

DEVON ENERGY

30-015-37628

Avalon

Eddy County, NM

Cooter 16 State #4H

VH - Job #32K0710532

Survey: Actual

SDI Standard Survey Report

21 August, 2010



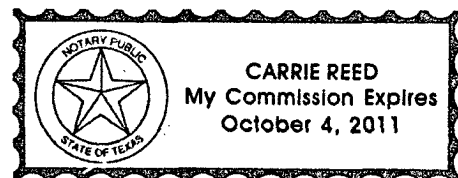
This survey is correct to the best of my knowledge and is supported by actual field data.

Richard

Notorized this date 23rd of August, 2010.

Carrie Reed

Notary Signature
County of Midland
State of Texas



NR

Scientific Drilling International, Inc.
SDI Standard Survey Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well Cooter 16 State #4H
Project:	Avalon	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Cooter 16 State #4H	North Reference:	Grid
Wellbore:	VH - Job #32K0710532	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0710532	Database:	EDM-Regulatory

Project	Avalon		
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		

Well	Cooter 16 State #4H, Directional (Weatherford)				
Well Position	+N/-S	0.0 usft	Northing:	409,001.95 usft	Latitude: 32° 7' 26.400 N
	+E/-W	0.0 usft	Easting:	605,978.73 usft	Longitude: 103° 59' 27.600 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level: 0.0 usft

Wellbore	VH - Job #32K0710532				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	8/21/2010	7.86	60.06	48,650

Design	VH - Job #32K0710532				
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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	147.04

Survey Program	Date 8/21/2010				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.0	6,400.0	Actual (VH - Job #32K0710532)	Keeper	Keeper Gyro	

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	0.17	312.42	100.0	0.1	-0.1	312.42	0.1
200.0	0.29	26.70	200.0	0.4	-0.1	346.12	0.4
300.0	0.27	1.70	300.0	0.9	0.0	0.99	0.9
400.0	0.17	31.18	400.0	1.3	0.1	4.54	1.3
500.0	0.34	356.61	500.0	1.7	0.2	5.41	1.7
600.0	0.56	325.07	600.0	2.4	-0.1	356.65	2.4
700.0	0.70	320.67	700.0	3.2	-0.8	346.05	3.3
800.0	0.86	317.14	800.0	4.3	-1.7	338.23	4.6
900.0	1.08	304.01	900.0	5.3	-3.0	330.73	6.1
1,000.0	1.41	290.52	999.9	6.3	-4.9	321.97	8.0
1,100.0	1.69	296.34	1,099.9	7.4	-7.4	314.94	10.5
1,200.0	1.63	297.57	1,199.9	8.7	-10.0	311.07	13.2
1,300.0	1.57	299.56	1,299.8	10.0	-12.4	308.90	16.0
1,400.0	1.55	301.46	1,399.8	11.4	-14.8	307.68	18.7
1,500.0	1.36	299.91	1,499.8	12.7	-17.0	306.85	21.2
1,600.0	1.44	298.67	1,599.7	13.9	-19.1	306.07	23.6

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Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Cooter 16 State #4H	North Reference:	Grid
Wellbore:	VH - Job #32K0710532	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0710532	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	1.31	303.80	1,699.7	15.1	-21.1	305.61	26.0
1,800.0	1.29	302.74	1,799.7	16.4	-23.0	305.42	28.3
1,900.0	0.98	310.33	1,899.6	17.6	-24.6	305.46	30.3
2,000.0	0.82	314.28	1,999.6	18.6	-25.8	305.79	31.8
2,100.0	0.64	314.50	2,099.6	19.5	-26.7	306.12	33.1
2,200.0	0.40	349.88	2,199.6	20.2	-27.2	306.67	33.9
2,300.0	1.23	82.86	2,299.6	20.7	-26.2	308.35	33.4
2,400.0	1.31	85.55	2,399.6	20.9	-24.0	311.13	31.8
2,500.0	1.44	86.35	2,499.6	21.1	-21.6	314.36	30.2
2,600.0	2.35	99.63	2,599.5	20.8	-18.3	318.71	27.7
2,700.0	2.84	109.09	2,699.4	19.7	-13.9	324.70	24.1
2,800.0	2.81	108.75	2,799.3	18.1	-9.3	332.85	20.3
2,900.0	2.28	109.97	2,899.2	16.6	-5.1	342.99	17.4
3,000.0	1.61	108.08	2,999.1	15.5	-1.9	353.08	15.6
3,100.0	1.45	105.92	3,099.1	14.7	0.7	2.61	14.7
3,200.0	1.15	106.51	3,199.1	14.1	2.9	11.44	14.4
3,300.0	1.06	110.55	3,299.0	13.5	4.7	19.14	14.3
3,400.0	0.94	110.36	3,399.0	12.9	6.3	26.14	14.3
3,500.0	0.67	111.03	3,499.0	12.4	7.6	31.66	14.5
3,600.0	0.44	121.88	3,599.0	12.0	8.5	35.40	14.7
3,700.0	0.22	159.46	3,699.0	11.6	8.9	37.53	14.6
3,800.0	0.52	248.73	3,799.0	11.2	8.5	37.24	14.1
3,900.0	0.54	236.34	3,899.0	10.8	7.7	35.55	13.3
4,000.0	0.46	231.24	3,999.0	10.3	7.0	34.28	12.5
4,100.0	0.45	245.71	4,099.0	9.9	6.3	32.71	11.7
4,200.0	0.49	262.86	4,199.0	9.7	5.6	29.93	11.2
4,300.0	0.62	250.90	4,299.0	9.4	4.6	26.13	10.5
4,400.0	0.59	235.81	4,399.0	9.0	3.7	22.37	9.7
4,500.0	0.51	228.00	4,499.0	8.4	2.9	19.30	8.9
4,600.0	0.70	219.33	4,599.0	7.6	2.2	16.24	7.9
4,700.0	0.59	223.17	4,699.0	6.8	1.5	12.33	6.9
4,800.0	0.62	224.30	4,799.0	6.0	0.7	7.10	6.0
4,900.0	0.69	236.72	4,899.0	5.3	-0.1	358.56	5.3
5,000.0	0.51	233.80	4,999.0	4.7	-1.0	348.02	4.8
5,100.0	0.11	288.46	5,099.0	4.5	-1.4	342.04	4.7
5,200.0	0.30	311.65	5,199.0	4.7	-1.7	339.62	5.0
5,300.0	0.32	292.28	5,299.0	4.9	-2.2	336.14	5.4
5,400.0	0.15	222.16	5,399.0	5.0	-2.5	332.91	5.6
5,500.0	0.53	138.84	5,498.9	4.5	-2.3	332.80	5.1
5,600.0	1.03	127.45	5,598.9	3.6	-1.3	340.23	3.8
5,700.0	1.19	130.37	5,698.9	2.4	0.2	4.93	2.4
5,800.0	1.17	131.95	5,798.9	1.0	1.8	59.41	2.0
5,900.0	1.09	144.47	5,898.9	-0.4	3.1	97.76	3.1
6,000.0	0.96	150.94	5,998.9	-1.9	4.0	115.53	4.5

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Project:	Avalon	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Cooter 16 State #4H	North Reference:	Grid
Wellbore:	VH - Job #32K0710532	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0710532	Database:	EDM-Regulatory

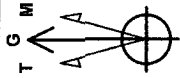
Survey								
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)	
6,100.0	1.23	153.30	6,098.8	-3.6	4.9	126.32	6.1	
6,200.0	1.19	167.77	6,198.8	-5.6	5.6	134.84	7.9	
6,300.0	1.08	176.27	6,298.8	-7.5	5.9	141.97	9.6	
6,400.0	1.35	166.19	6,398.8	-9.6	6.2	147.04	11.5	



Scientific Drilling
Directional Drilling Operations

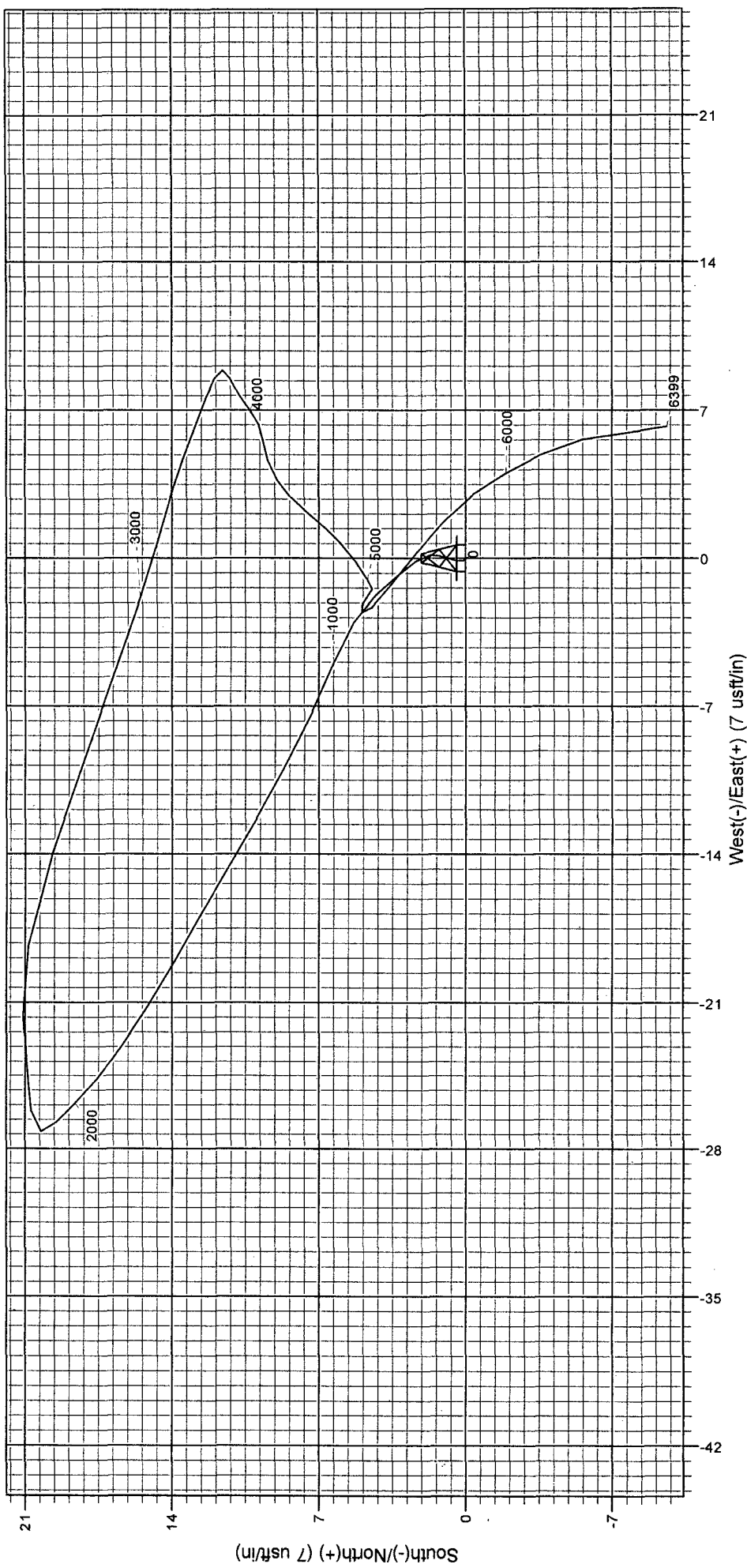
Project: Avalon
Eddy County, NM
Well: Cooter 16 State #4H
Wellbore: VH - Job #32K0710532
Design: VH - Job #32K0710532

Azimuths to Grid North
True North: -0.18°
Magnetic North: 7.68°
Magnetic Field
Strength: 48650 OsnT
Dip Angle: 60.06°
Date: 8/21/2010
Model: IGRF200510



WELL DETAILS: Cooter 16 State #4H
WELL @ 0.0usft (Original Well Elev)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	409001.95	605978.73	32° 7' 26.400 N	103° 59' 27.600 W	
			Ground Level:	0.0		



PROJECT DETAILS: Avalon
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° 7' 26.400 N
Longitude: 103° 59' 27.600 W
Positional Uncertainty: 0.0
Convergence: 0.18
Local North: Grid