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Survey Company: MS Energy Services
MWD Surveyor Name: Tim Little
Survey Type: MWD
Operating Company: Matador Production Company
Well Name & Number: Joe Coleman 13-23S-27E RB 208H
API Number: 30-015-44060
Surveyed Depths: 146' – 14,231' MD; PTB: 14,312'
Dates Performed: 05/21/2017 – 06/19/2017
Location: Eddy County, NM

NM OIL CONSERVATION
ARTESIA DISTRICT

SEP 29 2017

RECEIVED

30-015-44060

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: Tim Little
Title: MWD Field Specialist
Date: 07-11-2017
Email: tlittle@msenergyservices.com

V09.04.02

Company:	Matador Production Company		
Well Name:	Joe Coleman 13-23S-27E RB 208H		
Location:	Eddy County, NM		
Rig:	Patterson #297	Magnetic Declination:	7.30
Job Number:	DDMO-170457		REFERENCED TO GRID NORTH
API #:	30-015-44060		

Vertical Section Azimuth:	89.96	Proposed Direction:	89.96
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Survey Calculation Method:	Minimum Curvature
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PTB:	MD	INC	AZM	TVD	N/S	E/W	VS
	14,312	83.7	88.3	9443.34	-54.77	5581.11	5581.07

#	Depth Feet	Inc Degrees	Azm Degrees	TVD Feet	N/S Feet	E/W 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	146	0.50	199.90	146.00	-0.60	-0.22	-0.22	0.64	199.90	0.34	0.34
2	238	0.50	247.70	238.00	-1.13	-0.72	-0.73	1.34	212.71	0.44	0.00
3	328	0.80	304.30	327.99	-0.92	-1.61	-1.61	1.85	240.11	0.75	0.33
4	383	1.30	318.40	382.98	-0.24	-2.34	-2.34	2.35	264.12	1.02	0.91
5	511	1.60	335.10	510.94	2.47	-4.06	-4.05	4.75	301.30	0.40	0.23
6	694	0.60	354.20	693.90	5.74	-5.23	-5.22	7.76	317.66	0.57	-0.55
7	878	0.20	66.80	877.90	6.82	-5.03	-5.03	8.48	323.60	0.31	-0.22
8	1,065	3.60	108.90	1064.77	5.05	0.83	0.83	5.12	9.30	1.85	1.82
9	1,252	3.20	100.40	1251.44	2.20	11.51	11.52	11.72	79.16	0.34	-0.21
10	1,439	3.20	100.40	1438.15	0.32	21.78	21.78	21.78	89.16	0.00	0.00
11	1,626	3.90	105.30	1624.79	-2.30	33.05	33.05	33.13	93.98	0.41	0.37
12	1,720	3.60	83.40	1718.60	-2.81	39.06	39.06	39.17	94.11	1.55	-0.32
13	1,813	4.00	82.60	1811.39	-2.05	45.18	45.18	45.23	92.60	0.43	0.43
14	2,000	4.30	91.50	1997.90	-1.40	58.66	58.66	58.67	91.36	0.38	0.16
15	2,187	3.10	96.00	2184.51	-2.11	70.70	70.69	70.73	91.71	0.66	-0.64
16	2,374	2.80	82.00	2371.26	-2.00	80.25	80.25	80.27	91.43	0.42	-0.16
17	2,396	2.90	83.60	2393.24	-1.86	81.33	81.33	81.35	91.31	0.58	0.45
18	2,558	3.60	88.90	2554.98	-1.31	90.49	90.49	90.50	90.83	0.47	0.43
19	2,652	3.90	86.00	2648.77	-1.03	96.63	96.63	96.63	90.61	0.38	0.32
20	2,839	4.10	87.40	2835.32	-0.28	109.65	109.65	109.65	90.15	0.12	0.11
21	3,026	6.60	92.70	3021.49	-0.49	127.07	127.07	127.07	90.22	1.36	1.34
22	3,213	8.00	91.10	3206.97	-1.24	150.81	150.81	150.82	90.47	0.76	0.75
23	3,307	8.20	90.10	3300.03	-1.38	164.06	164.06	164.06	90.48	0.26	0.21
24	3,401	8.10	91.00	3393.08	-1.51	177.38	177.38	177.39	90.49	0.17	-0.11
25	3,588	7.60	88.10	3578.33	-1.33	202.91	202.91	202.92	90.37	0.34	-0.27
26	3,775	7.00	88.70	3763.81	-0.66	226.66	226.66	226.67	90.17	0.32	-0.32
27	3,869	8.30	90.50	3856.98	-0.59	239.18	239.18	239.18	90.14	1.41	1.38
28	3,962	8.90	89.30	3948.93	-0.56	253.08	253.08	253.08	90.13	0.67	0.65
29	4,150	7.30	89.20	4135.05	-0.21	279.57	279.57	279.57	90.04	0.85	-0.85
30	4,337	6.00	86.30	4320.79	0.58	301.20	301.20	301.20	89.89	0.72	-0.70
31	4,524	3.50	94.40	4507.13	0.78	316.65	316.65	316.65	89.86	1.38	-1.34
32	4,618	1.00	58.00	4601.06	0.99	320.21	320.21	320.21	89.82	2.94	-2.66
33	4,711	1.10	57.30	4694.04	1.90	321.65	321.65	321.65	89.66	0.11	0.11

V09.04.02

Company:	Matador Production Company		
Well Name:	Joe Coleman 13-23S-27E RB 208H		
Location:	Eddy County, NM		
Rig:	Patterson #297	Magnetic Declination:	7.30
Job Number:	DDMO-170457	REFERENCED TO GRID NORTH	
API #:	30-015-44060		

Vertical Section Azimuth:	89.96	Proposed Direction:	89.96
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Survey Calculation Method:	Minimum Curvature
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PTB:	MD	INC	AZM	TVD	N/S	E/W	VS
	14,312	83.7	88.3	9443.34	-54.77	5581.11	5581.07

#	Depth Feet	Inc Degrees	Azm Degrees	TVD Feet	N/S Feet	E/W Feet	Surface Vert Sec	Closure Distance	Azm	DLS/ 100	BUR/ 100'
34	4,899	0.90	243.40	4882.03	2.22	321.84	321.85	321.85	89.61	1.06	-0.11
35	5,086	2.50	270.70	5068.94	1.61	316.45	316.45	316.46	89.71	0.94	0.86
36	5,273	1.30	262.50	5255.84	1.38	310.27	310.27	310.27	89.74	0.66	-0.64
37	5,460	0.90	265.30	5442.80	0.99	306.70	306.70	306.71	89.82	0.22	-0.21
38	5,647	1.30	272.80	5629.77	0.97	303.12	303.12	303.12	89.82	0.23	0.21
39	5,834	1.50	315.80	5816.72	2.83	299.30	299.30	299.31	89.46	0.56	0.11
40	6,022	1.10	294.30	6004.67	5.33	295.94	295.94	295.98	88.97	0.33	-0.21
41	6,209	0.50	21.40	6191.66	6.83	294.60	294.60	294.68	88.67	0.63	-0.32
42	6,397	0.90	43.70	6379.64	8.66	295.92	295.92	296.04	88.32	0.25	0.21
43	6,584	1.20	70.40	6566.61	10.38	298.78	298.78	298.96	88.01	0.30	0.16
44	6,771	1.00	142.60	6753.58	9.74	301.61	301.62	301.77	88.15	0.70	-0.11
45	6,958	0.80	201.10	6940.56	7.23	302.13	302.14	302.22	88.63	0.48	-0.11
46	7,146	1.00	20.10	7128.56	7.54	302.22	302.23	302.32	88.57	0.96	0.11
47	7,333	1.10	260.10	7315.54	8.77	301.02	301.02	301.14	88.33	0.97	0.05
48	7,520	1.80	255.30	7502.48	7.71	296.41	296.41	296.51	88.51	0.38	0.37
49	7,707	1.70	265.90	7689.39	6.77	290.80	290.81	290.88	88.67	0.18	-0.05
50	7,894	0.80	260.00	7876.35	6.35	286.75	286.75	286.82	88.73	0.49	-0.48
51	8,082	1.30	135.00	8064.33	4.61	286.96	286.97	287.00	89.08	1.00	0.27
52	8,269	0.90	86.90	8251.30	3.19	289.93	289.93	289.95	89.37	0.52	-0.21
53	8,456	1.60	177.20	8438.27	0.66	291.52	291.52	291.53	89.87	0.98	0.37
54	8,611	2.30	179.30	8593.18	-4.61	291.67	291.66	291.70	90.91	0.45	0.45
55	8,667	2.10	187.70	8649.14	-6.75	291.54	291.54	291.62	91.33	0.68	-0.36
56	8,713	4.80	129.10	8695.06	-8.80	292.93	292.92	293.06	91.72	8.95	5.87
57	8,760	11.50	115.80	8741.56	-12.08	298.68	298.67	298.92	92.32	14.72	14.26
58	8,807	18.40	106.20	8786.95	-16.20	310.03	310.02	310.46	92.99	15.55	14.68
59	8,854	23.50	103.90	8830.83	-20.52	326.26	326.25	326.91	93.60	10.99	10.85
60	8,901	28.30	103.30	8873.10	-25.34	346.21	346.20	347.14	94.19	10.23	10.21
61	8,948	31.80	103.30	8913.77	-30.75	369.11	369.09	370.39	94.76	7.45	7.45
62	8,994	35.00	100.40	8952.17	-35.92	393.89	393.87	395.53	95.21	7.77	6.96
63	9,041	37.40	96.10	8990.10	-39.87	421.35	421.32	423.23	95.41	7.43	5.11
64	9,088	40.50	94.70	9026.65	-42.64	450.76	450.73	452.78	95.40	6.86	6.60
65	9,135	43.70	94.20	9061.52	-45.08	482.17	482.14	484.28	95.34	6.85	6.81
66	9,181	46.20	93.50	9094.07	-47.26	514.60	514.56	516.76	95.25	5.54	5.43
67	9,228	48.50	93.80	9125.91	-49.46	549.09	549.06	551.32	95.15	4.92	4.89

V09.04.02

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Job Number:	DDMO-170457	REFERENCED TO GRID NORTH	
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Vertical Section Azimuth:	89.96	Proposed Direction:	89.96
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PTB:	MD	INC	AZM	TVD	N/S	E/W	VS
	14,312	83.7	88.3	9443.34	-54.77	5581.11	5581.07

#	Depth Feet	Inc Degrees	Azm Degrees	TVD Feet	N/S Feet	E/W Feet	Surface Vert Sec	Closure Distance	Azm	DLS/ 100	BUR/ 100'
68	9,275	52.00	96.60	9155.97	-52.76	585.07	585.03	587.44	95.15	8.74	7.45
69	9,322	55.10	98.10	9183.89	-57.60	622.55	622.51	625.21	95.29	7.08	6.60
70	9,369	58.10	99.60	9209.76	-63.65	661.32	661.27	664.37	95.50	6.92	6.38
71	9,416	62.50	98.50	9233.04	-70.06	701.62	701.57	705.11	95.70	9.58	9.36
72	9,463	68.10	97.50	9252.67	-75.99	743.89	743.84	747.76	95.83	12.07	11.91
73	9,509	74.40	96.40	9267.45	-81.25	787.11	787.05	791.29	95.89	13.88	13.70
74	9,589	81.10	95.40	9284.42	-89.28	864.83	864.77	869.42	95.89	8.46	8.37
75	9,673	82.40	93.80	9296.47	-95.94	947.69	947.62	952.53	95.78	2.44	1.55
76	9,718	89.40	91.00	9299.69	-97.81	992.50	992.43	997.31	95.63	16.75	15.56
77	9,767	92.50	88.90	9298.87	-97.77	1041.48	1041.42	1046.06	95.36	7.64	6.33
78	9,862	89.80	88.80	9296.97	-95.87	1136.44	1136.37	1140.47	94.82	2.84	-2.84
79	9,956	89.60	88.80	9297.46	-93.90	1230.42	1230.35	1233.99	94.36	0.21	-0.21
80	10,050	89.60	88.60	9298.12	-91.76	1324.39	1324.33	1327.56	93.96	0.21	0.00
81	10,144	88.50	88.10	9299.67	-89.06	1418.34	1418.27	1421.13	93.59	1.29	-1.17
82	10,238	87.20	87.80	9303.20	-85.70	1512.21	1512.15	1514.63	93.24	1.42	-1.38
83	10,333	89.50	89.20	9305.94	-83.21	1607.13	1607.07	1609.28	92.96	2.83	2.42
84	10,427	89.50	88.90	9306.76	-81.65	1701.11	1701.05	1703.07	92.75	0.32	0.00
85	10,521	89.10	88.60	9307.90	-79.60	1795.08	1795.02	1796.84	92.54	0.53	-0.43
86	10,615	88.40	88.10	9309.96	-76.90	1889.02	1888.96	1890.58	92.33	0.92	-0.74
87	10,709	88.40	88.00	9312.58	-73.70	1982.93	1982.88	1984.30	92.13	0.11	0.00
88	10,803	88.90	89.90	9314.79	-71.98	2076.88	2076.83	2078.13	91.98	2.09	0.53
89	10,897	88.70	89.60	9316.76	-71.57	2170.86	2170.81	2172.04	91.89	0.38	-0.21
90	10,992	88.50	89.20	9319.08	-70.57	2265.83	2265.78	2266.92	91.78	0.47	-0.21
91	11,086	88.40	88.90	9321.63	-69.02	2359.78	2359.73	2360.79	91.68	0.34	-0.11
92	11,180	89.40	89.30	9323.43	-67.54	2453.75	2453.70	2454.68	91.58	1.15	1.06
93	11,274	89.20	88.90	9324.58	-66.06	2547.73	2547.68	2548.58	91.49	0.48	-0.21
94	11,368	88.10	89.40	9326.79	-64.67	2641.69	2641.64	2642.48	91.40	1.29	-1.17
95	11,461	86.70	88.90	9331.01	-63.29	2734.58	2734.54	2735.31	91.33	1.60	-1.51
96	11,555	87.70	88.90	9335.60	-61.49	2828.45	2828.41	2829.12	91.25	1.06	1.06
97	11,650	87.90	89.80	9339.25	-60.41	2923.37	2923.33	2924.00	91.18	0.97	0.21
98	11,744	89.10	91.10	9341.71	-61.15	3017.34	3017.29	3017.95	91.16	1.88	1.28
99	11,838	89.50	91.10	9342.86	-62.96	3111.31	3111.27	3111.95	91.16	0.43	0.43
100	11,932	89.40	91.00	9343.76	-64.68	3205.29	3205.24	3205.94	91.16	0.15	-0.11
101	12,027	90.00	91.00	9344.26	-66.34	3300.27	3300.23	3300.94	91.15	0.63	0.63

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		14,312	83.7	88.3	9443.34	-54.77	5581.11	5581.07			
#	Depth Feet	Inc Degrees	Azm Degrees	TVD Feet	N/S Feet	E/W Feet	Surface Vert Sec	Closure Distance	Azm	DLS/ 100	BUR/ 100'
102	12,120	90.90	90.90	9343.53	-67.88	3393.26	3393.21	3393.94	91.15	0.97	0.97
103	12,214	89.30	90.30	9343.37	-68.86	3487.25	3487.20	3487.93	91.13	1.82	-1.70
104	12,309	89.10	90.10	9344.69	-69.19	3582.24	3582.19	3582.91	91.11	0.30	-0.21
105	12,371	88.10	90.10	9346.21	-69.30	3644.22	3644.17	3644.88	91.09	1.61	-1.61
106	12,403	87.00	89.30	9347.58	-69.13	3676.19	3676.14	3676.84	91.08	4.25	-3.44
107	12,497	86.80	89.10	9352.66	-67.82	3770.04	3769.99	3770.65	91.03	0.30	-0.21
108	12,591	86.60	88.80	9358.07	-66.10	3863.87	3863.82	3864.44	90.98	0.38	-0.21
109	12,684	87.30	88.50	9363.02	-63.92	3956.71	3956.67	3957.23	90.93	0.82	0.75
110	12,778	86.90	88.90	9367.77	-61.79	4050.57	4050.52	4051.04	90.87	0.60	-0.43
111	12,872	86.40	89.60	9373.27	-60.56	4144.40	4144.35	4144.84	90.84	0.91	-0.53
112	12,966	86.00	89.60	9379.50	-59.90	4238.19	4238.15	4238.61	90.81	0.43	-0.43
113	13,060	85.20	88.70	9386.71	-58.51	4331.90	4331.86	4332.29	90.77	1.28	-0.85
114	13,154	90.40	92.40	9390.32	-59.42	4425.78	4425.73	4426.18	90.77	6.79	5.53
115	13,249	90.70	91.70	9389.40	-62.82	4520.71	4520.67	4521.15	90.80	0.80	0.32
116	13,343	90.60	91.80	9388.34	-65.69	4614.66	4614.61	4615.13	90.82	0.15	-0.11
117	13,437	89.80	91.40	9388.01	-68.31	4708.62	4708.57	4709.12	90.83	0.95	-0.85
118	13,531	88.10	90.30	9389.73	-69.71	4802.59	4802.54	4803.10	90.83	2.15	-1.81
119	13,626	86.90	89.80	9393.88	-69.79	4897.50	4897.45	4898.00	90.82	1.37	-1.26
120	13,720	89.90	90.50	9396.50	-70.04	4991.45	4991.40	4991.94	90.80	3.28	3.19
121	13,814	87.30	89.50	9398.80	-70.04	5085.41	5085.36	5085.90	90.79	2.96	-2.77
122	13,908	85.60	88.10	9404.62	-68.07	5179.21	5179.16	5179.65	90.75	2.34	-1.81
123	14,002	84.40	87.90	9412.81	-64.81	5272.79	5272.74	5273.19	90.70	1.29	-1.28
124	14,096	85.20	88.10	9421.33	-61.54	5366.35	5366.30	5366.70	90.66	0.88	0.85
125	14,190	84.10	88.10	9430.09	-58.44	5459.88	5459.84	5460.20	90.61	1.17	-1.17
126	14,231	83.70	88.30	9434.45	-57.16	5500.63	5500.59	5500.93	90.60	1.09	-0.98
PTB:	14,312	83.70	88.30	9443.34	-54.77	5581.11	5581.07	5581.38	90.56	0.00	0.00