

30-D-5-38987

MARSHALL & WINSTON

N. Saven Rivers
Eddy County, NM
Peacemaker 25 Federal Com #1H
VH - Job #32K0511442

HOBBS OCD

SEP 20 2011

RECEIVED

Survey: Actual

SDI Standard Survey Report

28 May, 2011

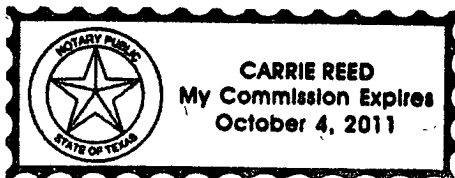
This survey is correct to the best of my knowledge and is supported by actual field data.

Wharton

Notarized this date 17th of June, 2011.

Carrie Reed

Notary Signature
County of Midland
State of Texas



CONFIDENTIAL



Scientific Drilling
Directional Drilling Operations

Scientific Drilling International, Inc.
SDI Standard Survey Report



Company:	MARSHALL & WINSTON	Local Co-ordinate Reference:	Well Peacemaker 25 Federal Com #1H
Project:	N Saven Rivers	TVD Reference:	WELL @ 0 0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0 0usft (Original Well Elev)
Well:	Peacemaker 25 Federal Com #1H	North Reference:	Grid
Wellbore:	VH - Job #32K0511442	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0511442	Database:	EDM-Regulatory

Project	N Saven Rivers		
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:	593,691 23 usft
From:	Lat/Long	Easting:	465,423 08 usft
Position Uncertainty:	0 0 usft	Slot Radius:	13-3/16"
		Latitude:	32° 37' 55 596 N
		Longitude:	104° 26' 44 344 W
		Grid Convergence:	-0 06 °

Well	Peacemaker 25 Federal Com #1H, Directional (DDC)		
Well Position	+N/-S	0 0 usft	Northing: 593,691 23 usft
	+E/-W	0 0 usft	Easting: 465,423 08 usft
Position Uncertainty	0 0 usft	Wellhead Elevation:	usft
		Latitude:	32° 37' 55 596 N
		Longitude:	104° 26' 44 344 W
		Ground Level:	0 0 usft

Wellbore	VH - Job #32K0511442				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/13/2011	8 03	60 41	48,798

Design	VH - Job #32K0511442			
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	177 40

Survey Program	Date	5/28/2011		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100 0	1,983 0	Actual (VH - Job #32K0511442)	KSRG	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 00	0 0
100 0	0 24	38 93	100 0	0 2	0 1	38 93	0 2	
200 0	0 58	68 11	200 0	0 5	0 7	54 93	0 9	
300 0	0 62	62 79	300 0	1 0	1 7	60 55	1 9	
400 0	0 54	64 65	400 0	1 4	2 6	61 62	2 9	
500 0	0 53	64 09	500 0	1 8	3 4	62 28	3 9	
600 0	0 56	77 93	600 0	2 1	4 3	64 02	4 8	
700 0	0 42	66 48	700 0	2 4	5 1	65 37	5 7	
800 0	0 38	56 02	800 0	2 7	5 8	64 95	6 3	
900 0	0 30	34 76	900 0	3 1	6 2	63 43	6 9	
1,000 0	0 34	28 10	1,000 0	3 6	6 5	61 12	7 4	
1,100 0	0 38	11 25	1,100 0	4 2	6 7	58 09	7 9	

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Site:	Eddy County, NM	MD Reference:	WELL @ 0 0usft (Original Well Elev)
Well:	Peacemaker 25 Federal Com #1H	North Reference:	Grid
Wellbore:	VH - Job #32K0511442	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0511442	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 36	23 58	1,200 0	4 8	6 9	55 21	8 4
1,300 0	0 37	24 78	1,300 0	5 3	7 1	53 10	8 9
1,400 0	0 30	17 48	1,400 0	5 9	7 3	51 24	9 4
1,500 0	0 37	20 21	1,500 0	6 4	7 5	49 43	9 9
1,600 0	0 44	21 29	1,600 0	7 1	7 8	47 59	10 5
1,700 0	0 41	18 74	1,700 0	7 8	8 0	45 83	11 2
1,800 0	0 27	1 19	1,800 0	8 4	8 1	44 22	11 7
1,900 0	0 61	135 20	1,899 9	9 1	7 9	41 10	12 1
1,983 0	0 62	355 39	1,983 0	9 9	7 7	37 80	12 6



Scientific Drilling
Directional Drilling Operations

Project: N. Saven Rivers
Eddy County, NM
Well: Peacemaker 25 Federal Com #1H
Wellbore: VH - Job #32K0511442
Design: VH - Job #32K0511442



Azimuths to Grid North
True North 0 06°
Magnetic North 8 09°

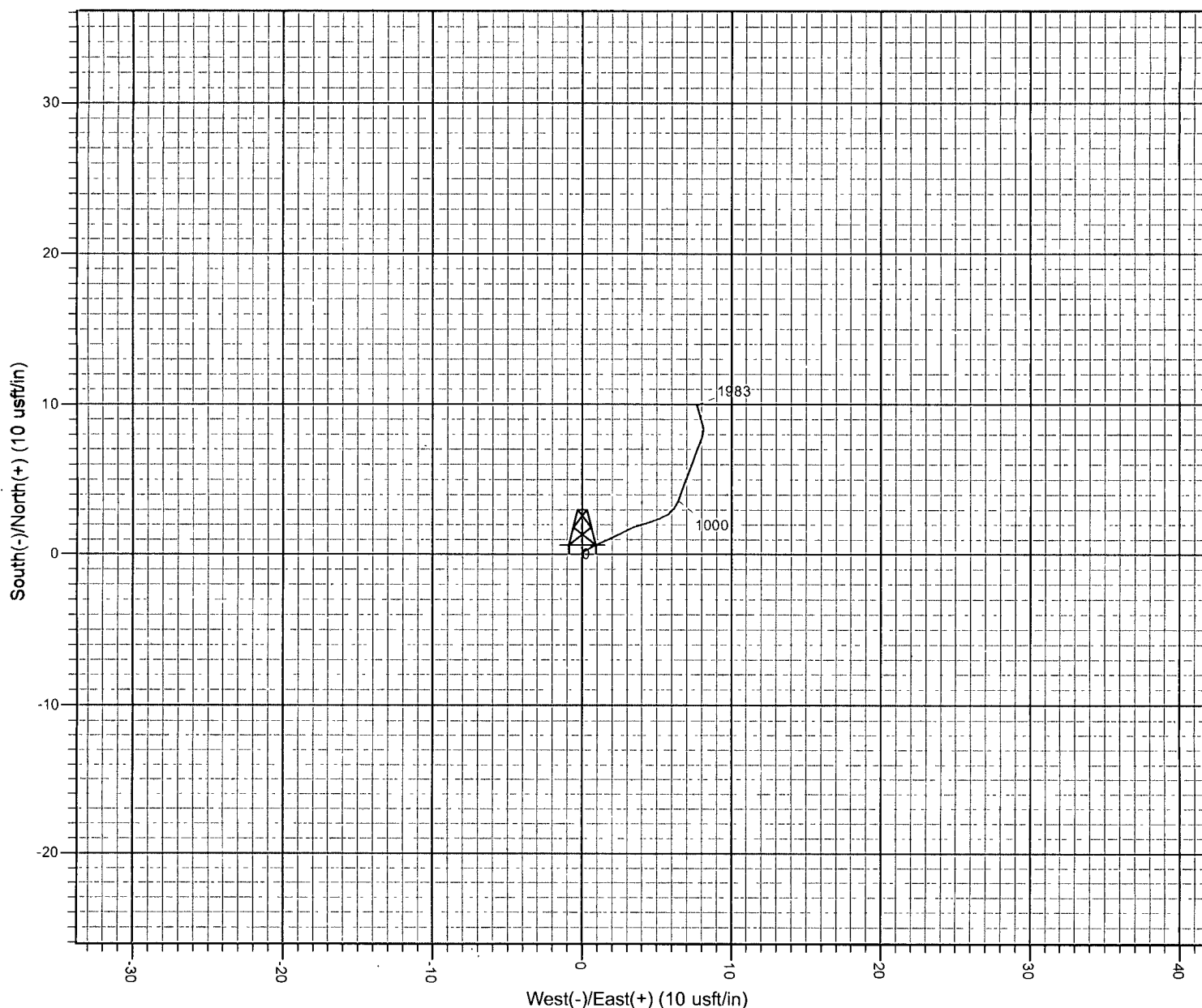
Magnetic Field
Strength 48797 8snT
Dip Angle 60 41°
Date 5/13/2011
Model IGRF2010

WELL DETAILS: Peacemaker 25 Federal 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	593691.23	465423.08	32° 37' 55.596 N	104° 26' 44.344 W	



PROJECT DETAILS: N. Saven Rivers
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' 55.596 N
Longitude: 104° 26' 44.344 W
Positional Uncertainty: 0.0
Convergence: -0 06
Local North: Grid