

OCT 11 2010

MARBOB ENERGY

Wildcat

Eddy County, NM

Lovelady State #4H

VH - Job #32K0910656

30-015-37689

Survey: Actual

SDI Standard Survey Report

13 September, 2010

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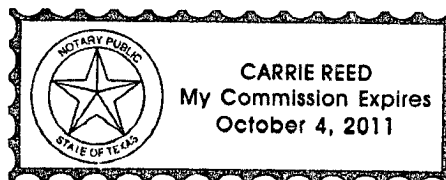
This survey is correct to the best of my knowledge and is supported by actual field data.

Richard

Notorized this date 5th of October, 2010.

Carrie Reed

Notary Signature
County of Midland
State of Texas



Scientific Drilling International, Inc.
SDI Standard Survey Report

Company:	MARBOB ENERGY	Local Co-ordinate Reference:	Well Lovelady State #4H
Project:	Wildcat	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Lovelady State #4H	North Reference:	Grid
Wellbore:	VH - Job #32K0910656	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0910656	Database:	EDM-Regulatory

Project	Wildcat		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico Central 3002		

Well	Lovelady State #4H, Directional (Pathfinder)				
Well Position	+N/-S	0 0 usft	Northing:	413,548 40 usft	Latitude: 32° 7' 24.096 N
	+E/-W	0.0 usft	Easting:	1,074,698 11 usft	Longitude: 104° 23' 37 460 W
Position Uncertainty		0 0 usft	Wellhead Elevation:	usft	Ground Level: 0 0 usft

Wellbore	VH - Job #32K0910656				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2010	9/13/2010	8 11	59.96	48,590

Design	VH - Job #32K0910656				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0 0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0 0	0 0	0 0	2 20	

Survey Program	Date	9/13/2010			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.0	7,642.0	Actual (VH - Job #32K0910656)	Keeper	Keeper Gyro	

Survey								
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.0	
100.0	0.74	61.86	100.0	0.3	0.6	61.86	0.6	
200.0	0.66	67.12	200.0	0.8	1.7	63.48	1.9	
300.0	0.88	83.72	300.0	1.1	3.0	68.94	3.2	
400.0	1.02	108.10	400.0	0.9	4.6	78.28	4.7	
500.0	0.88	119.13	500.0	0.3	6.1	87.20	6.1	
600.0	0.42	109.34	599.9	-0.2	7.1	91.59	7.1	
700.0	0.08	125.23	699.9	-0.4	7.5	92.74	7.5	
800.0	0.18	341.50	799.9	-0.3	7.5	91.91	7.5	
900.0	0.19	332.91	899.9	0.0	7.4	89.64	7.4	
1,000.0	0.51	13.57	999.9	0.6	7.4	85.17	7.4	
1,100.0	0.33	19.26	1,099.9	1.3	7.6	80.09	7.7	
1,200.0	0.51	6.94	1,199.9	2.0	7.8	75.25	8.0	
1,300.0	0.41	8.11	1,299.9	2.8	7.9	70.16	8.4	
1,400.0	0.29	340.38	1,399.9	3.4	7.8	66.34	8.6	
1,500.0	0.31	313.62	1,499.9	3.9	7.6	62.95	8.5	
1,600.0	0.29	352.39	1,599.9	4.3	7.3	59.62	8.5	

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Well:	Lovelady State #4H	North Reference:	Grd
Wellbore:	VH - Job #32K0910656	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0910656	Database:	EDM-Regulatory

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
1,700.0	0.24	312.00	1,699.9	4.7	7.1	56.71	8.5
1,800.0	0.32	326.82	1,799.9	5.1	6.8	53.46	8.5
1,900.0	0.20	345.87	1,899.9	5.5	6.6	50.53	8.6
2,000.0	0.08	252.09	1,999.9	5.6	6.5	49.31	8.6
2,100.0	0.40	239.92	2,099.9	5.4	6.2	48.67	8.2
2,200.0	0.24	312.56	2,199.9	5.4	5.7	46.65	7.8
2,300.0	0.25	195.53	2,299.9	5.3	5.5	45.93	7.6
2,400.0	0.46	237.83	2,399.9	4.9	5.1	46.15	7.1
2,500.0	0.36	251.21	2,499.9	4.6	4.5	44.23	6.4
2,600.0	0.39	259.70	2,599.9	4.4	3.8	40.89	5.8
2,700.0	0.29	218.40	2,699.9	4.2	3.3	38.71	5.3
2,800.0	0.45	272.40	2,799.9	4.0	2.8	34.98	4.8
2,900.0	0.42	258.45	2,899.9	3.9	2.0	27.38	4.4
3,000.0	0.40	254.56	2,999.9	3.7	1.3	19.56	4.0
3,100.0	0.27	259.52	3,099.9	3.6	0.8	11.94	3.7
3,200.0	0.18	250.93	3,199.9	3.5	0.4	6.22	3.5
3,300.0	0.17	152.06	3,299.9	3.3	0.3	5.22	3.3
3,400.0	0.09	153.21	3,399.9	3.1	0.4	7.44	3.2
3,500.0	0.11	171.95	3,499.9	3.0	0.5	8.77	3.0
3,600.0	0.03	31.97	3,599.9	2.9	0.5	9.52	2.9
3,700.0	0.02	69.21	3,699.9	2.9	0.5	10.00	3.0
3,800.0	0.16	172.72	3,799.9	2.8	0.5	11.14	2.8
3,900.0	0.21	196.75	3,899.9	2.5	0.5	11.73	2.5
4,000.0	0.23	189.91	3,999.9	2.1	0.4	11.47	2.1
4,100.0	0.46	178.15	4,099.9	1.5	0.4	15.07	1.6
4,200.0	0.54	131.29	4,199.9	0.8	0.8	44.21	1.1
4,300.0	0.61	144.82	4,299.9	0.0	1.4	88.07	1.4
4,400.0	0.64	158.77	4,399.9	-0.9	1.9	115.04	2.1
4,500.0	0.73	158.09	4,499.9	-2.0	2.4	130.28	3.1
4,600.0	0.64	151.84	4,599.9	-3.1	2.9	137.09	4.2
4,700.0	0.63	171.15	4,699.9	-4.1	3.2	142.01	5.3
4,800.0	0.82	170.57	4,799.9	-5.4	3.4	147.49	6.4
4,900.0	0.73	163.60	4,899.9	-6.7	3.7	150.90	7.7
5,000.0	0.36	178.24	4,999.8	-7.6	3.9	152.80	8.6
5,100.0	1.02	217.09	5,099.8	-8.7	3.4	158.59	9.3
5,200.0	1.02	224.42	5,199.8	-10.0	2.2	167.41	10.2
5,300.0	0.77	231.93	5,299.8	-11.0	1.1	174.41	11.1
5,400.0	0.78	255.30	5,399.8	-11.6	-0.1	180.52	11.6
5,500.0	0.84	299.54	5,499.8	-11.4	-1.4	186.98	11.5
5,600.0	2.08	322.88	5,599.8	-9.6	-3.1	198.02	10.1
5,700.0	2.33	328.52	5,699.7	-6.5	-5.3	219.33	8.3
5,800.0	2.17	329.48	5,799.6	-3.1	-7.3	247.07	7.9
5,900.0	1.74	330.82	5,899.5	-0.1	-9.0	269.13	9.0
6,000.0	1.80	340.13	5,999.5	2.7	-10.3	284.52	10.6

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Wellbore:	VH - Job #32K0910656	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0910656	Database:	EDM-Regulatory

Survey								
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)	
6,100.0	1.79	346.27	6,099.5	5.7	-11.2	296.82	12.5	
6,200.0	2.06	344.99	6,199.4	8.9	-12.0	306.53	15.0	
6,300.0	2.39	350.76	6,299.3	12.7	-12.8	314.72	18.1	
6,400.0	2.49	355.31	6,399.2	16.9	-13.3	321.76	21.6	
6,500.0	2.15	359.74	6,499.1	21.0	-13.5	327.17	25.0	
6,600.0	1.68	16.19	6,599.1	24.3	-13.1	331.57	27.6	
6,700.0	1.84	57.36	6,699.0	26.5	-11.4	336.80	28.9	
6,800.0	1.83	55.53	6,799.0	28.3	-8.7	342.91	29.6	
6,900.0	1.45	36.96	6,899.0	30.2	-6.6	347.63	30.9	
7,000.0	2.32	25.57	6,998.9	33.0	-5.0	351.42	33.4	
7,100.0	1.99	12.83	7,098.8	36.6	-3.7	354.18	36.8	
7,200.0	1.50	339.78	7,198.8	39.5	-3.8	354.51	39.7	
7,300.0	1.31	317.54	7,298.8	41.6	-5.0	353.11	41.9	
7,400.0	1.83	328.85	7,398.7	43.8	-6.6	351.40	44.3	
7,500.0	1.73	344.00	7,498.7	46.6	-7.9	350.42	47.2	
7,600.0	1.92	12.99	7,598.6	49.7	-7.9	350.96	50.3	
7,642.0	1.47	14.52	7,640.6	50.9	-7.6	351.50	51.4	



Scientific Drilling
Directional Drilling Operations

Project: Wildcat
Eddy County, NM
Well: Lovelady State #4H
Wellbore: VH - Job #32K0910656
Design: VH - Job #32K0910656

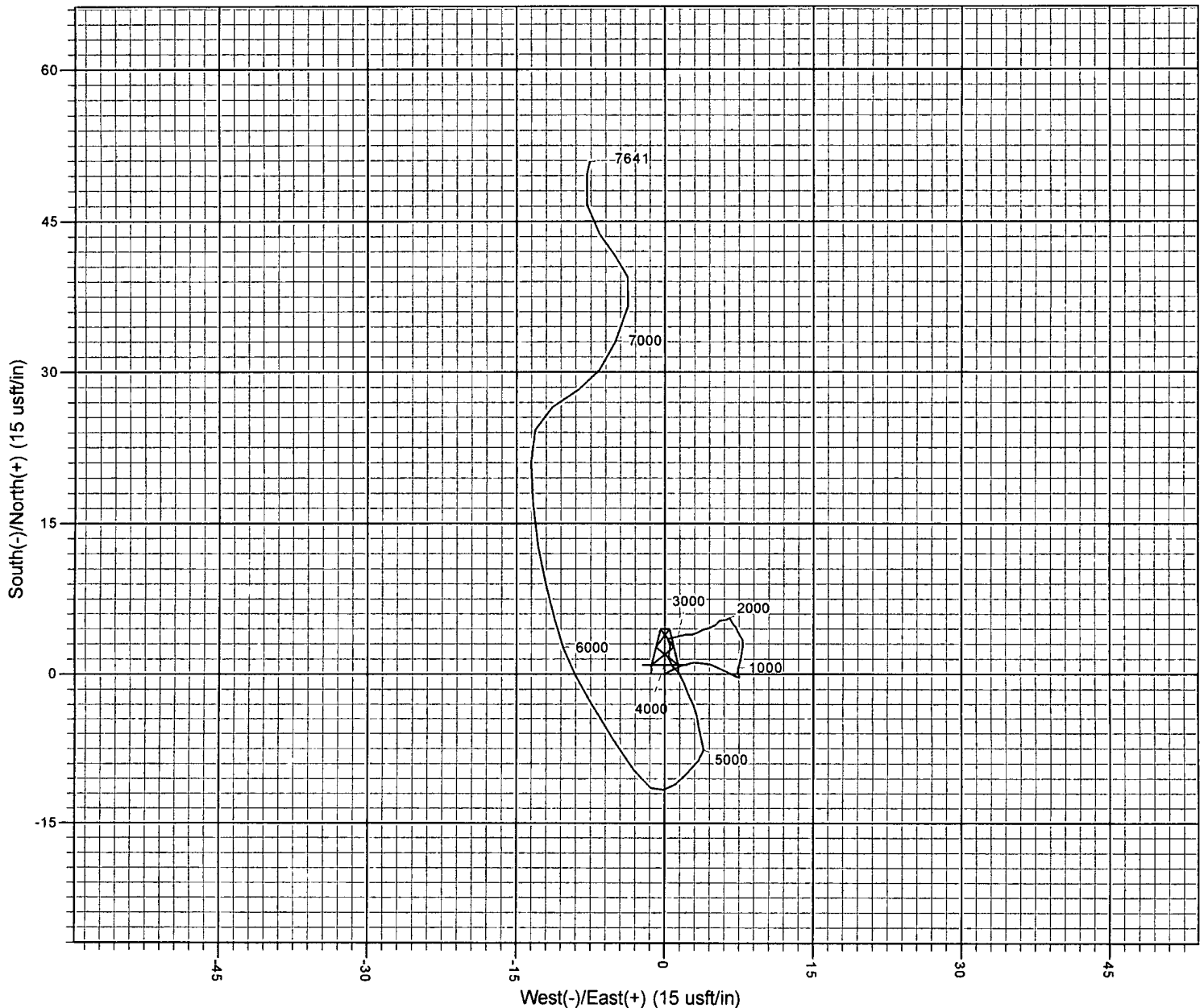


Azimuths to Grid North
True North: -0 99°
Magnetic North: 7 12°

Magnetic Field
Strength: 48590.0nT
Dip Angle: 59 96°
Date: 9/13/2010
Model: BGGM2010

WELL DETAILS: Lovelady State #4H
WELL @ 0.0usft (Original Well Elev)
Ground Level: 0.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	413548.40	1074698.11	32° 7' 24.096 N	104° 23' 37.460 W	



PROJECT DETAILS: Wildcat
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico Central 3002
System Datum: Mean Sea Level

SITE DETAILS: Eddy County, NM
Site Centre Latitude: 32° 38' 16.800 N
Longitude: 104° 25' 40.800 W
Positional Uncertainty: 0.0
Convergence: 0.98
Local North: Grid