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MS Energy Services Survey Data Certification

MS Energy Job Number: DDMO-170929
Survey Type: MWD
Operating Company: Matador Production Company
Well Name & Number: Anne COM 15 24S 28E RB 222H
Location: Eddy County, NM
API Number: 30-015-44421
Tie In Depth: Surface
Surveyed Depths: 139' – 14,305' MD
Projected TD Survey: 14,377' MD
Dates Performed: 10/01/2017 – 10/31/2017

NM OIL CONSERVATION
ARTESIA DISTRICT

DEC 19 2017

RECEIVED

I certify that the data is true, correct and complete and within the limitations of the tool set forth by MS Energy Services; that I am authorized and qualified to make this report and that I have reviewed this report and find it conforms to the principles and procedures as set forth by MS Energy Services.

Digitally signed by:

MWD Surveyor Name:

David Callahan

Date:

12-06-2017

Email:

dcallahan@msenergyservices.com



V09.04.02

SURVEY CALCULATION PROGRAM

DEC 19 2017

12/5/17 20:40

NIM OIL CONSERVATION
ARTESIA DISTRICT

RECEIVED

REFERENCED TO GRID NORTH



Company:	Matador Production Company
Well Name:	Anne COM 15 24S 28E RB 222H - Original Wellbore
Location:	Eddy County, NM
Rig:	Patterson #297
Job Number:	DDMO-170929
API #:	30-015-44421

Vertical Section Azimuth:	89.41	Proposed Direction:	89.41
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Survey Calculation Method:	Minimum Curvature
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PTB:	MD	INC	AZM	TVD	N/S	EW	VS
	14,377	88.5	110.9	10601.36	63.67	3207.04	3207.53

#	Depth Feet	Inc Degrees	Azm Degrees	TVD Feet	N/S Feet	EW Feet	Surface Vert Sec	Closure Distance	Azm	DLS/ 100	BUR/ 100'
TIE IN	0	0.00	0.00	0.00	0.00	0.00			0.00		
1	139	0.60	76.90	139.00	0.16	0.71	0.71	0.73	76.90	0.43	0.43
2	326	0.80	324.60	325.99	1.45	0.91	0.92	1.71	31.99	0.62	0.11
3	522	0.50	310.50	521.98	3.12	-0.54	-0.50	3.17	350.25	0.17	-0.15
4	692	0.50	336.80	691.97	4.29	-1.39	-1.35	4.51	341.99	0.13	0.00
5	874	1.00	308.40	873.96	6.00	-2.95	-2.89	6.69	333.82	0.33	0.27
6	1,061	2.20	302.60	1060.88	8.95	-7.25	-7.16	11.52	320.98	0.65	0.64
7	1,248	4.80	290.20	1247.52	13.59	-17.62	-17.48	22.25	307.63	1.44	1.39
8	1,435	6.40	277.90	1433.62	17.72	-35.29	-35.11	39.49	296.66	1.06	0.86
9	1,622	6.40	279.50	1619.46	20.87	-55.89	-55.67	59.66	290.48	0.10	0.00
10	1,810	7.00	277.40	1806.17	24.08	-77.59	-77.34	81.24	287.24	0.34	0.32
11	1,997	7.90	279.60	1991.59	27.69	-101.56	-101.27	105.27	285.25	0.50	0.48
12	2,185	6.40	276.80	2178.13	31.08	-124.70	-124.38	128.52	284.00	0.82	-0.80
13	2,371	7.60	276.10	2362.74	33.62	-147.23	-146.87	151.02	282.86	0.65	0.65
14	2,559	7.90	282.50	2549.02	37.74	-172.20	-171.81	176.29	282.36	0.49	0.16
15	2,648	7.70	280.40	2637.20	40.14	-184.04	-183.62	188.37	282.30	0.39	-0.22
16	2,838	10.20	279.30	2824.87	45.15	-213.17	-212.69	217.90	281.96	1.32	1.32
17	2,932	11.50	281.10	2917.19	48.30	-230.58	-230.07	235.58	281.83	1.43	1.38
18	3,025	11.70	281.70	3008.29	52.00	-248.91	-248.36	254.28	281.80	0.25	0.22
19	3,119	11.40	280.40	3100.39	55.61	-267.38	-266.79	273.10	281.75	0.42	-0.32
20	3,212	13.40	284.00	3191.22	59.88	-286.87	-286.24	293.06	281.79	2.30	2.15
21	3,306	13.80	285.40	3282.58	65.49	-308.25	-307.56	315.13	281.99	0.55	0.43
22	3,399	15.00	277.10	3372.67	69.92	-330.89	-330.15	338.20	281.93	2.56	1.29
23	3,493	14.70	275.30	3463.53	72.53	-354.84	-354.07	362.17	281.55	0.59	-0.32
24	3,587	14.40	274.70	3554.51	74.59	-378.36	-377.58	385.65	281.15	0.36	-0.32
25	3,680	14.10	274.60	3644.65	76.44	-401.18	-400.37	408.40	280.79	0.32	-0.32
26	3,774	14.10	274.60	3735.82	78.28	-424.01	-423.18	431.17	280.46	0.00	0.00
27	3,868	13.00	281.80	3827.21	81.36	-445.77	-444.91	453.13	280.34	2.14	-1.17
28	3,961	12.70	280.80	3917.88	85.41	-466.05	-465.15	473.81	280.39	0.40	-0.32
29	4,055	12.30	280.40	4009.65	89.16	-486.05	-485.11	494.16	280.39	0.44	-0.43
30	4,148	11.90	279.20	4100.58	92.48	-505.26	-504.28	513.65	280.37	0.51	-0.43
31	4,242	11.80	279.60	4192.58	95.63	-524.30	-523.29	532.95	280.34	0.14	-0.11
32	4,335	11.80	279.60	4283.61	98.80	-543.05	-542.01	551.97	280.31	0.00	0.00
33	4,429	12.00	279.60	4375.59	102.04	-562.17	-561.08	571.35	280.29	0.21	0.21

V09.04.02

Company: Matador Production Company

Well Name: Anne COM 15 24S 28E RB 222H - Original Wellbore

Location: Eddy County, NM

Rig: Patterson #297

Job Number: DDMO-170929

API #: 30-015-44421

Vertical Section Azimuth: 89.41

Survey Calculation Method: Minimum Curvature

PTB: MD 14,377 INC 88.5 AZM 110.9

TVD 10601.36 EW 63.67 N/S 63.67

Depth Feet Inc Degrees Azm Degrees TVD Feet N/S Feet EW Feet Surface Vert Sec Distance Closure Azm DLS/ 100' BUR/ 100'

#	Depth Feet	Inc Degrees	Azm Degrees	TVD Feet	N/S Feet	EW Feet	Surface Vert Sec	Distance Closure	Azm	DLS/ 100'	BUR/ 100'
34	4,523	12.20	283.30	4467.51	105.95	-581.47	-580.34	591.04	280.33	0.85	0.21
35	4,617	12.00	283.30	4559.42	110.48	-600.64	-599.47	610.72	280.42	0.21	-0.21
36	4,710	11.40	281.80	4650.49	114.59	-619.05	-617.84	629.56	280.49	0.72	-0.65
37	4,804	12.10	283.60	4742.52	118.80	-637.72	-636.46	648.69	280.55	0.84	0.74
38	4,897	13.40	283.70	4833.22	123.65	-657.66	-656.35	669.18	280.65	1.40	1.40
39	4,991	12.50	283.00	4924.83	128.52	-678.16	-676.80	690.23	280.73	0.97	-0.96
40	5,084	11.40	282.10	5015.81	132.71	-696.95	-695.55	709.47	280.78	1.20	-1.18
41	5,178	12.20	285.50	5107.83	137.31	-715.61	-714.15	728.66	280.86	1.13	0.85
42	5,271	12.80	285.50	5198.62	142.69	-735.00	-733.49	748.72	280.99	0.65	0.65
43	5,365	11.90	284.40	5290.45	147.88	-754.42	-752.86	768.78	281.09	0.99	-0.96
44	5,458	10.80	283.50	5381.63	152.30	-772.18	-770.58	787.06	281.16	1.20	-1.18
45	5,552	10.30	282.80	5474.04	156.22	-788.94	-787.29	804.26	281.20	0.55	-0.53
46	5,645	9.70	281.20	5565.62	159.58	-804.74	-803.05	820.41	281.22	0.71	-0.65
47	5,739	8.70	281.50	5658.41	162.54	-819.47	-817.75	835.44	281.22	1.07	-1.06
48	5,833	7.30	279.30	5751.50	164.92	-832.33	-830.59	848.51	281.21	1.52	-1.49
49	5,926	4.80	279.60	5843.97	166.52	-842.00	-840.24	858.31	281.19	2.69	-2.69
50	6,020	2.30	234.00	5937.80	166.07	-847.41	-845.65	863.53	281.09	3.82	-2.66
51	6,114	1.70	188.60	6031.75	163.58	-849.14	-847.41	864.75	280.90	1.74	-0.64
52	6,207	1.70	178.00	6124.71	160.84	-849.30	-847.60	864.40	280.72	0.34	0.00
53	6,301	1.90	170.10	6218.66	157.91	-848.98	-847.31	863.54	280.54	0.34	0.21
54	6,394	2.90	109.80	6311.59	155.60	-846.50	-844.86	860.69	280.42	2.75	1.08
55	6,488	3.10	110.60	6405.46	153.90	-841.89	-840.26	855.84	280.36	0.22	0.21
56	6,581	4.10	87.00	6498.28	153.18	-836.21	-834.59	850.13	280.38	1.90	1.08
57	6,675	3.70	82.20	6592.06	153.77	-829.85	-828.22	843.98	280.50	0.55	-0.43
58	6,769	2.90	78.60	6685.91	154.65	-824.52	-822.88	838.89	280.62	0.88	-0.85
59	6,862	2.20	49.50	6778.82	156.28	-820.85	-819.20	835.60	280.78	1.56	-0.75
60	6,956	2.00	64.50	6872.76	158.16	-818.00	-816.33	833.15	280.94	0.62	-0.21
61	7,049	1.00	37.70	6965.72	159.50	-816.04	-814.35	831.48	281.06	1.29	-1.08
62	7,143	0.50	45.90	7059.72	160.43	-815.24	-813.55	830.88	281.13	0.54	-0.53
63	7,236	0.40	167.10	7152.71	160.40	-814.88	-813.18	830.51	281.14	0.84	-0.11
64	7,330	0.70	166.60	7246.71	159.52	-814.67	-812.99	830.14	281.08	0.32	0.32
65	7,423	0.50	207.60	7339.71	158.61	-814.73	-813.05	830.02	281.02	0.49	-0.22
66	7,517	0.70	194.10	7433.70	157.69	-815.06	-813.39	830.17	280.95	0.26	0.21
67	7,611	2.20	185.10	7527.67	155.33	-815.36	-813.72	830.02	280.79	1.61	1.60

V09.04.02

Company: Matador Production Company

Well Name: Anne COM 15 24S 28E RB 222H - Original Wellbore

Location: Eddy County, NM

Rig: Patterson #297

Job Number: DDMO-170929

API #: 30-015-44421

Vertical Section Azimuth:

Survey Calculation Method:

PTB:

MD 14.377

Depth Feet

#

Magnetic Declination: 7.24

REFERENCED TO GRID NORTH



Proposed Direction: 89.41

Minimum Curvature

INC 88.5

AZM 110.9

TVD 10601.36

EW 63.67

N/S 63.67

Surface Vert Sec

Distance Closure

EW 3207.04

Azimuth 280.57

DLS/ 100

BUR/ 100'

VS 3207.53

V09 04 02

Company: Matador Production Company

Well Name: Anne COM 15 24S 28E RB 222H - Original Wellbore

Location: Eddy County, NM

Rig: Patterson #297

Job Number: DDMO-170929

API #: 30-015-44421

Vertical Section Azimuth: 89.41

Survey Calculation Method:

PTB: MD 14.377

INC 88.5

AZM 110.9

TVD 10601.36

N/S 63.67

EW 3207.04

Surface Vert Sec 3207.53

Distance Closure 3207.53

DLS/ 100

BUR/ 100'

Depth Feet

Inc Degrees

Azimuth Degrees

TVD Feet

N/S Feet

EW Feet

Surface Vert Sec

Distance Feet

Closure Feet

Azimuth Degrees

DLS/ 100

BUR/ 100'

101 10.352 36.30 99.40 10242.65 135.10 -719.32 -717.89 731.90 280.64 10.14 7.17

102 10.399 42.30 95.00 10279.01 131.44 -689.81 -688.42 702.22 280.79 14.07 12.77

103 10.446 46.70 94.50 10312.53 128.72 -656.98 -655.62 669.48 281.09 9.39 9.36

104 10.493 50.40 93.70 10343.63 126.21 -621.85 -620.52 634.53 281.47 7.97 7.87

105 10.540 57.70 93.60 10371.21 123.79 -583.91 -582.60 596.89 281.97 15.53 15.53

106 10.587 61.80 93.60 10394.88 121.24 -543.40 -542.12 556.76 282.58 8.72 8.72

107 10.633 63.50 93.00 10416.01 118.89 -502.61 -501.36 516.48 283.31 3.87 3.70

108 10.663 65.20 92.80 10429.00 117.53 -475.60 -474.36 489.91 283.88 5.70 5.67

109 10.754 67.40 96.00 10465.58 111.12 -392.54 -391.38 407.96 285.81 4.03 2.42

110 10.817 70.90 95.10 10488.00 105.43 -333.95 -332.85 350.20 287.52 5.71 5.56

111 10.864 71.60 94.60 10503.11 101.67 -289.61 -288.54 306.93 289.34 1.80 1.49

112 10.912 72.50 95.10 10517.90 97.80 -244.11 -243.09 262.97 291.83 2.12 1.88

113 10.943 74.70 95.80 10526.66 94.98 -214.50 -213.51 234.59 293.88 7.42 7.10

114 10.975 77.30 95.30 10534.40 91.98 -183.60 -182.65 205.35 296.61 8.27 8.12

115 11.006 80.10 95.50 10540.47 89.12 -153.34 -152.42 177.36 300.16 9.05 9.03

116 11.053 85.10 95.00 10546.52 84.85 -106.94 -106.06 136.52 308.43 10.69 10.64

117 11.100 90.00 94.50 10548.53 80.97 -60.16 -59.33 100.87 323.39 10.48 10.43

118 11.195 90.40 93.90 10548.20 74.01 34.58 35.34 81.69 25.04 0.76 0.42

119 11.289 88.50 92.60 10549.10 68.68 128.42 129.12 145.63 61.86 2.45 2.02

120 11.383 86.50 90.90 10553.20 65.81 222.28 222.94 231.82 73.51 2.79 2.13

121 11.478 89.20 91.50 10556.76 63.82 317.18 317.82 323.54 78.62 2.91 2.84

122 11.572 88.80 90.90 10558.40 61.86 411.15 411.76 415.77 81.44 0.77 0.43

123 11.666 90.30 92.20 10559.14 59.31 505.10 505.69 508.57 83.30 2.11 1.60

124 11.760 89.50 91.30 10559.31 56.44 599.06 599.61 601.71 84.62 1.28 0.85

125 11.855 91.30 90.50 10558.64 54.95 694.04 694.57 696.21 85.47 2.07 1.89

126 11.949 87.60 88.80 10559.55 55.52 788.01 788.54 789.97 85.97 4.33 3.94

127 12.044 90.10 88.00 10561.45 58.18 882.95 883.50 884.86 86.23 2.76 2.63

128 12.138 87.60 88.50 10563.34 61.05 976.88 977.46 978.78 86.42 2.71 2.66

129 12.232 88.10 88.80 10566.87 63.26 1070.79 1071.38 1072.65 86.62 0.62 0.53

130 12.327 87.80 87.10 10570.26 66.65 1166.66 1166.29 1167.56 86.73 1.82 0.32

131 12.421 90.80 86.80 10571.41 71.66 1259.51 1260.18 1261.55 86.74 3.21 3.19

132 12.515 88.00 86.50 10572.40 77.15 1353.33 1354.06 1355.53 86.74 3.00 2.98

133 12.609 87.90 87.30 10575.76 82.23 1447.14 1447.91 1449.47 86.75 0.86 0.11

V09.04.02

Company: Matador Production Company

Well Name: Anne COM 15 24S 28E RB 22Z - Original Wellbore

Location: Eddy County, NM

Rig: Patterson #297

Job Number: DDMO-170929

API #: 30-015-44421

Vertical Section Azimuth: 89.41

Survey Calculation Method: Minimum Curvature

Proposed Direction: 89.41

Magnetic Declination: 7.24

REFERENCED TO GRID NORTH

#	Depth Feet	Inc Degrees	Azimuth Degrees	TVD Feet	N/S	TVD Feet	N/S	Surface Vert Sec	Distance Closure	Azimuth	DLS/ 100'	BUR/ 100'
134	12,703	86.40	87.90	10580.43	86.16	1540.93	1541.74	1543.34	86.80	1.72	-1.60	
135	12,797	88.70	89.50	10584.45	88.29	1634.82	1635.64	1637.20	86.91	2.98	2.45	
136	12,892	89.00	87.90	10586.36	90.44	1729.77	1730.61	1732.13	87.01	1.71	0.32	
137	12,986	89.60	87.70	10587.51	94.05	1823.69	1824.56	1826.12	87.05	0.67	0.64	
138	13,080	89.50	87.20	10588.24	98.23	1917.60	1918.51	1920.11	87.07	0.54	-0.11	
139	13,174	89.60	88.80	10588.98	101.51	2011.53	2012.47	2014.09	87.11	1.71	0.11	
140	13,269	86.70	87.10	10592.05	104.91	2106.41	2107.38	2109.02	87.15	3.54	-3.05	
141	13,363	89.90	87.80	10594.84	109.09	2200.26	2201.27	2202.96	87.16	3.48	3.40	
142	13,457	92.40	90.20	10592.95	110.73	2294.21	2295.23	2296.88	87.24	3.69	2.66	
143	13,551	89.10	88.80	10591.72	111.55	2388.19	2389.21	2390.79	87.33	3.81	-3.51	
144	13,645	90.30	89.20	10592.21	113.19	2482.17	2483.20	2484.75	87.39	1.35	1.28	
145	13,739	88.30	90.20	10593.36	113.68	2576.15	2577.19	2578.66	87.47	2.38	-2.13	
146	13,834	88.80	90.90	10595.77	112.77	2671.12	2672.14	2673.50	87.58	0.91	0.53	
147	13,928	89.30	90.60	10597.32	111.54	2765.10	2766.10	2767.35	87.69	0.62	0.53	
148	14,023	90.40	90.90	10597.57	110.30	2860.09	2861.07	2862.21	87.79	1.20	1.16	
149	14,117	90.10	90.40	10597.16	109.23	2954.08	2955.05	2956.10	87.88	0.62	-0.32	
150	14,211	89.30	91.60	10597.65	107.59	3048.06	3049.01	3049.96	87.98	1.53	-0.85	
151	14,305	88.50	110.90	10599.48	89.34	3139.80	3140.56	3141.07	88.37	20.55	-0.85	
PTB:	14,377	88.50	110.90	10601.36	63.67	3207.04	3207.53	3207.67	88.86	0.00	0.00	

V09.04.02

Company:		Matador Production Company									
Well Name:		Anne COM 15 24S 28E RB 222H - Sidetrack									
Location:		Eddy County, NM									
Rig:		Patterson #297									
Job Number:		DDMO-170929									
API #:		30-015-44421									
Vertical Section Azimuth:		89.41									
Survey Calculation Method:		Minimum Curvature									
PTB:	MD		INC		AZM		TVD		N/S		VS
	15,333		87.1		88.5		10686.07		34.38		4256.82
Proposed Direction:		89.41									
Magnetic Declination:		7.24									
REFERENCED TO GRID NORTH											
#	Depth Feet	Inc Degrees	Azm Degrees	TVD Feet	N/S Feet	EW Feet	Surface Vert Sec	Closure Distance	Azm	DLS/ 100	BUR/ 100'
TIE IN	13,269	86.70	87.10	10594.84	109.09	2200.26	2201.27	2202.96	87.16		
1	13,387	81.01	95.10	10607.49	106.88	2317.42	2318.39	2319.88	87.36	8.29	-4.82
2	13,481	82.50	99.60	10620.97	94.98	2409.65	2410.50	2411.52	87.74	5.00	1.59
3	13,575	85.00	96.20	10631.21	82.15	2502.19	2502.90	2503.53	88.12	4.47	2.66
4	13,670	88.20	90.90	10636.85	76.28	2596.79	2597.44	2597.91	88.32	6.51	3.37
5	13,764	89.00	91.00	10639.14	74.73	2690.75	2691.38	2691.79	88.41	0.86	0.85
6	13,858	90.10	93.00	10639.88	71.45	2784.68	2785.27	2785.60	88.53	2.43	1.17
7	13,952	90.30	93.70	10639.55	65.95	2878.52	2879.05	2879.28	88.69	0.77	0.21
8	14,047	91.60	93.70	10637.98	59.82	2973.31	2973.77	2973.91	88.85	1.37	1.37
9	14,141	91.00	93.80	10635.85	53.68	3067.08	3067.47	3067.55	89.00	0.65	-0.64
10	14,235	90.40	88.80	10634.70	51.55	3161.02	3161.38	3161.44	89.07	5.36	-0.64
11	14,329	88.20	93.80	10635.85	49.42	3254.95	3255.29	3255.33	89.13	5.81	-2.34
12	14,424	88.00	92.60	10639.00	44.12	3349.75	3350.03	3350.04	89.25	1.28	-0.21
13	14,518	87.40	93.10	10642.77	39.45	3443.56	3443.78	3443.78	89.34	0.83	-0.64
14	14,612	87.20	93.70	10647.20	33.88	3537.29	3537.45	3537.45	89.45	0.67	-0.21
15	14,706	86.80	92.90	10652.12	28.47	3631.00	3631.10	3631.11	89.55	0.95	-0.43
16	14,801	87.50	92.40	10656.84	24.09	3725.78	3725.83	3725.86	89.63	0.91	0.74
17	14,895	87.20	91.00	10661.18	21.30	3819.64	3819.66	3819.70	89.68	1.52	-0.32
18	14,990	86.80	87.60	10666.16	22.46	3914.49	3914.51	3914.55	89.67	3.60	-0.42
19	15,084	86.90	87.70	10671.32	26.31	4008.27	4008.33	4008.35	89.62	0.15	0.11
20	15,178	85.80	87.90	10677.31	29.91	4102.01	4102.10	4102.11	89.58	1.19	-1.17
21	15,259	87.10	88.50	10682.32	32.45	4182.81	4182.92	4182.93	89.56	1.77	1.60
PTB:	15,333	87.10	88.50	10686.07	34.38	4256.69	4256.82	4256.83	89.54	0.00	0.00