

KERR-MCGEE OIL & GAS ONSHORE LP (WA)

Location: COLORADO Slot: SLOT#42 VIPER PYRO 41N-14HZR (799°FNL & 265°FWL, SEC.15)
Field: WELD COUNTY (UTM/TRUE NORTH) Well: VIPER PYRO 41N-14HZR
Facility: SEC.15-T3N-R67W Wellbore: VIPER PYRO 41N-14HZR PWB

Plot reference wellpath is: VIPER PYRO 41N-14HZR (REV-A.0) PWP

True vertical depths are referenced to PRECISION 462 (20'KB) (RKB)

Measured depths are referenced to PRECISION 462 (20'KB) (RKB)

PRECISION 462 (20'KB) (RKB) to Mean Sea Level: 4814 feet

Mean Sea Level to Mud line (At Slot: SLOT#42 VIPER PYRO 41N-14HZR (799°FNL & 265°FWL, SEC.15)): 0

Coordinates are in feet referenced to Slot

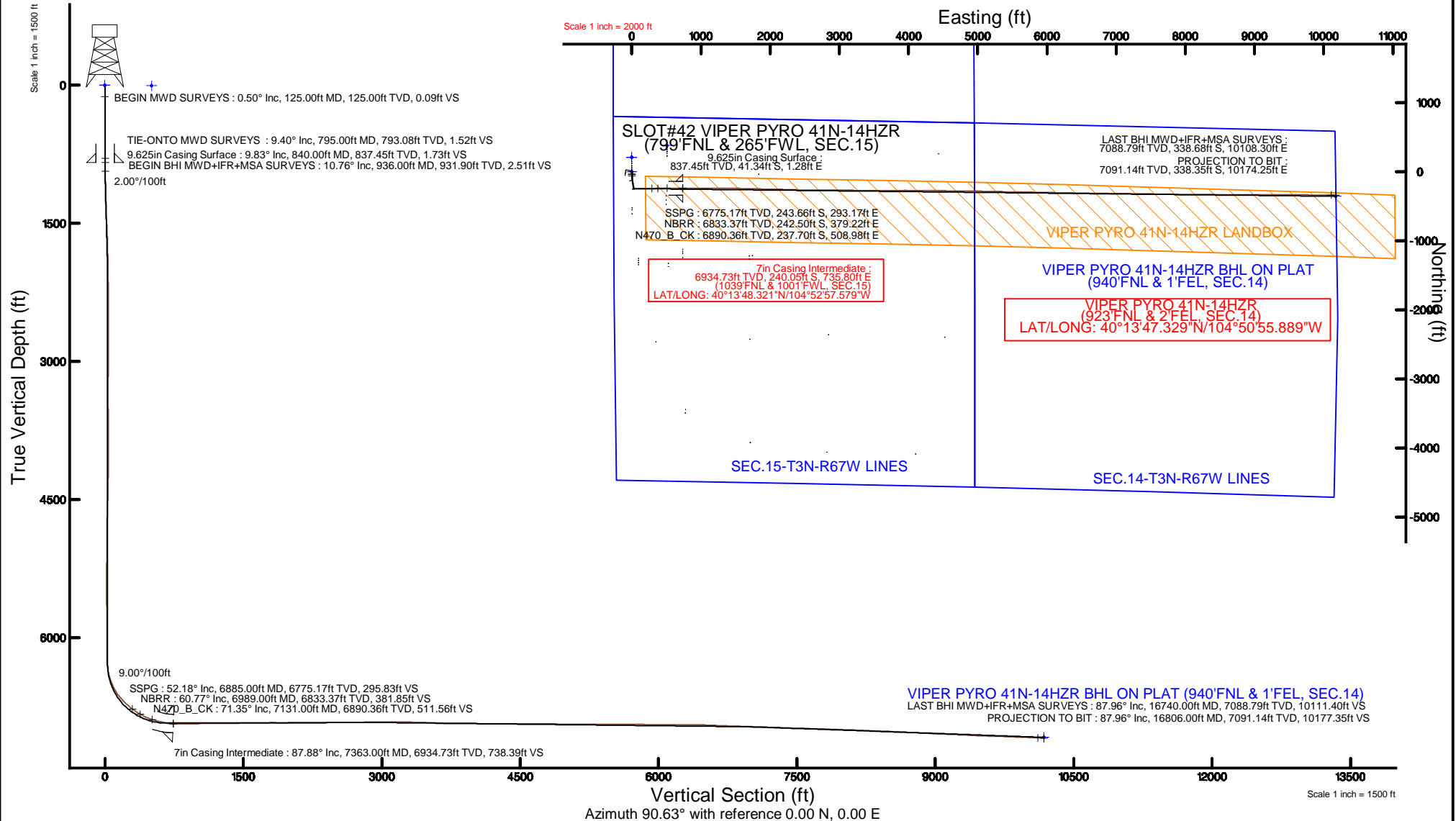
Grid System: NAD83 / UTM Zone 13 North, US feet

North Reference: True north

Scale: True distance

Depths are in feet

Created by: amarc on 03/Sep/2015





Actual Wellpath Report

VIPER PYRO 41N-14HZR AWP
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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#42 VIPER PYRO 41N-14HZR (799'FNL & 265'FWL, SEC.15)
Area	COLORADO	Well	VIPER PYRO 41N-14HZR
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	VIPER PYRO 41N-14HZR AWB <12102>
Facility	SEC.15-T3N-R67W		

REPORT SETUP INFORMATION

Projection System	NAD83 / UTM Zone 13 North, US feet	Software System	WellArchitect® 4.0.0
North Reference	True	User	Amarcar
Scale	0.999601	Report Generated	03/Sep/2015 at 15:33
Convergence at slot	0.07° East	Database/Source file	KERR MCGEE UTM/VIPER_PYRO_41N-14HZR_AWB__12102_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	1215.39	-1743.69	1672431.25	14610780.52	40°13'50.693"N	104°53'07.066"W
Facility Reference Pt			1674175.89	14609568.00	40°13'38.683"N	104°52'44.584"W
Field Reference Pt			1698235.31	14552047.82	40°04'09.600"N	104°47'36.000"W

WELLPATH DATUM

Calculation method	Minimum curvature	PRECISION 462 (20'KB) (RKB) to Facility Vertical Datum	4814.00ft
Horizontal Reference Pt	Slot	PRECISION 462 (20'KB) (RKB) to Mean Sea Level	4814.00ft
Vertical Reference Pt	PRECISION 462 (20'KB) (RKB)	PRECISION 462 (20'KB) (RKB) to Mud Line at Slot (SLOT#42 VIPER PYRO 41N-14HZR (799'FNL & 265'FWL, SEC.15))	4814.00ft
MD Reference Pt	PRECISION 462 (20'KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	90.63°

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Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	VIPER PYRO 41N-14HZR AWP <12102>
Facility	SEC.15-T3N-R67W		

WELLPATH DATA (180 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00†	0.000	11.500	0.00	0.00	0.00	0.00	40°13'50.693"N	104°53'07.066"W	0.00	
20.00	0.000	11.500	20.00	0.00	0.00	0.00	40°13'50.693"N	104°53'07.066"W	0.00	
125.00	0.500	11.500	125.00	0.09	0.45	0.09	40°13'50.697"N	104°53'07.064"W	0.48	BEGIN MWD SURVEYS
187.00	0.400	14.800	187.00	0.19	0.92	0.20	40°13'50.702"N	104°53'07.063"W	0.17	
249.00	0.700	44.100	248.99	0.50	1.40	0.52	40°13'50.707"N	104°53'07.059"W	0.65	
310.00	0.400	69.200	309.99	0.96	1.75	0.98	40°13'50.710"N	104°53'07.053"W	0.62	
373.00	0.700	125.000	372.99	1.48	1.61	1.50	40°13'50.709"N	104°53'07.046"W	0.92	
457.00	2.100	168.500	456.96	2.23	-0.20	2.23	40°13'50.691"N	104°53'07.037"W	1.98	
542.00	4.200	182.800	541.83	2.44	-4.83	2.38	40°13'50.645"N	104°53'07.035"W	2.62	
626.00	5.800	185.600	625.51	1.95	-12.13	1.82	40°13'50.573"N	104°53'07.042"W	1.93	
712.00	7.200	181.700	710.95	1.48	-21.84	1.24	40°13'50.477"N	104°53'07.050"W	1.71	
795.00	9.400	179.400	793.08	1.52	-33.82	1.15	40°13'50.359"N	104°53'07.051"W	2.68	TIE-ONTO MWD SURVEYS
936.00	10.760	177.400	931.90	2.51	-58.48	1.87	40°13'50.115"N	104°53'07.041"W	1.00	BEGIN BHI MWD+IFR+MSA SURVEYS
1029.00	10.970	178.640	1023.23	3.31	-76.00	2.47	40°13'49.942"N	104°53'07.034"W	0.34	
1309.00	11.480	171.600	1297.89	8.61	-130.20	7.18	40°13'49.406"N	104°53'06.973"W	0.52	
1402.00	10.200	164.710	1389.23	12.32	-147.30	10.70	40°13'49.237"N	104°53'06.928"W	1.96	
1496.00	10.210	163.690	1481.75	17.03	-163.33	15.24	40°13'49.079"N	104°53'06.869"W	0.19	
1682.00	9.690	171.400	1664.96	24.34	-194.63	22.21	40°13'48.769"N	104°53'06.779"W	0.77	
1776.00	8.190	171.120	1757.81	26.72	-209.07	24.42	40°13'48.627"N	104°53'06.751"W	1.60	
1869.00	6.810	168.070	1850.01	29.01	-221.01	26.58	40°13'48.509"N	104°53'06.723"W	1.54	
1962.00	4.380	163.980	1942.56	31.23	-229.82	28.71	40°13'48.422"N	104°53'06.696"W	2.65	
2056.00	2.320	175.050	2036.40	32.44	-235.16	29.86	40°13'48.369"N	104°53'06.681"W	2.29	
2149.00	2.820	162.440	2129.31	33.34	-239.22	30.71	40°13'48.329"N	104°53'06.670"W	0.81	
2242.00	1.550	168.530	2222.24	34.31	-242.63	31.65	40°13'48.295"N	104°53'06.657"W	1.39	
2335.00	0.250	45.240	2315.23	34.72	-243.72	32.05	40°13'48.284"N	104°53'06.652"W	1.83	
2521.00	0.370	32.390	2501.22	35.32	-242.93	32.66	40°13'48.292"N	104°53'06.645"W	0.07	
2880.00	0.310	244.770	2860.22	35.06	-242.37	32.40	40°13'48.298"N	104°53'06.648"W	0.18	
3239.00	0.350	258.350	3219.21	33.11	-243.00	30.45	40°13'48.291"N	104°53'06.673"W	0.02	
3598.00	0.790	124.600	3578.20	34.09	-244.63	31.41	40°13'48.275"N	104°53'06.661"W	0.30	
3688.00	0.780	146.000	3668.20	34.96	-245.49	32.26	40°13'48.267"N	104°53'06.650"W	0.32	
3958.00	1.180	172.190	3938.16	36.41	-249.77	33.67	40°13'48.225"N	104°53'06.632"W	0.22	
4048.00	0.500	277.900	4028.15	36.16	-250.63	33.41	40°13'48.216"N	104°53'06.635"W	1.56	
4138.00	0.390	247.630	4118.15	35.48	-250.69	32.73	40°13'48.215"N	104°53'06.644"W	0.28	
4227.00	1.120	255.560	4207.14	34.37	-251.02	31.61	40°13'48.212"N	104°53'06.658"W	0.83	
4317.00	0.810	279.680	4297.13	32.89	-251.14	30.13	40°13'48.211"N	104°53'06.677"W	0.56	
4407.00	1.360	279.660	4387.11	31.20	-250.85	28.45	40°13'48.214"N	104°53'06.699"W	0.61	
4497.00	1.180	282.070	4477.09	29.24	-250.48	26.49	40°13'48.218"N	104°53'06.724"W	0.21	
4587.00	1.560	282.060	4567.06	27.13	-250.03	24.39	40°13'48.222"N	104°53'06.751"W	0.42	
4677.00	1.820	284.340	4657.02	24.54	-249.42	21.81	40°13'48.228"N	104°53'06.784"W	0.30	
4766.00	0.520	293.770	4746.00	22.80	-248.91	20.07	40°13'48.233"N	104°53'06.807"W	1.47	
4856.00	0.700	236.920	4836.00	21.97	-249.04	19.23	40°13'48.232"N	104°53'06.818"W	0.67	
4946.00	0.740	235.880	4925.99	21.03	-249.67	18.29	40°13'48.226"N	104°53'06.830"W	0.05	
5036.00	0.600	276.140	5015.99	20.08	-249.94	17.34	40°13'48.223"N	104°53'06.842"W	0.53	
5215.00	0.470	260.020	5194.98	18.43	-249.97	15.69	40°13'48.223"N	104°53'06.863"W	0.11	
5305.00	0.780	257.450	5284.97	17.47	-250.17	14.73	40°13'48.221"N	104°53'06.876"W	0.35	

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Area	COLORADO	Well	VIPER PYRO 41N-14HZR
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	VIPER PYRO 41N-14HZR AWB <12102>
Facility	SEC.15-T3N-R67W		

WELLPATH DATA (180 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
5395.00	1.200	258.420	5374.96	15.95	-250.49	13.20	40°13'48.217"N	104°53'06.895"W	0.47	
5485.00	0.860	80.780	5464.95	15.70	-250.57	12.95	40°13'48.217"N	104°53'06.899"W	2.29	
5575.00	0.860	83.830	5554.94	17.03	-250.39	14.29	40°13'48.218"N	104°53'06.881"W	0.05	
5664.00	0.990	72.690	5643.93	18.43	-250.09	15.68	40°13'48.221"N	104°53'06.863"W	0.25	
5754.00	0.870	49.630	5733.92	19.68	-249.41	16.95	40°13'48.228"N	104°53'06.847"W	0.43	
5844.00	0.820	17.750	5823.91	20.39	-248.36	17.66	40°13'48.239"N	104°53'06.838"W	0.52	
5934.00	0.970	12.990	5913.90	20.74	-247.00	18.03	40°13'48.252"N	104°53'06.833"W	0.19	
6023.00	0.220	335.330	6002.89	20.83	-246.11	18.13	40°13'48.261"N	104°53'06.832"W	0.91	
6113.00	0.250	240.410	6092.89	20.59	-246.05	17.89	40°13'48.261"N	104°53'06.835"W	0.39	
6203.00	0.160	223.050	6182.89	20.33	-246.24	17.63	40°13'48.259"N	104°53'06.838"W	0.12	
6293.00	2.370	93.480	6272.87	22.11	-246.45	19.40	40°13'48.257"N	104°53'06.815"W	2.75	
6338.00	7.170	90.030	6317.70	25.85	-246.50	23.14	40°13'48.257"N	104°53'06.767"W	10.68	
6382.00	10.760	88.360	6361.16	32.70	-246.39	29.99	40°13'48.258"N	104°53'06.679"W	8.18	
6472.00	17.730	89.240	6448.33	54.82	-245.97	52.12	40°13'48.262"N	104°53'06.394"W	7.75	
6562.00	25.720	89.700	6531.87	88.10	-245.68	85.41	40°13'48.265"N	104°53'05.964"W	8.88	
6652.00	34.480	88.610	6609.66	133.17	-244.96	130.49	40°13'48.272"N	104°53'05.383"W	9.75	
6742.00	43.410	89.500	6679.59	189.67	-244.07	187.00	40°13'48.281"N	104°53'04.655"W	9.94	
6832.00	49.350	89.890	6741.65	254.78	-243.73	252.12	40°13'48.284"N	104°53'03.815"W	6.61	
6885.00†	52.177	89.890	6775.17	295.83	-243.66	293.17	40°13'48.285"N	104°53'03.286"W	5.33	SSPG
6922.00	54.150	89.890	6797.35	325.43	-243.60	322.78	40°13'48.286"N	104°53'02.904"W	5.33	
6989.00†	60.770	87.951	6833.37	381.85	-242.50	379.22	40°13'48.296"N	104°53'02.176"W	10.18	NBRR
7011.00	62.950	87.370	6843.75	401.23	-241.71	398.60	40°13'48.304"N	104°53'01.926"W	10.18	
7101.00	69.190	88.140	6880.24	483.35	-238.50	480.76	40°13'48.336"N	104°53'00.867"W	6.98	
7131.00†	71.349	88.618	6890.36	511.56	-237.70	508.98	40°13'48.344"N	104°53'00.503"W	7.35	N470_B_CK
7191.00	75.670	89.540	6907.39	569.06	-236.78	566.49	40°13'48.353"N	104°52'59.762"W	7.35	
7236.00	76.640	90.200	6918.16	612.75	-236.68	610.18	40°13'48.354"N	104°52'59.198"W	2.58	
7281.00	80.030	91.760	6927.26	656.81	-237.44	654.24	40°13'48.346"N	104°52'58.630"W	8.26	
7308.00	84.240	92.410	6930.95	683.54	-238.41	680.96	40°13'48.337"N	104°52'58.286"W	15.77	
7363.00†	87.878	91.003	6934.73	738.39	-240.05	735.80	40°13'48.321"N	104°52'57.579"W	7.09	7" CASING POINT
7391.00	89.730	90.290	6935.32	766.38	-240.36	763.79	40°13'48.317"N	104°52'57.218"W	7.09	
7481.00	90.220	90.390	6935.36	856.38	-240.90	853.79	40°13'48.312"N	104°52'56.058"W	0.56	
7570.00	90.220	89.600	6935.01	945.37	-240.89	942.79	40°13'48.312"N	104°52'54.910"W	0.89	
7660.00	90.460	89.170	6934.48	1035.35	-239.92	1032.78	40°13'48.322"N	104°52'53.750"W	0.55	
7750.00	90.930	89.600	6933.39	1125.32	-238.96	1122.77	40°13'48.331"N	104°52'52.590"W	0.71	
7840.00	90.340	90.410	6932.39	1215.31	-238.96	1212.76	40°13'48.331"N	104°52'51.429"W	1.11	
7930.00	90.860	89.670	6931.45	1305.30	-239.03	1302.75	40°13'48.330"N	104°52'50.269"W	1.00	
8019.00	90.580	90.980	6930.33	1394.29	-239.53	1391.74	40°13'48.325"N	104°52'49.122"W	1.51	
8109.00	90.680	91.510	6929.34	1484.28	-241.49	1481.72	40°13'48.306"N	104°52'47.962"W	0.60	
8199.00	91.570	90.920	6927.57	1574.25	-243.40	1571.68	40°13'48.287"N	104°52'46.802"W	1.19	
8289.00	90.520	91.690	6925.93	1664.23	-245.45	1661.64	40°13'48.267"N	104°52'45.642"W	1.45	
8379.00	90.860	90.980	6924.85	1754.22	-247.54	1751.61	40°13'48.246"N	104°52'44.482"W	0.87	
8469.00	89.600	91.310	6924.49	1844.21	-249.34	1841.58	40°13'48.228"N	104°52'43.322"W	1.45	
8558.00	90.150	90.560	6924.68	1933.21	-250.79	1930.57	40°13'48.214"N	104°52'42.175"W	1.05	
8648.00	90.280	90.480	6924.34	2023.21	-251.61	2020.57	40°13'48.206"N	104°52'41.014"W	0.17	
8738.00	90.000	92.120	6924.12	2113.20	-253.65	2110.54	40°13'48.185"N	104°52'39.854"W	1.85	

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WELLPATH DATA (180 stations)

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8828.00	90.310	92.180	6923.88	2203.17	-257.03	2200.48	40°13'48.152"N	104°52'38.695"W	0.35	
8919.00	90.530	91.910	6923.21	2294.14	-260.27	2291.42	40°13'48.120"N	104°52'37.522"W	0.38	
9008.00	91.200	91.650	6921.87	2383.11	-263.04	2380.36	40°13'48.092"N	104°52'36.376"W	0.81	
9097.00	89.910	91.240	6921.01	2472.09	-265.28	2469.33	40°13'48.070"N	104°52'35.229"W	1.52	
9187.00	89.910	91.070	6921.15	2562.09	-267.10	2559.31	40°13'48.052"N	104°52'34.068"W	0.19	
9277.00	89.940	90.060	6921.27	2652.09	-267.98	2649.30	40°13'48.043"N	104°52'32.908"W	1.12	
9367.00	90.980	89.940	6920.54	2742.08	-267.98	2739.30	40°13'48.043"N	104°52'31.748"W	1.16	
9457.00	91.350	89.360	6918.71	2832.04	-267.44	2829.28	40°13'48.048"N	104°52'30.588"W	0.76	
9546.00	89.840	89.570	6917.79	2921.02	-266.60	2918.27	40°13'48.057"N	104°52'29.440"W	1.71	
9636.00	89.690	90.910	6918.16	3011.01	-266.98	3008.26	40°13'48.053"N	104°52'28.280"W	1.50	
9726.00	90.680	90.780	6917.87	3101.01	-268.31	3098.25	40°13'48.039"N	104°52'27.120"W	1.11	
9816.00	89.260	91.150	6917.92	3191.01	-269.82	3188.24	40°13'48.024"N	104°52'25.960"W	1.63	
9905.00	89.660	91.030	6918.75	3280.00	-271.52	3277.22	40°13'48.008"N	104°52'24.812"W	0.47	
9995.00	87.900	90.700	6920.67	3369.98	-272.88	3367.18	40°13'47.994"N	104°52'23.653"W	1.99	
10085.00	88.120	90.300	6923.80	3459.92	-273.66	3457.13	40°13'47.986"N	104°52'22.493"W	0.51	
10175.00	88.360	90.070	6926.56	3549.88	-273.95	3547.08	40°13'47.983"N	104°52'21.333"W	0.37	
10265.00	88.730	89.650	6928.85	3639.84	-273.73	3637.05	40°13'47.985"N	104°52'20.173"W	0.62	
10354.00	88.950	89.420	6930.65	3728.80	-273.01	3726.03	40°13'47.992"N	104°52'19.026"W	0.36	
10448.00	89.200	88.680	6932.16	3822.76	-271.45	3820.01	40°13'48.007"N	104°52'17.814"W	0.83	
10540.00	88.990	89.560	6933.62	3914.71	-270.04	3911.98	40°13'48.021"N	104°52'16.628"W	0.98	
10633.00	90.000	90.600	6934.44	4007.70	-270.17	4004.98	40°13'48.020"N	104°52'15.429"W	1.56	
10726.00	88.860	90.170	6935.36	4100.69	-270.79	4097.97	40°13'48.013"N	104°52'14.231"W	1.31	
10820.00	90.310	89.940	6936.04	4194.68	-270.88	4191.96	40°13'48.012"N	104°52'13.019"W	1.56	
10913.00	89.790	90.920	6935.96	4287.68	-271.58	4284.96	40°13'48.005"N	104°52'11.820"W	1.19	
11006.00	90.130	90.450	6936.03	4380.68	-272.69	4377.95	40°13'47.994"N	104°52'10.621"W	0.62	
11100.00	88.770	91.880	6936.93	4474.67	-274.60	4471.92	40°13'47.975"N	104°52'09.409"W	2.10	
11193.00	89.480	91.670	6938.35	4567.64	-277.48	4564.87	40°13'47.947"N	104°52'08.211"W	0.80	
11286.00	90.710	91.240	6938.20	4660.63	-279.85	4657.83	40°13'47.923"N	104°52'07.012"W	1.40	
11379.00	89.080	90.390	6938.37	4753.62	-281.17	4750.82	40°13'47.910"N	104°52'05.813"W	1.98	
11473.00	89.880	89.530	6939.22	4847.61	-281.10	4844.82	40°13'47.910"N	104°52'04.601"W	1.25	
11563.00	89.450	91.120	6939.75	4937.60	-281.61	4934.81	40°13'47.905"N	104°52'03.441"W	1.83	
11653.00	89.690	90.550	6940.42	5027.60	-282.92	5024.80	40°13'47.892"N	104°52'02.281"W	0.69	
11743.00	90.090	90.150	6940.59	5117.60	-283.47	5114.79	40°13'47.886"N	104°52'01.121"W	0.63	
11832.00	90.030	92.070	6940.50	5206.59	-285.20	5203.77	40°13'47.869"N	104°51'59.973"W	2.16	
11922.00	90.490	91.600	6940.09	5296.57	-288.08	5293.73	40°13'47.840"N	104°51'58.814"W	0.73	
12012.00	90.060	91.140	6939.66	5386.56	-290.23	5383.70	40°13'47.819"N	104°51'57.654"W	0.70	
12102.00	89.230	90.880	6940.22	5476.56	-291.82	5473.68	40°13'47.803"N	104°51'56.493"W	0.97	
12191.00	89.720	90.380	6941.03	5565.55	-292.80	5562.67	40°13'47.793"N	104°51'55.346"W	0.79	
12281.00	88.890	91.140	6942.12	5655.54	-293.99	5652.66	40°13'47.781"N	104°51'54.186"W	1.25	
12371.00	89.780	90.730	6943.17	5745.54	-295.46	5742.64	40°13'47.767"N	104°51'53.026"W	1.09	
12461.00	88.890	91.600	6944.21	5835.52	-297.29	5832.61	40°13'47.748"N	104°51'51.866"W	1.38	
12551.00	89.380	91.250	6945.57	5925.50	-299.53	5922.57	40°13'47.726"N	104°51'50.706"W	0.67	
12640.00	89.690	90.590	6946.29	6014.50	-300.96	6011.56	40°13'47.712"N	104°51'49.559"W	0.82	
12730.00	89.940	91.530	6946.59	6104.50	-302.62	6101.54	40°13'47.695"N	104°51'48.399"W	1.08	
12820.00	90.430	91.310	6946.29	6194.49	-304.85	6191.51	40°13'47.673"N	104°51'47.239"W	0.60	

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#42 VIPER PYRO 41N-14HZR (799'FNL & 265'FWL, SEC.15)
Area	COLORADO	Well	VIPER PYRO 41N-14HZR
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	VIPER PYRO 41N-14HZR AWB <12102>
Facility	SEC.15-T3N-R67W		

WELLPATH DATA (180 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12909.00	89.380	91.450	6946.44	6283.48	-306.99	6280.49	40°13'47.651"N	104°51'46.091"W	1.19	
12999.00	89.170	91.900	6947.58	6373.45	-309.62	6370.44	40°13'47.625"N	104°51'44.932"W	0.55	
13089.00	89.200	91.420	6948.86	6463.43	-312.23	6460.39	40°13'47.599"N	104°51'43.772"W	0.53	
13179.00	87.170	90.850	6951.71	6553.38	-314.01	6550.32	40°13'47.581"N	104°51'42.612"W	2.34	
13269.00	87.810	90.510	6955.65	6643.29	-315.08	6640.23	40°13'47.570"N	104°51'41.453"W	0.81	
13358.00	87.910	89.960	6958.98	6732.23	-315.44	6729.17	40°13'47.567"N	104°51'40.307"W	0.63	
13448.00	87.940	90.440	6962.24	6822.16	-315.76	6819.11	40°13'47.563"N	104°51'39.147"W	0.53	
13538.00	87.320	90.780	6965.96	6912.09	-316.72	6909.03	40°13'47.554"N	104°51'37.988"W	0.79	
13628.00	87.570	90.290	6969.97	7002.00	-317.56	6998.93	40°13'47.545"N	104°51'36.829"W	0.61	
13718.00	88.000	89.840	6973.45	7091.92	-317.66	7088.86	40°13'47.544"N	104°51'35.669"W	0.69	
13807.00	87.510	91.080	6976.93	7180.85	-318.37	7177.79	40°13'47.536"N	104°51'34.523"W	1.50	
13897.00	87.940	90.960	6980.51	7270.78	-319.97	7267.71	40°13'47.520"N	104°51'33.363"W	0.50	
13987.00	88.520	90.840	6983.29	7360.74	-321.39	7357.65	40°13'47.506"N	104°51'32.204"W	0.66	
14077.00	88.890	90.630	6985.32	7450.71	-322.54	7447.62	40°13'47.494"N	104°51'31.044"W	0.47	
14166.00	89.230	90.290	6986.78	7539.70	-323.25	7536.60	40°13'47.487"N	104°51'29.896"W	0.54	
14256.00	88.150	91.500	6988.84	7629.67	-324.66	7626.57	40°13'47.473"N	104°51'28.737"W	1.80	
14346.00	88.060	90.910	6991.81	7719.62	-326.55	7716.50	40°13'47.454"N	104°51'27.577"W	0.66	
14436.00	88.190	90.710	6994.76	7809.57	-327.82	7806.44	40°13'47.441"N	104°51'26.417"W	0.26	
14525.00	87.850	91.530	6997.83	7898.51	-329.56	7895.37	40°13'47.424"N	104°51'25.271"W	1.00	
14615.00	88.830	91.860	7000.44	7988.46	-332.22	7985.29	40°13'47.397"N	104°51'24.112"W	1.15	
14705.00	87.910	90.170	7003.00	8078.41	-333.82	8075.24	40°13'47.381"N	104°51'22.952"W	2.14	
14795.00	87.200	89.910	7006.84	8168.33	-333.88	8165.15	40°13'47.380"N	104°51'21.793"W	0.84	
14884.00	87.380	89.680	7011.05	8257.22	-333.56	8254.05	40°13'47.383"N	104°51'20.646"W	0.33	
14974.00	88.030	89.480	7014.65	8347.13	-332.90	8343.98	40°13'47.389"N	104°51'19.487"W	0.76	
15064.00	88.520	89.100	7017.36	8437.06	-331.79	8433.93	40°13'47.400"N	104°51'18.327"W	0.69	
15154.00	87.590	90.200	7020.42	8527.00	-331.24	8523.87	40°13'47.405"N	104°51'17.168"W	1.60	
15243.00	86.760	90.240	7024.80	8615.89	-331.58	8612.76	40°13'47.401"N	104°51'16.022"W	0.93	
15333.00	87.100	89.820	7029.62	8705.75	-331.62	8702.64	40°13'47.401"N	104°51'14.863"W	0.60	
15423.00	87.220	89.680	7034.08	8795.63	-331.23	8792.52	40°13'47.404"N	104°51'13.704"W	0.20	
15513.00	87.470	89.650	7038.25	8885.52	-330.71	8882.43	40°13'47.409"N	104°51'12.545"W	0.28	
15603.00	87.340	91.150	7042.33	8975.43	-331.33	8972.33	40°13'47.403"N	104°51'11.386"W	1.67	
15692.00	87.130	90.930	7046.62	9064.32	-332.95	9061.21	40°13'47.386"N	104°51'10.240"W	0.34	
15782.00	87.280	90.560	7051.01	9154.21	-334.12	9151.10	40°13'47.374"N	104°51'09.081"W	0.44	
15872.00	87.500	90.050	7055.11	9244.12	-334.60	9241.00	40°13'47.369"N	104°51'07.922"W	0.62	
15962.00	86.940	89.570	7059.47	9334.00	-334.30	9330.89	40°13'47.372"N	104°51'06.763"W	0.82	
16051.00	87.220	90.900	7064.01	9422.88	-334.66	9419.78	40°13'47.368"N	104°51'05.617"W	1.53	
16141.00	87.930	90.450	7067.81	9512.80	-335.72	9509.69	40°13'47.357"N	104°51'04.458"W	0.93	
16231.00	88.300	90.050	7070.77	9602.75	-336.11	9599.64	40°13'47.353"N	104°51'03.298"W	0.61	
16321.00	88.520	89.760	7073.27	9692.71	-335.96	9689.60	40°13'47.354"N	104°51'02.138"W	0.40	
16410.00	87.590	90.890	7076.29	9781.65	-336.47	9778.55	40°13'47.349"N	104°51'00.991"W	1.64	
16500.00	87.870	90.800	7079.86	9871.58	-337.80	9868.47	40°13'47.335"N	104°50'59.832"W	0.33	
16590.00	87.780	90.280	7083.27	9961.52	-338.64	9958.40	40°13'47.327"N	104°50'58.672"W	0.59	
16680.00	87.930	89.980	7086.64	10051.45	-338.85	10048.33	40°13'47.324"N	104°50'57.513"W	0.37	
16740.00	87.960	89.710	7088.79	10111.40	-338.68	10108.30	40°13'47.326"N	104°50'56.740"W	0.45	LAST BHI MWD+IFR+MSA SURVEYS
16806.00	87.960	89.710	7091.14	10177.35	-338.35	10174.25	40°13'47.329"N	104°50'55.889"W	0.00	PROJECTION TO BIT

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#42 VIPER PYRO 41N-14HZR (799'FNL & 265'FWL, SEC.15)
Area	COLORADO	Well	VIPER PYRO 41N-14HZR
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	VIPER PYRO 41N-14HZR AWB <12102>
Facility	SEC.15-T3N-R67W		

HOLE & CASING SECTIONS - Ref Wellbore: VIPER PYRO 41N-14HZR AWB <12102> Ref Wellpath: VIPER PYRO 41N-14HZR 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]
13.5in Open Hole	20.00	850.00	830.00	20.00	847.30	0.00	0.00	-43.05	1.32
9.625in Casing Surface	20.00	840.00	820.00	20.00	837.45	0.00	0.00	-41.34	1.28
8.75in Open Hole	850.00	7373.00	6523.00	847.30	6935.04	-43.05	1.32	-240.20	745.79
7in Casing Intermediate	20.00	7363.00	7343.00	20.00	6934.73	0.00	0.00	-240.05	735.80
6.125in Open Hole	7373.00	16806.00	9433.00	6935.04	7091.14	-240.20	745.79	-338.35	10174.25

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.10-T3N-R67W LINES	0.00	208.79	-1.12	1672429.86	14610989.22	40°13'52.756"N	104°53'07.080"W	polygon
SEC.14-T3N-R67W LINES	0.00	208.79	-1.12	1672429.86	14610989.22	40°13'52.756"N	104°53'07.080"W	polygon
SEC.15-T3N-R67W LINES	5.00	379.20	507.91	1672938.46	14611160.23	40°13'54.440"N	104°53'00.517"W	polygon
VIPER PYRO 41N-14HZR (940'FNL & 1'FEL, SEC.140 REV-1	7084.00	-355.65	10174.86	1682602.48	14610438.16	40°13'47.158"N	104°50'55.882"W	point
VIPER PYRO 41N-14HZR LANDBOX	7084.00	0.00	0.00	1672431.25	14610780.52	40°13'50.693"N	104°53'07.066"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: VIPER PYRO 41N-14HZR AWB <12102> Ref Wellpath: VIPER PYRO 41N-14HZR AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
20.00	795.00	ISCWSA MWD, Rev. 2 (Standard)	CATHEDRAL MWD SURVEYS 13.65" <125-795>	VIPER PYRO 41N-14HZR AWB <12102>
795.00	7308.00	Custom APC_ISCWSA REV 2 MWD+IFR1+MSA (approximation)	BHI MWD+IFR+MSA SURVEYS 8.75" <936-7308>	VIPER PYRO 41N-14HZR AWB <12102>
7308.00	16740.00	Custom APC_ISCWSA REV 2 MWD+IFR1+MSA (approximation)	BHI MWD+IFR+MSA SURVEYS 6.125" <7391-16740>	VIPER PYRO 41N-14HZR AWB <12102>
16740.00	16806.00	Blind Drilling (std)	Projection to bit	VIPER PYRO 41N-14HZR AWB <12102>

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#42 VIPER PYRO 41N-14HZR (799'FNL & 265'FWL, SEC.15)
Area	COLORADO	Well	VIPER PYRO 41N-14HZR
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	VIPER PYRO 41N-14HZR AWB <12102>
Facility	SEC.15-T3N-R67W		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
125.00	0.500	11.500	125.00	BEGIN MWD SURVEYS
795.00	9.400	179.400	793.08	TIE-ONTO MWD SURVEYS
936.00	10.760	177.400	931.90	BEGIN BHI MWD+IFR+MSA SURVEYS
6885.00	52.177	89.890	6775.17	SSPG
6989.00	60.770	87.951	6833.37	NBRR
7131.00	71.349	88.618	6890.36	N470_B_CK
7363.00	87.878	91.003	6934.73	7" CASING POINT
16740.00	87.960	89.710	7088.79	LAST BHI MWD+IFR+MSA SURVEYS
16806.00	87.960	89.710	7091.14	PROJECTION TO BIT