

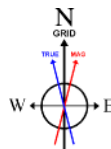


MARATHON OIL COMPANY

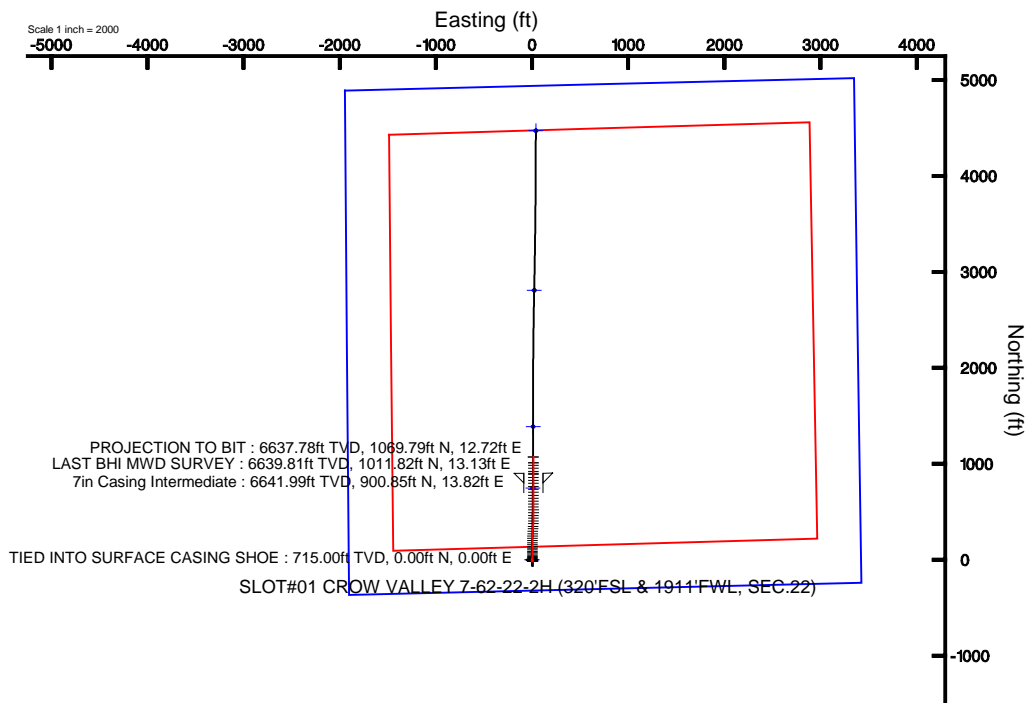
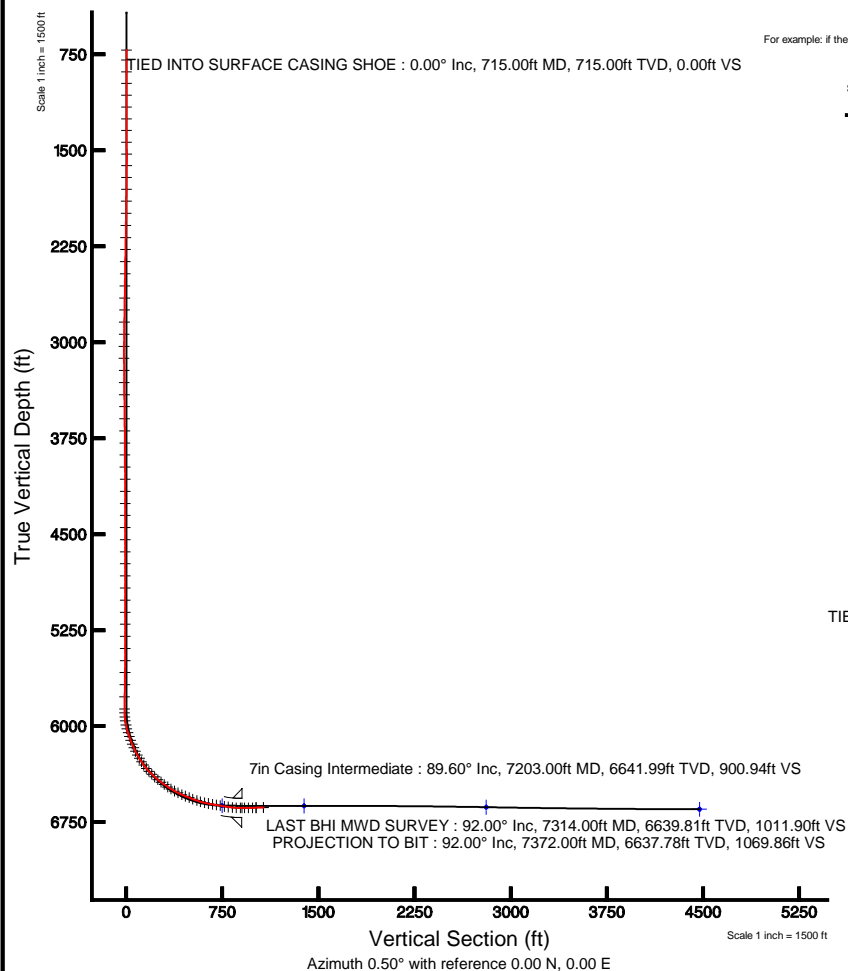
Location: COLORADO Slot: SLOT#01 CROW VALLEY 7-62-22-2H (320'FSL & 1911'FWL, SEC.22)
Field: WELD COUNTY (NAD 83, GRID NORTH) Well: CROW VALLEY 7-62-22-2H
Facility: SEC.22-T7N-R62W Wellbore: CROW VALLEY 7-62-22-2H PWB



Plot reference wellpath is CROW VALLEY 7-62-22-2H (REV-A.0) PWP	
True vertical depths are referenced to H&P 449 (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to H&P 449 (RKB)	North Reference: Grid north
H&P 449 (RKB) to Mean Sea Level: 4942 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#01 CROW VALLEY 7-62-22-2H (320'FSL & 1911'FWL, SEC.22)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: cookdanm on 5/30/2012



BGGM (1945.0 to 2013.0) Dip: 67.20° Field: 53117.9 nT
Magnetic North is 8.50 degrees East of True North (at 4/25/2012)
Grid North is 0.77 degrees East of True North
To correct azimuth from True to Grid subtract 0.77 degrees
To correct azimuth from Magnetic to Grid add 7.73 degrees
For example: if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7.73 = 97.73





Actual Wellpath Report

CROW VALLEY 7-62-22-2H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#01 CROW VALLEY 7-62-22-2H (320'FSL & 1911'FWL, SEC.22)
Area	COLORADO	Well	CROW VALLEY 7-62-22-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-22-2H AWB
Facility	SEC.22-T7N-R62W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 4.0.0
North Reference	Grid	User	Cookdanm
Scale	0.999971	Report Generated	5/30/2012 at 3:07:51 PM
Convergence at slot	0.77° East	Database/Source file	WA_Denver/CROW_VALLEY_7-62-22-2H_AWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.08	-0.20	3330482.63	1446614.37	40°33'11.781"N	104°18'38.403"W
Facility Reference Pt			3330482.83	1446614.29	40°33'11.780"N	104°18'38.400"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 449 (RKB) to Facility Vertical Datum	4942.00ft
Horizontal Reference Pt	Slot	H&P 449 (RKB) to Mean Sea Level	4942.00ft
Vertical Reference Pt	H&P 449 (RKB)	H&P 449 (RKB) to Mud Line at Slot (SLOT#01 CROW VALLEY 7-62-22-2H (320'FSL & 1911'FWL, SEC.22))	4942.00ft
MD Reference Pt	H&P 449 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	0.50°



Actual Wellpath Report

CROW VALLEY 7-62-22-2H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#01 CROW VALLEY 7-62-22-2H (320'FSL & 1911'FWL, SEC.22)
Area	COLORADO	Well	CROW VALLEY 7-62-22-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-22-2H AWB
Facility	SEC.22-T7N-R62W		

WELLPATH DATA (103 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
715.00	0.000	256.700	715.00	0.00	0.00	0.00	40°33'11.781"N	104°18'38.403"W	0.00	TIED INTO SURFACE CASING SHOE
792.00	0.500	256.700	792.00	-0.08	-0.08	-0.33	40°33'11.780"N	104°18'38.407"W	0.65	
884.00	0.500	248.100	884.00	-0.33	-0.32	-1.09	40°33'11.778"N	104°18'38.417"W	0.08	
976.00	0.600	262.900	975.99	-0.55	-0.53	-1.94	40°33'11.776"N	104°18'38.428"W	0.19	
1068.00	0.700	260.400	1067.99	-0.71	-0.68	-2.97	40°33'11.775"N	104°18'38.441"W	0.11	
1160.00	0.400	14.300	1159.98	-0.49	-0.46	-3.45	40°33'11.777"N	104°18'38.447"W	1.02	
1252.00	0.300	317.100	1251.98	-0.01	0.02	-3.53	40°33'11.782"N	104°18'38.448"W	0.38	
1343.00	0.400	341.400	1342.98	0.47	0.50	-3.80	40°33'11.786"N	104°18'38.452"W	0.19	
1435.00	0.400	338.600	1434.98	1.07	1.10	-4.02	40°33'11.792"N	104°18'38.454"W	0.02	
1527.00	0.300	342.600	1526.98	1.59	1.63	-4.20	40°33'11.798"N	104°18'38.457"W	0.11	
1619.00	0.900	163.200	1618.97	1.32	1.35	-3.76	40°33'11.795"N	104°18'38.451"W	1.28	
1711.00	0.600	153.400	1710.96	0.39	0.41	-3.03	40°33'11.785"N	104°18'38.442"W	0.42	
1803.00	0.600	146.900	1802.96	-0.44	-0.42	-2.55	40°33'11.777"N	104°18'38.436"W	0.07	
1897.00	0.700	150.500	1896.95	-1.35	-1.33	-2.00	40°33'11.768"N	104°18'38.429"W	0.11	
1992.00	1.100	173.300	1991.94	-2.76	-2.74	-1.61	40°33'11.754"N	104°18'38.424"W	0.56	
2086.00	1.000	175.400	2085.93	-4.47	-4.46	-1.44	40°33'11.737"N	104°18'38.422"W	0.11	
2181.00	0.800	153.200	2180.91	-5.88	-5.88	-1.07	40°33'11.723"N	104°18'38.418"W	0.42	
2275.00	1.100	156.700	2274.90	-7.29	-7.29	-0.42	40°33'11.709"N	104°18'38.409"W	0.32	
2370.00	1.000	163.200	2369.89	-8.92	-8.92	0.18	40°33'11.693"N	104°18'38.402"W	0.16	
2464.00	1.100	150.300	2463.87	-10.48	-10.49	0.86	40°33'11.677"N	104°18'38.393"W	0.27	
2559.00	1.100	149.600	2558.85	-12.05	-12.07	1.78	40°33'11.661"N	104°18'38.382"W	0.01	
2654.00	1.100	149.800	2653.84	-13.62	-13.64	2.70	40°33'11.646"N	104°18'38.370"W	0.00	
2748.00	0.900	146.700	2747.82	-15.01	-15.04	3.56	40°33'11.632"N	104°18'38.359"W	0.22	
2843.00	0.900	142.000	2842.81	-16.21	-16.25	4.42	40°33'11.620"N	104°18'38.348"W	0.08	
2937.00	0.900	146.900	2936.80	-17.40	-17.45	5.28	40°33'11.608"N	104°18'38.337"W	0.08	
3032.00	0.900	148.400	3031.79	-18.66	-18.71	6.08	40°33'11.595"N	104°18'38.327"W	0.02	
3126.00	0.500	23.300	3125.78	-18.91	-18.96	6.63	40°33'11.593"N	104°18'38.320"W	1.34	
3221.00	0.400	20.400	3220.78	-18.21	-18.27	6.91	40°33'11.599"N	104°18'38.316"W	0.11	
3315.00	0.600	2.500	3314.78	-17.41	-17.47	7.04	40°33'11.607"N	104°18'38.314"W	0.27	
3410.00	0.700	355.700	3409.77	-16.34	-16.40	7.02	40°33'11.618"N	104°18'38.314"W	0.13	
3504.00	0.800	332.700	3503.76	-15.18	-15.24	6.68	40°33'11.629"N	104°18'38.319"W	0.33	
3599.00	0.600	329.900	3598.75	-14.17	-14.22	6.13	40°33'11.640"N	104°18'38.326"W	0.21	
3693.00	0.600	325.700	3692.75	-13.34	-13.39	5.60	40°33'11.648"N	104°18'38.332"W	0.05	
3788.00	0.500	335.800	3787.74	-12.56	-12.60	5.15	40°33'11.656"N	104°18'38.338"W	0.15	
3882.00	0.500	344.000	3881.74	-11.79	-11.83	4.87	40°33'11.663"N	104°18'38.342"W	0.08	
3977.00	0.400	352.000	3976.74	-11.06	-11.11	4.71	40°33'11.670"N	104°18'38.344"W	0.12	
4072.00	0.400	348.700	4071.74	-10.41	-10.45	4.60	40°33'11.677"N	104°18'38.345"W	0.02	
4166.00	0.400	325.000	4165.73	-9.82	-9.86	4.35	40°33'11.683"N	104°18'38.348"W	0.17	
4261.00	0.300	316.800	4260.73	-9.37	-9.41	3.99	40°33'11.687"N	104°18'38.353"W	0.12	
4355.00	0.300	274.700	4354.73	-9.18	-9.21	3.57	40°33'11.689"N	104°18'38.358"W	0.23	
4450.00	0.300	248.300	4449.73	-9.25	-9.28	3.09	40°33'11.689"N	104°18'38.364"W	0.14	
4544.00	0.100	154.600	4543.73	-9.42	-9.45	2.90	40°33'11.687"N	104°18'38.367"W	0.34	
4639.00	0.200	128.900	4638.73	-9.60	-9.63	3.06	40°33'11.685"N	104°18'38.365"W	0.12	
4733.00	0.200	47.100	4732.73	-9.59	-9.62	3.31	40°33'11.685"N	104°18'38.361"W	0.28	
4828.00	0.100	52.200	4827.73	-9.42	-9.45	3.50	40°33'11.687"N	104°18'38.359"W	0.11	



Actual Wellpath Report

CROW VALLEY 7-62-22-2H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#01 CROW VALLEY 7-62-22-2H (320'FSL & 1911'FWL, SEC.22)
Area	COLORADO	Well	CROW VALLEY 7-62-22-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-22-2H AWB
Facility	SEC.22-T7N-R62W		

WELLPATH DATA (103 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4922.00	0.200	68.900	4921.73	-9.31	-9.34	3.72	40°33'11.688"N	104°18'38.356"W	0.12	
5017.00	0.000	131.800	5016.73	-9.25	-9.28	3.87	40°33'11.689"N	104°18'38.354"W	0.21	
5111.00	0.100	300.400	5110.73	-9.21	-9.24	3.80	40°33'11.689"N	104°18'38.355"W	0.11	
5206.00	0.200	143.500	5205.73	-9.30	-9.33	3.83	40°33'11.688"N	104°18'38.355"W	0.31	
5301.00	0.200	208.900	5300.73	-9.58	-9.61	3.85	40°33'11.685"N	104°18'38.354"W	0.23	
5395.00	0.100	154.200	5394.73	-9.80	-9.83	3.80	40°33'11.683"N	104°18'38.355"W	0.17	
5490.00	0.600	160.300	5489.72	-10.34	-10.37	4.01	40°33'11.678"N	104°18'38.353"W	0.53	
5584.00	0.600	181.000	5583.72	-11.29	-11.33	4.16	40°33'11.668"N	104°18'38.351"W	0.23	
5679.00	0.900	166.600	5678.71	-12.51	-12.55	4.33	40°33'11.656"N	104°18'38.349"W	0.37	
5773.00	0.900	167.600	5772.70	-13.95	-13.99	4.66	40°33'11.642"N	104°18'38.345"W	0.02	
5868.00	0.700	163.900	5867.69	-15.23	-15.28	4.98	40°33'11.629"N	104°18'38.341"W	0.22	
5899.00	2.100	4.900	5898.68	-14.85	-14.89	5.08	40°33'11.633"N	104°18'38.339"W	8.92	
5931.00	5.400	359.900	5930.61	-12.76	-12.80	5.13	40°33'11.654"N	104°18'38.338"W	10.35	
5962.00	8.400	358.000	5961.38	-9.03	-9.08	5.05	40°33'11.690"N	104°18'38.339"W	9.70	
5994.00	11.500	357.800	5992.90	-3.51	-3.55	4.84	40°33'11.745"N	104°18'38.340"W	9.69	
6025.00	14.100	358.800	6023.13	3.35	3.31	4.64	40°33'11.813"N	104°18'38.342"W	8.42	
6057.00	17.100	358.700	6053.94	11.95	11.91	4.46	40°33'11.898"N	104°18'38.343"W	9.38	
6088.00	19.900	359.300	6083.34	21.78	21.75	4.29	40°33'11.995"N	104°18'38.343"W	9.05	
6120.00	20.500	1.900	6113.37	32.83	32.79	4.41	40°33'12.104"N	104°18'38.340"W	3.37	
6151.00	23.100	1.400	6142.15	44.34	44.30	4.73	40°33'12.218"N	104°18'38.334"W	8.41	
6183.00	25.400	1.100	6171.33	57.48	57.44	5.02	40°33'12.348"N	104°18'38.328"W	7.20	
6214.00	26.000	0.800	6199.26	70.92	70.88	5.24	40°33'12.480"N	104°18'38.322"W	1.98	
6246.00	28.700	359.500	6227.68	85.62	85.58	5.27	40°33'12.626"N	104°18'38.319"W	8.64	
6277.00	31.700	359.400	6254.47	101.21	101.17	5.12	40°33'12.780"N	104°18'38.319"W	9.68	
6309.00	33.200	359.400	6281.47	118.38	118.34	4.94	40°33'12.949"N	104°18'38.318"W	4.69	
6340.00	36.000	359.300	6306.99	135.98	135.94	4.74	40°33'13.123"N	104°18'38.318"W	9.03	
6372.00	39.600	359.900	6332.27	155.58	155.55	4.61	40°33'13.317"N	104°18'38.316"W	11.31	
6403.00	43.000	0.800	6355.55	176.04	176.00	4.74	40°33'13.519"N	104°18'38.311"W	11.13	
6435.00	46.000	359.900	6378.38	198.46	198.43	4.87	40°33'13.741"N	104°18'38.305"W	9.58	
6466.00	48.700	1.100	6399.38	221.26	221.23	5.08	40°33'13.966"N	104°18'38.298"W	9.16	
6498.00	49.600	2.400	6420.31	245.46	245.42	5.82	40°33'14.205"N	104°18'38.285"W	4.17	
6529.00	52.100	2.200	6439.88	269.49	269.44	6.78	40°33'14.442"N	104°18'38.268"W	8.08	
6561.00	54.500	4.100	6459.00	295.11	295.05	8.20	40°33'14.695"N	104°18'38.245"W	8.88	
6593.00	55.800	4.300	6477.29	321.32	321.24	10.12	40°33'14.954"N	104°18'38.216"W	4.09	
6624.00	58.500	3.300	6494.10	347.32	347.23	11.84	40°33'15.210"N	104°18'38.189"W	9.12	
6656.00	61.700	2.500	6510.05	375.03	374.93	13.24	40°33'15.484"N	104°18'38.166"W	10.23	
6687.00	63.400	1.700	6524.34	402.53	402.42	14.25	40°33'15.755"N	104°18'38.148"W	5.94	
6719.00	66.300	1.000	6537.94	431.49	431.37	14.93	40°33'16.041"N	104°18'38.134"W	9.28	
6750.00	68.200	0.600	6549.93	460.07	459.96	15.33	40°33'16.323"N	104°18'38.124"W	6.24	
6782.00	68.100	0.500	6561.84	489.77	489.66	15.62	40°33'16.617"N	104°18'38.115"W	0.43	
6813.00	68.700	359.900	6573.25	518.60	518.48	15.72	40°33'16.902"N	104°18'38.109"W	2.64	
6845.00	72.100	359.000	6583.98	548.73	548.62	15.42	40°33'17.199"N	104°18'38.107"W	10.95	
6876.00	74.500	359.300	6592.89	578.41	578.30	14.98	40°33'17.493"N	104°18'38.108"W	7.80	
6908.00	76.600	0.000	6600.87	609.40	609.29	14.80	40°33'17.799"N	104°18'38.105"W	6.90	
6939.00	79.000	359.900	6607.42	639.69	639.59	14.77	40°33'18.098"N	104°18'38.100"W	7.75	



Actual Wellpath Report

CROW VALLEY 7-62-22-2H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#01 CROW VALLEY 7-62-22-2H (320'FSL & 1911'FWL, SEC.22)
Area	COLORADO	Well	CROW VALLEY 7-62-22-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-22-2H AWB
Facility	SEC.22-T7N-R62W		

WELLPATH DATA (103 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
6971.00	79.900	0.200	6613.28	671.15	671.05	14.80	40°33'18.409"N	104°18'38.094"W	2.96	
7002.00	79.900	359.700	6618.72	701.67	701.57	14.77	40°33'18.711"N	104°18'38.089"W	1.59	
7034.00	80.000	359.800	6624.30	733.17	733.07	14.63	40°33'19.022"N	104°18'38.086"W	0.44	
7065.00	80.000	359.700	6629.69	763.70	763.60	14.50	40°33'19.324"N	104°18'38.082"W	0.32	
7097.00	81.400	359.600	6634.86	795.28	795.18	14.31	40°33'19.636"N	104°18'38.079"W	4.39	
7128.00	84.900	0.100	6638.56	826.05	825.95	14.23	40°33'19.940"N	104°18'38.075"W	11.40	
7160.00	87.100	359.700	6640.79	857.97	857.87	14.17	40°33'20.255"N	104°18'38.070"W	6.99	
7191.00	89.000	359.400	6641.84	888.94	888.85	13.93	40°33'20.561"N	104°18'38.068"W	6.20	
7223.00	90.600	359.900	6641.95	920.94	920.85	13.73	40°33'20.877"N	104°18'38.065"W	5.24	
7254.00	91.200	359.700	6641.47	951.93	951.85	13.62	40°33'21.184"N	104°18'38.061"W	2.04	
7286.00	91.600	359.400	6640.69	983.92	983.84	13.37	40°33'21.500"N	104°18'38.058"W	1.56	
7314.00	92.000	359.600	6639.81	1011.90	1011.82	13.13	40°33'21.776"N	104°18'38.057"W	1.60	LAST BHI MWD SURVEY
7372.00	92.000	359.600	6637.78	1069.86	1069.79	12.72	40°33'22.349"N	104°18'38.052"W	0.00	PROJECTION TO BIT

HOLE & CASING SECTIONS - Ref Wellbore: CROW VALLEY 7-62-22-2H AWB Ref Wellpath: CROW VALLEY 7-62-22-2H 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]
9.625in Casing Surface	715.00	712.00	-3.00	715.00	712.00	0.00	0.00	0.00	0.00
8.75in Open Hole	712.00	7225.00	6513.00	712.00	6641.93	0.00	0.00	922.85	13.73
7in Casing Intermediate	715.00	7203.00	6488.00	715.00	6641.99	0.00	0.00	900.85	13.82
6in Open Hole	7225.00	10802.00	3577.00	6641.93	NA	922.85	13.73	NA	NA



Actual Wellpath Report

CROW VALLEY 7-62-22-2H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#01 CROW VALLEY 7-62-22-2H (320'FSL & 1911'FWL, SEC.22)
Area	COLORADO	Well	CROW VALLEY 7-62-22-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-22-2H AWB
Facility	SEC.22-T7N-R62W		

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
CROW VALLEY 7-62-22-2H SECTION LINES		0.00	0.00	0.00	3330482.63	1446614.37	40°33'11.781"N	104°18'38.403"W	polygon
CROW VALLEY 7-62-22-2H LANDING (REV-1)		6624.00	746.62	9.18	3330491.81	1447360.96	40°33'19.157"N	104°18'38.154"W	point
CROW VALLEY 7-62-22-2H PT#2 (REV-1)		6626.00	1386.95	11.61	3330494.24	1448001.27	40°33'25.483"N	104°18'38.011"W	point
CROW VALLEY 7-62-22-2H PT#3 (REV-1)		6636.00	2809.58	22.81	3330505.44	1449423.86	40°33'39.538"N	104°18'37.619"W	point
CROW VALLEY 7-62-22-2H BHL ON PLAT (470'FNL & 1987'FWL, REV-1)		6652.00	4473.54	39.32	3330521.95	1451087.77	40°33'55.976"N	104°18'37.116"W	point
CROW VALLEY 7-62-22-2H HARDLINES (460' SETBACKS)		6652.00	0.00	0.00	3330482.63	1446614.37	40°33'11.781"N	104°18'38.403"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: CROW VALLEY 7-62-22-2H AWB Ref Wellpath: CROW VALLEY 7-62-22-2H AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
715.00	7191.00	NaviTrak (Standard)	BHI/NAVITRAK 8.75" HOLE <792-7191>	CROW VALLEY 7-62-22-2H AWB
7191.00	7314.00	NaviTrak (Standard)	BHI/NAVITRAK 6" HOLE <7223-7314>	CROW VALLEY 7-62-22-2H AWB
7314.00	7372.00	Blind Drilling (std)	Projection to bit	CROW VALLEY 7-62-22-2H AWB

**Actual Wellpath Report****CROW VALLEY 7-62-22-2H AWP**

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**REFERENCE WELLPATH IDENTIFICATION**

Operator	MARATHON OIL COMPANY	Slot	SLOT#01 CROW VALLEY 7-62-22-2H (320'FSL & 1911'FWL, SEC.22)
Area	COLORADO	Well	CROW VALLEY 7-62-22-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-22-2H AWB
Facility	SEC.22-T7N-R62W		

WELLPATH COMMENTS

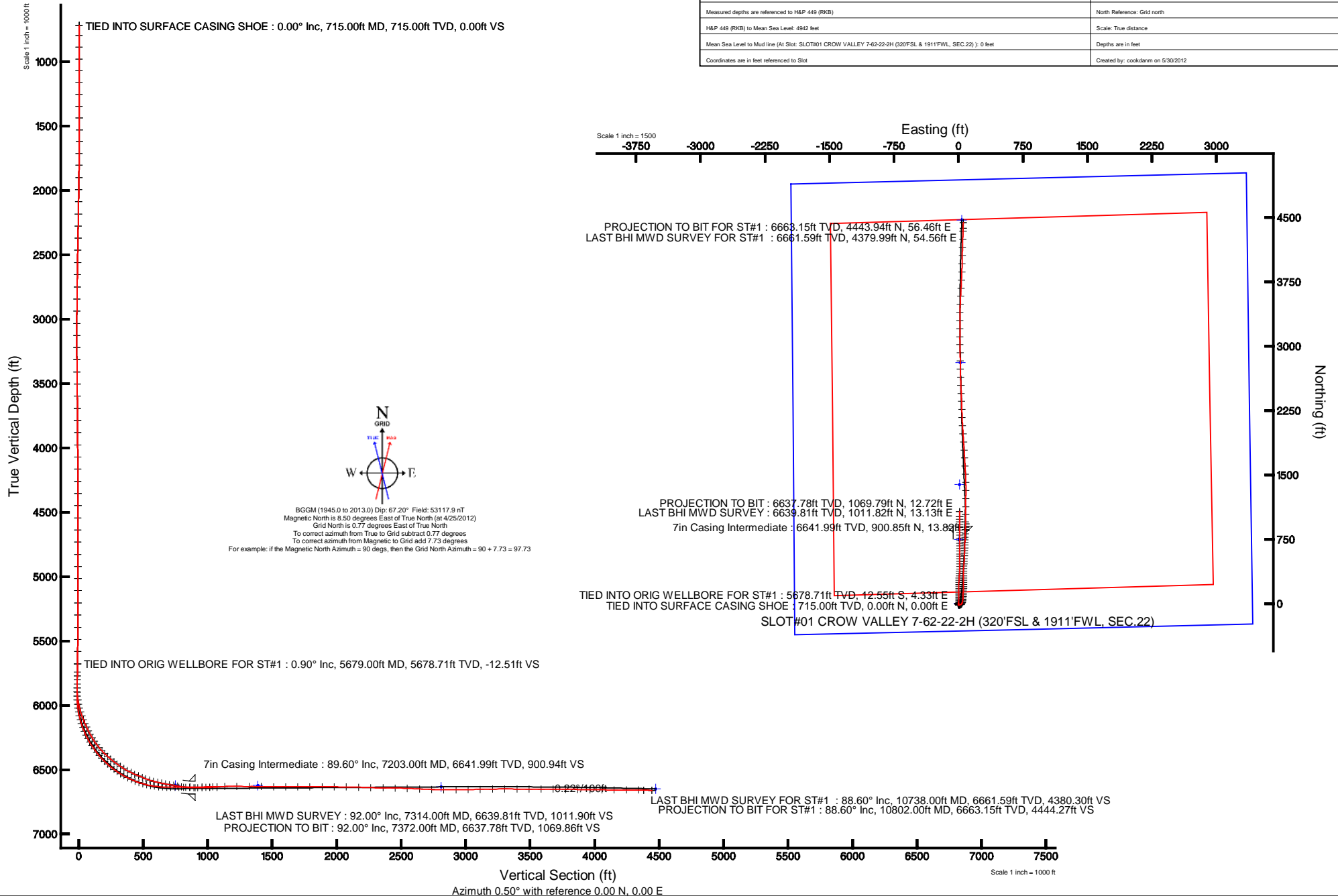
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
715.00	0.000	256.700	715.00	TIED INTO SURFACE CASING SHOE
7314.00	92.000	359.600	6639.81	LAST BHI MWD SURVEY
7372.00	92.000	359.600	6637.78	PROJECTION TO BIT



MARATHON OIL COMPANY

Location: COLORADO Slot: SLOT#01 CROW VALLEY 7-62-22-2H (320'FSL & 1911'FWL, SEC.22)
Field: WELD COUNTY (NAD 83, GRID NORTH) Well: CROW VALLEY 7-62-22-2H ST#1
Facility: SEC.22-T7N-R62W Wellbore: CROW VALLEY 7-62-22-2H ST#1 PWB

Plot reference wellpath is CROW VALLEY 7-62-22-2H ST#1 (REV-A.0) PWP	
True vertical depths are referenced to H&P 449 (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to H&P 449 (RKB)	North Reference: Grid north
H&P 449 (RKB) to Mean Sea Level: 4942 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#01 CROW VALLEY 7-62-22-2H (320'FSL & 1911'FWL, SEC.22)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: cookdian on 5/30/2012

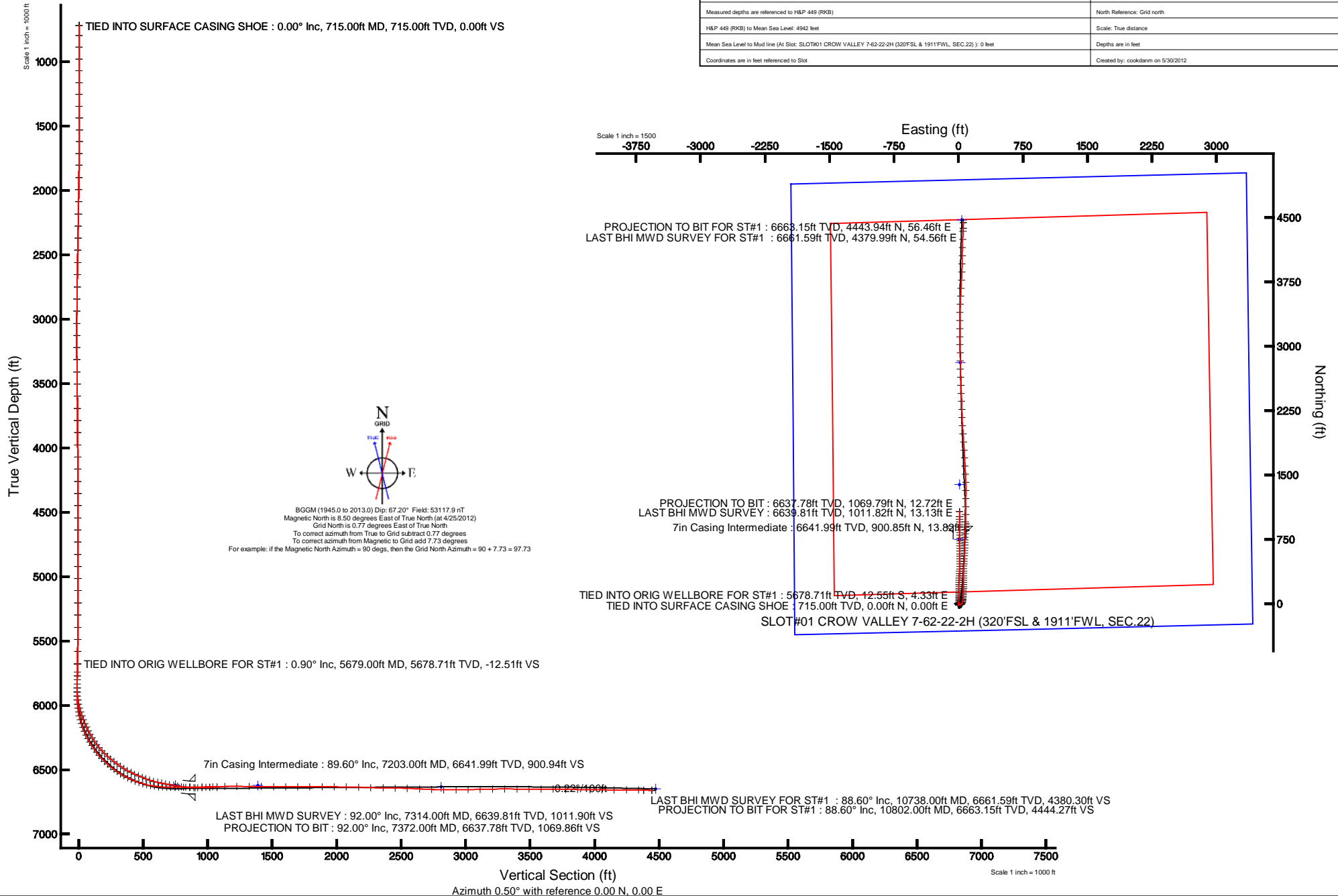




MARATHON OIL COMPANY

Location: COLORADO Slot: SLOT#01 CROW VALLEY 7-62-22-2H (320'FSL & 1911'FWL, SEC.22)
Field: WELD COUNTY (NAD 83, GRID NORTH) Well: CROW VALLEY 7-62-22-2H ST#1
Facility: SEC.22-T7N-R62W Wellbore: CROW VALLEY 7-62-22-2H ST#1 PWB

Plot reference wellpath is CROW VALLEY 7-62-22-2H ST#1 (REV-A.0) PWP	
True vertical depths are referenced to H&P 449 (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to H&P 449 (RKB)	North Reference: Grid north
H&P 449 (RKB) to Mean Sea Level: 4942 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#01 CROW VALLEY 7-62-22-2H (320'FSL & 1911'FWL, SEC.22)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: cookdram on 5/30/2012





Actual Wellpath Report

CROW VALLEY 7-62-22-2H ST#1 AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#01 CROW VALLEY 7-62-22-2H (320'FSL & 1911'FWL, SEC.22)
Area	COLORADO	Well	CROW VALLEY 7-62-22-2H ST#1
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-22-2H ST#1 AWB
Facility	SEC.22-T7N-R62W	Sidetrack from	CROW VALLEY 7-62-22-2H AWB at 5679.00 MD

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 4.0.0
North Reference	Grid	User	Cookdanm
Scale	0.999971	Report Generated	5/30/2012 at 3:10:21 PM
Convergence at slot	0.77° East	Database/Source file	WA_Denver/CROW_VALLEY_7-62-22-2H_ST#1_AWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.08	-0.20	3330482.63	1446614.37	40°33'11.781"N	104°18'38.403"W
Facility Reference Pt			3330482.83	1446614.29	40°33'11.780"N	104°18'38.400"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 449 (RKB) to Facility Vertical Datum	4942.00ft
Horizontal Reference Pt	Slot	H&P 449 (RKB) to Mean Sea Level	4942.00ft
Vertical Reference Pt	H&P 449 (RKB)	H&P 449 (RKB) to Mud Line at Slot (SLOT#01 CROW VALLEY 7-62-22-2H (320'FSL & 1911'FWL, SEC.22))	4942.00ft
MD Reference Pt	H&P 449 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	0.50°



Actual Wellpath Report

CROW VALLEY 7-62-22-2H ST#1 AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#01 CROW VALLEY 7-62-22-2H (320'FSL & 1911'FWL, SEC.22)
Area	COLORADO	Well	CROW VALLEY 7-62-22-2H ST#1
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-22-2H ST#1 AWB
Facility	SEC.22-T7N-R62W	Sidetrack from	CROW VALLEY 7-62-22-2H AWB at 5679.00 MD

WELLPATH DATA (87 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
5679.00	0.900	166.600	5678.71	-12.51	-12.55	4.33	40°33'11.656"N	104°18'38.349"W	0.37	TIED INTO ORIG WELLBORE FOR ST#1
5742.00	1.400	127.900	5741.70	-13.46	-13.51	5.05	40°33'11.647"N	104°18'38.340"W	1.42	
5773.00	3.500	103.400	5772.67	-13.90	-13.96	6.27	40°33'11.642"N	104°18'38.324"W	7.42	
5805.00	5.500	100.600	5804.57	-14.39	-14.47	8.73	40°33'11.637"N	104°18'38.292"W	6.29	
5836.00	5.900	103.500	5835.42	-15.01	-15.11	11.74	40°33'11.630"N	104°18'38.253"W	1.59	
5868.00	5.700	103.800	5867.25	-15.74	-15.87	14.88	40°33'11.622"N	104°18'38.213"W	0.63	
5899.00	5.700	102.100	5898.10	-16.41	-16.56	17.88	40°33'11.615"N	104°18'38.174"W	0.54	
5931.00	5.800	89.500	5929.94	-16.70	-16.88	21.05	40°33'11.611"N	104°18'38.133"W	3.95	
5962.00	7.000	70.400	5960.75	-16.02	-16.24	24.40	40°33'11.617"N	104°18'38.089"W	7.83	
5994.00	9.800	58.500	5992.41	-13.91	-14.16	28.56	40°33'11.637"N	104°18'38.035"W	10.25	
6025.00	11.900	48.200	6022.85	-10.36	-10.65	33.19	40°33'11.671"N	104°18'37.975"W	9.19	
6057.00	13.300	38.500	6054.08	-5.23	-5.57	37.94	40°33'11.721"N	104°18'37.912"W	7.91	
6088.00	14.500	27.500	6084.18	1.04	0.67	41.95	40°33'11.782"N	104°18'37.859"W	9.34	
6120.00	16.000	18.700	6115.06	8.80	8.40	45.22	40°33'11.858"N	104°18'37.815"W	8.61	
6151.00	17.900	12.400	6144.71	17.52	17.10	47.61	40°33'11.943"N	104°18'37.783"W	8.52	
6183.00	20.300	6.900	6174.95	27.85	27.42	49.33	40°33'12.045"N	104°18'37.759"W	9.37	
6214.00	22.800	4.900	6203.78	39.18	38.74	50.49	40°33'12.157"N	104°18'37.742"W	8.40	
6246.00	25.900	5.000	6232.93	52.34	51.88	51.63	40°33'12.287"N	104°18'37.725"W	9.69	
6277.00	28.600	4.300	6260.49	66.49	66.03	52.78	40°33'12.426"N	104°18'37.707"W	8.77	
6309.00	30.200	3.500	6288.37	82.17	81.70	53.85	40°33'12.581"N	104°18'37.691"W	5.15	
6340.00	33.000	1.900	6314.77	98.40	97.93	54.60	40°33'12.741"N	104°18'37.678"W	9.43	
6372.00	35.900	1.600	6341.15	116.50	116.02	55.15	40°33'12.920"N	104°18'37.668"W	9.08	
6403.00	37.300	3.100	6366.04	134.97	134.48	55.91	40°33'13.102"N	104°18'37.655"W	5.36	
6435.00	39.700	3.600	6391.08	154.86	154.37	57.08	40°33'13.299"N	104°18'37.636"W	7.56	
6466.00	42.200	2.100	6414.49	175.16	174.66	58.08	40°33'13.499"N	104°18'37.620"W	8.67	
6498.00	44.800	1.100	6437.71	197.18	196.67	58.69	40°33'13.716"N	104°18'37.608"W	8.40	
6529.00	47.900	359.900	6459.10	219.61	219.10	58.88	40°33'13.938"N	104°18'37.602"W	10.38	
6561.00	51.200	359.800	6479.86	243.96	243.45	58.82	40°33'14.178"N	104°18'37.598"W	10.32	
6593.00	53.700	0.400	6499.36	269.32	268.82	58.87	40°33'14.429"N	104°18'37.593"W	7.95	
6624.00	56.600	0.100	6517.07	294.76	294.25	58.98	40°33'14.680"N	104°18'37.588"W	9.39	
6656.00	58.700	0.200	6534.19	321.79	321.28	59.05	40°33'14.947"N	104°18'37.582"W	6.57	
6687.00	60.000	0.700	6550.00	348.46	347.95	59.26	40°33'15.211"N	104°18'37.575"W	4.42	
6719.00	62.300	1.300	6565.44	376.48	375.97	59.75	40°33'15.488"N	104°18'37.563"W	7.37	
6750.00	65.500	2.400	6579.07	404.31	403.79	60.65	40°33'15.762"N	104°18'37.547"W	10.80	
6782.00	68.400	3.600	6591.60	433.73	433.20	62.19	40°33'16.053"N	104°18'37.522"W	9.70	
6813.00	71.400	4.000	6602.25	462.79	462.24	64.12	40°33'16.339"N	104°18'37.492"W	9.75	
6845.00	74.100	3.500	6611.74	493.29	492.73	66.12	40°33'16.641"N	104°18'37.460"W	8.57	
6876.00	77.000	2.600	6619.48	523.28	522.71	67.72	40°33'16.936"N	104°18'37.435"W	9.77	
6908.00	79.700	2.600	6625.94	554.60	554.01	69.14	40°33'17.246"N	104°18'37.411"W	8.44	
6939.00	82.400	2.400	6630.76	585.20	584.60	70.47	40°33'17.548"N	104°18'37.388"W	8.73	
6971.00	84.800	2.600	6634.33	616.98	616.37	71.86	40°33'17.861"N	104°18'37.365"W	7.53	
7002.00	86.300	2.500	6636.73	647.86	647.24	73.24	40°33'18.166"N	104°18'37.341"W	4.85	
7034.00	88.600	2.100	6638.16	679.81	679.18	74.52	40°33'18.482"N	104°18'37.319"W	7.30	
7065.00	89.500	2.000	6638.67	710.80	710.16	75.63	40°33'18.788"N	104°18'37.300"W	2.92	
7097.00	89.900	1.600	6638.84	742.79	742.14	76.63	40°33'19.103"N	104°18'37.281"W	1.77	



Actual Wellpath Report

CROW VALLEY 7-62-22-2H ST#1 AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#01 CROW VALLEY 7-62-22-2H (320'FSL & 1911'FWL, SEC.22)
Area	COLORADO	Well	CROW VALLEY 7-62-22-2H ST#1
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-22-2H ST#1 AWB
Facility	SEC.22-T7N-R62W	Sidetrack from	CROW VALLEY 7-62-22-2H AWB at 5679.00 MD

WELLPATH DATA (87 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7128.00	90.500	2.000	6638.73	773.78	773.13	77.61	40°33'19.409"N	104°18'37.263"W	2.33	
7166.00	90.500	1.700	6638.40	811.77	811.11	78.83	40°33'19.785"N	104°18'37.240"W	0.79	
7216.00	90.600	2.100	6637.92	861.75	861.08	80.49	40°33'20.278"N	104°18'37.210"W	0.82	
7309.00	91.400	0.500	6636.30	954.72	954.04	82.60	40°33'21.196"N	104°18'37.167"W	1.92	
7390.00	90.800	0.700	6634.74	1035.71	1035.02	83.45	40°33'21.996"N	104°18'37.142"W	0.78	
7484.00	91.500	0.500	6632.85	1129.69	1128.99	84.43	40°33'22.925"N	104°18'37.113"W	0.77	
7579.00	89.200	0.900	6632.27	1224.68	1223.98	85.59	40°33'23.863"N	104°18'37.081"W	2.46	
7673.00	90.200	0.400	6632.77	1318.68	1317.97	86.66	40°33'24.792"N	104°18'37.051"W	1.19	
7768.00	89.000	358.000	6633.43	1413.64	1412.95	85.33	40°33'25.730"N	104°18'37.052"W	2.82	
7863.00	89.300	357.400	6634.84	1508.52	1507.86	81.52	40°33'26.668"N	104°18'37.085"W	0.71	
7957.00	90.000	357.400	6635.41	1602.38	1601.76	77.26	40°33'27.597"N	104°18'37.123"W	0.74	
8052.00	90.500	356.500	6635.00	1697.19	1696.62	72.20	40°33'28.535"N	104°18'37.172"W	1.08	
8146.00	89.900	356.100	6634.67	1790.94	1790.43	66.14	40°33'29.462"N	104°18'37.235"W	0.77	
8241.00	89.800	356.000	6634.92	1885.65	1885.20	59.59	40°33'30.400"N	104°18'37.303"W	0.15	
8336.00	89.300	356.500	6635.66	1980.39	1979.99	53.38	40°33'31.337"N	104°18'37.367"W	0.74	
8430.00	89.100	356.300	6636.98	2074.14	2073.80	47.48	40°33'32.265"N	104°18'37.427"W	0.30	
8525.00	88.400	358.100	6639.05	2168.95	2168.66	42.84	40°33'33.203"N	104°18'37.471"W	2.03	
8619.00	88.200	357.800	6641.84	2262.82	2262.56	39.48	40°33'34.131"N	104°18'37.498"W	0.38	
8714.00	89.300	358.000	6643.91	2357.69	2357.47	36.00	40°33'35.069"N	104°18'37.527"W	1.18	
8808.00	89.400	357.600	6644.98	2451.58	2451.39	32.39	40°33'35.997"N	104°18'37.557"W	0.44	
8903.00	87.300	357.700	6647.71	2546.42	2546.27	28.50	40°33'36.935"N	104°18'37.591"W	2.21	
8998.00	87.100	357.500	6652.35	2641.18	2641.07	24.52	40°33'37.873"N	104°18'37.626"W	0.30	
9092.00	88.400	359.500	6656.04	2735.05	2734.96	22.06	40°33'38.801"N	104°18'37.641"W	2.54	
9187.00	89.200	359.500	6658.03	2830.01	2829.93	21.24	40°33'39.739"N	104°18'37.636"W	0.84	
9281.00	89.900	359.300	6658.77	2923.99	2923.93	20.25	40°33'40.668"N	104°18'37.632"W	0.77	
9376.00	91.600	357.500	6657.53	3018.91	3018.87	17.60	40°33'41.606"N	104°18'37.650"W	2.61	
9470.00	91.100	0.500	6655.31	3112.84	3112.82	15.96	40°33'42.535"N	104°18'37.655"W	3.23	
9565.00	91.100	0.200	6653.49	3207.82	3207.80	16.54	40°33'43.473"N	104°18'37.631"W	0.32	
9659.00	90.100	359.800	6652.51	3301.81	3301.80	16.54	40°33'44.402"N	104°18'37.615"W	1.15	
9754.00	89.300	1.700	6653.00	3396.81	3396.78	17.78	40°33'45.340"N	104°18'37.582"W	2.17	
9848.00	90.100	2.600	6653.49	3490.76	3490.71	21.31	40°33'46.268"N	104°18'37.520"W	1.28	
9943.00	89.900	2.500	6653.49	3585.70	3585.62	25.54	40°33'47.205"N	104°18'37.449"W	0.24	
10037.00	89.500	3.400	6653.99	3679.62	3679.49	30.37	40°33'48.132"N	104°18'37.370"W	1.05	
10132.00	89.500	2.300	6654.82	3774.53	3774.37	35.10	40°33'49.069"N	104°18'37.292"W	1.16	
10227.00	88.900	2.600	6656.14	3869.47	3869.27	39.16	40°33'50.006"N	104°18'37.223"W	0.71	
10321.00	89.300	1.500	6657.62	3963.42	3963.20	42.52	40°33'50.933"N	104°18'37.163"W	1.25	
10416.00	88.900	1.200	6659.11	4058.40	4058.16	44.76	40°33'51.871"N	104°18'37.118"W	0.53	
10510.00	90.300	1.900	6659.77	4152.38	4152.12	47.30	40°33'52.799"N	104°18'37.068"W	1.67	
10605.00	89.800	1.900	6659.68	4247.35	4247.07	50.45	40°33'53.737"N	104°18'37.011"W	0.53	
10700.00	88.900	1.700	6660.76	4342.32	4342.01	53.43	40°33'54.675"N	104°18'36.956"W	0.97	
10738.00	88.600	1.700	6661.59	4380.30	4379.99	54.56	40°33'55.050"N	104°18'36.935"W	0.79	LAST BHI MWD SURVEY FOR ST#1
10802.00	88.600	1.700	6663.15	4444.27	4443.94	56.46	40°33'55.682"N	104°18'36.899"W	0.00	PROJECTION TO BIT FOR ST#1

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
CROW VALLEY 7-62-22-2H SECTION LINES		0.00	0.00	0.00	3330482.63	1446614.37	40°33'11.781"N	104°18'38.403"W	polygon
CROW VALLEY 7-62-22-2H LANDING (REV-1)		6624.00	746.62	9.18	3330491.81	1447360.96	40°33'19.157"N	104°18'38.154"W	point
CROW VALLEY 7-62-22-2H PT#2 (REV-1)		6626.00	1386.95	11.61	3330494.24	1448001.27	40°33'25.483"N	104°18'38.011"W	point
CROW VALLEY 7-62-22-2H PT#3 (REV-1)		6636.00	2809.58	22.81	3330505.44	1449423.86	40°33'39.538"N	104°18'37.619"W	point
CROW VALLEY 7-62-22-2H BHL ON PLAT (470'FNL & 1987'FWL, REV-1)		6652.00	4473.54	39.32	3330521.95	1451087.77	40°33'55.976"N	104°18'37.116"W	point
CROW VALLEY 7-62-22-2H HARDLINES (460' SETBACKS)		6652.00	0.00	0.00	3330482.63	1446614.37	40°33'11.781"N	104°18'38.403"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: CROW VALLEY 7-62-22-2H ST#1 AWB Ref Wellpath: CROW VALLEY 7-62-22-2H ST#1 AWP

Start MD	End MD	Positional Uncertainty Model	Log Name/Comment	Wellbore
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[ft]	[ft]			
715.00	5679.00	NaviTrak (Standard)	BHI/NAVITRAK 8.75" HOLE <792-7191>	CROW VALLEY 7-62-22-2H AWB
5679.00	10738.00	NaviTrak (Standard)	BHI/NAVITRAK 8.75" HOLE <5742-10738>	CROW VALLEY 7-62-22-2H ST#1 AWB
10738.00	10802.00	Blind Drilling (std)	Projection to bit	CROW VALLEY 7-62-22-2H ST#1 AWB



Actual Wellpath Report

CROW VALLEY 7-62-22-2H ST#1 AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#01 CROW VALLEY 7-62-22-2H (320'FSL & 1911'FWL, SEC.22)
Area	COLORADO	Well	CROW VALLEY 7-62-22-2H ST#1
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-22-2H ST#1 AWB
Facility	SEC.22-T7N-R62W	Sidetrack from	CROW VALLEY 7-62-22-2H AWB at 5679.00 MD

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
715.00	0.000	256.700	715.00	TIED INTO SURFACE CASING SHOE
5679.00	0.900	166.600	5678.71	TIED INTO ORIG WELLBORE FOR ST#1
10738.00	88.600	1.700	6661.59	LAST BHI MWD SURVEY FOR ST#1
10802.00	88.600	1.700	6663.15	PROJECTION TO BIT FOR ST#1