



PRODIRECTIONAL

Survey Certification Letter

September 07, 2016



Operator Name: Matador Resources
Well Name: Mallon 27 Federal No. 2H
County/Parish: Lea County,
State: NM
Rig Name: Patterson 809
Job Number: LNM5125816

This is to certify the surveys performed on the referenced well by Professional Directional Ent., Inc. are true and correct MWD Surveys, data provided as follows:

<u>Surveyor</u>	<u>Surveyed Depths</u>	<u>Projection to Bit</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
ProDirectional	141' MD – 5,551' MD	5,610' MD	08/18/16 – 08/24/16	MWD-OWSG

Sincerely,

Mike Coats
Well Planning
Professional Directional

850 Conroe Park West Drive | Conroe, TX 77303 | Phone: 936.441.7266

prodirectional.com



Matador Resources

Lea County, NM
Mallon 27 Federal
No. 2H
OH

Survey: ProDirectional

Survey Report

07 September, 2016





ProDirectional
Survey Report



Company: Matador Resources	Local Co-ordinate Reference: Well No. 2H
Project: Lea County, NM	TVD Reference: Well @ 3742.50usft (GL: 3714' + KB: 28.5' (Patt809))
Site: Mallon 27 Federal	MD Reference: Well @ 3742.50usft (GL: 3714' + KB: 28.5' (Patt809))
Well: No. 2H	North Reference: Grid
Wellbore: OH	Survey Calculation Method: Minimum Curvature
Design: MWD	Database: Well_Planner1

Project Lea 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 Mallon 27 Federal		
Site Position:	Northing: 591,992.00 usft	Latitude: 32° 37' 29.971 N
From: Map	Easting: 743,820.00 usft	Longitude: 103° 32' 29.024 W
Position Uncertainty: 3.30 usft	Slot Radius: 13-3/16 "	Grid Convergence: 0.43 °

Well No. 2H		
Well Position +N/-S 0.00 usft	Northing: 591,978.00 usft	Latitude: 32° 37' 29.929 N
+E/-W 0.00 usft	Easting: 742,512.00 usft	Longitude: 103° 32' 44.318 W
Position Uncertainty 1.10 usft	Wellhead Elevation: 0.00 usft	Ground Level: 3,714.00 usft

Wellbore OH					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	8/10/2016	6.80	60.67	48,428

Design MWD				
Audit Notes:				
Version: 1.0	Phase: ACTUAL	Tie On Depth: 0.00		
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	0.11

Survey Program Date 9/7/2016				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
141.00	5,610.00	Survey #1 (OH)	MWD - OWSG	MWD - OWSG



ProDirectional
Survey Report



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 Design: MWD

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 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: Well_Planner1

Survey

MD (usft)	Inc (")	Azi (azimuth) (")	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (")	Northing (usft)	Easting (usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	591,978.00	742,512.00
141.00	1.30	184.10	140.99	-1.60	-1.60	-0.11	1.60	184.10	591,976.40	742,511.89
Pro MWD First Survey: 141' MD										
203.00	1.80	190.80	202.97	-3.25	-3.25	-0.35	3.27	186.09	591,974.75	742,511.65
269.00	1.90	203.70	268.93	-5.28	-5.27	-0.98	5.36	190.54	591,972.73	742,511.02
334.00	1.40	203.60	333.90	-6.99	-6.99	-1.73	7.20	193.92	591,971.01	742,510.27
395.00	1.20	170.90	394.89	-8.31	-8.30	-1.93	8.52	193.08	591,969.70	742,510.07
455.00	0.50	128.40	454.88	-9.09	-9.08	-1.62	9.23	190.14	591,968.92	742,510.38
521.00	0.70	142.80	520.88	-9.59	-9.58	-1.16	9.65	186.87	591,968.42	742,510.84
584.00	0.30	83.70	583.88	-9.87	-9.87	-0.76	9.90	184.40	591,968.13	742,511.24
679.00	0.50	114.20	678.87	-10.02	-10.02	-0.13	10.02	180.76	591,967.98	742,511.87
773.00	0.30	131.50	772.87	-10.35	-10.35	0.42	10.36	177.65	591,967.65	742,512.42
866.00	0.20	268.90	865.87	-10.51	-10.51	0.44	10.52	177.58	591,967.49	742,512.44
960.00	0.50	184.20	959.87	-10.92	-10.92	0.25	10.93	178.68	591,967.08	742,512.25
1,054.00	0.30	125.80	1,053.87	-11.48	-11.48	0.42	11.48	177.90	591,966.52	742,512.42
1,148.00	0.10	73.40	1,147.87	-11.60	-11.60	0.70	11.62	176.55	591,966.40	742,512.70
1,242.00	0.40	215.10	1,241.87	-11.84	-11.84	0.59	11.86	177.15	591,966.16	742,512.59
1,335.00	0.20	65.80	1,334.87	-12.04	-12.04	0.55	12.05	177.39	591,965.96	742,512.55
1,429.00	0.30	349.00	1,428.87	-11.73	-11.73	0.65	11.75	176.82	591,966.27	742,512.65
1,522.00	0.40	291.30	1,521.86	-11.37	-11.38	0.30	11.38	178.47	591,966.62	742,512.30
1,616.00	0.50	247.50	1,615.86	-11.41	-11.41	-0.38	11.42	181.91	591,966.59	742,511.62
1,711.00	0.60	275.90	1,710.86	-11.52	-11.52	-1.26	11.59	186.24	591,966.48	742,510.74
1,789.00	0.50	306.60	1,788.85	-11.28	-11.28	-1.94	11.44	189.75	591,966.72	742,510.06
1,899.00	0.30	283.70	1,898.85	-10.93	-10.92	-2.60	11.23	193.41	591,967.08	742,509.40
1,992.00	0.20	348.20	1,991.85	-10.71	-10.70	-2.87	11.08	195.02	591,967.30	742,509.13
2,086.00	0.20	342.10	2,085.85	-10.39	-10.39	-2.96	10.80	195.89	591,967.61	742,509.04
2,180.00	0.20	329.60	2,179.85	-10.10	-10.09	-3.09	10.55	197.03	591,967.91	742,508.91



ProDirectional
Survey Report



Company: Matador Resources
Project: Lea County, NM
Site: Mallon 27 Federal
Well: No. 2H
Wellbore: OH
Design: MWD

Local Co-ordinate Reference: Well No. 2H
TVD Reference: Well @ 3742.50usft (GL: 3714' + KB: 28.5' (Patt809))
MD Reference: Well @ 3742.50usft (GL: 3714' + KB: 28.5' (Patt809))
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Well_Planner1

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)	
2,273.00	0.80	180.60	2,272.85	-10.61	-10.60	-3.18	11.07	196.70	591,967.40	742,508.82	
2,367.00	3.00	168.40	2,366.79	-13.67	-13.67	-2.69	13.93	191.14	591,964.33	742,509.31	
2,461.00	5.10	171.40	2,460.55	-20.21	-20.21	-1.57	20.27	184.45	591,957.79	742,510.43	
2,555.00	5.60	171.50	2,554.14	-28.87	-28.87	-0.27	28.88	180.53	591,949.13	742,511.73	
2,648.00	5.10	172.10	2,646.73	-37.45	-37.46	0.97	37.47	178.52	591,940.54	742,512.97	
2,742.00	4.80	171.60	2,740.38	-45.48	-45.49	2.12	45.53	177.33	591,932.51	742,514.12	
2,836.00	4.40	169.00	2,834.08	-52.91	-52.92	3.38	53.02	176.34	591,925.08	742,515.38	
2,929.00	3.90	162.50	2,926.84	-59.42	-59.43	5.01	59.64	175.18	591,918.57	742,517.01	
3,023.00	3.90	156.10	3,020.62	-65.39	-65.41	7.27	65.81	173.66	591,912.59	742,519.27	
3,117.00	5.80	155.60	3,114.28	-72.63	-72.65	10.53	73.41	171.76	591,905.35	742,522.53	
3,210.00	5.40	155.70	3,206.84	-80.89	-80.92	14.27	82.17	170.00	591,897.08	742,526.27	
3,305.00	5.10	161.70	3,301.44	-88.97	-89.00	17.43	90.70	168.92	591,889.00	742,529.43	
3,400.00	4.80	153.00	3,396.08	-96.52	-96.56	20.56	98.72	167.98	591,881.44	742,532.56	
3,495.00	5.60	169.20	3,490.70	-104.61	-104.65	23.24	107.20	167.48	591,873.35	742,535.24	
3,591.00	4.50	168.50	3,586.32	-112.89	-112.94	24.87	115.65	167.58	591,865.06	742,536.87	
3,686.00	3.70	167.40	3,681.08	-119.54	-119.59	26.28	122.44	167.61	591,858.41	742,538.28	
3,780.00	4.30	166.50	3,774.85	-125.92	-125.97	27.76	129.00	167.57	591,852.03	742,539.76	
3,876.00	5.20	167.00	3,870.52	-133.65	-133.71	29.58	136.94	167.53	591,844.29	742,541.58	
3,970.00	4.40	169.20	3,964.19	-141.34	-141.40	31.21	144.81	167.55	591,836.60	742,543.21	
4,066.00	5.30	173.60	4,059.84	-149.36	-149.43	32.40	152.90	167.77	591,828.57	742,544.40	
4,161.00	7.10	177.60	4,154.29	-159.59	-159.65	33.13	163.06	168.28	591,818.35	742,545.13	
4,254.00	6.90	179.40	4,246.59	-170.92	-170.98	33.43	174.22	168.94	591,807.02	742,545.43	
4,348.00	6.70	180.30	4,339.93	-182.05	-182.11	33.46	185.16	169.59	591,795.89	742,545.46	
4,441.00	6.50	180.60	4,432.31	-192.74	-192.80	33.38	195.67	170.18	591,785.20	742,545.38	
4,535.00	6.20	182.20	4,525.74	-203.13	-203.19	33.13	205.88	170.74	591,774.81	742,545.13	
4,629.00	6.00	182.60	4,619.21	-213.11	-213.17	32.71	215.67	171.28	591,764.83	742,544.71	
4,722.00	5.70	183.50	4,711.72	-222.58	-222.64	32.21	224.96	171.77	591,755.36	742,544.21	



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4,816.00	5.00	171.10	4,805.31	-231.28	-231.35	32.56	233.63	171.99	591,746.65	742,544.56
4,910.00	5.20	164.40	4,898.94	-239.43	-239.50	34.34	241.94	171.84	591,738.50	742,546.34
5,004.00	5.10	172.00	4,992.56	-247.67	-247.74	36.06	250.35	171.72	591,730.26	742,548.06
5,098.00	4.80	173.10	5,086.21	-255.71	-255.78	37.12	258.46	171.74	591,722.22	742,549.12
5,191.00	4.30	175.20	5,178.92	-263.04	-263.11	37.88	265.83	171.81	591,714.89	742,549.88
5,285.00	4.40	172.60	5,272.65	-270.13	-270.20	38.64	272.95	171.86	591,707.80	742,550.64
5,378.00	4.00	173.50	5,365.40	-276.89	-276.96	39.46	279.76	171.89	591,701.04	742,551.46
5,472.00	4.10	173.60	5,459.17	-283.48	-283.56	40.21	286.40	171.93	591,694.44	742,552.21
5,551.00	4.60	167.00	5,537.94	-289.37	-289.45	41.24	292.38	171.89	591,688.55	742,553.24
Last Survey: 5551' MD, 5537.94' TVD										
5,610.00	4.60	167.00	5,596.75	-293.98	-294.06	42.30	297.09	171.81	591,683.94	742,554.30
PTB: 5610' MD, 5596.75' TVD										

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
141.00	140.99	-1.60	-0.11	Pro MWD First Survey: 141' MD
5,551.00	5,537.94	-289.45	41.24	Last Survey: 5551' MD, 5537.94' TVD
5,610.00	5,596.75	-294.06	42.30	PTB: 5610' MD, 5596.75' TVD



CONFIDENTIAL



**HOBBS OGD
JAN 30 2017
RECEIVED**

Mallon 27 Federal No. 2H

Lea County, NM

September 07, 2016

Job No. LNM5125816

Survey Completion Report

Comments	MWD	Incl	Azim GHD	DLS	TR	BR	VSC	NS	EM	Closure	Closure	TF
7746.00	12.27	62.43	7731.19	0.28	-0.37	-0.28	-356.40	-356.52	64.23	362.25	169.79	51.75M
7500.00	12.27	51.75	7525.17	0.25	-1.36	0.00	-355.26	-355.38	65.87	361.46	169.48	27.11M
7300.00	12.27	27.41	7318.15	0.25	-2.11	-0.20	-353.85	-353.97	67.19	360.30	169.25	21.69M
7000.00	12.27	1.08	7012.13	0.14	-6.09	-0.07	-352.18	-352.31	67.94	359.80	169.00	20.52M
6800.00	12.27	1.08	6806.08	0.08	-1.26	-0.09	-350.50	-350.63	68.69	357.28	168.93	12.05M
6600.00	12.27	1.11	6600.00	0.08	-9.11	-0.16	-348.87	-349.00	69.08	355.11	168.80	9.05M
6400.00	12.27	1.52	6400.00	0.28	2.67	0.05	-346.87	-347.00	69.08	353.98	168.69	28.19M
6200.00	12.27	1.16	6200.00	0.08	-3.18	-0.16	-345.07	-345.20	69.08	352.84	168.69	24.77M
6000.00	12.27	1.08	6000.00	0.08	-2.67	-0.16	-343.18	-343.31	71.13	350.16	168.11	13.42M
5800.00	12.27	1.16	5800.00	0.08	-4.22	-0.16	-341.52	-341.65	71.13	348.47	168.29	27.15M
5600.00	12.27	1.16	5600.00	0.08	-2.74	-0.16	-339.57	-339.70	72.65	346.77	168.11	23.42M
5400.00	12.27	1.16	5400.00	0.08	-14.45	-0.33	-337.37	-337.50	72.65	345.07	167.75	37.8M
5200.00	12.27	1.16	5200.00	0.08	-14.45	-0.33	-335.37	-335.50	72.65	343.34	167.52	30.85M
5000.00	12.27	1.16	5000.00	0.08	-15.30	-0.33	-333.97	-334.10	72.65	341.64	167.29	26.77M
4800.00	12.27	1.16	4800.00	0.08	-7.46	-0.41	-332.87	-333.00	74.76	339.34	167.42	20.44M
4600.00	12.27	1.16	4600.00	0.08	-4.40	-0.41	-331.16	-331.29	75.81	337.58	167.94	5.85M
4400.00	12.27	1.16	4400.00	0.08	-17.59	-0.41	-330.43	-330.56	75.81	335.83	167.94	7.6M
4200.00	12.27	1.16	4200.00	0.08	-4.72	-0.41	-329.38	-329.51	77.01	334.17	168.00	244.79M
4000.00	12.27	1.16	4000.00	0.08	1.90	-0.41	-328.40	-328.53	77.01	332.42	168.00	219.24M
3800.00	12.27	1.16	3800.00	0.08	0.92	-0.41	-327.70	-327.83	78.02	330.77	168.00	206.46M
3600.00	12.27	1.16	3600.00	0.08	-13.56	-0.41	-327.10	-327.23	78.02	329.12	168.00	207.32M
3400.00	12.27	1.16	3400.00	0.08	0.92	-0.41	-326.40	-326.53	79.03	327.47	168.00	206.46M
3200.00	12.27	1.16	3200.00	0.08	0.92	-0.41	-325.70	-325.83	79.03	325.82	168.00	206.46M
3000.00	12.27	1.16	3000.00	0.08	-130.66	-0.41	-325.10	-325.23	80.04	324.17	168.00	219.24M
2800.00	12.27	1.16	2800.00	0.08	2.87	-0.41	-324.50	-324.63	80.04	322.52	168.00	219.24M
2600.00	12.27	1.16	2600.00	0.08	0.92	-0.41	-323.80	-323.93	81.05	320.87	168.00	206.46M
2400.00	12.27	1.16	2400.00	0.08	1.90	-0.41	-323.10	-323.23	81.05	319.22	168.00	206.46M
2200.00	12.27	1.16	2200.00	0.08	0.92	-0.41	-322.40	-322.53	82.06	317.57	168.00	206.46M
2000.00	12.27	1.16	2000.00	0.08	0.92	-0.41	-321.70	-321.83	83.07	315.92	168.00	206.46M
1800.00	12.27	1.16	1800.00	0.08	0.92	-0.41	-321.00	-321.13	84.08	314.27	168.00	206.46M
1600.00	12.27	1.16	1600.00	0.08	0.92	-0.41	-320.30	-320.43	85.09	312.62	168.00	206.46M
1400.00	12.27	1.16	1400.00	0.08	0.92	-0.41	-319.60	-319.73	86.10	310.97	168.00	206.46M
1200.00	12.27	1.16	1200.00	0.08	0.92	-0.41	-318.90	-319.03	87.11	309.32	168.00	206.46M
1000.00	12.27	1.16	1000.00	0.08	0.92	-0.41	-318.20	-318.33	88.12	307.67	168.00	206.46M
800.00	12.27	1.16	800.00	0.08	0.92	-0.41	-317.50	-317.63	89.13	306.02	168.00	206.46M
600.00	12.27	1.16	600.00	0.08	0.92	-0.41	-316.80	-316.93	90.14	304.37	168.00	206.46M
400.00	12.27	1.16	400.00	0.08	0.92	-0.41	-316.10	-316.23	91.15	302.72	168.00	206.46M
200.00	12.27	1.16	200.00	0.08	0.92	-0.41	-315.40	-315.53	92.16	301.07	168.00	206.46M
0.00	12.27	1.16	0.00	0.08	0.92	-0.41	-314.70	-314.83	93.17	299.42	168.00	206.46M

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	DLS (°/100ft)	TR (°/100ft)	BR (°/100ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	TF (°)
	17337.00	93.30	358.51	10807.46	1.38	-0.17	1.37	6353.93	6353.78	79.83	6354.29	0.72	151.06R
	17431.00	91.89	359.29	10803.20	1.71	0.83	-1.50	6447.81	6447.67	78.03	6448.14	0.69	141.98R
	17525.00	90.79	0.15	10801.00	1.49	0.91	-1.17	6541.77	6541.64	77.57	6542.10	0.68	9.82R
	17618.00	92.06	0.37	10798.69	1.39	0.24	1.37	6634.74	6634.61	77.99	6635.06	0.67	98.37R
	17711.00	91.79	2.20	10795.57	1.99	1.97	-0.29	6727.67	6727.53	80.08	6728.00	0.68	21.43R
	17895.00	93.24	2.77	10787.49	0.85	0.31	0.79	6911.33	6911.17	88.05	6911.73	0.73	14.94R
	17990.00	94.10	3.00	10781.41	0.94	0.24	0.91	7006.02	7005.85	92.82	7006.47	0.76	1.46R
	18086.00	94.88	3.02	10773.90	0.81	0.02	0.81	7101.60	7101.43	97.84	7102.10	0.79	6.47R
	18236.00	96.37	3.19	10759.19	1.00	0.11	0.99	7250.67	7250.48	105.93	7251.26	0.84	HS
Proj TD VS	18297.00	96.37	3.19	10752.43	0.00	0.00	0.00	7311.21	7311.01	109.30	7311.83	0.86	

Survey Type: Non-Def Survey