

30-015-37427

MARBOB ENERGY

WC Bonespring
Eddy County, NM
SRO State Unit Com #13
VH - Job #32K0910732

Survey: Actual

SDI Standard Survey Report

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

Richard

Notorized this date 17th of November, 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 SRO State Unit Com #13
Project:	WC Bonespring	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	SRO State Unit Com #13	North Reference:	Grid
Wellbore:	VH - Job #32K0910732	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0910732	Database:	EDM-Regulatory

Project	WC Bonespring		
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:	393,116.67 usft
From:	Lat/Long	Easting:	566,517.59 usft
Position Uncertainty:	0.0 usft	Slot Radius:	0"
		Latitude:	32° 4' 50.201 N
		Longitude:	104° 7' 54.643 W
		Grid Convergence:	0.11 °

Well	SRO State Unit Com #13, Directional (Pathfinder)		
Well Position	+N/-S	0.0 usft	Northing: 381,213.91 usft
	+E/-W	0.0 usft	Easting: 577,919.58 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 2' 52.161 N
		Longitude:	104° 4' 54.643 W
		Ground Level:	0.0 usft

Wellbore	VH - Job #32K0910732				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2010	9/29/2010	7.95	59.95	48,580

Design	VH - Job #32K0910732			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth:
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	120.87

Survey Program	Date	11/16/2010			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.0	7,000.0	Actual (VH - Job #32K0910732)	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	359.87	0.0	0.0	0.0	0.00	0.0
100.0	1.38	154.22	100.0	-1.1	0.5	154.22	1.2
200.0	1.47	147.76	200.0	-3.3	1.7	151.98	3.7
300.0	1.28	157.21	299.9	-5.4	2.8	152.05	6.1
400.0	0.92	164.88	399.9	-7.2	3.5	154.05	8.0
500.0	0.92	177.63	499.9	-8.8	3.7	156.89	9.5
600.0	0.92	197.19	599.9	-10.3	3.5	161.12	10.9
700.0	1.07	208.06	699.9	-11.9	2.9	166.53	12.2
800.0	0.74	205.44	799.9	-13.3	2.1	170.89	13.5
900.0	0.70	202.38	899.9	-14.5	1.6	173.59	14.6
1,000.0	0.56	199.50	999.8	-15.5	1.2	175.46	15.5
1,100.0	0.62	180.08	1,099.8	-16.5	1.1	176.30	16.5

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Design:	VH - Job #32K0910732	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	0.46	154.18	1,199.8	-17.4	1.2	175.92	17.4
1,300.0	0.59	95.94	1,299.8	-17.8	1.9	173.82	17.9
1,400.0	1.11	82.42	1,399.8	-17.7	3.4	169.15	18.1
1,500.0	1.40	99.61	1,499.8	-17.8	5.6	162.65	18.7
1,600.0	0.99	67.23	1,599.8	-17.7	7.6	156.83	19.2
1,700.0	1.18	72.59	1,699.8	-17.0	9.3	151.26	19.4
1,800.0	1.83	67.28	1,799.7	-16.1	11.8	143.78	20.0
1,900.0	2.42	70.62	1,899.7	-14.8	15.3	134.11	21.3
2,000.0	2.80	63.03	1,999.6	-13.0	19.4	123.76	23.4
2,100.0	2.80	65.70	2,099.4	-10.9	23.8	114.52	26.2
2,200.0	2.91	66.12	2,199.3	-8.8	28.4	107.30	29.7
2,300.0	2.98	72.24	2,299.2	-7.0	33.2	101.95	33.9
2,400.0	2.21	78.69	2,399.1	-5.9	37.5	98.86	38.0
2,500.0	1.40	80.12	2,499.0	-5.3	40.6	97.38	41.0
2,600.0	0.99	69.78	2,599.0	-4.8	42.7	96.36	42.9
2,700.0	1.07	77.05	2,699.0	-4.2	44.4	95.47	44.6
2,800.0	0.77	60.79	2,799.0	-3.7	45.9	94.62	46.0
2,900.0	0.96	55.72	2,899.0	-2.9	47.1	93.53	47.2
3,000.0	0.70	57.89	2,998.9	-2.1	48.4	92.50	48.4
3,100.0	0.60	62.00	3,098.9	-1.5	49.3	91.79	49.4
3,200.0	0.44	43.56	3,198.9	-1.0	50.1	91.17	50.1
3,300.0	0.30	51.69	3,298.9	-0.6	50.5	90.66	50.5
3,400.0	0.35	55.21	3,398.9	-0.2	51.0	90.27	51.0
3,500.0	0.29	51.78	3,498.9	0.1	51.4	89.90	51.4
3,600.0	0.29	42.97	3,598.9	0.4	51.8	89.52	51.8
3,700.0	0.48	9.40	3,698.9	1.0	52.1	88.87	52.1
3,800.0	0.48	4.23	3,798.9	1.9	52.2	87.96	52.2
3,900.0	0.39	350.26	3,898.9	2.6	52.1	87.13	52.2
4,000.0	0.24	355.35	3,998.9	3.2	52.1	86.53	52.1
4,100.0	0.26	339.69	4,098.9	3.6	52.0	86.06	52.1
4,200.0	0.39	308.06	4,198.9	4.0	51.6	85.57	51.8
4,300.0	0.31	324.48	4,298.9	4.4	51.2	85.05	51.4
4,400.0	0.38	300.11	4,398.9	4.8	50.7	84.58	51.0
4,500.0	0.31	245.07	4,498.9	4.9	50.2	84.46	50.4
4,600.0	0.24	270.87	4,598.9	4.8	49.8	84.54	50.0
4,700.0	0.34	242.73	4,698.9	4.6	49.3	84.64	49.5
4,800.0	0.49	241.90	4,798.9	4.3	48.6	84.96	48.8
4,900.0	0.54	225.20	4,898.9	3.8	47.9	85.52	48.1
5,000.0	0.66	219.15	4,998.9	3.0	47.2	86.39	47.3
5,100.0	0.69	222.22	5,098.9	2.1	46.5	87.43	46.5
5,200.0	0.66	226.78	5,198.9	1.2	45.6	88.44	45.7
5,300.0	0.69	217.09	5,298.9	0.4	44.9	89.53	44.9
5,400.0	0.84	227.34	5,398.9	-0.6	44.0	90.79	44.0
5,500.0	0.83	224.20	5,498.9	-1.6	42.9	92.17	42.9

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Well:	SRO State Unit Com #13	North Reference:	Grid
Wellbore:	VH - Job #32K0910732	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0910732	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	1.18	231.43	5,598.8	-2.8	41.6	93.83	41.7
5,700.0	1.09	225.98	5,698.8	-4.1	40.1	95.82	40.3
5,800.0	1.29	239.94	5,798.8	-5.3	38.5	97.87	38.8
5,900.0	1.51	247.31	5,898.8	-6.4	36.3	99.99	36.8
6,000.0	1.60	241.31	5,998.7	-7.6	33.8	102.60	34.7
6,100.0	1.67	247.03	6,098.7	-8.8	31.3	105.73	32.5
6,200.0	1.75	239.62	6,198.7	-10.1	28.6	109.53	30.3
6,300.0	2.09	256.59	6,298.6	-11.3	25.5	113.97	27.9
6,400.0	1.87	268.36	6,398.5	-11.8	22.1	118.11	25.1
6,500.0	1.29	288.24	6,498.5	-11.5	19.4	120.66	22.6
6,600.0	1.20	296.67	6,598.5	-10.7	17.4	121.55	20.4
6,700.0	0.95	299.04	6,698.5	-9.8	15.7	121.93	18.5
6,800.0	1.39	286.62	6,798.4	-9.1	13.8	123.19	16.5
6,900.0	2.06	307.27	6,898.4	-7.6	11.3	124.11	13.6
7,000.0	2.80	314.82	6,998.3	-4.8	8.1	120.74	9.4



Project: WC Bonespring
Eddy County, NM
Well: SRO State Unit Com #13
Wellbore: VH - Job #32K0910732
Design: VH - Job #32K0910732

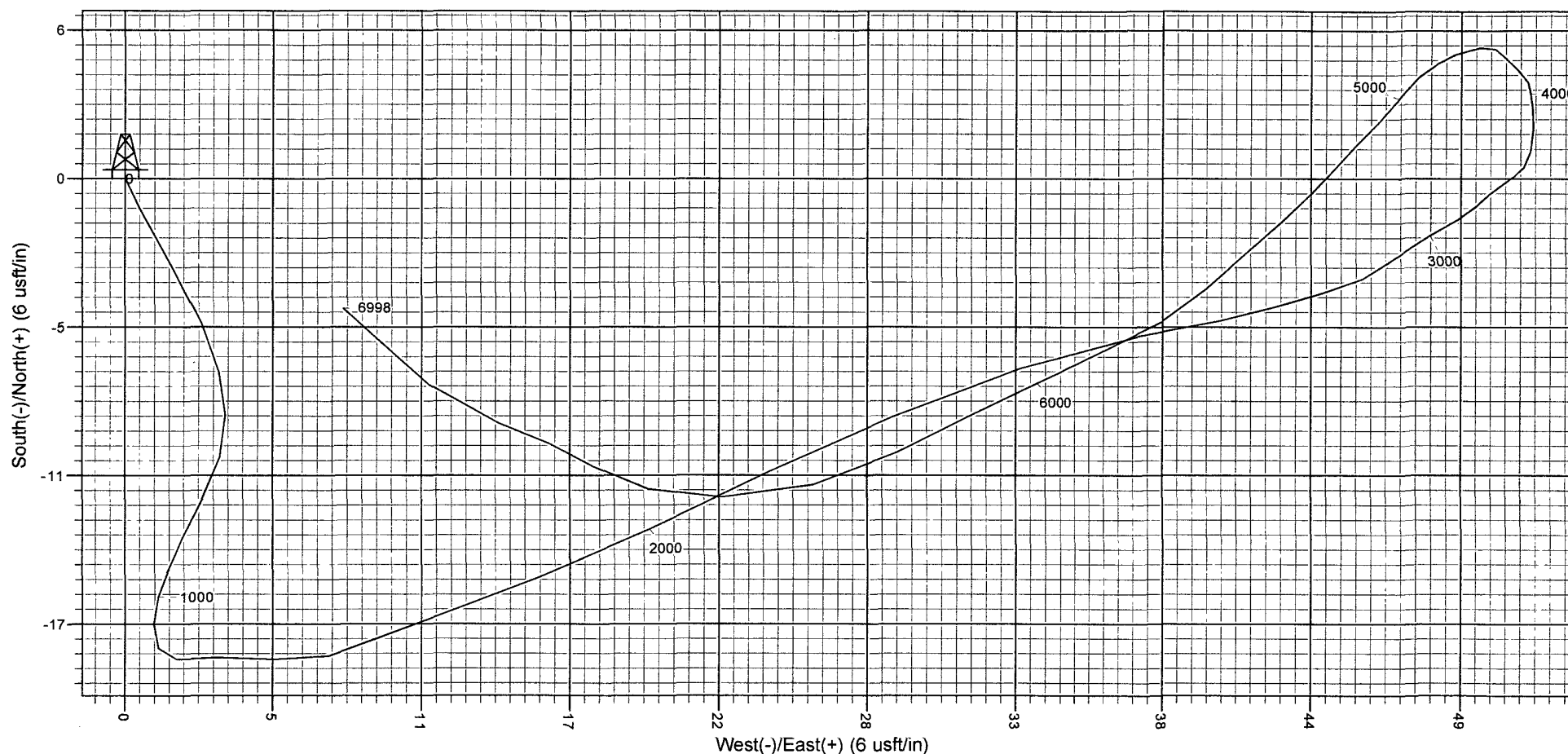


Azimuths to Grid North
True North: -0.13°
Magnetic North: 7.82°

Magnetic Field
Strength: 48579.9snT
Dip Angle: 59.95°
Date: 9/29/2010
Model: BGGM2010

WELL DETAILS: SRO State Unit Com #13
WELL @ 0.0usft (Original Well Elev)
Ground Level: 0.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	381213.91	577919.58	32° 2' 52.161 N	104° 4' 54.643 W	



PROJECT DETAILS: WC Bonespring
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° 4' 50.201 N
Longitude: 104° 7' 6.848 W
Positional Uncertainty: 0.0
Convergence: 0.11
Local North: Grid