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MS Energy Services Survey Data Certification

MS Energy Job Number: DDMO-170809
Survey Type: MWD
Operating Company: Matador Production Company
Well Name & Number: Zach McCormick Federal COM 226H
Location: Eddy County, NM
API Number: 30-015-44251
Tie In Depth: 600' MD
Surveyed Depths: 694' – 15,650' MD
Projected TD Survey: 15,727' MD
Dates Performed: 08/22/2017 – 09/11/2017

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.

Tim Little

Digitally signed by: _____
MWD Surveyor Name: Tim Little
Date: 10-05-2017
Email: tlittle@msenergyservices.com

**NM OIL CONSERVATION
ARTESIA DISTRICT**

FEB 27 2018

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SURVEY CALCULATION PROGRAM

10/6/17 16:06

10/6/17 16:06

Company:	Matador Production Company								
Well Name:	Zach McCormick Federal COM 226H								
Location:	Eddy County, NM								
Rig:	Patterson #297								
Job Number:	DDMO-170809								
API #:	30-016-44261								
Vertical Section Azimuth:	90.02								
Survey Calculation Method:	Minimum Curvature								
PTB:	MD								
Depth	15.727								
Feet	84.6								
Inc	92.8								
Degrees	11021.16								
Azm	15.79								
Degrees	5377.09								
TVD	7.51								
Feet	345.67								
NIS	-1.86								
Feet	9.84								
Surface	11.99								
Distance	12.47								
Closure	348.12								
Azm	353.78								
DLS/	1.66								
BUR/	0.20								
100'	0.11								
100'	0.38								
100'	0.66								
100'	1.70								
100'	0.96								
100'	1.12								
100'	1.66								
100'	0.20								
100'	0.11								
100'	0.53								
100'	0.60								
100'	0.54								
100'	1.84								
100'	2.66								
100'	2.66								
100'	0.27								
100'	0.27								
100'	0.55								
100'	0.52								
100'	0.58								
100'	0.81								
100'	1.59								
100'	1.30								
100'	1.78								
100'	0.15								
100'	0.64								
100'	0.05								
100'	0.40								
100'	-0.32								
100'	-0.96								
100'	-0.85								
100'	-0.81								
100'	-0.11								
100'	-0.11								
100'	0.08								
100'	0.10								
100'	0.20								
100'	0.43								
100'	0.13								
100'	0.71								
100'	0.11								



SURVEY CALCULATION PROGRAM

10/6/17 15:06

V03.0.02

Company:		Matador Production Company					
Well Name:		Zach McCormick Federal COM 226H					
Location:		Eddy County, NM					
Rig:		Patterson #297					
Job Number:		DDMO-170809					
API #:		30-015-44251					
Vertical Section Azimuth:		90.02					
Survey Calculation Method:		Minimum Curvature					
PTB:		MD					
		15.727					
		INC					
		84.6					
		AZM					
		92.8					
		TVD					
		11021.16					
		E/W					
		268.55					
		268.32					
		263.77					
		262.87					
		260.77					
		254.95					
		252.61					
		250.73					
		247.49					
		245.86					
		243.96					
		244.99					
		245.35					
		243.36					
		241.71					
		240.58					
		240.21					
		240.32					
		240.15					
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		240.09					
		240.02					
		242.70					
		247.52					
		250.23					
		251.55					
		252.26					
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		252.42					
		252.36					
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SURVEY CALCULATION PROGRAM

10/6/17 15:06

008 04.02	Matador Production Company											
Well Name:	Zach McCormick Federal COM 226H											
Location:	Eddy County, NM											
Rig:	Patterson #297											
Job Number:	DDMO-170809											
API #:	30-015-44261											
Vertical Section Azimuth:	90.02											
Survey Calculation Method:	Minimum Curvature											
PTB:	MD	INC	84.6	AZN	92.8	TVD	11021.16	NS	15.79	EW	6377.09	VS
	15.727											
#	Depth Feet	Inc Degrees	Azm Degrees	TVD Feet	N/S Feet	EW Feet	Surface Vert Sec	Distance Feet	Closure Azim	DLS/ 100	BUR/ 100'	
68	10.449	17.40	109.40	10431.79	44.84	281.00	280.98	284.55	80.93	9.15	9.15	
69	10.496	22.90	100.70	10475.90	40.80	296.63	296.62	299.42	82.17	13.30	11.70	
70	10.543	28.00	97.00	10518.33	37.76	316.58	316.57	318.82	83.20	11.36	10.85	
71	10.590	34.00	94.80	10558.60	35.31	340.65	340.64	342.47	84.08	12.99	12.77	
72	10.636	38.80	89.90	10595.62	34.26	367.90	367.89	369.49	84.68	12.19	10.43	
73	10.683	45.50	89.00	10630.45	34.58	399.42	399.41	400.91	85.05	14.31	14.26	
74	10.730	49.80	89.70	10662.10	34.86	434.14	434.13	435.55	85.40	9.21	9.15	
75	10.777	53.80	89.80	10691.23	35.12	471.02	471.01	472.33	85.74	8.09	8.09	
76	10.823	58.00	89.90	10717.08	35.22	508.08	508.04	510.27	86.04	9.57	9.57	
77	10.870	61.80	90.60	10740.64	35.04	549.71	549.70	550.83	86.35	8.19	8.08	
78	10.917	64.90	91.00	10761.72	34.45	591.71	591.70	592.71	86.67	6.64	6.60	
79	11.009	69.50	91.60	10797.36	32.52	676.47	676.46	677.26	87.25	5.04	5.00	
80	11.056	73.60	89.10	10812.24	32.26	721.04	721.03	721.76	87.44	10.08	8.72	
81	11.103	77.70	86.50	10823.89	34.02	766.53	766.52	767.28	87.46	10.24	8.72	
82	11.150	80.90	85.80	10832.61	37.12	812.60	812.59	813.45	87.38	6.96	6.81	
83	11.198	83.70	85.50	10839.04	40.73	860.03	860.01	860.99	87.29	5.87	5.83	
84	11.245	84.10	85.70	10844.04	44.31	906.62	906.61	907.70	87.20	0.95	0.85	
85	11.292	89.70	86.50	10846.58	47.50	953.43	953.41	954.81	87.15	12.04	11.91	
86	11.386	90.20	86.90	10848.66	52.91	1047.27	1047.25	1048.61	87.11	0.68	0.53	
87	11.481	87.90	84.80	10848.23	59.78	1142.00	1141.97	1143.56	87.00	3.28	-2.42	
88	11.575	86.60	84.10	10852.74	68.86	1235.44	1235.42	1237.36	86.81	1.57	-1.38	
89	11.689	88.00	84.30	10857.17	78.35	1328.86	1328.83	1331.17	86.63	1.50	1.49	
90	11.764	85.40	84.30	10862.64	87.77	1423.22	1423.19	1425.93	86.47	2.74	-2.74	
91	11.858	87.50	86.90	10868.46	94.97	1516.75	1516.72	1519.72	86.42	3.55	2.23	
92	11.952	90.90	90.20	10869.77	97.34	1610.69	1610.65	1613.63	86.54	5.04	3.62	
93	12.046	91.20	91.00	10868.05	96.36	1704.66	1704.63	1707.39	86.76	0.91	0.32	
94	12.141	91.10	91.00	10868.14	94.70	1799.63	1799.60	1802.12	86.99	0.11	-0.11	
95	12.235	91.00	91.90	10864.42	92.32	1893.58	1893.55	1895.83	87.21	0.96	-0.11	
96	12.329	90.20	91.20	10863.44	89.78	1987.54	1987.51	1989.57	87.41	1.13	-0.85	
97	12.423	89.60	90.60	10863.60	88.30	2081.53	2081.50	2083.40	87.57	0.90	-0.64	
98	12.518	80.00	91.30	10863.93	86.73	2176.52	2176.49	2178.24	87.72	0.85	0.42	
99	12.612	89.60	90.60	10864.26	85.17	2270.50	2270.47	2272.10	87.85	0.86	-0.43	
100	12.706	88.90	90.50	10865.49	84.27	2364.49	2364.46	2365.99	87.96	0.75	-0.74	
101	12.801	88.90	90.40	10867.32	83.52	2459.47	2459.44	2460.89	88.06	0.11	0.00	

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Magnetic Declination: 7.06

REFERENCED TO GRID NORTH

Proposed Direction: 90.02



SURVEY CALCULATION PROGRAM

10/6/17 16:06

Company:		Matador Production Company									
Well Name:		Zach McCormick Federal COM 226H									
Location:		Eddy County, NM									
Rig:		Patterson #297									
Job Number:		DDMO-170809									
API #:		30-015-44251									
Vertical Section Azimuth:		90.02									
Survey Calculation Method:		Minimum Curvature									
PTB:		MD		INC		AZM		TVD		E/W	
		15.727		84.6		92.8		11021.16		5377.09	
		Depth		Inc		Azm		TVD		VS	
		Feet		Degrees		Degrees		Feet		100'	
#		Feet		Degrees		Degrees		Feet		100'	
102		12,895		89.30		90.10		10868.79		0.53	
103		12,988		85.90		87.60		10872.69		4.54	
104		13,083		86.00		87.60		10879.40		0.11	
105		13,177		88.60		89.20		10883.82		3.25	
106		13,271		88.40		89.10		10886.28		0.24	
107		13,366		89.50		90.40		10888.03		1.79	
108		13,460		86.90		89.10		10890.98		3.09	
109		13,554		90.70		90.00		10892.95		4.15	
110		13,648		88.60		89.80		10893.52		2.24	
111		13,742		86.00		90.90		10897.95		3.00	
112		13,836		84.90		90.00		10905.40		1.51	
113		13,931		91.00		92.90		10908.80		7.11	
114		14,025		91.70		93.50		10908.59		0.98	
115		14,119		87.30		92.90		10907.41		0.21	
116		14,214		87.30		93.10		10911.88		4.72	
117		14,308		86.30		92.90		10917.13		88.78	
118		14,402		89.40		94.10		10920.66		88.98	
119		14,496		90.80		94.10		10920.49		88.88	
120		14,590		88.10		92.60		10921.39		89.20	
121		14,684		88.50		90.80		10924.18		89.29	
122		14,777		84.40		90.00		10928.94		89.34	
123		14,871		84.20		89.50		10939.28		89.36	
124		14,966		85.50		92.50		10947.81		89.37	
125		15,059		86.10		92.90		10954.62		89.41	
126		15,154		85.50		92.10		10961.57		89.47	
127		15,248		84.30		92.40		10969.93		89.53	
128		15,343		83.10		92.10		10980.36		89.58	
129		15,437		83.60		92.40		10991.24		89.63	
130		15,531		83.30		92.10		11001.96		89.68	
131		15,625		84.90		92.80		11011.63		89.73	
132		15,650		84.60		92.80		11013.91		89.77	
PTB:		15,727		84.60		92.80		11021.16		89.79	
								5377.09		89.83	

Magnetic Declination:		7.08		REFERENCED TO GRID NORTH	
Proposed Direction:		90.02			