

30-015-39769

MARSHALL & WINSTON

N. Seven Rivers
Eddy County, NM
Holiday #1H
VH - Job #32K0412497

Survey: Gyro

SDI Standard Survey Report

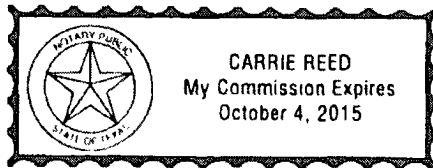
This survey is correct to the best of my knowledge and is supported by actual field data.

K. Wharton

Notarized this date 14th of May, 2012.

Carrie Reed

Notary Signature
County of Midland
State of Texas



Scientific Drilling
Directional Drilling Operations

Scientific Drilling International, Inc.
SDI Standard Survey Report



Company: MARSHALL & WINSTON
Project: N Seven Rivers
Site: Eddy County, NM
Well: Holiday #1H
Wellbore: VH - Job #32K0412497
Design: VH - Job #32K0412497

Local Co-ordinate Reference: Well Holiday #1H
TVD Reference: WELL @ 0.00usft (Original Well Elev)
MD Reference: WELL @ 0.00usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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	Latitude:	32° 37' 55.596 N	
From: Lat/Long	Easting:	465,423.08 usft	Longitude:	104° 26' 44.344 W	
Position Uncertainty:	0.00 usft	Slot Radius:	13.3/16"	Grid Convergence:	-0.06

Well Holiday #1H, Vertical

Well Position	+N/-S	0.00 usft	Northing:	585,191.78 usft	Latitude:	32° 36' 31.489 N
	+E/-W	0.00 usft	Easting:	465,569.92 usft	Longitude:	104° 26' 42.522 W
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft	Ground Level:	0.00 usft	

Wellbore VH - Job #32K0412497

Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF2010	04/30/12	(°)	(°)	(nT)
			7.91	60.37	48,688

Design VH - Job #32K0412497

Audit Notes:

Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
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Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	180.14

Survey Program Date 05/11/12

From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
100.00	2,260.00	Gyro (VH - Job #32K0412497)	KSRG	Keeper Gyro

Survey

Measured Depth	Inclination	Azimuth	True Vertical	North/South	East/West	Closure Azimuth	Closure Distance
(usft)	(°)	(°)	Depth	(usft)	(usft)	(°)	(usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.41	79.26	100.00	0.07	0.35	79.26	0.36
200.00	0.62	74.52	200.00	0.28	1.22	77.22	1.26
300.00	0.39	78.59	299.99	0.49	2.08	76.75	2.14
400.00	0.14	54.81	399.99	0.63	2.51	75.99	2.59
500.00	0.34	82.47	499.99	0.74	2.91	75.78	3.00
600.00	0.52	93.19	599.99	0.75	3.65	78.40	3.73
700.00	0.17	83.13	699.98	0.74	4.25	80.10	4.32
800.00	0.43	91.76	799.98	0.75	4.78	81.09	4.84
900.00	0.24	112.21	899.98	0.66	5.35	82.98	5.39
1,000.00	0.29	105.55	999.98	0.51	5.78	84.95	5.81
1,100.00	0.21	107.22	1,099.98	0.39	6.20	86.41	6.21

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SDI Standard Survey Report



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Project: N Seven Rivers
Site: Eddy County, NM
Well: Holiday #1H
Wellbore: VH - Job #32K0412497
Design: VH - Job #32K0412497

Local Co-ordinate Reference: Well Holiday #1H
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MD Reference: WELL @ 0.00usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM-Regulatory

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
1,200.00	0.27	108.67	1,199.98	0.26	6.60	87.75	6.61
1,300.00	0.18	102.61	1,299.98	0.15	6.98	88.77	6.98
1,400.00	0.12	123.52	1,399.98	0.06	7.22	89.54	7.22
1,500.00	0.10	151.44	1,499.98	-0.08	7.35	90.60	7.35
1,600.00	0.12	209.21	1,599.98	-0.24	7.34	91.91	7.34
1,700.00	0.19	199.39	1,699.98	-0.49	7.23	93.90	7.25
1,800.00	0.43	253.92	1,799.98	-0.75	6.82	96.31	6.86
1,900.00	0.76	254.80	1,899.97	-1.03	5.82	100.05	5.91
2,000.00	0.78	273.35	1,999.96	-1.17	4.50	104.53	4.64
2,100.00	1.00	275.86	2,099.95	-1.04	2.95	109.37	3.12
2,200.00	0.93	270.04	2,199.93	-0.95	1.27	126.73	1.58
2,260.00	1.20	274.32	2,259.92	-0.90	0.16	170.22	0.91

MARSHALL & WINSTON



Scientific Drilling
Directional Drilling Operations



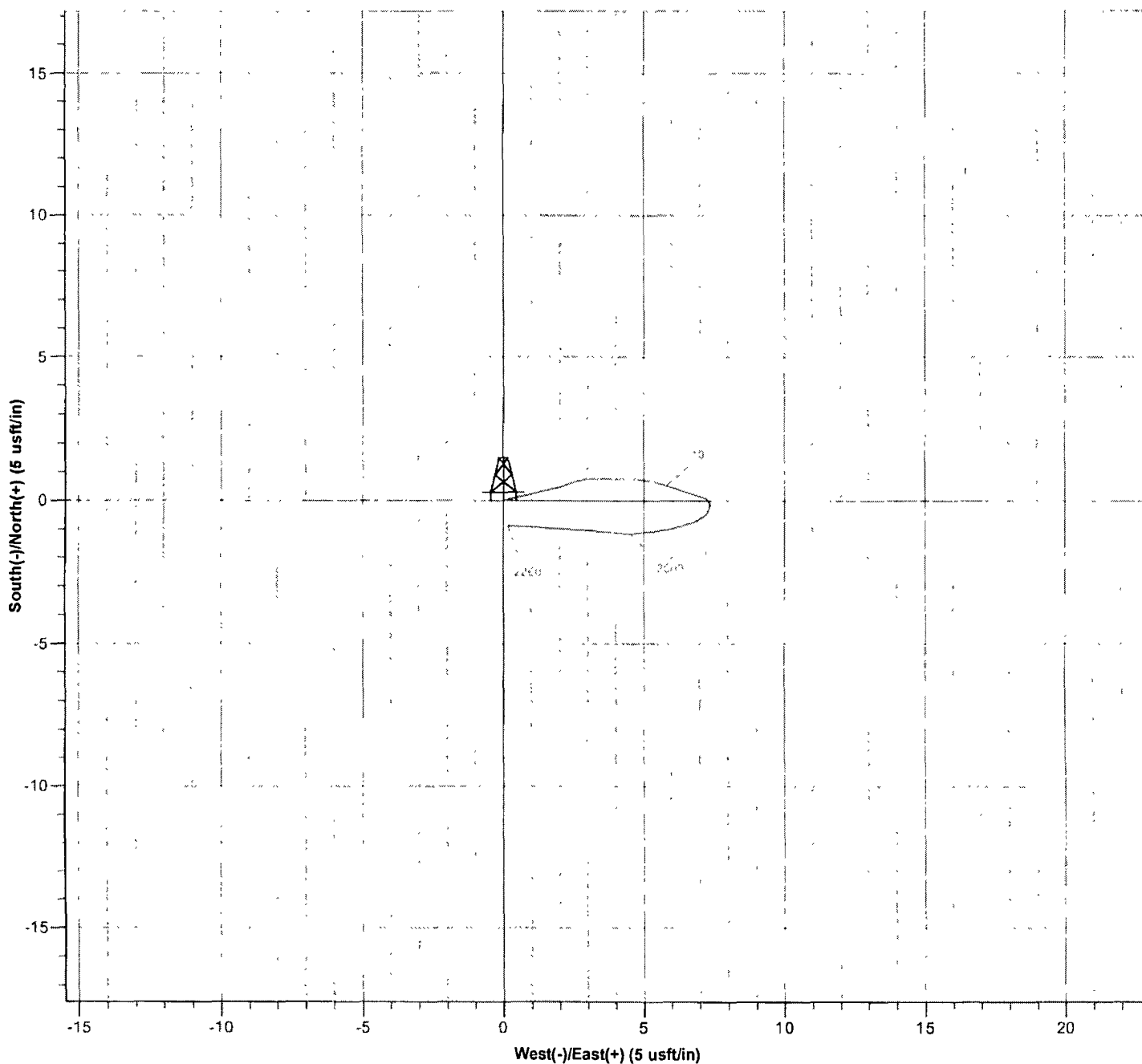
Azimuths to Grid North
True North 0.06°
Magnetic North 7.97°

Magnetic Field
Strength 48687.85 nT
Dip Angle 60.37°
Date 04/30/2012
Model IGRF2010

WELL DETAILS: Holiday #1H

Ground Level: 0.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	585191.78	465569.9232° 36'	31.489 104° 26'	42.522 W	



Project: N. Seven Rivers
Site: Eddy County, NM
Well: Holiday #1H
Wellbore: VH - Job #32K0412497
Design: VH - Job #32K0412497

SITE DETAILS: Eddy County, NM
Site Centre Latitude: 32° 37' 55.596 N
Longitude: 104° 26' 44.344 W

Positional Uncertainty: 0.00
Convergence: -0.06
Local North: Grid



Marshall & Winston, Inc

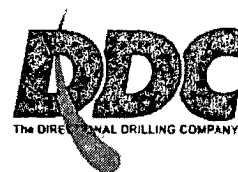
**Eddy County, NM
Section 1: 20S-25E
Holliday 1H**

Wellbore #1

Survey: MWD

DDC Survey Report

11 May, 2012



Company: Marshall & Winston, Inc
Project: Eddy County, NM
Site: Section 1: 20S-25E
Well: Holliday 1H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Holliday 1H
TVD Reference: GL 3431' + 20' KB @ 3451.0usft (To Be Determined)
MD Reference: GL 3431' + 20' KB @ 3451.0usft (To Be Determined)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Project: Eddy County, NM

Map System: US State Plane 1927 (Exact solution)
Geo Datum: NAD 1927 (NADCON CONUS)
Map Zone: New Mexico East 3001

System Datum: Mean Sea Level

Site: Section 1: 20S-25E

Site Position: Northing: 585.191 90 usft Latitude: 32° 36' 31.490 N
From: Map Easting: 465.570.00 usft Longitude: 104° 26' 42.521 W
Position Uncertainty: 0 0 usft Slot Radius: 13-3/16 " Grid Convergence: -0.06 "

Well: Holliday 1H

Well Position: +N/-S 0 0 usft Northing: 585.191.90 usft Latitude: 32° 36' 31.490 N
+E/-W 0 0 usft Easting: 465.570.00 usft Longitude: 104° 26' 42.521 W
Position Uncertainty: 0 0 usft Wellhead Elevation: usft Ground Level: 3,431 0 usft

Wellbore: Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/4/2012	7.92	60.37	48,669

Design: Wellbore #1

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	180.14

Survey Program: Date: 5/11/2012

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
2,300.0	7,214.0	MWD (Wellbore #1)	MWD default	MWD - Standard

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Tie In @ 2260' MD / 2260' TVD									
2,260.0	1.20	274.32	2,259.9	-0.9	0.1	0.9	0.00	0.00	0.00
2,300.0	1.90	216.10	2,299.9	-1.4	-0.7	1.4	4.07	1.75	-145.55
2,332.0	5.00	196.20	2,331.8	-3.2	-1.4	3.2	10.24	9.69	-62.19
2,364.0	8.80	192.00	2,363.6	-6.9	-2.3	6.9	11.97	11.88	-13.13
2,395.0	12.40	193.80	2,394.1	-12.5	-3.5	12.5	11.66	11.61	5.81
2,427.0	15.90	192.40	2,425.1	-20.1	-5.3	20.1	10.99	10.94	-4.38
2,459.0	20.30	190.80	2,455.5	-29.8	-7.3	29.8	13.84	13.75	-5.00
2,491.0	24.20	189.00	2,485.1	-41.7	-9.4	41.8	12.37	12.19	-5.63

Company: Marshall & Winston, Inc
Project: Eddy County, NM
Site: Section 1: 20S-25E
Well: Holliday 1H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Holliday 1H
TVD Reference: GL 3431' + 20' KB @ 3451.0usft (To Be Determined)
MD Reference: GL 3431' + 20' KB @ 3451.0usft (To Be Determined)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
2,522.0	27.90	186.40	2,513.0	-55.2	-11.2	55.3	12.49	11.94	-8.39
2,554.0	31.20	185.20	2,540.8	-70.9	-12.7	71.0	10.48	10.31	-3.75
2,585.0	34.40	183.80	2,566.9	-87.7	-14.1	87.7	10.61	10.32	-4.52
2,617.0	37.70	182.70	2,592.7	-106.5	-15.1	106.5	10.51	10.31	-3.44
2,648.0	40.90	181.10	2,616.7	-126.1	-15.8	126.1	10.83	10.32	-5.16
2,680.0	43.90	179.70	2,640.3	-147.7	-15.9	147.7	9.83	9.38	-4.38
2,712.0	46.80	178.80	2,662.8	-170.4	-15.6	170.5	9.28	9.06	-2.81
2,744.0	50.00	178.10	2,684.1	-194.3	-14.9	194.4	10.13	10.00	-2.19
2,776.0	53.80	178.00	2,703.8	-219.5	-14.1	219.5	11.88	11.88	-0.31
2,808.0	57.70	177.80	2,721.8	-245.9	-13.1	246.0	12.20	12.19	-0.63
2,840.0	61.10	177.30	2,738.1	-273.4	-11.9	273.5	10.71	10.63	-1.56
2,872.0	64.70	176.60	2,752.7	-301.9	-10.4	301.9	11.42	11.25	-2.19
2,904.0	68.80	176.00	2,765.3	-331.2	-8.5	331.2	12.93	12.81	-1.88
2,936.0	72.50	176.60	2,775.9	-361.3	-6.6	361.4	11.70	11.56	1.88
2,968.0	75.40	177.80	2,784.8	-392.1	-5.1	392.1	9.75	9.06	3.75
3,000.0	79.10	178.70	2,791.8	-423.2	-4.1	423.3	11.88	11.56	2.81
3,032.0	82.90	179.50	2,796.8	-454.8	-3.6	454.9	12.13	11.88	2.50
3,063.0	86.30	180.30	2,799.7	-485.7	-3.6	485.7	11.26	10.97	2.58
3,095.0	87.80	181.10	2,801.4	-517.7	-4.0	517.7	5.31	4.69	2.50
3,127.0	88.30	180.90	2,802.5	-549.6	-4.5	549.6	1.68	1.56	-0.63
3,158.0	88.40	180.40	2,803.4	-580.6	-4.9	580.6	1.64	0.32	-1.61
3,190.0	89.20	178.80	2,804.0	-612.6	-4.7	612.6	5.59	2.50	-5.00
3,222.0	89.60	178.30	2,804.4	-644.6	-3.8	644.6	2.00	1.25	-1.56
3,254.0	89.60	178.30	2,804.6	-676.6	-2.9	676.6	0.00	0.00	0.00
3,286.0	89.40	178.80	2,804.9	-708.6	-2.1	708.6	1.68	-0.63	1.56
3,318.0	89.40	179.20	2,805.2	-740.6	-1.5	740.6	1.25	0.00	1.25
3,349.0	88.80	179.90	2,805.7	-771.6	-1.3	771.6	2.97	-1.94	2.26
3,381.0	88.70	180.30	2,806.4	-803.6	-1.3	803.6	1.29	-0.31	1.25
3,413.0	88.60	180.40	2,807.1	-835.5	-1.5	835.5	0.44	-0.31	0.31
3,445.0	88.60	180.10	2,807.9	-867.5	-1.7	867.5	0.94	0.00	-0.94
3,476.0	89.30	179.80	2,808.5	-898.5	-1.6	898.5	2.46	2.26	-0.97
3,507.0	89.30	179.90	2,808.9	-929.5	-1.6	929.5	0.32	0.00	0.32
3,539.0	89.40	180.10	2,809.2	-961.5	-1.6	961.5	0.70	0.31	0.63
3,571.0	89.40	179.70	2,809.6	-993.5	-1.5	993.5	1.25	0.00	-1.25
3,603.0	89.70	180.10	2,809.8	-1,025.5	-1.5	1,025.5	1.56	0.94	1.25
3,635.0	89.50	180.10	2,810.1	-1,057.5	-1.5	1,057.5	0.63	-0.63	0.00
3,667.0	89.80	180.30	2,810.2	-1,089.5	-1.6	1,089.5	1.13	0.94	0.63
3,698.0	89.90	180.40	2,810.3	-1,120.5	-1.8	1,120.5	0.46	0.32	0.32
3,730.0	89.40	179.90	2,810.5	-1,152.5	-1.9	1,152.5	2.21	-1.56	-1.56
3,761.0	89.30	179.50	2,810.9	-1,183.5	-1.7	1,183.5	1.33	-0.32	-1.29
3,793.0	89.40	179.90	2,811.2	-1,215.5	-1.6	1,215.5	1.29	0.31	1.25
3,825.0	89.30	179.70	2,811.6	-1,247.5	-1.5	1,247.5	0.70	-0.31	-0.63

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Project: Eddy County, NM
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Well: Holliday 1H
Wellbore: Wellbore #1
Design: Wellbore #1

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Database: EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,857.0	89.30	180.10	2,812.0	-1,279.5	-1.4	1,279.5	1.25	0.00	1.25
3,888.0	89.50	180.10	2,812.3	-1,310.5	-1.5	1,310.5	0.65	0.65	0.00
3,920.0	89.50	180.30	2,812.6	-1,342.5	-1.6	1,342.5	0.62	0.00	0.63
3,952.0	89.40	180.10	2,812.9	-1,374.5	-1.7	1,374.5	0.70	-0.31	-0.63
3,984.0	89.30	179.70	2,813.3	-1,406.5	-1.6	1,406.5	1.29	-0.31	-1.25
4,016.0	89.30	179.70	2,813.7	-1,438.5	-1.5	1,438.5	0.00	0.00	0.00
4,048.0	89.60	179.40	2,814.0	-1,470.5	-1.2	1,470.5	1.33	0.94	-0.94
4,080.0	89.60	179.20	2,814.2	-1,502.5	-0.8	1,502.5	0.62	0.00	-0.63
4,112.0	89.70	179.20	2,814.4	-1,534.5	-0.4	1,534.5	0.31	0.31	0.00
4,144.0	90.00	179.90	2,814.5	-1,566.5	-0.1	1,566.5	2.38	0.94	2.19
4,176.0	88.90	179.90	2,814.8	-1,598.5	-0.1	1,598.5	3.44	-3.44	0.00
4,208.0	88.50	180.10	2,815.5	-1,630.5	-0.1	1,630.5	1.40	-1.25	0.63
4,240.0	87.50	180.10	2,816.6	-1,662.5	-0.1	1,662.4	3.13	-3.13	0.00
4,272.0	87.40	180.10	2,818.0	-1,694.4	-0.2	1,694.4	0.31	-0.31	0.00
4,303.0	87.40	180.10	2,819.4	-1,725.4	-0.2	1,725.4	0.00	0.00	0.00
4,336.0	87.80	180.10	2,820.8	-1,758.4	-0.3	1,758.4	1.21	1.21	0.00
4,367.0	88.20	180.30	2,821.9	-1,789.3	-0.4	1,789.3	1.44	1.29	0.65
4,399.0	88.60	180.40	2,822.8	-1,821.3	-0.6	1,821.3	1.29	1.25	0.31
4,431.0	89.40	180.40	2,823.4	-1,853.3	-0.8	1,853.3	2.50	2.50	0.00
4,463.0	89.30	180.40	2,823.7	-1,885.3	-1.0	1,885.3	0.31	-0.31	0.00
4,493.0	89.70	180.60	2,824.0	-1,915.3	-1.3	1,915.3	1.49	1.33	0.67
4,525.0	89.70	180.30	2,824.2	-1,947.3	-1.5	1,947.3	0.94	0.00	-0.94
4,557.0	89.80	180.30	2,824.3	-1,979.3	-1.7	1,979.3	0.31	0.31	0.00
4,589.0	90.00	180.30	2,824.4	-2,011.3	-1.9	2,011.3	0.63	0.63	0.00
4,621.0	90.10	180.30	2,824.3	-2,043.3	-2.0	2,043.3	0.31	0.31	0.00
4,653.0	89.60	180.40	2,824.4	-2,075.3	-2.2	2,075.3	1.59	-1.56	0.31
4,684.0	88.30	180.40	2,825.0	-2,106.3	-2.5	2,106.3	4.19	-4.19	0.00
4,716.0	88.30	180.40	2,825.9	-2,138.3	-2.7	2,138.3	0.00	0.00	0.00
4,748.0	87.70	180.40	2,827.0	-2,170.3	-2.9	2,170.3	1.88	-1.88	0.00
4,780.0	87.60	180.40	2,828.4	-2,202.2	-3.1	2,202.2	0.31	-0.31	0.00
4,812.0	87.80	180.60	2,829.6	-2,234.2	-3.4	2,234.2	0.88	0.63	0.63
4,844.0	87.90	180.60	2,830.8	-2,266.2	-3.7	2,266.2	0.31	0.31	0.00
4,875.0	87.80	180.40	2,832.0	-2,297.2	-4.0	2,297.2	0.72	-0.32	-0.65
4,907.0	88.00	180.80	2,833.2	-2,329.1	-4.3	2,329.1	1.40	0.63	1.25
4,939.0	87.90	180.40	2,834.3	-2,361.1	-4.7	2,361.1	1.29	-0.31	-1.25
4,971.0	88.10	180.40	2,835.4	-2,393.1	-4.9	2,393.1	0.63	0.63	0.00
5,003.0	88.60	180.80	2,836.4	-2,425.1	-5.2	2,425.1	2.00	1.56	1.25
5,035.0	89.10	180.60	2,837.0	-2,457.1	-5.6	2,457.1	1.68	1.56	-0.63
5,066.0	89.10	180.80	2,837.5	-2,488.1	-6.0	2,488.1	0.65	0.00	0.65
5,098.0	89.30	180.80	2,837.9	-2,520.1	-6.5	2,520.1	0.63	0.63	0.00
5,130.0	89.30	180.30	2,838.3	-2,552.1	-6.8	2,552.1	1.56	0.00	-1.56
5,162.0	89.40	180.40	2,838.7	-2,584.1	-7.0	2,584.1	0.44	0.31	0.31

Company: Marshall & Winston, Inc
Project: Eddy County, NM
Site: Section 1' 20S-25E
Well: Holliday 1H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Holliday 1H
TVD Reference: GL 3431' + 20' KB @ 3451.0usft (To Be Determined)
MD Reference: GL 3431' + 20' KB @ 3451.0usft (To Be Determined)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,194.0	89.50	180.60	2,839.0	-2,616.1	-7.2	2,616.1	0.70	0.31	0.63
5,225.0	89.50	180.40	2,839.3	-2,647.1	-7.5	2,647.1	0.65	0.00	-0.65
5,257.0	89.50	180.80	2,839.5	-2,679.1	-7.8	2,679.1	1.25	0.00	1.25
5,289.0	89.40	180.40	2,839.8	-2,711.0	-8.2	2,711.1	1.29	-0.31	-1.25
5,321.0	89.40	180.10	2,840.2	-2,743.0	-8.3	2,743.1	0.94	0.00	-0.94
5,353.0	89.60	180.40	2,840.5	-2,775.0	-8.5	2,775.1	1.13	0.63	0.94
5,385.0	89.50	179.90	2,840.7	-2,807.0	-8.5	2,807.1	1.59	-0.31	-1.56
5,417.0	89.50	179.50	2,841.0	-2,839.0	-8.4	2,839.1	1.25	0.00	-1.25
5,449.0	89.30	179.20	2,841.3	-2,871.0	-8.0	2,871.0	1.13	-0.63	-0.94
5,480.0	89.40	179.20	2,841.7	-2,902.0	-7.6	2,902.0	0.32	0.32	0.00
5,512.0	89.30	179.20	2,842.0	-2,934.0	-7.1	2,934.0	0.31	-0.31	0.00
5,544.0	89.90	179.50	2,842.3	-2,966.0	-6.8	2,966.0	2.10	1.88	0.94
5,576.0	89.90	179.50	2,842.3	-2,998.0	-6.5	2,998.0	0.00	0.00	0.00
5,608.0	90.30	179.70	2,842.3	-3,030.0	-6.3	3,030.0	1.40	1.25	0.63
5,640.0	90.40	179.70	2,842.1	-3,062.0	-6.1	3,062.0	0.31	0.31	0.00
5,672.0	89.90	180.10	2,842.0	-3,094.0	-6.0	3,094.0	2.00	-1.56	1.25
5,703.0	89.50	180.30	2,842.2	-3,125.0	-6.1	3,125.0	1.44	-1.29	0.65
5,734.0	89.50	180.30	2,842.4	-3,156.0	-6.3	3,156.0	0.00	0.00	0.00
5,766.0	89.80	180.40	2,842.6	-3,188.0	-6.5	3,188.0	0.99	0.94	0.31
5,798.0	89.90	179.90	2,842.7	-3,220.0	-6.6	3,220.0	1.59	0.31	-1.56
5,830.0	88.70	179.90	2,843.1	-3,252.0	-6.5	3,252.0	3.75	-3.75	0.00
5,862.0	88.30	180.10	2,843.9	-3,284.0	-6.5	3,284.0	1.40	-1.25	0.63
5,894.0	87.80	179.90	2,845.0	-3,316.0	-6.5	3,316.0	1.68	-1.56	-0.63
5,926.0	87.70	180.10	2,846.3	-3,348.0	-6.5	3,348.0	0.70	-0.31	0.63
5,958.0	87.50	179.90	2,847.6	-3,379.9	-6.5	3,379.9	0.88	-0.63	-0.63
5,990.0	87.80	179.70	2,848.9	-3,411.9	-6.4	3,411.9	1.13	0.94	-0.63
6,022.0	87.70	179.70	2,850.2	-3,443.9	-6.3	3,443.9	0.31	-0.31	0.00
6,054.0	87.20	179.20	2,851.6	-3,475.8	-5.9	3,475.9	2.21	-1.56	-1.56
6,086.0	87.30	179.00	2,853.1	-3,507.8	-5.4	3,507.8	0.70	0.31	-0.63
6,117.0	87.50	178.50	2,854.5	-3,538.8	-4.8	3,538.8	1.74	0.65	-1.61
6,149.0	87.70	178.50	2,855.9	-3,570.7	-3.9	3,570.7	0.63	0.63	0.00
6,180.0	87.80	178.50	2,857.1	-3,601.7	-3.1	3,601.7	0.32	0.32	0.00
6,211.0	87.80	178.50	2,858.3	-3,632.7	-2.3	3,632.7	0.00	0.00	0.00
6,243.0	88.60	178.70	2,859.3	-3,664.6	-1.5	3,664.6	2.58	2.50	0.63
6,275.0	89.30	179.20	2,859.9	-3,696.6	-0.9	3,696.6	2.69	2.19	1.56
6,307.0	89.80	179.40	2,860.1	-3,728.6	-0.6	3,728.6	1.68	1.56	0.63
6,338.0	89.90	179.70	2,860.2	-3,759.6	-0.3	3,759.6	1.02	0.32	0.97
6,371.0	90.00	179.40	2,860.2	-3,792.6	-0.1	3,792.6	0.96	0.30	-0.91
6,403.0	89.70	179.50	2,860.3	-3,824.6	0.3	3,824.6	0.99	-0.94	0.31
6,435.0	88.70	179.50	2,860.8	-3,856.6	0.5	3,856.6	3.13	-3.13	0.00
6,466.0	88.70	179.50	2,861.5	-3,887.6	0.8	3,887.6	0.00	0.00	0.00
6,498.0	88.90	179.70	2,862.2	-3,919.6	1.0	3,919.6	0.88	0.63	0.63

Company: Marshall & Winston, Inc.
Project: Eddy County, NM
Site: Section 1: 20S-25E
Well: Holliday 1H
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Design: Wellbore #1

Local Co-ordinate Reference: Well Holliday 1H
TVD Reference: GL 3431' + 20' KB @ 3451.0usft (To Be Determined)
MD Reference: GL 3431' + 20' KB @ 3451.0usft (To Be Determined)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000 1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,530.0	89.00	179.50	2,862.7	-3,951.6	1.3	3,951.6	0.70	0.31	-0.63
6,562.0	89.20	179.50	2,863.2	-3,983.6	1.5	3,983.6	0.63	0.63	0.00
6,594.0	89.30	179.50	2,863.7	-4,015.6	1.8	4,015.6	0.31	0.31	0.00
6,626.0	89.60	179.40	2,864.0	-4,047.6	2.1	4,047.6	0.99	0.94	-0.31
6,658.0	89.40	179.70	2,864.2	-4,079.6	2.4	4,079.6	1.13	-0.63	0.94
6,690.0	89.00	180.40	2,864.7	-4,111.6	2.3	4,111.6	2.52	-1.25	2.19
6,721.0	89.00	180.10	2,865.2	-4,142.6	2.2	4,142.5	0.97	0.00	-0.97
6,753.0	89.90	180.30	2,865.5	-4,174.6	2.1	4,174.5	2.88	2.81	0.63
6,785.0	89.00	180.10	2,865.8	-4,206.6	2.0	4,206.5	2.88	-2.81	-0.63
6,818.0	89.10	179.90	2,866.4	-4,239.6	2.0	4,239.5	0.68	0.30	-0.61
6,850.0	89.30	179.90	2,866.8	-4,271.6	2.0	4,271.5	0.63	0.63	0.00
6,881.0	89.60	179.90	2,867.1	-4,302.6	2.1	4,302.5	0.97	0.97	0.00
6,913.0	89.80	180.10	2,867.3	-4,334.6	2.1	4,334.5	0.88	0.63	0.63
6,945.0	89.60	180.10	2,867.5	-4,366.6	2.0	4,366.5	0.63	-0.63	0.00
6,977.0	89.60	180.30	2,867.7	-4,398.5	1.9	4,398.5	0.62	0.00	0.63
7,009.0	89.40	180.30	2,868.0	-4,430.5	1.8	4,430.5	0.63	-0.63	0.00
7,041.0	89.60	180.30	2,868.3	-4,462.5	1.6	4,462.5	0.63	0.63	0.00
7,073.0	89.80	180.30	2,868.4	-4,494.5	1.4	4,494.5	0.63	0.63	0.00
7,105.0	90.00	180.10	2,868.5	-4,526.5	1.3	4,526.5	0.88	0.63	-0.63
7,137.0	90.00	180.30	2,868.5	-4,558.5	1.2	4,558.5	0.63	0.00	0.63
7,160.0	89.10	180.10	2,868.7	-4,581.5	1.1	4,581.5	4.01	-3.91	-0.87
TD @ 7214' MD / 2870' TVD									
7,214.0	89.10	180.10	2,869.5	-4,635.5	1.0	4,635.5	0.00	0.00	0.00

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,260.0	2,259.9	-0.9	0.1	Tie In @ 2260' MD / 2260' TVD
7,214.0	2,869.5	-4,635.5	1.0	TD @ 7214' MD / 2870' TVD

Checked By: _____ Approved By: _____ Date: _____