



Clearance Report

CROW VALLEY 7-62-30-2H (REV-A.0) PWP

Closest Approach

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REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#02 CROW VALLEY 7-62-30-2H (437'FSL & 2137'FWL, SEC. 30)
Area	COLORADO	Well	CROW VALLEY 7-62-30-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-30-2H 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 5:26:54 PM
Convergence at slot	0.73° East	Database/Source file	WA_Denver/CROW_VALLEY_7-62-30-2H_PWB_CR.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	29.52	-5.34	3314851.57	1441130.48	40°32'19.618"N	104°22'01.797"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#02 CROW VALLEY 7-62-30-2H (437'FSL & 2137'FWL, SEC. 30))	4842.00ft
MD Reference Pt	H&P 321 (RKB)		
Field Vertical Reference	Mean Sea Level		

POSITIONAL UNCERTAINTY CALCULATION SETTINGS

Ellipse Confidence Limit	3.00 Std Dev	Ellipse Start MD	31.00ft	Surface Position Uncertainty	included
Declination	8.56° East of TN	Dip Angle	67.19°	Mag Field Strength	53173 nT
Slot Surface Uncertainty @ 1SD		Horizontal	0.100ft	Vertical	1.000ft
Facility Surface Uncertainty @ 1SD		Horizontal	8.200ft	Vertical	3.000ft

ANTI-COLLISION RULE

Rule Name	Separation Factor : R-type Closest Approach w/Hole&Csg Limit:1.5, StdDev:3.00 w/Surface Uncert R=D/(PU+HnC)	Rule Based On	Ratio
Plane of Rule	Closest Approach	Threshold Value	1.50
Subtract Casing & Hole Size	yes	Apply Cone of Safety	no

HOLE & CASING SECTIONS - Ref Wellbore: CROW VALLEY 7-62-30-2H PWB Ref Wellpath: CROW VALLEY 7-62-30-2H (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	7005.00	6974.00	31.00	6676.00	0.00	0.00	609.30	-32.35



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Operator	MARATHON OIL COMPANY	Slot	SLOT#02 CROW VALLEY 7-62-30-2H (437'FSL & 2137'FWL, SEC. 30)
Area	COLORADO	Well	CROW VALLEY 7-62-30-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-30-2H PWB
Facility	SEC.30-T7N-R62W		

SURVEY PROGRAM - Ref Wellbore: CROW VALLEY 7-62-30-2H PWB Ref Wellpath: CROW VALLEY 7-62-30-2H (REV-A.0) PWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
31.00	10895.76	NaviTrak (Standard)		CROW VALLEY 7-62-30-2H PWB

CALCULATION RANGE & CUTOFF

From: 31.00ft MD	To: 10895.76ft MD	C-C Cutoff: (none)
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OFFSET WELL CLEARANCE SUMMARY (3 Offset Wellpaths selected) Ratios are calculated in Closest Approach plane

Offset Facility	Offset Slot	Offset Well	Offset Wellbore	Offset Wellpath	C-C Clearance Distance			ACR Separation Ratio			
					Ref MD [ft]	Min C-C Clear Dist [ft]	Diverging from MD [ft]	Ref MD of Min Ratio [ft]	Min Ratio	Min Ratio Dvrg from [ft]	ACR Status
SEC.30-T7N-R62W	SLOT#01 CROW VALLEY 7-62-31-2H (407'FSL & 2142'FWL, SEC.30)	CROW VALLEY 7-62-31-2H	CROW VALLEY 7-62-31-2H PWB	CROW VALLEY 7-62-31-2H (REV-A.0) PWP	31.00	30.00	6031.00	2731.00	1.51	6031.00	PASS
SEC.32-T7N-R62W	SLOT#01 CROW VALLEY 7-62-32-1A (465'FSL & 465'FEL, SEC.32)	CROW VALLEY 7-62-32-1A	CROW VALLEY 7-62-32-1A AWB	CROW VALLEY 7-62-32-1A AWP	6281.00	3691.18	6281.00	6201.25	24.40	10895.76	PASS
SEC.32-T7N-R62W	SLOT#02 CROW VALLEY 7-62-32-1M (1390'FSL & 2374'FEL, SEC.32)	CROW VALLEY 7-62-32-1M	CROW VALLEY 7-62-32-1M AWB	CROW VALLEY 7-62-32-1M AWP	5781.00	7410.28	5781.00	10895.76	89.39	10895.76	PASS



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Closest Approach

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REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#02 CROW VALLEY 7-62-30-2H (437'FSL & 2137'FWL, SEC. 30)
Area	COLORADO	Well	CROW VALLEY 7-62-30-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-30-2H PWB
Facility	SEC.30-T7N-R62W		

CLEARANCE DATA - Offset Wellbore: CROW VALLEY 7-62-31-2H PWB Offset Wellpath: CROW VALLEY 7-62-31-2H (REV-A.0) PWP

Facility: SEC.30-T7N-R62W Slot: SLOT#01 CROW VALLEY 7-62-31-2H (407'FSL & 2142'FWL, SEC.30) Well: CROW VALLEY 7-62-31-2H Threshold Value=1.50

† = interpolated/extrapolated station

Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Angle from Highside [°]	C-C Clear Dist [ft]	Sep Ratio	ACR MASD [ft]	ACR Status
31.00	31.00	0.00	0.00	31.00	31.00	-29.52	5.34	169.75	30.00	25.35	1.78	PASS
131.00†	131.00	0.00	0.00	131.00	131.00	-29.52	5.34	169.75	30.00	19.74	2.28	PASS
231.00†	231.00	0.00	0.00	231.00	231.00	-29.52	5.34	169.75	30.00	14.01	3.21	PASS
331.00†	331.00	0.00	0.00	331.00	331.00	-29.52	5.34	169.75	30.00	10.63	4.23	PASS
431.00†	431.00	0.00	0.00	431.00	431.00	-29.52	5.34	169.75	30.00	8.52	5.28	PASS
531.00†	531.00	0.00	0.00	531.00	531.00	-29.52	5.34	169.75	30.00	7.10	6.34	PASS
631.00†	631.00	0.00	0.00	631.00	631.00	-29.52	5.34	169.75	30.00	6.08	7.40	PASS
731.00†	731.00	0.00	0.00	731.00	731.00	-29.52	5.34	169.75	30.00	5.31	8.47	PASS
831.00†	831.00	0.00	0.00	831.00	831.00	-29.52	5.34	169.75	30.00	4.71	9.55	PASS
931.00†	931.00	0.00	0.00	931.00	931.00	-29.52	5.34	169.75	30.00	4.24	10.62	PASS
1031.00†	1031.00	0.00	0.00	1031.00	1031.00	-29.52	5.34	169.75	30.00	3.85	11.69	PASS
1131.00†	1131.00	0.00	0.00	1131.00	1131.00	-29.52	5.34	169.75	30.00	3.52	12.77	PASS
1231.00†	1231.00	0.00	0.00	1231.00	1231.00	-29.52	5.34	169.75	30.00	3.25	13.84	PASS
1331.00†	1331.00	0.00	0.00	1331.00	1331.00	-29.52	5.34	169.75	30.00	3.02	14.92	PASS
1431.00†	1431.00	0.00	0.00	1431.00	1431.00	-29.52	5.34	169.75	30.00	2.81	15.99	PASS
1531.00†	1531.00	0.00	0.00	1531.00	1531.00	-29.52	5.34	169.75	30.00	2.64	17.07	PASS
1631.00†	1631.00	0.00	0.00	1631.00	1631.00	-29.52	5.34	169.75	30.00	2.48	18.15	PASS
1731.00†	1731.00	0.00	0.00	1731.00	1731.00	-29.52	5.34	169.75	30.00	2.34	19.22	PASS
1831.00†	1831.00	0.00	0.00	1831.00	1831.00	-29.52	5.34	169.75	30.00	2.22	20.30	PASS
1931.00†	1931.00	0.00	0.00	1931.00	1931.00	-29.52	5.34	169.75	30.00	2.11	21.38	PASS
2031.00†	2031.00	0.00	0.00	2031.00	2031.00	-29.52	5.34	169.75	30.00	2.00	22.45	PASS
2131.00†	2131.00	0.00	0.00	2131.00	2131.00	-29.52	5.34	169.75	30.00	1.91	23.53	PASS
2231.00†	2231.00	0.00	0.00	2231.00	2231.00	-29.52	5.34	169.75	30.00	1.83	24.61	PASS
2331.00†	2331.00	0.00	0.00	2331.00	2331.00	-29.52	5.34	169.75	30.00	1.75	25.68	PASS
2431.00†	2431.00	0.00	0.00	2431.00	2431.00	-29.52	5.34	169.75	30.00	1.68	26.76	PASS
2531.00†	2531.00	0.00	0.00	2531.00	2531.00	-29.52	5.34	169.75	30.00	1.62	27.84	PASS
2631.00†	2631.00	0.00	0.00	2631.00	2631.00	-29.52	5.34	169.75	30.00	1.56	28.92	PASS
2700.00	2700.00	0.00	0.00	2700.00	2700.00	-29.52	5.34	169.75	30.00	1.52	29.66	PASS
2731.00†	2731.00	0.17	-0.01	2731.00	2731.00	-29.52	5.34	172.83	30.17	1.51	29.99	PASS
2831.00†	2830.95	2.99	-0.16	2830.95	2830.95	-29.52	5.34	173.43	32.97	1.59	31.14	PASS
2931.00†	2930.75	9.30	-0.49	2930.34	2930.33	-29.68	5.34	174.51	39.41	1.82	32.42	PASS
3000.00	2999.45	15.67	-0.83	2997.88	2997.85	-31.19	5.30	175.55	47.29	2.13	33.30	PASS
3031.00†	3030.28	18.91	-1.00	3028.04	3027.98	-32.38	5.26	176.03	51.72	2.31	33.65	PASS
3050.00	3049.18	20.89	-1.11	3046.48	3046.42	-33.26	5.24	176.31	54.60	2.42	33.87	PASS
3131.00†	3129.84	28.21	-1.50	3124.86	3124.61	-38.34	5.11	177.35	67.08	2.89	34.86	PASS
3231.00†	3229.66	34.09	-1.81	3221.78	3221.11	-47.48	4.86	178.36	82.30	3.42	36.09	PASS
3331.00†	3329.63	36.50	-1.94	3323.36	3322.21	-57.16	4.60	179.04	94.18	3.78	37.40	PASS
3350.00	3348.63	36.56	-1.94	3342.94	3341.77	-58.65	4.56	176.09	95.68	3.81	37.65	PASS
3431.00†	3429.63	36.56	-1.94	3426.66	3425.31	-63.47	4.44	176.35	100.33	3.89	38.66	PASS
3531.00†	3529.63	36.56	-1.94	3530.30	3528.91	-66.05	4.37	176.48	102.81	3.86	39.93	PASS
3631.00†	3629.63	36.56	-1.94	3631.00	3629.63	-66.12	4.37	176.49	102.88	3.76	41.00	PASS
3731.00†	3729.63	36.56	-1.94	3731.00	3729.63	-66.12	4.37	176.49	102.88	3.67	42.04	PASS
3831.00†	3829.63	36.56	-1.94	3831.00	3829.63	-66.12	4.37	176.49	102.88	3.58	43.08	PASS
3931.00†	3929.63	36.56	-1.94	3931.00	3929.63	-66.12	4.37	176.49	102.88	3.50	44.13	PASS
4031.00†	4029.63	36.56	-1.94	4031.00	4029.63	-66.12	4.37	176.49	102.88	3.42	45.18	PASS



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Area	COLORADO	Well	CROW VALLEY 7-62-30-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-30-2H PWB
Facility	SEC.30-T7N-R62W		

CLEARANCE DATA - Offset Wellbore: CROW VALLEY 7-62-31-2H PWB Offset Wellpath: CROW VALLEY 7-62-31-2H (REV-A.0) PWP

Facility: SEC.30-T7N-R62W Slot: SLOT#01 CROW VALLEY 7-62-31-2H (407'FSL & 2142'FWL, SEC.30) Well: CROW VALLEY 7-62-31-2H Threshold Value=1.50
† = interpolated/extrapolated station

Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Angle from Highside [°]	C-C Clear Dist [ft]	Sep Ratio	ACR MASD [ft]	ACR Status
4131.00†	4129.63	36.56	-1.94	4131.00	4129.63	-66.12	4.37	176.49	102.88	3.34	46.23	PASS
4231.00†	4229.63	36.56	-1.94	4231.00	4229.63	-66.12	4.37	176.49	102.88	3.26	47.28	PASS
4331.00†	4329.63	36.56	-1.94	4331.00	4329.63	-66.12	4.37	176.49	102.88	3.19	48.33	PASS
4431.00†	4429.63	36.56	-1.94	4431.00	4429.63	-66.12	4.37	176.49	102.88	3.13	49.38	PASS
4531.00†	4529.63	36.56	-1.94	4531.00	4529.63	-66.12	4.37	176.49	102.88	3.06	50.43	PASS
4631.00†	4629.63	36.56	-1.94	4631.00	4629.63	-66.12	4.37	176.49	102.88	3.00	51.49	PASS
4731.00†	4729.63	36.56	-1.94	4731.00	4729.63	-66.12	4.37	176.49	102.88	2.94	52.55	PASS
4831.00†	4829.63	36.56	-1.94	4831.00	4829.63	-66.12	4.37	176.49	102.88	2.88	53.60	PASS
4931.00†	4929.63	36.56	-1.94	4931.00	4929.63	-66.12	4.37	176.49	102.88	2.82	54.66	PASS
5031.00†	5029.63	36.56	-1.94	5031.00	5029.63	-66.12	4.37	176.49	102.88	2.77	55.72	PASS
5131.00†	5129.63	36.56	-1.94	5131.00	5129.63	-66.12	4.37	176.49	102.88	2.72	56.78	PASS
5231.00†	5229.63	36.56	-1.94	5231.00	5229.63	-66.12	4.37	176.49	102.88	2.67	57.84	PASS
5331.00†	5329.63	36.56	-1.94	5331.00	5329.63	-66.12	4.37	176.49	102.88	2.62	58.90	PASS
5431.00†	5429.63	36.56	-1.94	5431.00	5429.63	-66.12	4.37	176.49	102.88	2.57	59.96	PASS
5531.00†	5529.63	36.56	-1.94	5531.00	5529.63	-66.12	4.37	176.49	102.88	2.53	61.02	PASS
5631.00†	5629.63	36.56	-1.94	5631.00	5629.63	-66.12	4.37	176.49	102.88	2.49	62.08	PASS
5731.00†	5729.63	36.56	-1.94	5731.00	5729.63	-66.12	4.37	176.49	102.88	2.44	63.15	PASS
5831.00†	5829.63	36.56	-1.94	5831.00	5829.63	-66.12	4.37	176.49	102.88	2.40	64.21	PASS
5931.00†	5929.63	36.56	-1.94	5931.00	5929.63	-66.12	4.37	176.49	102.88	2.36	65.27	PASS
6031.00†	6029.63	36.56	-1.94	6031.00	6029.63	-66.12	4.37	176.49	102.88	2.33	66.34	PASS
6104.41	6103.04	36.56	-1.94	6095.81	6094.38	-68.08	4.31	176.58	105.19	2.35	67.11	PASS
6131.00†	6129.62	37.18	-1.97	6118.05	6116.51	-70.35	4.25	179.72	108.50	2.42	67.30	PASS
6231.00†	6228.60	50.47	-2.68	6195.97	6192.97	-85.01	3.86	-179.70	140.24	3.05	68.98	PASS
6331.00†	6323.77	80.72	-4.29	6258.78	6252.71	-104.29	3.35	-179.13	198.34	4.17	71.31	PASS
6431.00†	6412.23	127.02	-6.74	6303.38	6293.68	-121.90	2.88	-178.59	275.88	5.70	72.59	PASS
6531.00†	6491.30	187.95	-9.98	6330.98	6317.58	-133.99	2.56	-177.82	366.03	7.51	73.13	PASS
6631.00†	6558.57	261.67	-13.89	6344.49	6330.12	-140.91	2.38	-175.36	463.16	9.48	73.32	PASS
6731.00†	6611.99	345.93	-18.37	6346.96	6332.27	-142.13	2.34	-12.15	562.92	11.49	73.47	PASS
6831.00†	6649.96	438.18	-23.26	6340.97	6327.05	-139.18	2.42	-2.09	662.02	13.47	73.74	PASS
6931.00†	6671.30	535.61	-28.44	6328.51	6316.11	-133.21	2.58	-0.96	757.91	15.33	74.18	PASS
7004.41	6676.00	608.71	-32.32	6316.14	6305.14	-127.52	2.73	-0.62	825.11	16.60	74.56	PASS
7031.00†	6676.00	635.26	-33.73	6311.33	6300.83	-125.37	2.79	-0.59	848.91	17.15	74.23	PASS
7131.00†	6676.00	735.12	-39.03	6294.57	6285.70	-118.17	2.98	-0.48	939.26	18.90	74.53	PASS
7231.00†	6676.00	834.98	-44.33	6279.71	6272.11	-112.16	3.14	-0.40	1030.76	20.67	74.80	PASS
7331.00†	6676.00	934.84	-49.63	6266.46	6259.86	-107.10	3.28	-0.33	1123.21	22.45	75.04	PASS
7431.00†	6676.00	1034.70	-54.93	6254.58	6248.80	-102.81	3.39	-0.28	1216.48	24.25	75.25	PASS
7531.00†	6676.00	1134.56	-60.23	6243.88	6238.75	-99.13	3.49	-0.23	1310.44	26.06	75.44	PASS
7631.00†	6676.00	1234.42	-65.54	6234.20	6229.59	-95.97	3.57	-0.20	1404.99	27.87	75.61	PASS
7731.00†	6676.00	1334.28	-70.84	6225.41	6221.24	-93.24	3.64	-0.16	1500.05	29.68	75.80	PASS
7831.00†	6676.00	1434.14	-76.14	6217.38	6213.58	-90.85	3.71	-0.14	1595.56	31.49	75.99	PASS
7931.00†	6676.00	1534.00	-81.44	6210.04	6206.53	-88.76	3.76	-0.12	1691.45	33.31	76.17	PASS
8031.00†	6676.00	1633.86	-86.74	6203.28	6200.04	-86.92	3.81	-0.10	1787.68	35.13	76.33	PASS
8131.00†	6676.00	1733.72	-92.04	6197.06	6194.03	-85.29	3.86	-0.08	1884.22	36.95	76.49	PASS
8231.00†	6676.00	1833.58	-97.34	6191.31	6188.48	-83.85	3.89	-0.07	1981.02	38.78	76.63	PASS
8331.00†	6676.00	1933.44	-102.65	6185.98	6183.30	-82.55	3.93	-0.05	2078.06	40.60	76.77	PASS



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REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#02 CROW VALLEY 7-62-30-2H (437'FSL & 2137'FWL, SEC. 30)
Area	COLORADO	Well	CROW VALLEY 7-62-30-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-30-2H PWB
Facility	SEC.30-T7N-R62W		

CLEARANCE DATA - Offset Wellbore: CROW VALLEY 7-62-31-2H PWB Offset Wellpath: CROW VALLEY 7-62-31-2H (REV-A.0) PWP

Facility: SEC.30-T7N-R62W Slot: SLOT#01 CROW VALLEY 7-62-31-2H (407'FSL & 2142'FWL, SEC.30) Well: CROW VALLEY 7-62-31-2H Threshold Value=1.50
 † = interpolated/extrapolated station

Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Angle from Highside [°]	C-C Clear Dist [ft]	Sep Ratio	ACR MASD [ft]	ACR Status
8431.00†	6676.00	2033.30	-107.95	6181.03	6178.48	-81.39	3.96	-0.04	2175.31	42.43	76.90	PASS
8531.00†	6676.00	2133.16	-113.25	6176.41	6173.98	-80.36	3.99	-0.03	2272.75	44.26	77.03	PASS
8631.00†	6676.00	2233.01	-118.55	6172.10	6169.79	-79.42	4.01	-0.02	2370.36	46.08	77.16	PASS
8731.00†	6676.00	2332.87	-123.85	6168.07	6165.83	-78.57	4.03	-0.02	2468.13	47.91	77.28	PASS
8831.00†	6676.00	2432.73	-129.15	6164.29	6162.13	-77.80	4.06	-0.01	2566.04	49.73	77.40	PASS
8931.00†	6676.00	2532.59	-134.46	6160.74	6158.65	-77.09	4.07	0.00	2664.08	51.55	77.51	PASS
9031.00†	6676.00	2632.45	-139.76	6157.39	6155.37	-76.45	4.09	0.00	2762.23	53.37	77.63	PASS
9131.00†	6676.00	2732.31	-145.06	6154.24	6152.28	-75.87	4.11	0.01	2860.49	55.19	77.74	PASS
9231.00†	6676.00	2832.17	-150.36	6151.26	6149.34	-75.33	4.12	0.01	2958.85	57.01	77.86	PASS
9331.00†	6676.00	2932.03	-155.66	6148.45	6146.57	-74.83	4.13	0.02	3057.29	58.82	77.97	PASS
9431.00†	6676.00	3031.89	-160.96	6145.78	6143.93	-74.37	4.15	0.02	3155.82	60.63	78.08	PASS
9531.00†	6676.00	3131.75	-166.26	6143.25	6141.45	-73.95	4.16	0.03	3254.43	62.43	78.19	PASS
9631.00†	6676.00	3231.61	-171.57	6140.85	6139.07	-73.56	4.17	0.03	3353.10	64.23	78.31	PASS
9731.00†	6676.00	3331.47	-176.87	6138.56	6136.81	-73.20	4.18	0.03	3451.84	66.03	78.42	PASS
9831.00†	6676.00	3431.33	-182.17	6136.38	6134.66	-72.86	4.19	0.03	3550.65	67.82	78.53	PASS
9931.00†	6676.00	3531.19	-187.47	6134.31	6132.62	-72.55	4.19	0.04	3649.51	69.60	78.65	PASS
10031.00†	6676.00	3631.05	-192.77	6132.33	6130.65	-72.25	4.20	0.04	3748.42	71.39	78.76	PASS
10131.00†	6676.00	3730.91	-198.07	6130.44	6128.53	-71.94	4.21	0.04	3847.38	73.15	78.89	PASS
10231.00†	6676.00	3830.76	-203.38	6128.63	6127.00	-71.73	4.22	0.04	3946.38	74.90	79.03	PASS
10331.00†	6676.00	3930.62	-208.68	6126.90	6125.29	-71.49	4.22	0.04	4045.43	76.65	79.17	PASS
10431.00†	6676.00	4030.48	-213.98	6125.24	6123.64	-71.26	4.23	0.05	4144.52	78.38	79.31	PASS
10531.00†	6676.00	4130.34	-219.28	6123.65	6122.08	-71.05	4.23	0.05	4243.65	80.11	79.46	PASS
10631.00†	6676.00	4230.20	-224.58	6122.13	6120.54	-70.85	4.24	0.05	4342.81	81.84	79.60	PASS
10731.00†	6676.00	4330.06	-229.88	6120.66	6119.10	-70.67	4.24	0.05	4442.00	83.56	79.74	PASS
10831.00†	6676.00	4429.92	-235.18	6119.25	6117.70	-70.49	4.25	0.05	4541.23	85.27	79.89	PASS
10895.76	6676.00	4494.59	-238.62	6118.37	6116.83	-70.39	4.25	0.05	4605.50	86.38	79.98	PASS

POSITIONAL UNCERTAINTY - Offset Wellbore: CROW VALLEY 7-62-31-2H PWB Offset Wellpath: CROW VALLEY 7-62-31-2H (REV-A.0) PWP

Slot Surface Uncertainty @ 1SD	Horizontal	0.100ft	Vertical	1.000ft
Facility Surface Uncertainty @ 1SD	Horizontal	8.200ft	Vertical	3.000ft

HOLE & CASING SECTIONS - Offset Wellbore: CROW VALLEY 7-62-31-2H PWB Offset 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	-18.00	3.26	-203.91	-1.69

SURVEY PROGRAM - Offset Wellbore: CROW VALLEY 7-62-31-2H PWB Offset 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



Clearance Report

CROW VALLEY 7-62-30-2H (REV-A.0) PWP
Closest Approach
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**REFERENCE WELLPATH IDENTIFICATION**

Operator	MARATHON OIL COMPANY	Slot	SLOT#02 CROW VALLEY 7-62-30-2H (437'FSL & 2137'FWL, SEC. 30)
Area	COLORADO	Well	CROW VALLEY 7-62-30-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-30-2H PWB
Facility	SEC.30-T7N-R62W		

OFFSET WELLPATH MD REFERENCE - Offset Wellbore: CROW VALLEY 7-62-31-2H PWB Offset Wellpath: CROW VALLEY 7-62-31-2H (REV-A.0) PWP

MD Reference: H&P 321 (RKB)	<i>Offset TVD & local coordinates use Reference Wellpath settings (See WELLPATH DATUM on page 1 of this report)</i>
Ellipse Start MD	



Clearance Report

CROW VALLEY 7-62-30-2H (REV-A.0) PWP

Closest Approach

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REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#02 CROW VALLEY 7-62-30-2H (437'FSL & 2137'FWL, SEC. 30)
Area	COLORADO	Well	CROW VALLEY 7-62-30-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-30-2H PWB
Facility	SEC.30-T7N-R62W		

CLEARANCE DATA - Offset Wellbore: CROW VALLEY 7-62-32-1A AWB Offset Wellpath: CROW VALLEY 7-62-32-1A AWP

Facility: SEC.32-T7N-R62W Slot: SLOT#01 CROW VALLEY 7-62-32-1A (465'FSL & 465'FEL, SEC.32) Well: CROW VALLEY 7-62-32-1A Threshold Value=1.50

† = interpolated/extrapolated station

Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Angle from Highside [°]	C-C Clear Dist [ft]	Sep Ratio	ACR MASD [ft]	ACR Status
31.00	31.00	0.00	0.00	12391.00	6626.71	-878.93	3548.28	103.91	7540.97	75.67	149.49	PASS
131.00†	131.00	0.00	0.00	12391.00	6626.71	-878.93	3548.28	103.91	7453.66	74.47	150.13	PASS
231.00†	231.00	0.00	0.00	12391.00	6626.71	-878.93	3548.28	103.91	7366.68	73.28	150.78	PASS
331.00†	331.00	0.00	0.00	12391.00	6626.71	-878.93	3548.28	103.91	7280.03	72.10	151.46	PASS
431.00†	431.00	0.00	0.00	12391.00	6626.71	-878.93	3548.28	103.91	7193.72	70.91	152.17	PASS
531.00†	531.00	0.00	0.00	12391.00	6626.71	-878.93	3548.28	103.91	7107.78	69.73	152.89	PASS
631.00†	631.00	0.00	0.00	12391.00	6626.71	-878.93	3548.28	103.91	7022.21	68.56	153.65	PASS
731.00†	731.00	0.00	0.00	12391.00	6626.71	-878.93	3548.28	103.91	6937.02	67.38	154.42	PASS
831.00†	831.00	0.00	0.00	12391.00	6626.71	-878.93	3548.28	103.91	6852.23	66.21	155.23	PASS
931.00†	931.00	0.00	0.00	12391.00	6626.71	-878.93	3548.28	103.91	6767.86	65.05	156.06	PASS
1031.00†	1031.00	0.00	0.00	12391.00	6626.71	-878.93	3548.28	103.91	6683.92	63.89	156.91	PASS
1131.00†	1131.00	0.00	0.00	12391.00	6626.71	-878.93	3548.28	103.91	6600.43	62.74	157.80	PASS
1231.00†	1231.00	0.00	0.00	12391.00	6626.71	-878.93	3548.28	103.91	6517.40	61.60	158.71	PASS
1331.00†	1331.00	0.00	0.00	12391.00	6626.71	-878.93	3548.28	103.91	6434.86	60.46	159.65	PASS
1431.00†	1431.00	0.00	0.00	12391.00	6626.71	-878.93	3548.28	103.91	6352.81	59.33	160.62	PASS
1531.00†	1531.00	0.00	0.00	12391.00	6626.71	-878.93	3548.28	103.91	6271.29	58.20	161.62	PASS
1631.00†	1631.00	0.00	0.00	12391.00	6626.71	-878.93	3548.28	103.91	6190.31	57.09	162.66	PASS
1731.00†	1731.00	0.00	0.00	12391.00	6626.71	-878.93	3548.28	103.91	6109.89	55.98	163.72	PASS
1831.00†	1831.00	0.00	0.00	12391.00	6626.71	-878.93	3548.28	103.91	6030.06	54.88	164.81	PASS
1931.00†	1931.00	0.00	0.00	12391.00	6626.71	-878.93	3548.28	103.91	5950.84	53.79	165.94	PASS
2031.00†	2031.00	0.00	0.00	12391.00	6626.71	-878.93	3548.28	103.91	5872.26	52.71	167.10	PASS
2131.00†	2131.00	0.00	0.00	12391.00	6626.71	-878.93	3548.28	103.91	5794.33	51.65	168.29	PASS
2231.00†	2231.00	0.00	0.00	12391.00	6626.71	-878.93	3548.28	103.91	5717.09	50.59	169.52	PASS
2331.00†	2331.00	0.00	0.00	12391.00	6626.71	-878.93	3548.28	103.91	5640.56	49.54	170.78	PASS
2431.00†	2431.00	0.00	0.00	12391.00	6626.71	-878.93	3548.28	103.91	5564.78	48.51	172.07	PASS
2531.00†	2531.00	0.00	0.00	12391.00	6626.71	-878.93	3548.28	103.91	5489.78	47.49	173.40	PASS
2631.00†	2631.00	0.00	0.00	12391.00	6626.71	-878.93	3548.28	103.91	5415.58	46.48	174.76	PASS
2700.00	2700.00	0.00	0.00	12391.00	6626.71	-878.93	3548.28	103.91	5364.87	45.80	175.72	PASS
2731.00†	2731.00	0.17	-0.01	12391.00	6626.71	-878.93	3548.28	107.58	5342.26	45.49	176.15	PASS
2831.00†	2830.95	2.99	-0.16	12391.00	6626.71	-878.93	3548.28	109.54	5270.39	44.55	177.46	PASS
2931.00†	2930.75	9.30	-0.49	12391.00	6626.71	-878.93	3548.28	111.39	5200.28	43.66	178.67	PASS
3000.00	2999.45	15.67	-0.83	12391.00	6626.71	-878.93	3548.28	112.59	5153.01	43.08	179.42	PASS
3031.00†	3030.28	18.91	-1.00	12391.00	6626.71	-878.93	3548.28	112.59	5132.04	42.83	179.75	PASS
3050.00	3049.18	20.89	-1.11	12391.00	6626.71	-878.93	3548.28	112.59	5119.24	42.67	179.95	PASS
3131.00†	3129.84	28.21	-1.50	12391.00	6626.71	-878.93	3548.28	111.22	5064.77	42.00	180.87	PASS
3231.00†	3229.66	34.09	-1.81	12391.00	6626.71	-878.93	3548.28	109.53	4997.67	41.15	182.16	PASS
3331.00†	3329.63	36.50	-1.94	12391.00	6626.71	-878.93	3548.28	107.82	4930.80	40.28	183.62	PASS
3350.00	3348.63	36.56	-1.94	12391.00	6626.71	-878.93	3548.28	104.46	4918.13	40.11	183.92	PASS
3431.00†	3429.63	36.56	-1.94	12391.00	6626.71	-878.93	3548.28	104.46	4864.52	39.40	185.20	PASS
3531.00†	3529.63	36.56	-1.94	12391.00	6626.71	-878.93	3548.28	104.46	4799.39	38.54	186.81	PASS
3631.00†	3629.63	36.56	-1.94	12391.00	6626.71	-878.93	3548.28	104.46	4735.47	37.69	188.45	PASS
3731.00†	3729.63	36.56	-1.94	12391.00	6626.71	-878.93	3548.28	104.46	4672.82	36.87	190.11	PASS
3831.00†	3829.63	36.56	-1.94	12391.00	6626.71	-878.93	3548.28	104.46	4611.49	36.07	191.79	PASS
3931.00†	3929.63	36.56	-1.94	12391.00	6626.71	-878.93	3548.28	104.46	4551.53	35.28	193.50	PASS
4031.00†	4029.63	36.56	-1.94	12391.00	6626.71	-878.93	3548.28	104.46	4493.00	34.52	195.22	PASS



Clearance Report

CROW VALLEY 7-62-30-2H (REV-A.0) PWP
Closest Approach
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REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#02 CROW VALLEY 7-62-30-2H (437'FSL & 2137'FWL, SEC. 30)
Area	COLORADO	Well	CROW VALLEY 7-62-30-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-30-2H PWB
Facility	SEC.30-T7N-R62W		

CLEARANCE DATA - Offset Wellbore: CROW VALLEY 7-62-32-1A AWB Offset Wellpath: CROW VALLEY 7-62-32-1A AWP

Facility: SEC.32-T7N-R62W Slot: SLOT#01 CROW VALLEY 7-62-32-1A (465'FSL & 465'FEL, SEC.32) Well: CROW VALLEY 7-62-32-1A Threshold Value=1.50
 † = interpolated/extrapolated station

Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Angle from Highside [°]	C-C Clear Dist [ft]	Sep Ratio	ACR MASD [ft]	ACR Status
4131.00†	4129.63	36.56	-1.94	12391.00	6626.71	-878.93	3548.28	104.46	4435.94	33.78	196.95	PASS
4231.00†	4229.63	36.56	-1.94	12391.00	6626.71	-878.93	3548.28	104.46	4380.43	33.07	198.70	PASS
4331.00†	4329.63	36.56	-1.94	12391.00	6626.71	-878.93	3548.28	104.46	4326.52	32.38	200.45	PASS
4431.00†	4429.63	36.56	-1.94	12391.00	6626.71	-878.93	3548.28	104.46	4274.27	31.71	202.20	PASS
4531.00†	4529.63	36.56	-1.94	12391.00	6626.71	-878.93	3548.28	104.46	4223.74	31.06	203.95	PASS
4631.00†	4629.63	36.56	-1.94	12391.00	6626.71	-878.93	3548.28	104.46	4174.99	30.44	205.70	PASS
4731.00†	4729.63	36.56	-1.94	12391.00	6626.71	-878.93	3548.28	104.46	4128.09	29.85	207.43	PASS
4831.00†	4829.63	36.56	-1.94	12391.00	6626.71	-878.93	3548.28	104.46	4083.10	29.28	209.15	PASS
4931.00†	4929.63	36.56	-1.94	12391.00	6626.71	-878.93	3548.28	104.46	4040.08	28.74	210.84	PASS
5031.00†	5029.63	36.56	-1.94	12391.00	6626.71	-878.93	3548.28	104.46	3999.11	28.23	212.51	PASS
5131.00†	5129.63	36.56	-1.94	12391.00	6626.71	-878.93	3548.28	104.46	3960.23	27.74	214.14	PASS
5231.00†	5229.63	36.56	-1.94	12391.00	6626.71	-878.93	3548.28	104.46	3923.52	27.28	215.73	PASS
5331.00†	5329.63	36.56	-1.94	12391.00	6626.71	-878.93	3548.28	104.46	3889.04	26.85	217.27	PASS
5431.00†	5429.63	36.56	-1.94	12391.00	6626.71	-878.93	3548.28	104.46	3856.84	26.45	218.75	PASS
5531.00†	5529.63	36.56	-1.94	12391.00	6626.71	-878.93	3548.28	104.46	3826.98	26.07	220.17	PASS
5631.00†	5629.63	36.56	-1.94	12391.00	6626.71	-878.93	3548.28	104.46	3799.52	25.73	221.53	PASS
5731.00†	5729.63	36.56	-1.94	12391.00	6626.71	-878.93	3548.28	104.46	3774.51	25.41	222.80	PASS
5831.00†	5829.63	36.56	-1.94	12391.00	6626.71	-878.93	3548.28	104.46	3752.00	25.12	224.00	PASS
5931.00†	5929.63	36.56	-1.94	12391.00	6626.71	-878.93	3548.28	104.46	3732.04	24.87	225.11	PASS
6031.00†	6029.63	36.56	-1.94	12391.00	6626.71	-878.93	3548.28	104.46	3714.66	24.64	226.13	PASS
6104.41	6103.04	36.56	-1.94	12391.00	6626.71	-878.93	3548.28	104.46	3703.57	24.49	226.81	PASS
6131.00†	6129.62	37.18	-1.97	12391.00	6626.71	-878.93	3548.28	107.83	3700.09	24.45	227.00	PASS
6201.25†	6199.42	44.72	-2.37	12391.00	6626.71	-878.93	3548.28	108.45	3693.62	24.40	227.07	PASS
6231.00†	6228.60	50.47	-2.68	12391.00	6626.71	-878.93	3548.28	108.60	3692.10	24.41	226.89	PASS
6281.00†	6276.85	63.52	-3.37	12391.00	6626.71	-878.93	3548.28	108.68	3691.18	24.46	226.39	PASS
6331.00†	6323.77	80.72	-4.29	12391.00	6626.71	-878.93	3548.28	108.57	3692.35	24.55	225.56	PASS
6431.00†	6412.23	127.02	-6.74	12391.00	6626.71	-878.93	3548.28	107.76	3700.83	24.89	223.01	PASS
6531.00†	6491.30	187.95	-9.98	12391.00	6626.71	-878.93	3548.28	106.17	3717.22	25.41	219.43	PASS
6631.00†	6558.57	261.67	-13.89	12391.00	6626.71	-878.93	3548.28	103.81	3740.94	26.09	215.06	PASS
6731.00†	6611.99	345.93	-18.37	12391.00	6626.71	-878.93	3548.28	100.72	3771.13	26.91	210.18	PASS
6831.00†	6649.96	438.18	-23.26	12391.00	6626.71	-878.93	3548.28	96.95	3806.73	27.85	205.06	PASS
6931.00†	6671.30	535.61	-28.44	12391.00	6626.71	-878.93	3548.28	92.63	3846.53	28.86	199.95	PASS
7004.41	6676.00	608.71	-32.32	12391.00	6626.71	-878.93	3548.28	89.19	3877.65	29.63	196.32	PASS
7031.00†	6676.00	635.26	-33.73	12391.00	6626.71	-878.93	3548.28	89.19	3889.21	29.98	194.61	PASS
7131.00†	6676.00	735.12	-39.03	12391.00	6626.71	-878.93	3548.28	89.19	3934.00	31.05	190.03	PASS
7231.00†	6676.00	834.98	-44.33	12391.00	6626.71	-878.93	3548.28	89.19	3980.80	32.14	185.77	PASS
7331.00†	6676.00	934.84	-49.63	12391.00	6626.71	-878.93	3548.28	89.19	4029.53	33.25	181.80	PASS
7431.00†	6676.00	1034.70	-54.93	12391.00	6626.71	-878.93	3548.28	89.19	4080.14	34.36	178.12	PASS
7531.00†	6676.00	1134.56	-60.23	12391.00	6626.71	-878.93	3548.28	89.19	4132.54	35.48	174.71	PASS
7631.00†	6676.00	1234.42	-65.54	12391.00	6626.71	-878.93	3548.28	89.19	4186.68	36.61	171.56	PASS
7731.00†	6676.00	1334.28	-70.84	12391.00	6626.71	-878.93	3548.28	89.19	4242.49	37.73	168.67	PASS
7831.00†	6676.00	1434.14	-76.14	12391.00	6626.71	-878.93	3548.28	89.19	4299.90	38.84	166.05	PASS
7931.00†	6676.00	1534.00	-81.44	12391.00	6626.71	-878.93	3548.28	89.19	4358.84	39.94	163.70	PASS
8031.00†	6676.00	1633.86	-86.74	12391.00	6626.71	-878.93	3548.28	89.19	4419.26	41.01	161.64	PASS
8131.00†	6676.00	1733.72	-92.04	12391.00	6626.71	-878.93	3548.28	89.19	4481.10	42.05	159.86	PASS



Clearance Report

CROW VALLEY 7-62-30-2H (REV-A.0) PWP

Closest Approach

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REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#02 CROW VALLEY 7-62-30-2H (437'FSL & 2137'FWL, SEC. 30)
Area	COLORADO	Well	CROW VALLEY 7-62-30-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-30-2H PWB
Facility	SEC.30-T7N-R62W		

CLEARANCE DATA - Offset Wellbore: CROW VALLEY 7-62-32-1A AWB Offset Wellpath: CROW VALLEY 7-62-32-1A AWP

Facility: SEC.32-T7N-R62W Slot: SLOT#01 CROW VALLEY 7-62-32-1A (465'FSL & 465'FEL, SEC.32) Well: CROW VALLEY 7-62-32-1A Threshold Value=1.50

† = interpolated/extrapolated station

Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Angle from Highside [°]	C-C Clear Dist [ft]	Sep Ratio	ACR MASD [ft]	ACR Status
8231.00†	6676.00	1833.58	-97.34	12391.00	6626.71	-878.93	3548.28	89.19	4544.30	43.03	158.40	PASS
8331.00†	6676.00	1933.44	-102.65	12391.00	6626.71	-878.93	3548.28	89.19	4608.80	43.96	157.26	PASS
8431.00†	6676.00	2033.30	-107.95	12391.00	6626.71	-878.93	3548.28	89.19	4674.55	44.81	156.47	PASS
8531.00†	6676.00	2133.16	-113.25	12391.00	6626.71	-878.93	3548.28	89.19	4741.50	45.58	156.03	PASS
8631.00†	6676.00	2233.01	-118.55	12391.00	6626.71	-878.93	3548.28	89.19	4809.60	46.26	155.97	PASS
8731.00†	6676.00	2332.87	-123.85	12391.00	6626.71	-878.93	3548.28	89.19	4878.79	46.82	156.29	PASS
8831.00†	6676.00	2432.73	-129.15	12391.00	6626.71	-878.93	3548.28	89.19	4949.04	47.28	157.00	PASS
8931.00†	6676.00	2532.59	-134.46	12391.00	6626.71	-878.93	3548.28	89.19	5020.30	47.64	158.08	PASS
9031.00†	6676.00	2632.45	-139.76	12391.00	6626.71	-878.93	3548.28	89.19	5092.53	47.88	159.53	PASS
9131.00†	6676.00	2732.31	-145.06	12391.00	6626.71	-878.93	3548.28	89.19	5165.68	48.03	161.33	PASS
9231.00†	6676.00	2832.17	-150.36	12391.00	6626.71	-878.93	3548.28	89.19	5239.71	48.09	163.43	PASS
9331.00†	6676.00	2932.03	-155.66	12391.00	6626.71	-878.93	3548.28	89.19	5314.60	48.08	165.82	PASS
9431.00†	6676.00	3031.89	-160.96	12391.00	6626.71	-878.93	3548.28	89.19	5390.30	48.00	168.44	PASS
9531.00†	6676.00	3131.75	-166.26	12391.00	6626.71	-878.93	3548.28	89.19	5466.79	47.88	171.27	PASS
9631.00†	6676.00	3231.61	-171.57	12391.00	6626.71	-878.93	3548.28	89.19	5544.02	47.72	174.26	PASS
9731.00†	6676.00	3331.47	-176.87	12391.00	6626.71	-878.93	3548.28	89.19	5621.97	47.54	177.38	PASS
9831.00†	6676.00	3431.33	-182.17	12391.00	6626.71	-878.93	3548.28	89.19	5700.61	47.35	180.60	PASS
9931.00†	6676.00	3531.19	-187.47	12391.00	6626.71	-878.93	3548.28	89.19	5779.91	47.15	183.89	PASS
10031.00†	6676.00	3631.05	-192.77	12391.00	6626.71	-878.93	3548.28	89.19	5859.84	46.95	187.23	PASS
10131.00†	6676.00	3730.91	-198.07	12391.00	6626.71	-878.93	3548.28	89.19	5940.38	46.75	190.60	PASS
10231.00†	6676.00	3830.76	-203.38	12391.00	6626.71	-878.93	3548.28	89.19	6021.51	46.57	193.97	PASS
10331.00†	6676.00	3930.62	-208.68	12391.00	6626.71	-878.93	3548.28	89.19	6103.19	46.39	197.34	PASS
10431.00†	6676.00	4030.48	-213.98	12391.00	6626.71	-878.93	3548.28	89.19	6185.41	46.23	200.69	PASS
10531.00†	6676.00	4130.34	-219.28	12391.00	6626.71	-878.93	3548.28	89.19	6268.15	46.09	204.02	PASS
10631.00†	6676.00	4230.20	-224.58	12391.00	6626.71	-878.93	3548.28	89.19	6351.39	45.96	207.31	PASS
10731.00†	6676.00	4330.06	-229.88	12391.00	6626.71	-878.93	3548.28	89.19	6435.10	45.84	210.56	PASS
10831.00†	6676.00	4429.92	-235.18	12391.00	6626.71	-878.93	3548.28	89.19	6519.27	45.75	213.77	PASS
10895.76	6676.00	4494.59	-238.62	12391.00	6626.71	-878.93	3548.28	89.19	6574.01	45.69	215.82	PASS

POSITIONAL UNCERTAINTY - Offset Wellbore: CROW VALLEY 7-62-32-1A AWB Offset Wellpath: CROW VALLEY 7-62-32-1A AWP

Slot Surface Uncertainty @ 1SD	Horizontal	8.200ft	Vertical	3.000ft
Facility Surface Uncertainty @ 1SD	Horizontal	0.100ft	Vertical	1.000ft

HOLE & CASING SECTIONS - Offset Wellbore: CROW VALLEY 7-62-32-1A AWB Offset Wellpath: CROW VALLEY 7-62-32-1A 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]
7in Casing Intermediate	31.00	7033.00	7002.00	31.00	6532.25	-3123.78	4870.48	-2969.19	4682.82
6in Open Hole	7033.00	12391.00	5358.00	6532.25	6626.71	-2969.19	4682.82	-1829.79	3516.75



Clearance Report

CROW VALLEY 7-62-30-2H (REV-A.0) PWP
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REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#02 CROW VALLEY 7-62-30-2H (437'FSL & 2137'FWL, SEC. 30)
Area	COLORADO	Well	CROW VALLEY 7-62-30-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-30-2H PWB
Facility	SEC.30-T7N-R62W		

WELLPATH COMPOSITION - Offset Wellbore: CROW VALLEY 7-62-32-1A AWB Offset Wellpath: CROW VALLEY 7-62-32-1A AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
766.00	12323.00	NaviTrak (Standard)	BHI MWD SURVEYS<937-12323>	CROW VALLEY 7-62-32-1A AWB
12323.00	12391.00	Blind Drilling (std)	Projection to bit	CROW VALLEY 7-62-32-1A AWB

OFFSET WELLPATH MD REFERENCE - Offset Wellbore: CROW VALLEY 7-62-32-1A AWB Offset Wellpath: CROW VALLEY 7-62-32-1A AWP

MD Reference: Rig on SLOT#01 CROW VALLEY 7-62-32-1A (465'FSL & 465'FEL, SEC.32) (RKB)	<i>Offset TVD & local coordinates use Reference Wellpath settings (See WELLPATH DATUM on page 1 of this report)</i>
Ellipse Start MD	



Clearance Report

CROW VALLEY 7-62-30-2H (REV-A.0) PWP

Closest Approach

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REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#02 CROW VALLEY 7-62-30-2H (437'FSL & 2137'FWL, SEC. 30)
Area	COLORADO	Well	CROW VALLEY 7-62-30-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-30-2H PWB
Facility	SEC.30-T7N-R62W		

CLEARANCE DATA - Offset Wellbore: CROW VALLEY 7-62-32-1M AWB Offset Wellpath: CROW VALLEY 7-62-32-1M AWP

Facility: SEC.32-T7N-R62W Slot: SLOT#02 CROW VALLEY 7-62-32-1M (1390'FSL & 2374'FEL, SEC.32) Well: CROW VALLEY 7-62-32-1M Threshold Value=1.50

† = interpolated/extrapolated station

Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Angle from Highside [°]	C-C Clear Dist [ft]	Sep Ratio	ACR MASD [ft]	ACR Status
31.00	31.00	0.00	0.00	758.00	649.00	-4248.16	6076.76	124.96	7440.15	149.86	74.47	PASS
131.00†	131.00	0.00	0.00	758.00	649.00	-4248.16	6076.76	124.96	7432.51	149.58	74.54	PASS
231.00†	231.00	0.00	0.00	758.00	649.00	-4248.16	6076.76	124.96	7426.21	149.32	74.60	PASS
331.00†	331.00	0.00	0.00	758.00	649.00	-4248.16	6076.76	124.96	7421.25	149.10	74.66	PASS
431.00†	431.00	0.00	0.00	758.00	649.00	-4248.16	6076.76	124.96	7417.64	148.91	74.72	PASS
531.00†	531.00	0.00	0.00	758.00	649.00	-4248.16	6076.76	124.96	7415.37	148.76	74.77	PASS
631.00†	631.00	0.00	0.00	758.00	649.00	-4248.16	6076.76	124.96	7414.46	148.64	74.82	PASS
731.00†	731.00	0.00	0.00	825.01	716.01	-4248.03	6076.93	124.96	7414.52	148.53	74.88	PASS
831.00†	831.00	0.00	0.00	913.74	804.74	-4247.47	6077.66	124.95	7414.83	148.41	74.94	PASS
931.00†	931.00	0.00	0.00	1020.73	911.72	-4246.56	6078.70	124.94	7415.14	148.24	75.03	PASS
1031.00†	1031.00	0.00	0.00	1124.52	1015.49	-4245.58	6079.67	124.93	7415.36	148.05	75.13	PASS
1131.00†	1131.00	0.00	0.00	1225.47	1116.44	-4244.78	6080.48	124.92	7415.56	147.83	75.25	PASS
1231.00†	1231.00	0.00	0.00	1337.62	1228.58	-4243.98	6081.23	124.91	7415.71	147.56	75.38	PASS
1331.00†	1331.00	0.00	0.00	1455.62	1346.58	-4242.74	6081.96	124.90	7415.61	147.26	75.54	PASS
1431.00†	1431.00	0.00	0.00	1547.77	1438.72	-4241.62	6082.56	124.89	7415.46	146.94	75.70	PASS
1531.00†	1531.00	0.00	0.00	1639.93	1530.86	-4240.56	6083.25	124.88	7415.40	146.60	75.87	PASS
1631.00†	1631.00	0.00	0.00	1752.50	1643.43	-4239.17	6084.11	124.87	7415.33	146.21	76.08	PASS
1731.00†	1731.00	0.00	0.00	1863.24	1754.15	-4237.55	6084.90	124.85	7415.07	145.79	76.29	PASS
1831.00†	1831.00	0.00	0.00	1966.87	1857.77	-4236.01	6085.54	124.84	7414.74	145.35	76.52	PASS
1931.00†	1931.00	0.00	0.00	2063.89	1954.78	-4234.64	6086.06	124.83	7414.37	144.90	76.75	PASS
2031.00†	2031.00	0.00	0.00	2152.77	2043.65	-4233.58	6086.54	124.82	7414.13	144.44	77.00	PASS
2131.00†	2131.00	0.00	0.00	2243.41	2134.29	-4232.71	6087.03	124.81	7414.03	143.97	77.25	PASS
2231.00†	2231.00	0.00	0.00	2338.15	2229.02	-4232.07	6087.47	124.81	7414.02	143.46	77.52	PASS
2331.00†	2331.00	0.00	0.00	2432.92	2323.79	-4231.70	6087.80	124.80	7414.08	142.93	77.81	PASS
2431.00†	2431.00	0.00	0.00	2527.78	2418.65	-4231.44	6088.13	124.80	7414.21	142.39	78.10	PASS
2531.00†	2531.00	0.00	0.00	2625.43	2516.30	-4231.22	6088.52	124.80	7414.41	141.83	78.42	PASS
2631.00†	2631.00	0.00	0.00	2730.21	2621.08	-4230.96	6088.91	124.79	7414.57	141.22	78.76	PASS
2700.00	2700.00	0.00	0.00	2803.02	2693.89	-4230.74	6089.16	124.79	7414.65	140.79	79.00	PASS
2731.00†	2731.00	0.17	-0.01	2836.50	2727.37	-4230.63	6089.27	127.83	7414.77	140.59	79.11	PASS
2831.00†	2830.95	2.99	-0.16	2944.48	2835.34	-4230.15	6089.59	127.82	7416.50	139.95	79.49	PASS
2931.00†	2930.75	9.30	-0.49	3039.53	2930.39	-4229.69	6089.85	127.79	7420.33	139.34	79.88	PASS
3000.00	2999.45	15.67	-0.83	3101.48	2992.34	-4229.49	6090.02	127.76	7424.28	138.95	80.14	PASS
3031.00†	3030.28	18.91	-1.00	3129.28	3020.14	-4229.44	6090.10	127.78	7426.31	138.79	80.26	PASS
3050.00	3049.18	20.89	-1.11	3146.31	3037.17	-4229.41	6090.15	127.79	7427.56	138.70	80.33	PASS
3131.00†	3129.84	28.21	-1.50	3223.24	3114.10	-4229.36	6090.37	127.90	7432.22	138.25	80.64	PASS
3231.00†	3229.66	34.09	-1.81	3320.37	3211.23	-4229.34	6090.65	127.99	7436.08	137.62	81.05	PASS
3331.00†	3329.63	36.50	-1.94	3424.25	3315.11	-4229.39	6090.92	128.04	7437.81	136.93	81.48	PASS
3350.00	3348.63	36.56	-1.94	3444.72	3335.58	-4229.40	6090.96	125.00	7437.88	136.80	81.55	PASS
3431.00†	3429.63	36.56	-1.94	3532.00	3422.85	-4229.50	6091.03	125.00	7437.99	136.27	81.87	PASS
3531.00†	3529.63	36.56	-1.94	3662.89	3553.75	-4229.57	6090.82	125.00	7437.89	135.56	82.30	PASS
3631.00†	3629.63	36.56	-1.94	3786.99	3677.85	-4229.39	6090.16	125.00	7437.37	134.86	82.73	PASS
3731.00†	3729.63	36.56	-1.94	3898.19	3789.04	-4229.18	6089.33	125.00	7436.64	134.15	83.15	PASS
3831.00†	3829.63	36.56	-1.94	4013.99	3904.84	-4228.87	6088.28	125.01	7435.75	133.41	83.60	PASS
3931.00†	3929.63	36.56	-1.94	4130.39	4021.24	-4228.24	6087.11	125.01	7434.62	132.66	84.06	PASS
4031.00†	4029.63	36.56	-1.94	4238.54	4129.37	-4227.46	6085.96	125.01	7433.33	131.89	84.54	PASS



Clearance Report

CROW VALLEY 7-62-30-2H (REV-A.0) PWP
Closest Approach
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REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#02 CROW VALLEY 7-62-30-2H (437'FSL & 2137'FWL, SEC. 30)
Area	COLORADO	Well	CROW VALLEY 7-62-30-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-30-2H PWB
Facility	SEC.30-T7N-R62W		

CLEARANCE DATA - Offset Wellbore: CROW VALLEY 7-62-32-1M AWB Offset Wellpath: CROW VALLEY 7-62-32-1M AWP

Facility: SEC.32-T7N-R62W Slot: SLOT#02 CROW VALLEY 7-62-32-1M (1390'FSL & 2374'FEL, SEC.32) Well: CROW VALLEY 7-62-32-1M Threshold Value=1.50

† = interpolated/extrapolated station

Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Angle from Highside [°]	C-C Clear Dist [ft]	Sep Ratio	ACR MASD [ft]	ACR Status
4131.00†	4129.63	36.56	-1.94	4346.69	4237.51	-4226.53	6084.77	125.01	7431.93	131.12	85.02	PASS
4231.00†	4229.63	36.56	-1.94	4444.05	4334.86	-4225.57	6083.69	125.01	7430.46	130.36	85.50	PASS
4331.00†	4329.63	36.56	-1.94	4529.25	4420.05	-4224.59	6083.01	125.00	7429.15	129.62	85.97	PASS
4431.00†	4429.63	36.56	-1.94	4629.33	4520.13	-4223.28	6082.53	125.00	7428.01	128.83	86.49	PASS
4531.00†	4529.63	36.56	-1.94	4779.71	4670.48	-4220.60	6081.55	124.98	7426.45	127.83	87.14	PASS
4631.00†	4629.63	36.56	-1.94	4867.03	4757.78	-4218.85	6080.83	124.98	7424.62	127.05	87.66	PASS
4731.00†	4729.63	36.56	-1.94	4952.07	4842.79	-4217.38	6080.17	124.97	7423.00	126.27	88.18	PASS
4831.00†	4829.63	36.56	-1.94	5061.99	4952.70	-4215.57	6079.36	124.96	7421.45	125.41	88.77	PASS
4931.00†	4929.63	36.56	-1.94	5176.39	5067.08	-4213.29	6078.47	124.95	7419.67	124.53	89.37	PASS
5031.00†	5029.63	36.56	-1.94	5260.70	5151.37	-4211.57	6077.87	124.94	7417.92	123.75	89.92	PASS
5131.00†	5129.63	36.56	-1.94	5345.03	5235.68	-4209.99	6077.39	124.94	7416.38	122.97	90.47	PASS
5231.00†	5229.63	36.56	-1.94	5437.26	5327.90	-4208.56	6076.85	124.93	7415.01	122.18	91.04	PASS
5331.00†	5329.63	36.56	-1.94	5530.56	5421.19	-4207.61	6076.06	124.93	7413.73	121.38	91.61	PASS
5431.00†	5429.63	36.56	-1.94	5620.40	5511.03	-4207.11	6075.12	124.93	7412.56	120.62	92.18	PASS
5531.00†	5529.63	36.56	-1.94	5709.56	5600.18	-4206.86	6074.19	124.93	7411.54	119.88	92.74	PASS
5631.00†	5629.63	36.56	-1.94	5784.53	5675.15	-4206.82	6073.46	124.93	7410.73	119.20	93.26	PASS
5731.00†	5729.63	36.56	-1.94	5853.53	5744.14	-4206.88	6073.08	124.94	7410.32	118.55	93.76	PASS
5781.00†	5779.63	36.56	-1.94	5889.56	5780.18	-4206.94	6072.99	124.94	7410.28	118.23	94.02	PASS
5831.00†	5829.63	36.56	-1.94	5922.52	5813.12	-4207.03	6072.99	124.94	7410.34	117.92	94.27	PASS
5931.00†	5929.63	36.56	-1.94	5990.37	5880.99	-4207.36	6073.12	124.94	7410.77	117.30	94.77	PASS
6031.00†	6029.63	36.56	-1.94	6058.18	5948.78	-4207.98	6073.40	124.94	7411.65	116.70	95.27	PASS
6104.41	6103.04	36.56	-1.94	6107.95	5998.55	-4208.63	6073.71	124.94	7412.57	116.26	95.64	PASS
6131.00†	6129.62	37.18	-1.97	6127.89	6018.49	-4208.94	6073.85	127.93	7413.33	116.10	95.78	PASS
6231.00†	6228.60	50.47	-2.68	6206.58	6097.17	-4210.28	6074.48	127.21	7423.15	115.39	96.50	PASS
6331.00†	6323.77	80.72	-4.29	6281.87	6172.44	-4211.78	6075.17	125.67	7443.68	114.35	97.65	PASS
6431.00†	6412.23	127.02	-6.74	6352.05	6242.59	-4213.36	6075.91	123.23	7474.38	113.55	98.74	PASS
6531.00†	6491.30	187.95	-9.98	6414.53	6305.06	-4214.87	6076.65	119.78	7514.42	112.94	99.80	PASS
6631.00†	6558.57	261.67	-13.89	6467.08	6357.59	-4216.22	6077.34	115.18	7562.73	112.47	100.87	PASS
6731.00†	6611.99	345.93	-18.37	6511.35	6401.83	-4217.41	6077.96	109.37	7617.96	112.05	101.98	PASS
6831.00†	6649.96	438.18	-23.26	6546.73	6437.20	-4218.36	6078.46	102.34	7678.52	111.63	103.18	PASS
6931.00†	6671.30	535.61	-28.44	6559.00	6449.46	-4218.69	6078.64	94.19	7742.67	111.21	104.43	PASS
7004.41	6676.00	608.71	-32.32	6559.00	6449.46	-4218.69	6078.64	87.78	7790.95	110.87	105.41	PASS
7031.00†	6676.00	635.26	-33.73	6559.00	6449.46	-4218.69	6078.64	87.78	7808.53	111.65	104.90	PASS
7131.00†	6676.00	735.12	-39.03	6559.00	6449.46	-4218.69	6078.64	87.78	7875.12	111.02	106.40	PASS
7231.00†	6676.00	834.98	-44.33	6559.00	6449.46	-4218.69	6078.64	87.78	7942.40	110.27	108.04	PASS
7331.00†	6676.00	934.84	-49.63	6558.97	6448.91	-4218.68	6078.63	87.78	8010.36	109.43	109.80	PASS
7431.00†	6676.00	1034.70	-54.93	6556.19	6446.65	-4218.62	6078.60	87.75	8078.99	108.54	111.65	PASS
7531.00†	6676.00	1134.56	-60.23	6553.42	6443.87	-4218.54	6078.56	87.73	8148.27	107.61	113.58	PASS
7631.00†	6676.00	1234.42	-65.54	6550.65	6441.11	-4218.47	6078.52	87.70	8218.18	106.66	115.57	PASS
7731.00†	6676.00	1334.28	-70.84	6547.87	6438.34	-4218.39	6078.48	87.67	8288.71	105.70	117.62	PASS
7831.00†	6676.00	1434.14	-76.14	6545.10	6435.57	-4218.32	6078.44	87.65	8359.84	104.75	119.72	PASS
7931.00†	6676.00	1534.00	-81.44	6542.33	6432.80	-4218.24	6078.40	87.62	8431.55	103.80	121.84	PASS
8031.00†	6676.00	1633.86	-86.74	6539.55	6430.02	-4218.17	6078.36	87.59	8503.83	102.88	123.99	PASS
8131.00†	6676.00	1733.72	-92.04	6536.78	6427.25	-4218.09	6078.32	87.56	8576.67	101.98	126.16	PASS
8231.00†	6676.00	1833.58	-97.34	6534.01	6424.48	-4218.02	6078.28	87.54	8650.05	101.10	128.33	PASS



Clearance Report

CROW VALLEY 7-62-30-2H (REV-A.0) PWP
Closest Approach
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REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#02 CROW VALLEY 7-62-30-2H (437'FSL & 2137'FWL, SEC. 30)
Area	COLORADO	Well	CROW VALLEY 7-62-30-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-30-2H PWB
Facility	SEC.30-T7N-R62W		

CLEARANCE DATA - Offset Wellbore: CROW VALLEY 7-62-32-1M AWB Offset Wellpath: CROW VALLEY 7-62-32-1M AWP

Facility: SEC.32-T7N-R62W Slot: SLOT#02 CROW VALLEY 7-62-32-1M (1390'FSL & 2374'FEL, SEC.32) Well: CROW VALLEY 7-62-32-1M Threshold Value=1.50

† = interpolated/extrapolated station

Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Angle from Highside [°]	C-C Clear Dist [ft]	Sep Ratio	ACR MASD [ft]	ACR Status
8331.00†	6676.00	1933.44	-102.65	6531.23	6421.71	-4217.94	6078.24	87.51	8723.96	100.26	130.51	PASS
8431.00†	6676.00	2033.30	-107.95	6528.46	6418.94	-4217.87	6078.20	87.48	8798.39	99.46	132.69	PASS
8531.00†	6676.00	2133.16	-113.25	6525.68	6416.15	-4217.79	6078.16	87.46	8873.31	98.69	134.87	PASS
8631.00†	6676.00	2233.01	-118.55	6522.91	6413.38	-4217.72	6078.12	87.43	8948.73	97.95	137.04	PASS
8731.00†	6676.00	2332.87	-123.85	6520.14	6410.61	-4217.64	6078.08	87.40	9024.62	97.25	139.19	PASS
8831.00†	6676.00	2432.73	-129.15	6517.36	6407.84	-4217.57	6078.04	87.37	9100.97	96.59	141.33	PASS
8931.00†	6676.00	2532.59	-134.46	6514.59	6405.07	-4217.49	6078.00	87.35	9177.78	95.96	143.46	PASS
9031.00†	6676.00	2632.45	-139.76	6511.82	6402.30	-4217.42	6077.96	87.32	9255.04	95.37	145.57	PASS
9131.00†	6676.00	2732.31	-145.06	6509.04	6399.52	-4217.34	6077.92	87.29	9332.72	94.81	147.66	PASS
9231.00†	6676.00	2832.17	-150.36	6506.27	6396.75	-4217.27	6077.88	87.27	9410.83	94.28	149.73	PASS
9331.00†	6676.00	2932.03	-155.66	6503.50	6393.98	-4217.19	6077.85	87.24	9489.34	93.79	151.77	PASS
9431.00†	6676.00	3031.89	-160.96	6500.72	6391.22	-4217.12	6077.81	87.21	9568.25	93.32	153.79	PASS
9531.00†	6676.00	3131.75	-166.26	6497.95	6388.45	-4217.05	6077.77	87.18	9647.56	92.89	155.79	PASS
9631.00†	6676.00	3231.61	-171.57	6495.18	6385.68	-4216.97	6077.73	87.16	9727.24	92.48	157.77	PASS
9731.00†	6676.00	3331.47	-176.87	6493.04	6383.53	-4216.91	6077.70	87.14	9807.30	92.10	159.72	PASS
9831.00†	6676.00	3431.33	-182.17	6490.95	6381.45	-4216.86	6077.67	87.12	9887.72	91.75	161.65	PASS
9931.00†	6676.00	3531.19	-187.47	6488.88	6379.37	-4216.80	6077.64	87.10	9968.49	91.42	163.56	PASS
10031.00†	6676.00	3631.05	-192.77	6486.81	6377.30	-4216.74	6077.61	87.08	10049.61	91.12	165.44	PASS
10131.00†	6676.00	3730.91	-198.07	6484.75	6375.24	-4216.69	6077.58	87.06	10131.07	90.84	167.29	PASS
10231.00†	6676.00	3830.76	-203.38	6482.69	6373.19	-4216.63	6077.55	87.04	10212.85	90.58	169.12	PASS
10331.00†	6676.00	3930.62	-208.68	6480.65	6371.15	-4216.58	6077.52	87.02	10294.96	90.35	170.92	PASS
10431.00†	6676.00	4030.48	-213.98	6478.61	6369.11	-4216.53	6077.49	87.00	10377.38	90.13	172.70	PASS
10531.00†	6676.00	4130.34	-219.28	6476.58	6367.08	-4216.47	6077.47	86.98	10460.10	89.94	174.45	PASS
10631.00†	6676.00	4230.20	-224.58	6474.56	6365.06	-4216.42	6077.44	86.96	10543.13	89.76	176.18	PASS
10731.00†	6676.00	4330.06	-229.88	6472.55	6363.05	-4216.37	6077.41	86.94	10626.44	89.61	177.88	PASS
10831.00†	6676.00	4429.92	-235.18	6470.55	6361.05	-4216.31	6077.38	86.92	10710.04	89.47	179.56	PASS
10895.76	6676.00	4494.59	-238.62	6469.25	6359.75	-4216.28	6077.37	86.90	10764.33	89.39	180.64	PASS

POSITIONAL UNCERTAINTY - Offset Wellbore: CROW VALLEY 7-62-32-1M AWB Offset Wellpath: CROW VALLEY 7-62-32-1M AWP

Slot Surface Uncertainty @1SD	Horizontal	8.200ft	Vertical	3.000ft
Facility Surface Uncertainty @1SD	Horizontal	0.100ft	Vertical	1.000ft

WELLPATH COMPOSITION - Offset Wellbore: CROW VALLEY 7-62-32-1M AWB Offset Wellpath: CROW VALLEY 7-62-32-1M AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
758.00	6495.00	NaviTrak (Standard)	SURVEYS FROM MARATHON <884-6495>	CROW VALLEY 7-62-32-1M AWB
6495.00	6559.00	Blind Drilling (std)	Projection to bit	CROW VALLEY 7-62-32-1M AWB

OFFSET WELLPATH MD REFERENCE - Offset Wellbore: CROW VALLEY 7-62-32-1M AWB Offset Wellpath: CROW VALLEY 7-62-32-1M AWP

MD Reference: Rig on SLOT#02 CROW VALLEY 7-62-32-1M (1390'FSL & 2374'FEL, SEC.32) (RKB)	Offset TVD & local coordinates use Reference Wellpath settings (See WELLPATH DATUM on page 1 of this report)
Ellipse Start MD	