

**McVAY DRILLING COMPANY**

P.O. Box 2450
Hobbs, New Mexico 88241
(575) 397-3311
FAX: 39-DRILL

HOBBS OCD**APR 23 2015****RECEIVED**

Well Name and Num: Slick Mesa 27 State #2H
Location: Sec 27, T21S, R34E
Operator: Marshall & Winston
Drilling Contractor: McVay Drilling Company

The undersigned certifies that he is an authorized representative of the drilling contractor who drilled the above described well and that he has conducted deviation tests and obtained the following results:

<u>Degrees @</u>	<u>Depth</u>	<u>Degrees @</u>	<u>Depth</u>	<u>Degrees @</u>	<u>Depth</u>	<u>Degrees @</u>	<u>Depth</u>
0.59	265	0.72	6200	87.50	11836	87.50	15478
0.98	520	0.33	6700	90.40	12411		
1.70	770	0.65	7200	88.40	12699		
0.82	1300	0.52	7700	91.20	12890		
0.84	1750	2.20	8643	92.30	13178		
1.40	2224	0.57	8800	93.50	13370		
1.50	2750	3.25	9688	91.40	13465		
1.39	3035	3.20	9850	91.20	13657		
3.47	3550	3.09	10300	92.10	13753		
3.19	3696	2.60	10744	89.90	14004		
3.08	3920	3.80	10807	88.80	14327		
1.89	4100	20.70	10933	89.50	14710		
0.46	4485	45.30	11123	90.00	14806		
0.38	4700	59.60	11249	88.20	14998		
1.30	5000	64.10	11313	91.30	15190		
0.50	5400	81.80	11534	91.50	15286		
1.55	5810	90.80	11644	88.10	15382		

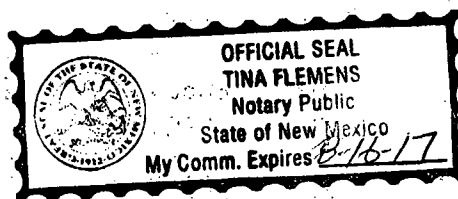
30-025-42202

By: Muhammad A. Guman

Subscribed and sworn to before me this 26th day of February, 2015

Tina Flemens

Notary Public, Lea County, New Mexico

**MAY 05 2015**

MARSHALL & WINSTON

Gamma Ridge (NAD27)

Lea County, NM (Grid North)

Slick Mesa 27 State #2H

VH - Job #320215-KW-0120

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APR 23 2015

Survey: Gyro

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Regulatory Report (Grid North)

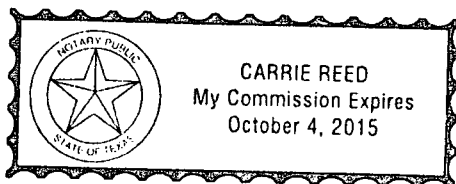
This survey is correct to the best of my knowledge and is supported by actual field data.

Jami Thotaur

Notarized this date 23rd of February, 2015.

Carrie Reed

Notary Signature
County of Midland
State of Texas



Regulatory Report (Grid North)

Company:	MARSHALL & WINSTON	Local Co-ordinate Reference:	Well Slick Mesa 27 State #2H
Project:	Gamma Ridge (NAD27)	TVD Reference:	Mean Sea Level (System)
Site:	Lea County, NM (Grid North)	MD Reference:	Mean Sea Level (System)
Well:	Slick Mesa 27 State #2H	North Reference:	Grid
Wellbore:	VH - Job #320215-KW-0120	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #320215-KW-0120	Database:	MID_Regulatory

Project:	Gamma Ridge (NAD27)		
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:	Lea County, NM (Grid North)		
Site Position:		Northing:	526,476.03 usft
From:	Lat/Long	Easting:	769,600.80 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"
		Latitude:	32° 26' 39.707 N
		Longitude:	103° 27' 33.883 W
		Grid Convergence:	0.47 °

Well:	Slick Mesa 27 State #2H, Horizontal		
Well Position	+N/-S	0.0 usft	Northing: 526,333.93 usft
	+E/-W	0.0 usft	Easting: 768,282.70 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft
		Latitude:	32° 26' 38.407 N
		Longitude:	103° 27' 49.277 W
		Ground Level:	0.0 usft

Wellbore	VH - Job #320215-KW-0120				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/7/2015	7.10	60.32	48,420

Design:	VH - Job #320215-KW-0120			
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	359.51

Survey Program	Date: 2/14/2015			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	10,600.0	Gyro (VH - Job #320215-KW-0120)	KSRG	Keeper Gyro

MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Azimuth (°)	Closure Distance (usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.0
100.0	0.83	166.22	100.0	-0.7	0.2	166.22	0.7
200.0	0.80	180.69	200.0	-2.1	0.3	170.91	2.1
300.0	0.75	179.73	300.0	-3.5	0.3	174.53	3.5
400.0	0.69	173.46	400.0	-4.7	0.4	175.11	4.7
500.0	0.73	179.66	500.0	-5.9	0.5	175.43	6.0
600.0	0.78	183.00	600.0	-7.3	0.4	176.51	7.3
700.0	0.88	182.70	699.9	-8.7	0.4	177.56	8.7
800.0	0.82	178.58	799.9	-10.2	0.4	178.01	10.2
900.0	0.80	180.81	899.9	-11.6	0.4	178.22	11.6
1,000.0	0.75	184.29	999.9	-13.0	0.3	178.66	13.0
1,100.0	0.75	181.87	1,099.9	-14.3	0.2	179.07	14.3

Regulatory Report (Grid North)

Company:	MARSHALL & WINSTON	Local Co-ordinate Reference:	Well Slick Mesa 27 State #2H
Project:	Gamma Ridge (NAD27)	TVD Reference:	Mean Sea Level (System)
Site:	Lea County, NM (Grid North)	MD Reference:	Mean Sea Level (System)
Well:	Slick Mesa 27 State #2H	North Reference:	Grid
Wellbore:	VH - Job #320215-KW-0120	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #320215-KW-0120	Database:	MID_Regulatory

Survey								
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Azimuth (°)	Closure Distance (usft)	
1,200.0	0.76	180.56	1,199.9	-15.6	0.2	179.25	15.6	
1,300.0	0.81	176.98	1,299.9	-16.9	0.2	179.21	17.0	
1,400.0	0.91	173.26	1,399.9	-18.4	0.4	178.87	18.4	
1,500.0	0.95	167.86	1,499.9	-20.0	0.6	178.19	20.1	
1,600.0	0.98	168.22	1,599.8	-21.7	1.0	177.41	21.7	
1,700.0	1.04	167.42	1,699.8	-23.4	1.4	176.69	23.5	
1,800.0	0.98	166.00	1,799.8	-25.1	1.8	176.00	25.2	
1,900.0	0.85	161.09	1,899.8	-26.7	2.2	175.27	26.8	
2,000.0	1.41	101.11	1,999.8	-27.6	3.7	172.46	27.8	
2,100.0	1.42	104.02	2,099.8	-28.1	6.1	167.84	28.8	
2,200.0	1.14	105.17	2,199.7	-28.7	8.2	164.01	29.9	
2,300.0	0.86	114.19	2,299.7	-29.3	9.9	161.36	30.9	
2,400.0	0.79	114.63	2,399.7	-29.9	11.2	159.47	31.9	
2,500.0	0.72	113.44	2,499.7	-30.4	12.4	157.83	32.8	
2,600.0	0.90	90.95	2,599.7	-30.7	13.7	155.85	33.6	
2,700.0	1.13	78.95	2,699.7	-30.5	15.5	153.05	34.2	
2,800.0	1.27	80.50	2,799.6	-30.1	17.6	149.75	34.9	
2,900.0	1.30	79.03	2,899.6	-29.7	19.8	146.37	35.7	
3,000.0	2.44	66.47	2,999.6	-28.6	22.8	141.44	36.6	
3,100.0	4.04	70.22	3,099.4	-26.6	28.1	133.44	38.7	
3,200.0	4.56	75.97	3,199.1	-24.4	35.3	124.73	42.9	
3,300.0	4.65	78.04	3,298.8	-22.6	43.1	117.72	48.7	
3,400.0	4.69	78.47	3,398.5	-21.0	51.1	112.34	55.2	
3,500.0	4.71	78.61	3,498.1	-19.4	59.1	108.14	62.2	
3,600.0	4.62	80.13	3,597.8	-17.9	67.1	104.91	69.4	
3,700.0	4.58	80.56	3,697.5	-16.5	75.0	102.42	76.8	
3,800.0	3.13	76.98	3,797.2	-15.2	81.6	100.58	83.0	
3,900.0	2.07	70.72	3,897.1	-14.0	86.0	99.27	87.1	
4,000.0	1.35	64.05	3,997.1	-12.9	88.7	98.29	89.7	
4,100.0	1.03	61.37	4,097.1	-12.0	90.6	97.53	91.4	
4,200.0	0.78	60.84	4,197.1	-11.2	92.0	96.95	92.6	
4,300.0	0.58	57.41	4,297.1	-10.6	93.0	96.51	93.6	
4,400.0	0.32	50.29	4,397.0	-10.2	93.6	96.19	94.2	
4,500.0	0.31	50.32	4,497.0	-9.8	94.0	95.95	94.5	
4,600.0	0.35	42.79	4,597.0	-9.4	94.5	95.69	94.9	
4,700.0	0.34	50.77	4,697.0	-9.0	94.9	95.42	95.3	
4,800.0	0.25	37.76	4,797.0	-8.6	95.3	95.18	95.6	
4,900.0	0.23	12.49	4,897.0	-8.3	95.4	94.95	95.8	
5,000.0	0.27	11.05	4,997.0	-7.8	95.5	94.69	95.8	
5,100.0	0.32	348.22	5,097.0	-7.3	95.5	94.39	95.8	
5,200.0	0.25	342.42	5,197.0	-6.9	95.4	94.11	95.6	
5,300.0	0.26	348.74	5,297.0	-6.4	95.3	93.86	95.5	
5,400.0	0.25	344.40	5,397.0	-6.0	95.2	93.60	95.4	
5,500.0	0.40	342.36	5,497.0	-5.4	95.0	93.28	95.2	

Regulatory Report (Grid North)

Company:	MARSHALL & WINSTON	Local Co-ordinate Reference:	Well Slick Mesa 27 State #2H
Project:	Gamma Ridge (NAD27)	TVD Reference:	Mean Sea Level (System)
Site:	Lea County, NM (Grid North)	MD Reference:	Mean Sea Level (System)
Well:	Slick Mesa 27 State #2H	North Reference:	Grid
Wellbore:	VH - Job #320215-KW-0120	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #320215-KW-0120	Database:	MID_Regulatory

Survey								
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Azimuth (°)	Closure Distance (usft)	
5,600.0	0.65	337.89	5,597.0	-4.6	94.7	92.78	94.8	
5,700.0	0.60	339.56	5,697.0	-3.6	94.3	92.17	94.4	
5,800.0	0.44	344.15	5,797.0	-2.7	94.0	91.65	94.0	
5,900.0	0.26	315.69	5,897.0	-2.2	93.7	91.33	93.8	
6,000.0	0.40	332.82	5,997.0	-1.7	93.4	91.05	93.4	
6,100.0	0.41	331.85	6,097.0	-1.1	93.1	90.67	93.1	
6,200.0	0.60	337.29	6,197.0	-0.3	92.7	90.18	92.7	
6,300.0	0.73	346.19	6,297.0	0.8	92.4	89.49	92.4	
6,400.0	0.63	343.18	6,397.0	2.0	92.1	88.78	92.1	
6,500.0	0.53	353.28	6,497.0	2.9	91.8	88.16	91.9	
6,600.0	0.37	36.73	6,597.0	3.7	92.0	87.72	92.1	
6,700.0	0.35	342.21	6,697.0	4.2	92.1	87.38	92.2	
6,800.0	0.26	37.27	6,797.0	4.7	92.1	87.09	92.2	
6,900.0	0.14	81.97	6,897.0	4.9	92.4	86.97	92.5	
7,000.0	0.14	108.57	6,997.0	4.9	92.6	87.00	92.7	
7,100.0	0.08	93.37	7,097.0	4.8	92.8	87.03	92.9	
7,200.0	0.06	120.92	7,197.0	4.8	92.9	87.05	93.0	
7,300.0	0.34	136.43	7,297.0	4.5	93.2	87.21	93.3	
7,400.0	0.35	138.61	7,397.0	4.1	93.6	87.49	93.7	
7,500.0	0.47	147.37	7,497.0	3.5	94.0	87.85	94.1	
7,600.0	0.34	147.88	7,597.0	2.9	94.4	88.22	94.4	
7,700.0	0.31	176.46	7,697.0	2.4	94.6	88.54	94.6	
7,800.0	0.26	177.17	7,797.0	1.9	94.6	88.84	94.6	
7,900.0	0.20	187.40	7,897.0	1.5	94.6	89.08	94.6	
8,000.0	0.18	223.55	7,997.0	1.2	94.4	89.26	94.4	
8,100.0	0.24	231.67	8,097.0	1.0	94.2	89.40	94.2	
8,200.0	0.27	248.73	8,197.0	0.8	93.8	89.53	93.8	
8,300.0	0.29	271.23	8,297.0	0.7	93.3	89.58	93.3	
8,400.0	0.24	209.71	8,397.0	0.5	93.0	89.69	93.0	
8,500.0	0.18	171.64	8,497.0	0.2	92.9	89.89	92.9	
8,600.0	1.65	113.69	8,596.9	-0.6	94.2	90.34	94.2	
8,700.0	2.74	122.26	8,696.9	-2.4	97.6	91.42	97.6	
8,800.0	2.44	118.72	8,796.8	-4.7	101.4	92.66	101.6	
8,900.0	2.17	117.32	8,896.7	-6.6	105.0	93.60	105.2	
9,000.0	2.03	121.47	8,996.6	-8.4	108.2	94.44	108.5	
9,100.0	2.37	110.87	9,096.5	-10.1	111.6	95.15	112.1	
9,200.0	2.83	109.33	9,196.4	-11.6	115.9	95.72	116.5	
9,300.0	2.33	120.33	9,296.3	-13.5	120.0	96.40	120.7	
9,400.0	2.62	125.19	9,396.2	-15.8	123.6	97.29	124.6	
9,500.0	3.06	126.95	9,496.1	-18.7	127.6	98.35	129.0	
9,600.0	3.27	124.43	9,596.0	-21.9	132.1	99.43	133.9	
9,700.0	3.32	120.93	9,695.8	-25.0	136.9	100.36	139.2	
9,800.0	3.42	122.40	9,795.6	-28.1	141.9	101.21	144.7	
9,900.0	3.44	125.56	9,895.5	-31.5	146.9	102.09	150.2	

Regulatory Report (Grid North)

Company:	MARSHALL & WINSTON	Local Co-ordinate Reference:	Well Slick Mesa 27 State #2H
Project:	Gamma Ridge (NAD27)	TVD Reference:	Mean Sea Level (System)
Site:	Lea County, NM (Grid North)	MD Reference:	Mean Sea Level (System)
Well:	Slick Mesa 27 State #2H	North Reference:	Grid
Wellbore:	VH - Job #320215-KW-0120	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #320215-KW-0120	Database:	MID_Regulatory

Survey								
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Azimuth (°)	Closure Distance (usft)	
10,000.0	3.56	126.65	9,995.3	-35.1	151.8	103.01	155.8	
10,100.0	3.40	126.19	10,095.1	-38.7	156.7	103.86	161.4	
10,200.0	3.38	126.70	10,194.9	-42.2	161.5	104.64	166.9	
10,300.0	3.67	126.94	10,294.7	-45.9	166.4	105.41	172.6	
10,400.0	3.90	125.11	10,394.5	-49.8	171.7	106.16	178.8	
10,500.0	3.53	123.36	10,494.3	-53.4	177.1	106.78	184.9	
10,600.0	3.15	120.66	10,594.1	-56.5	182.0	107.24	190.6	

Checked By: _____	Approved By: _____	Date: _____
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Scientific Drilling

Project: Gamma Ridge (NAD27)
Lea County, NM (Grid North)
Well: Slick Mesa 27 State #2H
Wellbore: VH - Job #320215-KW-0120
Design: VH - Job #320215-KW-0120

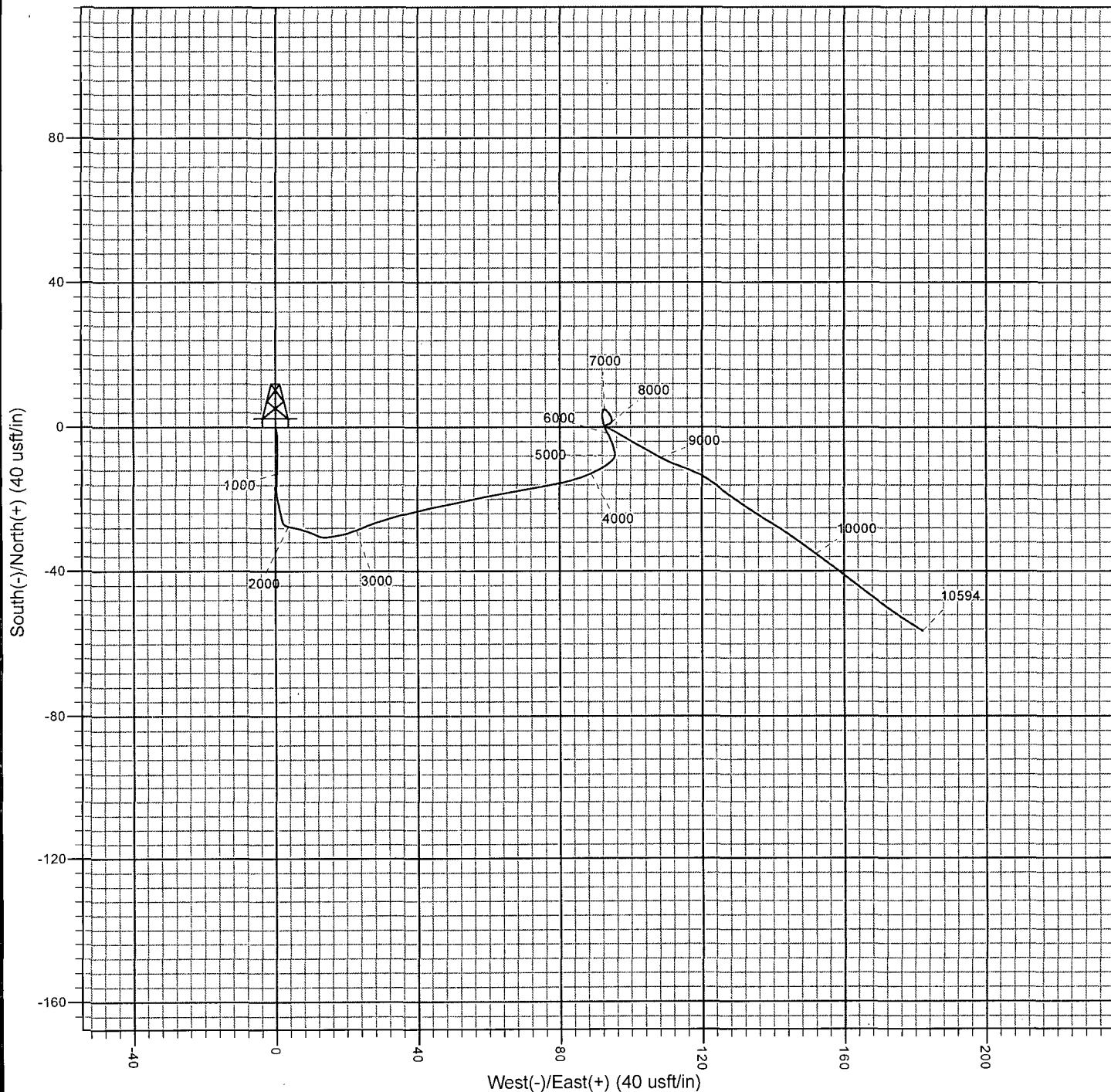
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WELL DETAILS: Slick Mesa 27 State #2H
Mean Sea Level (System)
Ground Level: 0.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	526333.93	768282.70	32° 26' 38.407 N	103° 27' 49.277 W	



PROJECT DETAILS: Gamma Ridge (NAD27)	SITE DETAILS: Lea County, NM (Grid North)
Geodetic System: US State Plane 1927 (Exact solution)	Site Centre Latitude: 32° 26' 39.707 N
Datum: NAD 1927 (NADCON CONUS)	Longitude: 103° 27' 33.883 W
Ellipsoid: Clarke 1866	Positional Uncertainty: 0.0
Zone: New Mexico East 3001	Convergence: 0.47
System Datum: Mean Sea Level	Local North: Grid



Marshall & Winston, Inc.

Lea County, NM (NAD27 NME)

Slick Mesa State 27

#2H

WB1 / Job #1512712

Survey: Phoenix MWD Surveys

Standard Survey Report

23 February, 2015

HOBBSOCD

APR 23 2015

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Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well #2H
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	KB @ 3734.00usft (McVay 10)
Site:	Slick Mesa State 27	MD Reference:	KB @ 3734.00usft (McVay 10)
Well:	#2H	North Reference:	Grid
Wellbore:	WB1 / Job #1512712	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (McVay 10)	Database:	Compass 5000 GCR

Project	Lea County, NM (NAD27-NME)		
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		Slick Mesa State 27			
Site Position:		Northing:	525,967.90 usft	Latitude:	32° 26' 34.66155 N
From:	Map	Easting:	769,815.50 usft	Longitude:	103° 27' 31.42654 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.47 °

Well	#2H					
Well Position	+N/-S	0.00 usft	Northing:	526,333.90 usft	Latitude:	32° 26' 38.40693 N
	+E/-W	0.00 usft	Easting:	768,282.80 usft	Longitude:	103° 27' 49.27561 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	3,716.00 usft

Wellbore	WB1 / Job #1512712				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	2/7/2015	7.17	60.31	48,322

Design		Surveys: (McVay:10)			
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.00	0.00	0.00	359.51	

Survey Program		Date	2/23/2015		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.00	10,600.00	Scientific Gyro Surveys (WB1 / Job #1512	NS-GYRO-MS	North sensing gyrocompassing m/s	
10,682.00	15,554.00	Phoenix MWD Surveys (WB1 / Job #1512	PHX+MWD+IGRF	PHX+OWSG MWD + IGRF or WMM	

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)	
10,600.00	3.15	120.66	10,594.14	-56.53	182.02	-58.08	0.00	0.00	0.00	
Tie-in Scientific Gyros										
10,682.00	2.50	116.60	10,676.04	-58.48	185.56	-60.06	0.83	-0.79	-4.95	
First Phoenix Survey										
10,712.00	2.90	115.80	10,706.01	-59.10	186.83	-60.70	1.34	1.33	-2.67	
10,744.00	2.60	103.80	10,737.97	-59.63	188.26	-61.24	2.02	-0.94	-37.50	
10,776.00	1.80	57.20	10,769.95	-59.53	189.39	-61.15	5.90	-2.50	-145.63	
10,807.00	3.80	342.40	10,800.92	-58.29	189.49	-59.90	12.11	6.45	-241.29	
10,839.00	8.30	327.70	10,832.73	-55.32	187.93	-56.93	14.76	14.06	-45.94	

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well #2H
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	KB @ 3734.00usft (McVay 10)
Site:	Slick Mesa State 27	MD Reference:	KB @ 3734.00usft (McVay 10)
Well:	#2H	North Reference:	Grid
Wellbore:	WB1 / Job #1512712	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (McVay 10)	Database:	Compass 5000 GCR

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)
10,871.00	12.60	329.40	10,864.20	-50.36	184.92	-51.94	13.47	13.44	5.31
10,902.00	16.80	331.70	10,894.18	-43.50	181.07	-45.05	13.68	13.55	7.42
10,933.00	20.70	333.70	10,923.52	-34.64	176.52	-36.15	12.75	12.58	6.45
10,965.00	24.50	335.90	10,953.06	-23.51	171.30	-24.98	12.16	11.88	6.88
10,997.00	29.30	338.30	10,981.59	-10.17	165.69	-11.59	15.38	15.00	7.50
11,028.00	33.60	339.50	11,008.03	4.92	159.88	3.55	14.02	13.87	3.87
11,060.00	37.70	341.80	11,034.03	22.51	153.72	21.20	13.48	12.81	7.19
11,091.00	41.70	344.30	11,057.88	41.45	147.97	40.19	13.89	12.90	8.06
11,123.00	45.30	344.60	11,081.09	62.67	142.07	61.45	11.27	11.25	0.94
11,155.00	49.00	345.40	11,102.85	85.33	136.00	84.16	11.71	11.56	2.50
11,186.00	53.10	345.90	11,122.33	108.68	130.03	107.56	13.29	13.23	1.61
11,218.00	56.90	347.60	11,140.68	134.19	124.03	133.13	12.65	11.88	5.31
11,249.00	59.60	349.00	11,156.99	160.00	118.69	158.98	9.52	8.71	4.52
11,281.00	62.10	349.80	11,172.58	187.47	113.55	186.49	8.11	7.81	2.50
11,313.00	64.10	350.10	11,187.06	215.57	108.57	214.63	6.31	6.25	0.94
11,345.00	65.80	350.60	11,200.61	244.15	103.71	243.25	5.50	5.31	1.56
11,376.00	67.20	351.60	11,212.97	272.23	99.32	271.37	5.40	4.52	3.23
11,408.00	69.20	352.00	11,224.85	301.64	95.08	300.82	6.36	6.25	1.25
11,440.00	71.30	352.10	11,235.66	331.47	90.92	330.68	6.57	6.56	0.31
11,471.00	73.80	352.70	11,244.96	360.78	87.01	360.02	8.27	8.06	1.94
11,503.00	76.80	352.90	11,253.08	391.48	83.13	390.76	9.39	9.38	0.63
11,534.00	81.80	352.50	11,258.83	421.69	79.26	420.99	16.18	16.13	-1.29
11,566.00	87.40	352.10	11,261.84	453.24	74.99	452.59	17.54	17.50	-1.25
11,676.00	87.20	350.20	11,267.02	561.81	58.09	561.29	1.73	-0.18	-1.73
11,740.00	88.10	349.70	11,269.65	624.77	46.93	624.35	1.61	1.41	-0.78
11,836.00	87.50	349.20	11,273.33	719.08	29.36	718.80	0.81	-0.63	-0.52
11,932.00	90.90	351.50	11,274.67	813.69	13.28	813.55	4.28	3.54	2.40
12,028.00	91.40	349.80	11,272.75	908.39	-2.32	908.38	1.85	0.52	-1.77
12,124.00	91.30	348.20	11,270.49	1,002.60	-20.63	1,002.74	1.67	-0.10	-1.67
12,220.00	92.50	352.90	11,267.30	1,097.22	-36.38	1,097.49	5.05	1.25	4.90
12,315.00	92.80	357.00	11,262.91	1,191.73	-44.73	1,192.07	4.32	0.32	4.32
12,411.00	90.40	358.90	11,260.23	1,287.62	-48.16	1,287.98	3.19	-2.50	1.98
12,507.00	90.10	0.20	11,259.81	1,383.61	-48.92	1,383.98	1.39	-0.31	1.35
12,603.00	88.60	1.70	11,260.90	1,479.59	-47.32	1,479.94	2.21	-1.56	1.56
12,699.00	88.40	1.50	11,263.41	1,575.52	-44.64	1,575.84	0.29	-0.21	-0.21
12,795.00	86.90	359.70	11,267.35	1,671.42	-43.64	1,671.74	2.44	-1.56	-1.88
12,890.00	91.20	358.90	11,268.92	1,766.38	-44.80	1,766.70	4.60	4.53	-0.84
12,987.00	91.40	358.60	11,266.72	1,863.33	-46.92	1,863.67	0.37	0.21	-0.31
13,083.00	91.80	358.40	11,264.04	1,959.26	-49.43	1,959.61	0.47	0.42	-0.21
13,178.00	92.30	359.20	11,260.64	2,054.18	-51.42	2,054.54	0.99	0.53	0.84
13,274.00	92.10	0.50	11,256.96	2,150.11	-51.67	2,150.47	1.37	-0.21	1.35
13,370.00	93.50	0.70	11,252.27	2,245.98	-50.66	2,246.33	1.47	1.46	0.21
13,465.00	91.40	1.50	11,248.21	2,340.87	-48.84	2,341.21	2.37	-2.21	0.84

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well #2H
Project:	Lea County, NM (NAD27, NME)	TVD Reference:	KB @ 3734.00usft (McVay, 10)
Site:	Slick Mesa State 27	MD Reference:	KB @ 3734.00usft (McVay, 10)
Well:	#2H	North Reference:	Grid
Wellbore:	WB1 / Job #1512712	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (McVay, 10)	Database:	Compass 5000, GCR

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)
13,561.00	90.60	2.60	11,246.53	2,436.79	-45.41	2,437.09	1.42	-0.83	1.15
13,657.00	91.20	3.60	11,245.02	2,532.64	-40.22	2,532.89	1.21	0.63	1.04
13,753.00	92.10	6.00	11,242.26	2,628.26	-32.19	2,628.44	2.67	0.94	2.50
13,849.00	89.60	6.30	11,240.83	2,723.69	-21.90	2,723.77	2.62	-2.60	0.31
13,944.00	88.80	6.40	11,242.16	2,818.09	-11.40	2,818.09	0.85	-0.84	0.11
14,040.00	89.10	6.40	11,243.92	2,913.48	-0.70	2,913.38	0.31	0.31	0.00
14,136.00	89.40	5.90	11,245.18	3,008.92	9.58	3,008.73	0.61	0.31	-0.52
14,232.00	90.30	5.90	11,245.43	3,104.41	19.45	3,104.13	0.94	0.94	0.00
14,327.00	88.80	5.80	11,246.17	3,198.91	29.13	3,198.54	1.58	-1.58	-0.11
14,423.00	88.70	6.30	11,248.27	3,294.35	39.25	3,293.89	0.53	-0.10	0.52
14,519.00	89.40	5.80	11,249.86	3,389.80	49.37	3,389.25	0.90	0.73	-0.52
14,615.00	88.30	6.40	11,251.79	3,485.24	59.57	3,484.60	1.31	-1.15	0.63
14,710.00	89.50	5.70	11,253.61	3,579.69	69.58	3,578.96	1.46	1.26	-0.74
14,806.00	90.00	6.60	11,254.03	3,675.13	79.86	3,674.32	1.07	0.52	0.94
14,902.00	87.70	7.00	11,255.95	3,770.43	91.22	3,769.51	2.43	-2.40	0.42
14,998.00	88.20	6.90	11,259.39	3,865.66	102.83	3,864.64	0.53	0.52	-0.10
15,094.00	88.90	7.60	11,261.82	3,960.87	114.94	3,959.74	1.03	0.73	0.73
15,190.00	91.30	7.10	11,261.65	4,056.07	127.22	4,054.83	2.55	2.50	-0.52
15,286.00	89.50	7.10	11,260.98	4,151.33	139.09	4,149.99	1.88	-1.88	0.00
15,382.00	88.10	5.40	11,262.99	4,246.73	149.54	4,245.30	2.29	-1.46	-1.77
15,478.00	87.50	5.90	11,266.68	4,342.19	158.98	4,340.67	0.81	-0.63	0.52
Final Phoenix Survey									
15,554.00	87.50	5.90	11,269.99	4,417.72	166.79	4,416.13	0.00	0.00	0.00
Projection to TD									

Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
10,600.00	10,594.14	-56.53	182.02	Tie-in Scientific Gyros
10,682.00	10,676.04	-58.48	185.56	First Phoenix Survey
15,478.00	11,266.68	4,342.19	158.98	Final Phoenix Survey
15,554.00	11,269.99	4,417.72	166.79	Projection to TD

Checked By: _____ Approved By: _____ Date: _____