



3001543654

www.bakerhughes.com

1058 Baker Hughes Drive
Broussard, LA 70518
Tel: 337-856-7201

May 3, 2016

NM OIL CONSERVATION
ARTESIA DISTRICT

Attention: James Long

SEP 16 2016

Matador Resources Company
One Lincoln Centre
5400 LBJ Freeway
Suite 1500
Dallas, TX 75240

RECEIVED

Subject:

**Final Distribution – Matador Resources Company
Zach McCormick Fed Com 18-24S-29E No. 001
Culebra Bluff; Wolfcamp, South (Gas) Field
Eddy County, New Mexico
API #: 30-015-43654-00
Rig: Patriot 5
SO #: 7885044**

Please find enclosed the following final deliverables for the above well:

1 Survey Report (certified for state of New Mexico)

We sincerely appreciate the opportunity to provide our products and services to you and look forward to working with you in the future. Should you have any questions, you can contact me at (432) 685-8923.

Regards,

Bret Nielsen
Account Representative

Attachments
BN/lv

↓
EST TOC

ADDITIONAL INFO FOR CSG/CMT PROGRAM (Optional)

0
0
1200'

BBL CMT	Lead (bbl)	Lead (cf)	Lead (sx)	Tail (bbl)	Tail (cf)	Tail (sx)	TTL SX
148.4576866	118.7661	666.8244	352.8172	29.69154	166.7061	120.8015	473.6187
202.9118061	162.3294	911.4149	423.9139	40.58236	227.8537	162.7527	586.6666
368.3437282	261.524	1468.353	661.4202	106.8197	599.7498	434.6013	1096.022



Actual Wellpath Report

Zach McCormick Fed Com 18-24S-29E No. 001 awp 100' - 11136' Proj: 11189'

Page 1 of 6



REFERENCE WELLPATH IDENTIFICATION

Operator	Matador Resources	Slot	Zach McCormick Fed Com 18-24S-29E No. 1
Area	Eddy County, NM	Well	Zach McCormick Fed Com 18-24S-29E No. 001
Field	Culebra Bluff; Wolfcamp, South (Gas) Eddy Co., NM	Wellbore	Zach McCormick Fed Com 18-24S-29E No. 1 (AWB)
Facility	Zach McCormick Fed Com 18-24S-29E No. 1		

REPORT SETUP INFORMATION

Projection System	NAD27 / TM New Mexico SP, Eastern Zone (3001), US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Tranlam
Scale	0.999919	Report Generated	4/20/2016 at 4:10:21 PM
Convergence at slot	0.17° East	Database/Source file	WA_Midland/Zach_McCormick_Fed_Com_18-24S-29E_No_001_awp_100_-11136_Proj_11189_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North(ft)	East(ft)	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.00	0.00	593636.00	444952.00	32°13'22.539"N	104°01'49.952"W
Facility Reference Pt			593636.00	444952.00	32°13'22.539"N	104°01'49.952"W
Field Reference Pt			152400.30	0.00	30°59'42.846"N	105°26'33.659"W

WELLPATH DATUM

Calculation method	Minimum curvature	Patriot 5 (KB) to Facility Vertical Datum	2978.50ft
Horizontal Reference Pt	Slot	Patriot 5 (KB) to Mean Sea Level	2978.50ft
Vertical Reference Pt	Patriot 5 (KB)	Patriot 5 (KB) to Mud Line at Slot (Zach McCormick Fed Com 18-24S-29E No. 1)	25.00ft
MD Reference Pt	Patriot 5 (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	90.00°



Actual Wellpath Report

Zach McCormick Fed Com 18-24S-29E No. 001 awp 100' - 11136' Proj: 11189'

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REFERENCE WELLPATH IDENTIFICATION

Operator	Matador Resources	Spot	Zach McCormick Fed Com 18-24S-29E No. 1
Area	Eddy County, NM	Well	Zach McCormick Fed Com 18-24S-29E No. 001
Field	Culebra Bluff, Wolfcamp, South (Gas) Eddy Co., NM	Wellbore	Zach McCormick Fed Com 18-24S-29E No. 1 (AWB)
Facility	Zach McCormick Fed Com 18-24S-29E No. 1		

WELLPATH DATA (74 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS Comments [°/100ft]
0.00	0.000	340.340	0.00	0.00	0.00	0.00	593636.00	444952.00	32°13'22.539"N	104°01'49.952"W	0.00
25.00	0.000	340.340	25.00	0.00	0.00	0.00	593636.00	444952.00	32°13'22.539"N	104°01'49.952"W	0.00
100.00	0.130	340.340	100.00	-0.03	0.08	-0.03	593635.97	444952.08	32°13'22.540"N	104°01'49.953"W	0.17
200.00	0.120	170.730	200.00	-0.05	0.08	-0.05	593635.95	444952.08	32°13'22.540"N	104°01'49.953"W	0.25
300.00	0.210	55.100	300.00	-0.12	0.09	-0.12	593636.12	444952.09	32°13'22.540"N	104°01'49.951"W	0.28
400.00	0.090	79.850	400.00	0.34	0.20	0.34	593636.34	444952.20	32°13'22.541"N	104°01'49.948"W	0.13
500.00	0.270	242.870	500.00	0.21	0.11	0.21	593636.21	444952.11	32°13'22.540"N	104°01'49.950"W	0.36
600.00	0.660	239.640	600.00	-0.49	-0.29	-0.49	593635.51	444951.71	32°13'22.538"N	104°01'49.958"W	0.39
700.00	0.710	203.090	699.99	-1.23	-1.15	-1.23	593634.77	444950.85	32°13'22.528"N	104°01'49.967"W	0.43
800.00	0.320	170.340	799.98	-1.43	-1.99	-1.43	593634.57	444950.01	32°13'22.519"N	104°01'49.969"W	0.47
900.00	0.330	120.160	899.98	-1.13	-2.41	-1.13	593634.87	444949.59	32°13'22.515"N	104°01'49.966"W	0.28
1000.00	0.580	127.020	999.98	-0.48	-2.86	-0.48	593635.52	444949.14	32°13'22.511"N	104°01'49.958"W	0.26
1100.00	0.640	139.700	1099.97	0.28	-3.59	0.28	593636.28	444948.41	32°13'22.503"N	104°01'49.949"W	0.15
1200.00	0.820	100.480	1199.97	1.35	-4.15	1.35	593637.35	444947.85	32°13'22.498"N	104°01'49.937"W	0.52
1300.00	0.540	109.460	1299.96	-2.50	-4.44	-2.50	593638.50	444947.56	32°13'22.495"N	104°01'49.923"W	0.30
1400.00	0.540	240.780	1399.96	2.53	-4.83	2.53	593638.53	444947.18	32°13'22.491"N	104°01'49.923"W	0.98
1500.00	0.840	217.510	1499.95	1.67	-5.64	1.67	593637.67	444946.36	32°13'22.483"N	104°01'49.933"W	0.40
1600.00	0.940	224.350	1599.94	0.65	-6.80	0.65	593636.65	444945.20	32°13'22.472"N	104°01'49.945"W	0.15
1700.00	0.580	228.740	1699.93	-0.30	-7.72	-0.30	593635.70	444944.28	32°13'22.462"N	104°01'49.956"W	0.36
1800.00	1.070	226.040	1799.92	-1.35	-8.71	-1.35	593634.65	444943.29	32°13'22.453"N	104°01'49.968"W	0.49
1900.00	0.810	205.850	1899.91	-2.33	-9.99	-2.33	593633.67	444942.01	32°13'22.440"N	104°01'49.980"W	0.42
2000.00	1.160	182.650	1999.89	-2.69	-11.64	-2.69	593633.31	444940.36	32°13'22.424"N	104°01'49.984"W	0.52
2100.00	2.850	156.670	2099.83	-1.75	-14.93	-1.75	593634.25	444937.07	32°13'22.391"N	104°01'49.973"W	1.88
2200.00	3.230	153.290	2199.69	0.50	-19.73	0.50	593636.50	444932.27	32°13'22.344"N	104°01'49.947"W	0.42
2300.00	4.410	151.660	2299.46	-3.59	-25.63	-3.59	593635.59	444926.37	32°13'22.285"N	104°01'49.911"W	1.18
2400.00	5.620	150.560	2399.08	7.82	-33.28	7.82	593644.82	444918.72	32°13'22.209"N	104°01'49.862"W	1.21
2500.00	4.690	150.410	2498.67	12.25	-41.10	12.25	593648.25	444910.90	32°13'22.132"N	104°01'49.811"W	0.33
2610.00	3.060	154.230	2608.42	15.75	-47.66	15.75	593651.74	444904.35	32°13'22.067"N	104°01'49.771"W	1.50
2910.00	1.540	150.520	2908.17	21.21	-58.38	21.21	593657.21	444893.63	32°13'21.961"N	104°01'49.707"W	0.51
3100.00	1.340	153.120	3098.11	23.47	-62.58	23.47	593658.47	444889.42	32°13'21.919"N	104°01'49.681"W	0.11



Actual Wellpath Report

Zach McCormick Fed Com 18-24S-29E No. 001 awp 100' - 11136' Proj: 11189'

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REFERENCE WELLPATH IDENTIFICATION

Operator	Matador Resources	Slot	Zach McCormick Fed Com 18-24S-29E No. 1
Area	Eddy County, NM	Well	Zach McCormick Fed Com 18-24S-29E No. 001
Field	Culebra Bluff, Wolfcamp, South (Gas) Eddy Co., NM	Wellbore	Zach McCormick Fed Com 18-24S-29E No. 1 (AWB)
Facility	Zach McCormick Fed Com 18-24S-29E No. 1		

WELLPATH DATA (74 stations)

ID	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	DLS	Comments
[ft]	[°]	[°]	[ft]	[ft]	[ft]	[ft]	[US ft]	[US ft]			[1/100ft]	
3290.00	1.490	151.490	3288.05	25.66	-66.73	25.66	593661.65	444885.27	32°13'21.878"N	104°01'49.636"W	0.08	
3480.00	1.450	160.120	3477.99	27.65	-71.16	27.65	593663.65	444880.84	32°13'21.834"N	104°01'49.633"W	0.12	
3670.00	1.140	175.230	3667.94	28.63	-75.31	28.63	593664.62	444876.70	32°13'21.793"N	104°01'49.621"W	0.24	
3860.00	0.900	174.000	3857.91	28.94	-78.68	28.94	593664.94	444873.33	32°13'21.760"N	104°01'49.618"W	0.13	
4050.00	0.720	173.160	4047.89	29.24	-81.35	29.24	593665.24	444870.66	32°13'21.733"N	104°01'49.615"W	0.09	
4239.00	0.650	191.830	4236.88	29.16	-83.57	29.16	593665.16	444868.43	32°13'21.711"N	104°01'49.616"W	0.12	
4429.00	0.810	181.850	4426.86	28.90	-85.97	28.90	593664.89	444866.04	32°13'21.687"N	104°01'49.619"W	0.11	
4619.00	0.870	195.850	4616.84	28.46	-88.70	28.46	593664.46	444863.31	32°13'21.660"N	104°01'49.624"W	0.11	
4810.00	0.720	204.170	4807.82	27.57	-91.19	27.57	593663.57	444860.82	32°13'21.636"N	104°01'49.634"W	0.10	
5000.00	1.080	219.470	4987.80	25.94	-93.66	25.94	593661.94	444858.35	32°13'21.611"N	104°01'49.653"W	0.23	
5190.00	1.240	229.780	5187.76	23.24	-96.37	23.24	593659.23	444855.64	32°13'21.585"N	104°01'49.685"W	0.14	
5380.00	2.600	338.870	5377.69	20.11	-93.68	20.11	593656.11	444858.33	32°13'21.611"N	104°01'49.721"W	1.70	
5569.00	2.200	338.550	5566.52	17.24	-86.30	17.24	593653.24	444865.70	32°13'21.684"N	104°01'49.754"W	0.21	
5759.00	3.610	344.070	5756.28	14.26	-77.16	14.26	593650.26	444874.85	32°13'21.775"N	104°01'49.789"W	0.76	
5949.00	3.300	352.120	5945.93	11.87	-65.99	11.87	593647.87	444886.02	32°13'21.886"N	104°01'49.816"W	0.30	
6139.00	2.970	17.410	6135.66	12.60	-55.87	12.60	593648.59	444896.13	32°13'21.986"N	104°01'49.807"W	0.74	
6329.00	4.200	43.750	6325.29	18.88	-46.15	18.88	593654.88	444905.85	32°13'22.082"N	104°01'49.734"W	1.07	
6519.00	5.710	76.220	6514.61	32.87	-38.87	32.87	593668.87	444913.13	32°13'22.153"N	104°01'49.571"W	1.64	
6709.00	3.700	79.260	6703.96	48.08	-35.48	48.08	593684.08	444916.53	32°13'22.186"N	104°01'49.394"W	1.07	
6899.00	3.700	71.000	6893.57	59.90	-32.34	59.90	593685.89	444919.66	32°13'22.217"N	104°01'49.256"W	0.28	
7090.00	6.090	56.030	7083.87	74.13	-24.67	74.13	593710.13	444927.33	32°13'22.293"N	104°01'49.090"W	1.41	
7280.00	6.300	78.310	7272.78	92.70	-16.92	92.70	593728.69	444935.08	32°13'22.369"N	104°01'48.874"W	1.26	
7470.00	6.480	88.230	7461.61	113.63	-14.48	113.63	593749.62	444937.52	32°13'22.392"N	104°01'48.630"W	0.59	
7660.00	8.400	91.860	7650.00	138.22	-14.60	138.22	593774.20	444937.40	32°13'22.391"N	104°01'48.344"W	1.04	
7850.00	7.340	100.090	7838.22	164.04	-17.18	164.04	593800.02	444934.82	32°13'22.364"N	104°01'48.043"W	0.81	
8040.00	7.080	114.010	8026.73	186.68	-24.07	186.68	593822.67	444927.93	32°13'22.296"N	104°01'47.780"W	0.93	
8230.00	7.610	110.070	8215.17	209.20	-33.15	209.20	593845.18	444918.85	32°13'22.205"N	104°01'47.518"W	0.38	
8420.00	6.870	102.140	8403.66	232.12	-39.86	232.12	593868.11	444912.15	32°13'22.138"N	104°01'47.252"W	0.65	
8610.00	4.590	94.240	8592.70	250.82	-42.81	250.82	593886.80	444909.19	32°13'22.108"N	104°01'47.034"W	1.27	
8801.00	4.300	93.290	8783.12	265.59	-43.79	265.59	593901.57	444908.22	32°13'22.096"N	104°01'46.862"W	0.16	



Actual Wellpath Report

Zach McCormick Fed Com 18-24S-29E No. 001 awp 100' - 11136' Proj: 11189'
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REFERENCE WELLPATH IDENTIFICATION

Operator	Matador Resources	Slot	Zach McCormick Fed Com 18-24S-29E No. 1
Area	Eddy County, NM	Well	Zach McCormick Fed Com 18-24S-29E No. 001
Field	Culebra Bluff, Wolfcamp, South (Gas) Eddy Co., NM	Wellbore	Zach McCormick Fed Com 18-24S-29E No. 1 (AWB)
Facility	Zach McCormick Fed Com 18-24S-29E No. 1		

WELLPATH DATA (74 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [1/100ft]	Comments
8990.00	3.240	105.710	8971.72	277.80	-45.64	277.80	593913.78	444906.36	32°13'22.080"N	104°01'46.720"W	0.70	
9180.00	1.590	134.580	9161.55	284.85	-48.94	284.85	593920.83	444903.06	32°13'22.047"N	104°01'46.638"W	1.05	
9371.00	2.480	170.660	9352.43	287.41	-54.88	287.41	593923.39	444897.12	32°13'21.988"N	104°01'46.609"W	0.79	
9562.00	1.760	123.900	9543.31	290.52	-60.60	290.52	593926.49	444891.41	32°13'21.931"N	104°01'46.573"W	0.95	
9752.00	1.710	172.560	9733.24	295.64	-61.37	295.64	593931.62	444890.83	32°13'21.923"N	104°01'46.513"W	0.79	
9942.00	1.740	85.350	9923.15	301.22	-60.29	301.22	593937.20	444891.72	32°13'21.934"N	104°01'46.448"W	0.20	
10132.00	1.510	111.040	10113.08	306.43	-60.95	306.43	593942.41	444891.05	32°13'21.927"N	104°01'46.387"W	0.40	
10323.00	1.020	157.410	10304.03	309.43	-63.43	309.43	593945.41	444888.58	32°13'21.903"N	104°01'46.352"W	0.57	
10513.00	2.370	202.510	10493.95	308.58	-68.62	308.58	593944.55	444883.39	32°13'21.851"N	104°01'46.363"W	0.95	
10703.00	2.360	233.380	10683.80	303.94	-74.56	303.94	593939.91	444877.42	32°13'21.792"N	104°01'46.417"W	0.66	
10893.00	0.930	196.970	10873.72	300.35	-78.39	300.35	593936.32	444873.62	32°13'21.755"N	104°01'46.459"W	0.90	
11083.00	1.840	281.170	11063.68	297.21	-80.28	297.21	593933.18	444871.72	32°13'21.736"N	104°01'46.495"W	0.79	
11136.00	1.930	265.670	11116.65	295.57	-80.47	295.57	593931.55	444871.54	32°13'21.734"N	104°01'46.514"W	0.61	BHI MWD 2910' - 11136'
11189.00	1.930	265.670	11169.62	293.79	-80.60	293.79	593929.77	444871.41	32°13'21.733"N	104°01'46.535"W	0.00	Projection to TD: 11189'

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Zach McCormick No. 1 BHL	14153.50	55.00	280.02	593916.00	445007.00	32°13'23.075"N	104°01'46.691"W	point



Actual Wellpath Report

Zach McCormick Fed Com 18-24S-29E No. 001 awp 100' - 11136' Proj: 11189'
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REFERENCE WELLPATH IDENTIFICATION

Operator	Matador Resources	Slot	Zack McCormick Fed Com 18-24S-29E No. 1
Area	Eddy County, NM	Well	Zach McCormick Fed Com 18-24S-29E No. 001
Field	Culebra Bluff, Wolfcamp, South (Gas) Eddy Co., NM	Wellbore	Zack McCormick Fed Com 18-24S-29E No. 1 (AWB)
Facility	Zack McCormick Fed Com 18-24S-29E No. 1		

WELLPATH COMPOSITION - Ref Wellbore: Zach McCormick Fed Com 18-24S-29E No. 1 (AWB) Ref Wellpath: Zach McCormick Fed Com 18-24S-29E No. 001 awp 100' - 11136' Proj: 11189'			
Start MD	End MD	Log Name/Comment	Wellbore
(ft)	(ft)		
25.00	2610.00	BHI Generic gyro - northseeking (Standard)	Zack McCormick Fed Com 18-24S-29E No. 1 (AWB)
2610.00	11136.00	BHI NavTrak (Standard)	Zack McCormick Fed Com 18-24S-29E No. 1 (AWB)
11136.00	11189.00	Blind Drilling (std)	Zack McCormick Fed Com 18-24S-29E No. 1 (AWB)



Actual Wellpath Report

Zach McCormick Fed Com 18-24S-29E No. 001 awp 100' - 11136' Proj: 11189'
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REFERENCE WELLPATH IDENTIFICATION

Operator	Matador Resources	Slot	Zack McCormick Fed Com 18-24S-29E No. 1
Area	Eddy County, NM	Well	Zach McCormick Fed Com 18-24S-29E No. 001
Field	Culebra Bluff; Wolfcamp, South (Gas) Eddy Co., NM	Wellbore	Zack McCormick Fed Com 18-24S-29E No. 1 (AWB)
Facility	Zack McCormick Fed Com 18-24S-29E No. 1		

COMMENTS

Wellpath general comments

Well: Zach McCormick Fed Com 18-24S-29E No. 001

Field: Culebra Bluff; Wolfcamp, South (Gas)

Rig: Patriot 5

Location: Eddy Co., NM

API: 30-015-43654-00

Vertical Datum to DDZ: 25 feet

Proposed Direction: 90.00°

PBHL: 11189 feet

Duration: 3/31/2016-4/10/2016

FSE's: V. Dinh

SO#: 7885044

12 1/4 Gyro 100' - 2610'

BHI MWD 2910' - 11136'

Projection to TD: 11189'



Matador Resources



Location: Eddy County, NM

Slot: Zach McCormick Fed Com 18-24S-29E No. 1

Field: Culebra Bluff Wellcamp, South (Gas) Eddy Co, NM

Well: Zach McCormick Fed Com 18-24S-29E No. 001

Facility: Zach McCormick Fed Com 18-24S-29E No. 1

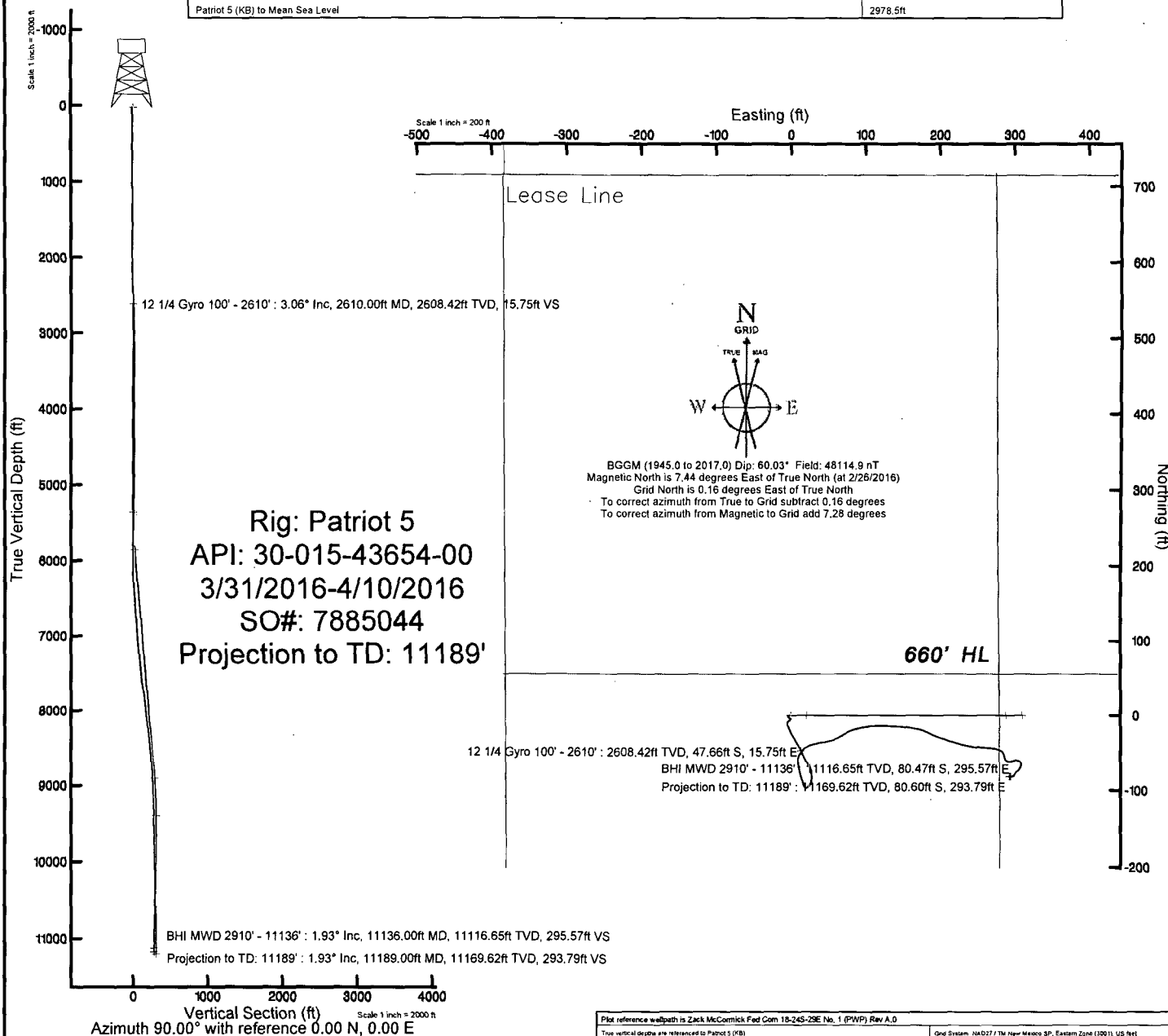
Wellbore: Zach McCormick Fed Com 18-24S-29E No. 1 (PWB)

Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	25.00	0.000	90.000	25.00	0.00	0.00	0.00	0.00
KOP	5356.37	0.000	90.000	5356.37	0.00	0.00	0.00	0.00
EOB/SOH	5856.37	5.000	90.000	5855.73	0.00	21.80	1.00	21.80
EOH/SOD	8912.90	5.000	90.000	8900.63	0.00	288.20	0.00	288.20
Drop to Zero	9412.90	0.000	90.000	9400.00	0.00	310.00	1.00	310.00
TD 690' West of Lease Line	11212.90	0.000	90.000	11200.00	0.00	310.00	0.00	310.00

Location Information

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Zack McCormick Fed Com 18-24S-29E No. 1			593636.000	444952.000	32°13'22.539"N	104°01'49.952"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Zack McCormick Fed Com 18-24S-29E No. 1	0.00	0.00	593636.000	444952.000	32°13'22.539"N	104°01'49.952"W
Patriot 5 (KB) to Mud line (At Slot: Zack McCormick Fed Com 18-24S-29E No. 1)					25ft	
Mean Sea Level to Mud line (At Slot: Zack McCormick Fed Com 18-24S-29E No. 1)					-2953.5ft	
Patriot 5 (KB) to Mean Sea Level					2978.5ft	



Plot reference wellpath is Zach McCormick Fed Com 18-24S-29E No. 1 (PWP) Rev A.0

True vertical depths are referenced to Patriot 5 (KB)

Measured depths are referenced to Patriot 5 (KB)

Patriot 5 (KB) to Mean Sea Level: 2978.5 feet

Mean Sea Level to Mud line (At Slot: Zach McCormick Fed Com 18-24S-29E No. 1): 0 feet

Elevations are in feet referenced to Slot

Grid System: NAD83 / TM Hyper Mexico SP, Eastern Zone (1001), US feet

North Reference: Grid north

Scale: True distance

Depths are in feet

Created by: Tortoise on 2/2/2016



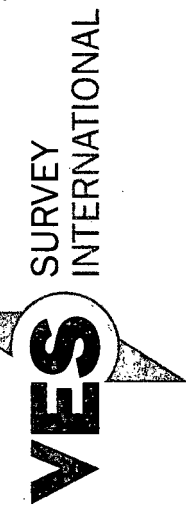
I Adam Askew certify that I am employed by VES Survey International. That I did on the day(s) of 03/31/16 through 03/31/16 conduct or supervise the taking of a Rate Gyro survey from a depth of 0.00 feet to a depth of 2,610.00 feet; that the data is true, correct, complete and within the limitations of the tool as set forth by Vaughn Energy Services, that I am authorized and qualified to make this report; that this survey was conducted at the request of Matador Production for the Zach McCormick F. C. 18-24S-29E Well # 1 API # 30-015-43654 in Eddy County / Parish New Mexico; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by Vaughn Energy Services

A handwritten signature in black ink, appearing to read "Adam Askew", is written over a horizontal line.

Adam Askew
Service Technician
Vaughn Energy Services



Company: Matador Production Company
Lease/Well: Zach McCormick Federal Com /18-24S-29E 001



Rig Name: Patriot 5
State/County: New Mexico/Eddy
VS-Azi: 0.00 Degrees
Latitude: 32.22293, Longitude: -104.03054
Grid North = True North -0.16 degs (NAD 27)
Grid Correction Applied = -0.16 degs

Depth Reference : RKB = 25 feet

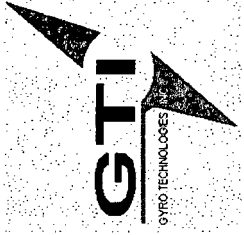
DRILLOG HA GYRO SURVEY CALCULATIONS
Filename: gyro survey.ut
Minimum Curvature Method
Report Date/Time: 4/7/2016 / 10:57

VES Survey International
Midland, Texas
432-563-5444

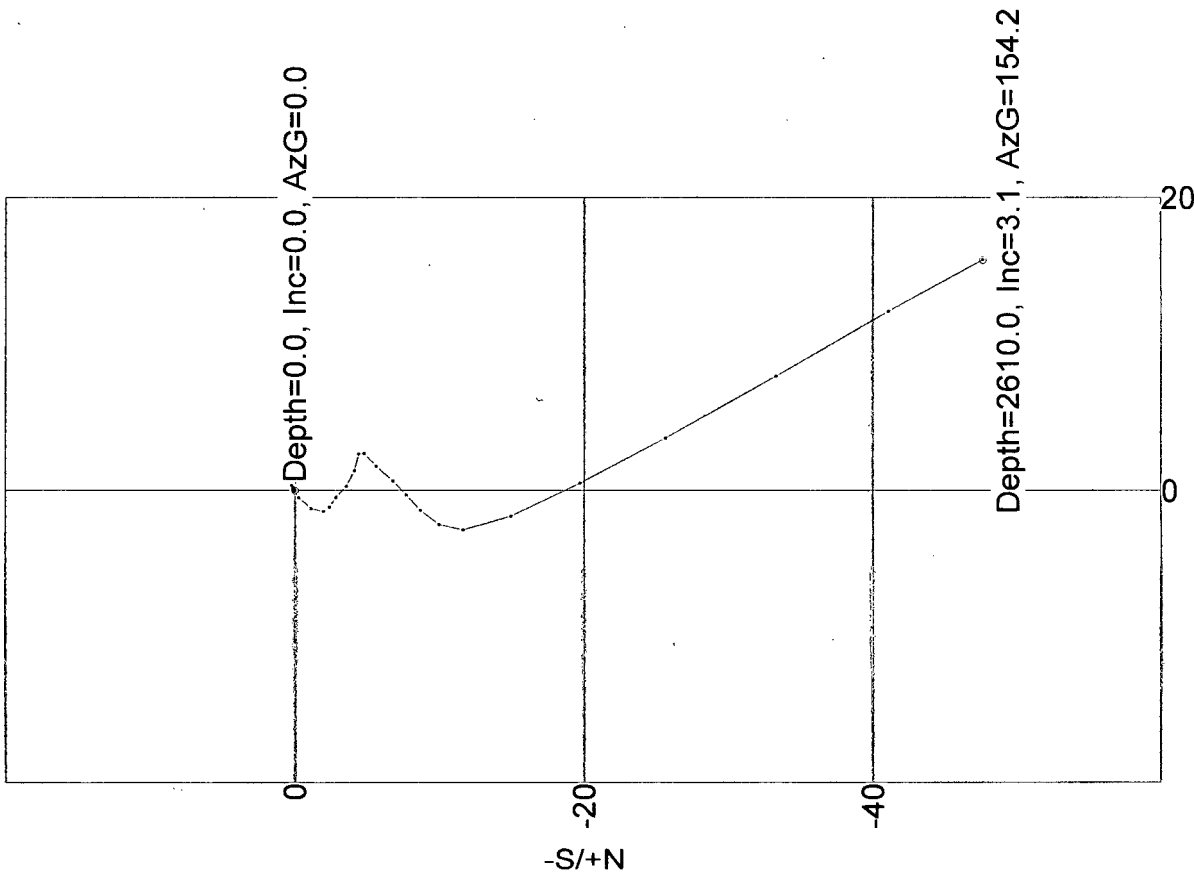
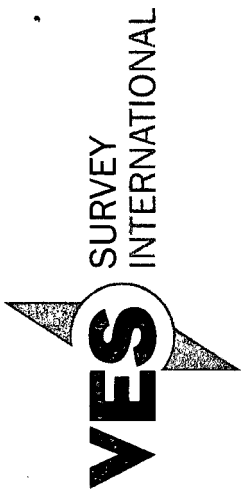
Surveyor: Adam Askew
Zach McCormick Federal Com 18-24S-29E 001 / API 30-015-43654

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.13	340.34	100.00	0.11	-0.04	0.11	0.11	340.34	0.13
200.00	0.12	170.73	200.00	0.11	-0.06	0.11	0.13	331.64	0.25
300.00	0.21	55.10	300.00	0.11	0.11	0.11	0.15	43.86	0.28
400.00	0.09	79.85	400.00	0.23	0.33	0.23	0.40	55.56	0.13
500.00	0.27	242.87	500.00	0.13	0.20	0.13	0.24	56.04	0.36
600.00	0.66	239.64	600.00	-0.27	-0.51	-0.27	0.58	242.48	0.38
700.00	0.71	203.09	699.99	-1.13	-1.25	-1.13	1.68	227.97	0.43
800.00	0.32	170.34	799.98	-1.97	-1.44	-1.97	2.44	216.22	0.47
900.00	0.33	120.16	899.98	-2.39	-1.15	-2.39	2.65	205.56	0.28
1000.00	0.58	127.02	999.98	-2.84	-0.49	-2.84	2.89	189.81	0.25
1100.00	0.64	139.70	1099.97	-3.57	0.27	-3.57	3.58	175.68	0.15
1200.00	0.82	100.48	1199.97	-4.13	1.33	-4.13	4.34	162.09	0.52
1300.00	0.54	109.46	1299.96	-4.41	2.48	-4.41	5.07	150.84	0.30
1400.00	0.54	240.78	1399.96	-4.80	2.52	-4.80	5.42	152.36	0.99
1500.00	0.84	217.51	1499.95	-5.62	1.65	-5.62	5.86	163.59	0.40
1600.00	0.94	224.35	1599.94	-6.78	0.64	-6.78	6.81	174.64	0.14

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1700.00	0.58	228.74	1699.93	-7.70	-0.31	-7.70	7.71	182.33	0.36
1800.00	1.07	226.04	1799.92	-8.68	-1.37	-8.68	8.79	188.94	0.50
1900.00	0.81	205.85	1899.91	-9.97	-2.35	-9.97	10.24	193.26	0.42
2000.00	1.16	182.65	1999.89	-11.62	-2.70	-11.62	11.93	193.10	0.53
2100.00	2.85	156.67	2099.83	-14.92	-1.77	-14.92	15.02	186.76	1.87
2200.00	3.23	153.29	2199.69	-19.71	0.48	-19.71	19.72	178.60	0.42
2300.00	4.41	151.66	2299.46	-25.62	3.58	-25.62	25.87	172.06	1.18
2400.00	5.62	150.56	2399.08	-33.27	7.81	-33.27	34.17	166.79	1.21
2500.00	4.69	150.41	2498.67	-41.09	12.23	-41.09	42.87	163.42	0.93
2610.00	3.06	154.23	2608.42	-47.64	15.73	-47.64	50.17	161.73	1.50



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-W/+E
VES Survey Date: 3/31/2016