



PRODIRECTIONAL

NM OIL CONSERVATION
ARTESIA DISTRICT

JUL 31 2017

RECEIVED



Heyco State No. 122H

Eddy County, NM

30-015-44099

June 02, 2017

Job No. LNM5137817

ORIGINAL

Survey Completion Report



PRODIRECTIONAL

Survey & Directional Services

June 02, 2017



Operator Name: Matador Resources
Well Name: Heyco State No. 122H
County/Parish: Eddy County,
State: NM
Rig Name: Patterson 809
Job Number: LNM5137817

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	599' MD – 13,217' MD	13,385' MD	05/01/17 – 05/11/17	MWD-OWSG

Sincerely,

Mike Coats

Mike Coats
Well Planning
Professional Directional

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

prodirectional.com



Matador Resources

Eddy County, NM

Heyco State

122H

OH

Survey: ProDirectional

Survey Report

02 June, 2017





ProDirectional
Survey Report



Company: Matador Resources
Project: Eddy County, NM
Site: Heyco State
Well: 122H
Wellbore: OH
Design: Gyro-MWD

Local Co-ordinate Reference: Well 122H
TVD Reference: Rig @ 3361.50usft (GL:3333'+KB28.5'(Patt.809))
MD Reference: Rig @ 3361.50usft (GL:3333'+KB28.5'(Patt.809))
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WellPlanner1

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	Heyco State		
Site Position:		Northing:	558,898.00 usft
From: Map		Easting:	603,002.00 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 32' 9.871 N
		Longitude:	103° 59' 56.777 W
		Grid Convergence:	0.18 "

Well	122H		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	32° 32' 9.870 N
		Longitude:	103° 59' 56.427 W
		Ground Level:	3,333.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	4/6/2017	7.42	60.40	48,259.70

Design	Gyro-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	179.80	



ProDirectional
Survey Report



Company: Matador Resources
Project: Eddy County, NM
Site: Heyco State
Well: 122H
Wellbore: OH
Design: Gyro-MWD

Local Co-ordinate Reference: Well 122H
TVD Reference: Rig @ 3381.50usft (GL:3333+KB28.5'(Pat.809))
MD Reference: Rig @ 3381.50usft (GL:3333+KB28.5'(Pat.809))
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WellPlanner1

Survey Program Date 5/11/2017

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
56.27	466.27	Gyro (OH)	GYD_DP_MS	Gyrodota gyro-compassing and drop
599.00	13,385.00	Survey #2 (OH)	MWD - OWSG	MWD - OWSG

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	558,898.00	603,032.00
56.27	0.31	134.86	56.27	0.11	-0.11	0.11	0.15	134.86	558,897.89	603,032.11
138.27	0.88	164.94	138.27	0.89	-0.89	0.21	0.92	166.69	558,897.11	603,032.21
220.27	1.14	186.59	220.25	2.33	-2.33	0.06	2.33	178.45	558,896.67	603,032.06
302.27	1.61	198.41	302.23	4.23	-4.23	-0.39	4.25	185.32	558,893.77	603,031.61
384.27	1.44	213.93	384.20	6.18	-6.18	-1.33	6.32	192.17	558,891.82	603,030.67
466.27	0.93	231.68	466.18	7.44	-7.45	-2.43	7.83	198.07	558,890.55	603,029.57
599.00	1.00	217.20	598.89	9.02	-9.04	-3.98	9.87	203.74	558,888.96	603,028.02
Pro MWD First Survey: 599' MD										
692.00	1.40	100.00	691.88	9.87	-9.88	-3.35	10.43	198.71	558,888.12	603,028.65
784.00	3.60	83.30	783.79	9.74	-9.74	0.63	9.76	176.31	558,888.26	603,032.63
876.00	5.30	77.20	875.51	8.49	-8.46	7.64	11.40	137.92	558,889.54	603,039.64
969.00	7.10	75.70	967.96	6.15	-6.09	17.40	18.43	109.29	558,891.91	603,049.40
1,062.00	7.80	79.40	1,060.18	3.61	-3.51	29.17	29.38	96.86	558,894.49	603,061.17
1,156.00	8.00	82.70	1,153.29	1.65	-1.51	41.93	41.96	92.06	558,896.49	603,073.93
1,249.00	8.00	82.70	1,245.38	0.05	0.14	54.77	54.77	89.85	558,898.14	603,086.77
1,343.00	8.20	82.90	1,338.44	-1.56	1.80	67.91	67.93	88.48	558,899.80	603,099.91
1,437.00	8.40	84.80	1,431.46	-2.97	3.25	81.40	81.46	87.71	558,901.25	603,113.40
1,530.00	8.70	84.90	1,523.43	-4.16	4.49	95.17	95.28	87.30	558,902.49	603,127.17
1,624.00	8.40	84.40	1,616.38	-5.41	5.79	109.08	109.24	86.96	558,903.79	603,141.08
1,717.00	7.70	87.90	1,708.46	-6.26	6.68	122.07	122.25	86.87	558,904.68	603,154.07



ProDirectional
Survey Report



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Wellbore: OH
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North Reference: Grid
Survey Calculation Method: Minimum Curvature
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)
1,811.00	7.00	90.20		1,801.69	-6.43	6.89	134.09	134.27	87.06	558,904.89	603,166.09
1,905.00	6.80	79.50		1,895.01	-7.38	7.89	145.29	145.51	86.89	558,905.89	603,177.29
1,998.00	7.10	72.70		1,987.33	-10.06	10.60	156.19	156.55	86.12	558,908.60	603,188.19
2,091.00	6.80	77.70		2,079.65	-12.90	13.48	167.06	167.60	85.39	558,911.48	603,199.06
2,184.00	7.20	74.60		2,171.96	-15.58	16.20	178.06	178.79	84.80	558,914.20	603,210.06
2,277.00	8.20	69.30		2,264.12	-19.43	20.10	189.88	190.94	83.96	558,918.10	603,221.88
2,371.00	8.80	68.40		2,357.09	-24.40	25.11	202.84	204.39	82.94	558,923.11	603,234.84
2,464.00	9.90	67.40		2,448.85	-30.05	30.80	216.83	219.01	81.91	558,928.80	603,248.83
2,557.00	10.00	68.50		2,540.45	-36.03	36.84	231.73	234.64	80.97	558,934.84	603,263.73
2,650.00	9.90	69.90		2,632.05	-41.68	42.54	246.75	250.39	80.22	558,940.54	603,278.75
2,743.00	10.10	71.10		2,723.84	-47.02	47.93	261.97	266.32	79.63	558,945.93	603,293.97
2,836.00	10.40	72.70		2,815.15	-52.10	53.07	277.70	282.73	79.18	558,951.07	603,309.70
2,930.00	10.50	74.30		2,907.60	-56.88	57.91	294.05	299.69	78.86	558,955.91	603,326.05
3,023.00	10.70	74.70		2,999.01	-61.40	62.48	310.53	316.75	78.62	558,960.48	603,342.53
3,117.00	11.30	75.30		3,091.28	-65.98	67.12	327.86	334.66	78.43	558,965.12	603,359.86
3,210.00	11.50	77.10		3,182.45	-70.30	71.50	345.71	353.02	78.31	558,969.50	603,377.71
3,304.00	11.20	74.40		3,274.61	-74.78	76.05	363.63	371.50	78.19	558,974.05	603,395.63
3,397.00	11.50	73.90		3,365.79	-79.72	81.05	381.24	389.76	78.00	558,979.05	603,413.24
3,491.00	11.30	72.10		3,457.94	-85.09	86.48	399.01	408.27	77.77	558,984.48	603,431.01
3,585.00	10.80	68.30		3,550.19	-91.11	92.57	415.95	426.13	77.45	558,990.57	603,447.95
3,679.00	10.90	70.00		3,642.51	-97.35	98.86	432.49	443.64	77.12	558,996.86	603,464.49
3,772.00	10.70	71.10		3,733.87	-103.10	104.67	448.92	460.96	76.88	559,002.67	603,480.92
3,866.00	10.50	71.70		3,826.26	-108.56	110.18	465.31	478.17	76.68	559,008.18	603,497.31
3,960.00	10.20	72.40		3,918.73	-113.71	115.39	481.37	495.01	76.52	559,013.39	603,513.37
3,997.00	10.10	72.30		3,955.15	-115.66	117.36	487.58	501.51	76.47	559,015.36	603,519.58
4,060.00	9.90	72.50		4,017.20	-118.93	120.67	498.01	512.42	76.38	559,018.67	603,530.01
4,154.00	10.20	73.90		4,109.75	-123.62	125.41	513.72	528.80	76.28	559,023.41	603,545.72



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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)
4,248.00	10.20	72.50	4,202.27	-128.37	130.22	529.65	545.42	76.19	559,028.22	603,561.65
4,341.00	9.60	71.80	4,293.88	-133.22	135.12	544.87	561.37	76.07	559,033.12	603,576.87
4,435.00	9.80	73.90	4,386.54	-137.83	139.79	560.00	577.18	75.98	559,037.79	603,592.00
4,528.00	9.60	73.30	4,478.21	-142.20	144.21	575.03	592.84	75.92	559,042.21	603,607.03
4,622.00	9.00	71.30	4,570.97	-146.76	148.82	589.51	608.00	75.83	559,046.82	603,621.51
4,716.00	7.60	64.40	4,663.99	-151.76	153.86	602.08	621.43	75.66	559,051.86	603,634.08
4,809.00	7.30	61.60	4,756.20	-157.19	158.33	612.82	633.19	75.43	559,057.33	603,644.82
4,902.00	6.70	57.50	4,848.51	-162.88	165.06	622.59	644.10	75.15	559,063.08	603,654.59
4,996.00	6.50	54.90	4,941.89	-168.86	171.06	631.57	654.33	74.85	559,069.06	603,663.57
5,090.00	6.70	62.50	5,035.27	-174.41	176.65	640.79	664.69	74.59	559,074.65	603,672.79
5,183.00	7.00	66.70	5,127.60	-179.13	181.40	650.81	675.61	74.43	559,079.40	603,682.81
5,276.00	6.60	64.10	5,219.95	-183.67	185.98	660.82	686.49	74.28	559,083.98	603,692.82
5,370.00	6.70	70.40	5,313.32	-187.83	190.17	670.84	697.28	74.17	559,088.17	603,702.84
5,464.00	7.10	77.70	5,406.64	-190.87	193.25	681.69	708.55	74.17	559,091.25	603,713.69
5,558.00	6.90	75.30	5,499.94	-193.50	195.92	692.82	719.99	74.21	559,093.92	603,724.82
5,651.00	6.90	73.20	5,592.27	-196.50	198.95	703.57	731.16	74.21	559,096.95	603,735.57
5,745.00	6.90	72.50	5,685.58	-199.79	202.28	714.37	742.45	74.19	559,100.28	603,746.37
5,839.00	6.90	71.60	5,778.90	-203.23	205.76	725.11	753.74	74.16	559,103.76	603,757.11
5,932.00	6.80	71.30	5,871.24	-206.72	209.29	735.62	764.82	74.12	559,107.29	603,767.62
6,026.00	6.60	71.80	5,964.60	-210.16	212.76	746.03	775.77	74.08	559,110.76	603,778.03
6,120.00	6.40	71.80	6,057.99	-213.45	216.09	756.14	786.41	74.05	559,114.09	603,788.14
6,213.00	6.60	72.40	6,150.40	-216.65	219.32	766.15	796.93	74.03	559,117.32	603,798.15
6,307.00	6.00	71.70	6,243.83	-219.79	222.50	775.97	807.24	74.00	559,120.50	603,807.97
6,397.00	7.30	74.60	6,333.22	-222.75	225.49	785.95	817.66	73.99	559,123.49	603,817.95
6,491.00	8.10	77.60	6,426.37	-225.72	228.50	796.17	830.24	74.02	559,126.50	603,830.17
6,584.00	7.30	75.10	6,518.53	-228.60	231.43	810.28	842.68	74.06	559,129.43	603,842.28
6,677.00	6.10	74.70	6,610.90	-231.39	234.25	820.76	853.53	74.07	559,132.25	603,852.76



ProDirectional
Survey Report



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Project: Eddy County, NM
Site: Hayco State
Well: 122H
Wellbore: OH
Design: Gyro-MWD

Local Co-ordinate Reference: Well 122H
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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)
6,771.00	4.70	63.80	6,704.48	-234.38	237.27	829.03	882.32	74.03	559,135.27	603,861.03
6,864.00	3.80	62.50	6,797.22	-237.46	240.38	835.18	869.09	73.94	559,138.38	603,867.18
6,957.00	2.80	66.60	6,890.07	-239.77	242.70	840.00	874.36	73.88	559,140.70	603,872.00
7,051.00	2.60	54.90	6,983.96	-241.89	244.84	843.85	878.66	73.82	559,142.84	603,875.85
7,144.00	2.80	54.10	7,076.86	-244.42	247.38	847.42	882.79	73.73	559,145.38	603,879.42
7,237.00	2.40	73.50	7,169.77	-246.30	249.27	851.13	886.88	73.68	559,147.27	603,883.13
7,331.00	3.00	73.10	7,263.66	-247.56	250.54	855.37	891.31	73.67	559,148.54	603,887.37
7,425.00	4.60	79.80	7,357.45	-248.92	251.93	861.43	897.51	73.70	559,149.93	603,893.43
7,518.00	6.10	82.30	7,450.05	-250.21	253.25	870.00	906.11	73.77	559,151.25	603,902.00
7,612.00	4.00	75.10	7,543.68	-251.69	254.76	878.12	914.33	73.82	559,152.76	603,910.12
7,704.00	3.50	76.10	7,635.48	-253.17	256.28	883.94	920.34	73.83	559,154.26	603,915.94
7,798.00	2.70	78.30	7,729.34	-254.29	257.40	888.90	925.41	73.85	559,155.40	603,920.90
7,891.00	2.00	71.50	7,822.26	-255.24	258.36	892.58	929.22	73.86	559,156.36	603,924.58
7,983.00	1.70	75.30	7,914.21	-256.09	259.21	895.42	932.19	73.85	559,157.21	603,927.42
8,074.00	4.50	153.10	8,005.10	-253.23	256.37	898.35	934.21	74.07	559,154.37	603,930.35
8,121.00	10.00	162.60	8,051.71	-247.68	250.83	900.40	934.69	74.43	559,148.83	603,932.40
8,167.00	15.80	164.70	8,096.53	-237.81	240.97	903.25	934.84	75.06	559,138.97	603,935.25
8,214.00	20.70	166.50	8,141.15	-223.54	226.71	906.88	934.79	75.96	559,124.71	603,938.88
8,261.00	23.00	169.80	8,184.77	-206.41	209.59	910.45	934.26	77.04	559,107.59	603,942.45
8,308.00	27.10	174.10	8,227.35	-186.71	189.90	913.18	932.71	78.25	559,087.90	603,945.18
8,354.00	28.70	178.40	8,268.00	-165.24	168.43	914.56	929.94	79.57	559,066.43	603,946.56
8,401.00	32.50	183.00	8,308.46	-141.34	144.53	914.21	925.57	81.02	559,042.53	603,946.21
8,448.00	37.20	183.40	8,347.01	-114.53	117.72	912.71	920.27	82.65	559,015.72	603,944.71
8,495.00	41.50	182.10	8,383.35	-84.78	87.96	911.30	915.53	84.49	558,985.96	603,943.30
8,542.00	46.10	180.70	8,417.27	-52.27	55.45	910.52	912.21	86.51	558,953.45	603,942.52
8,589.00	50.70	180.30	8,448.46	-17.14	20.32	910.22	910.44	88.72	558,918.32	603,942.22



ProDirectional
Survey Report



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Project: Eddy County, NM
Site: Heyco State
Well: 122H
Wellbore: OH
Design: Gyro-MWD

Local Co-ordinate Reference: Well 122H
TVD Reference: Rig @ 3361.50usft (GL:3333'+KB28.5'(Pat.809))
MD Reference: Rig @ 3361.50usft (GL:3333'+KB28.5'(Pat.809))
North Reference: Grid
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Survey											
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8,617.00	51.55	179.93	8,466.04	4.66	-1.48	910.17	910.17	90.09	558,896.52	603,942.17	
HL Xing: 8617' MD											
8,635.00	52.10	179.70	8,477.16	18.81	-15.63	910.22	910.35	90.98	558,882.37	603,942.22	
8,682.00	55.50	177.80	8,504.92	56.72	-53.54	911.06	912.63	93.36	558,844.46	603,943.06	
8,729.00	59.10	178.40	8,530.30	96.25	-93.06	912.37	917.10	95.82	558,804.94	603,944.37	
8,776.00	64.40	179.90	8,552.54	137.63	-134.45	912.97	922.81	98.38	558,763.55	603,944.97	
8,822.00	69.90	180.60	8,570.40	180.00	-176.82	912.78	929.74	100.96	558,721.18	603,944.78	
8,869.00	74.20	182.90	8,584.88	224.68	-221.50	911.40	937.93	103.66	558,676.50	603,943.40	
8,916.00	79.20	183.20	8,595.69	270.33	-267.16	908.97	947.41	106.38	558,630.84	603,940.97	
8,963.00	85.10	182.10	8,602.11	316.81	-313.54	906.82	959.53	109.08	558,584.36	603,938.82	
9,010.00	90.80	180.30	8,603.79	363.74	-360.58	905.84	974.97	111.71	558,537.42	603,937.84	
9,103.00	95.30	180.20	8,598.84	456.58	-453.43	905.43	1,012.62	116.60	558,444.57	603,937.43	
9,196.00	95.10	179.90	8,590.41	549.20	-546.04	905.35	1,057.27	121.10	558,351.96	603,937.35	
9,290.00	93.50	179.80	8,583.36	642.93	-639.78	905.76	1,108.92	125.24	558,258.22	603,937.76	
9,384.00	91.90	179.70	8,578.94	736.83	-733.67	906.33	1,166.06	128.99	558,164.33	603,938.33	
9,478.00	91.30	180.50	8,576.31	830.79	-827.63	906.17	1,227.24	132.41	558,070.37	603,938.17	
9,571.00	90.20	181.50	8,575.09	923.75	-920.60	904.55	1,280.62	135.50	557,977.40	603,936.55	
9,664.00	90.00	182.20	8,574.93	1,016.69	-1,013.55	901.54	1,356.49	138.35	557,884.45	603,933.54	
9,758.00	88.80	182.50	8,575.92	1,110.59	-1,107.47	897.69	1,425.60	140.97	557,790.53	603,929.69	
9,851.00	88.10	179.70	8,578.43	1,203.53	-1,200.41	895.90	1,497.87	143.28	557,697.59	603,927.90	
9,945.00	89.30	178.30	8,580.57	1,297.49	-1,294.36	897.54	1,575.11	145.26	557,603.64	603,929.54	
10,039.00	93.90	179.20	8,577.94	1,391.41	-1,388.28	899.59	1,654.26	147.06	557,509.72	603,931.59	
10,132.00	92.50	178.70	8,572.75	1,484.25	-1,481.12	901.30	1,733.79	148.68	557,416.88	603,933.30	
10,226.00	88.60	177.30	8,571.65	1,578.18	-1,575.03	904.58	1,816.31	150.13	557,322.97	603,936.58	
10,319.00	87.70	176.90	8,574.85	1,671.03	-1,667.87	909.28	1,899.62	151.40	557,230.13	603,941.28	
10,413.00	85.90	177.80	8,580.10	1,764.79	-1,761.61	913.62	1,984.43	152.59	557,136.39	603,945.62	
10,506.00	85.90	177.80	8,586.75	1,857.50	-1,854.31	917.18	2,068.74	153.68	557,043.69	603,949.18	



ProDirectional
Survey Report



Company: Matador Resources
Project: Eddy County, NM
Site: Heyco State
Well: 122H
Wellbore: OH
Design: Gyro-MWD

Local Co-ordinate Reference: Well 122H
TVD Reference: Rig @ 3361.50usft (GL:3333'+KB28.5'(Pat.809))
MD Reference: Rig @ 3361.50usft (GL:3333'+KB28.5'(Pat.809))
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WellPlanner1

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)
10,600.00	86.90	177.40	8,592.65	1,951.24	-1,948.04	921.11	2,154.83	154.69	556,949.96	603,953.11
10,693.00	88.50	177.20	8,596.39	2,044.07	-2,040.86	925.49	2,240.90	155.61	556,857.14	603,957.49
10,786.00	89.20	176.90	8,598.25	2,136.95	-2,133.71	930.27	2,327.69	156.44	556,764.29	603,962.27
10,880.00	90.10	177.40	8,598.82	2,230.84	-2,227.59	934.94	2,415.84	157.23	556,670.41	603,966.94
10,973.00	89.40	179.10	8,599.23	2,323.81	-2,320.55	937.78	2,502.87	158.00	556,577.45	603,969.78
11,067.00	87.20	179.10	8,602.02	2,417.75	-2,414.49	939.26	2,590.75	158.74	556,483.51	603,971.26
11,160.00	87.60	179.10	8,606.23	2,510.65	-2,507.38	940.72	2,678.04	159.43	556,390.62	603,972.72
11,254.00	89.60	179.60	8,608.53	2,604.61	-2,601.34	941.79	2,766.57	160.10	556,296.66	603,973.79
11,347.00	87.80	179.20	8,610.64	2,697.58	-2,694.31	942.76	2,854.49	160.71	556,203.69	603,974.76
11,440.00	87.80	179.10	8,614.21	2,790.51	-2,787.23	944.14	2,942.80	161.29	556,110.77	603,976.14
11,534.00	88.50	179.20	8,617.25	2,884.45	-2,881.17	945.53	3,032.35	161.83	556,016.83	603,977.53
11,627.00	88.90	179.60	8,619.36	2,977.43	-2,974.14	946.50	3,121.12	162.35	555,923.86	603,978.50
11,721.00	88.80	179.60	8,621.24	3,071.41	-3,068.12	947.16	3,210.99	162.84	555,829.88	603,979.16
11,814.00	88.30	179.70	8,623.60	3,164.38	-3,161.09	947.73	3,300.10	163.31	555,736.91	603,979.73
11,908.00	88.80	179.30	8,625.97	3,258.34	-3,255.05	948.55	3,390.44	163.75	555,642.95	603,980.55
12,002.00	90.00	179.10	8,626.96	3,352.33	-3,349.04	949.86	3,481.13	164.17	555,548.96	603,981.86
12,095.00	91.60	178.70	8,625.66	3,445.31	-3,442.01	951.65	3,571.14	164.54	555,455.99	603,983.65
12,188.00	89.90	179.70	8,624.44	3,538.29	-3,534.99	952.94	3,661.18	164.91	555,363.01	603,984.94
12,282.00	89.30	180.30	8,625.10	3,632.29	-3,628.98	952.94	3,752.02	165.29	555,269.02	603,984.94
12,376.00	90.00	180.60	8,625.67	3,726.28	-3,722.98	952.21	3,842.82	165.65	555,175.02	603,984.21
12,469.00	89.80	180.80	8,625.84	3,819.27	-3,815.97	951.07	3,932.70	166.01	555,082.03	603,983.07
12,563.00	87.10	180.80	8,628.38	3,913.21	-3,909.92	949.76	4,023.62	166.35	554,988.08	603,981.76
12,656.00	86.70	181.50	8,633.41	4,006.05	-4,002.76	947.89	4,113.47	166.68	554,895.24	603,979.89
12,749.00	86.60	182.00	8,638.84	4,098.83	-4,095.56	945.06	4,203.18	167.01	554,802.44	603,977.06
12,843.00	86.60	182.30	8,644.42	4,192.59	-4,189.33	941.54	4,293.83	167.33	554,708.67	603,973.54
12,936.00	86.80	182.10	8,649.77	4,285.35	-4,282.11	937.97	4,383.63	167.64	554,615.89	603,969.97
13,029.00	86.20	182.00	8,655.45	4,378.11	-4,374.87	934.65	4,473.60	167.94	554,523.13	603,966.65



ProDirectional
Survey Report



Company: Matador Resources
Project: Eddy County, NM
Site: Heyco State
Well: 122H
Wellbore: OH
Design: Gyro-MWD

Local Co-ordinate Reference: Well 122H
TVD Reference: Rig @ 3361.50usft (GL:3333'+KB28.5'(Pat.809))
MD Reference: Rig @ 3361.50usft (GL:3333'+KB28.5'(Pat.809))
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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)
13,123.00	86.50	182.10	8,661.43	4,471.84	-4,468.62	931.30	4,564.63	168.23	554,429.38	603,963.30
13,217.00	87.10	181.90	8,666.68	4,565.63	-4,562.42	928.02	4,655.84	168.50	554,335.58	603,960.02
Last Survey: 13217' MD, 8666.68' TVD										
13,276.00	87.10	181.90	8,669.66	4,624.51	-4,621.31	926.07	4,713.18	168.67	554,276.69	603,958.07
HL Xing: 13276' MD										
13,385.00	87.10	181.90	8,675.18	4,733.30	-4,730.11	922.46	4,819.22	168.96	554,167.89	603,954.46
PTB: 13385' MD, 8675.18' TVD										

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
599.00	598.89	-9.04	-3.98	Pro MWD First Survey: 599' MD
8,617.00	8,466.04	-1.48	910.17	HL Xing: 8617' MD
13,217.00	8,666.68	-4,562.42	928.02	Last Survey: 13217' MD, 8666.68' TVD
13,276.00	8,669.66	-4,621.31	926.07	HL Xing: 13276' MD
13,385.00	8,675.18	-4,730.11	922.46	PTB: 13385' MD, 8675.18' TVD

NM OIL CONSERVATION
ARTESIA DISTRICT

JUL 31 2017

RECEIVED



Company: MATADOR PRODUCTION COMPANY
Lease/Well: HEYCO STATE No.122H

Rig Name: PATTERSON-UTI 809

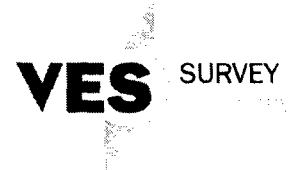
State/County: NEW MEXICO/EDDY

VS-Azi: 0.00 Degrees

Latitude: 32.53807, Longitude: -103.99901

Grid North = True North -0.18 degs (NAD 27)

Grid Correction Applied = -0.18 degs



Depth Reference : RKB = 28.5 FEET

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: magyro_run01-01-de_01.ut

Minimum Curvature Method

Report Date/Time: 4/25/2017 / 09:29

VES SURVEY INTERNATIONAL

MIDLAND, TEXAS

432-563-5444

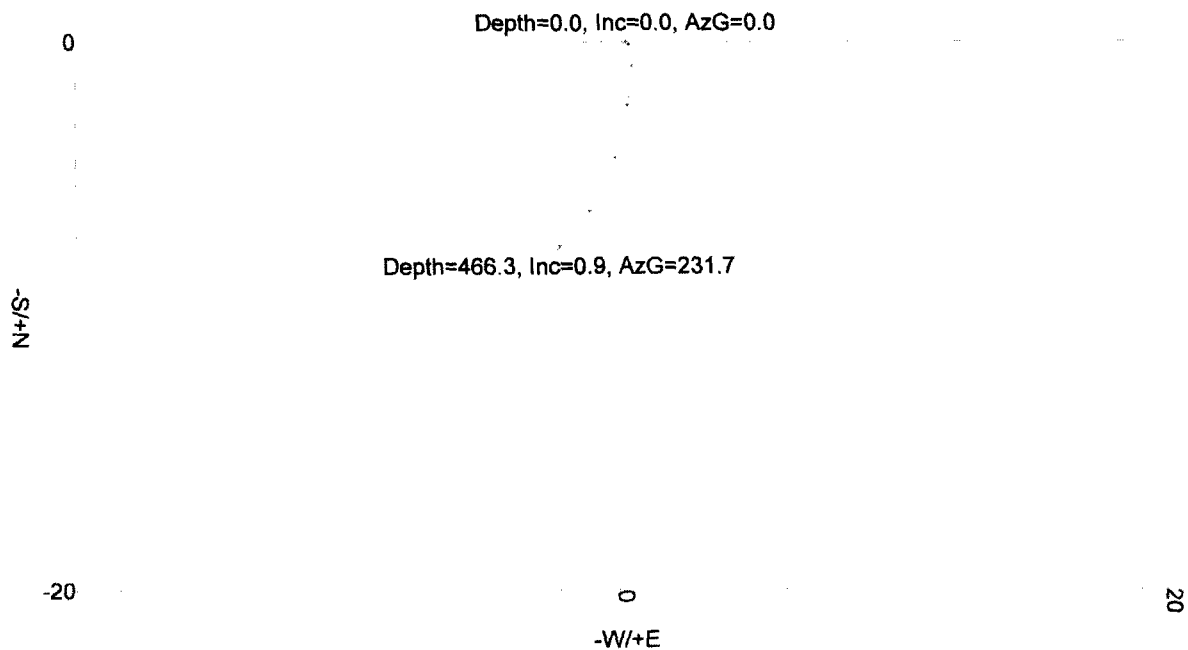
Surveyor: JAMES NEIL BATES

Heyco State No. 122H / API 30-015-44099

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
56.27	0.31	134.86	56.27	-0.11	0.11	-0.11	0.15	134.86	0.55
138.27	0.88	184.94	138.27	-0.89	0.21	-0.89	0.92	166.64	0.88
220.27	1.14	186.59	220.25	-2.33	0.06	-2.33	2.33	178.42	0.32
302.27	1.61	198.41	302.23	-4.24	-0.39	-4.24	4.25	185.31	0.67
384.27	1.44	213.93	384.20	-6.19	-1.34	-6.19	6.33	192.18	0.54
466.27	0.93	231.68	466.18	-7.46	-2.44	-7.46	7.85	198.09	0.76



VES SURVEY INTERNATIONAL
MIDLAND, TEXAS
432-563-5444
Surveyor: JAMES NEIL BATES
Heyco State No. 122H / API 30-015-44099



VES SURVEY DATE: 4/16/2017



NM OIL CONSERVATION
ARTESIA DISTRICT

JUL 31 2017

RECEIVED

I James Neil Bates certify that I am employed by VES Survey International. That I did on the day(s) of 04/16/17 through 04/16/17 conduct or supervise the taking of a Rate Gyro survey from a depth of 0.00 feet to a depth of 466.27 feet; that the data is true, correct, complete and within the limitations of the tool as set forth by Vaughn Energy Services, that I am authorized and qualified to make this report; that this survey was conducted at the request of Matador Production Company for the Heyco State Well # 122H API # 30-015-44099 in Eddy County / Parish New Mexico; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by VES Survey International.

A handwritten signature in black ink, appearing to read "James Neil Bates", written over a horizontal line.

James Neil Bates
Service Technician
VES Survey International