

HOBBS OCD
AUG 19 2019
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Matador Resources

Lea County, NM (NAD27)
Carl Mottek 17-24S-34E AR
#121H

30.025.44936

OH

Design: Surveys

Standard Survey Report

15 December, 2018

Pro Directional Survey Report

Company: Matador Resources
Project: Lea County, NM (NAD27)
Site: Carl Mottek 17-24S-34E AR
Well: #121H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well #121H
TVD Reference: 3606.5'=3578'+28.5' @ 3606.50usft (Patt 274)
MD Reference: 3606.5'=3578'+28.5' @ 3606.50usft (Patt 274)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WellPlanner1

Project	Lea County, NM (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 Carl Mottek 17-24S-34E AR

Site Position: Northing: 446,143.00 usft Latitude: 32.223808
From: Map Easting: 758,108.00 usft Longitude: -103.498692
Position Uncertainty: 0.00 usft Slot Radius: 13-3/16 " Grid Convergence: 0.45 °

Well #121H
Well Position +N/-S 0.00 usft Northing: 446,143.00 usft Latitude: 32.223808
+E/-W 0.00 usft Easting: 758,108.00 usft Longitude: -103.498692
Position Uncertainty 0.00 usft Wellhead Elevation: usft Ground Level: 3,578.00 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	11/22/2018	6.70	59.92	47,956.80

Design Surveys

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	179.45

Survey Program Date 12/15/2018

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
153.00	14,903.00	ProMWD #1 (OH)	MWD+HDGM	OWSG MWD + HRGM

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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153.00	1.20	317.60	152.99	1.18	-1.08	-1.19	0.78	0.78	0.00
245.00	1.40	308.00	244.97	2.59	-2.62	-2.61	0.32	0.22	-10.43
336.00	1.50	350.40	335.94	4.45	-3.69	-4.48	1.16	0.11	46.59
428.00	1.80	9.20	427.90	7.06	-3.66	-7.09	0.67	0.33	20.43
519.00	1.50	21.20	518.86	9.58	-3.00	-9.61	0.50	-0.33	13.19
609.00	1.50	21.50	608.83	11.77	-2.14	-11.79	0.01	0.00	0.33
703.00	1.10	26.40	702.81	13.73	-1.29	-13.74	0.44	-0.43	5.21
793.00	0.90	39.70	792.79	15.04	-0.46	-15.05	0.34	-0.22	14.78
883.00	0.60	61.40	882.79	15.81	0.41	-15.81	0.45	-0.33	24.11

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975.00	0.30	58.80	974.78	16.17	1.04	-16.16	0.33	-0.33	-2.83
1,066.00	0.00	22.90	1,065.78	16.29	1.24	-16.28	0.33	-0.33	0.00
1,254.00	0.40	181.10	1,253.78	15.64	1.23	-15.62	0.21	0.21	0.00
1,341.00	0.30	200.80	1,340.78	15.12	1.14	-15.11	0.18	-0.11	22.64
1,436.00	0.30	206.30	1,435.78	14.66	0.94	-14.66	0.03	0.00	5.79
1,531.00	0.50	218.40	1,530.78	14.12	0.58	-14.11	0.23	0.21	12.74
1,626.00	0.30	231.90	1,625.77	13.64	0.12	-13.64	0.23	-0.21	14.21
1,721.00	1.50	349.90	1,720.76	14.71	-0.29	-14.71	1.75	1.26	124.21
1,816.00	2.40	359.60	1,815.71	17.92	-0.52	-17.93	1.01	0.95	10.21
1,911.00	3.80	2.40	1,910.57	23.06	-0.40	-23.06	1.48	1.47	2.95
2,007.00	4.80	16.80	2,006.30	30.08	0.89	-30.07	1.53	1.04	15.00
2,102.00	5.00	22.60	2,100.95	37.71	3.63	-37.67	0.56	0.21	6.11
2,196.00	4.80	23.50	2,194.61	45.10	6.77	-45.03	0.23	-0.21	0.96
2,292.00	4.70	24.60	2,290.28	52.36	10.01	-52.26	0.14	-0.10	1.15
2,387.00	4.60	24.70	2,384.97	59.36	13.22	-59.23	0.11	-0.11	0.11
2,482.00	4.60	25.50	2,479.66	66.26	16.46	-66.09	0.07	0.00	0.84
2,578.00	4.60	29.00	2,575.35	73.10	19.98	-72.90	0.29	0.00	3.65
2,673.00	4.10	30.90	2,670.08	79.34	23.57	-79.11	0.55	-0.53	2.00
2,768.00	4.20	31.10	2,764.83	85.24	27.11	-84.97	0.11	0.11	0.21
2,864.00	3.90	34.40	2,860.59	90.94	30.77	-90.64	0.40	-0.31	3.44
2,958.00	4.40	19.90	2,954.34	96.97	33.80	-96.64	1.23	0.53	-15.43
3,054.00	5.20	18.40	3,050.01	104.56	36.43	-104.20	0.84	0.83	-1.56
3,150.00	4.80	20.20	3,145.64	112.46	39.19	-112.07	0.45	-0.42	1.88
3,245.00	5.00	22.40	3,240.29	120.01	42.14	-119.60	0.29	0.21	2.32
3,340.00	5.00	23.40	3,334.93	127.64	45.36	-127.20	0.09	0.00	1.05
3,436.00	4.80	25.20	3,430.58	135.11	48.73	-134.64	0.26	-0.21	1.88
3,531.00	4.80	25.60	3,525.25	142.30	52.14	-141.79	0.04	0.00	0.42
3,626.00	5.10	11.10	3,619.90	150.02	54.67	-149.49	1.35	0.32	-15.26
3,721.00	5.50	359.50	3,714.49	158.72	55.45	-158.18	1.20	0.42	-12.21
3,816.00	5.00	355.50	3,809.10	167.40	55.08	-166.86	0.65	-0.53	-4.21
3,911.00	4.70	8.70	3,903.76	175.37	55.35	-174.84	1.21	-0.32	13.89
4,007.00	4.00	10.60	3,999.48	182.55	56.56	-182.00	0.74	-0.73	1.98
4,102.00	3.10	5.20	4,094.30	188.37	57.40	-187.81	1.01	-0.95	-5.68
4,197.00	4.50	6.90	4,189.09	194.63	58.08	-194.06	1.48	1.47	1.79
4,292.00	4.80	8.40	4,283.77	202.26	59.11	-201.68	0.34	0.32	1.58
4,388.00	3.90	13.60	4,379.50	209.41	60.46	-208.82	1.02	-0.94	5.42
4,483.00	5.40	27.70	4,474.18	216.50	63.30	-215.89	1.97	1.58	14.84
4,578.00	5.20	35.20	4,568.78	223.98	67.86	-223.32	0.76	-0.21	7.89
4,673.00	5.20	18.60	4,663.39	231.58	71.72	-230.88	1.58	0.00	-17.47
4,769.00	6.30	19.40	4,758.91	240.67	74.85	-239.94	1.15	1.15	0.83
4,864.00	6.50	25.90	4,853.32	250.42	78.93	-249.65	0.79	0.21	6.84
4,959.00	5.90	29.90	4,947.76	259.49	83.72	-258.68	0.78	-0.63	4.21
5,055.00	3.80	5.80	5,043.42	266.94	86.50	-266.09	3.00	-2.19	-25.10
5,150.00	1.50	350.80	5,138.32	271.30	86.62	-270.45	2.51	-2.42	-15.79

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5,246.00	0.80	349.30	5,234.30	273.20	86.29	-272.36	0.73	-0.73	-1.56
5,329.00	1.00	355.20	5,317.29	274.49	86.12	-273.65	0.27	0.24	7.11
5,425.00	1.10	0.20	5,413.27	276.24	86.06	-275.40	0.14	0.10	5.21
5,520.00	1.10	4.40	5,508.25	278.06	86.13	-277.23	0.08	0.00	4.42
5,616.00	1.20	6.50	5,604.23	279.98	86.31	-279.14	0.11	0.10	2.19
5,711.00	1.30	2.10	5,699.21	282.05	86.47	-281.20	0.15	0.11	-4.63
5,806.00	1.50	1.90	5,794.18	284.37	86.55	-283.52	0.21	0.21	-0.21
5,902.00	1.60	1.30	5,890.15	286.96	86.62	-286.12	0.11	0.10	-0.63
5,997.00	1.80	1.40	5,985.11	289.78	86.69	-288.93	0.21	0.21	0.11
6,093.00	1.90	356.60	6,081.06	292.88	86.63	-292.03	0.19	0.10	-5.00
6,188.00	2.00	351.00	6,176.00	296.09	86.28	-295.24	0.23	0.11	-5.89
6,283.00	0.60	207.30	6,270.98	297.28	85.79	-296.44	2.64	-1.47	-151.26
6,379.00	2.90	156.60	6,366.94	294.61	86.52	-293.76	2.67	2.40	-52.81
6,474.00	3.10	154.30	6,461.81	290.09	88.59	-289.22	0.25	0.21	-2.42
6,569.00	3.00	154.50	6,556.67	285.53	90.78	-284.64	0.11	-0.11	0.21
6,664.00	3.10	151.30	6,651.54	281.03	93.08	-280.12	0.21	0.11	-3.37
6,759.00	3.20	149.20	6,746.39	276.50	95.67	-275.57	0.16	0.11	-2.21
6,855.00	3.20	150.40	6,842.24	271.87	98.37	-270.91	0.07	0.00	1.25
6,950.00	3.20	149.10	6,937.10	267.29	101.04	-266.30	0.08	0.00	-1.37
7,045.00	1.00	149.30	7,032.03	264.30	102.82	-263.30	2.32	-2.32	0.21
7,140.00	1.00	135.00	7,127.01	263.00	103.83	-261.99	0.26	0.00	-15.05
7,236.00	1.10	145.10	7,223.00	261.65	104.95	-260.63	0.22	0.10	10.52
7,331.00	1.00	270.00	7,317.99	260.90	104.64	-259.89	1.96	-0.11	131.47
7,427.00	0.90	280.60	7,413.97	261.04	103.06	-260.04	0.21	-0.10	11.04
7,521.00	0.80	285.20	7,507.96	261.35	101.71	-260.36	0.13	-0.11	4.89
7,616.00	0.80	274.10	7,602.96	261.57	100.40	-260.60	0.16	0.00	-11.68
7,712.00	0.70	267.00	7,698.95	261.59	99.15	-260.63	0.14	-0.10	-7.40
7,807.00	0.70	262.90	7,793.94	261.49	98.00	-260.53	0.05	0.00	-4.32
7,902.00	0.70	263.10	7,888.93	261.35	96.84	-260.40	0.00	0.00	0.21
7,997.00	0.70	266.60	7,983.93	261.24	95.69	-260.31	0.05	0.00	3.68
8,092.00	0.90	257.70	8,078.92	261.05	94.38	-260.13	0.25	0.21	-9.37
8,187.00	1.00	266.40	8,173.90	260.84	92.82	-259.93	0.18	0.11	9.16
8,282.00	1.00	264.80	8,268.89	260.71	91.17	-259.82	0.03	0.00	-1.68
8,377.00	1.40	246.90	8,363.87	260.18	89.28	-259.31	0.57	0.42	-18.84
8,473.00	1.30	240.00	8,459.84	259.17	87.26	-258.33	0.20	-0.10	-7.19
8,568.00	0.80	27.60	8,554.83	259.22	86.63	-258.38	2.13	-0.53	155.37
8,663.00	0.80	38.20	8,649.83	260.33	87.35	-259.48	0.16	0.00	11.16
8,758.00	0.80	38.20	8,744.82	261.37	88.17	-260.52	0.00	0.00	0.00
8,854.00	0.70	26.80	8,840.81	262.42	88.85	-261.56	0.19	-0.10	-11.88
8,949.00	0.80	17.90	8,935.80	263.57	89.31	-262.70	0.16	0.11	-9.37
9,044.00	0.10	269.00	9,030.80	264.20	89.43	-263.33	0.88	-0.74	-114.63
9,139.00	0.50	243.50	9,125.80	264.02	88.98	-263.15	0.43	0.42	-26.84
9,234.00	0.70	303.10	9,220.79	264.15	88.12	-263.29	0.65	0.21	62.74

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9,258.00	0.80	308.70	9,244.79	264.33	87.87	-263.48	0.52	0.42	23.33
9,354.00	0.90	315.30	9,340.78	265.29	86.81	-264.44	0.15	0.10	6.88
9,449.00	1.20	317.20	9,435.76	266.55	85.61	-265.72	0.32	0.32	2.00
9,545.00	5.30	197.40	9,531.63	263.05	83.60	-262.24	6.24	4.27	-124.79
9,577.00	10.50	201.70	9,563.32	258.93	82.08	-258.13	16.34	16.25	13.44
9,640.00	21.60	202.90	9,623.77	242.86	75.43	-242.13	17.63	17.62	1.90
9,682.75	25.40	199.92	9,662.97	226.99	69.24	-226.31	9.32	8.89	-6.98
FTP: 9683' MD									
9,736.00	30.20	197.20	9,710.06	203.44	61.38	-202.84	9.32	9.01	-5.10
9,768.00	33.30	195.60	9,737.27	187.29	56.64	-186.74	10.04	9.69	-5.00
9,800.00	36.70	196.50	9,763.48	169.65	51.56	-169.15	10.75	10.63	2.81
9,831.00	40.00	197.10	9,787.78	151.24	46.00	-150.80	10.71	10.65	1.94
9,863.00	41.70	197.10	9,811.99	131.24	39.84	-130.85	5.31	5.31	0.00
9,925.00	46.50	196.70	9,856.50	89.97	27.31	-89.70	7.75	7.74	-0.65
9,957.00	54.10	195.30	9,876.93	66.31	20.54	-66.11	23.99	23.75	-4.38
9,986.00	60.10	194.10	9,892.67	42.77	14.38	-42.63	20.98	20.69	-4.14
10,018.00	64.10	189.50	9,907.65	15.10	8.62	-15.02	17.82	12.50	-14.38
10,049.00	67.10	187.30	9,920.45	-12.82	4.50	12.87	11.64	9.68	-7.10
10,081.00	69.40	184.80	9,932.31	-42.38	1.37	42.39	10.21	7.19	-7.81
10,113.00	71.80	182.20	9,942.94	-72.50	-0.46	72.49	10.72	7.50	-8.13
10,145.00	74.50	180.20	9,952.22	-103.11	-1.10	103.10	10.34	8.44	-6.25
10,177.00	77.20	178.30	9,960.04	-134.13	-0.69	134.12	10.21	8.44	-5.94
10,208.00	80.60	177.10	9,966.01	-164.52	0.53	164.52	11.61	10.97	-3.87
10,240.00	84.10	176.90	9,970.27	-196.19	2.19	196.20	10.96	10.94	-0.63
10,272.00	88.00	177.40	9,972.47	-228.07	3.78	228.10	12.29	12.19	1.56
10,303.00	89.30	178.60	9,973.20	-259.04	4.86	259.08	5.71	4.19	3.87
10,399.00	92.00	180.60	9,972.11	-355.02	5.53	355.06	3.50	2.81	2.08
10,494.00	93.50	181.00	9,967.56	-449.90	4.20	449.92	1.63	1.58	0.42
10,590.00	92.80	181.40	9,962.28	-545.73	2.20	545.73	0.84	-0.73	0.42
10,685.00	90.60	181.80	9,959.46	-640.65	-0.45	640.61	2.35	-2.32	0.42
10,779.00	87.00	181.40	9,961.43	-734.57	-3.08	734.51	3.85	-3.83	-0.43
10,875.00	86.60	180.80	9,966.79	-830.40	-4.92	830.32	0.75	-0.42	-0.63
10,970.00	87.60	180.60	9,971.60	-925.27	-6.08	925.17	1.07	1.05	-0.21
11,065.00	88.70	180.70	9,974.66	-1,020.22	-7.15	1,020.10	1.16	1.16	0.11
11,160.00	90.60	180.60	9,975.24	-1,115.21	-8.23	1,115.07	2.00	2.00	-0.11
11,255.00	88.10	180.60	9,976.32	-1,210.19	-9.23	1,210.04	2.63	-2.63	0.00
11,350.00	85.50	181.10	9,981.62	-1,305.02	-10.63	1,304.86	2.79	-2.74	0.53
11,445.00	85.50	181.00	9,989.08	-1,399.71	-12.37	1,399.53	0.10	0.00	-0.11
11,541.00	86.20	181.00	9,996.02	-1,495.44	-14.04	1,495.24	0.73	0.73	0.00
11,636.00	86.60	181.50	10,001.99	-1,590.23	-16.11	1,590.01	0.67	0.42	0.53
11,731.00	86.90	179.50	10,007.38	-1,685.07	-16.94	1,684.83	2.13	0.32	-2.11
11,827.00	88.70	179.30	10,011.06	-1,780.99	-15.93	1,780.76	1.89	1.88	-0.21
11,922.00	85.90	179.70	10,015.54	-1,875.87	-15.10	1,875.64	2.98	-2.95	0.42
12,017.00	86.20	179.90	10,022.08	-1,970.65	-14.77	1,970.41	0.38	0.32	0.21

Pro Directional Survey Report

Company: Matador Resources
Project: Lea County, NM (NAD27)
Site: Carl Mottek 17-24S-34E AR
Well: #121H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well #121H
TVD Reference: 3606.5'=3578'+28.5' @ 3606.50usft (Patt 274)
MD Reference: 3606.5'=3578'+28.5' @ 3606.50usft (Patt 274)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WellPlanner1

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)
12,113.00	86.90	180.00	10,027.86	-2,066.47	-14.69	2,066.24	0.74	0.73	0.10
12,208.00	87.90	180.60	10,032.17	-2,161.37	-15.19	2,161.13	1.23	1.05	0.63
12,303.00	86.30	181.00	10,036.97	-2,256.24	-16.51	2,255.97	1.74	-1.68	0.42
12,398.00	86.10	180.90	10,043.27	-2,351.02	-18.08	2,350.73	0.24	-0.21	-0.11
12,493.00	86.20	181.00	10,049.65	-2,445.79	-19.65	2,445.49	0.15	0.11	0.11
12,588.00	87.50	181.20	10,054.87	-2,540.62	-21.47	2,540.30	1.38	1.37	0.21
12,684.00	88.20	181.40	10,058.47	-2,636.53	-23.65	2,636.18	0.76	0.73	0.21
12,779.00	87.30	181.00	10,062.20	-2,731.44	-25.64	2,731.06	1.04	-0.95	-0.42
12,874.00	85.60	179.90	10,068.08	-2,826.25	-26.38	2,825.86	2.13	-1.79	-1.16
12,969.00	84.90	178.20	10,075.95	-2,920.90	-24.81	2,920.53	1.93	-0.74	-1.79
13,063.00	85.00	178.00	10,084.22	-3,014.49	-21.71	3,014.14	0.24	0.11	-0.21
13,158.00	85.50	178.20	10,092.09	-3,109.11	-18.57	3,108.79	0.57	0.53	0.21
13,254.00	87.00	176.40	10,098.37	-3,204.79	-14.06	3,204.51	2.44	1.56	-1.88
13,348.00	89.10	175.40	10,101.57	-3,298.49	-7.34	3,298.27	2.47	2.23	-1.06
13,444.00	91.20	175.10	10,101.32	-3,394.15	0.61	3,394.00	2.21	2.19	-0.31
13,539.00	90.70	177.60	10,099.74	-3,488.94	6.65	3,488.84	2.68	-0.53	2.63
13,634.00	91.40	179.70	10,098.00	-3,583.89	8.89	3,583.81	2.33	0.74	2.21
13,729.00	92.90	180.10	10,094.44	-3,678.82	9.06	3,678.74	1.63	1.58	0.42
13,825.00	93.90	180.60	10,088.74	-3,774.65	8.47	3,774.56	1.16	1.04	0.52
13,920.00	93.40	180.70	10,082.69	-3,869.45	7.40	3,869.34	0.54	-0.53	0.11
14,015.00	90.50	180.20	10,079.46	-3,964.38	6.65	3,964.26	3.10	-3.05	-0.53
14,110.00	90.80	180.90	10,078.38	-4,059.37	5.74	4,059.24	0.80	0.32	0.74
14,206.00	91.40	181.40	10,076.54	-4,155.33	3.81	4,155.18	0.81	0.63	0.52
14,301.00	91.40	180.90	10,074.22	-4,250.28	1.91	4,250.11	0.53	0.00	-0.53
14,396.00	91.80	180.50	10,071.57	-4,345.24	0.75	4,345.05	0.60	0.42	-0.42
14,491.00	91.00	180.00	10,069.25	-4,440.21	0.33	4,440.01	0.99	-0.84	-0.53
14,586.00	88.50	179.00	10,069.66	-4,535.20	1.16	4,535.00	2.83	-2.63	-1.05
14,682.00	88.30	178.80	10,072.34	-4,631.14	3.00	4,630.96	0.29	-0.21	-0.21
14,777.00	88.40	178.90	10,075.08	-4,726.08	4.91	4,725.91	0.15	0.11	0.11
14,833.00	87.50	178.60	10,077.08	-4,782.03	6.13	4,781.87	1.69	-1.61	-0.54
Final Svy: 14833.00 MD, 10077.08 TVD									
14,903.00	87.50	178.60	10,080.13	-4,851.94	7.84	4,851.80	0.00	0.00	0.00
LTP: 14903' MD - PTD: 14903.00 MD									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
9,682.75	9,662.97	226.99	69.24	FTP: 9683' MD
14,833.00	10,077.08	-4,782.03	6.13	Final Svy: 14833.00 MD, 10077.08 TVD
14,903.00	10,080.13	-4,851.94	7.84	LTP: 14903' MD
14,903.00	10,080.13	-4,851.94	7.84	PTD: 14903.00 MD

Pro Directional Survey Report

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Wellbore: OH
Design: Surveys

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North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WellPlanner1

Checked By: _____	Approved By: _____	Date: _____
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