

Location:	COLORADO	Slot:	SLOT#37 CREAM STATE 28C-21HZ (421'FNL & 1495'FEL, SEC.28)
Field:	WELD COUNTY (UTM/TRUE NORTH)	Well:	CREAM STATE 28C-21HZ
Facility:	SEC.28-T3N-R65W	Wellbore:	CREAM STATE 28C-21HZ PWB

Plot reference wellpath is CREAM STATE 28C-21HZ (REV-A.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

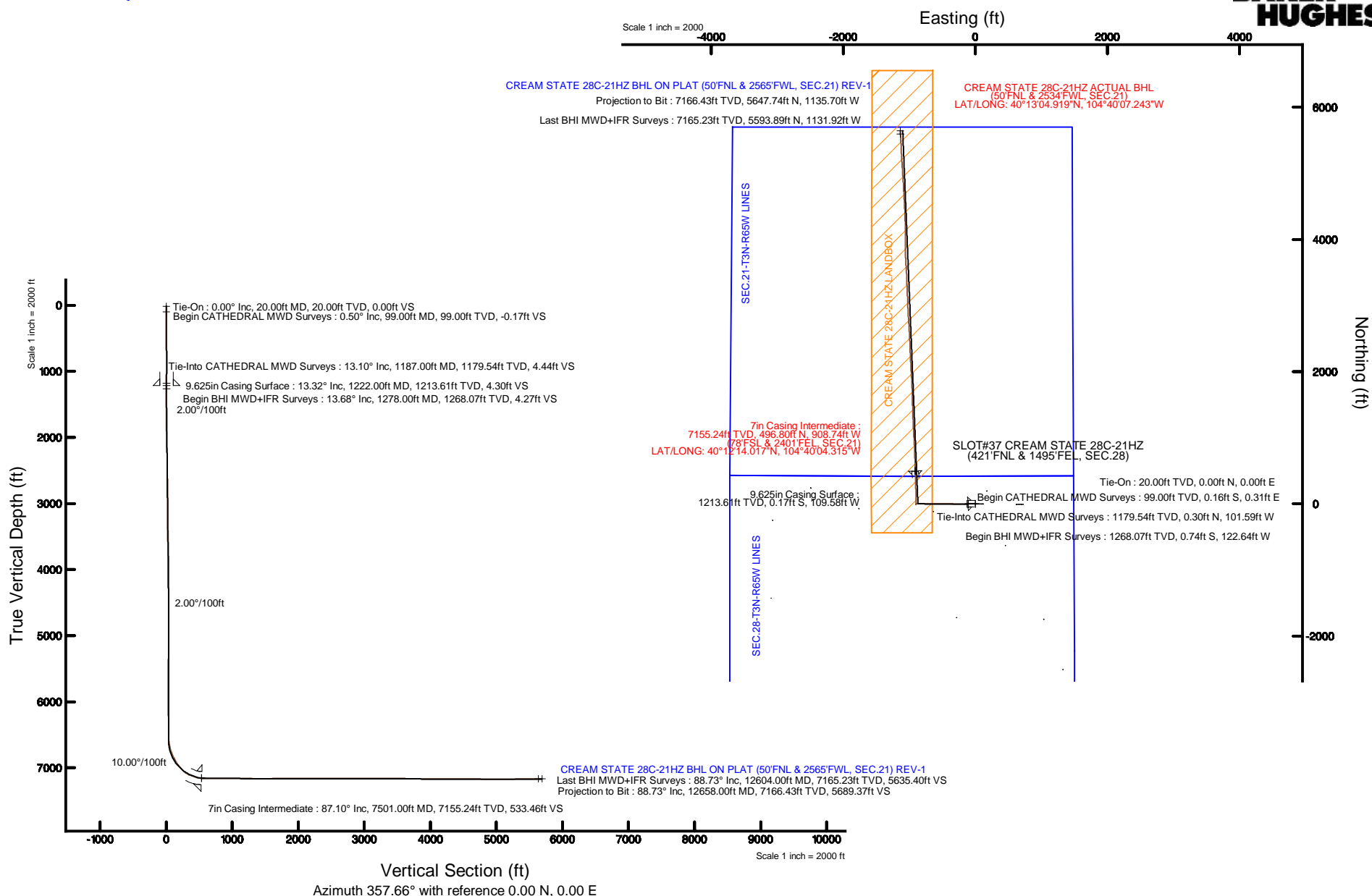
Scale: True distance

Mean Sea Level to Mud line (At Slot: SLOT#37 CREAM STATE 28C-21HZ (421'FNL & 1495'FEL, SEC.28)): 0 feet

Depths are in feet

Coordinates are in feet referenced to Slot

Created by: precain on 7/29/2015



REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#37 CREAM STATE 28C-21HZ (421'FNL & 1495'FEL, SEC.28)
Area	COLORADO	Well	CREAM STATE 28C-21HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CREAM STATE 28C-21HZ AWB <12658>
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	7/29/2015 at 2:52:50 PM
Convergence at slot	0.22° East	Database/Source file	WellArchitectAPC/CREAM_STATE_28C-21HZ_AWB__12658_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	2845.24	1711.77	1734064.42	14600661.05	40°12'09.108"N	104°39'52.603"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	PRECISION 462 (20'KB) (RKB) to Facility Vertical Datum	4844.00ft
Horizontal Reference Pt	Slot	PRECISION 462 (20'KB) (RKB) to Mean Sea Level	4844.00ft
Vertical Reference Pt	PRECISION 462 (20'KB) (RKB)	PRECISION 462 (20'KB) (RKB) to Mud Line at Slot (SLOT#37 CREAM STATE 28C-21HZ (421'FNL & 1495'FEL, SEC.28))	4844.00ft
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	357.66°

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Area	COLORADO	Well	CREAM STATE 28C-21HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CREAM STATE 28C-21HZ AWB <12658>
Facility	SEC.28-T3N-R65W		

WELLPATH DATA (152 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	117.300	0.00	0.00	0.00	0.00	40°12'09.108"N	104°39'52.603"W	0.00	
20.00	0.000	117.300	20.00	0.00	0.00	0.00	40°12'09.108"N	104°39'52.603"W	0.00	Tie-On
99.00	0.500	117.300	99.00	-0.17	-0.16	0.31	40°12'09.106"N	104°39'52.599"W	0.63	Begin CATHEDRAL MWD Surveys
163.00	0.700	137.100	163.00	-0.61	-0.57	0.82	40°12'09.102"N	104°39'52.592"W	0.45	
221.00	0.300	261.400	220.99	-0.89	-0.85	0.91	40°12'09.100"N	104°39'52.591"W	1.56	
335.00	1.000	296.400	334.99	-0.45	-0.46	-0.27	40°12'09.103"N	104°39'52.607"W	0.68	
399.00	2.400	290.600	398.96	0.35	0.26	-2.03	40°12'09.111"N	104°39'52.629"W	2.20	
463.00	3.400	290.600	462.87	1.61	1.40	-5.06	40°12'09.122"N	104°39'52.668"W	1.56	
527.00	3.700	285.200	526.75	2.97	2.61	-8.83	40°12'09.134"N	104°39'52.717"W	0.70	
591.00	4.400	277.300	590.59	4.00	3.46	-13.26	40°12'09.142"N	104°39'52.774"W	1.40	
655.00	5.700	275.400	654.34	4.84	4.08	-18.86	40°12'09.148"N	104°39'52.846"W	2.05	
719.00	6.900	270.200	717.95	5.44	4.39	-25.87	40°12'09.151"N	104°39'52.936"W	2.07	
783.00	7.200	268.000	781.47	5.63	4.26	-33.72	40°12'09.150"N	104°39'53.038"W	0.63	
846.00	8.200	267.600	843.90	5.65	3.94	-42.15	40°12'09.147"N	104°39'53.146"W	1.59	
910.00	8.400	268.100	907.23	5.68	3.59	-51.39	40°12'09.143"N	104°39'53.265"W	0.33	
974.00	9.100	266.400	970.49	5.61	3.12	-61.11	40°12'09.139"N	104°39'53.391"W	1.17	
1036.00	10.100	265.900	1031.62	5.33	2.42	-71.42	40°12'09.132"N	104°39'53.524"W	1.62	
1101.00	11.300	265.800	1095.49	4.95	1.55	-83.46	40°12'09.123"N	104°39'53.679"W	1.85	
1187.00	13.100	266.300	1179.54	4.44	0.30	-101.59	40°12'09.111"N	104°39'53.912"W	2.10	Tie-Into CATHEDRAL MWD Surveys
1278.00	13.680	268.030	1268.07	4.27	-0.74	-122.64	40°12'09.101"N	104°39'54.184"W	0.77	Begin BHI MWD+IFR Surveys
1372.00	13.540	266.220	1359.43	4.06	-1.84	-144.73	40°12'09.090"N	104°39'54.468"W	0.48	
1465.00	13.470	267.560	1449.86	3.77	-3.02	-166.41	40°12'09.078"N	104°39'54.748"W	0.34	
1558.00	13.220	267.450	1540.35	3.71	-3.96	-187.86	40°12'09.069"N	104°39'55.024"W	0.27	
1652.00	12.540	266.690	1631.98	3.50	-5.02	-208.78	40°12'09.058"N	104°39'55.294"W	0.75	
1745.00	11.800	267.000	1722.89	3.22	-6.10	-228.36	40°12'09.048"N	104°39'55.546"W	0.80	
1838.00	12.550	270.970	1813.80	3.69	-6.43	-247.96	40°12'09.044"N	104°39'55.799"W	1.21	
1931.00	12.760	273.210	1904.54	5.27	-5.68	-268.31	40°12'09.052"N	104°39'56.061"W	0.57	
2025.00	13.150	275.540	1996.15	7.74	-4.07	-289.32	40°12'09.068"N	104°39'56.332"W	0.69	
2118.00	13.840	274.530	2086.58	10.52	-2.17	-310.94	40°12'09.087"N	104°39'56.610"W	0.78	
2211.00	12.440	273.530	2177.14	12.87	-0.68	-332.03	40°12'09.101"N	104°39'56.882"W	1.53	
2305.00	12.970	274.540	2268.84	15.17	0.78	-352.65	40°12'09.116"N	104°39'57.148"W	0.61	
2398.00	12.450	271.900	2359.56	17.16	1.94	-373.07	40°12'09.127"N	104°39'57.411"W	0.84	
2491.00	12.110	268.870	2450.43	18.11	2.08	-392.84	40°12'09.129"N	104°39'57.666"W	0.78	
2584.00	12.570	269.210	2541.29	18.58	1.75	-412.72	40°12'09.125"N	104°39'57.922"W	0.50	
2677.00	12.940	270.730	2631.99	19.42	1.74	-433.25	40°12'09.125"N	104°39'58.187"W	0.54	
2770.00	13.960	269.340	2722.44	20.30	1.75	-454.88	40°12'09.125"N	104°39'58.465"W	1.15	
2863.00	14.610	271.520	2812.56	21.42	1.93	-477.82	40°12'09.127"N	104°39'58.761"W	0.91	
2953.00	13.660	272.470	2899.84	23.07	2.69	-499.78	40°12'09.135"N	104°39'59.044"W	1.09	
3043.00	14.410	268.350	2987.15	24.10	2.82	-521.60	40°12'09.136"N	104°39'59.325"W	1.39	
3132.00	12.660	267.890	3073.68	24.27	2.14	-542.41	40°12'09.129"N	104°39'59.594"W	1.97	
3222.00	12.890	266.950	3161.45	24.18	1.25	-562.29	40°12'09.120"N	104°39'59.850"W	0.34	
3312.00	12.900	267.370	3249.18	24.01	0.25	-582.35	40°12'09.110"N	104°40'00.108"W	0.10	
3402.00	12.040	272.710	3337.06	24.78	0.23	-601.77	40°12'09.110"N	104°40'00.358"W	1.60	
3490.00	11.790	275.150	3423.16	26.76	1.48	-619.89	40°12'09.123"N	104°40'00.592"W	0.64	
3580.00	10.630	269.400	3511.45	28.21	2.21	-637.35	40°12'09.130"N	104°40'00.817"W	1.79	

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Area	COLORADO	Well	CREAM STATE 28C-21HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CREAM STATE 28C-21HZ AWB <12658>
Facility	SEC.28-T3N-R65W		

WELLPATH DATA (152 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
3670.00	11.280	273.970	3599.81	29.43	2.74	-654.43	40°12'09.135"N	104°40'01.037"W	1.20	
3759.00	11.860	274.440	3687.00	31.47	4.05	-672.23	40°12'09.148"N	104°40'01.267"W	0.66	
3849.00	12.140	271.380	3775.03	33.17	4.99	-690.91	40°12'09.157"N	104°40'01.507"W	0.77	
3939.00	12.890	272.350	3862.90	34.61	5.63	-710.41	40°12'09.164"N	104°40'01.759"W	0.87	
4029.00	14.620	268.170	3950.31	35.53	5.68	-731.79	40°12'09.164"N	104°40'02.034"W	2.22	
4119.00	14.070	269.760	4037.51	36.03	5.27	-754.08	40°12'09.160"N	104°40'02.321"W	0.75	
4209.00	12.320	268.320	4125.13	36.54	4.94	-774.62	40°12'09.157"N	104°40'02.586"W	1.98	
4299.00	11.590	267.820	4213.18	36.68	4.32	-793.25	40°12'09.151"N	104°40'02.826"W	0.82	
4389.00	9.860	265.860	4301.60	36.46	3.42	-809.97	40°12'09.142"N	104°40'03.042"W	1.96	
4478.00	10.690	268.810	4389.17	36.38	2.70	-825.83	40°12'09.135"N	104°40'03.246"W	1.10	
4568.00	9.480	267.580	4477.78	36.54	2.21	-841.58	40°12'09.130"N	104°40'03.449"W	1.37	
4658.00	9.070	267.060	4566.60	36.46	1.53	-856.07	40°12'09.123"N	104°40'03.636"W	0.46	
4747.00	7.210	267.970	4654.70	36.41	0.98	-868.66	40°12'09.117"N	104°40'03.798"W	2.09	
4837.00	5.680	273.070	4744.13	36.86	1.01	-878.75	40°12'09.118"N	104°40'03.928"W	1.81	
4927.00	4.050	269.800	4833.81	37.40	1.24	-886.38	40°12'09.120"N	104°40'04.026"W	1.84	
5017.00	2.530	248.900	4923.66	36.88	0.52	-891.41	40°12'09.113"N	104°40'04.091"W	2.12	
5107.00	0.670	239.440	5013.62	35.99	-0.47	-893.71	40°12'09.103"N	104°40'04.121"W	2.08	
5197.00	0.780	209.370	5103.61	35.22	-1.27	-894.47	40°12'09.095"N	104°40'04.131"W	0.43	
5376.00	0.200	243.090	5282.60	34.06	-2.47	-895.34	40°12'09.083"N	104°40'04.142"W	0.35	
5466.00	0.960	162.540	5372.60	33.26	-3.26	-895.26	40°12'09.076"N	104°40'04.141"W	1.05	
5646.00	0.800	293.520	5552.59	32.35	-4.20	-895.96	40°12'09.066"N	104°40'04.150"W	0.89	
5735.00	1.070	140.540	5641.59	31.96	-4.59	-896.00	40°12'09.062"N	104°40'04.150"W	2.04	
5915.00	1.000	219.670	5821.56	29.46	-7.10	-895.93	40°12'09.038"N	104°40'04.150"W	0.73	
6005.00	0.970	293.710	5911.55	29.21	-7.40	-897.13	40°12'09.035"N	104°40'04.165"W	1.32	
6095.00	1.260	79.050	6001.55	29.69	-6.90	-896.86	40°12'09.040"N	104°40'04.162"W	2.37	
6184.00	1.380	35.870	6090.53	30.68	-5.85	-895.27	40°12'09.050"N	104°40'04.141"W	1.10	
6274.00	1.560	11.960	6180.50	32.72	-3.77	-894.38	40°12'09.071"N	104°40'04.130"W	0.70	
6364.00	0.230	354.660	6270.48	34.08	-2.39	-894.14	40°12'09.084"N	104°40'04.127"W	1.49	
6453.00	0.130	117.460	6359.48	34.21	-2.26	-894.07	40°12'09.085"N	104°40'04.126"W	0.36	
6580.00	0.920	350.280	6486.48	35.15	-1.32	-894.12	40°12'09.095"N	104°40'04.126"W	0.79	
6633.00	2.270	350.570	6539.46	36.62	0.13	-894.36	40°12'09.109"N	104°40'04.129"W	2.55	
6678.00	5.630	0.630	6584.34	39.71	3.22	-894.48	40°12'09.140"N	104°40'04.131"W	7.60	
6723.00	8.880	0.590	6628.98	45.38	8.90	-894.42	40°12'09.196"N	104°40'04.130"W	7.22	
6813.00	15.560	359.790	6716.89	64.40	27.94	-894.39	40°12'09.384"N	104°40'04.130"W	7.42	
6902.00	22.840	357.670	6800.88	93.64	57.17	-895.14	40°12'09.673"N	104°40'04.139"W	8.22	
6992.00	28.860	358.050	6881.84	132.87	96.37	-896.59	40°12'10.060"N	104°40'04.158"W	6.69	
7082.00	36.200	358.670	6957.67	181.23	144.71	-897.95	40°12'10.538"N	104°40'04.176"W	8.16	
7127.00	40.640	358.880	6992.92	209.18	172.66	-898.54	40°12'10.814"N	104°40'04.183"W	9.87	
7172.00	44.620	359.180	7026.02	239.64	203.13	-899.06	40°12'11.115"N	104°40'04.190"W	8.86	
7221.00	49.460	359.560	7059.40	275.47	238.98	-899.45	40°12'11.469"N	104°40'04.195"W	9.89	
7264.00	56.640	0.180	7085.23	309.79	273.32	-899.52	40°12'11.809"N	104°40'04.196"W	16.74	
7309.00	64.980	358.700	7107.16	349.02	312.57	-899.92	40°12'12.197"N	104°40'04.201"W	18.75	
7354.00	69.240	358.230	7124.66	390.46	354.00	-901.03	40°12'12.606"N	104°40'04.215"W	9.52	
7398.00	72.980	357.340	7138.90	432.08	395.59	-902.65	40°12'13.017"N	104°40'04.236"W	8.71	
7443.00	80.130	355.350	7149.36	475.81	439.23	-905.44	40°12'13.448"N	104°40'04.272"W	16.46	

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7469.00	84.370	356.740	7152.87	501.55	464.93	-907.22	40°12'13.702"N	104°40'04.295"W	17.15	
7501.00†	87.104	357.807	7155.24	533.46	496.80	-908.74	40°12'14.017"N	104°40'04.315"W	9.17	7" Casing Point
7524.00	89.070	358.570	7156.01	556.44	519.78	-909.46	40°12'14.244"N	104°40'04.324"W	9.17	
7614.00	90.000	358.790	7156.74	646.43	609.75	-911.54	40°12'15.133"N	104°40'04.351"W	1.06	
7703.00	89.720	358.510	7156.96	735.41	698.72	-913.63	40°12'16.013"N	104°40'04.378"W	0.44	
7793.00	90.180	358.260	7157.04	825.41	788.69	-916.17	40°12'16.902"N	104°40'04.411"W	0.58	
7883.00	88.700	356.890	7157.92	915.40	878.60	-919.98	40°12'17.790"N	104°40'04.460"W	2.24	
7973.00	89.380	356.760	7159.43	1005.37	968.45	-924.96	40°12'18.678"N	104°40'04.524"W	0.77	
8063.00	90.210	356.990	7159.75	1095.36	1058.31	-929.87	40°12'19.566"N	104°40'04.587"W	0.96	
8151.00	89.230	356.860	7160.18	1183.35	1146.18	-934.59	40°12'20.434"N	104°40'04.648"W	1.12	
8241.00	88.730	357.170	7161.78	1273.33	1236.05	-939.27	40°12'21.322"N	104°40'04.709"W	0.65	
8330.00	89.290	357.230	7163.32	1362.32	1324.93	-943.62	40°12'22.201"N	104°40'04.765"W	0.63	
8420.00	90.180	358.820	7163.73	1452.31	1414.87	-946.72	40°12'23.090"N	104°40'04.805"W	2.02	
8510.00	90.360	358.410	7163.31	1542.30	1504.84	-948.90	40°12'23.979"N	104°40'04.833"W	0.50	
8600.00	91.530	359.060	7161.83	1632.27	1594.80	-950.88	40°12'24.868"N	104°40'04.859"W	1.49	
8690.00	90.610	357.990	7160.14	1722.24	1684.76	-953.20	40°12'25.757"N	104°40'04.888"W	1.57	
8779.00	90.890	357.910	7158.98	1811.23	1773.69	-956.38	40°12'26.635"N	104°40'04.930"W	0.33	
8870.00	89.930	356.810	7158.33	1902.22	1864.59	-960.58	40°12'27.534"N	104°40'04.984"W	1.60	
8960.00	89.690	356.340	7158.63	1992.21	1954.43	-965.95	40°12'28.421"N	104°40'05.053"W	0.59	
9049.00	90.270	356.750	7158.66	2081.19	2043.27	-971.32	40°12'29.299"N	104°40'05.122"W	0.80	
9139.00	90.640	356.950	7157.94	2171.18	2133.13	-976.26	40°12'30.187"N	104°40'05.186"W	0.47	
9229.00	89.350	357.430	7157.95	2261.17	2223.02	-980.67	40°12'31.076"N	104°40'05.243"W	1.53	
9318.00	89.840	357.830	7158.58	2350.17	2311.94	-984.35	40°12'31.954"N	104°40'05.290"W	0.71	
9408.00	90.030	357.710	7158.68	2440.17	2401.87	-987.86	40°12'32.843"N	104°40'05.336"W	0.25	
9498.00	89.630	357.090	7158.95	2530.17	2491.78	-991.94	40°12'33.731"N	104°40'05.388"W	0.82	
9588.00	89.750	356.980	7159.44	2620.16	2581.65	-996.59	40°12'34.620"N	104°40'05.448"W	0.18	
9678.00	89.690	356.820	7159.88	2710.15	2671.52	-1001.46	40°12'35.508"N	104°40'05.511"W	0.19	
9768.00	89.750	355.900	7160.32	2800.13	2761.34	-1007.17	40°12'36.395"N	104°40'05.585"W	1.02	
9857.00	89.780	357.140	7160.68	2889.11	2850.17	-1012.58	40°12'37.273"N	104°40'05.654"W	1.39	
9947.00	90.120	356.950	7160.76	2979.10	2940.05	-1017.22	40°12'38.161"N	104°40'05.714"W	0.43	
10037.00	90.060	357.940	7160.62	3069.10	3029.96	-1021.23	40°12'39.050"N	104°40'05.766"W	1.10	
10127.00	90.150	357.330	7160.45	3159.10	3119.88	-1024.94	40°12'39.938"N	104°40'05.814"W	0.69	
10217.00	89.960	357.390	7160.37	3249.10	3209.79	-1029.09	40°12'40.827"N	104°40'05.867"W	0.22	
10306.00	89.780	358.410	7160.57	3338.09	3298.73	-1032.35	40°12'41.706"N	104°40'05.909"W	1.16	
10396.00	89.720	357.770	7160.96	3428.09	3388.67	-1035.35	40°12'42.595"N	104°40'05.948"W	0.71	
10486.00	89.720	357.260	7161.40	3518.09	3478.59	-1039.25	40°12'43.483"N	104°40'05.999"W	0.57	
10576.00	89.380	356.290	7162.11	3608.07	3568.44	-1044.31	40°12'44.371"N	104°40'06.064"W	1.14	
10666.00	89.200	356.260	7163.22	3698.04	3658.25	-1050.16	40°12'45.258"N	104°40'06.139"W	0.20	
10755.00	90.120	358.550	7163.75	3787.03	3747.15	-1054.19	40°12'46.137"N	104°40'06.191"W	2.77	
10845.00	90.760	359.840	7163.06	3876.99	3837.13	-1055.45	40°12'47.026"N	104°40'06.208"W	1.60	
10935.00	89.070	359.770	7163.19	3966.93	3927.13	-1055.76	40°12'47.916"N	104°40'06.212"W	1.88	
11025.00	90.060	359.700	7163.88	4056.87	4017.12	-1056.18	40°12'48.805"N	104°40'06.217"W	1.10	
11114.00	90.770	359.910	7163.23	4145.80	4106.12	-1056.48	40°12'49.684"N	104°40'06.221"W	0.83	
11204.00	89.840	358.120	7162.75	4235.77	4196.10	-1058.03	40°12'50.574"N	104°40'06.241"W	2.24	
11294.00	89.850	357.890	7163.00	4325.77	4286.05	-1061.16	40°12'51.462"N	104°40'06.281"W	0.26	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#37 CREAM STATE 28C-21HZ (421'FNL & 1495'FEL, SEC.28)
Area	COLORADO	Well	CREAM STATE 28C-21HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CREAM STATE 28C-21HZ AWP <12658>
Facility	SEC.28-T3N-R65W		

WELLPATH DATA (152 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11384.00	89.690	357.960	7163.36	4415.77	4375.99	-1064.42	40°12'52.351"N	104°40'06.323"W	0.19	
11473.00	88.490	357.410	7164.77	4504.75	4464.90	-1068.01	40°12'53.230"N	104°40'06.370"W	1.48	
11563.00	88.920	357.290	7166.81	4594.73	4554.78	-1072.17	40°12'54.118"N	104°40'06.423"W	0.50	
11652.00	89.100	356.840	7168.34	4683.71	4643.65	-1076.73	40°12'54.996"N	104°40'06.482"W	0.54	
11742.00	89.320	356.740	7169.58	4773.69	4733.50	-1081.77	40°12'55.884"N	104°40'06.547"W	0.27	
11832.00	89.260	356.840	7170.70	4863.67	4823.35	-1086.81	40°12'56.772"N	104°40'06.612"W	0.13	
11921.00	89.220	356.380	7171.88	4952.65	4912.19	-1092.07	40°12'57.650"N	104°40'06.680"W	0.52	
12012.00	89.620	356.180	7172.80	5043.62	5002.99	-1097.97	40°12'58.547"N	104°40'06.756"W	0.49	
12102.00	90.370	355.760	7172.81	5133.58	5092.77	-1104.30	40°12'59.434"N	104°40'06.838"W	0.96	
12192.00	91.720	356.300	7171.17	5223.52	5182.53	-1110.53	40°13'00.321"N	104°40'06.918"W	1.62	
12281.00	91.590	357.280	7168.60	5312.48	5271.36	-1115.51	40°13'01.199"N	104°40'06.982"W	1.11	
12335.00	91.590	357.280	7167.10	5366.45	5325.28	-1118.07	40°13'01.732"N	104°40'07.016"W	0.00	
12371.00	90.490	357.730	7166.45	5402.45	5361.23	-1119.64	40°13'02.087"N	104°40'07.036"W	3.30	
12461.00	90.830	357.420	7165.41	5492.44	5451.15	-1123.45	40°13'02.976"N	104°40'07.085"W	0.51	
12551.00	90.090	356.320	7164.69	5582.43	5541.01	-1128.36	40°13'03.864"N	104°40'07.148"W	1.47	
12604.00	88.730	355.980	7165.23	5635.40	5593.89	-1131.92	40°13'04.386"N	104°40'07.194"W	2.64	Last BHI MWD+IFR Surveys
12658.00	88.730	355.980	7166.43	5689.37	5647.74	-1135.70	40°13'04.919"N	104°40'07.243"W	0.00	Projection to Bit

HOLE & CASING SECTIONS - Ref Wellbore: CREAM STATE 28C-21HZ AWP <12658> Ref Wellpath: CREAM STATE 28C-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	1232.00	1212.00	20.00	1223.34	0.00	0.00	-0.29	-111.88	
9.625in Casing Surface	20.00	1222.00	1202.00	20.00	1213.61	0.00	0.00	-0.17	-109.58	
8.75in Open Hole	1232.00	7511.00	6279.00	1223.34	7155.67	-0.29	-111.88	506.79	-909.09	
7in Casing Intermediate	20.00	7501.00	7481.00	20.00	7155.24	0.00	0.00	496.80	-908.74	
6.125in Open Hole	7511.00	12658.00	5147.00	7155.67	7166.43	506.79	-909.09	5647.74	-1135.70	

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	-1.11	119.80	1734184.18	14600660.39	40°12'09.097"N	104°39'51.059"W	polygon	
SEC.28-T3N-R65W LINES	0.00	-1.11	119.80	1734184.18	14600660.39	40°12'09.097"N	104°39'51.059"W	polygon	
CREAM STATE 28C-21HZ LANDBOX	7060.00	-0.40	29.87	1734094.28	14600660.76	40°12'09.104"N	104°39'52.218"W	polygon	
CREAM STATE 28C-21HZ BHL ON PLAT (50'FNL & 2565'FWL, SEC.21) REV-1	7174.00	5648.13	-1097.83	1732945.69	14606302.78	40°13'04.922"N	104°40'06.755"W	point	



Actual Wellpath Report
CREAM STATE 28C-21HZ AWP
Page 6 of 7



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#37 CREAM STATE 28C-21HZ (421'FNL & 1495'FEL, SEC.28)
Area	COLORADO	Well	CREAM STATE 28C-21HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CREAM STATE 28C-21HZ AWB <12658>
Facility	SEC.28-T3N-R65W		

WELLPATH COMPOSITION - Ref Wellbore: CREAM STATE 28C-21HZ AWB <12658> Ref Wellpath: CREAM STATE 28C-21HZ AWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
20.00	1187.00	Custom APC_ISCWSA REV 2 MWD	CATHEDRAL ENERGY MWD SURVEYS <99-1187>	CREAM STATE 28C-21HZ AWB <12658>
1187.00	7469.00	Custom APC_ISCWSA REV 2 MWD+IFR1+SC (approximation)	BHI MWD+IFR SURVEYS 8 3/4" HOLE <1278-7469>	CREAM STATE 28C-21HZ AWB <12658>
7469.00	12604.00	Custom APC_ISCWSA REV 2 MWD+IFR1 (approximation)	BHI MWED+IFR SURVEYS <7524-12604>	CREAM STATE 28C-21HZ AWB <12658>
12604.00	12658.00	Blind Drilling (std)	Projection to bit	CREAM STATE 28C-21HZ AWB <12658>



Actual Wellpath Report
CREAM STATE 28C-21HZ AWP
Page 7 of 7



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#37 CREAM STATE 28C-21HZ (421'FNL & 1495'FEL, SEC.28)
Area	COLORADO	Well	CREAM STATE 28C-21HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CREAM STATE 28C-21HZ AWB <12658>
Facility	SEC.28-T3N-R65W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
20.00	0.000	117.300	20.00	Tie-On
99.00	0.500	117.300	99.00	Begin CATHEDRAL MWD Surveys
1187.00	13.100	266.300	1179.54	Tie-Into CATHEDRAL MWD Surveys
1278.00	13.680	268.030	1268.07	Begin BHI MWD+IFR Surveys
7501.00	87.104	357.807	7155.24	7" Casing Point
12604.00	88.730	355.980	7165.23	Last BHI MWD+IFR Surveys
12658.00	88.730	355.980	7166.43	Projection to Bit