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Survey Company: MS Energy Services
MWD Surveyor Name: Tim Little
Survey Type: MWD
Operating Company: Matador Production Co.
Well Name & Number: Guitar 10-24-28 RB 205H
API Number: 30-015-43993
Surveyed Depths: 2,743' – 14,543' MD; PTB: 14,614'
Dates Performed: 01/21/2017 – 03/09/2017
Location: Eddy County, NM

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: 2017-03-15
Email: tlittle@msenergyservices.com

NM OIL CONSERVATION
ARTESIA DISTRICT
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SURVEY CALCULATION PROGRAM

3/15/17 19:15

Company: Matador Production Co.
Well Name: Guitar 10-24-28 RB 205H
Location: Eddy County, NM
Rig: Patterson #297
Job Number: DDMO-170094
API #: 30-015-43993

Magnetic Declination: 7.27

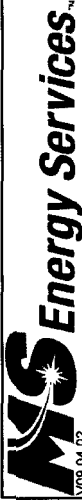


REFERENCED TO GRID NORTH

Vertical Section Azimuth: 268.84 Proposed Direction: 268.84

Survey Calculation Method: Minimum Curvature

#	Depth Feet	Inc		Azimuth Degrees	TVD		N/S	EW		Surface Vert Sec	Closure		DLS/ 100	BUR/ 100'
		MD	14,614		Feet	Feet		Feet	Feet		Distance	Azm		
TIE IN	2,597	0.58	295.28	2596.63	1.53	21.05	-21.08	9647.84	21.11	-311.16	21.11	85.84	0.72	-0.05
1	2,743	0.50	143.00	2742.63	1.34	20.77	-20.79	20.81	20.81	-15.52	16.18	105.25	2.45	2.19
2	2,930	4.60	228.80	2929.42	-4.26	15.61	-15.52	15.61	15.61	-1.48	15.77	173.45	0.97	0.96
3	3,117	6.40	231.60	3115.55	-15.67	1.80	-16.77	1.80	1.80	17.40	35.64	208.08	1.14	1.12
4	3,305	8.50	228.20	3301.96	-31.44	-49.55	-36.58	-36.58	61.58	37.57	61.58	216.44	0.29	-0.27
5	3,492	8.00	226.90	3487.02	-67.49	-55.65	-55.65	-55.65	87.47	57.00	87.47	219.51	0.06	0.05
6	3,679	8.10	226.60	3672.18	-85.98	-75.10	-75.10	-75.10	114.16	76.82	114.16	221.14	0.16	0.16
7	3,866	8.40	226.30	3857.24	-104.57	-94.42	-94.42	-94.42	140.89	96.52	140.89	222.08	0.21	-0.21
8	4,054	8.00	225.90	4043.32	-122.42	-112.91	-112.91	-112.91	166.54	115.36	166.54	222.68	0.11	-0.11
9	4,241	7.80	226.10	4228.55	-140.27	-131.62	-131.62	-131.62	192.36	134.43	192.36	223.18	0.16	0.16
10	4,428	8.10	226.60	4413.75	-158.24	-150.26	-150.26	-150.26	218.21	153.43	218.21	223.52	0.14	-0.11
11	4,614	7.90	225.50	4597.94	-175.72	-167.70	-167.70	-167.70	242.91	171.23	242.91	223.66	0.38	-0.37
12	4,802	7.20	224.30	4784.31	-191.28	-182.53	-182.53	-182.53	264.40	186.36	264.40	223.66	0.65	-0.64
13	4,989	6.00	222.80	4970.07	-204.25	-194.43	-194.43	-194.43	281.99	198.52	281.99	223.59	0.64	-0.64
14	5,176	4.80	222.20	5156.23	-214.49	-201.96	-201.96	-201.96	294.60	206.26	294.60	223.28	1.06	-0.91
15	5,362	3.10	207.30	5341.79	-220.30	-205.00	-205.00	-205.00	300.93	209.42	300.93	222.94	1.17	-1.17
16	5,550	0.90	208.80	5529.66	-223.08	-206.32	-206.32	-206.32	303.86	210.79	303.86	222.76	0.08	0.05
17	5,736	1.00	202.10	5715.64	-226.14	-207.45	-207.45	-207.45	306.88	211.99	306.88	222.53	0.03	0.00
18	5,923	1.00	198.60	5902.61	-229.30	-207.65	-207.65	-207.65	309.35	212.24	309.35	222.16	0.28	0.00
19	6,111	1.00	168.40	6090.58	-233.18	-207.33	-207.33	-207.33	312.03	212.01	312.03	221.64	0.25	0.21
20	6,298	1.40	180.30	6277.54	-238.08	-207.37	-207.37	-207.37	315.73	212.15	315.73	221.06	0.11	0.11
21	6,485	1.60	180.60	6464.48	-242.27	-207.00	-207.00	-207.00	318.66	211.87	318.66	220.51	0.36	-0.32
22	6,672	1.00	166.10	6651.43	-244.85	-206.56	-206.56	-206.56	320.34	211.47	320.34	220.15	0.23	-0.21
23	6,860	0.60	176.90	6839.41	-246.11	-206.90	-206.90	-206.90	321.53	211.84	321.53	220.05	0.27	-0.16
24	7,047	0.30	234.40	7026.40	-246.27	-207.26	-207.26	-207.26	321.88	212.21	321.88	220.08	0.17	-0.11
25	7,141	0.20	263.10	7120.40	-246.06	-207.50	-207.50	-207.50	321.88	212.44	321.88	220.14	0.35	0.11
26	7,235	0.30	341.80	7214.40	-245.50	-207.62	-207.62	-207.62	321.52	212.55	321.52	220.22	0.13	0.11
27	7,329	0.40	353.10	7308.40	-244.94	-207.61	-207.61	-207.61	321.09	212.52	321.09	220.28	0.17	-0.11
28	7,422	0.30	12.90	7401.40	-244.46	-207.51	-207.51	-207.51	320.66	212.42	320.66	220.33	0.02	0.00
29	7,516	0.30	9.40	7495.40	-243.65	-207.14	-207.14	-207.14	319.80	212.03	319.80	220.37	0.57	0.53
30	7,610	0.80	30.60	7589.39	-242.48	-206.27	-206.27	-206.27	318.35	211.14	318.35	220.39	0.28	0.22
31	7,703	1.00	40.90	7682.38	-241.84	-205.16	-205.16	-205.16	317.14	210.02	317.14	220.31	0.78	-0.32
32	7,797	0.70	88.30	7776.37	-242.11	-203.66	-203.66	-203.66	316.38	208.52	316.38	220.07	0.62	0.54
33	7,890	1.20	106.80	7869.36										



SURVEY CALCULATION PROGRAM

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Company: Matador Production Co.
Well Name: Guitar 10-24-28 RB 205H
Location: Eddy County, NM
Rig: Patterson #297
Job Number: DDMO-170094
API #: 30-015-43993

Magnetic Declination: 7.27



REFERENCED TO GRID NORTH

Vertical Section Azimuth: 268.84

Proposed Direction: 268.84

Survey Calculation Method: Minimum Curvature

PTB:	MD		INC		AZM		TVD		N/S		E/W		VS	
	14,614		92.9		272.6		9647.84		-311.16		-5363.38		5368.58	
#	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	7,984	1.20	118.30	7963.34	-242.86		-201.85		206.73		315.79	219.73	0.26	0.00
35	8,078	1.60	140.90	8057.31	-244.34		-200.16		205.07		315.86	219.32	0.72	0.43
36	8,171	1.60	143.40	8150.28	-246.39		-198.57		203.51		316.45	218.87	0.08	0.00
37	8,265	1.50	147.10	8244.24	-248.48		-197.12		202.11		317.17	218.42	0.15	-0.11
38	8,359	1.20	150.60	8338.21	-250.37		-195.96		200.99		317.94	218.05	0.33	-0.32
39	8,452	0.80	145.00	8431.20	-251.75		-195.11		200.17		318.51	217.78	0.44	-0.43
40	8,546	0.70	117.00	8525.19	-252.55		-194.23		199.30		318.60	217.56	0.40	-0.11
41	8,639	0.90	126.70	8618.18	-253.24		-193.13		198.22		318.48	217.33	0.26	0.22
42	8,733	0.70	167.80	8712.17	-254.24		-192.42		197.53		318.85	217.12	0.63	-0.21
43	8,827	0.90	207.20	8806.17	-255.46		-192.64		197.77		319.95	217.02	0.61	0.21
44	8,920	1.10	237.80	8899.15	-256.59		-193.73		198.88		321.51	217.05	0.60	0.22
45	9,014	1.50	256.40	8993.13	-257.36		-195.69		200.86		323.30	217.25	0.61	0.43
46	9,135	4.10	266.00	9113.97	-258.03		-201.54		206.72		327.41	217.99	2.18	2.15
47	9,181	10.60	277.60	9159.57	-257.59		-207.38		212.55		330.69	218.84	14.42	14.13
48	9,228	17.60	278.90	9205.13	-255.91		-218.70		223.84		336.63	220.52	14.91	14.89
49	9,275	22.10	275.70	9249.33	-253.94		-234.53		239.62		345.67	222.72	9.85	9.57
50	9,322	26.30	274.60	9292.19	-252.22		-253.71		258.77		357.75	225.17	8.99	8.94
51	9,369	30.20	275.20	9333.58	-250.31		-275.87		280.88		372.51	227.78	8.32	8.30
52	9,416	33.50	273.10	9373.50	-248.54		-300.60		305.57		390.04	230.42	7.41	7.02
53	9,462	36.80	271.60	9411.11	-247.47		-327.06		332.00		410.13	232.89	7.42	7.17
54	9,509	40.30	270.50	9447.86	-246.94		-356.34		361.27		433.54	235.28	7.59	7.45
55	9,556	43.40	271.60	9482.87	-246.36		-387.69		392.59		459.34	237.57	6.78	6.60
56	9,603	46.10	271.30	9516.24	-245.52		-420.76		425.65		487.16	239.74	5.76	5.74
57	9,650	49.00	270.90	9547.96	-244.86		-455.43		460.29		517.08	241.74	6.20	6.17
58	9,697	52.20	272.00	9577.79	-243.94		-491.73		496.57		548.91	243.62	7.04	6.81
59	9,743	55.40	271.80	9604.95	-242.71		-528.83		533.63		581.86	245.35	6.97	6.96
60	9,790	58.50	271.60	9630.58	-241.54		-568.20		572.97		617.41	246.97	6.61	6.60
61	9,837	61.90	271.00	9653.94	-240.62		-608.97		613.71		654.78	248.44	7.32	7.23
62	9,884	65.60	271.60	9674.72	-239.66		-651.10		655.82		693.81	249.79	7.96	7.87
63	9,931	69.00	272.20	9692.86	-238.22		-694.43		699.11		734.15	251.07	7.33	7.23
64	9,978	71.90	273.70	9708.58	-235.93		-738.66		743.28		775.42	252.29	6.86	6.17
65	10,025	74.50	273.90	9722.17	-232.95		-783.55		788.10		817.44	253.44	5.55	5.53
66	10,150	86.10	273.10	9743.19	-225.46		-906.32		910.70		933.94	256.03	9.30	9.28
67	10,244	92.60	272.60	9744.26	-220.79		-1000.15		1004.41		1024.23	257.55	6.94	6.91



SURVEY CALCULATION PROGRAM

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Company: Matador Production Co.
Well Name: Guitar 10-24-28 RB 205H
Location: Eddy County, NM
Rig: Patterson #297
Job Number: DDMO-170094
API #: 30-015-43993

Magnetic Declination: 7.27



REFERENCED TO GRID NORTH

Proposed Direction: 268.84

Vertical Section Azimuth: 268.84

Survey Calculation Method: Minimum Curvature

#	Depth		Inc	Azm		TVD	N/S		Feet	E/W		Surface	Distance		Closure	DLS/		VS
	Feet	Feet		Degrees	Degrees		Feet	Feet		Feet	Feet	Vert Sec				100	100'	
68	10,338	90.60	269.90	9741.63	-218.74	-1094.08	1098.28	1115.73	258.69	3.57	-2.13							
69	10,432	89.40	268.20	9741.63	-220.30	-1188.06	1192.27	1208.31	259.50	2.21	-1.28							
70	10,526	90.10	268.60	9742.04	-222.92	-1282.02	1286.27	1301.26	260.14	0.86	0.74							
71	10,620	91.00	268.20	9741.14	-225.54	-1375.98	1380.26	1394.34	260.69	1.05	0.96							
72	10,715	90.30	268.20	9740.06	-228.53	-1470.92	1475.25	1488.57	261.17	0.74	-0.74							
73	10,809	90.00	267.50	9739.82	-232.05	-1564.86	1569.23	1581.97	261.56	0.81	-0.32							
74	10,903	90.30	267.90	9739.57	-235.83	-1658.78	1663.21	1675.46	261.91	0.53	0.32							
75	10,998	90.10	267.50	9739.24	-239.64	-1753.70	1758.19	1770.00	262.22	0.47	-0.21							
76	11,092	90.40	267.60	9738.83	-243.66	-1847.62	1852.17	1863.61	262.49	0.34	0.32							
77	11,186	90.90	267.70	9737.76	-247.51	-1941.53	1946.14	1957.24	262.73	0.54	0.53							
78	11,280	90.60	267.50	9736.53	-251.45	-2035.44	2040.11	2050.91	262.96	0.38	-0.32							
79	11,374	90.70	268.10	9735.47	-255.06	-2129.36	2134.09	2144.58	263.17	0.65	0.11							
80	11,468	92.70	268.60	9732.68	-257.76	-2223.28	2228.04	2238.17	263.39	2.19	2.13							
81	11,563	93.00	269.00	9727.95	-259.75	-2318.14	2322.92	2332.65	263.61	0.53	0.32							
82	11,657	93.20	268.70	9722.87	-261.63	-2411.98	2416.79	2426.13	263.81	0.38	0.21							
83	11,751	92.00	267.70	9718.61	-264.58	-2505.84	2510.68	2519.77	263.97	1.66	-1.28							
84	11,845	92.50	268.30	9714.92	-267.86	-2599.71	2604.60	2613.47	264.12	0.83	0.53							
85	11,939	90.90	268.00	9712.13	-270.89	-2693.61	2698.55	2707.20	264.26	1.73	-1.70							
86	12,033	89.80	266.90	9711.55	-275.08	-2787.52	2792.51	2801.05	264.36	1.65	-1.17							
87	12,127	89.20	266.60	9712.37	-280.40	-2881.36	2886.45	2894.97	264.44	0.71	-0.64							
88	12,221	88.50	265.40	9714.26	-286.96	-2975.11	2980.31	2988.92	264.49	1.48	-0.74							
89	12,315	90.60	266.60	9715.00	-293.52	-3068.87	3074.18	3082.88	264.54	2.57	2.23							
90	12,409	90.20	266.40	9714.34	-299.26	-3162.69	3168.10	3176.82	264.59	0.48	-0.43							
91	12,502	90.10	266.10	9714.10	-305.34	-3255.49	3261.01	3269.78	264.64	0.34	-0.11							
92	12,596	91.60	266.60	9712.70	-311.32	-3349.29	3354.91	3363.73	264.69	1.68	1.60							
93	12,690	91.00	268.30	9710.57	-315.50	-3443.17	3448.85	3457.59	264.76	1.92	-0.64							
94	12,784	94.70	270.10	9705.90	-316.81	-3537.02	3542.71	3551.18	264.88	4.38	3.94							
95	12,878	94.80	269.60	9698.11	-317.06	-3630.70	3636.37	3644.52	265.01	0.54	0.11							
96	12,970	91.80	265.40	9692.82	-321.07	-3722.43	3728.17	3736.25	265.07	5.60	-3.26							
97	13,064	91.10	266.10	9690.44	-328.03	-3816.14	3822.00	3830.21	265.09	1.05	-0.74							
98	13,158	90.70	267.30	9688.96	-333.44	-3909.97	3915.92	3924.16	265.13	1.35	-0.43							
99	13,253	91.80	268.10	9686.89	-337.26	-4004.87	4010.87	4019.04	265.19	1.43	1.16							
100	13,347	89.90	266.80	9685.49	-341.44	-4098.76	4104.83	4112.95	265.24	2.45	-2.02							



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SURVEY CALCULATION PROGRAM

3/15/17 19:15

Company:	Matador Production Co.
Well Name:	Guitar 10-24-28 RB 205H
Location:	Eddy County, NM
Rig:	Patterson #297
Job Number:	DDMO-170094
API #:	30-015-43993

REFERENCED TO GRID NORTH

Magnetic Declination: 7.27

Vertical Section Azimuth:	268.84
Survey Calculation Method:	Minimum Curvature

Proposed Direction: 268.84

PTB:	MD	INC		AZM	TVD		N/S	EW		N/S	Closure		VS	
	14,614		92.9	272.6		9647.84	-311.16		-5363.38		Distance	Azm	DLS/100	BUR/100'
#	Depth Feet	Inc Degrees	Azm Degrees	TVD Feet	N/S Feet	E/W Feet	Surface Vert Sec	Distance	Azm	DLS/100	BUR/100'			
101	13,440	91.80	268.80	9684.12	-345.01	-4191.67	4197.80	4205.84	265.29	2.97	2.04			
102	13,534	93.90	269.90	9679.44	-346.07	-4285.54	4291.67	4299.49	265.38	2.52	2.23			
103	13,628	94.40	269.60	9672.64	-346.48	-4379.29	4385.41	4392.98	265.48	0.62	0.53			
104	13,722	94.90	269.50	9665.02	-347.22	-4472.98	4479.09	4486.44	265.56	0.54	0.53			
105	13,816	90.90	267.90	9660.26	-349.35	-4566.81	4572.95	4580.16	265.63	4.58	-4.26			
106	13,910	92.50	271.90	9657.47	-349.51	-4660.75	4666.87	4673.84	265.71	4.58	1.70			
107	14,004	90.20	274.20	9655.26	-344.51	-4754.58	4760.58	4767.04	265.86	3.46	-2.45			
108	14,098	90.00	274.50	9655.09	-337.38	-4848.31	4854.14	4860.03	266.02	0.38	-0.21			
109	14,192	91.20	274.60	9654.11	-329.93	-4942.00	4947.67	4953.01	266.18	1.28	1.28			
110	14,286	90.40	273.30	9652.80	-323.45	-5035.77	5041.29	5046.15	266.32	1.62	-0.85			
111	14,380	88.70	271.20	9653.54	-319.76	-5129.69	5135.11	5139.64	266.43	2.87	-1.81			
112	14,474	91.00	272.00	9653.78	-317.14	-5223.64	5228.99	5233.26	266.53	2.59	2.45			
113	14,543	92.90	272.60	9651.43	-314.37	-5292.54	5297.82	5301.87	266.60	2.89	2.75			
PTB:	14,614	92.90	272.60	9647.84	-311.16	-5363.38	5368.58	5372.40	266.68	0.00	0.00			