

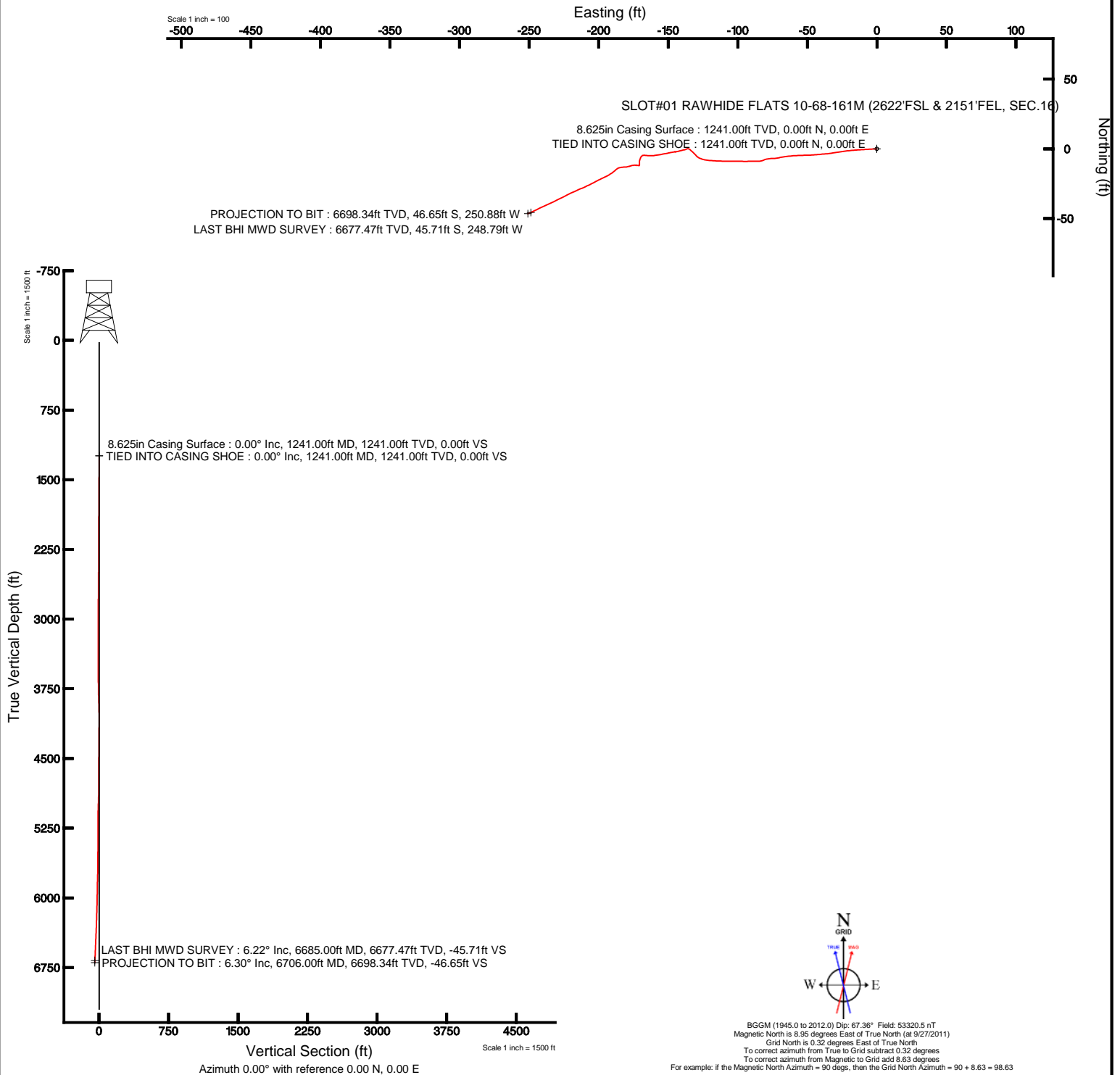


MARATHON OIL COMPANY

Location: COLORADO Slot: SLOT#01 RAWHIDE FLATS 10-68-161M (2622'FSL & 2151'FEL, SEC.16)
Field: LARIMER COUNTY (NAD 83, GRID NORTH) Well: RAWHIDE FLATS 10-68-161M
Facility: SEC.16-T10N-R8BW Wellbore: RAWHIDE FLATS 10-68-161M PWB



Plot reference wellpath is RAWHIDE FLATS 10-68-161M (REV.A).PWB	
True vertical depths are referenced to Rig on SLOT#01 RAWHIDE FLATS 10-68-161M (2622'FSL & 2151'FEL, SEC.16) (RWB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (SPT), US feet
Measured depths are referenced to Rig on SLOT#01 RAWHIDE FLATS 10-68-161M (2622'FSL & 2151'FEL, SEC.16) (RWB)	North Reference: Grid north
Rig on SLOT#01 RAWHIDE FLATS 10-68-161M (2622'FSL & 2151'FEL, SEC.16) (RWB) to Mean Sea Level: 5603 feet	Scale: True distance
Mean Sea Level to Mud line (at Slot: SLOT#01 RAWHIDE FLATS 10-68-161M (2622'FSL & 2151'FEL, SEC.16)) 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: ccsd/sem on 11/29/2011





Actual Wellpath Report

Positional Uncertainty
RAWHIDE FLATS 10-68-161M awp
 Page 1 of 4



REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#01 RAWHIDE FLATS 10-68-161M (2622'FSL & 2151'FEL, SEC.16)
Area	COLORADO	Well	RAWHIDE FLATS 10-68-161M
Field	LARIMER COUNTY (NAD 83, GRID NORTH)	Wellbore	RAWHIDE FLATS 10-68-161M awb
Facility	SEC.16-T10N-R68W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 3.0.1
North Reference	Grid	User	Cookdanm
Scale	1.00001	Report Generated	11/29/2011 at 6:13:21 PM
Convergence at slot	0.32° East	Database/Source file	WA_Denver/RAWHIDE_FLATS_10-68-161M_awb.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	3136142.77	1547088.37	40°50'02.760"N	105°00'28.880"W
Facility Reference Pt			3136142.77	1547088.37	40°50'02.760"N	105°00'28.880"W
Field Reference Pt			3136142.77	1547088.37	40°50'02.760"N	105°00'28.880"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on SLOT#01 RAWHIDE FLATS 10-68-161M (2622'FSL & 2151'FEL, SEC.16) (RKB) to Facility Vertical Dat
Horizontal Reference Pt	Slot	Rig on SLOT#01 RAWHIDE FLATS 10-68-161M (2622'FSL & 2151'FEL, SEC.16) (RKB) to Mean Sea Level
Vertical Reference Pt	Rig on SLOT#01 RAWHIDE FLATS 10-68-161M (2622'FSL & 2151'FEL, SEC.16) (RKB)	Rig on SLOT#01 RAWHIDE FLATS 10-68-161M (2622'FSL & 2151'FEL, SEC.16) (RKB) to Mud Line at Slot (SI
MD Reference Pt	Rig on SLOT#01 RAWHIDE FLATS 10-68-161M (2622'FSL & 2151'FEL, SEC.16) (RKB)	Section Origin
Field Vertical Reference	Mean Sea Level	Section Azimuth

POSITIONAL UNCERTAINTY CALCULATION SETTINGS

Ellipse Confidence Limit	2.00 Std Dev	Ellipse Start MD	25.00ft	Surface Position Uncertainty	included
Declination	8.95° East of TN	Dip Angle	67.36°	Magnetic Field Strength	53321nT
Slot Surface Uncertainty @1SD		Horizontal	0.100ft	Vertical	1.000ft
Facility Surface Uncertainty @1SD		Horizontal	8.200ft	Vertical	3.000ft



Actual Wellpath Report

Positional Uncertainty
RAWHIDE FLATS 10-68-161M awp
 Page 2 of 4



REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#01 RAWHIDE FLATS 10-68-161M (2622'FSL & 2151'FEL, SEC.16)
Area	COLORADO	Well	RAWHIDE FLATS 10-68-161M
Field	LARIMER COUNTY (NAD 83, GRID NORTH)	Wellbore	RAWHIDE FLATS 10-68-161M awb
Facility	SEC.16-T10N-R68W		

WELLPATH DATA (58 stations) - with Positional Uncertainty values

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]	Major Semi-Axis [ft]	Minor Semi-Axis [ft]	Vertical Semi-Axis [ft]	Minor Axis Azim [°]
1241.00	0.000	267.520	1241.00	0.00	0.00	0.00	3136142.77	1547088.37	40°50'02.760"N	105°00'28.880"W	0.00	16.40	16.40	6.87	0.000
1360.00	2.570	267.520	1359.96	-0.12	-0.12	-2.67	3136140.11	1547088.25	40°50'02.759"N	105°00'28.915"W	2.16	16.43	16.40	6.90	177.593
1455.00	2.750	265.750	1454.86	-0.38	-0.38	-7.07	3136135.71	1547087.99	40°50'02.757"N	105°00'28.972"W	0.21	16.49	16.41	6.92	177.599
1550.00	3.060	267.070	1549.74	-0.68	-0.68	-11.87	3136130.90	1547087.69	40°50'02.754"N	105°00'29.034"W	0.33	16.50	16.42	6.95	177.722
1645.00	3.150	265.020	1644.60	-1.03	-1.03	-17.00	3136125.77	1547087.34	40°50'02.751"N	105°00'29.101"W	0.15	16.51	16.43	6.98	178.084
1740.00	3.130	262.800	1739.45	-1.58	-1.58	-22.18	3136120.59	1547086.78	40°50'02.746"N	105°00'29.169"W	0.13	16.53	16.45	7.01	178.463
1836.00	3.440	261.200	1835.30	-2.35	-2.35	-27.62	3136115.15	1547086.01	40°50'02.738"N	105°00'29.240"W	0.34	16.54	16.48	7.04	179.083
1931.00	3.020	261.610	1930.14	-3.15	-3.15	-32.92	3136109.86	1547085.21	40°50'02.731"N	105°00'29.308"W	0.44	16.57	16.50	7.08	179.712
2026.00	3.290	265.470	2025.00	-3.73	-3.73	-38.11	3136104.66	1547084.63	40°50'02.725"N	105°00'29.376"W	0.36	16.59	16.53	7.12	180.763
2122.00	3.110	264.590	2120.85	-4.20	-4.20	-43.45	3136099.32	1547084.17	40°50'02.721"N	105°00'29.446"W	0.19	16.62	16.57	7.16	182.665
2217.00	3.190	268.170	2215.71	-4.52	-4.52	-48.66	3136094.12	1547083.84	40°50'02.718"N	105°00'29.513"W	0.22	16.65	16.60	7.20	184.717
2312.00	3.120	268.190	2310.56	-4.69	-4.69	-53.88	3136088.89	1547083.68	40°50'02.717"N	105°00'29.581"W	0.07	16.69	16.65	7.24	187.585
2407.00	3.230	266.600	2405.42	-4.93	-4.93	-59.14	3136083.63	1547083.44	40°50'02.715"N	105°00'29.650"W	0.15	16.73	16.69	7.29	191.644
2502.00	3.240	262.920	2500.27	-5.42	-5.42	-64.47	3136078.30	1547082.95	40°50'02.710"N	105°00'29.719"W	0.22	16.77	16.74	7.34	198.279
2597.00	3.260	258.070	2595.11	-6.31	-6.31	-69.78	3136072.99	1547082.06	40°50'02.701"N	105°00'29.788"W	0.29	16.82	16.79	7.39	208.913
2693.00	3.530	269.470	2690.95	-6.90	-6.90	-75.41	3136067.37	1547081.47	40°50'02.696"N	105°00'29.861"W	0.76	16.87	16.84	7.44	222.801
2788.00	3.350	248.500	2785.78	-7.95	-7.95	-80.91	3136061.86	1547080.42	40°50'02.686"N	105°00'29.933"W	1.33	16.94	16.89	7.50	234.163
2883.00	1.910	272.390	2880.68	-8.90	-8.90	-85.08	3136057.69	1547079.47	40°50'02.677"N	105°00'29.987"W	1.87	17.01	16.95	7.56	237.733
2978.00	2.360	268.810	2975.61	-8.87	-8.87	-88.62	3136054.16	1547079.50	40°50'02.677"N	105°00'30.033"W	0.49	17.07	17.03	7.62	239.161
3071.00	2.560	268.020	3068.53	-8.98	-8.98	-92.61	3136050.17	1547079.38	40°50'02.676"N	105°00'30.085"W	0.22	17.14	17.09	7.68	242.435
3167.00	2.680	272.490	3164.43	-8.96	-8.96	-96.99	3136045.78	1547079.41	40°50'02.677"N	105°00'30.142"W	0.25	17.21	17.15	7.74	245.500
3262.00	2.370	269.050	3259.33	-8.90	-8.90	-101.17	3136041.60	1547079.47	40°50'02.678"N	105°00'30.197"W	0.36	17.28	17.21	7.81	247.650
3356.00	2.570	269.900	3353.25	-8.93	-8.93	-105.22	3136037.55	1547079.44	40°50'02.678"N	105°00'30.250"W	0.22	17.36	17.28	7.88	248.984
3452.00	2.750	271.680	3449.14	-8.87	-8.87	-109.68	3136033.09	1547079.50	40°50'02.678"N	105°00'30.307"W	0.21	17.44	17.35	7.95	250.420
3547.00	3.160	272.230	3544.02	-8.70	-8.70	-114.57	3136028.20	1547079.67	40°50'02.680"N	105°00'30.371"W	0.43	17.53	17.42	8.03	251.735
3642.00	3.670	273.720	3638.85	-8.40	-8.40	-120.22	3136022.55	1547079.97	40°50'02.684"N	105°00'30.445"W	0.54	17.62	17.50	8.10	252.905
3738.00	3.120	288.600	3734.68	-7.37	-7.37	-125.77	3136017.01	1547081.00	40°50'02.694"N	105°00'30.517"W	1.08	17.72	17.58	8.19	254.556
3833.00	1.980	316.000	3829.59	-5.36	-5.36	-129.36	3136013.42	1547083.00	40°50'02.714"N	105°00'30.563"W	1.72	17.80	17.66	8.27	256.558
3928.00	2.840	314.350	3924.50	-2.54	-2.54	-132.18	3136010.59	1547085.83	40°50'02.742"N	105°00'30.600"W	0.91	17.89	17.75	8.36	256.406
4023.00	1.400	303.580	4019.44	-0.25	-0.25	-134.83	3136007.94	1547088.12	40°50'02.765"N	105°00'30.634"W	1.57	17.98	17.84	8.44	256.323
4118.00	1.060	240.080	4114.42	-0.05	-0.05	-136.56	3136006.21	1547088.32	40°50'02.767"N	105°00'30.656"W	1.40	18.08	17.93	8.54	253.735
4213.00	1.600	260.120	4209.39	-0.71	-0.71	-138.63	3136004.15	1547087.66	40°50'02.761"N	105°00'30.683"W	0.74	18.19	18.01	8.63	251.973
4307.00	1.930	253.410	4303.35	-1.39	-1.39	-141.44	3136001.34	1547086.98	40°50'02.754"N	105°00'30.720"W	0.41	18.29	18.11	8.73	251.544
4402.00	2.440	261.290	4398.28	-2.15	-2.15	-144.97	3135997.80	1547086.22	40°50'02.747"N	105°00'30.766"W	0.62	18.40	18.20	8.83	251.792
4497.00	2.940	258.980	4493.17	-2.92	-2.92	-149.36	3135993.41	1547085.44	40°50'02.739"N	105°00'30.823"W	0.54	18.51	18.30	8.93	251.881
4593.00	3.350	258.780	4589.03	-3.94	-3.94	-154.53	3135988.25	1547084.43	40°50'02.730"N	105°00'30.891"W	0.43	18.63	18.40	9.03	252.333
4688.00	3.760	263.700	4683.85	-4.82	-4.82	-160.34	3135982.43	1547083.55	40°50'02.721"N	105°00'30.966"W	0.54	18.75	18.50	9.14	252.768
4783.00	2.800	279.530	4778.69	-4.78	-4.78	-165.73	3135977.04	1547083.59	40°50'02.722"N	105°00'31.036"W	1.38	18.88	18.61	9.25	253.466
4879.00	1.190	231.270	4874.64	-5.01	-5.01	-168.82	3135973.95	1547083.35	40°50'02.720"N	105°00'31.077"W	2.29	18.99	18.73	9.37	253.834
4971.00	2.110	200.830	4966.60	-7.20	-7.20	-170.17	3135972.60	1547081.17	40°50'02.698"N	105°00'31.094"W	1.35	19.10	18.84	9.48	251.961
5069.00	1.930	175.620	5064.54	-10.53	-10.53	-170.68	3135972.09	1547077.84	40°50'02.665"N	105°00'31.101"W	0.92	19.20	18.93	9.61	250.075
5164.00	0.560	282.870	5159.52	-12.02	-12.02	-171.01	3135971.76	1547076.35	40°50'02.651"N	105°00'31.106"W	2.28	19.30	19.04	9.73	249.477
5259.00	1.820	273.380	5254.50	-11.83	-11.83	-172.97	3135969.80	1547076.54	40°50'02.653"N	105°00'31.131"W	1.34	19.42	19.17	9.86	249.933
5354.00	0.970	260.410	5349.47	-11.87	-11.87	-175.27	3135967.50	1547076.50	40°50'02.652"N	105°00'31.161"W	0.95	19.54	19.29	9.98	249.665
5449.00	2.070	252.960	5444.44	-12.51	-12.51	-177.70	3135965.07	1547075.86	40°50'02.646"N	105°00'31.193"W	1.17	19.67	19.41	10.12	249.407



Actual Wellpath Report

Positional Uncertainty
RAWHIDE FLATS 10-68-161M awp
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REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#01 RAWHIDE FLATS 10-68-161M (2622'FSL & 2151'FEL, SEC.16)
Area	COLORADO	Well	RAWHIDE FLATS 10-68-161M
Field	LARIMER COUNTY (NAD 83, GRID NORTH)	Wellbore	RAWHIDE FLATS 10-68-161M awb
Facility	SEC.16-T10N-R68W		

WELLPATH DATA (58 stations) - with Positional Uncertainty values

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]	Major Semi-Axis [ft]	Minor Semi-Axis [ft]	Vertical Semi-Axis [ft]	Minor Axis Azim [°]
5544.00	1.740	267.930	5539.38	-13.06	-13.06	-180.79	3135961.99	1547075.30	40°50'02.641"N	105°00'31.233"W	0.63	19.80	19.54	10.25	249.970
5640.00	2.300	262.390	5635.32	-13.37	-13.37	-184.15	3135958.62	1547075.00	40°50'02.638"N	105°00'31.277"W	0.62	19.94	19.66	10.39	250.511
5735.00	2.380	227.070	5730.25	-14.97	-14.97	-187.49	3135955.29	1547073.40	40°50'02.622"N	105°00'31.320"W	1.50	20.08	19.78	10.53	250.114
5829.00	3.190	235.930	5824.14	-17.76	-17.76	-191.08	3135951.69	1547070.61	40°50'02.595"N	105°00'31.367"W	0.97	20.22	19.90	10.67	248.775
5925.00	1.800	245.990	5920.05	-19.87	-19.87	-194.67	3135948.10	1547068.50	40°50'02.574"N	105°00'31.414"W	1.51	20.37	20.03	10.82	248.410
6115.00	3.330	242.350	6109.85	-23.65	-23.65	-202.29	3135940.49	1547064.72	40°50'02.537"N	105°00'31.513"W	0.81	20.66	20.33	11.13	250.195
6210.00	4.390	244.620	6204.63	-26.49	-26.49	-208.01	3135934.76	1547061.88	40°50'02.510"N	105°00'31.588"W	1.13	20.82	20.48	11.28	250.859
6305.00	4.900	247.030	6299.32	-29.63	-29.63	-215.04	3135927.74	1547058.74	40°50'02.479"N	105°00'31.680"W	0.57	20.99	20.62	11.44	250.502
6400.00	5.520	243.240	6393.93	-33.27	-33.27	-222.85	3135919.92	1547055.10	40°50'02.443"N	105°00'31.781"W	0.75	21.17	20.76	11.60	250.208
6495.00	5.740	243.770	6488.47	-37.43	-37.43	-231.19	3135911.58	1547050.94	40°50'02.403"N	105°00'31.890"W	0.24	21.35	20.90	11.77	250.034
6589.00	5.770	245.530	6582.00	-41.46	-41.46	-239.71	3135903.06	1547046.91	40°50'02.363"N	105°00'32.001"W	0.19	21.53	21.03	11.93	249.750
6685.00	6.220	244.410	6677.47	-45.71	-45.71	-248.79	3135893.98	1547042.66	40°50'02.322"N	105°00'32.120"W	0.48	21.73	21.18	12.11	249.514
6706.00	6.300	246.720	6698.34	-46.65	-46.65	-250.88	3135891.89	1547041.71	40°50'02.313"N	105°00'32.147"W	1.26	21.77	21.21	12.15	249.474

HOLE & CASING SECTIONS - Ref Wellbore: RAWHIDE FLATS 10-68-161M awb Ref Wellpath: RAWHIDE FLATS 10-68-161M awp

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
8.625in Casing Surface	25.00	1241.00	1216.00	25.00	1241.00	0.00	0.00	0.00	0.00
7.875in Open Hole	1241.00	6706.00	5465.00	1241.00	6698.34	0.00	0.00	-46.65	-250.88

WELLPATH COMPOSITION - Ref Wellbore: RAWHIDE FLATS 10-68-161M awb Ref Wellpath: RAWHIDE FLATS 10-68-161M awp

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
1241.00	6685.00	NaviTrak (Standard)	BHI MWD SURVEYS <1360-6706>	RAWHIDE FLATS 10-68-161M awb
6685.00	6706.00	Blind Drilling (std)	Projection to bit	RAWHIDE FLATS 10-68-161M awb

**Actual Wellpath Report**Positional Uncertainty
RAWHIDE FLATS 10-68-161M awp
Page 4 of 4**REFERENCE WELLPATH IDENTIFICATION**

Operator	MARATHON OIL COMPANY	Slot	SLOT#01 RAWHIDE FLATS 10-68-161M (2622'FSL & 2151'FEL, SEC.16)
Area	COLORADO	Well	RAWHIDE FLATS 10-68-161M
Field	LARIMER COUNTY (NAD 83, GRID NORTH)	Wellbore	RAWHIDE FLATS 10-68-161M awb
Facility	SEC.16-T10N-R68W		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1241.00	0.000	267.520	1241.00	TIED INTO CASING SHOE
6685.00	6.220	244.410	6677.47	LAST BHI MWD SURVEY
6706.00	6.300	246.720	6698.34	PROJECTION TO BIT