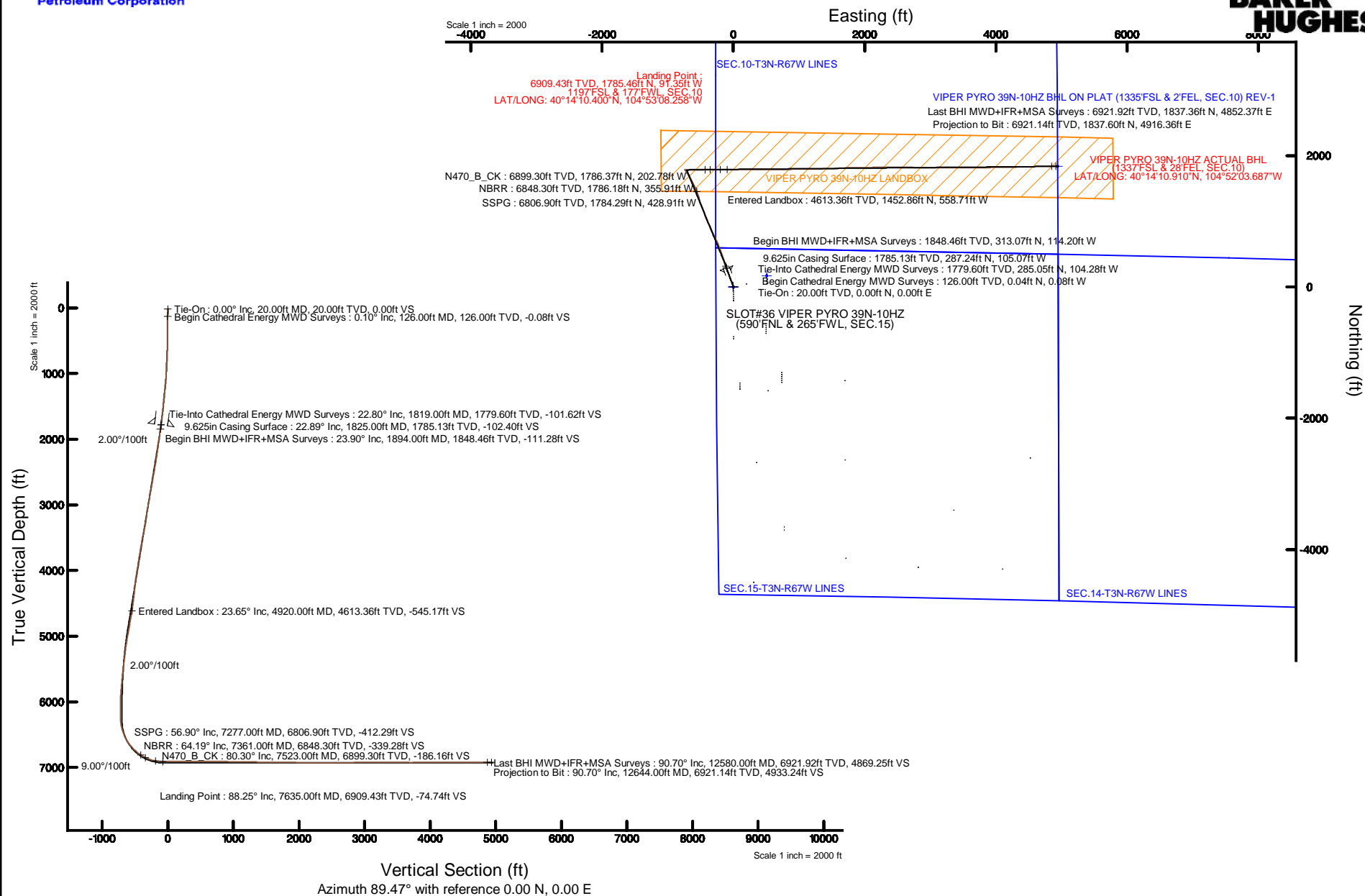




True vertical depths are referenced to PRECISION 462 (20'KB) (RKB)	Grid System: NAD83 / UTM Zone 13 North, US feet
Measured depths are referenced to PRECISION 462 (20'KB) (RKB)	North Reference: True north
PRECISION 462 (20'KB) (RKB) to Mean Sea Level: 4814 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#36 VIPER PYRO 39N-10HZ (590'FNL & 265'FWL, SEC.15)): 0 feet	Depths are in feet
Coordinates are in feet referenced to SLOT	Created by: preacin on 8/5/2015



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#36 VIPER PYRO 39N-10HZ (590'FNL & 265'FWL, SEC.15)
Area	COLORADO	Well	VIPER PYRO 39N-10HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	VIPER PYRO 39N-10HZ AWB <12644>
Facility	SEC.15-T3N-R67W		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 13 North, US feet	Software System	WellArchitect® 4.1.1
North Reference	True	User	Precain
Scale	0.999601	Report Generated	8/5/2015 at 12:36:27 PM
Convergence at slot	0.07° East	Database/Source file	WellArchitectAPC/VIPER_PYRO_39N-10HZ_AWB__12644_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	1424.18	-1744.79	1672429.86	14610989.22	40°13'52.756"N	104°53'07.080"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#36 VIPER PYRO 39N-10HZ (590'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	89.47°

## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#36 VIPER PYRO 39N-10HZ (590'FNL & 265'FWL, SEC.15)
Area	COLORADO	Well	VIPER PYRO 39N-10HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	VIPER PYRO 39N-10HZ AWP <12644>
Facility	SEC.15-T3N-R67W		

## WELLPATH DATA (150 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	296.800	0.00	0.00	0.00	0.00	40°13'52.756"N	104°53'07.080"W	0.00	
20.00	0.000	296.800	20.00	0.00	0.00	0.00	40°13'52.756"N	104°53'07.080"W	0.00	Tie-On
126.00	0.100	296.800	126.00	-0.08	0.04	-0.08	40°13'52.756"N	104°53'07.081"W	0.09	Begin Cathedral Energy MWD Surveys
188.00	0.010	52.800	188.00	-0.13	0.07	-0.13	40°13'52.757"N	104°53'07.082"W	0.17	
250.00	0.400	358.700	250.00	-0.12	0.29	-0.13	40°13'52.759"N	104°53'07.082"W	0.64	
312.00	1.300	339.300	311.99	-0.37	1.16	-0.38	40°13'52.767"N	104°53'07.085"W	1.50	
374.00	1.800	339.000	373.97	-0.95	2.73	-0.98	40°13'52.783"N	104°53'07.093"W	0.81	
458.00	2.500	336.900	457.91	-2.12	5.65	-2.17	40°13'52.812"N	104°53'07.108"W	0.84	
543.00	4.400	339.600	542.75	-3.94	10.41	-4.03	40°13'52.859"N	104°53'07.132"W	2.24	
627.00	5.700	339.900	626.42	-6.43	17.35	-6.59	40°13'52.927"N	104°53'07.165"W	1.55	
713.00	6.300	341.700	711.95	-9.30	25.84	-9.54	40°13'53.011"N	104°53'07.203"W	0.73	
797.00	8.100	342.400	795.29	-12.44	35.85	-12.78	40°13'53.110"N	104°53'07.245"W	2.15	
882.00	9.200	342.600	879.32	-16.17	48.05	-16.62	40°13'53.231"N	104°53'07.294"W	1.29	
967.00	9.800	339.600	963.15	-20.60	61.31	-21.17	40°13'53.362"N	104°53'07.353"W	0.91	
1051.00	11.400	338.400	1045.72	-26.02	75.73	-26.72	40°13'53.504"N	104°53'07.425"W	1.92	
1137.00	13.800	339.300	1129.64	-32.61	93.23	-33.48	40°13'53.677"N	104°53'07.512"W	2.80	
1219.00	15.000	338.100	1209.06	-39.85	112.23	-40.89	40°13'53.865"N	104°53'07.607"W	1.51	
1303.00	16.100	338.400	1289.99	-47.99	133.14	-49.23	40°13'54.072"N	104°53'07.715"W	1.31	
1388.00	16.100	340.400	1371.65	-56.08	155.20	-57.53	40°13'54.290"N	104°53'07.822"W	0.65	
1473.00	16.000	340.300	1453.34	-63.78	177.34	-65.43	40°13'54.508"N	104°53'07.924"W	0.12	
1516.00	16.700	341.200	1494.60	-67.66	188.76	-69.42	40°13'54.621"N	104°53'07.975"W	1.73	
1558.00	17.300	341.500	1534.77	-71.48	200.40	-73.34	40°13'54.736"N	104°53'08.026"W	1.44	
1601.00	18.300	340.700	1575.71	-75.62	212.83	-77.60	40°13'54.859"N	104°53'08.081"W	2.39	
1685.00	20.300	338.800	1654.98	-85.01	238.87	-87.23	40°13'55.116"N	104°53'08.205"W	2.50	
1770.00	21.900	340.200	1734.28	-95.44	267.53	-97.94	40°13'55.400"N	104°53'08.343"W	1.97	
1819.00	22.800	340.000	1779.60	-101.62	285.05	-104.28	40°13'55.573"N	104°53'08.425"W	1.84	Tie-Into Cathedral Energy MWD Surveys
1894.00	23.900	341.000	1848.46	-111.28	313.07	-114.20	40°13'55.850"N	104°53'08.552"W	1.56	Begin BHI MWD+IFR+MSA Surveys
1989.00	25.850	342.840	1934.64	-123.30	351.06	-126.57	40°13'56.225"N	104°53'08.712"W	2.21	
2084.00	25.150	342.840	2020.39	-135.00	390.14	-138.64	40°13'56.611"N	104°53'08.868"W	0.74	
2179.00	23.970	341.460	2106.79	-146.75	427.73	-150.73	40°13'56.983"N	104°53'09.023"W	1.38	
2275.00	24.250	339.960	2194.42	-159.36	464.74	-163.69	40°13'57.348"N	104°53'09.191"W	0.70	
2370.00	23.440	339.120	2281.31	-172.44	500.72	-177.11	40°13'57.704"N	104°53'09.364"W	0.92	
2465.00	25.760	339.790	2367.68	-185.97	537.75	-190.98	40°13'58.070"N	104°53'09.542"W	2.46	
2561.00	25.810	339.650	2454.12	-200.07	576.92	-205.45	40°13'58.457"N	104°53'09.729"W	0.08	
2656.00	26.630	337.980	2539.35	-214.88	616.05	-220.63	40°13'58.844"N	104°53'09.925"W	1.16	
2751.00	26.100	338.130	2624.46	-230.29	655.18	-236.39	40°13'59.230"N	104°53'10.128"W	0.56	
2846.00	23.420	334.330	2710.73	-245.91	691.60	-252.36	40°13'59.590"N	104°53'10.334"W	3.28	
2941.00	22.490	334.450	2798.20	-261.62	725.01	-268.37	40°13'59.920"N	104°53'10.540"W	0.98	
3036.00	23.010	335.790	2885.81	-276.76	758.34	-283.83	40°14'00.250"N	104°53'10.740"W	0.77	
3131.00	22.060	333.090	2973.56	-292.14	791.18	-299.51	40°14'00.574"N	104°53'10.942"W	1.48	
3226.00	21.740	333.200	3061.71	-307.85	822.79	-315.52	40°14'00.887"N	104°53'11.148"W	0.34	
3320.00	20.510	338.100	3149.39	-321.56	853.62	-329.51	40°14'01.191"N	104°53'11.329"W	2.29	
3416.00	22.820	340.650	3238.61	-333.69	886.79	-341.96	40°14'01.519"N	104°53'11.489"W	2.60	
3511.00	24.120	334.710	3325.76	-347.77	921.73	-356.36	40°14'01.864"N	104°53'11.675"W	2.84	
3606.00	23.000	329.210	3412.85	-365.25	955.23	-374.15	40°14'02.195"N	104°53'11.904"W	2.60	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#36 VIPER PYRO 39N-10HZ (590'FNL & 265'FWL, SEC.15)
Area	COLORADO	Well	VIPER PYRO 39N-10HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	VIPER PYRO 39N-10HZ AWP <12644>
Facility	SEC.15-T3N-R67W		

WELLPATH DATA (150 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
3796.00	25.820	338.010	3585.91	-399.11	1025.52	-408.66	40°14'02.890"N	104°53'12.349"W	2.42	
3986.00	28.360	342.400	3755.06	-427.49	1106.92	-437.81	40°14'03.694"N	104°53'12.725"W	1.70	
4081.00	27.220	341.130	3839.11	-440.95	1148.99	-451.66	40°14'04.110"N	104°53'12.904"W	1.35	
4176.00	24.200	337.720	3924.70	-455.01	1187.58	-466.07	40°14'04.491"N	104°53'13.089"W	3.54	
4271.00	22.840	336.850	4011.80	-469.31	1222.55	-480.71	40°14'04.837"N	104°53'13.278"W	1.48	
4462.00	20.570	340.710	4189.26	-494.36	1288.32	-506.37	40°14'05.487"N	104°53'13.609"W	1.40	
4557.00	22.190	345.680	4277.72	-504.00	1321.45	-516.32	40°14'05.814"N	104°53'13.737"W	2.56	
4652.00	22.450	346.130	4365.61	-512.46	1356.45	-525.11	40°14'06.160"N	104°53'13.851"W	0.33	
4747.00	21.920	340.560	4453.58	-522.40	1390.78	-535.36	40°14'06.500"N	104°53'13.983"W	2.28	
4842.00	22.390	338.940	4541.57	-534.49	1424.39	-547.76	40°14'06.832"N	104°53'14.143"W	0.81	
4920.00†	23.649	338.981	4613.36	-545.17	1452.86	-558.71	40°14'07.113"N	104°53'14.284"W	1.61	Entered Landbox
4938.00	23.940	338.990	4629.83	-547.71	1459.64	-561.31	40°14'07.180"N	104°53'14.318"W	1.61	
5034.00	24.400	338.100	4717.41	-561.75	1496.22	-575.69	40°14'07.541"N	104°53'14.503"W	0.61	
5129.00	23.170	333.590	4804.35	-577.06	1531.17	-591.33	40°14'07.887"N	104°53'14.705"W	2.31	
5224.00	21.230	331.640	4892.30	-593.25	1563.05	-607.81	40°14'08.202"N	104°53'14.917"W	2.18	
5320.00	21.230	332.630	4981.79	-609.21	1593.78	-624.06	40°14'08.505"N	104°53'15.127"W	0.37	
5414.00	19.080	331.180	5070.03	-624.17	1622.35	-639.29	40°14'08.788"N	104°53'15.323"W	2.35	
5604.00	15.230	331.770	5251.54	-650.50	1671.57	-666.08	40°14'09.274"N	104°53'15.668"W	2.03	
5699.00	13.340	330.190	5343.60	-661.66	1692.07	-677.43	40°14'09.477"N	104°53'15.815"W	2.03	
5794.00	13.010	328.510	5436.10	-672.52	1710.70	-688.46	40°14'09.661"N	104°53'15.957"W	0.53	
5985.00	9.430	323.270	5623.42	-692.83	1741.59	-709.06	40°14'09.966"N	104°53'16.223"W	1.95	
6080.00	8.840	328.050	5717.22	-701.23	1754.02	-717.57	40°14'10.089"N	104°53'16.333"W	1.01	
6175.00	8.200	326.000	5811.17	-708.77	1765.83	-725.23	40°14'10.206"N	104°53'16.431"W	0.75	
6271.00	5.920	317.720	5906.44	-715.84	1775.17	-732.39	40°14'10.298"N	104°53'16.524"W	2.59	
6366.00	3.270	327.180	6001.13	-720.55	1781.07	-737.15	40°14'10.356"N	104°53'16.585"W	2.89	
6461.00	1.700	3.730	6096.04	-721.89	1784.75	-738.53	40°14'10.393"N	104°53'16.603"W	2.27	
6556.00	1.140	54.100	6191.01	-721.02	1786.72	-737.67	40°14'10.412"N	104°53'16.592"W	1.38	
6651.00	3.980	117.220	6285.92	-717.33	1785.76	-733.97	40°14'10.403"N	104°53'16.544"W	3.80	
6698.00	8.180	101.930	6332.65	-712.62	1784.32	-729.25	40°14'10.388"N	104°53'16.483"W	9.50	
6746.00	13.220	102.470	6379.80	-703.93	1782.43	-720.54	40°14'10.370"N	104°53'16.371"W	10.50	
6793.00	17.100	102.270	6425.15	-691.95	1779.80	-708.54	40°14'10.344"N	104°53'16.216"W	8.26	
6840.00	20.240	94.580	6469.68	-677.11	1777.68	-693.68	40°14'10.323"N	104°53'16.024"W	8.48	
6887.00	22.700	88.630	6513.42	-659.94	1777.25	-676.50	40°14'10.319"N	104°53'15.803"W	6.98	
6935.00	26.480	89.230	6557.06	-639.97	1777.62	-656.53	40°14'10.322"N	104°53'15.545"W	7.89	
6982.00	31.360	88.440	6598.19	-617.25	1778.09	-633.82	40°14'10.327"N	104°53'15.253"W	10.41	
7031.00	35.900	88.950	6638.98	-590.12	1778.70	-606.70	40°14'10.333"N	104°53'14.903"W	9.28	
7078.00	39.950	89.400	6676.04	-561.24	1779.11	-577.82	40°14'10.337"N	104°53'14.530"W	8.64	
7123.00	44.330	88.780	6709.40	-531.06	1779.60	-547.64	40°14'10.342"N	104°53'14.141"W	9.78	
7170.00	48.540	88.060	6741.79	-497.02	1780.54	-513.60	40°14'10.351"N	104°53'13.702"W	9.03	
7219.00	51.800	87.520	6773.17	-459.41	1782.00	-476.01	40°14'10.366"N	104°53'13.218"W	6.71	
7266.00	56.070	86.960	6800.83	-421.45	1783.83	-438.07	40°14'10.384"N	104°53'12.728"W	9.14	
7277.00†	56.898	87.324	6806.90	-412.29	1784.29	-428.91	40°14'10.388"N	104°53'12.610"W	8.02	SSPG
7314.00	59.690	88.500	6826.35	-380.83	1785.43	-397.45	40°14'10.399"N	104°53'12.205"W	8.02	
7335.00	62.120	89.220	6836.56	-362.48	1785.80	-379.11	40°14'10.403"N	104°53'11.968"W	11.95	
7361.00	64.190	88.860	6848.30	-339.28	1786.18	-355.91	40°14'10.407"N	104°53'11.669"W	8.06	NBRR

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#36 VIPER PYRO 39N-10HZ (590'FNL & 265'FWL, SEC.15)
Area	COLORADO	Well	VIPER PYRO 39N-10HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	VIPER PYRO 39N-10HZ AWP <12644>
Facility	SEC.15-T3N-R67W		

WELLPATH DATA (150 stations) † = interpolated/extrapolated station										
MD (ft)	Inclination [°]	Azimuth [°]	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Latitude	Longitude	DLS [°/100ft]	Comments
7408.00	67.650	89.680	6867.47	-296.38	1786.73	-313.02	40°14'10.412"N	104°53'11.116"W	7.53	
7455.00	72.180	90.570	6883.61	-252.25	1786.63	-268.89	40°14'10.411"N	104°53'10.547"W	9.80	
7503.00	78.730	89.990	6895.66	-205.82	1786.40	-222.45	40°14'10.409"N	104°53'09.948"W	13.70	
7523.00†	80.304	90.174	6899.30	-186.16	1786.37	-202.78	40°14'10.409"N	104°53'09.695"W	7.92	N470_B_CK
7550.00	82.430	90.420	6903.35	-159.47	1786.24	-176.09	40°14'10.407"N	104°53'09.351"W	7.92	
7595.00	86.620	90.620	6907.64	-114.69	1785.83	-131.31	40°14'10.403"N	104°53'08.773"W	9.32	
7635.00†	88.250	90.445	6909.43	-74.74	1785.46	-91.35	40°14'10.400"N	104°53'08.258"W	4.10	Landing Point
7689.00	90.450	90.210	6910.05	-20.75	1785.15	-37.36	40°14'10.397"N	104°53'07.562"W	4.10	
7784.00	92.210	89.600	6907.84	74.21	1785.31	57.61	40°14'10.398"N	104°53'06.337"W	1.96	
7879.00	91.090	89.740	6905.11	169.17	1785.85	152.57	40°14'10.404"N	104°53'05.113"W	1.19	
7975.00	90.010	89.350	6904.18	265.17	1786.62	248.56	40°14'10.411"N	104°53'03.875"W	1.20	
8070.00	89.300	89.650	6904.76	360.16	1787.44	343.55	40°14'10.419"N	104°53'02.650"W	0.81	
8166.00	89.700	89.740	6905.59	456.16	1787.96	439.55	40°14'10.424"N	104°53'01.412"W	0.43	
8261.00	89.020	90.180	6906.65	551.15	1788.02	534.54	40°14'10.425"N	104°53'00.188"W	0.85	
8356.00	90.060	90.360	6907.42	646.14	1787.57	629.53	40°14'10.421"N	104°52'58.963"W	1.11	
8452.00	89.050	89.160	6908.16	742.13	1787.98	725.53	40°14'10.425"N	104°52'57.725"W	1.63	
8546.00	89.660	89.010	6909.22	836.12	1789.48	819.51	40°14'10.439"N	104°52'56.513"W	0.67	
8642.00	89.050	89.670	6910.30	932.11	1790.58	915.50	40°14'10.450"N	104°52'55.275"W	0.94	
8737.00	89.820	89.930	6911.24	1027.11	1790.91	1010.49	40°14'10.453"N	104°52'54.051"W	0.86	
8832.00	88.980	89.180	6912.23	1122.10	1791.65	1105.48	40°14'10.461"N	104°52'52.826"W	1.19	
8927.00	89.570	89.230	6913.44	1217.09	1792.97	1200.46	40°14'10.474"N	104°52'51.601"W	0.62	
9023.00	88.150	88.240	6915.35	1313.06	1795.09	1296.42	40°14'10.495"N	104°52'50.364"W	1.80	
9118.00	88.520	88.230	6918.11	1408.00	1798.01	1391.33	40°14'10.523"N	104°52'49.140"W	0.39	
9214.00	88.920	87.410	6920.25	1503.93	1801.66	1487.24	40°14'10.559"N	104°52'47.903"W	0.95	
9309.00	89.540	87.700	6921.53	1598.87	1805.72	1582.14	40°14'10.599"N	104°52'46.680"W	0.72	
9405.00	90.460	87.200	6921.53	1694.81	1809.99	1678.05	40°14'10.642"N	104°52'45.443"W	1.09	
9500.00	88.960	88.660	6922.01	1789.77	1813.42	1772.98	40°14'10.675"N	104°52'44.219"W	2.20	
9595.00	89.540	88.620	6923.25	1884.75	1815.67	1867.94	40°14'10.698"N	104°52'42.994"W	0.61	
9690.00	89.020	89.710	6924.45	1979.74	1817.06	1962.92	40°14'10.711"N	104°52'41.770"W	1.27	
9785.00	89.260	89.450	6925.87	2074.73	1817.75	2057.91	40°14'10.718"N	104°52'40.545"W	0.37	
9880.00	89.660	89.460	6926.77	2169.72	1818.66	2152.90	40°14'10.727"N	104°52'39.320"W	0.42	
9975.00	90.550	89.140	6926.59	2264.72	1819.82	2247.89	40°14'10.738"N	104°52'38.095"W	1.00	
10069.00	90.520	90.440	6925.71	2358.72	1820.16	2341.89	40°14'10.742"N	104°52'36.883"W	1.38	
10164.00	89.260	89.710	6925.90	2453.71	1820.04	2436.88	40°14'10.740"N	104°52'35.658"W	1.53	
10260.00	90.460	89.450	6926.13	2549.71	1820.74	2532.88	40°14'10.747"N	104°52'34.421"W	1.28	
10355.00	90.610	90.630	6925.24	2644.69	1820.68	2627.87	40°14'10.746"N	104°52'33.196"W	1.25	
10450.00	89.840	91.440	6924.87	2739.66	1818.96	2722.85	40°14'10.729"N	104°52'31.971"W	1.18	
10544.00	91.190	91.950	6924.03	2833.58	1816.18	2816.81	40°14'10.702"N	104°52'30.760"W	1.54	
10639.00	90.980	91.110	6922.23	2928.50	1813.64	2911.75	40°14'10.677"N	104°52'29.535"W	0.91	
10830.00	89.680	89.200	6921.13	3119.47	1813.13	3102.74	40°14'10.671"N	104°52'27.073"W	1.21	
10926.00	90.850	89.320	6920.68	3215.47	1814.37	3198.73	40°14'10.683"N	104°52'25.835"W	1.23	
11020.00	89.250	89.770	6920.60	3309.46	1815.11	3292.72	40°14'10.691"N	104°52'24.623"W	1.77	
11116.00	90.300	89.590	6920.98	3405.46	1815.65	3388.72	40°14'10.696"N	104°52'23.385"W	1.11	
11211.00	89.870	90.470	6920.84	3500.45	1815.60	3483.72	40°14'10.695"N	104°52'22.160"W	1.03	
11306.00	88.330	89.860	6922.33	3595.43	1815.33	3578.70	40°14'10.692"N	104°52'20.936"W	1.74	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#36 VIPER PYRO 39N-10HZ (590'FNL & 265'FWL, SEC.15)
Area	COLORADO	Well	VIPER PYRO 39N-10HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	VIPER PYRO 39N-10HZ AWB <12644>
Facility	SEC.15-T3N-R67W		

WELLPATH DATA (150 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11399.00	89.560	89.690	6924.04	3688.41	1815.69	3671.68	40°14'10.696"N	104°52'19.737"W	1.34	
11495.00	91.500	89.980	6923.15	3784.40	1815.97	3767.67	40°14'10.698"N	104°52'18.499"W	2.04	
11590.00	90.300	88.990	6921.66	3879.39	1816.82	3862.65	40°14'10.707"N	104°52'17.274"W	1.64	
11685.00	88.880	88.350	6922.34	3974.37	1819.03	3957.62	40°14'10.728"N	104°52'16.050"W	1.64	
11780.00	89.840	89.040	6923.40	4069.36	1821.19	4052.59	40°14'10.750"N	104°52'14.825"W	1.24	
11875.00	91.160	89.200	6922.57	4164.35	1822.65	4147.57	40°14'10.764"N	104°52'13.600"W	1.40	
11971.00	89.900	89.160	6921.69	4260.34	1824.02	4243.56	40°14'10.777"N	104°52'12.363"W	1.31	
12066.00	89.100	88.780	6922.51	4355.33	1825.73	4338.54	40°14'10.794"N	104°52'11.138"W	0.93	
12161.00	89.590	88.740	6923.60	4450.32	1827.79	4433.51	40°14'10.814"N	104°52'09.913"W	0.52	
12256.00	90.700	88.480	6923.36	4545.31	1830.09	4528.48	40°14'10.837"N	104°52'08.689"W	1.20	
12350.00	89.310	88.170	6923.35	4639.29	1832.84	4622.44	40°14'10.864"N	104°52'07.477"W	1.52	
12443.00	91.040	88.340	6923.07	4732.26	1835.67	4715.39	40°14'10.892"N	104°52'06.279"W	1.87	
12539.00	90.020	89.810	6922.18	4828.25	1837.22	4811.37	40°14'10.907"N	104°52'05.041"W	1.86	
12580.00	90.700	89.790	6921.92	4869.25	1837.36	4852.37	40°14'10.908"N	104°52'04.513"W	1.66	Last BHI MWD+IFR+MSA Surveys
12644.00	90.700	89.790	6921.14	4933.24	1837.60	4916.36	40°14'10.910"N	104°52'03.687"W	0.00	Projection to Bit

HOLE & CASING SECTIONS - Ref Wellbore: VIPER PYRO 39N-10HZ AWB <12644>      Ref Wellpath: VIPER PYRO 39N-10HZ 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	1874.00	1854.00	20.00	1830.15	0.00	0.00	305.46	-111.56
9.625in Casing Surface	20.00	1825.00	1805.00	20.00	1785.13	0.00	0.00	287.24	-105.07
8.5in Open Hole	1874.00	12644.00	10770.00	1830.15	6921.14	305.46	-111.56	1837.60	4916.36

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	0.00	0.00	1672429.86	14610989.22	40°13'52.756"N	104°53'07.080"W	polygon
SEC.14-T3N-R67W LINES	0.00	0.00	0.00	1672429.86	14610989.22	40°13'52.756"N	104°53'07.080"W	polygon
SEC.15-T3N-R67W LINES	5.00	170.42	509.02	1672938.46	14611160.23	40°13'54.440"N	104°53'00.517"W	polygon
VIPER PYRO 39N-10HZ BHL ON PLAT (1335'FSL & 2'FEL, SEC.10) REV-1	6929.00	1835.44	4941.76	1677367.26	14612830.31	40°14'10.889"N	104°52'03.360"W	point
VIPER PYRO 39N-10HZ LANDBOX	6929.00	0.00	0.00	1672429.86	14610989.22	40°13'52.756"N	104°53'07.080"W	polygon



Actual Wellpath Report  
VIPER PYRO 39N-10HZ AWP  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#36 VIPER PYRO 39N-10HZ (590'FNL & 265'FWL, SEC.15)
Area	COLORADO	Well	VIPER PYRO 39N-10HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	VIPER PYRO 39N-10HZ AWB <12644>
Facility	SEC.15-T3N-R67W		

WELLPATH COMPOSITION - Ref Wellbore: VIPER PYRO 39N-10HZ AWB <12644>				Ref Wellpath: VIPER PYRO 39N-10HZ AWP	
Start MD	End MD	Positional Uncertainty Model	Log Name/Comment		Wellbore
[ft]	[ft]				
20.00	1819.00	Custom APC_ISCWSA REV 2 MWD	CATHEDRAL ENERGY MWD SURVEYS <126-1874>	VIPER PYRO 39N-10HZ AWB <12644>	
1819.00	12580.00	Custom APC_ISCWSA REV 2 MWD+IFR1+MSA (approximation)	BHI MWD+IFR+MSA SURVEYS 8 1/2" HOLE <1894-12580>	VIPER PYRO 39N-10HZ AWB <12644>	
12580.00	12644.00	Blind Drilling (std)	Projection to bit	VIPER PYRO 39N-10HZ AWB <12644>	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#36 VIPER PYRO 39N-10HZ (590'FNL & 265'FWL, SEC.15)
Area	COLORADO	Well	VIPER PYRO 39N-10HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	VIPER PYRO 39N-10HZ AWB <12644>
Facility	SEC.15-T3N-R67W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
20.00	0.000	296.800	20.00	Tie-On
126.00	0.100	296.800	126.00	Begin Cathedral Energy MWD Surveys
1819.00	22.800	340.000	1779.60	Tie-Into Cathedral Energy MWD Surveys
1894.00	23.900	341.000	1848.46	Begin BHI MWD+IFR+MSA Surveys
4920.00	23.649	338.981	4613.36	Entered Landbox
7277.00	56.898	87.324	6806.90	SSPG
7361.00	64.190	88.860	6848.30	NBRR
7523.00	80.304	90.174	6899.30	N470_B_CK
7635.00	88.250	90.445	6909.43	Landing Point
12580.00	90.700	89.790	6921.92	Last BHI MWD+IFR+MSA Surveys
12644.00	90.700	89.790	6921.14	Projection to Bit