

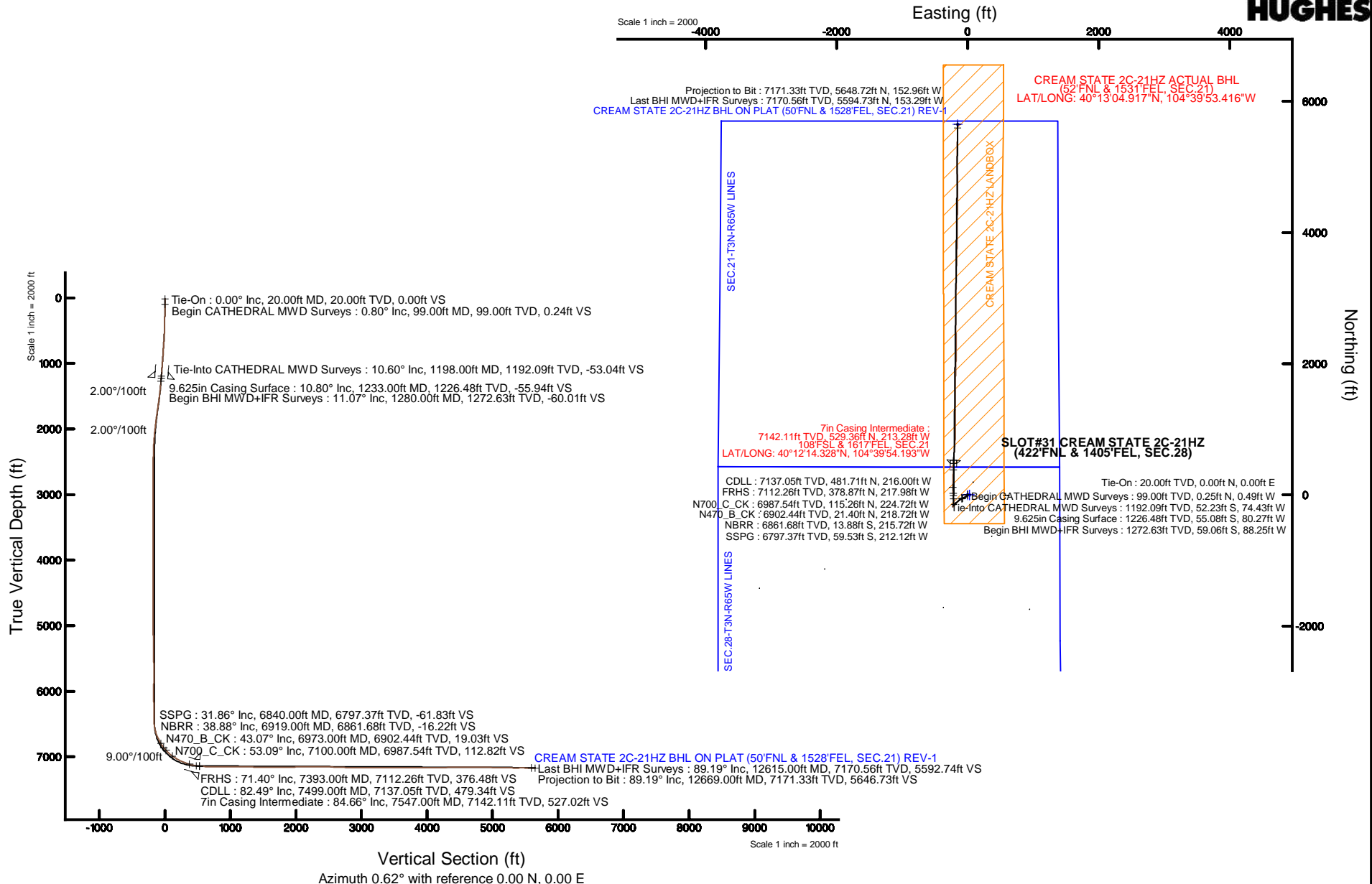
KERR-MCGEE OIL & GAS ONSHORE LP (WA)

Location: COLORADO Slot: SLOT#31 CREAM STATE 2C-21HZ (422°FNL & 1405°FEL, SEC.28)
 Field: WELD COUNTY (UTM/TRUE NORTH) Well: CREAM STATE 2C-21HZ
 Facility: SEC.28-T3N-R65W Wellbore: CREAM STATE 2C-21HZ PWB



Plot reference wellpath is CREAM STATE 2C-21HZ (REV-B.0) PWP

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: 4844 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#31 CREAM STATE 2C-21HZ (422°FNL & 1405°FEL, SEC.28)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: prechain on 6/12/2015



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#31 CREAM STATE 2C-21HZ (422'FNL & 1405'FEL, SEC.28)
Area	COLORADO	Well	CREAM STATE 2C-21HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CREAM STATE 2C-21HZ AWB <12669>
Facility	SEC.28-T3N-R65W		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 13 North, US feet	Software System	WellArchitect® 4.1.1
North Reference	True	User	Precain
Scale	0.99961	Report Generated	6/12/2015 at 8:41:28 AM
Convergence at slot	0.22° East	Database/Source file	WellArchitectAPC/CREAM_STATE_2C-21HZ_AWB__12669_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	2844.13	1801.70	1734154.32	14600660.28	40°12'09.097"N	104°39'51.444"W
Facility Reference Pt			1732363.88	14597810.60	40°11'40.992"N	104°40'14.664"W
Field Reference Pt			1698235.31	14552047.82	40°04'09.600"N	104°47'36.000"W

WELLPATH DATUM			
Calculation method	Minimum curvature	PRECISON 462 (20'KB) (RKB) to Facility Vertical Datum	4844.00ft
Horizontal Reference Pt	Slot	PRECISON 462 (20'KB) (RKB) to Mean Sea Level	4844.00ft
Vertical Reference Pt	PRECISON 462 (20'KB) (RKB)	PRECISON 462 (20'KB) (RKB) to Mud Line at Slot (SLOT#31 CREAM STATE 2C-21HZ (422'FNL & 1405'FEL, SEC.28))	4844.00ft
MD Reference Pt	PRECISON 462 (20'KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	0.62°

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Area	COLORADO	Well	CREAM STATE 2C-21HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CREAM STATE 2C-21HZ AWB <12669>
Facility	SEC.28-T3N-R65W		

WELLPATH DATA (142 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	296.700	0.00	0.00	0.00	0.00	40°12'09.097"N	104°39'51.444"W	0.00	
20.00	0.000	296.700	20.00	0.00	0.00	0.00	40°12'09.097"N	104°39'51.444"W	0.00	Tie-On
99.00	0.800	296.700	99.00	0.24	0.25	-0.49	40°12'09.099"N	104°39'51.450"W	1.01	Begin CATHEDRAL MWD Surveys
163.00	0.800	217.700	162.99	0.08	0.10	-1.17	40°12'09.098"N	104°39'51.459"W	1.59	
221.00	1.000	217.100	220.99	-0.65	-0.63	-1.72	40°12'09.091"N	104°39'51.466"W	0.35	
278.00	1.200	219.200	277.98	-1.51	-1.49	-2.40	40°12'09.082"N	104°39'51.475"W	0.36	
335.00	1.500	193.700	334.96	-2.71	-2.68	-2.95	40°12'09.071"N	104°39'51.482"W	1.16	
399.00	1.300	185.800	398.94	-4.25	-4.21	-3.22	40°12'09.055"N	104°39'51.486"W	0.43	
463.00	1.700	216.700	462.92	-5.74	-5.70	-3.86	40°12'09.041"N	104°39'51.494"W	1.39	
527.00	2.700	213.000	526.87	-7.78	-7.72	-5.25	40°12'09.021"N	104°39'51.512"W	1.58	
591.00	4.300	213.900	590.75	-11.06	-10.98	-7.41	40°12'08.989"N	104°39'51.539"W	2.50	
655.00	4.800	217.800	654.55	-15.20	-15.08	-10.39	40°12'08.948"N	104°39'51.578"W	0.92	
719.00	5.000	225.000	718.32	-19.32	-19.17	-14.00	40°12'08.908"N	104°39'51.624"W	1.01	
783.00	5.900	235.600	782.03	-23.20	-23.00	-18.69	40°12'08.870"N	104°39'51.685"W	2.10	
846.00	7.500	239.200	844.59	-27.21	-26.94	-24.89	40°12'08.831"N	104°39'51.765"W	2.62	
910.00	7.900	240.000	908.02	-31.62	-31.28	-32.29	40°12'08.788"N	104°39'51.860"W	0.65	
974.00	8.500	238.000	971.36	-36.41	-35.98	-40.11	40°12'08.741"N	104°39'51.961"W	1.04	
1036.00	8.800	245.000	1032.66	-40.93	-40.41	-48.29	40°12'08.698"N	104°39'52.066"W	1.76	
1101.00	10.200	246.600	1096.77	-45.43	-44.80	-58.08	40°12'08.654"N	104°39'52.193"W	2.19	
1165.00	11.000	245.300	1159.67	-50.35	-49.60	-68.83	40°12'08.607"N	104°39'52.331"W	1.30	
1198.00	10.600	244.300	1192.09	-53.04	-52.23	-74.43	40°12'08.581"N	104°39'52.403"W	1.34	Tie-Into CATHEDRAL MWD Surveys
1280.00	11.070	243.160	1272.63	-60.01	-59.06	-88.25	40°12'08.513"N	104°39'52.581"W	0.63	Begin BHI MWD+IFR Surveys
1373.00	10.850	242.460	1363.93	-68.26	-67.14	-103.97	40°12'08.434"N	104°39'52.784"W	0.28	
1466.00	11.230	235.530	1455.21	-77.60	-76.31	-119.20	40°12'08.343"N	104°39'52.980"W	1.48	
1560.00	12.930	232.170	1547.13	-89.40	-87.94	-135.06	40°12'08.228"N	104°39'53.185"W	1.96	
1653.00	12.120	228.770	1637.92	-102.39	-100.76	-150.62	40°12'08.101"N	104°39'53.385"W	1.18	
1746.00	11.160	225.320	1729.01	-115.30	-113.52	-164.36	40°12'07.975"N	104°39'53.562"W	1.27	
1840.00	10.670	224.200	1821.30	-128.07	-126.16	-176.89	40°12'07.850"N	104°39'53.724"W	0.57	
1933.00	9.480	220.010	1912.87	-140.22	-138.20	-187.82	40°12'07.731"N	104°39'53.865"W	1.50	
2026.00	7.350	211.960	2004.87	-151.23	-149.11	-195.89	40°12'07.623"N	104°39'53.969"W	2.61	
2119.00	5.350	210.220	2097.29	-160.08	-157.91	-201.23	40°12'07.537"N	104°39'54.037"W	2.16	
2213.00	4.940	207.710	2190.91	-167.49	-165.28	-205.31	40°12'07.464"N	104°39'54.090"W	0.50	
2306.00	3.610	225.590	2283.66	-173.13	-170.87	-209.27	40°12'07.408"N	104°39'54.141"W	2.01	
2399.00	1.980	232.860	2376.54	-176.18	-173.89	-212.64	40°12'07.379"N	104°39'54.184"W	1.79	
2493.00	2.160	238.900	2470.48	-178.11	-175.78	-215.45	40°12'07.360"N	104°39'54.221"W	0.30	
2586.00	0.300	177.080	2563.46	-179.27	-176.93	-216.94	40°12'07.349"N	104°39'54.240"W	2.19	
2679.00	0.670	205.780	2656.45	-180.01	-177.67	-217.16	40°12'07.341"N	104°39'54.243"W	0.46	
2865.00	0.500	202.630	2842.44	-181.75	-179.39	-217.95	40°12'07.324"N	104°39'54.253"W	0.09	
3224.00	0.750	284.810	3201.43	-182.62	-180.24	-220.82	40°12'07.316"N	104°39'54.290"W	0.23	
3314.00	0.760	278.630	3291.42	-182.39	-180.00	-221.98	40°12'07.318"N	104°39'54.305"W	0.09	
3403.00	0.840	109.690	3380.42	-182.53	-180.13	-221.95	40°12'07.317"N	104°39'54.304"W	1.79	
3492.00	0.620	145.300	3469.41	-183.13	-180.75	-221.06	40°12'07.311"N	104°39'54.293"W	0.55	
3851.00	0.530	313.760	3828.40	-183.58	-181.19	-221.16	40°12'07.306"N	104°39'54.294"W	0.32	
4210.00	1.760	274.200	4187.33	-182.10	-179.64	-227.86	40°12'07.322"N	104°39'54.381"W	0.39	
4300.00	0.280	169.440	4277.32	-182.23	-179.76	-229.19	40°12'07.321"N	104°39'54.398"W	2.06	

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Area	COLORADO	Well	CREAM STATE 2C-21HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CREAM STATE 2C-21HZ AWB <12669>
Facility	SEC.28-T3N-R65W		

WELLPATH DATA (142 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4390.00	1.060	68.060	4367.31	-182.13	-179.66	-228.38	40°12'07.322"N	104°39'54.387"W	1.28	
4569.00	0.870	39.080	4546.29	-180.43	-177.99	-225.99	40°12'07.338"N	104°39'54.356"W	0.29	
4839.00	0.430	350.170	4816.27	-177.83	-175.40	-224.87	40°12'07.364"N	104°39'54.342"W	0.25	
4929.00	0.890	152.960	4906.27	-178.11	-175.69	-224.61	40°12'07.361"N	104°39'54.339"W	1.45	
5198.00	1.800	37.970	5175.22	-176.61	-174.22	-221.06	40°12'07.375"N	104°39'54.293"W	0.86	
5288.00	1.470	350.410	5265.19	-174.35	-171.97	-220.38	40°12'07.398"N	104°39'54.284"W	1.50	
5377.00	0.550	9.170	5354.17	-172.80	-170.42	-220.50	40°12'07.413"N	104°39'54.286"W	1.08	
5647.00	1.040	350.600	5624.15	-169.10	-166.72	-220.70	40°12'07.449"N	104°39'54.288"W	0.20	
5737.00	0.820	277.300	5714.14	-168.23	-165.83	-221.47	40°12'07.458"N	104°39'54.298"W	1.25	
5826.00	1.480	133.350	5803.13	-168.93	-166.54	-221.27	40°12'07.451"N	104°39'54.296"W	2.47	
5916.00	1.040	128.620	5893.11	-170.22	-167.85	-219.78	40°12'07.438"N	104°39'54.277"W	0.50	
6096.00	0.650	66.460	6073.09	-170.81	-168.46	-217.57	40°12'07.432"N	104°39'54.248"W	0.52	
6275.00	1.140	12.570	6252.07	-168.65	-166.32	-216.25	40°12'07.453"N	104°39'54.231"W	0.51	
6365.00	1.390	80.300	6342.05	-167.58	-165.26	-214.98	40°12'07.464"N	104°39'54.215"W	1.58	
6455.00	1.200	46.340	6432.03	-166.73	-164.43	-213.22	40°12'07.472"N	104°39'54.192"W	0.86	
6500.00	1.900	8.020	6477.02	-165.66	-163.36	-212.78	40°12'07.483"N	104°39'54.186"W	2.70	
6545.00	7.500	357.000	6521.85	-161.99	-159.69	-212.83	40°12'07.519"N	104°39'54.187"W	12.55	
6589.00	13.060	359.280	6565.12	-154.14	-151.84	-213.04	40°12'07.596"N	104°39'54.190"W	12.67	
6635.00	16.300	2.370	6609.62	-142.49	-140.19	-212.84	40°12'07.712"N	104°39'54.187"W	7.24	
6679.00	19.640	3.680	6651.47	-128.93	-126.64	-212.11	40°12'07.846"N	104°39'54.178"W	7.65	
6724.00	21.040	4.620	6693.66	-113.32	-111.04	-210.97	40°12'08.000"N	104°39'54.163"W	3.19	
6814.00	29.480	356.080	6775.01	-75.05	-72.76	-211.19	40°12'08.378"N	104°39'54.166"W	10.19	
6840.00†	31.860	355.821	6797.37	-61.83	-59.53	-212.12	40°12'08.509"N	104°39'54.178"W	9.17	SSPG
6904.00	37.720	355.310	6849.91	-25.47	-23.14	-214.96	40°12'08.868"N	104°39'54.214"W	9.17	
6919.00†	38.883	355.250	6861.68	-16.22	-13.88	-215.72	40°12'08.960"N	104°39'54.224"W	7.76	NBRR
6973.00†	43.071	355.057	6902.44	19.03	21.40	-218.72	40°12'09.308"N	104°39'54.263"W	7.76	N470_B_CK
6994.00	44.700	354.990	6917.57	33.51	35.90	-219.98	40°12'09.452"N	104°39'54.279"W	7.76	
7083.00	51.270	357.480	6977.11	99.40	101.84	-224.24	40°12'10.103"N	104°39'54.334"W	7.67	
7100.00†	53.086	358.438	6987.54	112.82	115.26	-224.72	40°12'10.236"N	104°39'54.340"W	11.57	N700_C_CK
7173.00	60.960	2.100	7027.25	173.99	176.43	-224.35	40°12'10.840"N	104°39'54.335"W	11.57	
7263.00	66.830	2.500	7066.83	254.74	257.15	-221.10	40°12'11.638"N	104°39'54.293"W	6.53	
7353.00	70.850	1.130	7099.32	338.63	341.02	-218.45	40°12'12.467"N	104°39'54.259"W	4.69	
7393.00†	71.401	0.312	7112.26	376.48	378.87	-217.98	40°12'12.841"N	104°39'54.253"W	2.38	FRHS
7398.00	71.470	0.210	7113.85	381.22	383.61	-217.96	40°12'12.888"N	104°39'54.253"W	2.38	
7442.00	75.720	0.370	7126.27	423.42	425.80	-217.74	40°12'13.305"N	104°39'54.250"W	9.67	
7487.00	81.040	2.650	7135.33	467.47	469.85	-216.57	40°12'13.740"N	104°39'54.235"W	12.82	
7499.00†	82.491	2.918	7137.05	479.34	481.71	-216.00	40°12'13.857"N	104°39'54.228"W	12.29	CDLL
7509.00	83.700	3.140	7138.25	489.26	491.62	-215.47	40°12'13.955"N	104°39'54.221"W	12.29	
7547.00†	84.658	3.495	7142.11	527.02	529.36	-213.28	40°12'14.328"N	104°39'54.193"W	2.69	7" Casing Point
7584.00	85.590	3.840	7145.25	563.83	566.15	-210.92	40°12'14.692"N	104°39'54.162"W	2.69	
7677.00	86.770	4.310	7151.45	656.46	658.71	-204.33	40°12'15.606"N	104°39'54.077"W	1.37	
7770.00	89.840	5.110	7154.20	749.17	751.34	-196.70	40°12'16.522"N	104°39'53.979"W	3.41	
7860.00	91.070	2.690	7153.49	839.01	841.12	-190.58	40°12'17.409"N	104°39'53.900"W	3.02	
7950.00	91.690	0.950	7151.32	928.96	931.05	-187.72	40°12'18.298"N	104°39'53.863"W	2.05	
8039.00	90.400	359.320	7149.69	1017.94	1020.03	-187.51	40°12'19.177"N	104°39'53.861"W	2.34	

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Facility	SEC.28-T3N-R65W		

WELLPATH DATA (142 stations)										
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8129.00	88.860	359.440	7150.28	1107.91	1110.02	-188.48	40°12'20.066"N	104°39'53.873"W	1.72	
8219.00	88.730	358.990	7152.17	1197.86	1199.99	-189.72	40°12'20.955"N	104°39'53.889"W	0.52	
8309.00	88.670	359.780	7154.21	1287.82	1289.96	-190.68	40°12'21.844"N	104°39'53.902"W	0.88	
8397.00	89.560	0.460	7155.57	1375.80	1377.95	-190.50	40°12'22.714"N	104°39'53.899"W	1.27	
8487.00	89.410	0.050	7156.38	1465.80	1467.94	-190.10	40°12'23.603"N	104°39'53.894"W	0.49	
8577.00	90.210	1.310	7156.68	1555.80	1557.94	-189.03	40°12'24.492"N	104°39'53.880"W	1.66	
8666.00	89.530	0.540	7156.88	1644.79	1646.92	-187.59	40°12'25.372"N	104°39'53.862"W	1.15	
8756.00	89.810	1.730	7157.40	1734.79	1736.90	-185.81	40°12'26.261"N	104°39'53.839"W	1.36	
8846.00	90.270	1.690	7157.33	1824.77	1826.86	-183.12	40°12'27.150"N	104°39'53.804"W	0.51	
8936.00	90.860	1.760	7156.45	1914.75	1916.82	-180.42	40°12'28.039"N	104°39'53.769"W	0.66	
9026.00	90.670	1.900	7155.25	2004.72	2006.76	-177.54	40°12'28.928"N	104°39'53.732"W	0.26	
9116.00	90.920	0.390	7154.00	2094.70	2096.73	-175.74	40°12'29.817"N	104°39'53.709"W	1.70	
9206.00	90.640	0.110	7152.77	2184.69	2186.72	-175.35	40°12'30.706"N	104°39'53.704"W	0.44	
9296.00	90.270	359.930	7152.06	2274.69	2276.72	-175.32	40°12'31.595"N	104°39'53.704"W	0.46	
9385.00	89.840	359.850	7151.97	2363.68	2365.72	-175.49	40°12'32.475"N	104°39'53.706"W	0.49	
9475.00	89.380	359.070	7152.58	2453.66	2455.71	-176.34	40°12'33.364"N	104°39'53.717"W	1.01	
9565.00	88.210	359.230	7154.48	2543.61	2545.68	-177.67	40°12'34.253"N	104°39'53.734"W	1.31	
9654.00	87.470	359.190	7157.83	2632.52	2634.61	-178.90	40°12'35.132"N	104°39'53.750"W	0.83	
9745.00	87.970	359.600	7161.45	2723.42	2725.53	-179.86	40°12'36.031"N	104°39'53.762"W	0.71	
9835.00	88.460	359.710	7164.25	2813.37	2815.49	-180.40	40°12'36.920"N	104°39'53.769"W	0.56	
9924.00	89.040	0.050	7166.20	2902.34	2904.46	-180.59	40°12'37.799"N	104°39'53.772"W	0.76	
10014.00	90.460	1.300	7166.59	2992.33	2994.45	-179.53	40°12'38.688"N	104°39'53.758"W	2.10	
10104.00	89.870	1.050	7166.33	3082.33	3084.43	-177.68	40°12'39.577"N	104°39'53.734"W	0.71	
10193.00	89.660	1.270	7166.69	3171.32	3173.41	-175.88	40°12'40.457"N	104°39'53.711"W	0.34	
10283.00	90.300	1.440	7166.73	3261.31	3263.39	-173.75	40°12'41.346"N	104°39'53.684"W	0.74	
10373.00	89.840	1.080	7166.62	3351.31	3353.37	-171.77	40°12'42.235"N	104°39'53.658"W	0.65	
10463.00	89.500	0.620	7167.13	3441.30	3443.35	-170.44	40°12'43.124"N	104°39'53.641"W	0.64	
10553.00	89.380	1.090	7168.01	3531.30	3533.34	-169.09	40°12'44.013"N	104°39'53.624"W	0.54	
10642.00	90.430	2.060	7168.16	3620.28	3622.30	-166.65	40°12'44.892"N	104°39'53.592"W	1.61	
10732.00	90.760	1.730	7167.23	3710.26	3712.25	-163.67	40°12'45.781"N	104°39'53.554"W	0.52	
10822.00	90.090	1.170	7166.56	3800.24	3802.22	-161.40	40°12'46.670"N	104°39'53.524"W	0.97	
10912.00	90.800	1.160	7165.86	3890.24	3892.19	-159.57	40°12'47.560"N	104°39'53.501"W	0.79	
11002.00	89.630	0.100	7165.52	3980.23	3982.19	-158.58	40°12'48.449"N	104°39'53.488"W	1.75	
11091.00	89.870	0.790	7165.91	4069.23	4071.18	-157.88	40°12'49.328"N	104°39'53.479"W	0.82	
11181.00	91.010	0.600	7165.22	4159.23	4161.17	-156.79	40°12'50.218"N	104°39'53.465"W	1.28	
11271.00	91.380	0.630	7163.34	4249.21	4251.15	-155.83	40°12'51.107"N	104°39'53.453"W	0.41	
11361.00	90.430	0.010	7161.92	4339.19	4341.13	-155.32	40°12'51.996"N	104°39'53.446"W	1.26	
11450.00	90.330	359.960	7161.33	4428.19	4430.13	-155.35	40°12'52.875"N	104°39'53.446"W	0.13	
11540.00	90.950	0.110	7160.33	4518.18	4520.12	-155.29	40°12'53.765"N	104°39'53.446"W	0.71	
11630.00	90.890	359.960	7158.88	4608.16	4610.11	-155.24	40°12'54.654"N	104°39'53.445"W	0.18	
11720.00	91.070	0.700	7157.34	4698.14	4700.10	-154.72	40°12'55.543"N	104°39'53.438"W	0.85	
11810.00	89.230	359.490	7157.11	4788.13	4790.09	-154.57	40°12'56.433"N	104°39'53.436"W	2.45	
11899.00	88.950	359.260	7158.52	4877.10	4879.07	-155.54	40°12'57.312"N	104°39'53.449"W	0.41	
11989.00	87.410	358.130	7161.38	4967.00	4969.00	-157.59	40°12'58.200"N	104°39'53.475"W	2.12	
12079.00	87.530	359.100	7165.35	5056.86	5058.89	-159.76	40°12'59.089"N	104°39'53.503"W	1.08	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#31 CREAM STATE 2C-21HZ (422'FNL & 1405'FEL, SEC.28)
Area	COLORADO	Well	CREAM STATE 2C-21HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CREAM STATE 2C-21HZ AWB <12669>
Facility	SEC.28-T3N-R65W		

WELLPATH DATA (142 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12169.00	88.700	359.690	7168.31	5146.79	5148.83	-160.71	40°12'59.978"N	104°39'53.516"W	1.46	
12258.00	90.120	1.160	7169.23	5235.78	5237.82	-160.05	40°13'00.857"N	104°39'53.507"W	2.30	
12348.00	89.660	1.820	7169.40	5325.77	5327.79	-157.71	40°13'01.746"N	104°39'53.477"W	0.89	
12438.00	90.430	1.370	7169.33	5415.75	5417.75	-155.21	40°13'02.635"N	104°39'53.445"W	0.99	
12528.00	89.380	0.370	7169.48	5505.75	5507.74	-153.84	40°13'03.524"N	104°39'53.427"W	1.61	
12615.00	89.190	0.350	7170.56	5592.74	5594.73	-153.29	40°13'04.384"N	104°39'53.420"W	0.22	Last BHI MWD+IFR Surveys
12669.00	89.190	0.350	7171.33	5646.73	5648.72	-152.96	40°13'04.917"N	104°39'53.416"W	0.00	Projection to Bit

HOLE & CASING SECTIONS - Ref Wellbore: CREAM STATE 2C-21HZ AWB <12669> Ref Wellpath: CREAM STATE 2C-21HZ 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	1243.00	1223.00	20.00	1236.30	0.00	0.00	-55.91	-81.95
9.625in Casing Surface	20.00	1233.00	1213.00	20.00	1226.48	0.00	0.00	-55.08	-80.27
8.75in Open Hole	1243.00	7557.00	6314.00	1236.30	7143.02	-55.91	-81.95	539.30	-212.67
7in Casing Intermediate	20.00	7547.00	7527.00	20.00	7142.11	0.00	0.00	529.36	-213.28
6.125in Open Hole	7557.00	12669.00	5112.00	7143.02	7171.33	539.30	-212.67	5648.72	-152.96

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.21-T3N-R65W LINES	0.00	0.00	29.87	1734184.18	14600660.39	40°12'09.097"N	104°39'51.059"W	polygon
SEC.28-T3N-R65W LINES	0.00	0.00	29.87	1734184.18	14600660.39	40°12'09.097"N	104°39'51.059"W	polygon
CREAM STATE 2C-21HZ BHL ON PLAT (50'FNL & 1528'FEL, SEC.21) REV-1	7164.00	5649.22	-150.53	1733982.49	14606306.67	40°13'04.922"N	104°39'53.384"W	point
CREAM STATE 2C-21HZ LANDBOX	7164.00	0.00	0.00	1734154.32	14600660.28	40°12'09.097"N	104°39'51.444"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: CREAM STATE 2C-21HZ AWB <12669> Ref Wellpath: CREAM STATE 2C-21HZ AWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
20.00	1198.00	Custom APC_ISCWSA REV 2 MWD	CATHEDRAL ENERGY MWD SURVEYS <99-1198>	CREAM STATE 2C-21HZ AWB <12669>
1198.00	7509.00	Custom APC_ISCWSA REV 2 MWD+IFR1+SC (approximation)	BHI MWD+IFR SURVEYS 8 3/4" HOLE <1280-7509>	CREAM STATE 2C-21HZ AWB <12669>
7509.00	12615.00	Custom APC_ISCWSA REV 2 MWD+IFR1+SC (approximation)	BHI MWD+IFR SURVEYS 6 1/8" HOLE <7584-12615>	CREAM STATE 2C-21HZ AWB <12669>
12615.00	12669.00	Blind Drilling (std)	Projection to bit	CREAM STATE 2C-21HZ AWB <12669>

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#31 CREAM STATE 2C-21HZ (422'FNL & 1405'FEL, SEC.28)
Area	COLORADO	Well	CREAM STATE 2C-21HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CREAM STATE 2C-21HZ AWB <12669>
Facility	SEC.28-T3N-R65W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
20.00	0.000	296.700	20.00	Tie-On
99.00	0.800	296.700	99.00	Begin CATHEDRAL MWD Surveys
1198.00	10.600	244.300	1192.09	Tie-Into CATHEDRAL MWD Surveys
1280.00	11.070	243.160	1272.63	Begin BHI MWD+IFR Surveys
6840.00	31.860	355.821	6797.37	SSPG
6919.00	38.883	355.250	6861.68	NBRR
6973.00	43.071	355.057	6902.44	N470_B_CK
7100.00	53.086	358.438	6987.54	N700_C_CK
7393.00	71.401	0.312	7112.26	FRHS
7499.00	82.491	2.918	7137.05	CDLL
7547.00	84.658	3.495	7142.11	7" Casing Point
12615.00	89.190	0.350	7170.56	Last BHI MWD+IFR Surveys
12669.00	89.190	0.350	7171.33	Projection to Bit