Matador Resources

Lea County, New Mexico (NAD 27)
Charles Ling (#1 Pad)
Charles Ling Fed Com #211H

Wellbore #1 30.025.45080

Design: Surveys

Standard Survey Report

27 December, 2018

MS Directional

Company:	Matador Resources	**Local Co-ordinate Reference:**	Well Charles Ling Fed Com #211H
Project:	Lea County, New Mexico (NAD 27)	**TVD Reference:**	Well @ 3639.50usft (Patterson 282)
Site:	Charles Ling (#1 Pad)	**MD Reference:**	Well @ 3639.50usft (Patterson 282)
Well:	Charles Ling Fed Com #211H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Surveys	**Database:**	EDM 5000.1 Conroe DB

Project Lea County, New Mexico (NAD 27)

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 Charles Ling (#1 Pad)

Site Position:		**Northing:**	451,282.26 usft	**Latitude:**	32° 14' 17.734 N
From:	Lat/Long	**Easting:**	742,425.06 usft	**Longitude:**	103° 32' 57.408 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "		

Well Charles Ling Fed Com #211H

Well Position	**+N/-S**	0.00 usft	**Northing:**	451,281.83 usft	**Latitude:**	32° 14' 17.734 N
	+E/-W	0.00 usft	**Easting:**	742,364.81 usft	**Longitude:**	103° 32' 58.110 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,611.00 usft
Grid Convergence:		0.418 °				

Wellbore Wellbore #1

Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	BGGM2018	12/20/2018	6.852	60.012	47,830.30

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	179.61

Survey Program **Date** 12/27/2018

From (usft)	**To (usft)**	**Survey (Wellbore)**	**Tool Name**	**Description**
197.00	17,256.00	MS MWD (Wellbore #1)	MWD	OWSG MWD - Standard

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
197.00	0.70	28.80	197.00	1.05	0.58	-1.05	0.36	0.36	0.00
379.00	1.00	30.40	378.97	3.40	1.92	-3.39	0.17	0.16	0.88
566.00	1.00	348.80	565.95	6.41	2.43	-6.39	0.38	0.00	-22.25
748.00	1.50	321.40	747.91	9.83	0.63	-9.82	0.42	0.27	-15.05
937.00	2.00	324.00	936.82	14.43	-2.85	-14.45	0.27	0.26	1.38
1,127.00	1.90	326.20	1,126.71	19.73	-6.55	-19.77	0.07	-0.05	1.16
1,286.00	4.80	325.60	1,285.42	27.41	-11.78	-27.49	1.82	1.82	-0.38
1,411.00	6.10	327.20	1,409.85	37.31	-18.33	-37.43	1.05	1.04	1.28
1,504.00	5.50	327.00	1,502.37	45.20	-23.43	-45.36	0.65	-0.65	-0.22

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Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Surveys	**Database:**	EDM 5000.1 Conroe 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)
1,692.00	5.20	326.50	1,689.56	59.86	-33.04	-60.08	0.16	-0.16	-0.27
1,880.00	5.00	339.50	1,876.82	74.64	-40.61	-74.91	0.62	-0.11	6.91
2,069.00	3.70	347.00	2,065.27	88.29	-44.87	-88.60	0.75	-0.69	3.97
2,257.00	3.30	346.80	2,252.92	99.47	-47.47	-99.79	0.21	-0.21	-0.11
2,446.00	2.70	340.10	2,441.66	108.95	-50.23	-109.29	0.37	-0.32	-3.54
2,634.00	2.20	347.20	2,629.49	116.64	-52.53	-116.99	0.31	-0.27	3.78
2,823.00	1.70	340.10	2,818.38	122.81	-54.29	-123.18	0.29	-0.26	-3.76
3,012.00	2.60	330.50	3,007.24	129.18	-57.36	-129.57	0.51	0.48	-5.08
3,200.00	4.40	334.50	3,194.89	139.40	-62.56	-139.82	0.97	0.96	2.13
3,389.00	4.90	337.10	3,383.26	153.38	-68.82	-153.84	0.29	0.26	1.38
3,577.00	5.10	338.10	3,570.55	168.53	-75.07	-169.04	0.12	0.11	0.53
3,765.00	4.30	338.90	3,757.91	182.86	-80.72	-183.40	0.43	-0.43	0.43
3,952.00	3.80	340.20	3,944.45	195.23	-85.34	-195.80	0.27	-0.27	0.70
4,139.00	4.60	324.00	4,130.95	207.13	-91.85	-207.75	0.76	0.43	-8.66
4,328.00	4.40	324.30	4,319.37	219.14	-100.53	-219.82	0.11	-0.11	0.16
4,517.00	3.50	335.80	4,507.92	230.29	-107.13	-231.02	0.63	-0.48	6.08
4,705.00	3.40	341.20	4,695.58	240.81	-111.28	-241.56	0.18	-0.05	2.87
4,893.00	3.70	341.60	4,883.22	251.84	-114.99	-252.62	0.16	0.16	0.21
5,081.00	4.50	331.60	5,070.74	264.08	-120.41	-264.90	0.57	0.43	-5.32
5,191.00	4.20	333.20	5,180.42	271.47	-124.28	-272.31	0.29	-0.27	1.45
5,274.00	3.40	329.40	5,263.24	276.31	-126.90	-277.16	1.01	-0.96	-4.58
5,369.00	3.40	330.70	5,358.07	281.19	-129.72	-282.06	0.08	0.00	1.37
5,559.00	3.70	325.80	5,547.71	291.17	-135.92	-292.09	0.22	0.16	-2.58
5,747.00	3.20	324.60	5,735.36	300.47	-142.37	-301.43	0.27	-0.27	-0.64
5,935.00	1.10	27.40	5,923.24	306.35	-144.58	-307.32	1.53	-1.12	33.40
6,122.00	1.30	58.40	6,110.20	309.05	-141.95	-310.01	0.36	0.11	16.58
6,309.00	0.30	263.00	6,297.19	310.10	-140.63	-311.05	0.84	-0.53	-83.10
6,498.00	0.20	166.10	6,486.19	309.72	-141.04	-310.68	0.20	-0.05	-51.27
6,688.00	0.10	224.30	6,676.19	309.28	-141.07	-310.24	0.09	-0.05	30.63
6,876.00	0.20	328.70	6,864.19	309.45	-141.36	-310.40	0.13	0.05	55.53
7,064.00	0.10	351.70	7,052.18	309.89	-141.55	-310.84	0.06	-0.05	12.23
7,252.00	0.30	257.00	7,240.18	309.94	-142.06	-310.90	0.17	0.11	-50.37
7,440.00	0.10	158.30	7,428.18	309.68	-142.48	-310.64	0.18	-0.11	-52.50
7,627.00	0.50	114.80	7,615.18	309.18	-141.67	-310.14	0.23	0.21	-23.26
7,817.00	0.90	120.30	7,805.17	308.08	-139.63	-309.03	0.21	0.21	2.89
8,006.00	0.70	148.10	7,994.15	306.35	-137.74	-307.28	0.23	-0.11	14.71
8,195.00	0.80	136.80	8,183.13	304.41	-136.23	-305.33	0.09	0.05	-5.98
8,383.00	0.80	143.00	8,371.11	302.41	-134.54	-303.31	0.05	0.00	3.30
8,571.00	0.60	146.50	8,559.10	300.54	-133.21	-301.44	0.11	-0.11	1.86
8,760.00	0.50	305.10	8,748.10	300.19	-133.34	-301.09	0.57	-0.05	83.92
8,949.00	0.40	342.40	8,937.09	301.29	-134.21	-302.20	0.16	-0.05	19.74
9,138.00	0.40	333.90	9,126.09	302.51	-134.70	-303.42	0.03	0.00	-4.50
9,326.00	0.70	15.00	9,314.08	304.21	-134.69	-305.12	0.25	0.16	21.86

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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)
9,515.00	0.60	132.60	9,503.07	304.65	-133.66	-305.56	0.59	-0.05	62.22
9,703.00	0.20	262.50	9,691.07	303.95	-133.26	-304.85	0.40	-0.21	69.10
9,893.00	0.20	96.90	9,881.07	303.86	-133.26	-304.76	0.21	0.00	-87.16
10,081.00	0.20	223.00	10,069.07	303.58	-133.16	-304.48	0.19	0.00	67.07
10,270.00	0.50	151.60	10,258.06	302.62	-132.99	-303.51	0.25	0.16	-37.78
10,458.00	0.70	139.90	10,446.05	301.02	-131.86	-301.91	0.12	0.11	-6.22
10,648.00	0.90	304.60	10,636.05	300.98	-132.35	-301.87	0.83	0.11	86.68
10,837.00	0.20	52.70	10,825.04	302.02	-133.30	-302.92	0.52	-0.37	57.20
11,026.00	0.60	54.20	11,014.03	302.80	-132.24	-303.69	0.21	0.21	0.79
11,215.00	1.00	31.00	11,203.02	304.79	-130.59	-305.67	0.27	0.21	-12.28
11,404.00	1.40	55.00	11,391.98	307.53	-127.85	-308.39	0.34	0.21	12.70
11,622.00	1.40	5.60	11,609.92	311.71	-125.41	-312.55	0.54	0.00	-22.66
11,812.00	0.80	191.80	11,799.90	312.72	-125.45	-313.56	1.16	-0.32	-91.47
11,907.00	14.40	191.60	11,893.85	300.44	-127.97	-301.30	14.32	14.32	-0.21
11,954.00	23.70	189.20	11,938.23	285.36	-130.66	-286.24	19.85	19.79	-5.11
12,002.00	29.20	188.00	11,981.19	264.22	-133.84	-265.13	11.51	11.46	-2.50
12,013.78	29.71	187.26	11,991.44	258.48	-134.61	-259.39	5.34	4.36	-6.26
100' HL Intersection - 12013.78' MD									
12,096.00	33.40	182.70	12,061.50	215.64	-138.25	-216.58	5.34	4.48	-5.55
12,191.00	42.70	176.30	12,136.26	157.23	-137.40	-158.16	10.62	9.79	-6.74
12,285.00	49.40	178.60	12,201.47	89.66	-134.47	-90.58	7.34	7.13	2.45
12,380.00	52.00	180.90	12,261.64	16.16	-134.18	-17.08	3.32	2.74	2.42
12,474.00	58.30	180.70	12,315.32	-60.93	-135.25	60.01	6.70	6.70	-0.21
12,568.00	68.10	180.70	12,357.65	-144.73	-136.27	143.80	10.43	10.43	0.00
12,596.00	71.80	181.50	12,367.25	-171.02	-136.78	170.08	13.48	13.21	2.86
12,689.00	84.80	181.10	12,386.07	-261.87	-138.83	260.92	13.98	13.98	-0.43
12,783.00	93.50	180.60	12,387.46	-355.76	-140.23	354.79	9.27	9.26	-0.53
12,878.00	91.80	179.50	12,383.07	-450.65	-140.31	449.69	2.13	-1.79	-1.16
12,972.00	89.00	182.10	12,382.42	-544.62	-141.62	543.65	4.06	-2.98	2.77
13,066.00	88.50	181.60	12,384.47	-638.55	-144.65	637.55	0.75	-0.53	-0.53
13,161.00	88.60	182.70	12,386.87	-733.45	-148.22	732.43	1.16	0.11	1.16
13,255.00	87.60	182.80	12,389.99	-827.29	-152.72	826.23	1.07	-1.06	0.11
13,349.00	88.10	183.90	12,393.51	-921.06	-158.21	919.96	1.28	0.53	1.17
13,444.00	88.70	180.60	12,396.17	-1,015.94	-161.94	1,014.81	3.53	0.63	-3.47
13,538.00	88.30	180.70	12,398.63	-1,109.90	-163.01	1,108.76	0.44	-0.43	0.11
13,632.00	87.80	179.40	12,401.83	-1,203.84	-163.09	1,202.70	1.48	-0.53	-1.38
13,726.00	87.70	177.50	12,405.52	-1,297.73	-160.55	1,296.61	2.02	-0.11	-2.02
13,820.00	87.90	177.70	12,409.13	-1,391.58	-156.61	1,390.48	0.30	0.21	0.21
13,915.00	88.00	177.80	12,412.52	-1,486.45	-152.89	1,485.37	0.15	0.11	0.11
14,009.00	88.20	177.90	12,415.64	-1,580.33	-149.36	1,579.27	0.24	0.21	0.11
14,044.00	86.40	179.00	12,417.29	-1,615.27	-148.42	1,614.23	6.03	-5.14	3.14
14,103.00	86.50	179.50	12,420.94	-1,674.16	-147.65	1,673.11	0.86	0.17	0.85
14,197.00	87.30	178.60	12,426.03	-1,768.00	-146.09	1,766.97	1.28	0.85	-0.96

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Survey

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14,292.00	88.20	178.10	12,429.76	-1,862.89	-143.36	1,861.87	1.08	0.95	-0.53
14,386.00	89.00	178.20	12,432.05	-1,956.81	-140.32	1,955.81	0.86	0.85	0.11
14,480.00	90.60	178.10	12,432.38	-2,050.76	-137.29	2,049.78	1.71	1.70	-0.11
14,574.00	90.30	179.40	12,431.64	-2,144.73	-135.24	2,143.76	1.42	-0.32	1.38
14,668.00	89.30	179.00	12,431.97	-2,238.72	-133.93	2,237.76	1.15	-1.06	-0.43
14,763.00	89.30	178.70	12,433.13	-2,333.69	-132.02	2,332.74	0.32	0.00	-0.32
14,857.00	90.00	177.90	12,433.71	-2,427.65	-129.23	2,426.71	1.13	0.74	-0.85
14,951.00	89.30	178.10	12,434.28	-2,521.59	-125.95	2,520.67	0.77	-0.74	0.21
15,045.00	88.00	179.00	12,436.49	-2,615.53	-123.57	2,614.63	1.68	-1.38	0.96
15,140.00	89.20	180.20	12,438.82	-2,710.50	-122.91	2,709.60	1.79	1.26	1.26
15,234.00	88.40	180.30	12,440.78	-2,804.47	-123.32	2,803.57	0.86	-0.85	0.11
15,328.00	89.30	181.20	12,442.67	-2,898.45	-124.55	2,897.53	1.35	0.96	0.96
15,422.00	90.20	182.30	12,443.08	-2,992.40	-127.42	2,991.46	1.51	0.96	1.17
15,517.00	90.90	184.00	12,442.17	-3,087.25	-132.64	3,086.27	1.94	0.74	1.79
15,611.00	91.30	182.70	12,440.36	-3,181.07	-138.13	3,180.05	1.45	0.43	-1.38
15,705.00	90.90	179.80	12,438.56	-3,275.02	-140.18	3,273.99	3.11	-0.43	-3.09
15,799.00	89.40	177.80	12,438.31	-3,368.99	-138.21	3,367.97	2.66	-1.60	-2.13
15,893.00	88.90	175.20	12,439.71	-3,462.79	-132.48	3,461.81	2.82	-0.53	-2.77
15,987.00	90.10	172.70	12,440.53	-3,556.26	-122.57	3,555.34	2.95	1.28	-2.66
16,082.00	85.80	176.70	12,443.93	-3,650.75	-113.80	3,649.89	6.18	-4.53	4.21
16,176.00	89.80	178.30	12,447.53	-3,744.57	-109.70	3,743.74	4.58	4.26	1.70
16,270.00	85.60	175.40	12,451.31	-3,838.32	-104.55	3,837.52	5.43	-4.47	-3.09
16,364.00	92.20	180.80	12,453.11	-3,932.16	-101.44	3,931.38	9.07	7.02	5.74
16,458.00	94.20	181.20	12,447.86	-4,026.00	-103.08	4,025.20	2.17	2.13	0.43
16,553.00	87.10	180.60	12,446.79	-4,120.92	-104.57	4,120.11	7.50	-7.47	-0.63
16,647.00	90.50	183.70	12,448.76	-4,214.81	-108.10	4,213.97	4.89	3.62	3.30
16,741.00	85.50	183.10	12,452.04	-4,308.55	-113.67	4,307.68	5.36	-5.32	-0.64
16,835.00	84.00	183.60	12,460.64	-4,402.00	-119.14	4,401.08	1.68	-1.60	0.53
16,929.00	89.30	185.70	12,466.13	-4,495.49	-126.74	4,494.52	6.06	5.64	2.23
17,023.00	87.30	188.80	12,468.92	-4,588.68	-138.60	4,587.63	3.92	-2.13	3.30
17,118.00	85.60	187.40	12,474.80	-4,682.55	-151.96	4,681.40	2.32	-1.79	-1.47
17,193.00	85.80	185.90	12,480.42	-4,756.83	-160.62	4,755.63	2.01	0.27	-2.00
17,212.87	85.80	185.90	12,481.88	-4,776.54	-162.66	4,775.32	0.00	0.00	0.00
330' HL Intersection - 17212.87' MD									
17,256.00	85.80	185.90	12,485.04	-4,819.33	-167.08	4,818.08	0.00	0.00	0.00
Projection to TD-17256.00' MD									

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Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Surveys	**Database:**	EDM 5000.1 Conroe DB

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
12,013.78	11,991.44	258.48	-134.61	100' HL Intersection - 12013.78' MD
17,212.87	12,481.88	-4,776.54	-162.66	330' HL Intersection - 17212.87' MD
17,256.00	12,485.04	-4,819.33	-167.08	Projection to TD-17256.00' MD

Company: Matador Resources
Site: Charles Ling (#1 Pad)
Well: Charles Ling Fed Com #211H
Project: Lea County, New Mexico (NAD 27)
Rig: Patterson 282

MS Directional

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	KOP, 1.00°/100' Build
999.89	4.00	334.47	999.56	12.59	-6.01	-12.63	13.95	Begin 4.00° Tangent
5563.06	4.00	334.47	5553.62	299.87	-143.20	-300.84	332.31	Begin 1.50°/100' Drop
5831.66	0.00	0.00	5820.00	308.28	-147.21	-309.26	341.61	Begin Vertical Hold
11827.46	0.00	0.00	11815.80	308.26	-147.21	-309.26	341.61	Begin 10.00°/100' Build
12527.46	80.00	179.61	12380.05	-165.19	-143.98	164.21	815.07	Begin 6.00°/100' Build
12777.41	89.00	179.61	12394.41	-314.30	-142.96	313.32	964.19	Begin 89.00° Lateral
13964.28	89.00	179.61	12415.18	-1500.96	-134.88	1500.00	2150.87	Begin 2.00°/100' Build
14015.28	90.02	179.61	12415.62	-1551.85	-134.51	1551.00	2201.87	Hold 90.02° Inc
15464.28	90.02	179.61	12415.18	-3000.82	-124.61	3000.00	3650.87	Begin 2.00°/100' Drop
15570.80	87.89	179.61	12417.13	-3107.41	-123.88	3106.50	3757.37	Hold 87.89° Inc
16464.91	87.89	179.61	12450.10	-4000.90	-117.78	4000.00	4650.87	Begin 2.00°/100' Build
16523.03	89.05	179.61	12451.65	-4058.99	-117.39	4058.10	4708.97	Hold 89.05° Inc
17284.58	89.05	179.61	12464.29	-4820.40	-112.19	4819.52	5470.39	PBHL

Azimuths to Grid North
True North: -0.42°
Magnetic North: 8.43°

Magnetic Field
Strength: 47830.3nT
Dip Angle: 60.01°
Date: 12/20/2018
Model: BGGM2018

US State Plane 1927 (Exact solution)
New Mexico East 3001

Created By: BRA
Date: 15:09, December 27 2018
Plan: Design #3

WELL DETAILS: Charles Ling Fed Com #211H

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	451281.83	3611.00 742364.61	32° 16' 17.734 N	103° 32' 58.110 W