



Marbob

Eddy County

Wild Ride

#1H

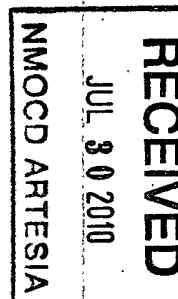
OH

Plan: Plan #1

Pathfinder X & Y Planning Report

11 May, 2010

PATHFINDER





Pathfinder

Pathfinder X & Y Planning Report



Company:	Marbob	Local Co-ordinate Reference:	Well #1H
Project:	Eddy County	TVD Reference:	WELL @ 3815.00ft (Patriot #6)
Site:	Wild Ride	MD Reference:	WELL @ 3815.00ft (Patriot #6)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	Midland Database

Project	Eddy County	System Datum:	Mean Sea Level
Map System:	US State Plane 1927 (Exact solution)		
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Wild Ride		
Site Position:		Northing:	369,591.900 ft
From:	Map	Easting:	472,046.100 ft
Position Uncertainty:	0.00 ft	Slot Radius:	"
		Latitude:	32° 0' 57.924 N
		Longitude:	104° 25' 24.688 W
		Grid Convergence:	-0.05 °

Well	#1H		
Well Position	+N/-S 0.00 ft	Northing:	369,591.900 ft
	+E/-W 0.00 ft	Easting:	472,046.100 ft
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft
		Latitude:	32° 0' 57.924 N
		Longitude:	104° 25' 24.688 W
		Ground Level:	3,798.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	05/11/2010	8.07	59.89	48.532

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	7,128.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	179.97



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Survey Tool Program	Date 05/11/2010		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name
100.00	7,128.00	GYRO (OH)	CT_GYRO_MS
7,128.00	10,508.46	Plan #1 (OH)	MWD
			Description
			Continuous Gyro Multishot
			MWD - Standard

Planned Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
0.00	0.00	0.00	0.00	-3,815.00	0.00	0.00	0.00	0.00	369,591.90	472,046.10	
100.00	0.49	184.04	100.00	-3,715.00	-0.43	-0.03	0.43	0.49	369,591.47	472,046.07	
200.00	0.54	154.95	199.99	-3,615.01	-1.28	0.14	1.28	0.26	369,590.62	472,046.24	
300.00	0.61	152.46	299.99	-3,515.01	-2.18	0.58	2.18	0.07	369,589.72	472,046.68	
400.00	0.67	145.87	399.98	-3,415.02	-3.13	1.16	3.14	0.09	369,588.77	472,047.26	
500.00	0.61	146.76	499.98	-3,315.02	-4.06	1.78	4.06	0.06	369,587.84	472,047.88	
600.00	0.38	168.47	599.97	-3,215.03	-4.83	2.14	4.84	0.29	369,587.07	472,048.24	
700.00	0.36	191.40	699.97	-3,115.03	-5.47	2.14	5.47	0.15	369,586.43	472,048.24	
800.00	0.35	205.08	799.97	-3,015.03	-6.05	1.95	6.05	0.09	369,585.85	472,048.05	
900.00	0.17	231.88	899.97	-2,915.03	-6.42	1.70	6.42	0.21	369,585.48	472,047.80	
1,000.00	0.24	268.61	999.97	-2,815.03	-6.52	1.38	6.52	0.15	369,585.38	472,047.48	
1,100.00	0.32	284.75	1,099.97	-2,715.03	-6.45	0.90	6.45	0.11	369,585.45	472,047.00	
1,200.00	0.36	294.73	1,199.97	-2,615.03	-6.25	0.34	6.25	0.07	369,585.65	472,046.44	
1,300.00	0.35	287.69	1,299.96	-2,515.04	-6.02	-0.23	6.02	0.04	369,585.88	472,045.87	
1,400.00	0.33	284.93	1,399.96	-2,415.04	-5.86	-0.80	5.86	0.03	369,586.04	472,045.30	
1,500.00	0.34	291.85	1,499.96	-2,315.04	-5.67	-1.36	5.67	0.04	369,586.23	472,044.74	
1,600.00	0.33	284.92	1,599.96	-2,215.04	-5.49	-1.91	5.49	0.04	369,586.41	472,044.19	
1,700.00	0.32	258.88	1,699.96	-2,115.04	-5.47	-2.46	5.47	0.15	369,586.43	472,043.64	
1,800.00	0.30	226.88	1,799.96	-2,015.04	-5.70	-2.93	5.70	0.17	369,586.20	472,043.17	
1,900.00	0.29	228.90	1,899.95	-1,915.05	-6.05	-3.31	6.04	0.01	369,585.85	472,042.79	
2,000.00	0.38	247.40	1,999.95	-1,815.05	-6.34	-3.81	6.34	0.14	369,585.56	472,042.29	



Pathfinder

Pathfinder X & Y Planning Report



Company: Marbob
Project: Eddy County
Site: Wild Ride
Well: #1H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #1H
TVD Reference: WELL @ 3815.00ft (Patriot #6)
MD Reference: WELL @ 3815.00ft (Patriot #6)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland Database

Planned Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
2,100.00	0.39	243.52	2,099.95	-1,715.05	-6.62	-4.42	6.62	0.03	369,585.28	472,041.68	
2,200.00	0.36	247.25	2,199.95	-1,615.05	-6.89	-5.01	6.89	0.04	369,585.01	472,041.09	
2,300.00	0.41	244.85	2,299.95	-1,515.05	-7.17	-5.63	7.16	0.05	369,584.73	472,040.47	
2,400.00	0.38	241.57	2,399.94	-1,415.06	-7.48	-6.24	7.47	0.04	369,584.42	472,039.86	
2,500.00	0.45	240.94	2,499.94	-1,315.06	-7.82	-6.88	7.82	0.07	369,584.08	472,039.22	
2,600.00	0.49	240.05	2,599.94	-1,215.06	-8.23	-7.59	8.22	0.04	369,583.67	472,038.51	
2,700.00	0.48	240.53	2,699.93	-1,115.07	-8.65	-8.32	8.64	0.01	369,583.25	472,037.78	
2,800.00	0.47	243.06	2,799.93	-1,015.07	-9.04	-9.05	9.04	0.02	369,582.86	472,037.05	
2,900.00	0.57	241.33	2,899.93	-915.07	-9.46	-9.86	9.46	0.10	369,582.44	472,036.24	
3,000.00	0.57	256.58	2,999.92	-815.08	-9.82	-10.78	9.81	0.15	369,582.08	472,035.32	
3,100.00	0.50	265.48	3,099.92	-715.08	-9.97	-11.70	9.96	0.11	369,581.93	472,034.40	
3,200.00	0.47	258.38	3,199.91	-615.09	-10.08	-12.53	10.08	0.07	369,581.82	472,033.57	
3,300.00	0.51	256.85	3,299.91	-515.09	-10.27	-13.37	10.26	0.04	369,581.63	472,032.73	
3,400.00	0.50	262.62	3,399.91	-415.09	-10.43	-14.23	10.42	0.05	369,581.47	472,031.87	
3,500.00	0.58	261.86	3,499.90	-315.10	-10.55	-15.17	10.55	0.08	369,581.35	472,030.93	
3,600.00	0.25	254.49	3,599.90	-215.10	-10.68	-15.88	10.68	0.33	369,581.22	472,030.22	
3,700.00	0.11	193.87	3,699.90	-115.10	-10.84	-16.11	10.83	0.22	369,581.06	472,029.99	
3,800.00	0.19	161.30	3,799.90	-15.10	-11.09	-16.08	11.08	0.11	369,580.81	472,030.02	
3,900.00	0.21	149.85	3,899.90	84.90	-11.40	-15.94	11.39	0.04	369,580.50	472,030.16	
4,000.00	0.21	101.74	3,999.90	184.90	-11.60	-15.67	11.59	0.17	369,580.30	472,030.43	
4,100.00	0.17	202.48	4,099.90	284.90	-11.77	-15.54	11.76	0.29	369,580.13	472,030.56	
4,200.00	0.42	109.21	4,199.90	384.90	-12.03	-15.25	12.02	0.46	369,579.87	472,030.85	
4,300.00	0.44	101.96	4,299.89	484.89	-12.23	-14.53	12.22	0.06	369,579.67	472,031.57	
4,400.00	0.42	105.63	4,399.89	584.89	-12.41	-13.80	12.40	0.03	369,579.49	472,032.30	
4,500.00	0.58	91.58	4,499.89	684.89	-12.52	-12.94	12.51	0.20	369,579.38	472,033.16	
4,600.00	0.62	80.76	4,599.88	784.88	-12.45	-11.90	12.44	0.12	369,579.45	472,034.20	
4,700.00	0.53	82.36	4,699.88	884.88	-12.30	-10.91	12.29	0.09	369,579.60	472,035.19	



Pathfinder

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Site:	Wild Ride	MD Reference:	WELL @ 3815.00ft (Patriot #6)
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Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	Midland Database

Planned Survey											
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4,800.00	0.62	61.13	4,799.87	984.87	-11.98	-9.98	11.97	0.23	369,579.92	472,036.12	
4,900.00	0.71	48.47	4,899.86	1,084.86	-11.30	-9.04	11.30	0.17	369,580.60	472,037.06	
5,000.00	0.69	47.44	4,999.86	1,184.86	-10.49	-8.13	10.48	0.02	369,581.41	472,037.97	
5,100.00	0.61	49.44	5,099.85	1,284.85	-9.73	-7.29	9.73	0.08	369,582.17	472,038.81	
5,200.00	0.50	12.02	5,199.85	1,384.85	-8.96	-6.79	8.96	0.37	369,582.94	472,039.31	
5,300.00	0.57	308.92	5,299.84	1,484.84	-8.22	-7.09	8.22	0.56	369,583.68	472,039.01	
5,400.00	0.63	307.55	5,399.84	1,584.84	-7.57	-7.91	7.57	0.06	369,584.33	472,038.19	
5,500.00	0.78	325.87	5,499.83	1,684.83	-6.67	-8.73	6.67	0.27	369,585.23	472,037.37	
5,600.00	0.70	18.02	5,599.82	1,784.82	-5.53	-8.92	5.53	0.65	369,586.37	472,037.18	
5,700.00	0.97	35.28	5,699.81	1,884.81	-4.26	-8.24	4.25	0.37	369,587.64	472,037.86	
5,800.00	1.19	36.23	5,799.79	1,984.79	-2.73	-7.14	2.73	0.22	369,589.17	472,038.96	
5,900.00	1.20	40.91	5,899.77	2,084.77	-1.10	-5.84	1.10	0.10	369,590.80	472,040.26	
6,000.00	1.35	58.81	5,999.75	2,184.75	0.30	-4.15	-0.30	0.42	369,592.20	472,041.95	
6,100.00	1.31	59.90	6,099.72	2,284.72	1.48	-2.15	-1.49	0.05	369,593.38	472,043.95	
6,200.00	1.26	47.12	6,199.70	2,384.70	2.81	-0.36	-2.81	0.29	369,594.71	472,045.74	
6,300.00	1.45	38.85	6,299.67	2,484.67	4.54	1.24	-4.54	0.27	369,596.44	472,047.34	
6,400.00	1.76	37.07	6,399.63	2,584.63	6.75	2.96	-6.75	0.31	369,598.65	472,049.06	
6,500.00	2.35	46.29	6,499.56	2,684.56	9.39	5.37	-9.39	0.67	369,601.29	472,051.47	
6,600.00	2.42	48.34	6,599.48	2,784.48	12.21	8.43	-12.21	0.11	369,604.11	472,054.53	
6,700.00	1.89	47.17	6,699.41	2,884.41	14.74	11.22	-14.73	0.53	369,606.64	472,057.32	
6,800.00	1.25	46.55	6,799.37	2,984.37	16.61	13.22	-16.60	0.64	369,608.51	472,059.32	
6,900.00	0.89	34.25	6,899.35	3,084.35	18.00	14.45	-17.99	0.43	369,609.90	472,060.55	
7,000.00	0.74	30.74	6,999.34	3,184.34	19.20	15.21	-19.19	0.16	369,611.10	472,061.31	
7,100.00	0.75	27.71	7,099.33	3,284.33	20.33	15.85	-20.32	0.04	369,612.23	472,061.95	
7,128.00	0.71	27.35	7,127.33	3,312.33	20.65	16.01	-20.64	0.16	369,612.55	472,062.11	
7,150.00	2.04	171.27	7,149.33	3,334.33	20.38	16.13	-20.37	12.00	369,612.28	472,062.23	
7,175.00	5.02	176.67	7,174.28	3,359.28	18.85	16.26	-18.84	12.00	369,610.75	472,062.36	



Pathfinder

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Planned Survey											
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7,200.00	8.02	178.04	7,199.11	3,384.11	16.01	16.39	-16.00	12.00	369,607.91	472,062.49	
7,225.00	11.02	178.67	7,223.76	3,408.76	11.88	16.50	-11.87	12.00	369,603.78	472,062.60	
7,250.00	14.02	179.04	7,248.17	3,433.17	6.46	16.61	-6.46	12.00	369,598.36	472,062.71	
7,275.00	17.02	179.27	7,272.25	3,457.25	-0.22	16.71	0.23	12.00	369,591.68	472,062.81	
7,300.00	20.02	179.44	7,295.96	3,480.96	-8.16	16.79	8.17	12.00	369,583.74	472,062.89	
7,325.00	23.01	179.57	7,319.21	3,504.21	-17.33	16.87	17.33	12.00	369,574.57	472,062.97	
7,350.00	26.01	179.66	7,341.96	3,526.96	-27.70	16.94	27.71	12.00	369,564.20	472,063.04	
7,375.00	29.01	179.74	7,364.12	3,549.12	-39.25	17.00	39.25	12.00	369,552.65	472,063.10	
7,400.00	32.01	179.81	7,385.66	3,570.66	-51.94	17.05	51.95	12.00	369,539.96	472,063.15	
7,425.00	35.01	179.86	7,406.50	3,591.50	-65.74	17.09	65.75	12.00	369,526.16	472,063.19	
7,450.00	38.01	179.91	7,426.59	3,611.59	-80.62	17.12	80.62	12.00	369,511.28	472,063.22	
7,475.00	41.01	179.95	7,445.88	3,630.88	-96.52	17.14	96.53	12.00	369,495.38	472,063.24	
7,500.00	44.01	179.99	7,464.30	3,649.30	-113.41	17.15	113.42	12.00	369,478.49	472,063.25	
7,525.00	47.01	180.02	7,481.82	3,666.82	-131.25	17.15	131.25	12.00	369,460.65	472,063.25	
7,550.00	50.01	180.05	7,498.38	3,683.38	-149.97	17.13	149.98	12.00	369,441.93	472,063.23	
7,575.00	53.01	180.08	7,513.93	3,698.93	-169.54	17.11	169.55	12.00	369,422.36	472,063.21	
7,600.00	56.01	180.10	7,528.44	3,713.44	-189.89	17.08	189.90	12.00	369,402.01	472,063.18	
7,625.00	59.01	180.13	7,541.87	3,726.87	-210.98	17.04	210.99	12.00	369,380.92	472,063.14	
7,650.00	62.02	180.15	7,554.17	3,739.17	-232.74	16.98	232.75	12.00	369,359.16	472,063.08	
7,675.00	65.02	180.17	7,565.32	3,750.32	-255.11	16.92	255.12	12.00	369,336.79	472,063.02	
7,700.00	68.02	180.19	7,575.28	3,760.28	-278.04	16.85	278.05	12.00	369,313.86	472,062.95	
7,725.00	71.02	180.21	7,584.03	3,769.03	-301.46	16.77	301.46	12.00	369,290.44	472,062.87	
7,750.00	74.02	180.23	7,591.54	3,776.54	-325.30	16.68	325.31	12.00	369,266.60	472,062.78	
7,775.00	77.02	180.25	7,597.79	3,782.79	-349.50	16.58	349.51	12.00	369,242.40	472,062.68	
7,800.00	80.02	180.26	7,602.77	3,787.77	-374.00	16.47	374.00	12.00	369,217.90	472,062.57	
7,825.00	83.02	180.28	7,606.46	3,791.46	-398.72	16.35	398.73	12.00	369,193.18	472,062.45	
7,850.00	86.02	180.30	7,608.85	3,793.85	-423.60	16.22	423.61	12.00	369,168.30	472,062.32	



Pathfinder

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Project: Eddy County
Site: Wild Ride
Well: #1H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #1H
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7,875.00	89.02	180.31	7,609.93	3,794.93	-448.58	16.09	448.58	12.00	369,143.32	472,062.19	
7,883.20	90.00	180.32	7,610.00	3,795.00	-456.78	16.05	456.78	12.00	369,135.12	472,062.15	
7,900.00	90.00	180.32	7,610.00	3,795.00	-473.57	15.95	473.58	0.00	369,118.33	472,062.05	
8,000.00	90.00	180.32	7,610.00	3,795.00	-573.57	15.39	573.58	0.00	369,018.33	472,061.49	
8,100.00	90.00	180.32	7,610.00	3,795.00	-673.57	14.83	673.58	0.00	368,918.33	472,060.93	
8,200.00	90.00	180.32	7,610.00	3,795.00	-773.57	14.28	773.58	0.00	368,818.33	472,060.38	
8,300.00	90.00	180.32	7,610.00	3,795.00	-873.57	13.72	873.57	0.00	368,718.33	472,059.82	
8,400.00	90.00	180.32	7,610.00	3,795.00	-973.57	13.16	973.57	0.00	368,618.33	472,059.26	
8,500.00	90.00	180.32	7,610.00	3,795.00	-1,073.57	12.60	1,073.57	0.00	368,518.33	472,058.70	
8,600.00	90.00	180.32	7,610.00	3,795.00	-1,173.56	12.04	1,173.57	0.00	368,418.34	472,058.14	
8,700.00	90.00	180.32	7,610.00	3,795.00	-1,273.56	11.48	1,273.57	0.00	368,318.34	472,057.58	
8,800.00	90.00	180.32	7,610.00	3,795.00	-1,373.56	10.93	1,373.57	0.00	368,218.34	472,057.03	
8,900.00	90.00	180.32	7,610.00	3,795.00	-1,473.56	10.37	1,473.56	0.00	368,118.34	472,056.47	
9,000.00	90.00	180.32	7,610.00	3,795.00	-1,573.56	9.81	1,573.56	0.00	368,018.34	472,055.91	
9,100.00	90.00	180.32	7,610.00	3,795.00	-1,673.56	9.25	1,673.56	0.00	367,918.34	472,055.35	
9,200.00	90.00	180.32	7,610.00	3,795.00	-1,773.55	8.69	1,773.56	0.00	367,818.35	472,054.79	
9,300.00	90.00	180.32	7,610.00	3,795.00	-1,873.55	8.13	1,873.56	0.00	367,718.35	472,054.23	
9,400.00	90.00	180.32	7,610.00	3,795.00	-1,973.55	7.57	1,973.55	0.00	367,618.35	472,053.67	
9,500.00	90.00	180.32	7,610.00	3,795.00	-2,073.55	7.02	2,073.55	0.00	367,518.35	472,053.12	
9,600.00	90.00	180.32	7,610.00	3,795.00	-2,173.55	6.46	2,173.55	0.00	367,418.35	472,052.56	
9,700.00	90.00	180.32	7,610.00	3,795.00	-2,273.55	5.90	2,273.55	0.00	367,318.35	472,052.00	
9,800.00	90.00	180.32	7,610.00	3,795.00	-2,373.55	5.34	2,373.55	0.00	367,218.35	472,051.44	
9,900.00	90.00	180.32	7,610.00	3,795.00	-2,473.54	4.78	2,473.55	0.00	367,118.36	472,050.88	
10,000.00	90.00	180.32	7,610.00	3,795.00	-2,573.54	4.22	2,573.54	0.00	367,018.36	472,050.32	
10,100.00	90.00	180.32	7,610.00	3,795.00	-2,673.54	3.66	2,673.54	0.00	366,918.36	472,049.76	
10,200.00	90.00	180.32	7,610.00	3,795.00	-2,773.54	3.11	2,773.54	0.00	366,818.36	472,049.21	
10,300.00	90.00	180.32	7,610.00	3,795.00	-2,873.54	2.55	2,873.54	0.00	366,718.36	472,048.65	



Pathfinder

Pathfinder X & Y Planning Report



Company:	Marbob	Local Co-ordinate Reference:	Well #1H
Project:	Eddy County	TVD Reference:	WELL @ 3815.00ft (Patriot #6)
Site:	Wild Ride	MD Reference:	WELL @ 3815.00ft (Patriot #6)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	Midland Database

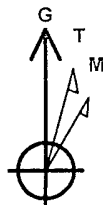
Planned Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
10,400.00	90.00	180.32	7,610.00	3,795.00	-2,973.54	1.99	2,973.54	0.00	366,618.36	472,048.09	
10,508.46	90.00	180.32	7,610.00	3,795.00	-3,082.00	1.38	3,082.00	0.00	366,509.90	472,047.48	
PBHL(wild ride #1)											

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude Longitude	
- hit/miss target									
- Shape									
PBHL(wild ride #1)	0.00	360.00	7,610.00	-3,082.00	1.60	366,509.900	472,047.700	32° 0' 27.423 N 104° 25' 24.640 W	
- plan hits target center									
- Point									

Checked By: _____	Approved By: _____	Date: _____
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Project: Eddy County
Site: Wild Ride
Well: #1H
Wellbore: OH
Plan: Plan #1 (#1H/OH)



Azimuths to Grid North
True North: 0.05°
Magnetic North: 8.12°

Magnetic Field
Strength: 48531.9snT
Dip Angle: 59.88°
Date: 05/11/2010
Model: IGRF200510

PATHFINDER

PROJECT DETAILS: Eddy County
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level
Local North: Grid

SECTION DETAILS									
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	DLeg	TFace	VSec Target
1	7128.00	0.71	27.35	7127.33	20.65	16.01	0.00	0.00	-20.64
2	7883.20	90.00	180.32	7610.00	-456.78	16.05	12.00	152.97	456.78
3	10508.47	90.00	180.32	7610.00	-3082.00	1.38	0.00	0.00	3082.00 PBHL(wild ride #1)

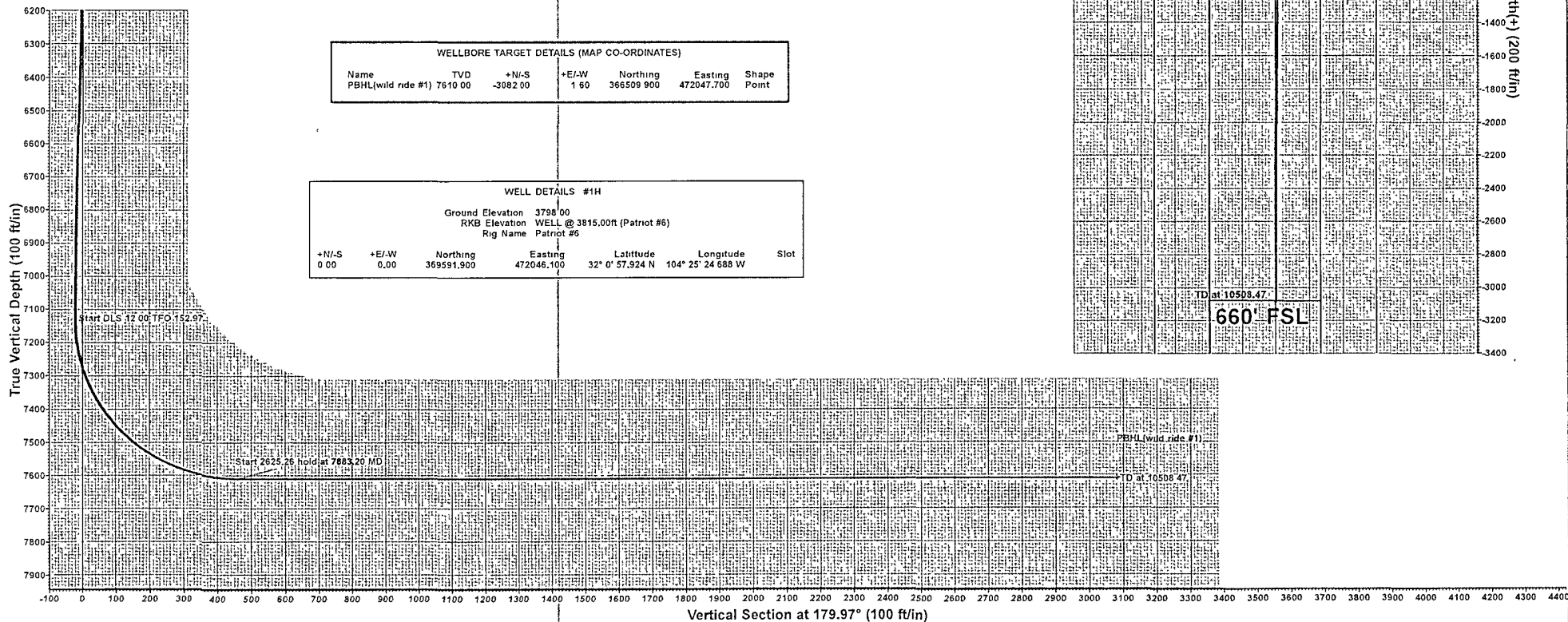
WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N-S	+E-W	Northing	Easting	Shape
PBHL(wild ride #1)	7610.00	-3082.00	1.60	366509.900	472047.700	Point

WELL DETAILS #1H

Ground Elevation 3798.00
RKB Elevation WELL @ 3815.00ft (Patriot #6)
Rig Name Patriot #6

+N-S	+E-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	369591.900	472046.100	32° 0' 57.924 N	104° 25' 24.688 W	



**Wild Ride Federal 1H
30-015-36678
Marbob Energy Corporation
May 11, 2010
Conditions of Approval**

Centralizers required on horizontal leg, must be type for horizontal service and minimum of one every other joint.

Used mud weight proposed in original APD.

1. The minimum required fill of cement behind the 7 & 5.5 inch production casing is:
 - a. First stage to DV tool, cement shall:
 - ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job.
 - b. Second stage above DV tool, cement shall:
 - ☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.

Name change/pool change – Subject to Like Approval by State

WWI 051110