



Clearance Report

CROW VALLEY 7-62-34-2H (REV-D.0) PWP
Closest Approach
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REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#02 CROW VALLEY 7-62-34-2H (455'FNL & 1862'FWL, SEC.34)
Area	COLORADO	Well	CROW VALLEY 7-62-34-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-34-2H PWB
Facility	SEC.34-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 5:39:33 PM
Convergence at slot	0.77° East	Database/Source file	WA_Denver/CROW_VALLEY_7-62-34-2H_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	14.01	26.53	3330470.39	1440583.54	40°32'12.193"N	104°18'39.609"W
Facility Reference Pt			3330443.86	1440569.53	40°32'12.058"N	104°18'39.955"W
Field Reference Pt			3476081.76	1512960.14	40°43'43.704"N	103°46'55.829"W

WELLPATH DATUM

Calculation method	Minimum Curvature	Rig on SLOT#02 CROW VALLEY 7-62-34-2H (455'FNL & 1862'FWL, SEC.34) (RKB) to Facility Vertical Datum
Horizontal Reference Pt	Slot	Rig on SLOT#02 CROW VALLEY 7-62-34-2H (455'FNL & 1862'FWL, SEC.34) (RKB) to Mean Sea Level
Vertical Reference Pt	Rig on SLOT#02 CROW VALLEY 7-62-34-2H (455'FNL & 1862'FWL, SEC.34) (RKB)	Rig on SLOT#02 CROW VALLEY 7-62-34-2H (455'FNL & 1862'FWL, SEC.34) (RKB) to Mud Line at Slot (SLOT#
MD Reference Pt	Rig on SLOT#02 CROW VALLEY 7-62-34-2H (455'FNL & 1862'FWL, SEC.34) (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	8.51° East of TN	Dip Angle	67.23°	Mag Field Strength	53202 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

SOLE & CASING SECTIONS - Ref Wellbore: CROW VALLEY 7-62-34-2H PWB Ref Wellpath: CROW VALLEY 7-62-34-2H (REV-D.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	6980.00	6949.00	31.00	6646.99	0.00	0.00	-598.54	11.95



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Area	COLORADO	Well	CROW VALLEY 7-62-34-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-34-2H PWB
Facility	SEC.34-T7N-R62W		

SURVEY PROGRAM - Ref Wellbore: CROW VALLEY 7-62-34-2H PWB Ref Wellpath: CROW VALLEY 7-62-34-2H (REV-D.0) PWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
31.00	10618.71	NaviTrak (Standard)		CROW VALLEY 7-62-34-2H PWB

CALCULATION RANGE & CUTOFF

From: 31.00ft MD	To: 10618.71ft MD	C-C Cutoff: (none)
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OFFSET WELL CLEARANCE SUMMARY (2 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.34-T7N-R62W	SLOT#01 CROW VALLEY 7-62-27-2H (468'FNL & 1836'FWL, SEC.34)	CROW VALLEY 7-62-27-2H	CROW VALLEY 7-62-27-2H pwb	CROW VALLEY 7-62-27-2H (REV-D.0) PWP	2379.38	26.20	5931.00	2397.24	1.50	6031.00	PASS
SEC.34-T7N-R62W	SLOT#03 EXISTING BICKFORD #1 (1984'FNL & 1946'FWL, SEC.34)	BICKFORD #1	BICKFORD #1 AWB	BICKFORD #1 AWP	7945.96	1446.72	7945.96	8174.01	6.17	8174.01	PASS



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REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#02 CROW VALLEY 7-62-34-2H (455'FNL & 1862'FWL, SEC.34)
Area	COLORADO	Well	CROW VALLEY 7-62-34-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-34-2H PWB
Facility	SEC.34-T7N-R62W		

CLEARANCE DATA - Offset Wellbore: CROW VALLEY 7-62-27-2H pwb Offset Wellpath: CROW VALLEY 7-62-27-2H (REV-D.0) PWP

Facility: SEC.34-T7N-R62W Slot: SLOT#01 CROW VALLEY 7-62-27-2H (468'FNL & 1836'FWL, SEC.34) Well: CROW VALLEY 7-62-27-2H 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	-14.01	-26.53	-117.84	30.00	25.35	1.78	PASS
131.00†	131.00	0.00	0.00	131.00	131.00	-14.01	-26.53	-117.84	30.00	19.75	2.28	PASS
231.00†	231.00	0.00	0.00	231.00	231.00	-14.01	-26.53	-117.84	30.00	14.02	3.21	PASS
331.00†	331.00	0.00	0.00	331.00	331.00	-14.01	-26.53	-117.84	30.00	10.64	4.23	PASS
431.00†	431.00	0.00	0.00	431.00	431.00	-14.01	-26.53	-117.84	30.00	8.52	5.28	PASS
531.00†	531.00	0.00	0.00	531.00	531.00	-14.01	-26.53	-117.84	30.00	7.10	6.34	PASS
631.00†	631.00	0.00	0.00	631.00	631.00	-14.01	-26.53	-117.84	30.00	6.08	7.40	PASS
731.00†	731.00	0.00	0.00	731.00	731.00	-14.01	-26.53	-117.84	30.00	5.31	8.47	PASS
831.00†	831.00	0.00	0.00	831.00	831.00	-14.01	-26.53	-117.84	30.00	4.71	9.55	PASS
931.00†	931.00	0.00	0.00	931.00	931.00	-14.01	-26.53	-117.84	30.00	4.24	10.62	PASS
1031.00†	1031.00	0.00	0.00	1031.00	1031.00	-14.01	-26.53	-117.84	30.00	3.85	11.69	PASS
1131.00†	1131.00	0.00	0.00	1131.00	1131.00	-14.01	-26.53	-117.84	30.00	3.53	12.77	PASS
1231.00†	1231.00	0.00	0.00	1231.00	1231.00	-14.01	-26.53	-117.84	30.00	3.25	13.84	PASS
1331.00†	1331.00	0.00	0.00	1331.00	1331.00	-14.01	-26.53	-117.84	30.00	3.02	14.92	PASS
1431.00†	1431.00	0.00	0.00	1431.00	1431.00	-14.01	-26.53	-117.84	30.00	2.81	15.99	PASS
1531.00†	1531.00	0.00	0.00	1531.00	1531.00	-14.01	-26.53	-117.84	30.00	2.64	17.07	PASS
1631.00†	1631.00	0.00	0.00	1631.00	1631.00	-14.01	-26.53	-117.84	30.00	2.48	18.15	PASS
1731.00†	1731.00	0.00	0.00	1731.00	1731.00	-14.01	-26.53	-117.84	30.00	2.34	19.22	PASS
1831.00†	1831.00	0.00	0.00	1831.00	1831.00	-14.01	-26.53	-117.84	30.00	2.22	20.30	PASS
1931.00†	1931.00	0.00	0.00	1931.00	1931.00	-14.01	-26.53	-117.84	30.00	2.11	21.38	PASS
2031.00†	2031.00	0.00	0.00	2031.00	2031.00	-14.01	-26.53	-117.84	30.00	2.00	22.45	PASS
2131.00†	2131.00	0.00	0.00	2131.16	2131.18	-13.84	-26.53	-117.55	29.92	1.91	23.53	PASS
2231.00†	2231.00	0.00	0.00	2231.58	2231.55	-10.99	-26.45	-112.56	28.65	1.75	24.62	PASS
2300.00	2300.00	0.00	0.00	2300.70	2300.54	-6.99	-26.35	-104.85	27.27	1.61	25.36	PASS
2331.00†	2331.00	-0.13	0.00	2331.67	2331.43	-4.65	-26.29	81.45	26.69	1.56	25.68	PASS
2379.38†	2379.38	-0.82	0.02	2379.82	2379.38	-0.36	-26.18	92.22	26.20	1.50	26.19	PASS
2397.24†	2397.23	-1.24	0.03	2397.56	2397.03	1.42	-26.14	97.00	26.30	1.50	26.38	PASS
2431.00†	2430.97	-2.25	0.05	2431.01	2430.29	4.92	-26.05	106.50	27.07	1.52	26.77	PASS
2531.00†	2530.86	-6.98	0.15	2530.44	2529.27	14.18	-25.81	130.21	33.53	1.79	28.09	PASS
2631.00†	2630.59	-14.33	0.30	2630.51	2629.16	20.10	-25.66	143.98	43.14	2.19	29.53	PASS
2700.00	2699.27	-20.92	0.44	2699.89	2698.53	22.15	-25.61	149.86	50.34	2.47	30.52	PASS
2731.00†	2730.10	-24.16	0.51	2731.17	2729.80	22.53	-25.60	151.84	53.49	2.59	30.94	PASS
2750.00	2749.00	-26.15	0.55	2750.37	2749.00	22.59	-25.60	152.86	55.31	2.66	31.18	PASS
2831.00†	2829.64	-33.76	0.71	2831.01	2829.64	22.59	-25.60	156.10	62.19	2.91	32.09	PASS
2931.00†	2929.38	-40.79	0.85	2930.75	2929.38	22.59	-25.60	158.51	68.68	3.10	33.24	PASS
3031.00†	3029.28	-45.21	0.95	3030.65	3029.28	22.59	-25.60	159.81	72.82	3.17	34.41	PASS
3131.00†	3129.26	-47.02	0.98	3130.63	3129.26	22.59	-25.60	160.30	74.51	3.14	35.56	PASS
3150.00	3148.26	-47.07	0.99	3149.63	3148.27	22.59	-25.60	-20.89	74.56	3.13	35.76	PASS
3231.00†	3229.26	-47.07	0.99	3230.63	3229.26	22.59	-25.60	-20.89	74.56	3.06	36.61	PASS
3331.00†	3329.26	-47.07	0.99	3330.63	3329.26	22.59	-25.60	-20.89	74.56	2.97	37.65	PASS
3431.00†	3429.26	-47.07	0.99	3430.63	3429.26	22.59	-25.60	-20.89	74.56	2.89	38.69	PASS
3531.00†	3529.26	-47.07	0.99	3530.63	3529.26	22.59	-25.60	-20.89	74.56	2.81	39.73	PASS
3631.00†	3629.26	-47.07	0.99	3630.63	3629.26	22.59	-25.60	-20.89	74.56	2.74	40.78	PASS
3731.00†	3729.26	-47.07	0.99	3730.63	3729.26	22.59	-25.60	-20.89	74.56	2.67	41.83	PASS
3831.00†	3829.26	-47.07	0.99	3830.63	3829.26	22.59	-25.60	-20.89	74.56	2.61	42.88	PASS



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Area	COLORADO	Well	CROW VALLEY 7-62-34-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-34-2H PWB
Facility	SEC.34-T7N-R62W		

CLEARANCE DATA - Offset Wellbore: CROW VALLEY 7-62-27-2H pwb Offset Wellpath: CROW VALLEY 7-62-27-2H (REV-D.0) PWP

Facility: SEC.34-T7N-R62W		Slot: SLOT#01 CROW VALLEY 7-62-27-2H (468°FNL & 1836°FWL, SEC.34)				Well: CROW VALLEY 7-62-27-2H		Threshold Value=1.50 † = interpolated/extrapolated station		Sep Ratio	ACR MASD [ft]	ACR Status
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]			
3931.00†	3929.26	-47.07	0.99	3930.63	3929.26	22.59	-25.60	-20.89	74.56	2.55	43.93	PASS
4031.00†	4029.26	-47.07	0.99	4030.63	4029.26	22.59	-25.60	-20.89	74.56	2.49	44.98	PASS
4131.00†	4129.26	-47.07	0.99	4130.63	4129.26	22.59	-25.60	-20.89	74.56	2.43	46.04	PASS
4231.00†	4229.26	-47.07	0.99	4230.63	4229.26	22.59	-25.60	-20.89	74.56	2.37	47.09	PASS
4331.00†	4329.26	-47.07	0.99	4330.63	4329.26	22.59	-25.60	-20.89	74.56	2.32	48.15	PASS
4431.00†	4429.26	-47.07	0.99	4430.63	4429.26	22.59	-25.60	-20.89	74.56	2.27	49.20	PASS
4531.00†	4529.26	-47.07	0.99	4530.63	4529.26	22.59	-25.60	-20.89	74.56	2.23	50.26	PASS
4631.00†	4629.26	-47.07	0.99	4630.63	4629.26	22.59	-25.60	-20.89	74.56	2.18	51.32	PASS
4731.00†	4729.26	-47.07	0.99	4730.63	4729.26	22.59	-25.60	-20.89	74.56	2.14	52.38	PASS
4831.00†	4829.26	-47.07	0.99	4830.63	4829.26	22.59	-25.60	-20.89	74.56	2.09	53.44	PASS
4931.00†	4929.26	-47.07	0.99	4930.63	4929.26	22.59	-25.60	-20.89	74.56	2.05	54.50	PASS
5031.00†	5029.26	-47.07	0.99	5030.63	5029.26	22.59	-25.60	-20.89	74.56	2.01	55.56	PASS
5131.00†	5129.26	-47.07	0.99	5130.63	5129.26	22.59	-25.60	-20.89	74.56	1.98	56.62	PASS
5231.00†	5229.26	-47.07	0.99	5230.63	5229.26	22.59	-25.60	-20.89	74.56	1.94	57.68	PASS
5331.00†	5329.26	-47.07	0.99	5330.63	5329.26	22.59	-25.60	-20.89	74.56	1.90	58.75	PASS
5431.00†	5429.26	-47.07	0.99	5430.63	5429.26	22.59	-25.60	-20.89	74.56	1.87	59.81	PASS
5531.00†	5529.26	-47.07	0.99	5530.63	5529.26	22.59	-25.60	-20.89	74.56	1.84	60.88	PASS
5631.00†	5629.26	-47.07	0.99	5630.63	5629.26	22.59	-25.60	-20.89	74.56	1.81	61.94	PASS
5731.00†	5729.26	-47.07	0.99	5730.63	5729.26	22.59	-25.60	-20.89	74.56	1.78	63.01	PASS
5831.00†	5829.26	-47.07	0.99	5830.63	5829.26	22.59	-25.60	-20.89	74.56	1.75	64.07	PASS
5931.00†	5929.26	-47.07	0.99	5930.63	5929.26	22.59	-25.60	-20.89	74.56	1.72	65.14	PASS
6031.00†	6029.26	-47.07	0.99	6029.47	6028.09	22.67	-25.60	-20.87	74.64	1.69	66.19	PASS
6131.00†	6129.26	-47.07	0.99	6117.94	6116.11	30.86	-25.39	-18.70	83.32	1.86	67.20	PASS
6133.76	6132.02	-47.07	0.99	6120.34	6118.46	31.27	-25.38	-18.60	83.76	1.87	67.21	PASS
6231.00†	6228.69	-56.20	1.17	6199.28	6195.08	50.06	-24.90	166.34	114.45	2.48	69.09	PASS
6331.00†	6324.50	-84.29	1.73	6263.39	6254.97	72.82	-24.32	169.21	173.77	3.64	71.67	PASS
6431.00†	6413.11	-130.29	2.64	6306.95	6294.08	91.98	-23.84	169.76	253.52	5.22	72.92	PASS
6531.00†	6491.20	-192.50	3.88	6331.71	6315.64	104.16	-23.53	166.74	345.80	7.07	73.38	PASS
6631.00†	6555.85	-268.57	5.39	6341.27	6323.81	109.10	-23.40	139.97	444.18	9.06	73.54	PASS
6731.00†	6604.65	-355.66	7.12	6339.16	6322.01	107.99	-23.43	16.46	543.86	11.06	73.76	PASS
6831.00†	6635.76	-450.51	9.01	6328.26	6312.66	102.40	-23.57	6.33	641.22	12.96	74.20	PASS
6931.00†	6648.02	-549.58	10.98	6310.78	6297.44	93.80	-23.79	3.77	733.52	14.69	74.91	PASS
6979.78	6647.00	-598.32	11.95	6300.37	6288.26	88.90	-23.92	8.42	776.05	15.47	75.26	PASS
7031.00†	6643.60	-649.42	12.98	6289.28	6278.39	83.86	-24.04	8.01	820.02	16.39	75.05	PASS
7131.00†	6637.49	-749.21	15.05	6269.71	6260.72	75.41	-24.26	7.23	907.47	18.05	75.40	PASS
7231.00†	6632.09	-849.04	17.20	6252.56	6245.02	68.51	-24.43	6.45	996.72	19.75	75.72	PASS
7331.00†	6627.38	-948.90	19.43	6237.48	6231.06	62.83	-24.58	5.68	1087.47	21.47	75.99	PASS
7431.00†	6623.38	-1048.79	21.75	6224.17	6218.63	58.11	-24.70	4.93	1179.50	23.21	76.22	PASS
7531.00†	6620.08	-1148.71	24.15	6212.40	6207.53	54.18	-24.80	4.20	1272.61	24.98	76.41	PASS
7631.00†	6617.49	-1248.65	26.63	6201.96	6197.62	50.87	-24.88	3.51	1366.64	26.77	76.57	PASS
7731.00†	6615.59	-1348.60	29.20	6192.67	6188.76	48.09	-24.95	2.87	1461.45	28.57	76.73	PASS
7831.00†	6614.40	-1448.55	31.85	6184.39	6180.83	45.72	-25.01	2.35	1556.94	30.38	76.86	PASS
7931.00†	6613.91	-1548.51	34.58	6176.99	6173.72	43.71	-25.06	2.01	1653.02	32.20	76.99	PASS
8006.10	6614.00	-1623.58	36.68	6171.96	6168.87	42.39	-25.10	1.90	1725.52	33.58	77.08	PASS
8031.00†	6614.10	-1648.47	37.39	6170.38	6167.32	41.97	-25.11	1.92	1749.61	34.03	77.11	PASS



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CROW VALLEY 7-62-34-2H (REV-D.0) PWP
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REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#02 CROW VALLEY 7-62-34-2H (455'FNL & 1862'FWL, SEC.34)
Area	COLORADO	Well	CROW VALLEY 7-62-34-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-34-2H PWB
Facility	SEC.34-T7N-R62W		

CLEARANCE DATA - Offset Wellbore: CROW VALLEY 7-62-27-2H pwb Offset Wellpath: CROW VALLEY 7-62-27-2H (REV-D.0) PWP

Facility: SEC.34-T7N-R62W Slot: SLO#01 CROW VALLEY 7-62-27-2H (468'FNL & 1836'FWL, SEC.34) Well: CROW VALLEY 7-62-27-2H 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 MASH [ft]	ACR Status
8131.00†	6614.52	-1748.43	40.19	6164.34	6161.49	40.46	-25.15	2.00	1846.53	35.87	77.23	PASS
8231.00†	6614.99	-1848.40	42.95	6158.77	6156.09	39.12	-25.18	2.09	1943.70	37.70	77.33	PASS
8331.00†	6615.51	-1948.36	45.66	6153.63	6151.09	37.93	-25.21	2.18	2041.09	39.54	77.44	PASS
8431.00†	6616.07	-2048.32	48.34	6148.87	6146.44	36.86	-25.24	2.28	2138.68	41.37	77.54	PASS
8531.00†	6616.68	-2148.28	50.97	6144.44	6142.12	35.90	-25.26	2.38	2236.45	43.21	77.64	PASS
8631.00†	6617.33	-2248.25	53.56	6140.33	6138.10	35.04	-25.28	2.49	2334.37	45.05	77.73	PASS
8731.00†	6618.04	-2348.21	56.11	6136.48	6134.32	34.26	-25.30	2.60	2432.45	46.88	77.83	PASS
8831.00†	6618.78	-2448.18	58.62	6132.89	6130.81	33.56	-25.32	2.71	2530.65	48.71	77.92	PASS
8931.00†	6619.58	-2548.14	61.08	6129.53	6127.52	32.92	-25.34	2.84	2628.97	50.53	78.04	PASS
9031.00†	6620.42	-2648.11	63.51	6126.37	6124.42	32.34	-25.35	2.96	2727.41	52.32	78.19	PASS
9131.00†	6621.31	-2748.08	65.89	6123.41	6121.49	31.81	-25.37	3.09	2825.93	54.11	78.33	PASS
9231.00†	6622.24	-2848.05	68.22	6120.62	6118.75	31.32	-25.38	3.23	2924.56	55.90	78.48	PASS
9331.00†	6623.22	-2948.02	70.52	6117.99	6116.15	30.87	-25.39	3.37	3023.26	57.68	78.62	PASS
9431.00†	6624.25	-3047.99	72.78	6115.50	6113.70	30.46	-25.40	3.52	3122.04	59.46	78.75	PASS
9531.00†	6625.32	-3147.96	74.99	6113.16	6111.38	30.08	-25.41	3.67	3220.89	61.24	78.89	PASS
9631.00†	6626.44	-3247.93	77.16	6110.94	6109.19	29.73	-25.42	3.83	3319.80	63.01	79.03	PASS
9731.00†	6627.61	-3347.90	79.28	6108.83	6107.10	29.40	-25.43	4.00	3418.78	64.78	79.16	PASS
9831.00†	6628.82	-3447.87	81.37	6106.83	6105.14	29.10	-25.43	4.17	3517.81	66.54	79.30	PASS
9931.00†	6630.08	-3547.84	83.41	6104.94	6103.26	28.82	-25.44	4.34	3616.89	68.30	79.43	PASS
10031.00†	6631.39	-3647.81	85.41	6103.13	6101.48	28.56	-25.45	4.52	3716.02	70.06	79.57	PASS
10131.00†	6632.74	-3747.78	87.37	6101.42	6099.79	28.32	-25.45	4.71	3815.20	71.80	79.70	PASS
10231.00†	6634.14	-3847.75	89.29	6099.79	6098.16	28.09	-25.46	4.90	3914.41	73.55	79.84	PASS
10331.00†	6635.58	-3947.73	91.16	6098.23	6096.62	27.88	-25.46	5.10	4013.67	75.28	79.97	PASS
10431.00†	6637.07	-4047.70	93.00	6096.74	6095.14	27.68	-25.47	5.31	4112.96	77.02	80.11	PASS
10531.00†	6638.61	-4147.67	94.79	6095.32	6093.75	27.50	-25.47	5.52	4212.29	78.74	80.24	PASS
10618.71	6640.00	-4235.36	96.32	6094.13	6092.56	27.35	-25.48	5.71	4299.44	80.25	80.36	PASS

POSITIONAL UNCERTAINTY - Offset Wellbore: CROW VALLEY 7-62-27-2H pwb Offset Wellpath: CROW VALLEY 7-62-27-2H (REV-D.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 7-62-27-2H pwb Offset Wellpath: CROW VALLEY 7-62-27-2H (REV-D.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	6936.00	6905.00	31.00	6601.00	-8.54	-16.17	180.48	-11.37

SURVEY PROGRAM - Offset Wellbore: CROW VALLEY 7-62-27-2H pwb Offset Wellpath: CROW VALLEY 7-62-27-2H (REV-D.0) PWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
31.00	11574.52	NaviTrak (Standard)		CROW VALLEY 7-62-27-2H pwb



Clearance Report
CROW VALLEY 7-62-34-2H (REV-D.0) PWP
Closest Approach
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**REFERENCE WELLPATH IDENTIFICATION**

Operator	MARATHON OIL COMPANY	Slot	SLOT#02 CROW VALLEY 7-62-34-2H (455'FNL & 1862'FWL, SEC.34)
Area	COLORADO	Well	CROW VALLEY 7-62-34-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-34-2H PWB
Facility	SEC.34-T7N-R62W		

OFFSET WELLPATH MD REFERENCE - Offset Wellbore: CROW VALLEY 7-62-27-2H pwb Offset Wellpath: CROW VALLEY 7-62-27-2H (REV-D.0) PWP

MD Reference: Rig on SLOT#01 CROW VALLEY 7-62-27-2H (468'FNL & 1836'FWL, SEC.34) (RKB)	Offset TVD & local coordinates use Reference Wellpath settings (See WELLPATH DATUM on page 1 of this report)
Ellipse Start MD	



Clearance Report

CROW VALLEY 7-62-34-2H (REV-D.0) PWP
Closest Approach
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REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#02 CROW VALLEY 7-62-34-2H (455'FNL & 1862'FWL, SEC.34)
Area	COLORADO	Well	CROW VALLEY 7-62-34-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-34-2H PWB
Facility	SEC.34-T7N-R62W		

CLEARANCE DATA - Offset Wellbore: BICKFORD #1 AWB Offset Wellpath: BICKFORD #1 AWP

Facility: SEC.34-T7N-R62W Slot: SLOT#03 EXISTING BICKFORD #1 (1984'FNL & 1946'FEL, SEC.34)				Well: BICKFORD #1		Threshold Value=1.50 † = interpolated/extrapolated station		Angle from Highside [°]	C-C Clear Dist [ft]	Sep Ratio	ACR MASD [ft]	ACR Status
Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]					
31.00	31.00	0.00	0.00	-30.00	31.00	-1523.23	1481.14	135.80	2124.62	2715.12	1.17	PASS
131.00†	131.00	0.00	0.00	70.00	131.03	-1523.23	1481.14	135.80	2124.62	240.69	13.24	PASS
231.00†	231.00	0.00	0.00	170.00	231.03	-1523.23	1481.14	135.80	2124.62	181.99	17.51	PASS
331.00†	331.00	0.00	0.00	270.00	331.03	-1523.23	1481.14	135.80	2124.62	146.01	21.83	PASS
431.00†	431.00	0.00	0.00	370.00	431.03	-1523.23	1481.14	135.80	2124.62	121.84	26.16	PASS
531.00†	531.00	0.00	0.00	470.00	531.03	-1523.23	1481.14	135.80	2124.62	104.52	30.49	PASS
631.00†	631.00	0.00	0.00	570.00	631.02	-1523.23	1481.14	135.80	2124.62	91.50	34.83	PASS
731.00†	731.00	0.00	0.00	670.00	731.02	-1523.23	1481.14	135.80	2124.62	81.36	39.17	PASS
831.00†	831.00	0.00	0.00	770.00	831.02	-1523.23	1481.14	135.80	2124.62	73.25	43.51	PASS
931.00†	931.00	0.00	0.00	870.00	931.02	-1523.23	1481.14	135.80	2124.62	66.60	47.85	PASS
1031.00†	1031.00	0.00	0.00	970.00	1031.02	-1523.23	1481.14	135.80	2124.62	61.06	52.19	PASS
1131.00†	1131.00	0.00	0.00	1070.00	1131.02	-1523.23	1481.14	135.80	2124.62	56.37	56.54	PASS
1231.00†	1231.00	0.00	0.00	1170.00	1231.02	-1523.23	1481.14	135.80	2124.62	52.35	60.88	PASS
1331.00†	1331.00	0.00	0.00	1270.00	1331.02	-1523.23	1481.14	135.80	2124.62	48.86	65.22	PASS
1431.00†	1431.00	0.00	0.00	1370.00	1431.02	-1523.23	1481.14	135.80	2124.62	45.81	69.56	PASS
1531.00†	1531.00	0.00	0.00	1470.00	1531.02	-1523.23	1481.14	135.80	2124.62	43.12	73.91	PASS
1631.00†	1631.00	0.00	0.00	1570.00	1631.02	-1523.23	1481.14	135.80	2124.62	40.73	78.25	PASS
1731.00†	1731.00	0.00	0.00	1670.00	1731.02	-1523.23	1481.14	135.80	2124.62	38.59	82.59	PASS
1831.00†	1831.00	0.00	0.00	1770.00	1831.02	-1523.23	1481.14	135.80	2124.62	36.66	86.94	PASS
1931.00†	1931.00	0.00	0.00	1870.00	1931.02	-1523.23	1481.14	135.80	2124.62	34.91	91.28	PASS
2031.00†	2031.00	0.00	0.00	1970.00	2031.02	-1523.23	1481.14	135.80	2124.62	33.33	95.63	PASS
2131.00†	2131.00	0.00	0.00	2070.00	2131.02	-1523.23	1481.14	135.80	2124.62	31.88	99.97	PASS
2231.00†	2231.00	0.00	0.00	2170.00	2231.02	-1523.23	1481.14	135.80	2124.62	30.55	104.31	PASS
2300.00	2300.00	0.00	0.00	2239.00	2300.02	-1523.23	1481.14	135.80	2124.62	29.70	107.31	PASS
2331.00†	2331.00	-0.13	0.00	2270.00	2331.02	-1523.23	1481.14	-43.00	2124.53	29.33	108.66	PASS
2431.00†	2430.97	-2.25	0.05	2369.97	2430.99	-1523.23	1481.14	-43.06	2122.98	28.17	113.03	PASS
2531.00†	2530.86	-6.98	0.15	2469.86	2530.88	-1523.23	1481.14	-43.18	2119.52	27.07	117.45	PASS
2631.00†	2630.59	-14.33	0.30	2569.59	2630.60	-1523.23	1481.14	-43.37	2114.16	26.02	121.87	PASS
2700.00	2699.27	-20.92	0.44	2638.27	2699.29	-1523.23	1481.14	-43.54	2109.36	25.33	124.91	PASS
2731.00†	2730.10	-24.16	0.51	2669.10	2730.12	-1523.23	1481.14	-43.60	2107.01	25.03	126.26	PASS
2750.00	2749.00	-26.15	0.55	2688.00	2749.01	-1523.23	1481.14	-43.64	2105.57	24.85	127.09	PASS
2831.00†	2829.64	-33.76	0.71	2768.64	2829.65	-1523.23	1481.14	-43.73	2100.05	24.12	130.62	PASS
2931.00†	2929.38	-40.79	0.85	2868.38	2929.40	-1523.23	1481.14	-43.81	2094.96	23.27	135.02	PASS
3031.00†	3029.28	-45.21	0.95	2968.28	3029.30	-1523.23	1481.14	-43.86	2091.77	22.50	139.43	PASS
3131.00†	3129.26	-47.02	0.98	3068.26	3129.28	-1523.23	1481.14	-43.88	2090.47	21.80	143.83	PASS
3150.00	3148.26	-47.07	0.99	3087.26	3148.28	-1523.23	1481.14	134.92	2090.43	21.68	144.66	PASS
3231.00†	3229.26	-47.07	0.99	3168.26	3229.28	-1523.23	1481.14	134.92	2090.43	21.16	148.17	PASS
3331.00†	3329.26	-47.07	0.99	3268.26	3329.28	-1523.23	1481.14	134.92	2090.43	20.56	152.50	PASS
3431.00†	3429.26	-47.07	0.99	3368.26	3429.28	-1523.23	1481.14	134.92	2090.43	19.99	156.83	PASS
3531.00†	3529.26	-47.07	0.99	3468.26	3529.28	-1523.23	1481.14	134.92	2090.43	19.46	161.16	PASS
3631.00†	3629.26	-47.07	0.99	3568.26	3629.28	-1523.23	1481.14	134.92	2090.43	18.95	165.50	PASS
3731.00†	3729.26	-47.07	0.99	3668.26	3729.25	-1523.23	1481.14	134.92	2090.43	18.46	169.83	PASS
3831.00†	3829.26	-47.07	0.99	3768.26	3829.25	-1523.23	1481.14	134.92	2090.43	18.00	174.17	PASS
3931.00†	3929.26	-47.07	0.99	3868.26	3929.25	-1523.23	1481.14	134.92	2090.43	17.57	178.50	PASS
4031.00†	4029.26	-47.07	0.99	3968.26	4029.25	-1523.23	1481.14	134.92	2090.43	17.15	182.84	PASS



Clearance Report

CROW VALLEY 7-62-34-2H (REV-D.0) PWP
Closest Approach
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REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#02 CROW VALLEY 7-62-34-2H (455'FNL & 1862'FWL, SEC.34)
Area	COLORADO	Well	CROW VALLEY 7-62-34-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-34-2H PWB
Facility	SEC.34-17N-R62W		

CLEARANCE DATA - Offset Wellbore: BICKFORD #1 AWB Offset Wellpath: BICKFORD #1 AWP

Facility: SEC.34-17N-R62W Slot: SLOT#03 EXISTING BICKFORD #1 (1984'FNL & 1946'FEL, SEC.34) Well: BICKFORD #1 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 MASH [ft]	ACR Status					
4131.00†	4129.26	-47.07	0.99	4068.26	4129.25	-1523.23	1481.14	134.92	2090.43	16.75	187.17	PASS					
4231.00†	4229.26	-47.07	0.99	4168.26	4229.25	-1523.23	1481.14	134.92	2090.43	16.37	191.51	PASS					
4331.00†	4329.26	-47.07	0.99	4268.26	4329.25	-1523.23	1481.14	134.92	2090.43	16.01	195.85	PASS					
4431.00†	4429.26	-47.07	0.99	4368.26	4429.25	-1523.23	1481.14	134.92	2090.43	15.66	200.18	PASS					
4531.00†	4529.26	-47.07	0.99	4468.26	4529.25	-1523.23	1481.14	134.92	2090.43	15.33	204.52	PASS					
4631.00†	4629.26	-47.07	0.99	4568.26	4629.25	-1523.23	1481.14	134.92	2090.43	15.01	208.86	PASS					
4731.00†	4729.26	-47.07	0.99	4668.26	4729.25	-1523.23	1481.14	134.92	2090.43	14.71	213.20	PASS					
4831.00†	4829.26	-47.07	0.99	4768.26	4829.25	-1523.23	1481.14	134.92	2090.43	14.41	217.53	PASS					
4931.00†	4929.26	-47.07	0.99	4868.26	4929.25	-1523.23	1481.14	134.92	2090.43	14.13	221.87	PASS					
5031.00†	5029.26	-47.07	0.99	4968.26	5029.25	-1523.23	1481.14	134.92	2090.43	13.86	226.21	PASS					
5131.00†	5129.26	-47.07	0.99	5068.26	5129.25	-1523.23	1481.14	134.92	2090.43	13.60	230.55	PASS					
5231.00†	5229.26	-47.07	0.99	5168.26	5229.25	-1523.23	1481.14	134.92	2090.43	13.35	234.89	PASS					
5331.00†	5329.26	-47.07	0.99	5268.26	5329.25	-1523.23	1481.14	134.92	2090.43	13.11	239.23	PASS					
5431.00†	5429.26	-47.07	0.99	5368.26	5429.24	-1523.23	1481.14	134.92	2090.43	12.87	243.57	PASS					
5531.00†	5529.26	-47.07	0.99	5468.26	5529.24	-1523.23	1481.14	134.92	2090.43	12.65	247.91	PASS					
5631.00†	5629.26	-47.07	0.99	5568.26	5629.24	-1523.23	1481.14	134.92	2090.43	12.43	252.25	PASS					
5731.00†	5729.26	-47.07	0.99	5668.26	5729.24	-1523.23	1481.14	134.92	2090.43	12.22	256.59	PASS					
5831.00†	5829.26	-47.07	0.99	5768.26	5829.24	-1523.23	1481.14	134.92	2090.43	12.02	260.93	PASS					
5931.00†	5929.26	-47.07	0.99	5868.26	5929.24	-1523.23	1481.14	134.92	2090.43	11.82	265.27	PASS					
6031.00†	6029.26	-47.07	0.99	5968.26	6029.24	-1523.23	1481.14	134.92	2090.43	11.63	269.61	PASS					
6131.00†	6129.26	-47.07	0.99	6068.26	6129.24	-1523.23	1481.14	134.92	2090.43	11.45	273.95	PASS					
6133.76	6132.02	-47.07	0.99	6071.02	6132.00	-1523.23	1481.14	134.92	2090.43	11.44	274.07	PASS					
6231.00†	6228.69	-56.20	1.17	6167.69	6228.67	-1523.23	1481.14	-44.62	2083.87	11.22	278.64	PASS					
6331.00†	6324.50	-84.29	1.73	6263.50	6324.48	-1523.23	1481.14	-46.80	2063.79	10.89	284.27	PASS					
6431.00†	6413.11	-130.29	2.64	6352.11	6413.08	-1523.23	1481.14	-50.57	2031.31	10.53	289.45	PASS					
6531.00†	6491.20	-192.50	3.88	6430.20	6491.17	-1523.23	1481.14	-56.05	1988.25	10.14	294.00	PASS					
6631.00†	6555.85	-268.57	5.39	6494.85	6555.83	-1523.23	1481.14	-63.20	1937.01	9.75	297.90	PASS					
6731.00†	6604.65	-355.66	7.12	6543.65	6604.62	-1523.23	1481.14	-71.65	1880.41	9.36	301.21	PASS					
6831.00†	6635.76	-450.51	9.01	6574.76	6635.73	-1523.23	1481.14	-80.59	1821.51	8.99	304.06	PASS					
6931.00†	6648.02	-549.58	10.98	6587.02	6648.00	-1523.23	1481.14	-88.96	1763.34	8.63	306.55	PASS					
6979.78	6647.00	-598.32	11.95	6586.00	6646.98	-1523.23	1481.14	-92.54	1736.08	8.46	307.66	PASS					
7031.00†	6643.60	-649.42	12.98	6582.60	6643.58	-1523.23	1481.14	-92.28	1708.52	8.32	308.00	PASS					
7131.00†	6637.49	-749.21	15.05	6576.49	6637.47	-1523.23	1481.14	-91.82	1657.87	8.00	310.80	PASS					
7231.00†	6632.09	-849.04	17.20	6571.09	6632.06	-1523.23	1481.14	-91.40	1611.73	7.70	314.12	PASS					
7331.00†	6627.38	-948.90	19.43	6566.38	6627.36	-1523.23	1481.14	-91.04	1570.49	7.41	317.91	PASS					
7431.00†	6623.38	-1048.79	21.75	6562.38	6623.36	-1523.23	1481.14	-90.73	1534.57	7.15	322.11	PASS					
7531.00†	6620.08	-1148.71	24.15	6559.08	6620.06	-1523.23	1481.14	-90.48	1504.36	6.91	326.62	PASS					
7631.00†	6617.49	-1248.65	26.63	6556.49	6617.46	-1523.23	1481.14	-90.28	1480.20	6.70	331.34	PASS					
7731.00†	6615.59	-1348.60	29.20	6554.59	6615.57	-1523.23	1481.14	-90.13	1462.41	6.53	336.16	PASS					
7831.00†	6614.40	-1448.55	31.85	6553.40	6614.37	-1523.23	1481.14	-90.04	1451.22	6.38	340.96	PASS					
7931.00†	6613.91	-1548.51	34.58	6552.91	6613.88	-1523.23	1481.14	-90.00	1446.79	6.28	345.65	PASS					
7945.96†	6613.89	-1563.47	34.99	6558.10	6619.10	-1523.23	1481.14	-90.21	1446.72	6.26	346.53	PASS					
8006.10	6614.00	-1623.58	36.68	6553.00	6613.98	-1523.23	1481.14	-90.01	1447.94	6.22	349.03	PASS					
8031.00†	6614.10	-1648.47	37.39	6553.10	6614.07	-1523.23	1481.14	-90.01	1449.18	6.21	350.11	PASS					
8131.00†	6614.52	-1748.43	40.19	6553.52	6614.50	-1523.23	1481.14	-90.03	1458.45	6.18	354.26	PASS					



Clearance Report

CROW VALLEY 7-62-34-2H (REV-D.0) PWP
Closest Approach
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REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#02 CROW VALLEY 7-62-34-2H (455'FNL & 1862'FWL, SEC.34)
Area	COLORADO	Well	CROW VALLEY 7-62-34-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-34-2H PWB
Facility	SEC.34-T7N-R62W		

CLEARANCE DATA - Offset Wellbore: BICKFORD #1 AWB Offset Wellpath: BICKFORD #1 AWP

Facility: SEC.34-T7N-R62W		Slot: SLOT#03 EXISTING BICKFORD #1 (1984'FNL & 1946'FEL, SEC.34)				Well: BICKFORD #1		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 MASH [ft]	ACR Status		
8174.01†	6614.72	-1791.43	41.38	6553.72	6614.72	-1523.23	1481.14	-90.04	1464.53	6.17	355.93	PASS		
8231.00†	6614.99	-1848.40	42.95	6553.99	6614.97	-1523.23	1481.14	-90.06	1474.50	6.18	358.01	PASS		
8331.00†	6615.51	-1948.36	45.66	6554.51	6615.48	-1523.23	1481.14	-90.08	1497.11	6.21	361.34	PASS		
8431.00†	6616.07	-2048.32	48.34	6555.07	6616.05	-1523.23	1481.14	-90.11	1525.99	6.28	364.23	PASS		
8531.00†	6616.68	-2148.28	50.97	6555.68	6616.65	-1523.23	1481.14	-90.15	1560.79	6.38	366.67	PASS		
8631.00†	6617.33	-2248.25	53.56	6556.33	6617.31	-1523.23	1481.14	-90.18	1601.13	6.51	368.70	PASS		
8731.00†	6618.04	-2348.21	56.11	6557.04	6618.01	-1523.23	1481.14	-90.23	1646.60	6.67	370.34	PASS		
8831.00†	6618.78	-2448.18	58.62	6557.78	6618.76	-1523.23	1481.14	-90.27	1696.79	6.85	371.63	PASS		
8931.00†	6619.58	-2548.14	61.08	6558.58	6619.56	-1523.23	1481.14	-90.32	1751.29	7.05	372.61	PASS		
9031.00†	6620.42	-2648.11	63.51	6559.42	6620.40	-1523.23	1481.14	-90.37	1809.71	7.27	373.32	PASS		
9131.00†	6621.31	-2748.08	65.89	6560.31	6621.28	-1523.23	1481.14	-90.43	1871.69	7.51	373.81	PASS		
9231.00†	6622.24	-2848.05	68.22	6561.24	6622.22	-1523.23	1481.14	-90.49	1936.87	7.77	374.11	PASS		
9331.00†	6623.22	-2948.02	70.52	6562.22	6623.20	-1523.23	1481.14	-90.55	2004.96	8.04	374.25	PASS		
9431.00†	6624.25	-3047.99	72.78	6563.25	6624.23	-1523.23	1481.14	-90.62	2075.66	8.32	374.26	PASS		
9531.00†	6625.32	-3147.96	74.99	6564.32	6625.30	-1523.23	1481.14	-90.69	2148.72	8.61	374.18	PASS		
9631.00†	6626.44	-3247.93	77.16	6565.44	6626.42	-1523.23	1481.14	-90.77	2223.91	8.92	374.01	PASS		
9731.00†	6627.61	-3347.90	79.28	6566.61	6627.59	-1523.23	1481.14	-90.85	2301.00	9.23	373.78	PASS		
9831.00†	6628.82	-3447.87	81.37	6567.82	6628.80	-1523.23	1481.14	-90.93	2379.83	9.56	373.51	PASS		
9931.00†	6630.08	-3547.84	83.41	6569.08	6630.06	-1523.23	1481.14	-91.02	2460.22	9.89	373.20	PASS		
10031.00†	6631.39	-3647.81	85.41	6570.39	6631.36	-1523.23	1481.14	-91.11	2542.03	10.23	372.86	PASS		
10131.00†	6632.74	-3747.78	87.37	6571.74	6632.72	-1523.23	1481.14	-91.20	2625.12	10.57	372.51	PASS		
10231.00†	6634.14	-3847.75	89.29	6573.14	6634.11	-1523.23	1481.14	-91.30	2709.37	10.92	372.14	PASS		
10331.00†	6635.58	-3947.73	91.16	6574.58	6635.56	-1523.23	1481.14	-91.41	2794.68	11.28	371.78	PASS		
10431.00†	6637.07	-4047.70	93.00	6576.07	6637.05	-1523.23	1481.14	-91.51	2880.95	11.64	371.41	PASS		
10531.00†	6638.61	-4147.67	94.79	6577.61	6638.59	-1523.23	1481.14	-91.62	2968.11	12.00	371.05	PASS		
10618.71	6640.00	-4235.36	96.32	6579.00	6639.98	-1523.23	1481.14	-91.72	3045.22	12.32	370.73	PASS		

POSITIONAL UNCERTAINTY - Offset Wellbore: BICKFORD #1 AWB Offset Wellpath: BICKFORD #1 AWP

Slot Surface Uncertainty @ 1SD	Horizontal	2.000ft	Vertical	1.000ft
Facility Surface Uncertainty @ 1SD	Horizontal	8.200ft	Vertical	3.000ft

WELLPATH COMPOSITION - Offset Wellbore: BICKFORD #1 AWB Offset Wellpath: BICKFORD #1 AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	7271.00	Drift Indicator (Standard)	ASSUMED VERTICAL FROM COGIS WEBSITE <7271>	BICKFORD #1 AWB

OFFSET WELLPATH MD REFERENCE - Offset Wellbore: BICKFORD #1 AWB Offset Wellpath: BICKFORD #1 AWP

MD Reference: Rig on SLOT#03 EXISTING BICKFORD #1 (1984'FNL & 1946'FEL, SEC.34) (RKB)	Offset TVD & local coordinates use Reference Wellpath settings (See WELLPATH DATUM on page 1 of this report)
Ellipse Start MD	