



RECEIVED

APR 26 2019

DISTRICT II-ARTESIA O.C.D.



Sapphire State No. 1

Eddy County, NM

30-015-45609

February 22, 2019

Job No. LNM5198219

ORIGINAL

Certified Report



PRODIRECTIONAL

Survey Certification Letter

February 22, 2019



Operator Name: Matador Resources
Well Name: Sapphire State No. 1
County/Parish: Eddy County,
State: NM
Rig Name: Patterson 274
Job Number: LNM5198219

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	156' MD – 6,484 MD	6,546' MD	01/22/19 – 01/27/19	MWD-OWSG

Sincerely,

Mike Coats
Regulatory Specialist
Professional Directional

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

prodirectional.com

The Standard of Excellence in Directional Supervision



Matador Resources

Eddy County, NM

Sapphire State

No. 1

OH

Survey: ProDirectional

Survey Report

22 February, 2019

RECEIVED

APR 26 2019

DISTRICT II-ARTESIA O.C.D.



PRODIRECTIONAL



ProDirectional Survey Report



Company:	Matador Resources	Local Co-ordinate Reference:	Well No. 1
Project:	Eddy County, NM (NAD 83)	TVD Reference:	Well @ 2936.50usft
Site:	Sapphire State	MD Reference:	Well @ 2936.50usft
Well:	No. 1	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	MWD-156-6484', PTB: 6546'	Database:	WellPlanner.1

Project: Eddy County, NM (NAD 83)			
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site		Sapphire State			
Site Position:		Northing:		384,983.00 usft	
From:	Map	Easting:		639,454.00 usft	
Position Uncertainty:		Slot Radius:		Grid Convergence:	
0.00 usft		13-3/16 "		32.058002	
				-104.016617	
				0.17 °	

Well	No. 1					
Well Position	+N-S	0.00 usft	Northing:	384,983.00 usft	Latitude:	32.058002
	+E-W	0.00 usft	Easting:	639,454.00 usft	Longitude:	-104.016617
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft	Ground Level:	2,908.00 usft	

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	HDGM	1/17/2019	6.95	59.73	47,870.90

Design:		MWD-156-6484', PTB: 6546'			
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	87.22

Survey Program	Date	2/22/2019
From	To	
(usft)	(usft)	
Survey (Wellbore)	Tool Name	Description
156.00	6,546.00 Survey #1 (OH)	MWD+HDGM OWSG MWD + HRGM



ProDirectional Survey Report



Company:	Matador Resources	Local Co-ordinate Reference:	Well No. 1
Project:	Eddy County, NM (NAD 83)	TVD Reference:	Well @ 2936.50usft
Site:	Sapphire State	MD Reference:	Well @ 2936.50usft
Well:	No. 1	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	MWD-156-6484 PTB 6546	Database:	WellPlanner1

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	384,983.00	639,454.00	
156.00	0.30	0.90	156.00	0.03	0.41	0.01	0.41	0.90	384,983.41	639,454.01	
Pro MWD First Survey: 156' MD											
247.00	0.20	349.00	247.00	0.02	0.80	-0.02	0.80	358.56	384,983.80	639,453.98	
351.00	1.90	80.90	350.98	1.71	1.25	1.65	2.07	52.74	384,984.25	639,455.65	
431.00	2.50	97.30	430.92	4.74	1.24	4.69	4.85	75.17	384,984.24	639,458.69	
522.00	2.50	92.40	521.83	8.67	0.91	8.64	8.69	84.01	384,983.91	639,462.64	
612.00	4.60	90.40	611.66	14.23	0.80	14.21	14.23	86.78	384,983.80	639,468.21	
704.00	5.80	92.90	703.28	22.54	0.54	22.54	22.55	88.63	384,983.54	639,476.54	
795.00	8.10	86.00	793.60	33.53	0.75	33.53	33.54	88.71	384,983.75	639,487.53	
890.00	9.30	84.50	887.51	47.89	1.96	47.85	47.89	87.66	384,984.96	639,501.85	
985.00	11.30	85.30	980.97	64.86	3.45	64.77	64.86	86.95	384,986.45	639,518.77	
1,080.00	11.60	86.40	1,074.08	83.71	4.82	83.58	83.72	86.70	384,987.82	639,537.58	
1,175.00	10.70	86.20	1,167.29	102.08	6.00	101.91	102.09	86.63	384,989.00	639,555.91	
1,270.00	12.50	86.70	1,260.34	121.18	7.18	120.97	121.19	86.61	384,990.18	639,574.97	
1,365.00	13.20	89.20	1,352.96	142.30	7.92	142.08	142.30	86.81	384,990.92	639,596.08	
1,459.00	13.80	91.00	1,444.37	164.21	7.87	164.03	164.21	87.25	384,990.87	639,618.03	
1,555.00	13.20	91.40	1,537.71	186.57	7.41	186.43	186.58	87.73	384,990.41	639,640.43	
1,650.00	15.00	88.30	1,629.85	209.68	7.51	209.57	209.70	87.95	384,990.51	639,663.57	
1,745.00	14.70	86.80	1,721.68	234.03	8.54	233.89	234.04	87.91	384,991.54	639,687.89	
1,840.00	13.40	86.50	1,813.83	257.09	9.89	256.91	257.10	87.80	384,992.89	639,710.91	
1,935.00	14.60	85.40	1,906.01	280.06	11.52	279.83	280.07	87.64	384,994.52	639,733.83	
2,030.00	13.80	85.70	1,998.11	303.36	13.33	303.07	303.36	87.48	384,996.33	639,757.07	
2,125.00	15.80	86.00	2,089.95	327.62	15.08	327.27	327.62	87.36	384,998.08	639,781.27	
2,220.00	16.60	85.90	2,181.18	354.11	16.96	353.71	354.11	87.26	384,999.96	639,807.71	
2,316.00	15.50	84.60	2,273.43	380.64	19.14	380.16	380.64	87.12	385,002.14	639,834.16	
2,411.00	15.60	86.50	2,364.96	406.09	21.12	405.55	406.09	87.02	385,004.12	639,859.55	



ProDirectional Survey Report



Company:	Matador Resources	Local Co-ordinate Reference:	Well No. 1
Project:	Eddy County, NM (NAD 83)	TVD Reference:	Well @ 2936.50usft
Site:	Sapphire State	MD Reference:	Well @ 2936.50usft
Well:	No. 1	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	MWD-156-6484 PTB 6546	Database:	WellPlanner1

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)	
2,506.00	15.60	88.20	2,456.46	431.64	22.30	431.06	431.64	87.04	385,005.30	639,885.06	
2,601.00	16.00	88.90	2,547.87	457.50	22.95	456.92	457.50	87.12	385,005.95	639,910.92	
2,696.00	15.30	89.40	2,639.35	483.11	23.33	482.54	483.11	87.23	385,006.33	639,936.54	
2,747.00	14.60	90.50	2,688.62	496.25	23.35	495.70	496.25	87.30	385,006.35	639,949.70	
2,870.00	13.00	91.10	2,808.07	525.53	22.95	525.04	525.54	87.50	385,005.95	639,979.04	
2,966.00	12.60	88.90	2,901.68	546.77	22.94	546.30	546.78	87.60	385,005.94	640,000.30	
3,061.00	12.20	89.80	2,994.46	567.16	23.17	566.70	567.17	87.66	385,006.17	640,020.70	
3,157.00	12.00	89.10	3,088.33	587.26	23.37	586.82	587.29	87.72	385,006.37	640,040.82	
3,251.00	11.80	88.30	3,180.31	606.64	23.81	606.20	606.67	87.75	385,006.81	640,060.20	
3,347.00	10.50	88.70	3,274.50	625.20	24.30	624.76	625.23	87.77	385,007.30	640,078.76	
3,442.00	9.90	83.80	3,368.00	642.01	25.37	641.53	642.03	87.74	385,008.37	640,095.53	
3,537.00	9.50	87.70	3,461.64	658.00	26.57	657.48	658.02	87.69	385,009.57	640,111.48	
3,632.00	9.00	88.00	3,555.40	673.27	27.14	672.74	673.29	87.69	385,010.14	640,126.74	
3,728.00	8.60	85.70	3,650.27	687.95	27.94	687.40	687.97	87.67	385,010.94	640,141.40	
3,823.00	8.20	85.60	3,744.25	701.82	29.00	701.24	701.84	87.63	385,012.00	640,155.24	
3,918.00	7.80	84.40	3,838.33	715.03	30.15	714.41	715.05	87.58	385,013.15	640,168.41	
4,013.00	7.50	84.40	3,932.48	727.66	31.38	727.00	727.68	87.53	385,014.38	640,181.00	
4,107.00	7.30	83.10	4,025.70	739.75	32.70	739.03	739.76	87.47	385,015.70	640,193.03	
4,203.00	6.60	84.50	4,121.00	751.34	33.96	750.58	751.35	87.41	385,016.96	640,204.58	
4,298.00	6.00	83.30	4,215.42	761.75	35.06	760.94	761.75	87.36	385,018.06	640,214.94	
4,393.00	6.00	82.50	4,309.90	771.65	36.29	770.80	771.65	87.30	385,019.29	640,224.80	
4,488.00	5.00	82.90	4,404.46	780.73	37.45	779.83	780.73	87.25	385,020.45	640,233.83	
4,583.00	4.50	82.10	4,499.14	788.57	38.47	787.63	788.57	87.20	385,021.47	640,241.63	
4,678.00	4.30	84.60	4,593.86	795.84	39.32	794.87	795.84	87.17	385,022.32	640,248.87	
4,774.00	4.40	84.50	4,689.58	803.11	40.01	802.12	803.11	87.14	385,023.01	640,256.12	
4,868.00	4.30	84.80	4,783.31	810.23	40.67	809.21	810.24	87.12	385,023.67	640,263.21	
4,963.00	4.20	84.10	4,878.05	817.27	41.36	816.22	817.27	87.10	385,024.36	640,270.22	



ProDirectional Survey Report



Company:	Matador Resources	Local Co-ordinate Reference:	Well No. 1
Project:	Eddy County, NM (NAD 83)	TVD Reference:	Well @ 2936.50usft
Site:	Sapphire State	MD Reference:	Well @ 2936.50usft
Well:	No. 1	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	MWD-156'6484' PTB: 6546	Database:	WellPlanner1

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)	
5,058.00	3.70	86.40	4,972.82	823.80	41.91	822.74	823.81	87.08	385,024.91	640,276.74	
5,153.00	3.30	88.90	5,067.64	829.60	42.15	828.53	829.61	87.09	385,025.15	640,282.53	
5,249.00	3.20	95.60	5,163.49	835.02	41.94	833.96	835.02	87.12	385,024.94	640,287.96	
5,344.00	3.10	98.90	5,258.35	840.15	41.29	839.14	840.15	87.18	385,024.29	640,293.14	
5,439.00	2.50	99.20	5,353.23	844.70	40.56	843.72	844.70	87.25	385,023.56	640,297.72	
5,534.00	2.10	103.00	5,448.16	848.40	39.83	847.46	848.40	87.31	385,022.83	640,301.46	
5,630.00	2.20	103.00	5,544.09	851.86	39.02	850.97	851.87	87.37	385,022.02	640,304.97	
5,725.00	2.00	108.40	5,639.02	855.16	38.09	854.32	855.17	87.45	385,021.09	640,308.32	
5,821.00	2.00	109.80	5,734.97	858.27	36.99	857.49	858.29	87.53	385,019.99	640,311.49	
5,916.00	1.30	162.80	5,829.93	860.07	35.40	859.37	860.10	87.64	385,018.40	640,313.37	
6,011.00	1.60	169.20	5,924.90	860.53	33.07	859.93	860.57	87.80	385,016.07	640,313.93	
6,106.00	1.90	107.90	6,019.86	862.18	31.28	861.68	862.25	87.92	385,014.28	640,315.68	
6,201.00	1.00	52.80	6,114.84	864.34	31.30	863.84	864.41	87.92	385,014.30	640,317.84	
6,296.00	1.00	53.20	6,209.82	865.71	32.30	865.16	865.77	87.86	385,015.30	640,319.16	
6,391.00	0.80	66.30	6,304.81	867.02	33.06	866.44	867.07	87.81	385,016.06	640,320.44	
6,451.00	0.70	63.00	6,364.81	867.75	33.40	867.15	867.79	87.79	385,016.40	640,321.15	
6,484.00	0.50	66.00	6,397.80	868.06	33.55	867.46	868.11	87.79	385,016.55	640,321.46	
Last Survey: 6484' MD											
6,546.00	0.50	66.00	6,459.80	868.57	33.77	867.95	868.61	87.77	385,016.77	640,321.95	
PTB: 6546' MD											



ProDirectional Survey Report



Company:	Matador Resources	Local Co-ordinate Reference:	Well No: 1
Project:	Eddy County, NM (NAD 83)	TVD Reference:	Well @ 2936.50usft
Site:	Sapphire State	MD Reference:	Well @ 2936.50usft
Well:	No. 1	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	MWD-156'-6484' PTB: 6546'	Database:	WellPlanner1

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
156.00	156.00	0.41	0.01	Pro MWD First Survey: 156' MD
6,484.00	6,397.80	33.55	867.46	Last Survey: 6484' MD
6,546.00	6,459.80	33.77	867.95	PTB: 6546' MD