

30-015-38552

MARSHALL & WINSTON

N. Seven Rivers
Eddy County, NM
Boot Hill 25 #1H
VH - Job #32K12111209

Survey: Gyro

SDI Standard Survey Report

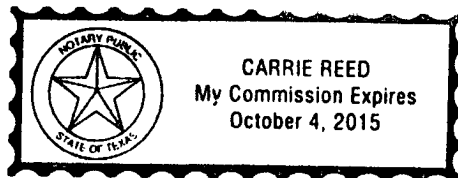
This survey is correct to the best of my knowledge and is supported by actual field data.

[Signature]

Notarized this date 31st of December, 2011.

[Signature]

Notary Signature
County of Midland
State of Texas



Scientific Drilling International, Inc.
SDI Standard Survey Report



Company:	MARSHALL & WINSTON	Local Co-ordinate Reference:	Well Boot Hill 25 #1H
Project:	N Seven Rivers	TVD Reference:	WELL @ 0 0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0 0usft (Original Well Elev)
Well:	Boot Hill 25 #1H	North Reference:	Grid
Wellbore:	VH - Job #32K12111209	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K12111209	Database:	EDM-Regulatory

Project	N Seven 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	Boot Hill 25 #1H, Directional (DDC)		
Well Position	+N/-S	0 0 usft	Northing: 590,265 83 usft
	+E/-W	0 0 usft	Easting: 468,215 65 usft
Position Uncertainty	0 0 usft	Wellhead Elevation:	usft
		Latitude:	32° 37' 21 727 N
		Longitude:	104° 26' 11 648 W
		Ground Level:	0 0 usft

Wellbore	VH - Job #32K12111209		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010	12/13/2011	7 95
			Dip Angle (°) 60 39
			Field Strength (nT) 48,735

Design	VH - Job #32K12111209		
Audit Notes:			
Version:	1 0	Phase:	ACTUAL
		Tie On Depth:	0 0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0 0	0 0	0 0
			Direction (°) 180 26

Survey Program	Date	1/22/2012		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100 0	2,300 0	Gyro (VH - Job #32K12111209)	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 0	
100 0	0 36	25 54	100 0	0 3	0 1	25 54	0 3	
200 0	0 43	3 16	200 0	0 9	0 3	17 21	1 0	
300 0	0 45	6 00	300 0	1 7	0 4	11 70	1 7	
400 0	0 52	2 08	400 0	2 6	0 4	9 15	2 6	
500 0	0 55	1 45	500 0	3 5	0 4	7 19	3 5	
600 0	0 45	20 63	600 0	4 3	0 6	7 76	4 4	
700 0	0 40	22 44	700 0	5 0	0 9	9 74	5 1	
800 0	0 37	35 48	800 0	5 6	1 2	11 91	5 7	
900 0	0 25	42 54	900 0	6 0	1 5	14 12	6 2	
1,000 0	0 30	25 43	1,000 0	6 4	1 8	15 45	6 7	
1,100 0	0 32	36 12	1,100 0	6 9	2 1	16 60	7 2	

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Project:	N Seven Rivers	TVD Reference:	WELL @ 0 0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0 0usft (Original Well Elev)
Well:	Boot Hill 25 #1H	North Reference:	Grid
Wellbore:	VH - Job #32K12111209	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K12111209	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 23	44 24	1,200 0	7 3	2 4	18 00	7 6
1,300 0	0 35	13 87	1,300 0	7 7	2 6	18 47	8 1
1,400 0	0 29	26 54	1,400 0	8 2	2 8	18 54	8 7
1,500 0	0 34	27 19	1,500 0	8 7	3 0	19 04	9 2
1,600 0	0 28	23 31	1,600 0	9 2	3 2	19 39	9 8
1,700 0	0 15	349 12	1,700 0	9 6	3 3	19 11	10 1
1,800 0	0 29	2 65	1,800 0	9 9	3 3	18 36	10 5
1,900 0	0 26	320 74	1,900 0	10 4	3 2	16 99	10 8
2,000 0	0 47	296 32	2,000 0	10 7	2 7	13 91	11 0
2,100 0	0 57	295 35	2,100 0	11 1	1 8	9 39	11.3
2,200 0	0 60	308 64	2,200 0	11 7	1 0	4 80	11 7
2,300 0	0 71	273 77	2,299.9	12 0	0 0	359 77	12 0



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Eddy County, NM
Well: Boot Hill 25 #1H
Wellbore: VH - Job #32K12111209
Design: VH - Job #32K12111209

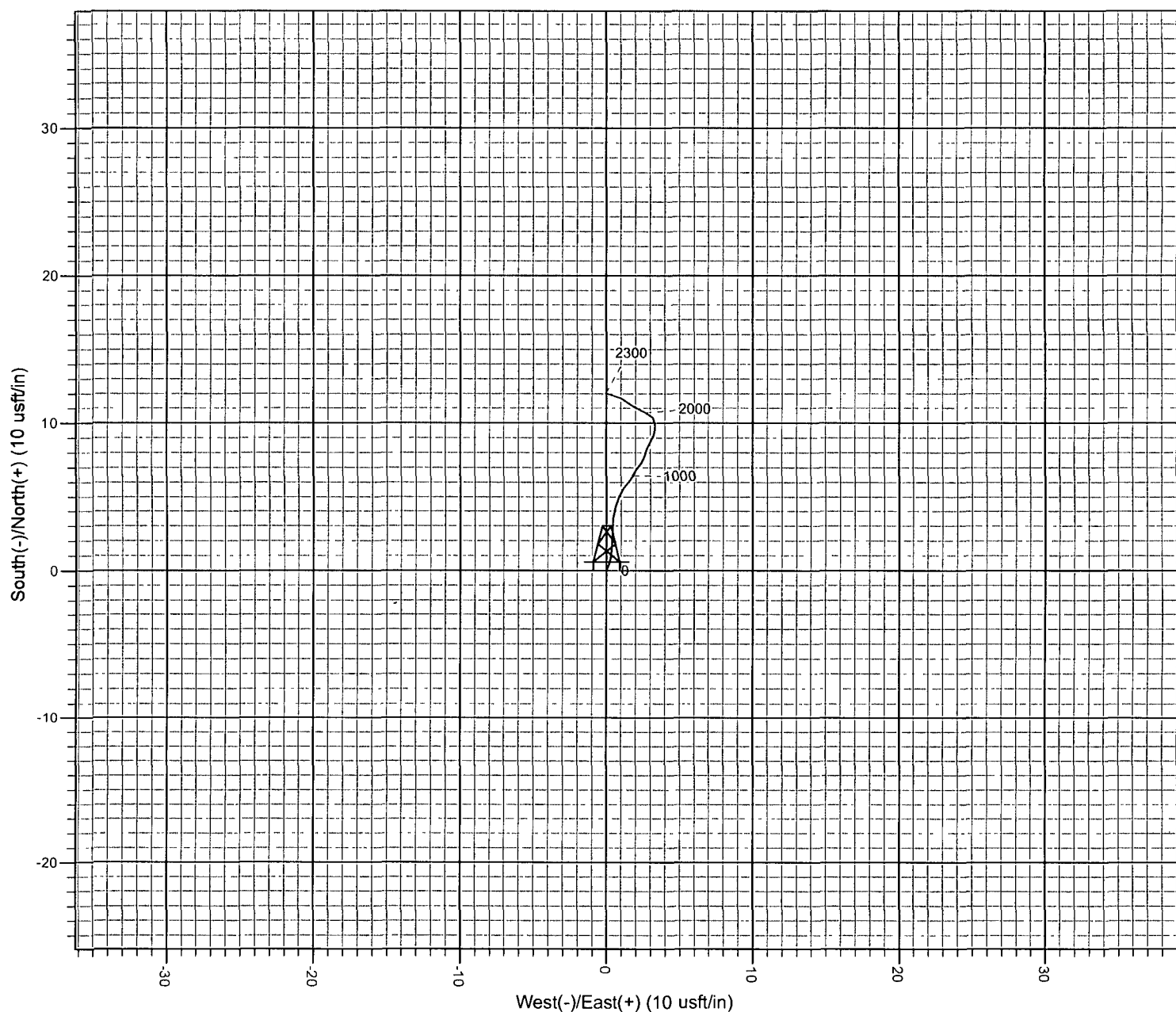


Azimuths to Grid North
True North 0.06°
Magnetic North 8.01°

Magnetic Field
Strength 48734.9snT
Dip Angle 60.39°
Date 12/13/2011
Model IGRF2010

WELL DETAILS: Boot Hill 25 #1H
WELL @ 0.0usft (Original Well Elev)
Ground Level: 0.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	590265.83	468215.65	32° 37' 21.727 N	104° 26' 11.648 W	



PROJECT DETAILS: N. Seven 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