

30-015-42703



Actual Wellpath Report

Colonel R. Howard No. 001 awp 191.5' - 12460' Proj: 12518'
Page 1 of 6



REFERENCE WELLPATH IDENTIFICATION

Operator	Matador Resources	Slot	Colonel R. Howard Com No. 1
Area	Eddy County, NM	Well	Colonel R. Howard No. 001
Field	Eddy Co., NM	Wellbore	Colonel R. Howard Com No. 1
Facility	Colonel R. Howard Com No. 1		

REPORT SETUP INFORMATION

Projection System	NAD27 / TM New Mexico SP, Eastern Zone (3001), US feet	Software System	WellArchitect® 5.1
North Reference	Grid	User	Buiduyh
Scale	0.999912	Report Generated	17/Dec/2018 at 16:11
Convergence at slot	0.09° East	Database/Source file	WellArchitectDB/Colonel_R_Howard_No_001_awp_191.5_-12460_Proj_12518_.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	551116.00	471793.00	32°17'49.082"N	104°10'04.458"W
Facility Reference Pt			551116.00	471793.00	32°17'49.082"N	104°10'04.458"W
Field Reference Pt			152400.30	0.00	30°59'42.846"N	105°26'33.659"W

WELLPATH DATUM

Calculation method	Minimum curvature		
Horizontal Reference Pt	Slot	Rig: Patterson 297 (KB) to Facility Vertical Datum	3162.00ft
Vertical Reference Pt	Rig: Patterson 297 (KB)	Rig: Patterson 297 (KB) to Mean Sea Level	3162.00ft
MD Reference Pt	Rig: Patterson 297 (KB)	Rig: Patterson 297 (KB) to Ground Level at Slot (Colonel R. Howard Com No. 1)	29.00ft
Field Vertical Reference	Mean Sea Level	Section Origin	N 0.00, E 0.00 ft
		Section Azimuth	0.00°

RECEIVED

JUN 27 2019

DISTRICT II-ARTESIA O.C.D.

We hereby certify that the surveys contained herein, are to the best of our knowledge a true and accurate account of the well.

MWD COORDINATOR



Actual Wellpath Report

Colonel R. Howard No. 001 awp 191.5' - 12460' Proj: 12518'

Page 2 of 6



REFERENCE WELLPATH IDENTIFICATION			
Operator	Matador Resources	Slot	Colonel R. Howard Com No. 1
Area	Eddy County, NM	Well	Colonel R. Howard No. 001
Field	Eddy Co., NM	Wellbore	Colonel R. Howard Com No. 1
Facility	Colonel R. Howard Com No. 1		

WELLPATH DATA (92 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 [°/100ft]	Comments
0.00†	0.000	0.000	0.00	0.00	0.00	0.00	551116.00	471793.00	32°17'49.082"N	104°10'04.458"W	0.00	
29.00	0.000	0.000	29.00	0.00	0.00	0.00	551116.00	471793.00	32°17'49.082"N	104°10'04.458"W	0.00	
191.50	1.300	0.000	191.49	1.84	1.84	0.00	551116.00	471794.84	32°17'49.100"N	104°10'04.458"W	0.80	
347.50	1.600	0.000	347.44	5.79	5.79	0.00	551116.00	471798.79	32°17'49.139"N	104°10'04.458"W	0.19	
452.50†	2.500	337.400	452.37	19.37	19.37	-0.88	551115.12	471802.37	32°17'49.174"N	104°10'04.468"W	1.14	
628.50	1.100	6.600	628.28	14.59	14.59	-2.16	551113.84	471807.59	32°17'49.226"N	104°10'04.483"W	0.93	
808.50	1.100	2.000	808.25	18.04	18.04	-1.90	551114.10	471811.03	32°17'49.260"N	104°10'04.479"W	0.05	
902.50	0.500	17.800	902.24	19.33	19.33	-1.75	551114.25	471812.33	32°17'49.273"N	104°10'04.478"W	0.67	
1089.50	0.500	328.300	1089.23	20.80	20.80	-1.92	551114.08	471813.80	32°17'49.287"N	104°10'04.480"W	0.22	
1276.50†	0.700	293.800	1276.22	21.95	21.95	-3.40	551112.60	471814.95	32°17'49.299"N	104°10'04.497"W	0.22	
1463.50	2.600	109.600	1463.17	20.99	20.99	-0.45	551115.55	471813.99	32°17'49.289"N	104°10'04.462"W	1.76	
1650.50	1.100	84.300	1650.07	19.75	19.75	5.33	551121.33	471812.75	32°17'49.277"N	104°10'04.395"W	0.89	
1839.50	3.200	88.100	1838.93	20.10	20.10	12.41	551128.41	471813.10	32°17'49.280"N	104°10'04.313"W	1.11	
2027.50	1.600	37.900	2026.77	22.35	22.35	19.27	551135.27	471815.35	32°17'49.302"N	104°10'04.233"W	1.33	
2072.50†	1.100	14.700	2071.76	23.26	23.26	19.77	551135.76	471816.26	32°17'49.311"N	104°10'04.227"W	1.62	
2296.50	0.500	308.600	2295.74	25.95	25.95	19.55	551135.55	471818.95	32°17'49.338"N	104°10'04.229"W	0.45	
2484.50	0.700	300.500	2483.73	27.05	27.05	17.92	551133.92	471820.04	32°17'49.349"N	104°10'04.248"W	0.12	
2672.50	0.700	291.000	2671.72	28.04	28.04	15.86	551131.85	471821.04	32°17'49.359"N	104°10'04.272"W	0.06	
2861.50	0.500	289.900	2860.71	28.74	28.74	14.00	551130.00	471821.73	32°17'49.366"N	104°10'04.294"W	0.11	
3049.50†	0.500	292.400	3048.70	29.33	29.33	12.47	551128.47	471822.32	32°17'49.372"N	104°10'04.312"W	0.10	
3236.50	0.500	299.800	3235.69	30.04	30.04	11.01	551127.01	471823.04	32°17'49.379"N	104°10'04.329"W	0.03	
3426.50	0.700	296.600	3425.68	30.98	30.98	9.25	551125.25	471823.97	32°17'49.388"N	104°10'04.349"W	0.11	
3615.50	0.900	302.600	3614.66	32.29	32.29	6.97	551122.97	471825.29	32°17'49.401"N	104°10'04.376"W	0.11	
3802.50	0.700	292.800	3801.65	33.53	33.53	4.68	551120.68	471826.52	32°17'49.413"N	104°10'04.402"W	0.13	
3990.50†	0.400	285.700	3989.64	34.15	34.15	2.99	551118.99	471827.15	32°17'49.419"N	104°10'04.422"W	0.16	
4177.50	0.500	269.200	4176.63	34.31	34.31	1.55	551117.55	471827.31	32°17'49.421"N	104°10'04.439"W	0.09	
4365.50	0.700	262.900	4364.62	34.16	34.16	-0.41	551115.59	471827.16	32°17'49.420"N	104°10'04.462"W	0.11	
4553.50	0.500	274.100	4552.61	34.08	34.08	-2.37	551113.63	471827.07	32°17'49.419"N	104°10'04.485"W	0.12	
4741.50	0.500	290.600	4740.60	34.42	34.42	-3.96	551112.04	471827.42	32°17'49.422"N	104°10'04.503"W	0.08	
4929.50†	0.500	300.500	4928.60	35.13	35.13	-5.43	551110.57	471828.13	32°17'49.429"N	104°10'04.520"W	0.05	



Actual Wellpath Report

Colonel R. Howard No. 001 awp 191.5' - 12460' Proj: 12518'
Page 3 of 6



REFERENCE WELLPATH IDENTIFICATION

Operator	Matador Resources	Slot	Colonel R. Howard Com No. 1
Area	Eddy County, NM	Well	Colonel R. Howard No. 001
Field	Eddy Co., NM	Wellbore	Colonel R. Howard Com No. 1
Facility	Colonel R. Howard Com No. 1		

WELLPATH DATA (92 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 (°/100ft)	Comments
5118.50	0.400	269.200	5117.59	35.54	35.54	-6.80	551109.20	471828.54	32°17'49.433"N	104°10'04.536"W	0.14	
5307.50	0.200	220.000	5306.59	35.28	35.28	-7.67	551108.33	471828.27	32°17'49.431"N	104°10'04.546"W	0.16	
5496.50	0.500	167.600	5495.59	34.22	34.22	-7.71	551108.29	471827.22	32°17'49.420"N	104°10'04.547"W	0.22	
5686.50	0.500	147.900	5685.58	32.71	32.71	-7.09	551108.91	471825.70	32°17'49.405"N	104°10'04.540"W	0.09	
5875.50	0.700	138.400	5874.57	31.14	31.14	-5.89	551110.11	471824.14	32°17'49.390"N	104°10'04.526"W	0.12	
6063.50	1.200	186.900	6062.54	28.33	28.33	-5.36	551110.64	471821.33	32°17'49.362"N	104°10'04.520"W	0.48	
6253.50	1.100	196.800	6252.51	24.61	24.61	-6.13	551109.87	471817.61	32°17'49.325"N	104°10'04.529"W	0.12	
6440.50	0.700	149.700	6439.48	21.91	21.91	-6.07	551109.93	471814.90	32°17'49.298"N	104°10'04.528"W	0.43	
6627.50	0.900	176.700	6626.47	19.45	19.45	-5.41	551110.59	471812.45	32°17'49.274"N	104°10'04.520"W	0.23	
6817.50	0.900	317.700	6816.46	19.07	19.07	-6.33	551109.67	471812.07	32°17'49.270"N	104°10'04.531"W	0.89	
7005.50	1.200	28.400	7004.43	21.89	21.89	-6.38	551109.62	471814.89	32°17'49.298"N	104°10'04.532"W	0.66	
7193.50	2.500	90.300	7192.35	23.60	23.60	-1.35	551114.65	471816.60	32°17'49.315"N	104°10'04.473"W	1.17	
7382.50	1.100	132.400	7381.25	22.36	22.36	4.12	551120.12	471815.35	32°17'49.303"N	104°10'04.409"W	0.97	
7571.50	0.400	181.000	7570.24	20.47	20.47	5.44	551121.44	471813.47	32°17'49.284"N	104°10'04.394"W	0.47	
7760.50	0.700	234.800	7759.23	19.15	19.15	4.49	551120.49	471812.15	32°17'49.271"N	104°10'04.405"W	0.30	
7949.50	1.400	257.600	7948.20	17.99	17.99	1.29	551117.29	471810.99	32°17'49.260"N	104°10'04.442"W	0.42	
8138.50	1.600	221.700	8137.14	15.52	15.52	-2.72	551113.28	471808.52	32°17'49.235"N	104°10'04.489"W	0.50	
8327.50	1.900	157.800	8326.07	10.65	10.65	-3.29	551112.71	471803.65	32°17'49.187"N	104°10'04.496"W	0.99	
8515.50	0.500	138.100	8514.02	7.15	7.15	-1.57	551114.43	471800.15	32°17'49.152"N	104°10'04.476"W	0.77	
8703.50	0.700	158.500	8702.01	5.47	5.47	0.60	551115.40	471798.47	32°17'49.136"N	104°10'04.464"W	0.15	
8893.50	0.900	151.100	8891.99	3.09	3.09	0.55	551116.55	471796.09	32°17'49.112"N	104°10'04.451"W	0.12	
9082.50	1.100	146.200	9080.96	0.28	0.28	2.28	551118.28	471793.28	32°17'49.084"N	104°10'04.431"W	0.11	
9272.50	1.100	156.400	9270.93	-2.91	-2.91	4.02	551120.02	471790.09	32°17'49.053"N	104°10'04.411"W	0.10	
9353.50	0.700	192.900	9351.92	-4.10	-4.10	4.22	551120.22	471788.90	32°17'49.041"N	104°10'04.409"W	0.84	
9383.00	0.700	192.900	9381.42	-4.45	-4.45	4.54	551120.14	471788.55	32°17'49.037"N	104°10'04.409"W	0.00	Imported Icel Fee #1 MWD surveys from 180° - 9383°
9394.50	0.700	192.900	9392.92	-4.59	-4.59	4.11	551120.11	471788.41	32°17'49.036"N	104°10'04.410"W	0.00	
9429.00	1.060	211.270	9427.41	-5.07	-5.07	3.90	551119.90	471787.93	32°17'49.031"N	104°10'04.412"W	1.31	
9523.00	2.720	169.850	9521.36	-8.01	-8.01	3.84	551119.84	471784.99	32°17'49.002"N	104°10'04.413"W	2.18	
9616.00	3.520	172.310	9614.22	-13.01	-13.01	4.61	551120.61	471779.99	32°17'48.953"N	104°10'04.404"W	0.87	
9711.00	4.590	166.570	9708.98	-19.59	-19.59	5.88	551121.88	471773.41	32°17'48.888"N	104°10'04.389"W	1.20	



Actual Wellpath Report

Colonel R. Howard No. 001 awp 191.5' - 12460' Proj: 12518'

Page 4 of 6



REFERENCE WELLPATH IDENTIFICATION			
Operator	Matador Resources	Slot	Colonel R. Howard Com No. 1
Area	Eddy County, NM	Well	Colonel R. Howard No. 001
Field	Eddy Co., NM	Wellbore	Colonel R. Howard Com No. 1
Facility	Colonel R. Howard Com No. 1		

WELLPATH DATA (92 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 [°/100ft]	Comments
9804.00	4.490	170.020	9801.69	-26.80	-26.80	7.38	551123.38	471766.20	32°17'48.816"N	104°10'04.372"W	0.31	
9898.00	5.100	164.290	9895.36	-34.45	-34.45	9.15	551125.15	471758.56	32°17'48.741"N	104°10'04.352"W	0.82	
9992.00	5.170	149.070	9988.99	-42.10	-42.10	12.45	551128.45	471750.90	32°17'48.665"N	104°10'04.313"W	1.45	
10086.00	4.630	146.280	10082.65	-48.89	-48.89	16.74	551132.74	471744.12	32°17'48.598"N	104°10'04.263"W	0.63	
10180.00	4.050	146.240	10176.38	-54.80	-54.80	20.69	551136.69	471738.20	32°17'48.539"N	104°10'04.218"W	0.62	
10274.00	3.700	151.010	10270.16	-60.22	-60.22	24.00	551140.00	471732.79	32°17'48.485"N	104°10'04.179"W	0.51	
10368.00	3.550	172.560	10363.98	-65.76	-65.76	25.85	551141.85	471727.25	32°17'48.431"N	104°10'04.158"W	1.45	
10461.00	0.730	218.200	10456.91	-69.08	-69.08	25.86	551141.85	471723.93	32°17'48.398"N	104°10'04.158"W	3.32	
10555.00	1.090	254.610	10550.90	-69.79	-69.79	24.62	551140.62	471723.22	32°17'48.391"N	104°10'04.172"W	0.71	
10649.00	1.360	273.040	10644.87	-69.96	-69.96	22.85	551138.65	471723.04	32°17'48.389"N	104°10'04.195"W	0.50	
10743.00	0.810	299.120	10738.86	-69.58	-69.58	20.95	551136.95	471723.43	32°17'48.393"N	104°10'04.215"W	0.77	
10837.00	1.210	275.750	10832.84	-69.16	-69.16	19.39	551135.38	471723.85	32°17'48.397"N	104°10'04.233"W	0.60	
10931.00	1.760	266.110	10926.81	-69.16	-69.16	16.96	551132.96	471723.85	32°17'48.397"N	104°10'04.261"W	0.64	
11024.00	1.700	252.400	11019.77	-69.67	-69.67	14.22	551130.22	471723.34	32°17'48.392"N	104°10'04.293"W	0.45	
11118.00	1.850	253.560	11113.72	-70.52	-70.52	11.43	551127.43	471722.48	32°17'48.384"N	104°10'04.326"W	0.16	
11212.00	1.010	5.670	11207.71	-70.13	-70.13	10.06	551126.06	471722.88	32°17'48.386"N	104°10'04.342"W	2.57	
11306.00	2.400	46.060	11301.67	-67.94	-67.94	11.56	551127.56	471725.07	32°17'48.409"N	104°10'04.324"W	1.87	
11400.00	1.460	28.740	11395.61	-65.52	-65.52	13.55	551129.55	471727.49	32°17'48.433"N	104°10'04.301"W	1.17	
11494.00	2.490	46.700	11489.56	-63.07	-63.07	15.61	551131.61	471729.94	32°17'48.457"N	104°10'04.277"W	1.27	
11588.00	1.630	31.270	11583.49	-60.53	-60.53	17.79	551133.79	471732.48	32°17'48.482"N	104°10'04.251"W	1.08	
11683.00	1.980	26.330	11678.45	-57.90	-57.90	19.22	551135.22	471735.10	32°17'48.508"N	104°10'04.235"W	0.40	
11777.00	1.480	24.970	11772.40	-55.35	-55.35	20.46	551136.46	471737.66	32°17'48.534"N	104°10'04.220"W	0.53	
11871.00	1.590	9.750	11866.37	-52.96	-52.96	21.19	551137.19	471740.05	32°17'48.557"N	104°10'04.212"W	0.45	
11965.00	1.530	352.980	11960.34	-50.43	-50.43	21.26	551137.26	471742.58	32°17'48.582"N	104°10'04.211"W	0.49	
12060.00	1.630	339.010	12055.30	-47.91	-47.91	20.62	551136.62	471745.10	32°17'48.607"N	104°10'04.218"W	0.42	
12123.00	1.750	333.970	12118.27	-46.21	-46.21	19.88	551135.87	471746.80	32°17'48.624"N	104°10'04.227"W	0.30	
12217.00	1.550	324.550	12212.23	-43.88	-43.88	18.51	551134.51	471749.12	32°17'48.647"N	104°10'04.243"W	0.36	
12280.00	2.060	322.060	12275.20	-42.30	-42.30	17.32	551133.32	471750.71	32°17'48.663"N	104°10'04.257"W	0.82	
12343.00	1.980	325.740	12338.16	-40.50	-40.50	16.01	551132.01	471752.50	32°17'48.681"N	104°10'04.272"W	0.24	
12406.00	2.100	316.200	12401.12	-38.77	-38.77	14.60	551130.60	471754.23	32°17'48.698"N	104°10'04.288"W	0.57	

Actual Wellpath Report
Colonel R. Howard No. 001 awp 191.5' - 12460' Proj: 12518'
Page 5 of 6



Actual Wellpath Report

Colonel R. Howard No. 001 awp 191.5' - 12460' Proj: 12518'
Page 6 of 6

**BAKER
HUGHES**
a GE company



REFERENCE WELLPATH IDENTIFICATION

Operator	Matador Resources	Slot	Colonel R. Howard Com No. 1
Area	Eddy County, NM	Well	Colonel R. Howard No. 001
Field	Eddy Co., NM	Wellbore	Colonel R. Howard Com No. 1
Facility	Colonel R. Howard Com No. 1		

COMMENTS

Wellpath general comments

Well: Colonel R. Howard No. 001
Field: Eddy Co., NM
Rig: Patterson 297
Location: Eddy Co, NM
API: 30-015-42703
Latitude: 32° 17' 49.082" N
Longitude: 104° 10' 4.458" W
DF Elevation: 3162 feet
Elev. GL: 3133 feet
Proposed Direction: 0.0°
PBHL: 12518 feet
Duration: 08/30/2018-09/08/2018
FSE's: Olusola Oluwole
SO#: 109378176
Imported Ice Fee #1 MWD surveys from 180' - 9383'
6 1/8 BH MWD 9429' - 12460'
Projection to TD: 12518'