

MARATHON OIL COMPANY

Location: COLORADO Slot: SLOT#02 CROW VALLEY 7-62-24-2H (349'FNL & 2069'FWL, SEC.24)
Field: WELD COUNTY (NAD 83, GRID NORTH) Well: CROW VALLEY 7-62-24-2H
Facility: SEC.24-T7N-R62W Wellbore: CROW VALLEY 7-62-24-2H PWB

Well Profile Data

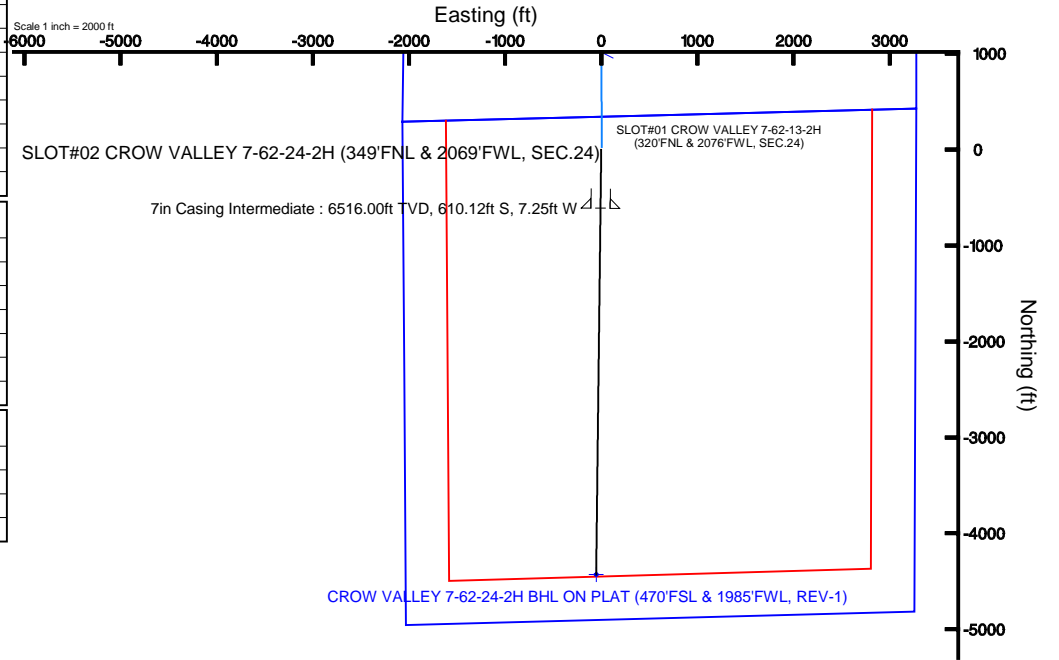
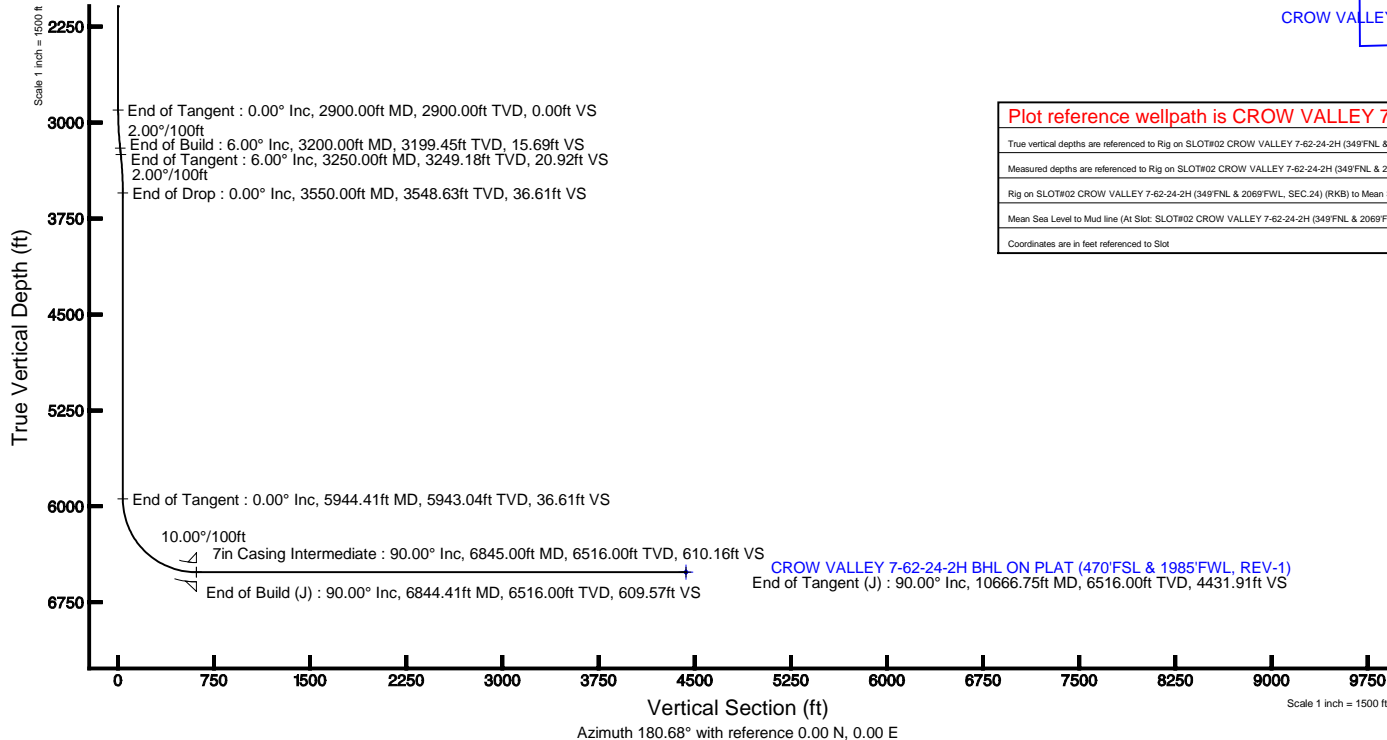
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	31.00	0.000	180.681	31.00	0.00	0.00	0.00	0.00
End of Tangent	2900.00	0.000	180.681	2900.00	0.00	0.00	0.00	0.00
End of Build	3200.00	6.000	180.681	3199.45	-15.69	-0.19	2.00	15.69
End of Tangent	3250.00	6.000	180.681	3249.18	-20.92	-0.25	0.00	20.92
End of Drop	3550.00	0.000	180.681	3548.63	-36.61	-0.44	2.00	36.61
End of Tangent	5944.41	0.000	180.681	5943.04	-36.61	-0.44	0.00	36.61
End of Build (J)	6844.41	90.000	180.681	6516.00	-609.53	-7.25	10.00	609.57
End of Tangent (J)	10666.75	90.000	180.681	6516.00	-4431.59	-52.68	0.00	4431.91

Location Information

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.24-T7N-R62W			3341246.220	1451449.410	40°33'58.100"N	104°16'18.104"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#02 CROW VALLEY 7-62-24-2H (349'FNL & 2069'FWL, SEC.24)	-29.29	-4.47	3341239.750	1451435.120	40°33'57.816"N	104°16'18.100"W
Rig on SLOT#02 CROW VALLEY 7-62-24-2H (349'FNL & 2069'FWL, SEC.24) (RKB) to Mud line (At Slot: SLOT#02 CROW VALLEY 7-62-24-2H (349'FNL & 2069'FWL, SEC.24))						4901ft
Mean Sea Level to Mud line (At Slot: SLOT#02 CROW VALLEY 7-62-24-2H (349'FNL & 2069'FWL, SEC.24))						0ft
Rig on SLOT#02 CROW VALLEY 7-62-24-2H (349'FNL & 2069'FWL, SEC.24) (RKB) to Mean Sea Level						4901ft

Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
CROW VALLEY SECTION 13		64.00	-10649.43	-5512.65	3335727.27	1440771.01	40°32'13.343"N	104°17'31.495"W
CROW VALLEY SECTION 24		64.00	-10649.43	-5512.65	3335727.27	1440771.01	40°32'13.343"N	104°17'31.495"W
CROW VALLEY 7-62-24-2H BHL ON PLAT (470'FSL & 1985'FWL, REV-1)	10666.75	6516.00	-4431.59	-52.68	3341167.07	1446996.66	40°33'14.037"N	104°16'15.671"W



Plot reference wellpath is CROW VALLEY 7-62-24-2H (REV-C.0) PWP

True vertical depths are referenced to Rig on SLOT#02 CROW VALLEY 7-62-24-2H (349'FNL & 2069'FWL, SEC.24) (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to Rig on SLOT#02 CROW VALLEY 7-62-24-2H (349'FNL & 2069'FWL, SEC.24) (RKB)	North Reference: Grid north
Rig on SLOT#02 CROW VALLEY 7-62-24-2H (349'FNL & 2069'FWL, SEC.24) (RKB) to Mean Sea Level: 4901 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#02 CROW VALLEY 7-62-24-2H (349'FNL & 2069'FWL, SEC.24)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: cookdam on 2/14/2012



BGGM (1945.0 to 2012.0) Dip: 67.26° Field: 53220.9 nT
Magnetic North is 9.49 degrees East of True North (at 12/27/2011)
Grid North is 0.79 degrees East of True North
To correct azimuth from True to Grid subtract 0.79 degrees
To correct azimuth from Magnetic to Grid add 7.69 degrees
For example: if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7.69 = 97.69



Planned Wellpath Report

CROW VALLEY 7-62-24-2H (REV-C.0) PWP
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**REFERENCE WELLPATH IDENTIFICATION**

Operator	MARATHON OIL COMPANY	Slot	SLOT#02 CROW VALLEY 7-62-24-2H (349'FNL & 2069'FWL, SEC.24)
Area	COLORADO	Well	CROW VALLEY 7-62-24-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-24-2H PWB
Facility	SEC.24-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	0.999972	Report Generated	2/14/2012 at 1:24:39 PM
Convergence at slot	0.79° East	Database/Source file	WA_Denver/CROW_VALLEY_7-62-24-2H_PWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-29.29	-6.47	3341239.75	1451420.12	40°33'57.816"N	104°16'18.193"W
Facility Reference Pt			3341246.22	1451449.41	40°33'58.105"N	104°16'18.104"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 7-62-24-2H (349'FNL & 2069'FWL, SEC.24) (RKB) to Facility Vertical Datum
Horizontal Reference Pt	Slot	Rig on SLOT#02 CROW VALLEY 7-62-24-2H (349'FNL & 2069'FWL, SEC.24) (RKB) to Mean Sea Level
Vertical Reference Pt	Rig on SLOT#02 CROW VALLEY 7-62-24-2H (349'FNL & 2069'FWL, SEC.24) (RKB)	Rig on SLOT#02 CROW VALLEY 7-62-24-2H (349'FNL & 2069'FWL, SEC.24) (RKB) to Mud Line at Slot (SLOT#
MD Reference Pt	Rig on SLOT#02 CROW VALLEY 7-62-24-2H (349'FNL & 2069'FWL, SEC.24) (RKB)	Section Origin
Field Vertical Reference	Mean Sea Level	Section Azimuth



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REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#02 CROW VALLEY 7-62-24-2H (349'FNL & 2069'FWL, SEC.24)
Area	COLORADO	Well	CROW VALLEY 7-62-24-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-24-2H PWB
Facility	SEC.24-T7N-R62W		

WELLPATH DATA (115 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
0.00†	0.000	180.681	0.00	0.00	0.00	0.00	0.00	
31.00	0.000	180.681	31.00	0.00	0.00	0.00	0.00	Tie On
131.00†	0.000	180.681	131.00	0.00	0.00	0.00	0.00	
231.00†	0.000	180.681	231.00	0.00	0.00	0.00	0.00	
331.00†	0.000	180.681	331.00	0.00	0.00	0.00	0.00	
431.00†	0.000	180.681	431.00	0.00	0.00	0.00	0.00	
531.00†	0.000	180.681	531.00	0.00	0.00	0.00	0.00	
631.00†	0.000	180.681	631.00	0.00	0.00	0.00	0.00	
731.00†	0.000	180.681	731.00	0.00	0.00	0.00	0.00	
831.00†	0.000	180.681	831.00	0.00	0.00	0.00	0.00	
931.00†	0.000	180.681	931.00	0.00	0.00	0.00	0.00	
1031.00†	0.000	180.681	1031.00	0.00	0.00	0.00	0.00	
1131.00†	0.000	180.681	1131.00	0.00	0.00	0.00	0.00	
1231.00†	0.000	180.681	1231.00	0.00	0.00	0.00	0.00	
1331.00†	0.000	180.681	1331.00	0.00	0.00	0.00	0.00	
1431.00†	0.000	180.681	1431.00	0.00	0.00	0.00	0.00	
1531.00†	0.000	180.681	1531.00	0.00	0.00	0.00	0.00	
1631.00†	0.000	180.681	1631.00	0.00	0.00	0.00	0.00	
1731.00†	0.000	180.681	1731.00	0.00	0.00	0.00	0.00	
1831.00†	0.000	180.681	1831.00	0.00	0.00	0.00	0.00	
1931.00†	0.000	180.681	1931.00	0.00	0.00	0.00	0.00	
2031.00†	0.000	180.681	2031.00	0.00	0.00	0.00	0.00	
2131.00†	0.000	180.681	2131.00	0.00	0.00	0.00	0.00	
2231.00†	0.000	180.681	2231.00	0.00	0.00	0.00	0.00	
2331.00†	0.000	180.681	2331.00	0.00	0.00	0.00	0.00	
2431.00†	0.000	180.681	2431.00	0.00	0.00	0.00	0.00	
2531.00†	0.000	180.681	2531.00	0.00	0.00	0.00	0.00	
2631.00†	0.000	180.681	2631.00	0.00	0.00	0.00	0.00	
2731.00†	0.000	180.681	2731.00	0.00	0.00	0.00	0.00	
2831.00†	0.000	180.681	2831.00	0.00	0.00	0.00	0.00	
2900.00	0.000	180.681	2900.00	0.00	0.00	0.00	0.00	End of Tangent
2931.00†	0.620	180.681	2931.00	0.17	-0.17	0.00	2.00	
3031.00†	2.620	180.681	3030.95	2.99	-2.99	-0.04	2.00	
3131.00†	4.620	180.681	3130.75	9.31	-9.31	-0.11	2.00	
3200.00	6.000	180.681	3199.45	15.69	-15.69	-0.19	2.00	End of Build
3231.00†	6.000	180.681	3230.28	18.93	-18.93	-0.23	0.00	
3250.00	6.000	180.681	3249.18	20.92	-20.92	-0.25	0.00	End of Tangent
3331.00†	4.380	180.681	3329.84	28.25	-28.24	-0.34	2.00	
3431.00†	2.380	180.681	3429.66	34.14	-34.14	-0.41	2.00	
3531.00†	0.380	180.681	3529.63	36.55	-36.55	-0.43	2.00	
3550.00	0.000	180.681	3548.63	36.61	-36.61	-0.44	2.00	End of Drop
3631.00†	0.000	180.681	3629.63	36.61	-36.61	-0.44	0.00	
3731.00†	0.000	180.681	3729.63	36.61	-36.61	-0.44	0.00	
3831.00†	0.000	180.681	3829.63	36.61	-36.61	-0.44	0.00	
3931.00†	0.000	180.681	3929.63	36.61	-36.61	-0.44	0.00	



Planned Wellpath Report

CROW VALLEY 7-62-24-2H (REV-C.0) PWP
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REFERENCE WELLPATH IDENTIFICATION			
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Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-24-2H PWB
Facility	SEC.24-T7N-R62W		

WELLPATH DATA (115 stations) † = interpolated/extrapolated station								
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
4031.00†	0.000	180.681	4029.63	36.61	-36.61	-0.44	0.00	
4131.00†	0.000	180.681	4129.63	36.61	-36.61	-0.44	0.00	
4231.00†	0.000	180.681	4229.63	36.61	-36.61	-0.44	0.00	
4331.00†	0.000	180.681	4329.63	36.61	-36.61	-0.44	0.00	
4431.00†	0.000	180.681	4429.63	36.61	-36.61	-0.44	0.00	
4531.00†	0.000	180.681	4529.63	36.61	-36.61	-0.44	0.00	
4631.00†	0.000	180.681	4629.63	36.61	-36.61	-0.44	0.00	
4731.00†	0.000	180.681	4729.63	36.61	-36.61	-0.44	0.00	
4831.00†	0.000	180.681	4829.63	36.61	-36.61	-0.44	0.00	
4931.00†	0.000	180.681	4929.63	36.61	-36.61	-0.44	0.00	
5031.00†	0.000	180.681	5029.63	36.61	-36.61	-0.44	0.00	
5131.00†	0.000	180.681	5129.63	36.61	-36.61	-0.44	0.00	
5231.00†	0.000	180.681	5229.63	36.61	-36.61	-0.44	0.00	
5331.00†	0.000	180.681	5329.63	36.61	-36.61	-0.44	0.00	
5431.00†	0.000	180.681	5429.63	36.61	-36.61	-0.44	0.00	
5531.00†	0.000	180.681	5529.63	36.61	-36.61	-0.44	0.00	
5631.00†	0.000	180.681	5629.63	36.61	-36.61	-0.44	0.00	
5731.00†	0.000	180.681	5729.63	36.61	-36.61	-0.44	0.00	
5831.00†	0.000	180.681	5829.63	36.61	-36.61	-0.44	0.00	
5931.00†	0.000	180.681	5929.63	36.61	-36.61	-0.44	0.00	
5944.41	0.000	180.681	5943.04	36.61	-36.61	-0.44	0.00	End of Tangent
6031.00†	8.659	180.681	6029.30	43.14	-43.14	-0.51	10.00	
6131.00†	18.659	180.681	6126.35	66.73	-66.72	-0.79	10.00	
6231.00†	28.659	180.681	6217.83	106.81	-106.80	-1.27	10.00	
6331.00†	38.659	180.681	6300.96	162.16	-162.15	-1.93	10.00	
6431.00†	48.659	180.681	6373.21	231.11	-231.09	-2.75	10.00	
6531.00†	58.659	180.681	6432.40	311.56	-311.53	-3.70	10.00	
6631.00†	68.659	180.681	6476.71	401.06	-401.03	-4.77	10.00	
6731.00†	78.659	180.681	6504.81	496.90	-496.86	-5.91	10.00	
6831.00†	88.659	180.681	6515.84	596.16	-596.12	-7.09	10.00	
6844.41	90.000	180.681	6516.00	609.57	-609.53	-7.25	10.00	End of Build (J)
6931.00†	90.000	180.681	6516.00	696.16	-696.11	-8.28	0.00	
7031.00†	90.000	180.681	6516.00	796.16	-796.10	-9.46	0.00	
7131.00†	90.000	180.681	6516.00	896.16	-896.10	-10.65	0.00	
7231.00†	90.000	180.681	6516.00	996.16	-996.09	-11.84	0.00	
7331.00†	90.000	180.681	6516.00	1096.16	-1096.08	-13.03	0.00	
7431.00†	90.000	180.681	6516.00	1196.16	-1196.07	-14.22	0.00	
7531.00†	90.000	180.681	6516.00	1296.16	-1296.07	-15.41	0.00	
7631.00†	90.000	180.681	6516.00	1396.16	-1396.06	-16.60	0.00	
7731.00†	90.000	180.681	6516.00	1496.16	-1496.05	-17.78	0.00	
7831.00†	90.000	180.681	6516.00	1596.16	-1596.05	-18.97	0.00	
7931.00†	90.000	180.681	6516.00	1696.16	-1696.04	-20.16	0.00	
8031.00†	90.000	180.681	6516.00	1796.16	-1796.03	-21.35	0.00	
8131.00†	90.000	180.681	6516.00	1896.16	-1896.03	-22.54	0.00	
8231.00†	90.000	180.681	6516.00	1996.16	-1996.02	-23.73	0.00	



Planned Wellpath Report

CROW VALLEY 7-62-24-2H (REV-C.0) PWP
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REFERENCE WELLPATH IDENTIFICATION

Operator	MARATHON OIL COMPANY	Slot	SLOT#02 CROW VALLEY 7-62-24-2H (349'FNL & 2069'FWL, SEC.24)
Area	COLORADO	Well	CROW VALLEY 7-62-24-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-24-2H PWB
Facility	SEC.24-T7N-R62W		

WELLPATH DATA (115 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
8331.00†	90.000	180.681	6516.00	2096.16	-2096.01	-24.92	0.00	
8431.00†	90.000	180.681	6516.00	2196.16	-2196.00	-26.11	0.00	
8531.00†	90.000	180.681	6516.00	2296.16	-2296.00	-27.29	0.00	
8631.00†	90.000	180.681	6516.00	2396.16	-2395.99	-28.48	0.00	
8731.00†	90.000	180.681	6516.00	2496.16	-2495.98	-29.67	0.00	
8831.00†	90.000	180.681	6516.00	2596.16	-2595.98	-30.86	0.00	
8931.00†	90.000	180.681	6516.00	2696.16	-2695.97	-32.05	0.00	
9031.00†	90.000	180.681	6516.00	2796.16	-2795.96	-33.24	0.00	
9131.00†	90.000	180.681	6516.00	2896.16	-2895.95	-34.43	0.00	
9231.00†	90.000	180.681	6516.00	2996.16	-2995.95	-35.61	0.00	
9331.00†	90.000	180.681	6516.00	3096.16	-3095.94	-36.80	0.00	
9431.00†	90.000	180.681	6516.00	3196.16	-3195.93	-37.99	0.00	
9531.00†	90.000	180.681	6516.00	3296.16	-3295.93	-39.18	0.00	
9631.00†	90.000	180.681	6516.00	3396.16	-3395.92	-40.37	0.00	
9731.00†	90.000	180.681	6516.00	3496.16	-3495.91	-41.56	0.00	
9831.00†	90.000	180.681	6516.00	3596.16	-3595.91	-42.75	0.00	
9931.00†	90.000	180.681	6516.00	3696.16	-3695.90	-43.94	0.00	
10031.00†	90.000	180.681	6516.00	3796.16	-3795.89	-45.12	0.00	
10131.00†	90.000	180.681	6516.00	3896.16	-3895.88	-46.31	0.00	
10231.00†	90.000	180.681	6516.00	3996.16	-3995.88	-47.50	0.00	
10331.00†	90.000	180.681	6516.00	4096.16	-4095.87	-48.69	0.00	
10431.00†	90.000	180.681	6516.00	4196.16	-4195.86	-49.88	0.00	
10531.00†	90.000	180.681	6516.00	4296.16	-4295.86	-51.07	0.00	
10631.00†	90.000	180.681	6516.00	4396.16	-4395.85	-52.26	0.00	
10666.75	90.000	180.681	6516.00 ¹	4431.91	-4431.59	-52.68	0.00	End of Tangent (J)

HOLE & CASING SECTIONS - Ref Wellbore: CROW VALLEY 7-62-24-2H PWB Ref Wellpath: CROW VALLEY 7-62-24-2H (REV-C.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	6845.00	6814.00	31.00	6516.00	0.00	0.00	-610.12	-7.25



Planned Wellpath Report

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Area	COLORADO	Well	CROW VALLEY 7-62-24-2H
Field	WELD COUNTY (NAD 83, GRID NORTH)	Wellbore	CROW VALLEY 7-62-24-2H PWB
Facility	SEC.24-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 SECTION 13		64.00	-10649.43	-5512.65	3335727.27	1440771.01	40°32'13.343"N	104°17'31.495"W	polygon
CROW VALLEY SECTION 24		64.00	-10649.43	-5512.65	3335727.27	1440771.01	40°32'13.343"N	104°17'31.495"W	polygon
1) CROW VALLEY 7-62-24-2H BHL ON PLAT (470'FSL & 1985'FWL, REV-1)	10666.75	6516.00	-4431.59	-52.68	3341187.07	1446988.66	40°33'14.037"N	104°16'19.671"W	point

SURVEY PROGRAM - Ref Wellbore: CROW VALLEY 7-62-24-2H PWB Ref Wellpath: CROW VALLEY 7-62-24-2H (REV-C.0) PWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
31.00	10666.75	NaviTrak (Standard)		CROW VALLEY 7-62-24-2H PWB