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30-015-44623

MS Directional Survey Data Certification

NM OIL CONSERVATION

ARTESIA DISTRICT

DEC 24 2018

MS Directional Job Number: MSMO-53863
Survey Type: MWD
Operating Company: Matador Production Company
Well Name & Number: Michael Collins 11-23S-27E RB 201H
Location: Eddy County, NM
API Number: 30-015-44623
Tie In Depth: Surface
Surveyed Depths: 199' – 14,024' MD
Projected TD Survey: 14,095' MD
Dates Performed: 08/06/2018 – 09/14/2018

RECEIVED

I certify that the data is true, correct and complete and within the limitations of the tool set forth by MS Directional; 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 Directional.

Digitally signed by:

MWD Surveyor Name: Patrick Walker

Date: 10-04-2018

Email: pwalker@msdir.com

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SURVEY CALCULATION PROGRAM

10/2/18 10:32



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Company:	Matador Production Company
Well Name:	Michael Collins 11-23S-27E RB 201H
Location:	Eddy County, NM
Rig:	Patterson #810
Job Number:	MSMO-53863
API #:	30-015-44623

Magnetic Declination: 7.08 REFERENCED TO GRID NORTH

Vertical Section Azimuth: 269.51 Proposed Direction: 269.51

Survey Calculation Method: Minimum Curvature

PTB:	MD	INC	AZM	TVD	N/S	E/W	VS
	14,095	91	270.1	9100.58	570.66	-4769.42	4764.37

#	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	199	0.20	263.90	199.00	-0.04	-0.35	0.35	0.35	263.90	0.10	0.10
2	369	0.70	301.20	368.99	0.47	-1.53	1.52	1.60	287.07	0.33	0.29
3	511	1.10	312.30	510.98	1.84	-3.28	3.26	3.76	299.25	0.31	0.28
4	601	1.00	309.70	600.96	2.92	-4.52	4.50	5.38	302.85	0.12	-0.11
5	691	1.80	1.40	690.94	4.83	-5.09	5.05	7.02	313.51	1.57	0.89
6	782	2.80	17.40	781.86	8.38	-4.39	4.32	9.46	332.35	1.30	1.10
7	877	3.10	34.20	876.74	12.72	-2.25	2.15	12.92	349.95	0.96	0.32
8	972	2.80	43.50	971.61	16.53	0.79	-0.93	16.55	2.73	0.59	-0.32
9	1,067	2.50	46.90	1066.51	19.63	3.90	-4.06	20.01	11.23	0.36	-0.32
10	1,161	2.60	44.10	1160.42	22.56	6.88	-7.07	23.59	16.95	0.17	0.11
11	1,256	4.00	30.50	1255.26	26.96	10.06	-10.29	28.78	20.46	1.68	1.47
12	1,352	4.80	25.70	1350.98	33.47	13.50	-13.79	36.09	21.97	0.92	0.83
13	1,447	4.50	31.60	1445.66	40.22	17.18	-17.52	43.74	23.12	0.59	-0.32
14	1,542	4.40	46.40	1540.38	45.91	21.77	-22.16	50.81	25.37	1.21	-0.11
15	1,637	4.40	54.50	1635.10	50.54	27.37	-27.81	57.48	28.44	0.65	0.00
16	1,732	4.50	52.30	1729.82	54.94	33.29	-33.76	64.24	31.21	0.21	0.11
17	1,827	4.80	52.20	1824.50	59.65	39.38	-39.89	71.48	33.43	0.32	0.32
18	1,922	4.90	41.40	1919.17	65.13	45.20	-45.76	79.28	34.76	0.97	0.11
19	2,018	4.90	38.50	2014.81	71.41	50.47	-51.08	87.45	35.25	0.26	0.00
20	2,113	4.50	39.70	2109.49	77.46	55.37	-56.03	95.21	35.56	0.43	-0.42
21	2,208	4.20	39.60	2204.22	83.01	59.97	-60.68	102.40	35.85	0.32	-0.32
22	2,304	3.90	41.30	2299.98	88.17	64.37	-65.12	109.16	36.13	0.34	-0.31
23	2,321	3.90	42.90	2316.94	89.02	65.14	-65.90	110.31	36.19	0.64	0.00
24	2,429	3.90	41.40	2424.69	94.47	70.07	-70.88	117.62	36.57	0.09	0.00
25	2,492	4.60	35.70	2487.52	98.13	72.96	-73.80	122.28	36.63	1.30	1.11
26	2,588	6.10	33.00	2583.10	105.53	77.99	-78.89	131.22	36.46	1.58	1.56
27	2,682	7.70	30.40	2676.41	115.15	83.89	-84.88	142.47	36.07	1.73	1.70
28	2,777	8.20	26.20	2770.50	126.72	90.11	-91.19	155.49	35.41	0.81	0.53
29	2,873	9.60	27.50	2865.34	139.97	96.83	-98.02	170.19	34.67	1.47	1.46
30	2,968	9.50	27.30	2959.03	153.96	104.08	-105.39	185.84	34.06	0.11	-0.11
31	3,063	8.60	25.80	3052.84	167.32	110.77	-112.19	200.66	33.50	0.98	-0.95
32	3,157	10.00	23.80	3145.61	181.12	117.12	-118.66	215.69	32.89	1.53	1.49
33	3,252	10.10	21.80	3239.15	196.40	123.54	-125.22	232.02	32.17	0.38	0.11

Company:		Matador Production Company												
Well Name:		Michael Collins 11-23S-27E RB 201H												
Location:		Eddy County, NM												
Rig:		Patterson #810						Magnetic Declination:		7.08			REFERENCED TO GRID NORTH	
Job Number:		MSMO-53863												
API #:		30-015-44623												
Vertical Section Azimuth:					269.51		Proposed Direction:		269.51					
Survey Calculation Method:					Minimum Curvature									
PTB:	MD		INC		AZM		TVD		N/S		E/W		VS	
	14,095		91		270.1		9100.58		570.66		-4769.42		4764.37	
#	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	3,348	9.90	22.30	3333.69	211.85	129.80	-131.61	248.45	31.50	0.23	-0.21			
35	3,443	9.30	22.10	3427.36	226.52	135.78	-137.72	264.10	30.94	0.63	-0.63			
36	3,538	8.60	22.10	3521.20	240.21	141.35	-143.39	278.71	30.47	0.74	-0.74			
37	3,633	9.50	28.40	3615.02	253.69	147.75	-149.91	293.58	30.22	1.41	0.95			
38	3,728	9.20	28.70	3708.76	267.25	155.12	-157.40	309.00	30.13	0.32	-0.32			
39	3,824	10.20	29.40	3803.38	281.38	162.98	-165.38	325.18	30.08	1.05	1.04			
40	3,919	10.50	29.90	3896.84	296.22	171.43	-173.95	342.24	30.06	0.33	0.32			
41	4,014	10.40	30.30	3990.26	311.12	180.07	-182.72	359.47	30.06	0.13	-0.11			
42	4,109	9.90	30.10	4083.78	325.59	188.49	-191.27	376.22	30.07	0.53	-0.53			
43	4,203	9.00	28.90	4176.50	339.02	196.09	-198.99	391.65	30.05	0.98	-0.96			
44	4,298	9.10	23.80	4270.32	352.40	202.72	-205.72	406.55	29.91	0.85	0.11			
45	4,394	10.20	28.20	4364.96	366.84	209.80	-212.93	422.59	29.77	1.38	1.15			
46	4,489	9.50	29.10	4458.56	381.10	217.59	-220.84	438.84	29.72	0.75	-0.74			
47	4,584	8.60	28.60	4552.38	394.19	224.80	-228.16	453.78	29.70	0.95	-0.95			
48	4,679	9.20	35.40	4646.23	406.61	232.60	-236.07	468.44	29.77	1.27	0.63			
49	4,774	8.90	34.90	4740.05	418.83	241.20	-244.77	483.32	29.94	0.33	-0.32			
50	4,869	7.90	33.80	4834.03	430.28	249.04	-252.71	497.16	30.06	1.07	-1.05			
51	4,965	7.10	32.60	4929.21	440.76	255.90	-259.67	509.67	30.14	0.85	-0.83			
52	5,060	6.30	31.50	5023.56	450.16	261.79	-265.63	520.74	30.18	0.85	-0.84			
53	5,251	5.00	28.80	5213.63	466.39	271.28	-275.26	539.54	30.18	0.69	-0.68			
54	5,441	3.90	19.50	5403.05	479.73	277.42	-281.52	554.17	30.04	0.69	-0.58			
55	5,631	3.10	11.20	5592.70	490.86	280.58	-284.77	565.39	29.75	0.50	-0.42			
56	5,822	2.50	342.70	5783.48	499.91	280.34	-284.61	573.15	29.28	0.78	-0.31			
57	6,011	2.30	298.40	5972.33	505.65	275.78	-280.09	575.96	28.61	0.96	-0.11			
58	6,201	1.40	43.40	6162.27	509.15	274.02	-278.37	578.20	28.29	1.57	-0.47			
59	6,392	1.50	76.60	6353.21	511.42	278.06	-282.42	582.12	28.53	0.44	0.05			
60	6,582	1.10	143.10	6543.17	510.54	281.57	-285.93	583.04	28.88	0.77	-0.21			
61	6,773	1.30	156.00	6734.13	507.09	283.55	-287.88	580.99	29.21	0.18	0.10			
62	6,963	1.70	168.60	6924.06	502.36	284.99	-289.27	577.57	29.57	0.27	0.21			
63	7,154	1.20	170.60	7115.00	497.61	285.87	-290.12	573.88	29.88	0.26	-0.26			
64	7,344	1.80	143.50	7304.94	493.25	287.97	-292.18	571.16	30.28	0.48	0.32			
65	7,534	2.40	110.10	7494.82	489.48	293.48	-297.66	570.73	30.95	0.70	0.32			
66	7,725	1.10	55.20	7685.73	489.16	298.75	-302.92	573.17	31.41	1.04	-0.68			
67	7,915	0.70	58.80	7875.71	490.80	301.24	-305.42	575.87	31.54	0.21	-0.21			

V09.04.02

Company:	Matador Production Company
Well Name:	Michael Collins 11-23S-27E RB 201H
Location:	Eddy County, NM
Rig:	Patterson #810
Job Number:	MSMO-53863
API #:	30-015-44623

Magnetic Declination: 7.08 REFERENCED TO GRID NORTH

Vertical Section Azimuth: 269.51 Proposed Direction: 269.51

Survey Calculation Method: Minimum Curvature

PTB:	MD	INC	AZM	TVD	N/S	E/W	VS
	14,095	91	270.1	9100.58	570.66	-4769.42	4764.37

#	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	8,104	1.50	87.10	8064.68	491.52	304.69	-308.89	578.30	31.79	0.50	0.42
69	8,295	1.70	75.50	8255.60	492.36	309.93	-314.13	581.79	32.19	0.20	0.10
70	8,485	1.50	74.70	8445.53	493.72	315.06	-319.27	585.68	32.54	0.11	-0.11
71	8,608	1.00	69.50	8568.50	494.52	317.62	-321.84	587.73	32.71	0.42	-0.41
72	8,694	0.80	323.50	8654.49	495.27	317.96	-322.19	588.55	32.70	1.68	-0.23
73	8,742	4.60	300.30	8702.43	496.51	316.10	-320.34	588.59	32.48	8.08	7.92
74	8,790	9.40	283.90	8750.06	498.42	310.63	-314.88	587.30	31.93	10.73	10.00
75	8,838	14.60	277.00	8797.00	500.10	300.82	-305.08	583.60	31.03	11.22	10.83
76	8,885	20.50	283.60	8841.80	502.76	286.92	-291.21	578.87	29.71	13.23	12.55
77	8,933	27.40	285.10	8885.64	507.62	268.07	-272.40	574.05	27.84	14.43	14.38
78	8,980	34.40	286.50	8925.94	514.22	244.87	-249.26	569.54	25.46	14.97	14.89
79	9,028	39.50	282.40	8964.30	521.35	216.93	-221.38	564.68	22.59	11.80	10.63
80	9,075	42.90	284.70	8999.66	528.62	186.85	-191.36	560.67	19.47	7.92	7.23
81	9,123	48.20	284.00	9033.26	537.10	153.66	-158.25	558.65	15.97	11.09	11.04
82	9,170	52.20	279.20	9063.35	544.32	118.31	-122.96	557.02	12.26	11.57	8.51
83	9,218	56.10	274.50	9091.46	548.91	79.70	-84.39	554.67	8.26	11.35	8.13
84	9,265	61.30	272.60	9115.87	551.38	39.63	-44.35	552.80	4.11	11.59	11.06
85	9,313	66.10	270.50	9137.14	552.53	-3.37	-1.36	552.54	359.65	10.74	10.00
86	9,360	72.20	273.10	9153.86	553.93	-47.24	42.50	555.94	355.13	13.97	12.98
87	9,481	76.80	272.70	9186.19	559.82	-163.66	158.86	583.25	343.70	3.81	3.80
88	9,528	81.90	272.30	9194.87	561.83	-209.79	204.98	599.72	339.52	10.88	10.85
89	9,575	85.70	271.50	9199.95	563.38	-256.48	251.65	619.02	335.52	8.26	8.09
90	9,669	93.70	272.40	9200.44	566.58	-350.35	345.49	666.15	328.27	8.56	8.51
91	9,762	92.20	273.00	9195.65	570.95	-443.12	438.22	722.73	322.18	1.74	-1.61
92	9,856	91.70	271.20	9192.45	574.39	-537.00	532.06	786.32	316.93	1.99	-0.53
93	9,951	92.80	271.00	9188.72	576.22	-631.90	626.95	855.18	312.36	1.18	1.16
94	10,045	91.30	270.60	9185.36	577.53	-725.83	720.87	927.56	308.51	1.65	-1.60
95	10,140	90.60	269.90	9183.79	577.94	-820.82	815.84	1003.87	305.15	1.04	-0.74
96	10,234	89.70	268.90	9183.54	576.96	-914.81	909.84	1081.55	302.24	1.43	-0.96
97	10,328	90.00	269.10	9183.79	575.32	-1008.79	1003.84	1161.32	299.70	0.38	0.32
98	10,423	89.90	268.60	9183.87	573.41	-1103.77	1098.83	1243.83	297.45	0.54	-0.11
99	10,517	92.20	267.90	9182.15	570.54	-1197.71	1192.78	1326.66	295.47	2.56	2.45
100	10,611	93.80	267.90	9177.23	567.10	-1291.51	1286.62	1410.54	293.71	1.70	1.70
101	10,705	94.00	268.00	9170.83	563.75	-1385.24	1380.36	1495.56	292.14	0.24	0.21

V09.04.02

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Vertical Section Azimuth:				269.51			Proposed Direction:		269.51					
Survey Calculation Method:				Minimum Curvature										
PTB:	MD		INC		AZM		TVD		N/S		E/W		VS	
	14,095		91		270.1		9100.58		570.66		-4769.42		4764.37	
#	Depth Feet	Inc Degrees	Azm Degrees	TVD Feet	N/S Feet	E/W Feet	Surface Vert Sec	Closure Distance		Azm	DLS/ 100	BUR/ 100'		
136	13,996	91.80	270.50	9102.50	570.39	-4670.44	4665.40	4705.15	276.96		1.90	1.70		
137	14,024	91.00	270.10	9101.82	570.53	-4698.44	4693.38	4732.95	276.92		3.19	-2.86		
PTB:	14,095	91.00	270.10	9100.58	570.66	-4769.42	4764.37	4803.44	276.82		0.00	0.00		