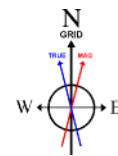
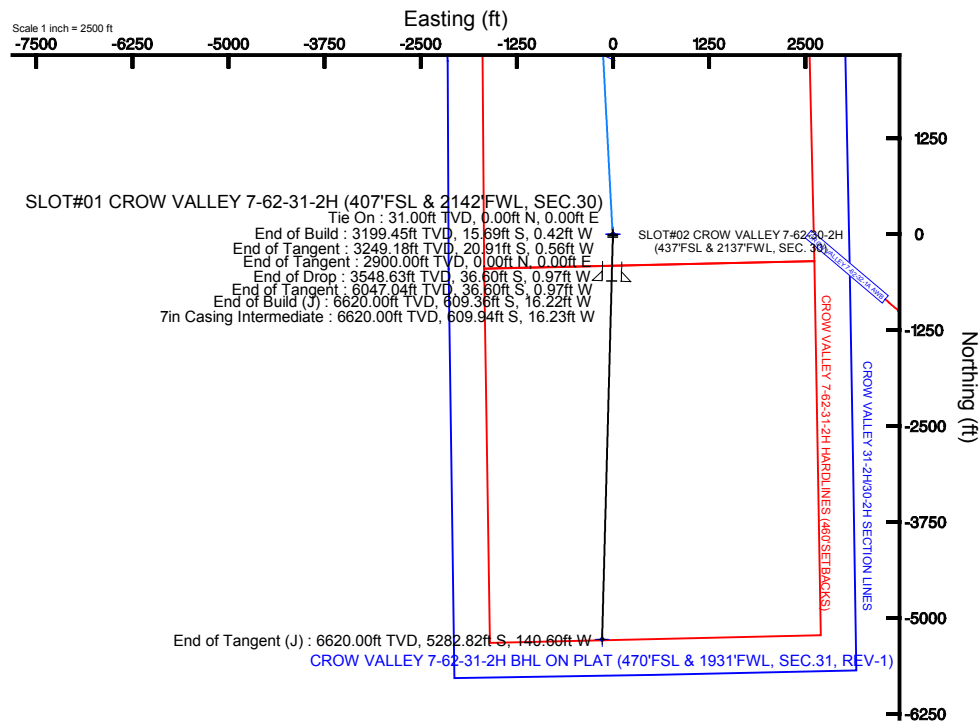
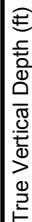


Location:	COLORADO	Slot:	SLOT#01 CROW VALLEY 7-62-31-2H (407FSL & 2142FWL, SEC.30)
Field:	WELD COUNTY (NAD 83, GRID NORTH)	Well:	CROW VALLEY 7-62-31-2H
Facility:	SEC.30-T7N-R62W	Wellbore:	CROW VALLEY 7-62-31-2H PWB

Well Profile Data								
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	31.00	0.000	181.525	31.00	0.00	0.00	0.00	0.00
End of Tangent	2900.00	0.000	181.525	2900.00	0.00	0.00	0.00	0.00
End of Build	3200.00	6.000	181.525	3199.45	-15.69	-0.42	2.00	15.69
End of Tangent	3250.00	6.000	181.525	3249.18	-20.91	-0.56	0.00	20.92
End of Drop	3550.00	0.000	181.525	3548.63	-36.60	-0.97	2.00	36.61
End of Tangent	6048.41	0.000	181.525	6047.04	-36.60	-0.97	0.00	36.61
End of Build (J)	6948.41	90.000	181.525	6620.00	-609.36	-16.22	10.00	609.57
End of Tangent (J)	11623.53	90.000	181.525	6620.00	-5282.82	-140.60	0.00	5284.69

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC 30-T7N-R2W			3314856.910	1441100.960	40°32'19.325"N	104°22'01.733"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#01 CROW VALLEY 7-62-31-2H (407FSL & 2142FWL, SEC.30)	0.00	0.00	3314856.910	1441100.960	40°32'19.325"N	104°22'01.733"W
H&P 321 (R9B) to Mud line (At Slot: SLOT#01 CROW VALLEY 7-62-31-2H (407FSL & 2142FWL, SEC.30))					4842R	
Mean Sea Level to Mud line (At Slot: SLOT#01 CROW VALLEY 7-62-31-2H (407FSL & 2142FWL, SEC.30))					0ft	
H&P 321 (R9B) to Mean Sea Level					4842R	

True vertical depths are referenced to H&P 321 (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to H&P 321 (RKB)	North Reference: Grid north
H&P 321 (RKB) to Mean Sea Level: 4842 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOTH01 CROW VALLEY 7-62-31-2H (407FSL & 2142FWL, SEC.30)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slicot	Created by: cookdank on 2/6/2012



BGGM (1945.0 to 2013.0) Dip: 67.19° Field: 53173.2 nT
Magnetic North is 8.56 degrees East of True North (at 2/6/2012)
Grid North is 0.73 degrees East of True North
To correct azimuth from True to Grid subtract 0.73 degrees
To correct azimuth from Magnetic to Grid add 7.82 degrees
For example: if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7.82 = 97.82



Planned Wellpath Report

CROW VALLEY 7-62-31-2H (REV-A.0) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#01 CROW VALLEY 7-62-31-2H (407'FSL & 2142'FWL, SEC.30)
Area	COLORADO	Well	CROW VALLEY 7-62-31-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-31-2H PWB
Facility	SEC.30-T7N-R62W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 3.0.2
North Reference	Grid	User	Cookdanm
Scale	0.999969	Report Generated	2/6/2012 at 4:57:55 PM
Convergence at slot	0.73° East	Database/Source file	WA_Denver/CROW_VALLEY_7-62-31-2H_PWB.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	3314856.91	1441100.96	40°32'19.325"N	104°22'01.733"W
Facility Reference Pt			3314856.91	1441100.96	40°32'19.325"N	104°22'01.733"W
Field Reference Pt			3476081.76	1512960.14	40°43'43.704"N	103°46'55.829"W

WELLPATH DATUM

Calculation method	Minimum curvature	H&P 321 (RKB) to Facility Vertical Datum	4842.00ft
Horizontal Reference Pt	Slot	H&P 321 (RKB) to Mean Sea Level	4842.00ft
Vertical Reference Pt	H&P 321 (RKB)	H&P 321 (RKB) to Mud Line at Slot (SLOT#01 CROW VALLEY 7-62-31-2H (407'FSL & 2142'FWL, SEC.30))	4842.00ft
MD Reference Pt	H&P 321 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	181.52°



Planned Wellpath Report

CROW VALLEY 7-62-31-2H (REV-A.0) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#01 CROW VALLEY 7-62-31-2H (407'FSL & 2142'FWL, SEC.30)
Area	COLORADO	Well	CROW VALLEY 7-62-31-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-31-2H PWB
Facility	SEC.30-T7N-R62W		

WELLPATH DATA (128 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
0.00†	0.000	181.525	0.00	0.00	0.00	0.00	0.00	
31.00	0.000	181.525	31.00	0.00	0.00	0.00	0.00	Tie On
131.00†	0.000	181.525	131.00	0.00	0.00	0.00	0.00	
231.00†	0.000	181.525	231.00	0.00	0.00	0.00	0.00	
331.00†	0.000	181.525	331.00	0.00	0.00	0.00	0.00	
431.00†	0.000	181.525	431.00	0.00	0.00	0.00	0.00	
454.00†	0.000	181.525	454.00	0.00	0.00	0.00	0.00	PIERRE
531.00†	0.000	181.525	531.00	0.00	0.00	0.00	0.00	
631.00†	0.000	181.525	631.00	0.00	0.00	0.00	0.00	
731.00†	0.000	181.525	731.00	0.00	0.00	0.00	0.00	
831.00†	0.000	181.525	831.00	0.00	0.00	0.00	0.00	
931.00†	0.000	181.525	931.00	0.00	0.00	0.00	0.00	
1031.00†	0.000	181.525	1031.00	0.00	0.00	0.00	0.00	
1131.00†	0.000	181.525	1131.00	0.00	0.00	0.00	0.00	
1231.00†	0.000	181.525	1231.00	0.00	0.00	0.00	0.00	
1331.00†	0.000	181.525	1331.00	0.00	0.00	0.00	0.00	
1431.00†	0.000	181.525	1431.00	0.00	0.00	0.00	0.00	
1531.00†	0.000	181.525	1531.00	0.00	0.00	0.00	0.00	
1631.00†	0.000	181.525	1631.00	0.00	0.00	0.00	0.00	
1731.00†	0.000	181.525	1731.00	0.00	0.00	0.00	0.00	
1831.00†	0.000	181.525	1831.00	0.00	0.00	0.00	0.00	
1931.00†	0.000	181.525	1931.00	0.00	0.00	0.00	0.00	
2031.00†	0.000	181.525	2031.00	0.00	0.00	0.00	0.00	
2131.00†	0.000	181.525	2131.00	0.00	0.00	0.00	0.00	
2231.00†	0.000	181.525	2231.00	0.00	0.00	0.00	0.00	
2331.00†	0.000	181.525	2331.00	0.00	0.00	0.00	0.00	
2431.00†	0.000	181.525	2431.00	0.00	0.00	0.00	0.00	
2531.00†	0.000	181.525	2531.00	0.00	0.00	0.00	0.00	
2631.00†	0.000	181.525	2631.00	0.00	0.00	0.00	0.00	
2731.00†	0.000	181.525	2731.00	0.00	0.00	0.00	0.00	
2831.00†	0.000	181.525	2831.00	0.00	0.00	0.00	0.00	
2900.00	0.000	181.525	2900.00	0.00	0.00	0.00	0.00	End of Tangent
2931.00†	0.620	181.525	2931.00	0.17	-0.17	0.00	2.00	
3031.00†	2.620	181.525	3030.95	2.99	-2.99	-0.08	2.00	
3131.00†	4.620	181.525	3130.75	9.31	-9.30	-0.25	2.00	
3200.00	6.000	181.525	3199.45	15.69	-15.69	-0.42	2.00	End of Build
3231.00†	6.000	181.525	3230.28	18.93	-18.93	-0.50	0.00	
3250.00	6.000	181.525	3249.18	20.92	-20.91	-0.56	0.00	End of Tangent
3331.00†	4.380	181.525	3329.84	28.25	-28.24	-0.75	2.00	
3431.00†	2.380	181.525	3429.66	34.14	-34.13	-0.91	2.00	
3516.37†	0.673	181.525	3515.00	36.42	-36.40	-0.97	2.00	PARKMAN
3531.00†	0.380	181.525	3529.63	36.55	-36.54	-0.97	2.00	
3550.00	0.000	181.525	3548.63	36.61	-36.60	-0.97	2.00	End of Drop
3631.00†	0.000	181.525	3629.63	36.61	-36.60	-0.97	0.00	
3731.00†	0.000	181.525	3729.63	36.61	-36.60	-0.97	0.00	



Planned Wellpath Report

CROW VALLEY 7-62-31-2H (REV-A.0) PWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	MARATHON OIL COMPANY	Slot	SLOT#01 CROW VALLEY 7-62-31-2H (407'FSL & 2142'FWL, SEC.30)
Area	COLORADO	Well	CROW VALLEY 7-62-31-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-31-2H PWB
Facility	SEC.30-T7N-R62W		

WELLPATH DATA (128 stations) † = interpolated/extrapolated station								Comments
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	
3831.00†	0.000	181.525	3829.63	36.61	-36.60	-0.97	0.00	
3931.00†	0.000	181.525	3929.63	36.61	-36.60	-0.97	0.00	
4031.00†	0.000	181.525	4029.63	36.61	-36.60	-0.97	0.00	
4131.00†	0.000	181.525	4129.63	36.61	-36.60	-0.97	0.00	
4231.00†	0.000	181.525	4229.63	36.61	-36.60	-0.97	0.00	
4331.00†	0.000	181.525	4329.63	36.61	-36.60	-0.97	0.00	
4431.00†	0.000	181.525	4429.63	36.61	-36.60	-0.97	0.00	
4531.00†	0.000	181.525	4529.63	36.61	-36.60	-0.97	0.00	
4631.00†	0.000	181.525	4629.63	36.61	-36.60	-0.97	0.00	
4731.00†	0.000	181.525	4729.63	36.61	-36.60	-0.97	0.00	
4831.00†	0.000	181.525	4829.63	36.61	-36.60	-0.97	0.00	
4931.00†	0.000	181.525	4929.63	36.61	-36.60	-0.97	0.00	
5031.00†	0.000	181.525	5029.63	36.61	-36.60	-0.97	0.00	
5131.00†	0.000	181.525	5129.63	36.61	-36.60	-0.97	0.00	
5231.00†	0.000	181.525	5229.63	36.61	-36.60	-0.97	0.00	
5331.00†	0.000	181.525	5329.63	36.61	-36.60	-0.97	0.00	
5431.00†	0.000	181.525	5429.63	36.61	-36.60	-0.97	0.00	
5531.00†	0.000	181.525	5529.63	36.61	-36.60	-0.97	0.00	
5631.00†	0.000	181.525	5629.63	36.61	-36.60	-0.97	0.00	
5731.00†	0.000	181.525	5729.63	36.61	-36.60	-0.97	0.00	
5831.00†	0.000	181.525	5829.63	36.61	-36.60	-0.97	0.00	
5931.00†	0.000	181.525	5929.63	36.61	-36.60	-0.97	0.00	
6031.00†	0.000	181.525	6029.63	36.61	-36.60	-0.97	0.00	
6048.41	0.000	181.525	6047.04	36.61	-36.60	-0.97	0.00	End of Tangent
6131.00†	8.259	181.525	6129.34	42.56	-42.54	-1.13	10.00	
6231.00†	18.259	181.525	6226.56	65.46	-65.44	-1.74	10.00	
6331.00†	28.259	181.525	6318.31	104.90	-104.86	-2.79	10.00	
6431.00†	38.259	181.525	6401.83	159.67	-159.62	-4.25	10.00	
6480.06†	43.165	181.525	6439.00	191.66	-191.59	-5.10	10.00	SHARON SPRINGS
6531.00†	48.259	181.525	6474.56	228.11	-228.03	-6.07	10.00	
6622.91†	57.450	181.525	6530.00	301.30	-301.19	-8.02	10.00	NIOBRARA
6631.00†	58.259	181.525	6534.30	308.15	-308.04	-8.20	10.00	
6731.00†	68.259	181.525	6579.24	397.34	-397.20	-10.57	10.00	
6831.00†	78.259	181.525	6608.01	492.98	-492.80	-13.12	10.00	
6931.00†	88.259	181.525	6619.74	592.16	-591.95	-15.76	10.00	
6948.41	90.000	181.525	6620.00	609.57	-609.36	-16.22	10.00	End of Build (J)
7031.00†	90.000	181.525	6620.00	692.16	-691.91	-18.42	0.00	
7131.00†	90.000	181.525	6620.00	792.16	-791.88	-21.08	0.00	
7231.00†	90.000	181.525	6620.00	892.16	-891.84	-23.74	0.00	
7331.00†	90.000	181.525	6620.00	992.16	-991.81	-26.40	0.00	
7431.00†	90.000	181.525	6620.00	1092.16	-1091.77	-29.06	0.00	
7531.00†	90.000	181.525	6620.00	1192.16	-1191.74	-31.72	0.00	
7631.00†	90.000	181.525	6620.00	1292.16	-1291.70	-34.38	0.00	
7731.00†	90.000	181.525	6620.00	1392.16	-1391.67	-37.04	0.00	
7831.00†	90.000	181.525	6620.00	1492.16	-1491.63	-39.70	0.00	



Planned Wellpath Report

CROW VALLEY 7-62-31-2H (REV-A.0) PWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	MARATHON OIL COMPANY	Slot	SLOT#01 CROW VALLEY 7-62-31-2H (407'FSL & 2142'FWL, SEC.30)
Area	COLORADO	Well	CROW VALLEY 7-62-31-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-31-2H PWB
Facility	SEC.30-T7N-R62W		

WELLPATH DATA (128 stations) † = interpolated/extrapolated station								
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
7931.00†	90.000	181.525	6620.00	1592.16	-1591.60	-42.36	0.00	
8031.00†	90.000	181.525	6620.00	1692.16	-1691.56	-45.02	0.00	
8131.00†	90.000	181.525	6620.00	1792.16	-1791.52	-47.68	0.00	
8231.00†	90.000	181.525	6620.00	1892.16	-1891.49	-50.34	0.00	
8331.00†	90.000	181.525	6620.00	1992.16	-1991.45	-53.00	0.00	
8431.00†	90.000	181.525	6620.00	2092.16	-2091.42	-55.66	0.00	
8531.00†	90.000	181.525	6620.00	2192.16	-2191.38	-58.32	0.00	
8631.00†	90.000	181.525	6620.00	2292.16	-2291.35	-60.99	0.00	
8731.00†	90.000	181.525	6620.00	2392.16	-2391.31	-63.65	0.00	
8831.00†	90.000	181.525	6620.00	2492.16	-2491.28	-66.31	0.00	
8931.00†	90.000	181.525	6620.00	2592.16	-2591.24	-68.97	0.00	
9031.00†	90.000	181.525	6620.00	2692.16	-2691.21	-71.63	0.00	
9131.00†	90.000	181.525	6620.00	2792.16	-2791.17	-74.29	0.00	
9231.00†	90.000	181.525	6620.00	2892.16	-2891.14	-76.95	0.00	
9331.00†	90.000	181.525	6620.00	2992.16	-2991.10	-79.61	0.00	
9431.00†	90.000	181.525	6620.00	3092.16	-3091.06	-82.27	0.00	
9531.00†	90.000	181.525	6620.00	3192.16	-3191.03	-84.93	0.00	
9631.00†	90.000	181.525	6620.00	3292.16	-3290.99	-87.59	0.00	
9731.00†	90.000	181.525	6620.00	3392.16	-3390.96	-90.25	0.00	
9831.00†	90.000	181.525	6620.00	3492.16	-3490.92	-92.91	0.00	
9931.00†	90.000	181.525	6620.00	3592.16	-3590.89	-95.57	0.00	
10031.00†	90.000	181.525	6620.00	3692.16	-3690.85	-98.23	0.00	
10131.00†	90.000	181.525	6620.00	3792.16	-3790.82	-100.89	0.00	
10231.00†	90.000	181.525	6620.00	3892.16	-3890.78	-103.55	0.00	
10331.00†	90.000	181.525	6620.00	3992.16	-3990.75	-106.22	0.00	
10431.00†	90.000	181.525	6620.00	4092.16	-4090.71	-108.88	0.00	
10531.00†	90.000	181.525	6620.00	4192.16	-4190.68	-111.54	0.00	
10631.00†	90.000	181.525	6620.00	4292.16	-4290.64	-114.20	0.00	
10731.00†	90.000	181.525	6620.00	4392.16	-4390.60	-116.86	0.00	
10831.00†	90.000	181.525	6620.00	4492.16	-4490.57	-119.52	0.00	
10931.00†	90.000	181.525	6620.00	4592.16	-4590.53	-122.18	0.00	
11031.00†	90.000	181.525	6620.00	4692.16	-4690.50	-124.84	0.00	
11131.00†	90.000	181.525	6620.00	4792.16	-4790.46	-127.50	0.00	
11231.00†	90.000	181.525	6620.00	4892.16	-4890.43	-130.16	0.00	
11331.00†	90.000	181.525	6620.00	4992.16	-4990.39	-132.82	0.00	
11431.00†	90.000	181.525	6620.00	5092.16	-5090.36	-135.48	0.00	
11531.00†	90.000	181.525	6620.00	5192.16	-5190.32	-138.14	0.00	
11623.53	90.000	181.525	6620.00 [†]	5284.69	-5282.82	-140.60	0.00	End of Tangent (J)



Planned Wellpath Report

CROW VALLEY 7-62-31-2H (REV-A.0) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#01 CROW VALLEY 7-62-31-2H (407'FSL & 2142'FWL, SEC.30)
Area	COLORADO	Well	CROW VALLEY 7-62-31-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-31-2H PWB
Facility	SEC.30-T7N-R62W		

HOLE & CASING SECTIONS - Ref Wellbore: CROW VALLEY 7-62-31-2H PWB Ref Wellpath: CROW VALLEY 7-62-31-2H (REV-A.0) PWP

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]
7in Casing Intermediate	31.00	6949.00	6918.00	31.00	6620.00	0.00	0.00	-609.94	-16.23

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
CROW VALLEY 31-2H/30-2H SECTION LINES		0.00	0.00	0.00	3314856.91	1441100.96	40°32'19.325"N	104°22'01.733"W	polygon
CROW VALLEY 7-62-30-2H HARDLINES (460' SETBACKS)		6620.00	0.00	0.00	3314856.91	1441100.96	40°32'19.325"N	104°22'01.733"W	polygon
1) CROW VALLEY 7-62-31-2H BHL ON PLAT (470'FSL & 1931'FWL, SEC.31, REV-1)	11623.53	6620.00	-5282.82	-140.60	3314716.31	1435818.31	40°31'27.146"N	104°22'04.427"W	point
CROW VALLEY 7-62-31-2H HARDLINES (460' SETBACKS)		6620.00	0.00	0.00	3314856.91	1441100.96	40°32'19.325"N	104°22'01.733"W	polygon

SURVEY PROGRAM - Ref Wellbore: CROW VALLEY 7-62-31-2H PWB Ref Wellpath: CROW VALLEY 7-62-31-2H (REV-A.0) PWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
31.00	11623.53	NaviTrak (Standard)		CROW VALLEY 7-62-31-2H PWB



Planned Wellpath Report

CROW VALLEY 7-62-31-2H (REV-A.0) PWP
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**REFERENCE WELLPATH IDENTIFICATION**

Operator	MARATHON OIL COMPANY	Slot	SLOT#01 CROW VALLEY 7-62-31-2H (407'FSL & 2142'FWL, SEC.30)
Area	COLORADO	Well	CROW VALLEY 7-62-31-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-31-2H PWB
Facility	SEC.30-T7N-R62W		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
454.00	0.000	181.525	454.00	PIERRE
3516.37	0.673	181.525	3515.00	PARKMAN
6480.06	43.165	181.525	6439.00	SHARON SPRINGS
6622.91	57.450	181.525	6530.00	NIOBRARA