



3335 Pollok Drive
Conroe, Texas 77303

936.442.2500 (office)
936.442.2599 (fax)
www.msenergyservices.com

Surveyor Certification Form

NM OIL CONSERVATION
ARTESIA DISTRICT

DEC 20 2017

Survey Company: MS ENERGY SERVICES
Surveyors Name: ERIC ZIRNGIBLE
Survey Job Type: SRG
Customer: MATADOR RESOURCES
Well: RUSTLER BREAKS SWD 3
API: 30-015-44303
Surveyed from: SURFACE TO A DEPTH OF 402' MD
Survey Run Date: 09-26-17
Surface Location: EDDY COUNTY, NM

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 that it conforms to the principles and procedures as set forth by MS Energy Services.

ERIC ZIRNGIBLE

Digitally signed by ERIC ZIRNGIBLE
DN: cn=ERIC ZIRNGIBLE, o=MS ENERGY SERVICES,
ou, email=ezirngible@msenergyservices.com, c=US
Date: 2013.04.03 14:33:57 -05'00'



Job Number: SVMO-170666
Company: Matador Resources
Lease/Well: Rustler Breaks SWD 3
Location: Eddy County, NM
Rig Name: Patterson 810
RKB: 28.50'
G.L. or M.S.L.: GL

State/Country: New Mexico/USA
Declination: Declination See Details Below
Grid: East To Grid North
File name: C:\WINSER~1\2017\MATADOR\MOIRUSTLE~1\SWD3.SVY
Date/Time: 28-Sep-17 / 09:56
Curve Name: Surface - 402' M.D. (SRG)
Lat: 32.287889 Long: -104.139944

MS Energy

WINSERVE SURVEY CALCULATIONS
Minimum Curvature Method
Vertical Section Plane .00
Vertical Section Referenced to Wellhead
Rectangular Coordinates Referenced to Wellhead

Declination To True North: 7.26°
Grid Convergence Factor: 0° 6' 11.89272"
Total Correction Mag to Grid: 7.16°

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
59.00	.67	272.13	59.00	.01	-.34	.01	.34	272.13	1.14
153.00	.93	284.61	152.99	.23	-1.63	.23	1.65	277.87	.33
247.00	1.23	273.87	246.97	.49	-3.38	.49	3.41	278.19	.38
341.00	2.04	278.66	340.93	.81	-6.04	.81	6.09	277.61	.87

Last Survey Depth Recorded

402.00	1.73	303.58	401.90	1.48	-7.88	1.48	8.02	280.63	1.42
--------	------	--------	--------	------	-------	------	------	--------	------

NM OIL CONSERVATION
ARTESIA DISTRICT

DEC 20 2017

RECEIVED



7821 Will Rogers Blvd.
Fort Worth, Texas 76140

817.568.1038 (office)
817.568.1499 (fax)
www.msenergyservices.com

MS Energy Services Survey Data Certification

NM OIL CONSERVATION

ARTESIA DISTRICT

DEC 20 2017

RECEIVED

MS Energy Job Number: DDMO-170971
Survey Type: MWD
Operating Company: Black River Water Management Co, LLC
Well Name & Number: Rustler Breaks SWD 3
Location: Eddy County, NM
API Number: 30-015-44303
Tie In Depth: 412' MD
Surveyed Depths: 515' – 14,448' MD
Projected TD Survey: 14,499' MD
Dates Performed: 09/27/2017 – 10/29/2017

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.

Digitally signed by:

MWD Surveyor Name:

Tyler Teague

Date:

11-29-2017

Email:

tteague@msenergyservices.com

SURVEY CALCULATION PROGRAM

11/29/17 9:08

Company:	Black River Water Management Co, LLC
Well Name:	Rustler Breaks SWD 3
Location:	Eddy County, NM
Rig:	Patterson #810
Job Number:	DDMO-170971
API #:	30-015-44303

Magnetic Declination: 7.16

REFERENCED TO GRID NORTH

Proposed Direction: 0.00

Vertical Section Azimuth: 0.00

Minimum Curvature

Survey Calculation Method: MD

PTB: 14,499

INC 1.9

AZM 68.4

#	Depth Feet	Inc Degrees	Azm Degrees	TVD Feet	N/S Feet	E/W Feet	Surface Vert Sec	Distance	Closure Azimuth	DLS/ 100	BUR/ 100'
TIE IN	402	1.73	303.58	401.90	1.48	-7.88	1.48	8.02	280.64	0.46	0.15
1	515	1.90	319.30	514.84	3.84	-10.52	3.84	11.20	290.07	0.39	0.33
2	606	2.20	324.60	605.79	6.41	-12.52	6.41	14.06	297.12	1.27	-1.09
3	698	1.20	345.90	697.74	8.78	-13.78	8.78	16.34	302.53	1.28	-0.55
4	789	0.70	56.10	788.73	10.02	-13.55	10.02	16.85	306.49	0.21	0.00
5	884	0.70	40.00	883.73	10.79	-12.69	10.79	16.66	310.36	0.35	0.32
6	979	1.00	30.50	978.72	11.95	-11.90	11.95	16.86	315.12	0.27	0.21
7	1,075	1.20	39.10	1,074.70	13.45	-10.84	13.45	17.27	321.13	0.07	0.00
8	1,170	1.20	35.80	1,169.68	15.03	-9.63	15.03	17.85	327.35	0.36	-0.32
9	1,265	0.90	45.00	1,264.66	16.36	-8.52	16.36	18.45	332.49	0.11	0.11
10	1,360	1.00	44.50	1,359.65	17.48	-7.41	17.48	18.99	337.02	0.42	-0.42
11	1,455	0.60	40.60	1,454.64	18.45	-6.51	18.45	19.56	340.57	0.97	0.73
12	1,551	1.30	80.90	1,550.63	19.00	-5.10	19.00	19.68	344.96	1.23	1.16
13	1,646	2.40	93.90	1,645.58	19.04	-2.06	19.04	19.15	353.84	0.92	0.53
14	1,741	2.90	109.60	1,740.48	18.10	2.19	18.10	18.23	6.91	1.07	0.11
15	1,836	3.00	129.40	1,835.35	15.71	6.38	15.71	16.96	22.09	1.02	0.64
16	1,930	3.60	142.40	1,929.20	11.81	10.08	11.81	15.53	40.47	0.92	0.73
17	2,026	4.30	150.20	2,024.97	6.30	13.71	6.30	15.09	65.31	1.58	-0.84
18	2,121	3.50	169.10	2,119.75	0.36	16.03	0.36	16.03	88.70	1.01	-0.21
19	2,216	3.30	184.90	2,214.59	-5.21	16.34	-5.21	17.15	107.68	0.80	-0.63
20	2,311	2.70	193.80	2,309.46	-10.11	15.57	-10.11	18.56	122.98	0.25	0.21
21	2,407	2.90	191.20	2,405.34	-14.68	14.56	-14.68	20.68	135.24	1.24	-1.11
22	2,425	2.70	193.20	2,423.32	-15.54	14.38	-15.54	21.17	137.23	0.31	-0.24
23	2,593	2.30	201.00	2,591.16	-22.54	12.26	-22.54	25.66	151.45	0.83	-0.63
24	2,688	1.70	186.30	2,686.10	-25.72	11.43	-25.72	28.15	156.05	0.33	0.11
25	2,783	1.80	196.00	2,781.06	-28.56	10.86	-28.56	30.55	159.18	1.05	-1.05
26	2,878	0.80	193.60	2,876.03	-30.64	10.29	-30.64	32.32	161.43	0.62	-0.21
27	2,973	0.60	240.40	2,971.03	-31.53	9.71	-31.53	32.99	162.89	0.35	-0.21
28	3,068	0.40	208.30	3,066.02	-32.06	9.12	-32.06	33.34	164.13	0.42	0.42
29	3,163	0.80	202.80	3,161.02	-32.97	8.70	-32.97	35.09	166.87	0.26	0.10
30	3,259	0.90	218.40	3,257.01	-34.18	7.97	-34.18	35.71	168.43	0.48	-0.42
31	3,354	0.50	237.60	3,352.00	-34.98	7.16	-34.98	36.07	169.93	0.21	0.21
32	3,450	0.70	239.00	3,448.00	-35.51	6.30	-35.51	36.73	171.12	0.51	-0.11
33	3,545	0.60	195.80	3,542.99	-36.29	5.67	-36.29				



V09.04.02

SURVEY CALCULATION PROGRAM

11/29/17 9:08

Company: Black River Water Management Co, LLC

Well Name: Rustler Breaks SWD 3

Location: Eddy County, NM

Rig: Patterson #810

Job Number: DDMO-170971

API #: 30-015-44303

Vertical Section Azimuth: 0.00

Survey Calculation Method: Minimum Curvature

PTB: MD 14,499

INC 1.9

AZM 68.4

TVD Feet 3637.99

Feet 3732.98

Feet 3828.97

Feet 3921.96

Feet 4016.96

Feet 4112.95

Feet 4206.94

Feet 4301.94

Feet 4396.94

Feet 4491.93

Feet 4586.92

Feet 4682.92

Feet 4777.92

Feet 4872.92

Feet 4967.91

Feet 5063.91

Feet 5157.91

Feet 5252.90

Feet 5346.90

Feet 5441.89

Feet 5537.89

Feet 5632.89

Feet 5727.89

Feet 5822.88

Feet 5918.88

Feet 6013.88

Feet 6108.87

Feet 6204.87

Feet 6299.87

Feet 6394.87

Feet 6489.87

Feet 6584.86

Feet 6677.86

Feet 6771.85

Feet 6866.85

Feet 6961.85

Feet 7056.85

Feet 7151.85

Feet 7246.85

Magnetic Declination: 7.16

Proposed Direction: 0.00

TVD 14494.95

Feet 5.41

Feet 5.09

Feet 4.75

Feet 4.10

Feet 3.54

Feet 3.25

Feet 2.70

Feet 2.14

Feet 1.82

Feet 1.40

Feet 1.19

Feet 1.17

Feet 0.69

Feet 0.08

Feet -0.25

Feet -0.73

Feet -1.32

Feet -1.51

Feet -1.96

Feet -2.63

Feet -2.85

Feet -3.22

Feet -3.85

Feet -4.57

Feet -5.40

Feet -6.31

Feet -7.19

Feet -7.82

Feet -8.29

Feet -8.67

Feet -9.25

Feet -10.19

Feet -11.10

Feet -11.89

Feet -12.58

Feet -13.27

Feet -13.96

Feet -14.65

Feet -15.34

Feet -16.03

Feet -16.72

Feet -17.41

Feet -18.10

Feet -18.79

N/S -24.36

Surface Vert Sec

Distance

Azimuth

Closure

E/W -99.11

VS -24.36

DLS/ 100

BUR/ 100'

0.01

0.21

0.21

0.21

0.48

0.59

0.44

0.59

0.12

0.27

0.54

0.87

0.51

0.53

0.33

0.21

0.40

0.39

0.47

0.69

0.39

0.42

0.32

0.40

0.09

0.16

0.02

0.11

0.16

0.33

0.05

0.12

0.33

0.36

0.25

0.02

0.00

0.00



SURVEY CALCULATION PROGRAM

11/29/17 9:08

Company: Black River Water Management Co, LLC
Well Name: Rustler Breaks SWD 3
Location: Eddy County, NM
Rig: Patterson #810
Job Number: DDMO-170971
API #: 30-015-44303

Magnetic Declination: 7.16

REFERENCED TO GRID NORTH

Proposed Direction: 0.00

Vertical Section Azimuth: 0.00

Survey Calculation Method: Minimum Curvature

#	Depth Feet	MD 14,499	Inc Degrees	Azm Degrees	TVD Feet	N/S Feet	E/W Feet	TVD Feet	Surface Vert Sec	Distance	Closure Azm	DLS/ 100'	BUR/ 100'
102	10,075		1.50	244.40	10072.37	-65.60	-55.08	-55.08	-65.60	85.66	220.02	0.44	-0.43
103	10,201		1.20	252.90	10198.33	-66.70	-57.83	-57.83	-66.70	88.28	220.93	0.29	-0.24
104	10,296		1.00	276.20	10293.32	-66.90	-59.61	-59.61	-66.90	89.60	221.70	0.51	-0.21
105	10,392		0.80	292.10	10389.30	-66.56	-61.06	-61.06	-66.56	90.32	222.53	0.33	-0.21
106	10,487		0.70	280.40	10484.30	-66.20	-62.25	-62.25	-66.20	90.87	223.23	0.19	-0.11
107	10,582		0.80	280.30	10579.29	-65.98	-63.47	-63.47	-65.98	91.55	223.89	0.11	0.11
108	10,677		1.10	280.00	10674.27	-65.70	-65.02	-65.02	-65.70	92.44	224.70	0.32	0.32
109	10,772		1.20	274.00	10769.25	-65.48	-66.91	-66.91	-65.48	93.62	225.62	0.16	0.11
110	10,866		1.40	286.90	10863.23	-65.07	-68.99	-68.99	-65.07	94.84	226.67	0.38	0.21
111	10,961		1.30	278.30	10958.20	-64.58	-71.17	-71.17	-64.58	96.10	227.78	0.24	-0.11
112	11,057		1.40	299.00	11054.18	-63.85	-73.27	-73.27	-63.85	97.19	228.93	0.52	0.10
113	11,152		1.20	295.70	11149.15	-62.86	-75.18	-75.18	-62.86	98.00	230.10	0.22	-0.21
114	11,247		1.50	291.70	11244.13	-61.97	-77.23	-77.23	-61.97	99.02	231.26	0.33	0.32
115	11,342		1.10	315.20	11339.10	-60.86	-79.03	-79.03	-60.86	99.75	232.40	0.69	-0.42
116	11,437		1.20	313.30	11434.08	-59.53	-80.40	-80.40	-59.53	100.04	233.48	0.11	0.11
117	11,533		1.10	295.70	11530.07	-58.44	-81.96	-81.96	-58.44	100.66	234.51	0.38	-0.10
118	11,628		0.90	307.60	11625.05	-57.59	-83.37	-83.37	-57.59	101.33	235.36	0.30	-0.21
119	11,723		1.00	297.60	11720.04	-56.75	-84.70	-84.70	-56.75	101.96	236.17	0.20	0.11
120	11,820		0.90	302.60	11817.02	-55.95	-86.09	-86.09	-55.95	102.68	236.98	0.13	-0.10
121	11,915		0.80	291.20	11912.01	-55.31	-87.34	-87.34	-55.31	103.38	237.65	0.21	-0.11
122	12,011		0.90	272.80	12008.00	-55.03	-88.72	-88.72	-55.03	104.40	238.19	0.30	0.10
123	12,106		1.20	282.40	12102.99	-54.78	-90.43	-90.43	-54.78	105.73	238.79	0.37	0.32
124	12,201		1.10	288.70	12197.97	-54.28	-92.27	-92.27	-54.28	107.05	239.53	0.17	-0.11
125	12,296		1.00	264.30	12292.95	-54.07	-93.96	-93.96	-54.07	108.40	240.08	0.48	-0.11
126	12,391		1.10	258.60	12387.94	-54.33	-95.67	-95.67	-54.33	110.02	240.41	0.15	0.11
127	12,486		1.40	267.70	12482.91	-54.55	-97.73	-97.73	-54.55	111.92	240.83	0.38	0.32
128	12,581		1.40	265.00	12577.89	-54.70	-100.04	-100.04	-54.70	114.02	241.33	0.07	0.00
129	12,677		1.40	272.50	12673.86	-54.75	-102.38	-102.38	-54.75	116.10	241.86	0.19	0.00
130	12,771		1.20	286.30	12767.83	-54.43	-104.48	-104.48	-54.43	117.80	242.48	0.39	-0.21
131	12,866		1.50	282.00	12862.81	-53.89	-106.65	-106.65	-53.89	119.49	243.19	0.33	0.32
132	12,961		1.50	281.70	12957.77	-53.38	-109.08	-109.08	-53.38	121.44	243.93	0.01	0.00
133	13,057		1.50	278.10	13053.74	-52.95	-111.55	-111.55	-52.95	123.48	244.61	0.10	0.00
134	13,151		1.40	280.70	13147.71	-52.56	-113.90	-113.90	-52.56	125.44	245.23	0.13	-0.11
135	13,246		1.10	287.40	13242.69	-52.07	-115.91	-115.91	-52.07	127.07	245.81	0.35	-0.32



SURVEY CALCULATION PROGRAM

11/29/17 9:08

Company: Black River Water Management Co, LLC
Well Name: Rustler Breaks SWD 3
Location: Eddy County, NM
Rig: Patterson #810
Job Number: DDMO-170971
API #: 30-015-44303

Magnetic Declination: 7.16



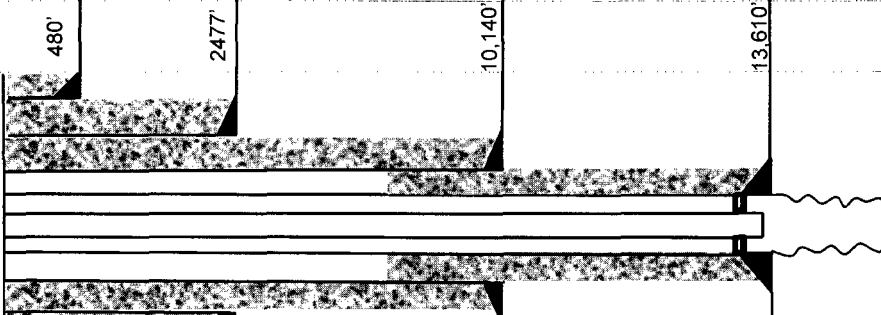
REFERENCED TO GRID NORTH

Vertical Section Azimuth: 0.00 Proposed Direction: 0.00

Survey Calculation Method: Minimum Curvature

PTB:	MD		INC		AZM		TVD		N/S		E/W		Surface		Closure		DLS/		VS
	Depth	Inc	Azm	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Vert Sec	Distance	Azm	100	100'	BUR/	
	14,499																		
#	Depth	Inc	Azm	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Vert Sec	Distance	Azm	DLS/	BUR/		
	Feet	Degrees	Degrees																
136	13,341	1.10	280.20	13337.67	-51.64	-117.68	-119.23	-121.49	-119.68	-116.40	-113.80	-111.54	-109.11	-106.55	-103.94	-100.68	-99.11	0.00	
137	13,436	0.90	299.40	13432.66	-51.11	-119.23	-121.49	-119.68	-116.40	-113.80	-111.54	-109.11	-106.55	-103.94	-100.68	-99.11	0.00		
138	13,635	1.20	334.50	13631.63	-48.46	-119.23	-121.49	-119.68	-116.40	-113.80	-111.54	-109.11	-106.55	-103.94	-100.68	-99.11	0.00		
139	13,768	2.80	47.70	13764.56	-45.02	-119.68	-116.40	-113.80	-111.54	-109.11	-106.55	-103.94	-100.68	-99.11	0.00	0.15	0.15		
140	13,862	2.70	45.70	13858.45	-41.93	-116.40	-113.80	-111.54	-109.11	-106.55	-103.94	-100.68	-99.11	0.00	0.15	0.15	0.15		
141	13,956	2.40	30.90	13952.36	-38.69	-113.80	-111.54	-109.11	-106.55	-103.94	-100.68	-99.11	0.00	0.15	0.15	0.15	0.15		
142	14,051	2.50	36.80	14047.27	-35.33	-111.54	-109.11	-106.55	-103.94	-100.68	-99.11	0.00	0.15	0.15	0.15	0.15	0.15		
143	14,145	2.20	42.00	14141.19	-32.34	-109.11	-106.55	-103.94	-100.68	-99.11	0.00	0.15	0.15	0.15	0.15	0.15	0.15		
144	14,240	2.30	44.40	14236.12	-29.63	-106.55	-103.94	-100.68	-99.11	0.00	0.15	0.15	0.15	0.15	0.15	0.15	0.15		
145	14,335	2.10	47.20	14331.05	-27.08	-103.94	-100.68	-99.11	0.00	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15		
146	14,448	1.90	68.40	14443.98	-24.99	-100.68	-99.11	0.00	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15		
PTB:	14,499	1.90	68.40	14494.95	-24.36	-99.11	0.00	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15		

WELLBORE SCHEMATIC

WELL: Rustler Breaks SWD #3			PROSPECT: Devonian SWD			API No: 30-015-44303		
GL ELEV : 3115' RKB ELEV : 3144'			SURFACE LOCATION: 1798' FSL & 1624' FEL Sec. 24, TWP 23-S, RGE 27-E Eddy County, NM					
			CASING DIAGRAM	Depth	Hole	Casing & Cement Details 30" Conductor @ ± 120'		
				480'	26"	Surf. Csg Cmt: TOC: Surface 20", 94#, K-55, BTC		
				2477'	18.125"	1 st Int. Csg Cmt: TOC: Surface 16", 84#, N-80HC, BTC		
				10,140'	14.75"	2 nd Int. Csg Cmt: TOC: Surface 10-3/4", 60.7#, P110HC		
				13,610'	9.5"	Prod Csg Cmt: (35% Excess) TOC @ 9300' per CBL 7-5/8", 29.7#, P110 HC, BTC, 0-9288' 7-5/8", 33.7#, P110 EC, BTC, 9288'-13,610'		
				TD @ 14,499' MD 14,494' TVD	6.5"	Tubing: 4-1/2" 11.6#, P110IC, BTC, Internal Plastic Coated 0'- 13,538' Baker Model F 25 Chrome Permanent Packer set @ 13,538'		

Prepared By: AL – 12/18/17