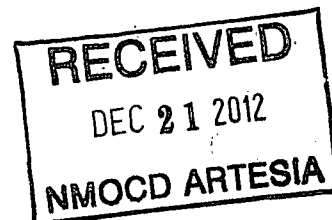


HOBBS OCD

DEC 19 2012

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MARSHALL & WINSTON

Dublin Ranch

Eddy County, NM

Dublin Federal 23 #1

VH - Job #32K0612776

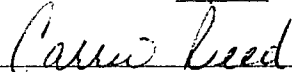
Survey: Gyro

SDI Standard Survey Report

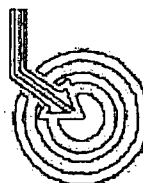
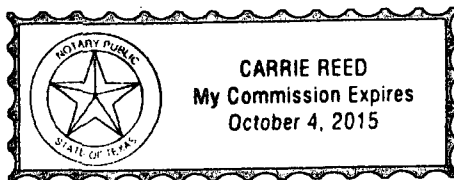
This survey is correct to the best of my knowledge and is supported by actual field data.



Notarized this date 19th of July, 2012.



Notary Signature
County of Midland
State of Texas



Scientific Drilling

Scientific Drilling International, Inc.
SDI Standard Survey Report



Company:	MARSHALL & WINSTON	Local Co-ordinate Reference:	Well Dublin Federal 23 #1
Project:	Dublin Ranch	TVD Reference:	WELL @ 0.00usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0.00usft (Original Well Elev)
Well:	Dublin Federal 23 #1	North Reference:	Grid
Wellbore:	VH - Job #32K0612776	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0612776	Database:	EDM-Regulatory

Project -		Dublin Ranch	
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:	499,160.47 usft	Latitude:	32° 22' 19.200 N
From:	Lat/Long	Easting:	585,931.84 usft	Longitude:	104° 3' 18.000 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.15 °

Well	Dublin Federal 23 #1, Vertical					
Well Position	+N/-S	0.00 usft	Northing:	499,160.47 usft	Latitude:	32° 22' 19.200 N
	+E/-W	0.00 usft	Easting:	585,931.84 usft	Longitude:	104° 3' 18.000 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	0.00 usft

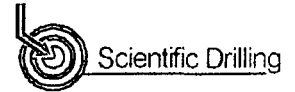
Wellbore						VH - Job #32K0612776									
Magnetics						Model Name		Sample Date		Declination		Dip Angle		Field Strength	
										(°)		(°)		(nT)	
						IGRF2010		06/23/12		7.70		60.22		48,575	

Design		VH - Job #32K0612776			
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	354.13	

Survey Program	Date	07/31/12
From	To	
(usft)	(usft)	
Survey (Wellbore)	Tool Name	Description
100.00	7,924.20 Gyro (VH - Job #32K0612776)	KSRG Keeper Gyro

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.76	335.47	100.00	0.60	-0.28	335.47	0.66
200.00	1.51	338.13	199.98	2.43	-1.04	336.80	2.64
300.00	2.04	325.98	299.93	5.13	-2.53	333.75	5.72
400.00	2.97	301.28	399.83	7.95	-5.74	324.17	9.80
500.00	2.93	296.49	499.70	10.43	-10.24	315.54	14.62
600.00	2.86	291.82	599.58	12.50	-14.84	310.10	19.41
700.00	2.64	290.80	699.46	14.25	-19.31	306.41	24.00
800.00	2.60	287.90	799.36	15.76	-23.62	303.71	28.40
900.00	2.45	288.79	899.26	17.15	-27.81	301.66	32.67
1,000.00	2.38	288.12	999.17	18.48	-31.80	300.16	36.78
1,100.00	2.34	289.46	1,099.08	19.81	-35.70	299.02	40.83

Scientific Drilling International, Inc.
SDI Standard Survey Report



Company:	MARSHALL & WINSTON	Local Co-ordinate Reference:	Well Dublin Federal 23 #1
Project:	Dublin Ranch	TVD Reference:	WELL @ 0.00usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0.00usft (Original Well Elev)
Well:	Dublin Federal 23 #1	North Reference:	Grid
Wellbore:	VH - Job #32K0612776	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0612776	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	2.19	290.83	1,199.01	21.17	-39.41	298.24	44.73
1,300.00	2.12	290.73	1,298.94	22.50	-42.93	297.66	48.47
1,400.00	1.92	288.87	1,398.87	23.70	-46.24	297.13	51.96
1,500.00	1.86	285.31	1,498.82	24.67	-49.39	296.54	55.21
1,600.00	1.72	284.51	1,598.77	25.47	-52.41	295.92	58.27
1,700.00	1.60	283.98	1,698.73	26.18	-55.22	295.37	61.11
1,800.00	1.04	285.58	1,798.70	26.77	-57.45	294.98	63.38
1,900.00	0.25	298.10	1,898.69	27.11	-58.51	294.86	64.49
2,000.00	0.31	113.04	1,998.69	27.11	-58.46	294.88	64.44
2,100.00	0.31	132.66	2,098.69	26.82	-58.01	294.81	63.91
2,200.00	0.63	113.73	2,198.69	26.42	-57.31	294.75	63.10
2,300.00	1.33	103.27	2,298.67	25.93	-55.67	294.97	61.42
2,400.00	1.81	102.87	2,398.64	25.31	-53.00	295.52	58.74
2,500.00	1.75	100.56	2,498.59	24.68	-49.96	296.29	55.73
2,600.00	1.71	99.11	2,598.54	24.16	-46.99	297.21	52.84
2,700.00	1.71	97.98	2,698.50	23.72	-44.04	298.31	50.02
2,800.00	1.52	96.16	2,798.46	23.37	-41.24	299.54	47.40
2,900.00	1.43	95.76	2,898.42	23.10	-38.68	300.85	45.06
3,000.00	1.48	95.10	2,998.39	22.86	-36.16	302.31	42.78
3,100.00	1.37	92.81	3,098.36	22.69	-33.67	303.97	40.60
3,200.00	1.32	90.20	3,198.33	22.63	-31.33	305.84	38.64
3,300.00	1.25	88.61	3,298.31	22.65	-29.09	307.91	36.86
3,400.00	1.24	89.00	3,398.29	22.69	-26.91	310.14	35.20
3,500.00	1.25	89.11	3,498.26	22.73	-24.74	312.57	33.60
3,600.00	1.01	87.49	3,598.24	22.78	-22.77	315.02	32.21
3,700.00	0.85	85.62	3,698.23	22.88	-21.15	317.25	31.16
3,800.00	0.80	87.86	3,798.22	22.96	-19.71	319.35	30.26
3,900.00	0.88	89.96	3,898.21	22.99	-18.25	321.56	29.35
4,000.00	0.83	87.75	3,998.20	23.02	-16.76	323.95	28.47
4,100.00	0.82	84.42	4,098.19	23.12	-15.32	326.46	27.73
4,200.00	0.76	84.62	4,198.18	23.25	-13.95	329.04	27.11
4,300.00	0.69	79.74	4,298.17	23.42	-12.70	331.54	26.64
4,400.00	0.65	76.90	4,398.16	23.65	-11.55	333.97	26.32
4,500.00	0.63	79.58	4,498.16	23.88	-10.46	336.35	26.07
4,600.00	0.65	79.63	4,598.15	24.08	-9.36	338.76	25.84
4,700.00	0.63	82.73	4,698.14	24.25	-8.26	341.20	25.62
4,800.00	0.65	80.18	4,798.14	24.42	-7.15	343.68	25.45
4,900.00	0.53	63.10	4,898.13	24.73	-6.18	345.97	25.49
5,000.00	0.65	69.68	4,998.13	25.13	-5.24	348.23	25.67
5,100.00	0.53	63.50	5,098.12	25.54	-4.29	350.46	25.89
5,200.00	0.48	69.84	5,198.12	25.89	-3.48	352.34	26.12
5,300.00	0.43	61.70	5,298.11	26.21	-2.76	353.99	26.35
5,400.00	0.42	59.20	5,398.11	26.57	-2.11	355.45	26.66
5,500.00	0.38	45.07	5,498.11	27.00	-1.56	356.68	27.04

Scientific Drilling International, Inc.
SDI Standard Survey Report



Company:	MARSHALL & WINSTON	Local Co-ordinate Reference:	Well Dublin Federal 23 #1
Project:	Dublin Ranch	TVD Reference:	WELL @ 0.00usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0.00usft (Original Well Elev)
Well:	Dublin Federal 23 #1	North Reference:	Grid
Wellbore:	VH - Job #32K0612776	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0612776	Database:	EDM-Regulatory

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
5,600.00	0.33	43.47	5,598.11	27.44	-1.13	357.64	27.46
5,700.00	0.47	55.01	5,698.10	27.88	-0.60	358.77	27.89
5,800.00	0.33	36.14	5,798.10	28.35	-0.09	359.82	28.35
5,900.00	0.27	44.92	5,898.10	28.75	0.25	0.49	28.75
6,000.00	0.36	33.58	5,998.10	29.18	0.59	1.15	29.19
6,100.00	0.30	34.58	6,098.10	29.66	0.91	1.75	29.67
6,200.00	0.35	39.63	6,198.10	30.11	1.25	2.38	30.13
6,300.00	0.41	28.11	6,298.09	30.66	1.61	3.01	30.70
6,400.00	0.69	14.76	6,398.09	31.56	1.94	3.51	31.62
6,500.00	0.71	16.78	6,498.08	32.73	2.27	3.97	32.81
6,600.00	0.73	17.95	6,598.07	33.93	2.64	4.46	34.03
6,700.00	0.71	7.67	6,698.07	35.15	2.92	4.75	35.27
6,800.00	0.77	15.34	6,798.06	36.41	3.18	5.00	36.55
6,900.00	0.81	21.14	6,898.05	37.72	3.62	5.48	37.89
7,000.00	0.58	2.34	6,998.04	38.89	3.89	5.72	39.08
7,100.00	0.55	315.49	7,098.04	39.73	3.58	5.14	39.89
7,200.00	0.60	301.27	7,198.03	40.35	2.79	3.96	40.44
7,300.00	0.54	278.53	7,298.03	40.69	1.88	2.64	40.73
7,400.00	0.50	245.38	7,398.02	40.58	1.02	1.43	40.59
7,500.00	0.55	239.59	7,498.02	40.15	0.21	0.29	40.15
7,600.00	0.59	243.91	7,598.01	39.68	-0.67	359.03	39.69
7,700.00	0.58	253.56	7,698.01	39.31	-1.62	357.64	39.35
7,800.00	0.55	249.91	7,798.00	39.01	-2.56	356.25	39.09
7,900.00	0.73	264.43	7,898.00	38.78	-3.64	354.64	38.95
7,924.20	1.11	298.26	7,922.19	38.87	-4.00	354.13	39.08



Scientific Drilling

Project: Dublin Ranch
Eddy County, NM
Well: Dublin Federal 23 #1
Wellbore: VH - Job #32K0612776
Design: VH - Job #32K0612776

WELL DETAILS: Dublin Federal 23 #1
WELL @ 0.00usft (Original Well Elev)

Ground Level:

0.00

+N/-S

+E/-W

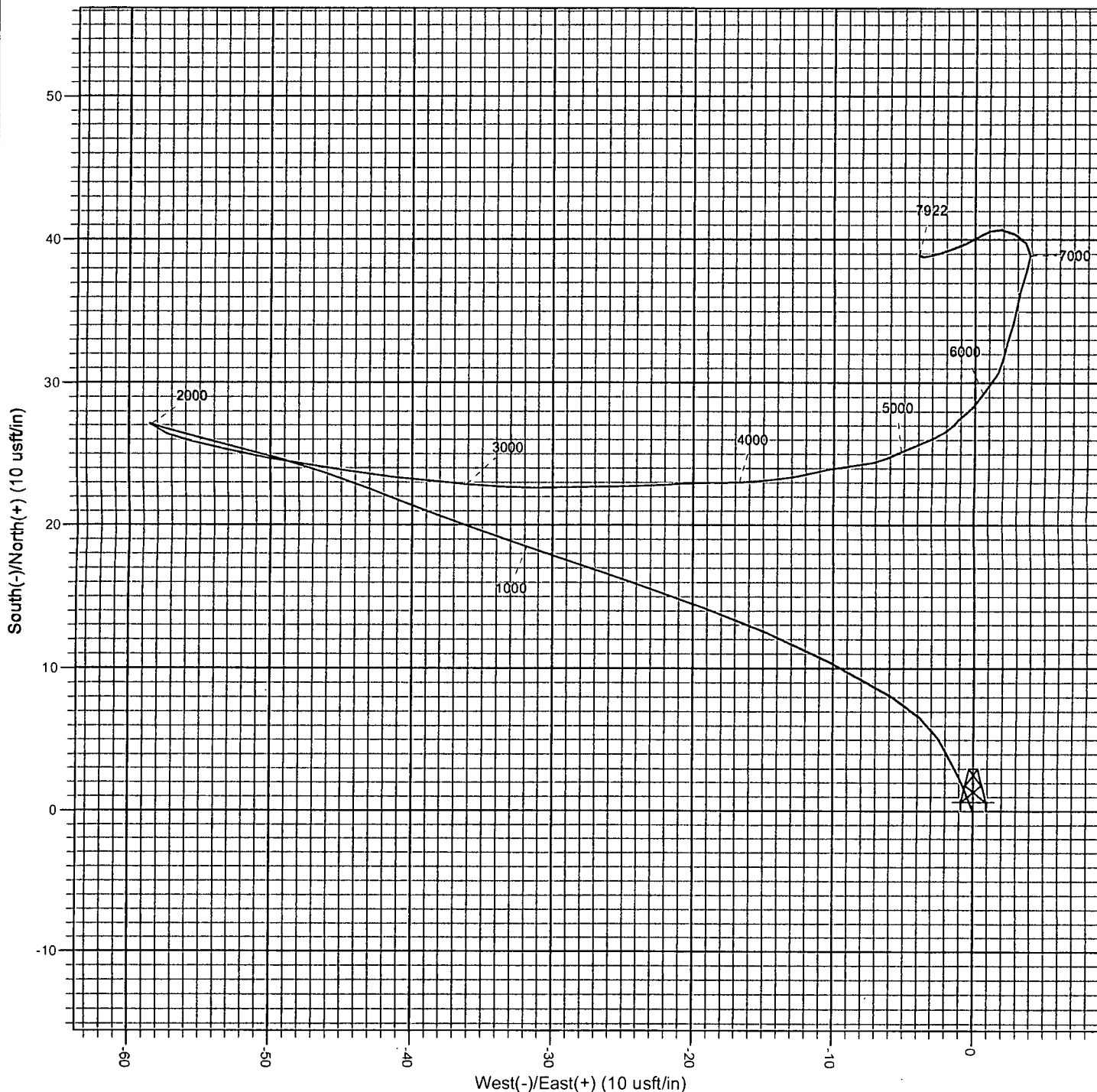
Northing

Eastings

Latitude

Longitude

Slot



PROJECT DETAILS: Dublin Ranch	SITE DETAILS: Eddy County, NM
Geodetic System: US State Plane 1927 (Exact solution)	Site Centre Latitude: 32° 22' 19.200 N
Datum: NAD 1927 (NADCON CONUS)	Longitude: 104° 3' 18.000 W
Ellipsoid: Clarke 1866	Positional Uncertainty: 0.00
Zone: New Mexico East 3001	Convergence: 0.15
System Datum: Mean Sea Level	Local North: Grid

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Marshall & Winston, Inc

Eddy County, NM
Sec 23, T22S R28E
Dublin Fed 23-1H

Wellbore #1

Survey: MWD

DDC Survey Report

09 July, 2012



Company:	Marshall & Winston, Inc	Local Co-ordinate Reference:	Well Dublin Fed 23-1H
Project:	Eddy County, NM	TVD Reference:	GL + 3161' - RKB 20' Est. @ 3181.0usft (TBD)
Site:	Sec 23, T22S R28E	MD Reference:	GL + 3161' - RKB 20' Est. @ 3181.0usft (TBD)
Well:	Dublin Fed 23-1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Project	Eddy County, NM		
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	Sec 23, T22S R28E		
Site Position:		Northing:	499,412.30 usft
From:	Map	Easting:	585,699.90 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 22' 21.698 N
		Longitude:	104° 3' 20.697 W
		Grid Convergence:	0.15 °

Well	Dublin Fed 23-1H		
Well Position	+N/-S	0.0 usft	Northing: 499,412.30 usft
	+E/-W	0.0 usft	Easting: 585,699.90 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 22' 21.698 N
		Longitude:	104° 3' 20.697 W
		Ground Level:	3,161.0 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
	IGRF2010	6/19/2012	(°)
			7.70
			Dip Angle (°)
			60.22
			Field Strength (nT)
			48,553

Design	Wellbore #1		
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 (°)
			1.23

Survey Program	Date 7/9/2012		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
100.0	7,924.2 Gyro (Wellbore #1)		Good_gyro
8,007.0	12,107.0 MWD (Wellbore #1)		MWD default
			Description
			Good Gyro
			MWD - Standard

Survey									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn
Depth	(°)	(°)	Depth	(usft)	(usft)	Section	Rate	Rate	Rate
(usft)			(usft)			(usft)	(°/100usft)	(°/100usft)	(°/100usft)
TIE IN @ 7924' MD / 7922' TVD									
7,924.2	1.11	298.26	7,922.2	38.9	-4.0	38.8	0.00	0.00	0.00
8,007.0	10.40	354.80	8,004.5	46.7	-5.4	46.6	11.87	11.22	68.29
8,039.0	13.80	352.70	8,035.8	53.4	-6.1	53.2	10.71	10.63	-6.56
8,071.0	16.40	353.90	8,066.7	61.7	-7.1	61.5	8.18	8.13	3.75
8,103.0	18.10	356.60	8,097.2	71.1	-7.9	70.9	5.87	5.31	8.44
8,134.0	20.70	359.70	8,126.5	81.4	-8.2	81.2	9.02	8.39	10.00
8,166.0	24.70	0.40	8,156.0	93.7	-8.2	93.6	12.53	12.50	2.19
8,197.0	29.10	358.80	8,183.6	107.8	-8.3	107.6	14.38	14.19	-5.16
8,229.0	32.20	359.20	8,211.2	124.1	-8.6	123.9	9.71	9.69	1.25

Company:	Marshall & Winston, Inc	Local Co-ordinate Reference:	Well Dublin Fed 23-1H
Project:	Eddy County, NM	TVD Reference:	GL + 3161' - RKB 20' Est. @ 3181.0usft (TBD)
Site:	Sec 23, T22S R28E	MD Reference:	GL + 3161' - RKB 20' Est. @ 3181.0usft (TBD)
Well:	Dublin Fed 23-1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	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)
8,261.0	35.70	358.60	8,237.7	141.9	-8.9	141.7	10.99	10.94	-1.88
8,292.0	39.00	358.30	8,262.3	160.7	-9.4	160.5	10.66	10.65	-0.97
8,324.0	41.20	358.40	8,286.8	181.3	-10.0	181.1	6.88	6.88	0.31
8,356.0	44.90	357.80	8,310.2	203.2	-10.7	202.9	11.63	11.56	-1.88
8,387.0	49.70	358.20	8,331.2	225.9	-11.5	225.6	15.51	15.48	1.29
8,419.0	55.30	359.80	8,350.7	251.3	-12.0	251.0	17.94	17.50	5.00
8,451.0	60.90	1.40	8,367.6	278.5	-11.7	278.1	18.01	17.50	5.00
8,483.0	65.30	2.30	8,382.1	307.0	-10.7	306.7	13.98	13.75	2.81
8,515.0	68.80	3.30	8,394.5	336.4	-9.3	336.1	11.31	10.94	3.13
8,546.0	72.20	4.40	8,404.9	365.5	-7.3	365.3	11.47	10.97	3.55
8,578.0	75.90	3.80	8,413.7	396.2	-5.1	396.0	11.70	11.56	-1.88
8,593.0	77.40	3.60	8,417.1	410.8	-4.2	410.6	10.08	10.00	-1.33
8,625.0	79.80	2.60	8,423.5	442.1	-2.5	442.0	8.10	7.50	-3.13
8,657.0	83.10	3.00	8,428.2	473.7	-1.0	473.6	10.39	10.31	1.25
8,689.0	85.80	3.30	8,431.3	505.5	0.8	505.4	8.49	8.44	0.94
8,720.0	88.20	2.40	8,432.9	536.4	2.3	536.4	8.27	7.74	-2.90
8,752.0	90.30	1.80	8,433.4	568.4	3.5	568.4	6.83	6.56	-1.88
8,784.0	91.40	2.60	8,432.9	600.4	4.7	600.3	4.25	3.44	2.50
8,816.0	89.80	2.50	8,432.6	632.3	6.2	632.3	5.01	-5.00	-0.31
8,848.0	88.60	0.70	8,433.0	664.3	7.0	664.3	6.76	-3.75	-5.63
8,879.0	88.60	359.60	8,433.8	695.3	7.1	695.3	3.55	0.00	-3.55
8,911.0	89.30	1.00	8,434.3	727.3	7.3	727.3	4.89	2.19	4.38
8,943.0	90.70	2.50	8,434.3	759.3	8.3	759.3	6.41	4.38	4.69
8,975.0	90.60	2.70	8,434.0	791.3	9.7	791.3	0.70	-0.31	0.63
9,006.0	89.90	1.40	8,433.8	822.2	10.8	822.3	4.76	-2.26	-4.19
9,038.0	89.50	0.20	8,434.0	854.2	11.3	854.3	3.95	-1.25	-3.75
9,069.0	89.60	0.50	8,434.3	885.2	11.5	885.3	1.02	0.32	0.97
9,101.0	90.20	0.50	8,434.3	917.2	11.8	917.3	1.88	1.88	0.00
9,133.0	89.90	1.20	8,434.3	949.2	12.2	949.3	2.38	-0.94	2.19
9,165.0	89.80	0.90	8,434.4	981.2	12.8	981.3	0.99	-0.31	-0.94
9,197.0	89.90	359.10	8,434.5	1,013.2	12.8	1,013.3	5.63	0.31	-5.63
9,228.0	89.90	359.90	8,434.5	1,044.2	12.5	1,044.2	2.58	0.00	2.58
9,260.0	90.60	359.20	8,434.4	1,076.2	12.3	1,076.2	3.09	2.19	-2.19
9,292.0	89.60	358.20	8,434.3	1,108.2	11.6	1,108.2	4.42	-3.13	-3.13
9,324.0	89.70	0.20	8,434.5	1,140.2	11.1	1,140.2	6.26	0.31	6.25
9,355.0	89.10	0.70	8,434.8	1,171.2	11.4	1,171.2	2.52	-1.94	1.61
9,387.0	88.80	0.30	8,435.4	1,203.2	11.6	1,203.2	1.56	-0.94	-1.25
9,419.0	88.50	358.30	8,436.2	1,235.2	11.2	1,235.1	6.32	-0.94	-6.25
9,450.0	89.60	359.40	8,436.7	1,266.2	10.6	1,266.1	5.02	3.55	3.55
9,482.0	89.80	0.20	8,436.9	1,298.2	10.5	1,298.1	2.58	0.63	2.50
9,513.0	89.70	1.90	8,437.0	1,329.2	11.1	1,329.1	5.49	-0.32	5.48
9,545.0	89.20	3.10	8,437.3	1,361.1	12.5	1,361.1	4.06	-1.56	3.75
9,576.0	89.60	2.20	8,437.6	1,392.1	13.9	1,392.1	3.18	1.29	-2.90

Company:	Marshall & Winston, Inc	Local Co-ordinate Reference:	Well Dublin Fed 23-1H
Project:	Eddy County, NM	TVD Reference:	GL + 3161' - RKB 20' Est. @ 3181.0usft (TBD)
Site:	Sec 23, T22S R28E	MD Reference:	GL + 3161' - RKB 20' Est. @ 3181.0usft (TBD)
Well:	Dublin Fed 23-1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	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)	
9,608.0	89.60	3.00	8,437.8	1,424.1	15.4	1,424.1	2.50	0.00	2.50	
9,640.0	90.10	1.70	8,437.9	1,456.0	16.7	1,456.1	4.35	1.56	-4.06	
9,672.0	90.60	3.40	8,437.7	1,488.0	18.1	1,488.0	5.54	1.56	5.31	
9,704.0	89.30	4.70	8,437.8	1,519.9	20.4	1,520.0	5.75	-4.06	4.06	
9,736.0	89.10	4.70	8,438.2	1,551.8	23.0	1,551.9	0.63	-0.63	0.00	
9,767.0	89.30	3.70	8,438.6	1,582.7	25.3	1,582.9	3.29	0.65	-3.23	
9,799.0	89.80	2.30	8,438.9	1,614.7	26.9	1,614.9	4.65	1.56	-4.38	
9,831.0	89.40	1.90	8,439.1	1,646.7	28.1	1,646.9	1.77	-1.25	-1.25	
9,863.0	89.10	1.90	8,439.5	1,678.6	29.2	1,678.9	0.94	-0.94	0.00	
9,895.0	88.90	1.70	8,440.1	1,710.6	30.2	1,710.9	0.88	-0.63	-0.63	
9,927.0	89.40	1.80	8,440.6	1,742.6	31.1	1,742.9	1.59	1.56	0.31	
9,959.0	90.10	1.10	8,440.7	1,774.6	32.0	1,774.9	3.09	2.19	-2.19	
9,991.0	90.20	1.20	8,440.6	1,806.6	32.6	1,806.9	0.44	0.31	0.31	
10,023.0	90.90	2.10	8,440.3	1,838.6	33.5	1,838.9	3.56	2.19	2.81	
10,054.0	91.50	3.00	8,439.7	1,869.5	34.9	1,869.8	3.49	1.94	2.90	
10,086.0	91.00	2.50	8,439.0	1,901.5	36.4	1,901.8	2.21	-1.56	-1.56	
10,118.0	90.80	3.80	8,438.5	1,933.4	38.2	1,933.8	4.11	-0.63	4.06	
10,150.0	90.90	3.90	8,438.0	1,965.3	40.3	1,965.8	0.44	0.31	0.31	
10,182.0	89.90	2.60	8,437.8	1,997.3	42.1	1,997.7	5.13	-3.13	-4.06	
10,214.0	89.40	2.10	8,438.0	2,029.3	43.5	2,029.7	2.21	-1.56	-1.56	
10,246.0	89.00	359.70	8,438.4	2,061.3	44.0	2,061.7	7.60	-1.25	-7.50	
10,277.0	88.50	0.30	8,439.1	2,092.3	44.0	2,092.7	2.52	-1.61	1.94	
10,309.0	88.80	0.20	8,439.8	2,124.2	44.1	2,124.7	0.99	0.94	-0.31	
10,341.0	89.10	0.10	8,440.4	2,156.2	44.2	2,156.7	0.99	0.94	-0.31	
10,373.0	89.00	0.40	8,441.0	2,188.2	44.3	2,188.7	0.99	-0.31	0.94	
10,404.0	89.60	359.50	8,441.3	2,219.2	44.3	2,219.7	3.49	1.94	-2.90	
10,436.0	89.60	359.70	8,441.6	2,251.2	44.1	2,251.7	0.62	0.00	0.63	
10,468.0	89.20	359.80	8,441.9	2,283.2	43.9	2,283.6	1.29	-1.25	0.31	
10,499.0	89.50	0.50	8,442.2	2,314.2	44.0	2,314.6	2.46	0.97	2.26	
10,531.0	89.50	0.60	8,442.5	2,346.2	44.3	2,346.6	0.31	0.00	0.31	
10,563.0	89.70	0.80	8,442.8	2,378.2	44.7	2,378.6	0.88	0.63	0.63	
10,595.0	89.80	1.70	8,442.9	2,410.2	45.4	2,410.6	2.83	0.31	2.81	
10,626.0	89.40	3.10	8,443.1	2,441.2	46.7	2,441.6	4.70	-1.29	4.52	
10,658.0	89.80	2.80	8,443.3	2,473.1	48.4	2,473.6	1.56	1.25	-0.94	
10,689.0	90.00	1.90	8,443.4	2,504.1	49.6	2,504.6	2.97	0.65	-2.90	
10,721.0	90.10	1.80	8,443.4	2,536.1	50.7	2,536.6	0.44	0.31	-0.31	
10,753.0	89.70	1.00	8,443.4	2,568.1	51.4	2,568.6	2.80	-1.25	-2.50	
10,785.0	90.10	1.60	8,443.5	2,600.1	52.2	2,600.6	2.25	1.25	1.88	
10,816.0	90.60	2.50	8,443.3	2,631.1	53.3	2,631.6	3.32	1.61	2.90	
10,848.0	90.00	1.60	8,443.1	2,663.0	54.4	2,663.6	3.38	-1.88	-2.81	
10,880.0	89.70	0.30	8,443.2	2,695.0	55.0	2,695.6	4.17	-0.94	-4.06	
10,912.0	89.60	1.40	8,443.4	2,727.0	55.4	2,727.6	3.45	-0.31	3.44	
10,944.0	90.20	0.50	8,443.4	2,759.0	56.0	2,759.6	3.38	1.88	-2.81	

Company:	Marshall & Winston, Inc	Local Co-ordinate Reference:	Well Dublin Fed 23-1H
Project:	Eddy County, NM	TVD Reference:	GL + 3161' - RKB 20' Est. @ 3181.0usft (TBD)
Site:	Sec 23, T22S R28E	MD Reference:	GL + 3161' - RKB 20' Est. @ 3181.0usft (TBD)
Well:	Dublin Fed 23-1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

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)
10,976.0	90.20	1.30	8,443.3	2,791.0	56.5	2,791.6	2.50	0.00	2.50
11,008.0	89.20	1.40	8,443.5	2,823.0	57.2	2,823.6	3.14	-3.13	0.31
11,039.0	88.90	1.60	8,444.0	2,854.0	58.0	2,854.6	1.16	-0.97	0.65
11,071.0	89.00	2.70	8,444.6	2,886.0	59.2	2,886.6	3.45	0.31	3.44
11,103.0	89.40	3.20	8,445.0	2,917.9	60.9	2,918.5	2.00	1.25	1.56
11,135.0	89.90	1.80	8,445.2	2,949.9	62.3	2,950.5	4.65	1.56	-4.38
11,166.0	89.90	0.50	8,445.3	2,980.9	62.9	2,981.5	4.19	0.00	-4.19
11,198.0	89.60	1.00	8,445.4	3,012.9	63.3	3,013.5	1.82	-0.94	1.56
11,230.0	90.40	0.40	8,445.4	3,044.9	63.7	3,045.5	3.12	2.50	-1.88
11,261.0	90.60	0.20	8,445.2	3,075.9	63.9	3,076.5	0.91	0.65	-0.65
11,293.0	89.40	0.70	8,445.2	3,107.9	64.1	3,108.5	4.06	-3.75	1.56
11,325.0	90.10	1.80	8,445.3	3,139.9	64.8	3,140.5	4.07	2.19	3.44
11,357.0	91.40	3.40	8,444.9	3,171.8	66.3	3,172.5	6.44	4.06	5.00
11,388.0	90.60	3.80	8,444.3	3,202.8	68.2	3,203.5	2.89	-2.58	1.29
11,420.0	90.20	2.50	8,444.1	3,234.7	70.0	3,235.5	4.25	-1.25	-4.06
11,452.0	89.70	2.40	8,444.2	3,266.7	71.3	3,267.5	1.59	-1.56	-0.31
11,483.0	90.20	1.60	8,444.2	3,297.7	72.4	3,298.5	3.04	1.61	-2.58
11,515.0	90.20	1.80	8,444.1	3,329.6	73.4	3,330.4	0.62	0.00	0.63
11,547.0	88.90	2.10	8,444.3	3,361.6	74.5	3,362.4	4.17	-4.06	0.94
11,579.0	89.00	2.00	8,444.9	3,393.6	75.6	3,394.4	0.44	0.31	-0.31
11,610.0	89.60	1.90	8,445.3	3,424.6	76.7	3,425.4	1.96	1.94	-0.32
11,642.0	90.10	0.50	8,445.4	3,456.6	77.3	3,457.4	4.65	1.56	-4.38
11,674.0	89.00	359.40	8,445.6	3,488.6	77.3	3,489.4	4.86	-3.44	-3.44
11,706.0	89.10	359.80	8,446.1	3,520.6	77.1	3,521.4	1.29	0.31	1.25
11,737.0	89.10	0.10	8,446.6	3,551.6	77.1	3,552.4	0.97	0.00	0.97
11,769.0	89.20	0.60	8,447.1	3,583.6	77.2	3,584.4	1.59	0.31	1.56
11,801.0	89.90	1.10	8,447.4	3,615.5	77.7	3,616.4	2.69	2.19	1.56
11,832.0	91.30	1.80	8,447.0	3,646.5	78.5	3,647.4	5.05	4.52	2.26
11,864.0	92.00	1.90	8,446.1	3,678.5	79.5	3,679.4	2.21	2.19	0.31
11,895.0	92.30	1.80	8,445.0	3,709.5	80.5	3,710.3	1.02	0.97	-0.32
11,927.0	90.80	1.90	8,444.1	3,741.4	81.6	3,742.3	4.70	-4.69	0.31
11,959.0	90.60	2.60	8,443.7	3,773.4	82.8	3,774.3	2.27	-0.63	2.19
11,991.0	89.40	2.20	8,443.7	3,805.4	84.2	3,806.3	3.95	-3.75	-1.25
12,022.0	88.70	2.30	8,444.2	3,836.4	85.4	3,837.3	2.28	-2.26	0.32
TD @ 12107' MD / 8446' TVD									
12,107.0	88.70	2.30	8,446.1	3,921.3	88.8	3,922.3	0.00	0.00	0.00

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
7,924.2	7,922.2	38.9	-4.0	TIE IN @ 7924' MD / 7922' TVD
12,107.0	8,446.1	3,921.3	88.8	TD @ 12107' MD / 8446' TVD

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Site:	Sec 23, T22S R28E	MD Reference:	GL + 3161' - RKB 20' Est. @ 3181.0usft (TBD)
Well:	Dublin Fed 23-1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Checked By: _____ Approved By: _____ Date: _____

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources

Form C-104
Revised August 1, 2011

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit one copy to appropriate District Office

☐ AMENDED REPORT

HOBBS OCD

DEC 19 2012

RECEIVED

I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT.

¹ Operator name and Address Marshall & Winston, Inc. P. O. Box 50880 Midland, TX 79710-0880		² OGRID Number 14187
⁴ API Number 30-0 15-34879		³ Reason for Filing Code/ Effective Date RC/09/12
⁵ Pool Name Culebra Bluff; Bone Spring South		⁶ Pool Code 15011
⁷ Property Code 35709	⁸ Property Name Dublin 23 Federal	⁹ Well Number 1H

II. ¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South Line	Feet from the	East/West line	County
O	23	22S	28E		660	South	1980	East	Eddy

¹¹ Bottom Hole Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	23	22S	28E		715.1	North	1891.3	East	Eddy
¹² Lse Code F	¹³ Producing Method Code P	¹⁴ Gas Connection Date	¹⁵ C-129 Permit Number	¹⁶ C-129 Effective Date	¹⁷ C-129 Expiration Date				

III. Oil and Gas Transporters

¹⁸ Transporter OGRID	¹⁹ Transporter Name and Address	²⁰ O/G/W
034053	Plains Marketing L.P. 10 Desta Drive Suite 200 East Midland, TX 79705	O
036785	DCP Midstream, LP 10 Desta Drive Suite 400-West Midland, TX 79705	G

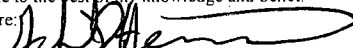
IV. Well Completion Data

²¹ Spud Date 07/07/06	²² Ready Date 08/17/12	²³ TD 12,107'	²⁴ PBDT 12,055'	²⁵ Perforations 8700-12040'	²⁶ DHC, MC
²⁷ Hole Size	²⁸ Casing & Tubing Size	²⁹ Depth Set	³⁰ Sacks Cement		
17 1/2"	13 3/8"	410'	440 sx		
12 1/4"	9 5/8"	2615'	800 sx		
8 3/4"	7"	9969'	1255 sx		
6 1/8"	4 1/2" 2 7/8"	12,107' 7873'	520 sx		

V. Well Test Data

³¹ Date New Oil 08/17/12	³² Gas Delivery Date	³³ Test Date 10/04/12	³⁴ Test Length 24 hrs.	³⁵ Tbg. Pressure 150#	³⁶ Csg. Pressure 30#
³⁷ Choke Size 137	³⁸ Oil	³⁹ Water 216	⁴⁰ Gas 315	⁴¹ Test Method Pumping	

⁴² I hereby certify that the rules of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief.

Signature: 

Printed name:
Gabe Herrera

Title:
Engineer

E-mail Address:
gherrera@mar-win.com

Date:
12/18/12

Phone:
432-684-6373

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date: