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Fort Worth, Texas 76140

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www.msenergyservices.com

Survey Company: MS Energy Services
MWD Surveyor Name: Chris Morasch
Survey Type: MWD
Operating Company: Matador Production Company
Well Name & Number: Charlie Sweeney 31-23S-28E RB 202H
API Number: 30-015-43925
Surveyed Depths: 138' – 14,334' MD; PTB: 14,391'
Dates Performed: 06/05/2017 – 07/03/2017
Location: Eddy County, NM

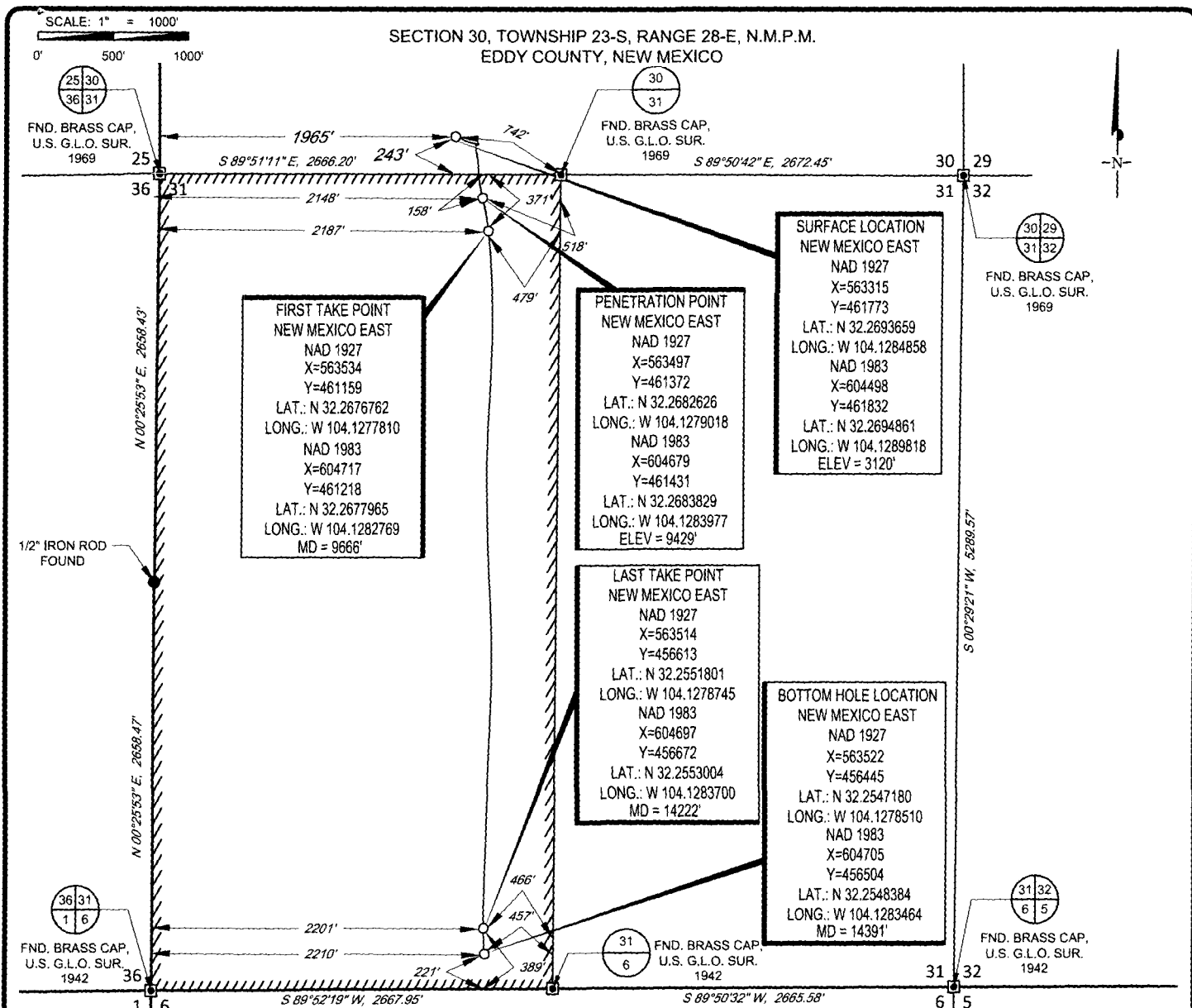
NM OIL CONSERVATION
ARTESIA DISTRICT

SEP 07 2017

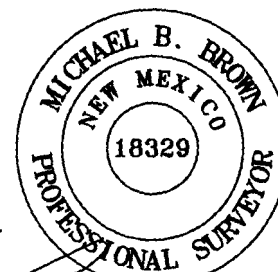
RECEIVED

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

Digitally signed by: Christopher Morasch
Title: MWD Field Specialist
Date: 07-25-2017
Email: cmorasch@msenergyservices.com



LEASE NAME & WELL NO.: CHARLIE SWEENEY 31-23S-28E RB #202H
SECTION 30 TWP 23-S RGE 28-E SURVEY N.M.P.M.
COUNTY EDDY STATE NM ELEVATION 3120'
DESCRIPTION 243' FSL & 1965' FWL



Michael Blake Brown, P.S. No. 18329
AUGUST 31, 2017



TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, Ste. 197 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX (817) 744-7548
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WWW.TOPOGRAPHIC.COM

CHARLIE SWEENEY 31-23S-28E RB #202H AS-DRILLED	REVISION:
DATE: 08/31/17	
FILE: AD CHARLIE SWEENEY STATE COM 31-23S-28E RB #202H	
DRAWN BY: A.M.D.	
SHEET: 1 OF 1	

NOTES:
1. ORIGINAL DOCUMENT SIZE: 8.5" X 11"
2. ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, U.S. SURVEY FEET, NORTH AMERICAN DATUM 1983.
3. THIS WELL LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY MATADOR PRODUCTION COMPANY. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.



SURVEY CALCULATION PROGRAM

7/25/17 12:45
NM Oil Conservation
ARTESIA DISTRICT

SEP 07 2017

RECEIVED

REFERENCED TO GRID NORTH

Company:	Matador Production Company
Well Name:	Charlie Sweeney 31-23S-28E RB 202H
Location:	Eddy County, NM
Rig:	Patterson #810
Job Number:	DDMO-170517
API #:	30-015-43925
Vertical Section Azimuth:	180.43
Survey Calculation Method:	Minimum Curvature
Proposed Direction:	180.43

PTB:	MD		INC		AZM		TVD		N/S		E/W		VS	
	14.391		90.3		176.4		9408.45		-5328.26		206.55		5326.56	
#	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	138	1.20	206.30	137.99	-1.30	-0.64	1.30	1.45	206.30	0.87	0.87			
2	234	1.60	322.70	233.97	-1.13	-1.90	1.14	2.21	239.22	2.49	0.42			
3	332	1.30	334.30	331.94	0.96	-3.21	-0.94	3.35	286.65	0.43	-0.31			
4	485	0.90	350.80	484.92	3.71	-4.15	-3.68	5.57	311.77	0.33	-0.26			
5	610	1.50	4.40	609.89	6.31	-4.19	-6.28	7.57	326.44	0.53	0.48			
6	792	3.40	6.60	791.71	14.05	-3.38	-14.02	14.45	346.46	1.05	1.04			
7	979	0.80	139.00	978.61	18.57	-1.89	-18.56	18.67	354.20	2.13	-1.39			
8	1,169	1.20	154.20	1,168.59	15.78	-0.15	-15.78	15.78	359.45	0.25	0.21			
9	1,360	3.20	137.50	1,359.44	10.05	4.32	-10.08	10.94	23.27	1.09	1.05			
10	1,550	4.00	127.40	1,549.06	2.11	13.17	-2.21	13.34	80.88	0.54	0.42			
11	1,740	5.00	121.30	1,738.47	-6.21	25.51	6.02	26.25	103.69	0.58	0.53			
12	1,931	6.10	119.70	1,928.58	-15.57	41.44	15.25	44.26	110.59	0.58	0.58			
13	2,121	6.40	116.50	2,117.45	-25.29	59.68	24.84	64.82	112.97	0.24	0.16			
14	2,311	4.90	104.00	2,306.53	-31.98	77.03	31.40	83.41	112.55	1.02	-0.79			
15	2,496	3.80	108.30	2,490.99	-35.82	90.52	35.14	97.35	111.59	0.62	-0.59			
16	2,694	3.70	109.20	2,688.57	-39.98	102.78	39.21	110.28	111.25	0.06	-0.05			
17	2,883	3.70	105.80	2,877.17	-43.65	114.41	42.79	122.45	110.88	0.12	0.00			
18	3,073	3.50	106.60	3,066.80	-46.97	125.87	46.03	134.35	110.46	0.11	-0.11			
19	3,264	2.90	106.00	3,257.50	-49.97	136.10	48.95	144.98	110.16	0.31	-0.31			
20	3,454	2.70	99.80	3,447.27	-52.06	145.13	50.96	154.18	109.73	0.19	-0.11			
21	3,644	0.50	5.70	3,637.20	-51.99	149.62	50.87	158.40	109.16	1.46	-1.16			
22	3,835	0.60	352.70	3,828.19	-50.17	149.58	49.05	157.77	108.54	0.08	0.05			
23	4,025	0.70	346.40	4,018.18	-48.06	149.18	46.94	156.73	107.86	0.06	0.05			
24	4,214	0.50	341.10	4,207.17	-46.15	148.64	45.04	155.64	107.25	0.11	-0.11			
25	4,405	0.80	348.40	4,398.16	-44.06	148.10	42.95	154.52	106.57	0.16	0.16			
26	4,595	0.50	242.90	4,588.15	-43.14	147.10	42.03	153.29	106.34	0.55	-0.16			
27	4,785	1.10	250.90	4,778.13	-44.11	144.64	43.03	151.21	106.96	0.32	0.32			
28	4,976	1.10	159.20	4,969.11	-46.43	143.55	45.35	150.87	107.92	0.83	0.00			
29	5,166	1.00	142.90	5,159.08	-49.45	145.20	48.36	153.39	108.81	0.17	-0.05			
30	5,356	0.90	104.90	5,349.05	-51.16	147.64	50.05	156.26	109.11	0.33	-0.05			
31	5,547	0.80	109.70	5,540.03	-51.99	150.35	50.86	159.09	109.08	0.06	-0.05			
32	5,737	0.70	114.90	5,730.01	-52.93	152.65	51.78	161.57	109.12	0.06	-0.05			
33	5,926	0.50	150.50	5,919.00	-54.13	154.10	52.98	163.34	109.36	0.22	-0.11			

V09.04.02

Company:		Matador Production Company	
Well Name:		Charlie Sweeney 31-23S-28E RB 202H	
Location:		Eddy County, NM	
Rig:		Patterson #810	
Job Number:		DDMO-170517	
API #:		30-015-43925	
Vertical Section Azimuth:		180.43	
Survey Calculation Method:		Minimum Curvature	
Proposed Direction:		180.43	
Magnetic Declination:		7.17	
Vertical Section Azimuth:		180.43	
PTB:		MD	
Depth		Inc	
Feet		Degrees	
Azimuth		TVD	
Feet		N/S	
TVD		E/W	
Feet		N/S	
Surface		Distance	
Feet		Closure	
Azimuth		DLS/	
100'		VS	
BURI		100'	

REFERENCED TO GRID NORTH

34	6.117	0.10	358.80	6110.00	-54.69	154.51	53.53	163.90	109.49	0.31	-0.21
35	6.307	0.80	345.10	6300.00	-53.25	154.17	52.09	163.10	109.05	0.37	0.37
36	6.497	1.50	324.00	6489.96	-49.95	152.36	48.81	160.34	108.15	0.42	0.37
37	6.687	0.40	170.60	6679.94	-48.59	151.01	47.46	158.64	107.84	0.98	-0.58
38	6.782	0.30	227.10	6774.94	-49.09	150.88	47.96	158.67	108.02	0.36	-0.11
39	6.877	0.20	236.10	6869.94	-49.35	150.56	48.22	158.44	108.15	0.11	-0.11
40	6.972	0.30	222.90	6964.94	-49.63	150.25	48.50	158.24	108.28	0.12	0.11
41	7.067	0.50	268.80	7059.93	-49.82	149.67	48.69	157.74	108.41	0.38	0.21
42	7.163	0.80	295.00	7155.93	-49.54	148.64	48.43	156.68	108.34	0.43	0.31
43	7.258	0.90	302.30	7250.92	-48.86	147.41	47.76	155.30	108.34	0.15	0.11
44	7.353	1.30	277.00	7345.90	-48.33	145.71	47.24	153.52	108.35	0.65	0.42
45	7.448	0.80	188.20	7440.89	-48.86	144.55	47.77	152.58	108.68	1.59	-0.53
46	7.543	1.80	183.70	7535.86	-51.00	144.36	49.92	153.10	109.46	1.06	1.05
47	7.639	0.80	183.20	7631.84	-53.18	144.22	52.09	153.71	110.24	1.04	-1.04
48	7.734	0.70	197.00	7726.83	-54.40	144.02	53.31	153.95	110.69	0.22	-0.11
49	7.829	0.70	207.90	7821.82	-55.46	143.58	54.38	153.92	111.12	0.14	0.00
50	7.924	0.90	237.20	7916.81	-56.38	142.68	55.31	153.41	111.56	0.47	0.21
51	8.020	1.00	248.30	8012.80	-57.10	141.26	56.04	152.37	112.01	0.22	0.10
52	8.115	1.10	262.40	8107.78	-57.53	139.59	56.48	150.98	112.40	0.29	0.11
53	8.210	1.30	250.90	8202.76	-58.00	137.67	56.96	149.39	112.85	0.33	0.21
54	8.305	1.70	239.40	8297.73	-59.07	135.44	58.05	147.76	113.56	0.52	0.42
55	8.400	0.90	255.60	8392.71	-59.97	133.50	58.97	146.35	114.19	0.92	-0.84
56	8.496	0.40	142.70	8488.70	-60.43	132.97	59.43	146.06	114.44	1.16	-0.52
57	8.591	1.00	136.50	8583.69	-61.29	133.75	60.29	147.12	114.62	0.64	0.63
58	8.686	0.90	180.30	8678.68	-62.64	134.31	61.63	148.20	115.00	0.75	-0.11
59	8.749	0.90	194.50	8741.67	-63.61	134.19	62.60	148.50	115.36	0.35	0.00
60	8.829	6.10	182.00	8821.50	-68.47	133.88	67.47	150.37	117.09	6.53	6.50
61	8.876	12.60	174.90	8867.85	-76.08	134.25	75.07	154.31	119.54	14.02	13.83
62	8.924	18.00	173.00	8914.13	-88.67	135.62	87.65	162.03	123.18	11.30	11.25
63	8.971	22.70	169.50	8958.19	-104.80	138.16	103.76	173.41	127.18	10.33	10.00
64	9.019	27.50	168.60	9001.64	-124.78	142.04	123.71	189.07	131.30	10.03	10.00
65	9.066	32.00	169.60	9042.44	-147.68	146.43	146.58	207.97	135.24	9.63	9.57
66	9.114	34.90	174.90	9082.49	-173.88	149.95	172.75	229.61	139.23	8.57	6.04
67	9.161	38.90	177.90	9120.07	-202.03	151.69	200.89	252.64	143.10	9.33	8.51

V09.04.02

Company: Matador Production Company

Well Name: Charlie Sweeney 31-23S-28E RB 202H

Location: Eddy County, NM

Rig: Patterson #810

Job Number: DDMO-170617

API #: 30-015-43925

Vertical Section Azimuth:

Survey Calculation Method:

PTB:

MD 14,391

Depth

Feet

#

Inc

Degrees

Azim

Degrees

TVD

Feet

N/S

Feet

TVD

Feet

E/W

Feet

N/S

Surface

Vert Sec

Distance

Closure

Azim

Degrees

DLS/

100

VS

BUR/

100'

10.55

10.20

7.99

7.87

7.76

4.38

2.98

8.98

8.96

11.24

11.06

4.47

7.02

Magnetic Declination: 7.17

REFERENCED TO GRID NORTH

Proposed Direction: 180.43

Minimum Curvature

INC 90.3

AZIM 176.4

TVD 9408.45

E/W 5328.26

N/S 206.55

Surface 266.75

Vert Sec 343.52

Distance 378.28

Closure 153.73

Azim 154.97

DLS/ 8.98

VS 8.96

BUR/ 11.06

4.50

7.28

5.00

4.83

9.10

8.63

3.20

2.58

1.87

1.38

6.61

6.49

3.61

3.51

0.96

0.11

-3.09

3.15

3.83

2.05

1.91

0.81

0.74

1.39

0.74

0.21

-0.43

0.00

-3.94

7/25/17 12:46



SURVEY CALCULATION PROGRAM

7/25/17 12:46

V09.04.02

Company:	Matador Production Company													
Well Name:	Charlie Sweeney 31-23S-28E RB 202H													
Location:	Eddy County, NM													
Rig:	Patterson #810													
Job Number:	DDMO-170517													
API #:	30-015-43925													
Vertical Section Azimuth:				180.43				Proposed Direction:				180.43		
Survey Calculation Method:				Minimum Curvature										
PTB:	MD		INC		AZM		TVD		N/S		E/W		VS	
	14.391		90.3		176.4		9408.45		-5328.26		206.55		5326.56	
#	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	11,915	91.70	177.50	9406.46	-2854.49	231.55	2852.67	2863.87	175.36	0.53	0.43			
103	12,009	89.50	176.40	9405.48	-2948.35	236.55	2946.49	2957.82	175.41	2.62	-2.34			
104	12,103	91.30	177.20	9404.82	-3042.19	241.80	3040.29	3051.79	175.46	2.10	1.91			
105	12,196	89.10	177.80	9404.50	-3135.10	245.85	3133.16	3144.72	175.52	2.45	-2.37			
106	12,290	90.20	178.90	9405.07	-3229.05	248.56	3227.10	3238.61	175.60	1.65	1.17			
107	12,384	89.70	178.80	9405.15	-3323.03	250.45	3321.06	3332.46	175.69	0.54	-0.53			
108	12,478	91.00	180.10	9404.58	-3417.02	251.35	3415.04	3426.26	175.79	1.96	1.38			
109	12,572	88.40	179.70	9405.07	-3511.01	251.51	3509.03	3520.01	175.90	2.80	-2.77			
110	12,666	91.90	182.20	9404.82	-3604.98	249.95	3603.00	3613.63	176.03	4.58	3.72			
111	12,761	92.20	182.50	9401.43	-3699.84	246.06	3697.89	3708.01	176.20	0.46	0.32			
112	12,855	88.70	182.00	9400.69	-3793.75	242.37	3791.82	3801.48	176.34	3.76	-3.72			
113	12,948	91.70	183.00	9400.36	-3886.65	238.32	3884.75	3893.95	176.49	3.40	3.23			
114	13,042	90.00	182.20	9398.97	-3980.54	234.05	3978.67	3987.41	176.63	2.00	-1.81			
115	13,137	91.00	182.50	9398.14	-4075.45	230.16	4073.61	4081.94	176.77	1.10	1.05			
116	13,231	90.60	182.30	9396.83	-4169.36	226.22	4167.54	4175.49	176.89	0.48	-0.43			
117	13,325	89.70	181.70	9396.58	-4263.30	222.94	4261.51	4269.13	177.01	1.15	-0.96			
118	13,420	92.10	182.40	9395.09	-4358.22	219.54	4356.45	4363.75	177.12	2.63	2.53			
119	13,514	89.60	181.60	9393.69	-4452.14	216.26	4450.40	4457.39	177.22	2.79	-2.66			
120	13,609	87.20	181.60	9396.35	-4547.06	213.61	4545.33	4552.08	177.31	2.53	-2.53			
121	13,703	87.50	181.50	9400.69	-4640.93	211.07	4639.21	4645.73	177.40	0.34	0.32			
122	13,797	87.70	182.00	9404.63	-4734.80	208.21	4733.11	4739.38	177.48	0.57	0.21			
123	13,892	87.50	182.20	9408.61	-4829.65	204.73	4827.98	4833.99	177.57	0.30	-0.21			
124	13,986	89.30	182.20	9411.23	-4923.54	201.12	4921.90	4927.65	177.66	1.91	1.91			
125	14,080	89.50	180.70	9412.22	-5017.51	198.74	5015.87	5021.44	177.73	1.61	0.21			
126	14,174	91.40	180.10	9411.48	-5111.50	198.09	5109.87	5115.33	177.78	2.12	2.02			
127	14,269	91.00	177.90	9409.49	-5206.46	199.74	5204.81	5210.29	177.80	2.35	-0.42			
128	14,334	90.30	176.40	9408.75	-5271.37	202.97	5269.70	5275.28	177.79	2.55	-1.08			
PTB:	14,391	90.30	176.40	9408.45	-5328.26	206.55	5326.56	5332.26	177.78	0.00	0.00			