

PathFinder

Planning Report

30-015-33400

Company: Marbob Energy Date: 6/4/2004 Time: 09:12:27 Page: 2
 Field: Willow Lake; Delaware, S.W. Co-ordinate(NE) Reference: Site: Willow State #4-H, Grid North
 Site: Willow State #4-H Vertical (TVD) Reference: System: Mean Sea Level
 Well: Willow State #4-H Section (VS) Reference: Well (0.00N,0.00E,87.78Azi)
 Wellpath: Willow State #4-H Plan: Plan #2 06/04/04

Section 2 : Start Build 11.99

MD	Incl	Azim	TVD	+N/-S	+E/-W	VS	DLS	Build	Turn	TFO
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Section 3 : Start Hold

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	TFO deg
5200.00	90.00	87.78	4838.00	21.97	566.73	567.16	0.00	0.00	0.00	0.00
5300.00	90.00	87.78	4838.00	25.84	666.66	667.16	0.00	0.00	0.00	0.00
5400.00	90.00	87.78	4838.00	29.72	766.58	767.16	0.00	0.00	0.00	0.00
5500.00	90.00	87.78	4838.00	33.59	866.51	867.16	0.00	0.00	0.00	0.00
5600.00	90.00	87.78	4838.00	37.46	966.43	967.16	0.00	0.00	0.00	0.00
5700.00	90.00	87.78	4838.00	41.34	1066.36	1067.16	0.00	0.00	0.00	0.00
5800.00	90.00	87.78	4838.00	45.21	1166.28	1167.16	0.00	0.00	0.00	0.00
5900.00	90.00	87.78	4838.00	49.09	1266.21	1267.16	0.00	0.00	0.00	0.00
6000.00	90.00	87.78	4838.00	52.96	1366.13	1367.16	0.00	0.00	0.00	0.00
6100.00	90.00	87.78	4838.00	56.83	1466.06	1467.16	0.00	0.00	0.00	0.00
6200.00	90.00	87.78	4838.00	60.71	1565.98	1567.16	0.00	0.00	0.00	0.00
6300.00	90.00	87.78	4838.00	64.58	1665.91	1667.16	0.00	0.00	0.00	0.00
6400.00	90.00	87.78	4838.00	68.45	1765.83	1767.16	0.00	0.00	0.00	0.00
6500.00	90.00	87.78	4838.00	72.33	1865.76	1867.16	0.00	0.00	0.00	0.00
6600.00	90.00	87.78	4838.00	76.20	1965.68	1967.16	0.00	0.00	0.00	0.00
6700.00	90.00	87.78	4838.00	80.07	2065.61	2067.16	0.00	0.00	0.00	0.00
6800.00	90.00	87.78	4838.00	83.95	2165.53	2167.16	0.00	0.00	0.00	0.00
6900.00	90.00	87.78	4838.00	87.82	2265.46	2267.16	0.00	0.00	0.00	0.00
7000.00	90.00	87.78	4838.00	91.70	2365.38	2367.16	0.00	0.00	0.00	0.00
7100.00	90.00	87.78	4838.00	95.57	2465.31	2467.16	0.00	0.00	0.00	0.00
7200.00	90.00	87.78	4838.00	99.44	2565.23	2567.16	0.00	0.00	0.00	0.00
7214.78	90.00	87.78	4838.00	100.00	2580.00	2581.94	0.00	0.00	0.00	0.00

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
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	
4360.00	0.00	0.00	4360.00	0.00	0.00	0.00	0.00	0.00	0.00	
4400.00	4.79	87.78	4399.95	0.06	1.67	1.67	11.99	11.99	0.00	
4500.00	16.78	87.78	4498.01	0.79	20.34	20.36	11.99	11.99	0.00	
4600.00	28.77	87.78	4590.04	2.29	58.95	59.00	11.99	11.99	0.00	
4700.00	40.75	87.78	4672.05	4.49	115.82	115.91	11.99	11.99	0.00	
4800.00	52.74	87.78	4740.44	7.31	188.47	188.61	11.99	11.99	0.00	
4900.00	64.73	87.78	4792.25	10.61	273.72	273.93	11.99	11.99	0.00	
5000.00	76.71	87.78	4825.21	14.26	367.87	368.15	11.99	11.99	0.00	
5100.00	88.70	87.78	4837.88	18.10	466.81	467.16	11.99	11.99	0.00	
5110.84	90.00	87.78	4838.00	18.52	477.64	478.00	11.99	11.99	0.00	
5200.00	90.00	87.78	4838.00	21.97	566.73	567.16	0.00	0.00	0.00	
5300.00	90.00	87.78	4838.00	25.84	666.66	667.16	0.00	0.00	0.00	
5400.00	90.00	87.78	4838.00	29.72	766.58	767.16	0.00	0.00	0.00	
5500.00	90.00	87.78	4838.00	33.59	866.51	867.16	0.00	0.00	0.00	
5600.00	90.00	87.78	4838.00	37.46	966.43	967.16	0.00	0.00	0.00	
5700.00	90.00	87.78	4838.00	41.34	1066.36	1067.16	0.00	0.00	0.00	
5800.00	90.00	87.78	4838.00	45.21	1166.28	1167.16	0.00	0.00	0.00	
5900.00	90.00	87.78	4838.00	49.09	1266.21	1267.16	0.00	0.00	0.00	
6000.00	90.00	87.78	4838.00	52.96	1366.13	1367.16	0.00	0.00	0.00	
6100.00	90.00	87.78	4838.00	56.83	1466.06	1467.16	0.00	0.00	0.00	
6200.00	90.00	87.78	4838.00	60.71	1565.98	1567.16	0.00	0.00	0.00	
6300.00	90.00	87.78	4838.00	64.58	1665.91	1667.16	0.00	0.00	0.00	

PathFinder

Planning Report

Company: Marbob Energy
 Field: Willow Lake, Delaware, S.W.
 Site: Willow State #4-H
 Well: Willow State #4-H
 Wellpath: Willow State #4-H

Date: 6/4/2004 Time: 09:12:27 Page: 3
 Co-ordinate(NE) Reference: Site: Willow State #4-H, Grid North
 Vertical (TVD) Reference: System: Mean Sea Level
 Section (VS) Reference: Well (0.00N,0.00E,87.78Azi)
 Plan: Plan #2 06/04/04

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
6400.00	90.00	87.78	4838.00	68.45	1765.83	1767.16	0.00	0.00	0.00	
6500.00	90.00	87.78	4838.00	72.33	1865.76	1867.16	0.00	0.00	0.00	
6600.00	90.00	87.78	4838.00	76.20	1965.68	1967.16	0.00	0.00	0.00	
6700.00	90.00	87.78	4838.00	80.07	2065.61	2067.16	0.00	0.00	0.00	
6800.00	90.00	87.78	4838.00	83.95	2165.53	2167.16	0.00	0.00	0.00	
6900.00	90.00	87.78	4838.00	87.82	2265.46	2267.16	0.00	0.00	0.00	
7000.00	90.00	87.78	4838.00	91.70	2365.38	2367.16	0.00	0.00	0.00	
7100.00	90.00	87.78	4838.00	95.57	2465.31	2467.16	0.00	0.00	0.00	
7200.00	90.00	87.78	4838.00	99.44	2565.23	2567.16	0.00	0.00	0.00	
7214.78	90.00	87.78	4838.00	100.00	2580.00	2581.94	0.00	0.00	0.00	PBHL Willow State #4-H

Targets

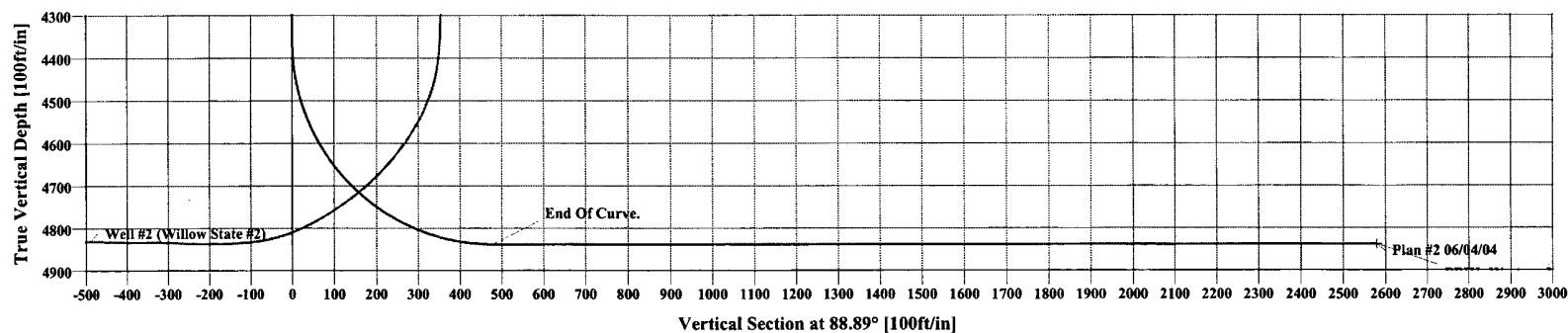
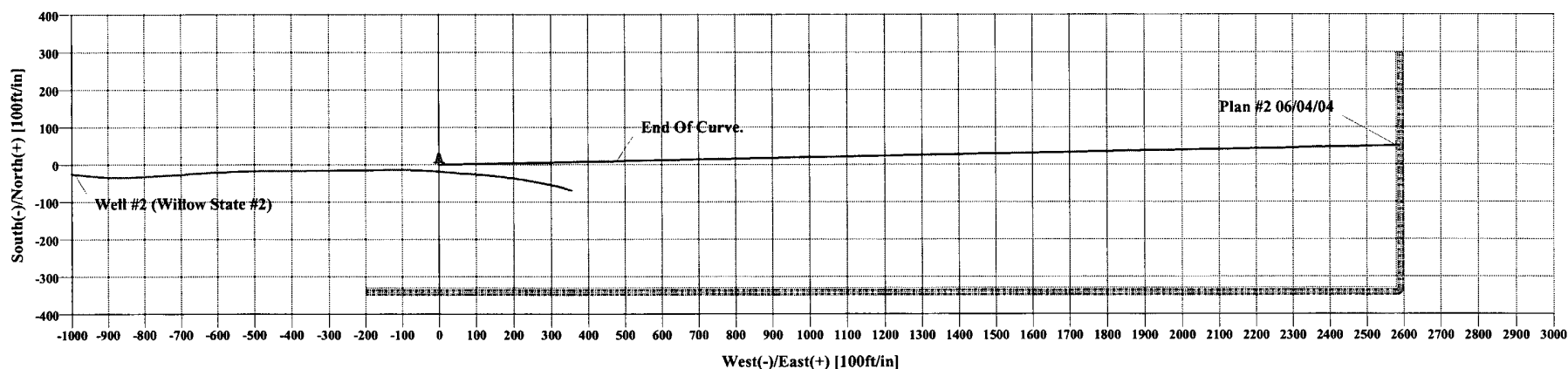
Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<--- Latitude ---> Deg Min Sec			<--- Longitude ---> Deg Min Sec		
PBHL Willow State #4-H			4838.00	100.00	2580.00			30	59	24.877 N	105	55	14.485 W

Marbob Energy Corp.
Willow State #4-H
Eddy County, New Mexico
Plan #2 06/04/04

PATHFINDER
ENERGY SERVICES

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	4360.00	0.00	0.00	4360.00	0.00	0.00	0.00	0.00	0.00	
3	5110.84	90.00	88.89	4838.00	9.26	477.91	11.99	88.89	478.00	
4	7213.33	90.00	88.89	4838.00	50.00	2580.00	0.00	0.00	2580.48	PBHL Western Hawk COM #1



Plan: Plan #2 06/04/04 (Western Hawk State COM #1) Willow State COM #1

Controlled By: Robert Sengco

Date: 4/9/2004

Checked: _____

Date: _____

Reviewed: _____

Date: _____

Approved: _____

Date: _____