.00	
9300.00	0.00	0.00	9300.00	0.00	0.00	0.00	0.00	0.00	0.00	KOP @ 9300' MD/TVD Begin
9400.00	3.00	340.00	9399.95	2.46	-0.90	2.50	3.00	3.00	0.00	
9500.00	6.00	340.00	9499.63	9.83	-3.58	9.99	3.00	3.00	0.00	
9600.00	9.00	340.00	9598.77	22.10	-8.04	22.46	3.00	3.00	0.00	
9700.00	12.00	340.00	9697.08	39.22	-14.27	39.86	3.00	3.00	0.00	
9800.00	15.00	340.00	9794.31	61.15	-22.26	62.16	3.00	3.00	0.00	
9846.67	16.40	340.00	9839.23	73.02	-26.58	74.22	3.00	3.00	0.00	EOB @ 9847' MD, 16.4° Inc
9900.00	16.21	345.66	9890.42	87.31	-31.00	88.71	3.00	-0.35	10.62	
10000.00	16.27	356.40	9986.45	114.82	-35.33	116.40	3.00	0.06	10.74	
10030.69	16.40	359.64	10015.91	123.44	-35.63	125.02	3.00	0.41	10.57	EOT @ 10031' MD, 359.64°
10100.00	16.40	359.64	10082.40	143.01	-35.75	144.57	0.00	0.00	0.00	
10200.00	16.40	359.64	10178.33	171.24	-35.93	172.78	0.00	0.00	0.00	
10300.00	16.40	359.64	10274.26	199.47	-36.10	200.98	0.00	0.00	0.00	
10400.00	16.40	359.64	10370.19	227.70	-36.28	229.19	0.00	0.00	0.00	
10500.00	16.40	359.64	10466.13	255.93	-36.46	257.39	0.00	0.00	0.00	
10600.00	16.40	359.64	10562.06	284.16	-36.63	285.60	0.00	0.00	0.00	
10700.00	16.40	359.64	10657.99	312.39	-36.81	313.80	0.00	0.00	0.00	
10800.00	16.40	359.64	10753.93	340.62	-36.98	342.01	0.00	0.00	0.00	
10900.00	16.40	359.64	10849.86	368.85	-37.16	370.21	0.00	0.00	0.00	
11000.00	16.40	359.64	10945.79	397.08	-37.33	398.42	0.00	0.00	0.00	
11100.00	16.40	359.64	11041.72	425.31	-37.51	426.62	0.00	0.00	0.00	
11200.00	16.40	359.64	11137.66	453.54	-37.69	454.83	0.00	0.00	0.00	
11300.00	16.40	359.64	11233.59	481.77	-37.86	483.03	0.00	0.00	0.00	
11400.00	16.40	359.64	11329.52	510.00	-38.04	511.24	0.00	0.00	0.00	
11500.00	16.40	359.64	11425.45	538.22	-38.21	539.44	0.00	0.00	0.00	
11600.00	16.40	359.64	11521.39	566.45	-38.39	567.65	0.00	0.00	0.00	
11700.00	16.40	359.64	11617.32	594.68	-38.57	595.85	0.00	0.00	0.00	
11800.00	16.40	359.64	11713.25	622.91	-38.74	624.06	0.00	0.00	0.00	
11900.00	16.40	359.64	11809.18	651.14	-38.92	652.26	0.00	0.00	0.00	
12000.00	16.40	359.64	11905.12	679.37	-39.09	680.47	0.00	0.00	0.00	

Pathfinder Energy

Planning Report

Company: Marbob Energy Field: Twizzler State #1 Site: Twizzler State #1 Well: Twizzler State #1 Wellpath: OH	Date: 6/27/2007 Time: 10:45:50 Page: 4 Co-ordinate(NE) Reference: Twizzler State #1, Gnd North Vertical (TVD) Reference: SITE 3084.0 Section (VS) Reference: Well (0.00N,0.00E,357.22Azi) Plan: Plan #1.6-27-07
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Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
12100.00	16.40	359.64	12001.05	707.60	-39.27	708.67	0.00	0.00	0.00	
12200.00	16.40	359.64	12096.98	735.83	-39.44	736.88	0.00	0.00	0.00	
12300.00	16.40	359.64	12192.91	764.06	-39.62	765.08	0.00	0.00	0.00	
12400.00	16.40	359.64	12288.85	792.29	-39.80	793.29	0.00	0.00	0.00	
12500.00	16.40	359.64	12384.78	820.52	-39.97	821.49	0.00	0.00	0.00	
12515.87	16.40	359.64	12400.00	825.00	-40.00	825.97	0.00	0.00	0.00	PBHL

Targets

Name	Description Dip. Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<---- Latitude ---->			<---- Longitude ---->		
PBHL -Plan hit target		12400.00	825.00	-40.00	492632.80	560788.00	32	21	15.154	N	104	8 11.326 W

Annotation

MD ft	TVD ft	
9300.00	9300.00	KOP @ 9300' MD/TVD Begin Build @ 3°/100'
9846.67	9839.24	EOB @ 9847' MD, 16.4° Inc; Begin turn @ 3°/100'
10030.69	10015.91	EOT @ 10031' MD, 359.64° AZI, Hold to TD

Marbob Energy

PATHFINDER

Field: Twizzler State #1
 Site: Twizzler State #1
 Well: Twizzler State #1
 Wellpath: OH
 Plan: Plan #1 6-27-07

SITE DETAILS

Twizzler State #1
 Site Centre Northing 491807 80
 Easting 560828 00
 Ground Level 3070 00
 Positional Uncertainty 0 00
 Convergence 0 11

WELLPATH DETAILS

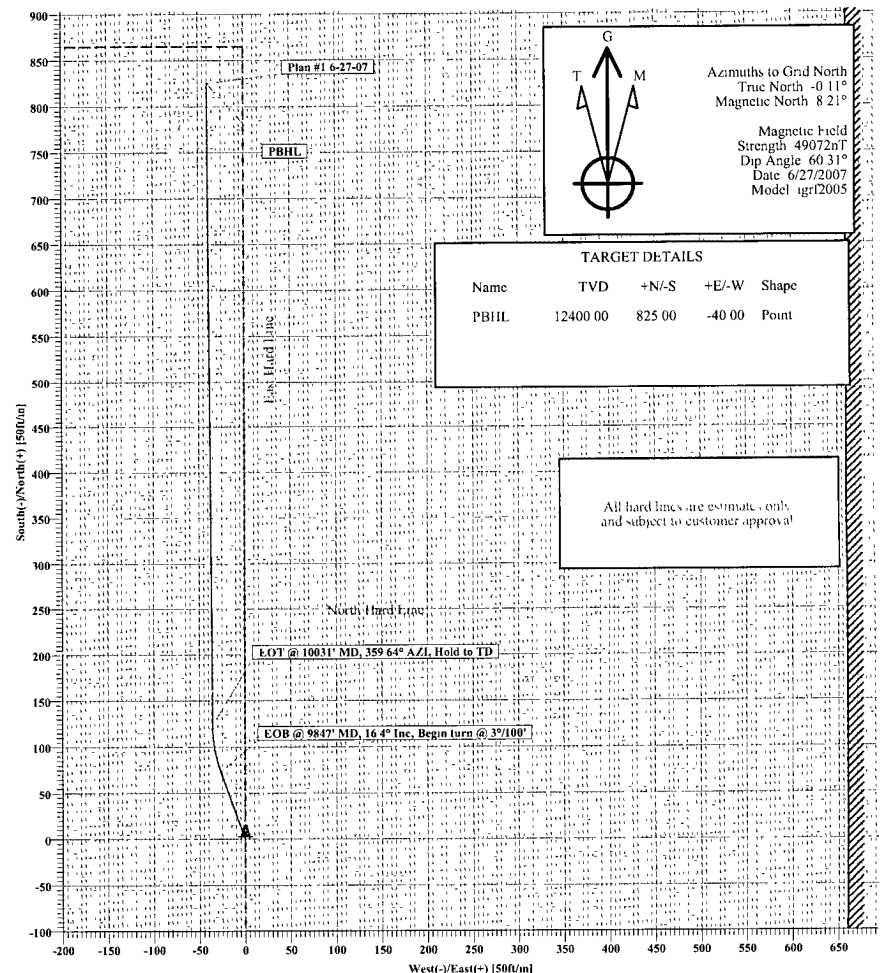
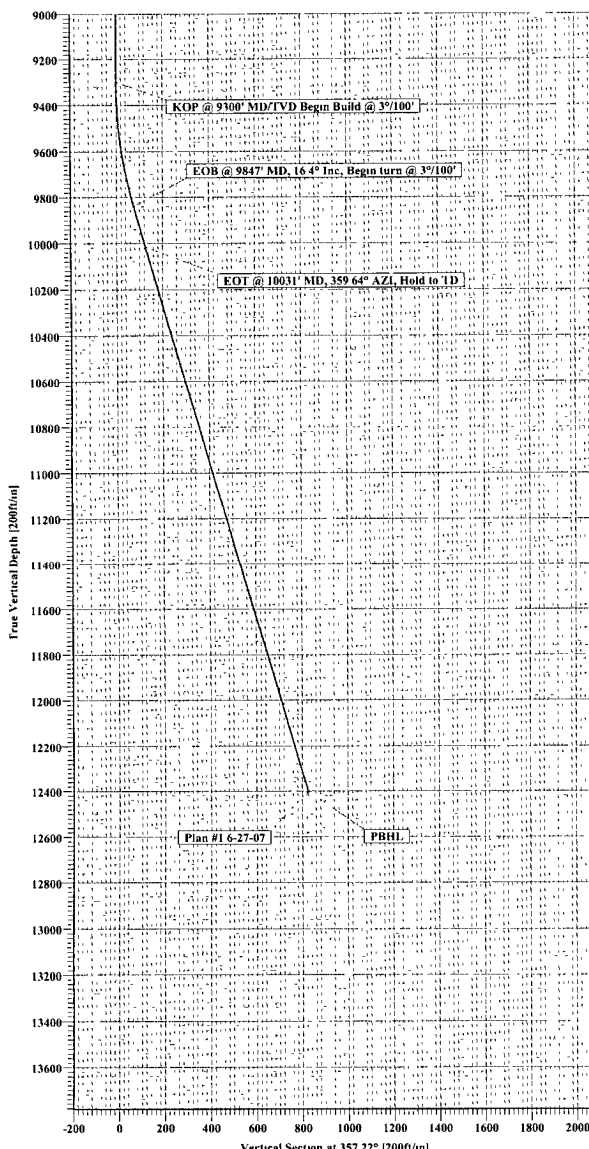
OH
 Rtg Ref Datum SITE 3084 00N
 V Section Angle Origin +N/-S Origin +E/-W Starting From TVD
 357 22° 0 00 0 00 3084 00

ANNOTATIONS

No	TVD	MD	Annotation
1	9300 00	9300 00	KOP @ 9300' MD/TVD Begin Build @ 3°/100'
2	9839 24	9846 67	EOB @ 9847' MD, 16.4° Inc, Begin turn @ 3°/100'
3	10015 91	10030 69	EOT @ 10031' MD, 359.64° AZI, Hold to TD

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	
2	9300 00	0 00	0 00	9300 00	0 00	0 00	0 00	0 00	0 00	
3	9846 67	16 40	340 00	9839 23	73 02	-26 58	3 00	340 00	74 22	
4	10030 69	16 40	359 64	10015 91	123 44	-35 63	3 00	99 45	125 02	
5	12515 87	16 40	359 64	12400 00	825 00	-40 00	0 00	0 00	825 97	PBHL



TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
PBHL	12400 00	825 00	-40 00	Point

All hard lines are estimate only, and subject to customer approval!