

MARBOB ENERGY

WC Williams Sink (Bone Spring)

Eddy County, NM

Lizard Pot State com #1H

VH - Job #32K1010745

30-015-38107

Survey: Actual

SDI Standard Survey Report

30 October, 2010

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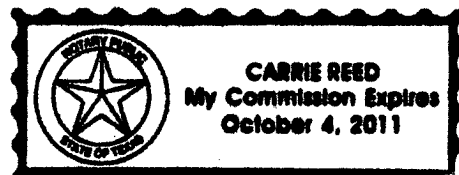
This survey is correct to the best of my knowledge and is supported by actual field data.

[Signature]

Notorized this date 2nd of November, 2010.

[Signature]

Notary Signature
County of Midland
State of Texas



Scientific Drilling International, Inc.
SDI Standard Survey Report

Company:	MARBOB ENERGY	Local Co-ordinate Reference:	Site Eddy County, NM
Project:	WC Williams Sink (Bone Spring)	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Lizard Pot State com #1H	North Reference:	Grid
Wellbore:	VH - Job #32K1010745	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K1010745	Database:	EDM-Regulatory

Project	WC Williams Sink (Bone Spring)		
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		

Site		Eddy County, NM			
Site Position:		Northing:	586,506.61 usft	Latitude:	32° 36' 41.029 N
From:	Lat/Long	Easting:	655,405.77 usft	Longitude:	103° 49' 43.108 W
Position Uncertainty:	0.0 usft	Slot Radius:	0"	Grid Convergence:	0.27 °

Well	Lizard Pot State com #1H, Directional (DDC)					
Well Position	+N/-S	0.0 usft	Northing:	586,506.61 usft	Latitude:	32° 36' 41.029 N
	+E/-W	0.0 usft	Easting:	655,405.77 usft	Longitude:	103° 49' 43.108 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	0.0 usft

Wellbore	VH - Job #32K1010745				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2010	10/2/2010	7.88	60.53	48,956

Design					VH - Job #32K1010745						
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		182.85		

Survey Program	Date	10/30/2010		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	9,600.0	Actual (VH - Job #32K1010745)	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	0.41	311.62	100.0	0.2	-0.3	311.62	0.4	
200.0	0.40	316.15	200.0	0.7	-0.8	313.10	1.1	
300.0	0.33	298.33	300.0	1.1	-1.3	311.25	1.7	
400.0	0.22	301.26	400.0	1.4	-1.7	308.66	2.2	
500.0	0.09	20.97	500.0	1.5	-1.8	309.87	2.4	
600.0	0.24	79.72	600.0	1.6	-1.6	315.78	2.3	
700.0	0.65	110.94	700.0	1.5	-0.9	329.80	1.7	
800.0	0.91	93.08	800.0	1.2	0.5	20.88	1.3	
900.0	1.38	77.05	900.0	1.5	2.4	59.18	2.8	
1,000.0	1.76	83.61	999.9	1.9	5.1	69.76	5.5	
1,100.0	2.55	85.91	1,099.9	2.2	8.9	75.95	9.2	

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Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Lizard Pot State com #1H	North Reference:	Grid
Wellbore:	VH - Job #32K1010745	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K1010745	Database:	EDM-Regulatory

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
1,200.0	3.05	95.35	1,199.7	2.1	13.7	81.18	13.9
1,300.0	2.93	105.29	1,299.6	1.2	18.9	86.33	18.9
1,400.0	2.90	108.11	1,399.5	-0.2	23.7	90.60	23.7
1,500.0	2.22	102.11	1,499.4	-1.4	28.0	92.95	28.1
1,600.0	1.91	78.06	1,599.3	-1.5	31.6	92.73	31.6
1,700.0	2.38	68.83	1,699.2	-0.4	35.1	90.67	35.1
1,800.0	2.61	64.36	1,799.1	1.3	39.1	88.06	39.1
1,900.0	2.46	61.79	1,899.0	3.3	43.1	85.58	43.2
2,000.0	2.68	64.34	1,998.9	5.4	47.1	83.51	47.4
2,100.0	2.74	60.92	2,098.8	7.5	51.2	81.64	51.8
2,200.0	2.56	64.16	2,198.7	9.7	55.3	80.10	56.2
2,300.0	1.66	72.52	2,298.7	11.1	58.7	79.33	59.8
2,400.0	1.03	68.43	2,398.6	11.8	61.0	79.01	62.1
2,500.0	0.29	77.28	2,498.6	12.2	62.0	78.85	63.2
2,600.0	0.34	319.08	2,598.6	12.5	62.1	78.62	63.3
2,700.0	0.55	298.99	2,698.6	13.0	61.5	78.10	62.8
2,800.0	0.73	296.24	2,798.6	13.5	60.5	77.44	62.0
2,900.0	0.57	286.22	2,898.6	13.9	59.4	76.84	61.0
3,000.0	0.74	286.82	2,998.6	14.2	58.3	76.30	60.0
3,100.0	1.17	284.51	3,098.6	14.7	56.7	75.51	58.6
3,200.0	1.55	240.32	3,198.6	14.2	54.6	75.37	56.4
3,300.0	1.57	245.30	3,298.5	13.0	52.1	76.00	53.7
3,400.0	1.49	234.51	3,398.5	11.7	49.8	76.81	51.2
3,500.0	1.61	241.70	3,498.4	10.3	47.6	77.83	48.6
3,600.0	2.00	224.34	3,598.4	8.3	45.1	79.52	45.9
3,700.0	2.25	213.38	3,698.3	5.5	42.8	82.73	43.1
3,800.0	2.29	211.75	3,798.3	2.1	40.7	87.02	40.7
3,900.0	1.94	218.20	3,898.2	-0.9	38.6	91.35	38.6
4,000.0	1.71	212.80	3,998.1	-3.5	36.7	95.44	36.9
4,100.0	1.81	220.69	4,098.1	-5.9	34.9	99.68	35.4
4,200.0	1.71	220.66	4,198.0	-8.3	32.9	104.13	33.9
4,300.0	1.56	208.06	4,298.0	-10.6	31.3	108.75	33.0
4,400.0	1.53	201.83	4,398.0	-13.0	30.1	113.42	32.8
4,500.0	1.18	178.17	4,497.9	-15.3	29.7	117.32	33.4
4,600.0	1.14	181.15	4,597.9	-17.3	29.7	120.30	34.4
4,700.0	0.99	179.94	4,697.9	-19.2	29.7	122.92	35.3
4,800.0	0.84	179.49	4,797.9	-20.8	29.7	125.04	36.2
4,900.0	0.80	183.95	4,897.9	-22.2	29.6	126.89	37.0
5,000.0	0.77	190.60	4,997.9	-23.6	29.4	128.69	37.7
5,100.0	0.43	182.88	5,097.9	-24.6	29.3	130.03	38.3
5,200.0	0.55	177.85	5,197.9	-25.5	29.3	131.00	38.8
5,300.0	0.29	199.38	5,297.9	-26.2	29.2	131.85	39.3
5,400.0	0.32	160.95	5,397.8	-26.7	29.2	132.39	39.6
5,500.0	0.35	188.85	5,497.8	-27.3	29.3	132.95	40.0

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Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Lizard Pot State com #1H	North Reference:	Grid
Wellbore:	VH - Job #32K1010745	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K1010745	Database:	EDM-Regulatory

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
5,600.0	0.21	172.53	5,597.8	-27.7	29.3	133.47	40.3
5,700.0	0.17	82.17	5,697.8	-27.9	29.4	133.47	40.6
5,800.0	0.30	117.30	5,797.8	-28.0	29.8	133.21	40.9
5,900.0	0.22	124.72	5,897.8	-28.2	30.2	133.07	41.3
6,000.0	0.39	97.33	5,997.8	-28.4	30.7	132.76	41.8
6,100.0	0.12	98.14	6,097.8	-28.4	31.1	132.41	42.2
6,200.0	0.19	18.54	6,197.8	-28.3	31.3	132.12	42.2
6,300.0	0.23	36.82	6,297.8	-28.0	31.5	131.64	42.1
6,400.0	0.31	61.16	6,397.8	-27.7	31.8	131.03	42.2
6,500.0	0.44	42.69	6,497.8	-27.3	32.3	130.16	42.3
6,600.0	0.39	9.49	6,597.8	-26.7	32.6	129.24	42.1
6,700.0	0.35	13.27	6,697.8	-26.0	32.8	128.46	41.8
6,800.0	0.51	32.53	6,797.8	-25.4	33.1	127.47	41.7
6,900.0	0.26	3.99	6,897.8	-24.8	33.3	126.60	41.5
7,000.0	0.17	4.57	6,997.8	-24.4	33.4	126.16	41.3
7,100.0	0.35	29.78	7,097.8	-24.0	33.5	125.56	41.2
7,200.0	0.26	36.91	7,197.8	-23.5	33.8	124.82	41.2
7,300.0	0.54	42.53	7,297.8	-23.0	34.3	123.86	41.3
7,400.0	0.73	40.59	7,397.8	-22.2	35.0	122.34	41.4
7,500.0	0.77	32.24	7,497.8	-21.1	35.8	120.55	41.5
7,600.0	0.78	28.01	7,597.8	-19.9	36.5	118.68	41.5
7,700.0	0.26	213.07	7,697.8	-19.5	36.6	118.05	41.5
7,800.0	0.59	160.34	7,797.8	-20.2	36.7	118.84	41.9
7,900.0	0.94	167.93	7,897.8	-21.5	37.0	120.12	42.8
8,000.0	0.90	172.57	7,997.8	-23.1	37.3	121.73	43.9
8,100.0	1.09	184.38	8,097.8	-24.8	37.3	123.59	44.8
8,200.0	1.45	199.84	8,197.7	-26.9	36.8	126.17	45.6
8,300.0	1.50	166.41	8,297.7	-29.4	36.7	128.68	47.0
8,400.0	1.89	164.59	8,397.7	-32.3	37.5	130.73	49.4
8,500.0	1.86	171.61	8,497.6	-35.5	38.1	132.91	52.1
8,600.0	1.54	167.31	8,597.6	-38.4	38.7	134.78	54.5
8,700.0	1.52	171.12	8,697.5	-41.0	39.2	136.30	56.7
8,800.0	1.67	196.91	8,797.5	-43.7	39.0	138.29	58.5
8,900.0	2.06	199.29	8,897.4	-46.8	37.9	140.97	60.2
9,000.0	2.03	193.80	8,997.4	-50.2	36.9	143.67	62.3
9,100.0	2.00	198.28	9,097.3	-53.6	35.9	146.14	64.5
9,200.0	2.62	193.39	9,197.2	-57.5	34.9	148.75	67.2
9,300.0	2.55	192.29	9,297.1	-61.9	33.9	151.30	70.5
9,400.0	2.69	198.68	9,397.0	-66.3	32.6	153.77	73.9
9,500.0	2.38	207.26	9,496.9	-70.3	30.9	156.25	76.8
9,600.0	2.56	213.55	9,596.8	-74.0	28.8	158.77	79.4



Scientific Drilling
Directional Drilling Operations

Project: WC Williams Sink (Bone Spring)

Eddy County, NM

Well: Lizard Pot State com #1H

Wellbore: VH - Job #32K1010745

Design: VH - Job #32K1010745



Azimuths to Grid North
True North: -0.27°
Magnetic North: 7.61°

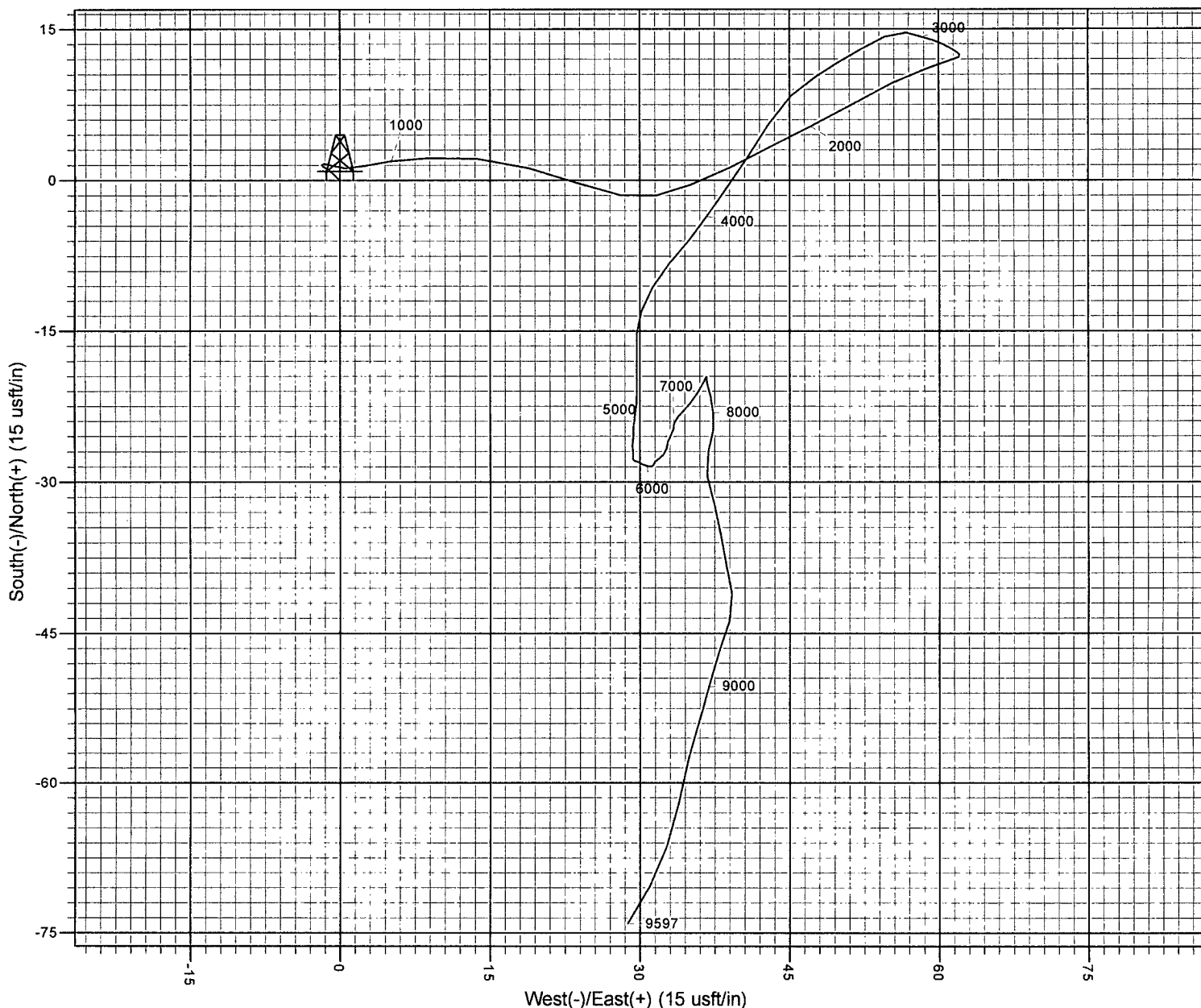
Magnetic Field
Strength: 48956.0snT
Dip Angle: 60.53°
Date: 10/2/2010
Model: BGGM2010

WELL DETAILS: Lizard Pot State com #1H

WELL @ 0.0usft (Original Well Elev)

Ground Level: 0.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	586506.61	655405.77	32° 36' 41.029 N	103° 49' 43.108 W	



PROJECT DETAILS: WC Williams Sink (Bone Spring)
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

SITE DETAILS: Eddy County, NM
Site Centre Latitude: 32° 36' 41.029 N
Longitude: 103° 49' 43.108 W
Positional Uncertainty: 0.0
Convergence: 0.27
Local North: Grid