

COG OPERATING

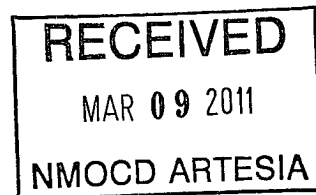
WC Williams Sink
Eddy County, NM
Wildcap Sttea #6H
VH - Job #32K1010798

30-015-37581

Survey: Actual

SDI Standard Survey Report

21 October, 2010



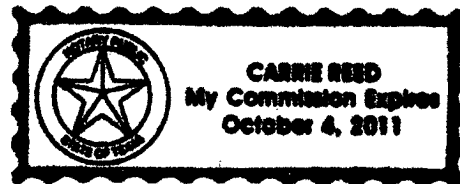
This survey is correct to the best of my knowledge and is supported by actual field data.

Robertson

Notorized this date 11th of November, 2010.

Carrie Reed

Notary Signature
County of Midland
State of Texas



Scientific Drilling International, Inc.

SDI Standard Survey Report

Company:	COG OPERATING	Local Co-ordinate Reference:	Well Wildcap Sttea #6H
Project:	WC Williams Sinkl	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Wildcap Sttea #6H	North Reference:	Grid
Wellbore:	VH - Job #32K1010798	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K1010798	Database:	EDM-Regulatory

Project	WC Williams Sinkl		
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:	590,747.97 usft
From:	Lat/Long	Easting:	659,585.60 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"
		Grid Convergence:	0.28 °

Well:	Wildcap Sttea #6H, Directional (Pathfinder)		
Well Position	+N/-S	0.0 usft	Latitude: 32° 37' 22.800 N
	+E/-W	0.0 usft	Longitude: 103° 48' 54.000 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Ground Level:	0.0 usft

Wellbore	VH - Job #32K1010798				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2010	10/14/2010	7.87	60.54	48,961

Design	VH - Job #32K1010798			
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	359.61

Survey Program	Date	10/21/2010		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	8,677.0	Actual (VH - Job #32K1010798)	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	0.12	121.81	100.0	-0.1	0.1	121.81	0.1	
200.0	0.09	164.40	200.0	-0.2	0.2	133.06	0.3	
300.0	0.64	168.03	300.0	-0.8	0.3	157.42	0.9	
400.0	0.90	158.30	400.0	-2.1	0.7	160.40	2.2	
500.0	0.96	165.00	500.0	-3.6	1.2	160.97	3.8	
600.0	0.80	169.45	600.0	-5.1	1.6	162.70	5.4	
700.0	0.81	168.59	700.0	-6.5	1.9	164.01	6.8	
800.0	0.72	156.93	799.9	-7.8	2.2	163.86	8.1	
900.0	0.69	161.36	899.9	-8.9	2.7	163.23	9.3	
1,000.0	0.75	152.81	999.9	-10.1	3.2	162.48	10.6	
1,100.0	0.96	157.99	1,099.9	-11.4	3.8	161.65	12.0	

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Wellbore:	VH - Job #32K1010798	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K1010798	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	0.53	191.88	1,199.9	-12.7	4.0	162.42	13.3
1,300.0	0.21	234.73	1,299.9	-13.2	3.8	164.10	13.7
1,400.0	0.17	283.72	1,399.9	-13.3	3.5	165.36	13.7
1,500.0	0.16	102.65	1,499.9	-13.3	3.5	165.39	13.7
1,600.0	0.99	54.38	1,599.9	-12.8	4.3	161.44	13.5
1,700.0	2.43	73.09	1,699.9	-11.7	7.0	148.97	13.6
1,800.0	2.42	74.98	1,799.8	-10.5	11.1	133.48	15.3
1,900.0	2.40	75.11	1,899.7	-9.4	15.2	121.91	17.9
2,000.0	2.04	85.41	1,999.6	-8.8	19.0	114.80	20.9
2,100.0	2.18	85.06	2,099.5	-8.5	22.6	110.49	24.2
2,200.0	1.73	87.47	2,199.5	-8.2	26.0	107.53	27.3
2,300.0	0.99	92.67	2,299.4	-8.2	28.4	106.10	29.6
2,400.0	0.38	150.64	2,399.4	-8.5	29.4	106.16	30.6
2,500.0	0.61	209.89	2,499.4	-9.3	29.3	107.56	30.8
2,600.0	0.60	218.43	2,599.4	-10.1	28.7	109.45	30.5
2,700.0	0.91	239.52	2,699.4	-11.0	27.7	111.57	29.8
2,800.0	0.65	268.74	2,799.4	-11.4	26.5	113.26	28.8
2,900.0	0.74	344.10	2,899.4	-10.8	25.7	112.71	27.9
3,000.0	1.01	354.36	2,999.4	-9.3	25.5	110.00	27.1
3,100.0	1.01	11.61	3,099.4	-7.5	25.6	106.42	26.6
3,200.0	0.95	20.50	3,199.4	-5.9	26.0	102.75	26.7
3,300.0	0.75	14.51	3,299.4	-4.5	26.5	99.60	26.9
3,400.0	0.54	314.67	3,399.4	-3.5	26.3	97.61	26.5
3,500.0	0.69	328.88	3,499.3	-2.7	25.7	95.94	25.8
3,600.0	0.73	312.39	3,599.3	-1.7	24.9	93.96	24.9
3,700.0	0.69	325.30	3,699.3	-0.8	24.1	91.90	24.1
3,800.0	0.35	327.28	3,799.3	0.0	23.6	90.11	23.6
3,900.0	0.31	350.05	3,899.3	0.5	23.3	88.83	23.4
4,000.0	0.22	359.60	3,999.3	0.9	23.3	87.70	23.3
4,100.0	0.33	339.61	4,099.3	1.4	23.2	86.55	23.2
4,200.0	0.21	12.90	4,199.3	1.8	23.1	85.44	23.2
4,300.0	0.19	353.70	4,299.3	2.2	23.2	84.60	23.3
4,400.0	0.12	347.69	4,399.3	2.5	23.1	83.94	23.3
4,500.0	0.27	353.27	4,499.3	2.8	23.1	83.10	23.2
4,600.0	0.26	51.45	4,599.3	3.2	23.2	82.23	23.4
4,700.0	0.23	6.29	4,699.3	3.5	23.4	81.48	23.7
4,800.0	0.11	39.44	4,799.3	3.8	23.5	80.86	23.8
4,900.0	0.22	340.41	4,899.3	4.0	23.5	80.25	23.8
5,000.0	0.35	3.14	4,999.3	4.5	23.5	79.08	23.9
5,100.0	0.34	41.22	5,099.3	5.1	23.7	77.95	24.2
5,200.0	0.34	27.94	5,199.3	5.5	24.0	77.01	24.6
5,300.0	0.47	330.45	5,299.3	6.2	23.9	75.58	24.7
5,400.0	0.23	11.53	5,399.3	6.7	23.8	74.24	24.7
5,500.0	0.34	334.44	5,499.3	7.2	23.7	73.15	24.7

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Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Wildcap Sttea #6H	North Reference:	Grid
Wellbore:	VH - Job #32K1010798	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K1010798	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	0.42	348.20	5,599.3	7.8	23.5	71.63	24.7	
5,700.0	0.42	348.17	5,699.3	8.5	23.3	69.95	24.8	
5,800.0	0.46	8.05	5,799.3	9.3	23.3	68.31	25.1	
5,900.0	0.41	344.26	5,899.3	10.0	23.3	66.72	25.3	
6,000.0	0.51	344.56	5,999.3	10.8	23.1	64.92	25.5	
6,100.0	0.55	4.87	6,099.3	11.7	23.0	63.03	25.8	
6,200.0	0.46	336.81	6,199.3	12.5	22.9	61.25	26.1	
6,300.0	0.52	353.47	6,299.3	13.4	22.7	59.46	26.3	
6,400.0	0.61	359.72	6,399.3	14.3	22.6	57.59	26.8	
6,500.0	0.54	335.61	6,499.3	15.3	22.4	55.65	27.1	
6,600.0	0.54	357.12	6,599.3	16.2	22.2	53.85	27.5	
6,700.0	0.61	2.55	6,699.3	17.2	22.2	52.19	28.1	
6,800.0	0.64	3.41	6,799.3	18.3	22.2	50.55	28.8	
6,900.0	0.44	355.13	6,899.3	19.2	22.2	49.14	29.4	
7,000.0	0.41	328.33	6,999.2	19.9	22.0	47.86	29.7	
7,100.0	0.35	326.48	7,099.2	20.5	21.7	46.60	29.8	
7,200.0	0.12	347.19	7,199.2	20.8	21.5	45.85	29.9	
7,300.0	0.13	265.47	7,299.2	20.9	21.3	45.54	29.9	
7,400.0	0.10	246.16	7,399.2	20.9	21.1	45.34	29.7	
7,500.0	0.16	276.30	7,499.2	20.9	20.9	45.07	29.6	
7,600.0	0.19	235.07	7,599.2	20.8	20.6	44.80	29.3	
7,700.0	0.23	236.82	7,699.2	20.6	20.3	44.66	28.9	
7,800.0	0.37	205.01	7,799.2	20.2	20.0	44.79	28.4	
7,900.0	0.83	193.95	7,899.2	19.2	19.7	45.80	27.5	
8,000.0	0.78	197.98	7,999.2	17.8	19.3	47.32	26.3	
8,100.0	0.62	198.73	8,099.2	16.7	19.0	48.66	25.3	
8,200.0	0.65	187.20	8,199.2	15.6	18.7	50.18	24.4	
8,300.0	0.41	173.45	8,299.2	14.7	18.7	51.84	23.8	
8,400.0	0.25	222.19	8,399.2	14.2	18.6	52.67	23.4	
8,500.0	0.63	298.78	8,499.2	14.3	18.0	51.52	22.9	
8,600.0	0.53	323.67	8,599.2	14.9	17.2	49.07	22.8	
8,677.0	0.41	342.91	8,676.2	15.5	16.9	47.56	22.9	

Checked By: _____ Approved By: _____ Date: _____



Project: WC Williams Sink
Eddy County, NM
Well: Wildcap Sttea #6H
Wellbore: VH - Job #32K1010798
Design: VH - Job #32K1010798

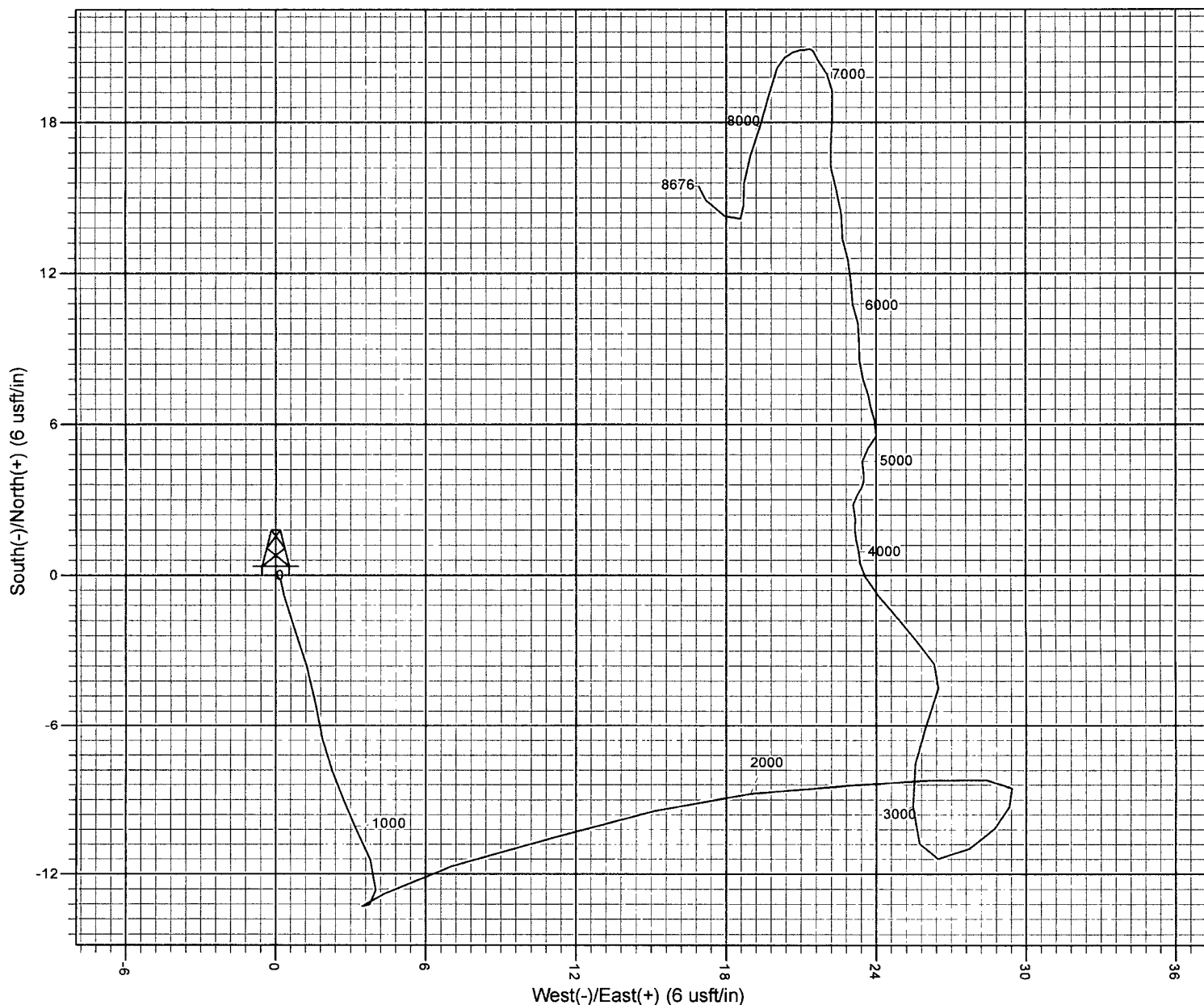


Azimuths to Grid North
True North: -0.28°
Magnetic North: 7.59°

Magnetic Field
Strength: 48961.3snT
Dip Angle: 60.54°
Date: 10/14/2010
Model: BGGM2010

WELL DETAILS: Wildcap Sttea #6H
WELL @ 0.0usft (Original Well Elev)
Ground Level: 0.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	590747.97	659585.60	32° 37' 22.800 N	103° 48' 54.000 W	



PROJECT DETAILS: WC Williams Sink
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° 37' 22.800 N
Longitude: 103° 48' 54.000 W
Positional Uncertainty: 0.0
Convergence: 0.28
Local North: Grid