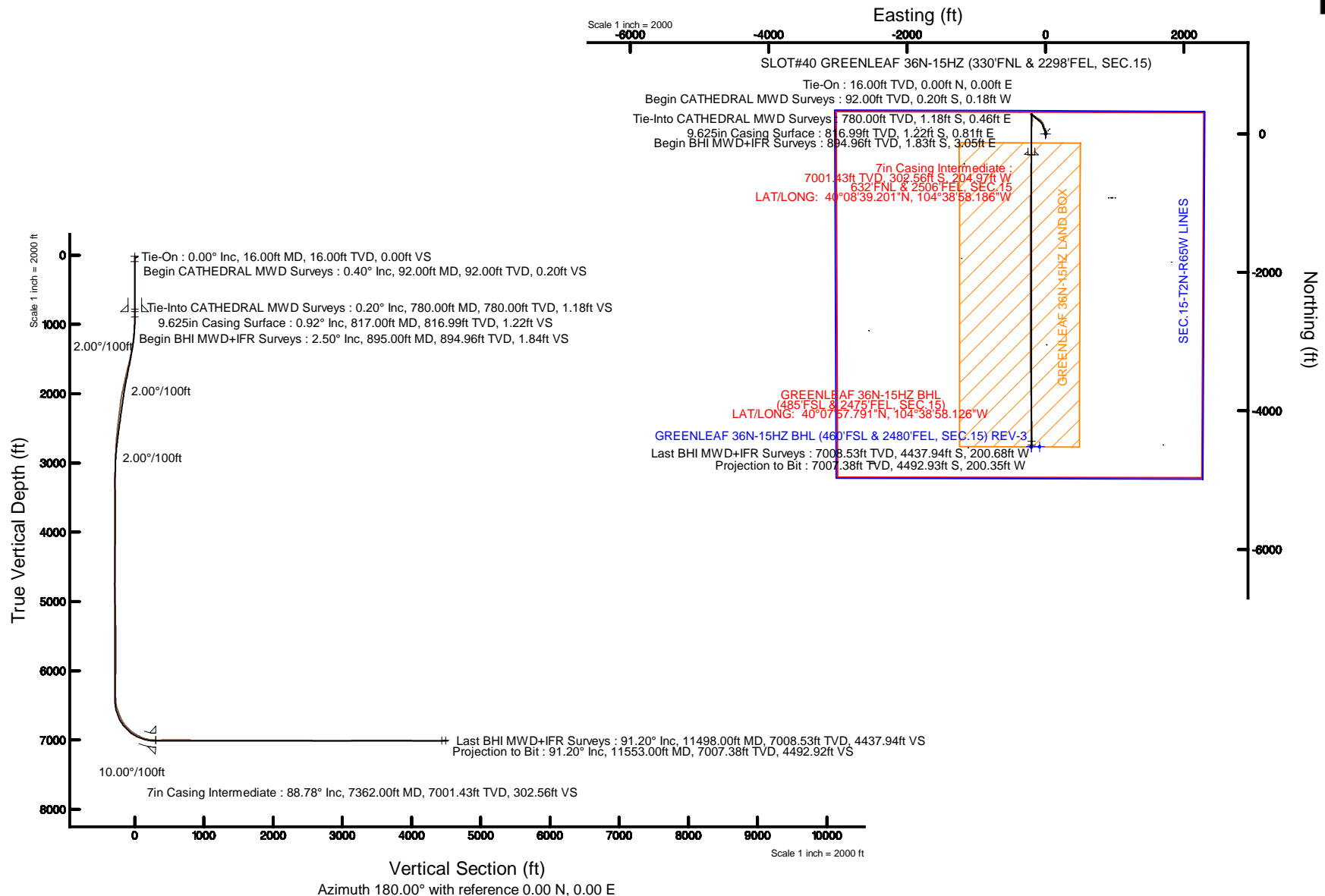


KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#40 GREENLEAF 36N-15HZ (330°FNL & 2298°FEL, SEC.15)
 Field: WELD COUNTY (KERR MCGEE) Well: GREENLEAF 36N-15HZ
 Facility: SEC.15-T2N-R65W Wellbore: GREENLEAF 36N-15HZ PWB

Plot reference wellpath is GREENLEAF 36N-15HZ (REV-C.0) PWP

True vertical depths are referenced to XTREME 23 (16'KB) (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to XTREME 23 (16'KB) (RKB)	North Reference: True north
XTREME 23 (16'KB) (RKB) to Mean Sea Level: 4884 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#40 GREENLEAF 36N-15HZ (330°FNL & 2298°FEL, SEC.15)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: precalin on 3/3/2015



Actual Wellpath Report

GREENLEAF 36N-15HZ AWP

Page 1 of 5

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#40 GREENLEAF 36N-15HZ (330'FNL & 2298'FEL, SEC.15)
Area	COLORADO	Well	GREENLEAF 36N-15HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	GREENLEAF 36N-15HZ AWB <11553>
Facility	SEC.15-T2N-R65W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 4.1.1
North Reference	True	User	Precain
Scale	0.999959	Report Generated	3/3/2015 at 5:02:37 PM
Convergence at slot	0.55° East	Database/Source file	WellArchitectDB/GREENLEAF_36N-15HZ_AWB__11553_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	922.80	-909.46	3237966.20	1296828.49	40°08'42.191"N	104°38'55.547"W
Facility Reference Pt			3238884.46	1295914.54	40°08'33.072"N	104°38'43.836"W
Field Reference Pt			3197771.84	1268891.29	40°04'09.600"N	104°47'36.000"W

WELLPATH DATUM

Calculation method	Minimum curvature	XTREME 23 (16'KB) (RKB) to Facility Vertical Datum	4884.00ft
Horizontal Reference Pt	Slot	XTREME 23 (16'KB) (RKB) to Mean Sea Level	4884.00ft
Vertical Reference Pt	XTREME 23 (16'KB) (RKB)	XTREME 23 (16'KB) (RKB) to Mud Line at Slot (SLOT#40 GREENLEAF 36N-15HZ (330'FNL & 2298'FEL, SEC.15))	4884.00ft
MD Reference Pt	XTREME 23 (16'KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	180.00°

Actual Wellpath Report

GREENLEAF 36N-15HZ AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#40 GREENLEAF 36N-15HZ (330'FNL & 2298'FEL, SEC.15)
Area	COLORADO	Well	GREENLEAF 36N-15HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	GREENLEAF 36N-15HZ AWB <11553>
Facility	SEC.15-T2N-R65W		

WELLPATH DATA (96 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	222.600	0.00	0.00	0.00	0.00	40°08'42.191"N	104°38'55.547"W	0.00	
16.00	0.000	222.600	16.00	0.00	0.00	0.00	40°08'42.191"N	104°38'55.547"W	0.00	Tie-On
92.00	0.400	222.600	92.00	0.20	-0.20	-0.18	40°08'42.189"N	104°38'55.549"W	0.53	Begin CATHEDRAL MWD Surveys
171.00	0.200	187.400	171.00	0.53	-0.53	-0.38	40°08'42.186"N	104°38'55.552"W	0.33	
249.00	0.200	212.200	249.00	0.79	-0.79	-0.47	40°08'42.183"N	104°38'55.553"W	0.11	
330.00	0.200	98.300	330.00	0.93	-0.93	-0.41	40°08'42.182"N	104°38'55.552"W	0.41	
410.00	0.000	0.000	410.00	0.95	-0.95	-0.27	40°08'42.182"N	104°38'55.550"W	0.25	
490.00	0.000	0.000	490.00	0.95	-0.95	-0.27	40°08'42.182"N	104°38'55.550"W	0.00	
570.00	0.300	158.400	570.00	1.14	-1.14	-0.19	40°08'42.180"N	104°38'55.550"W	0.37	
650.00	0.200	75.800	650.00	1.30	-1.30	0.02	40°08'42.178"N	104°38'55.547"W	0.42	
730.00	0.200	74.700	730.00	1.23	-1.23	0.29	40°08'42.179"N	104°38'55.543"W	0.00	
780.00	0.200	71.300	780.00	1.18	-1.18	0.46	40°08'42.179"N	104°38'55.541"W	0.02	Tie-Into CATHEDRAL MWD Surveys
895.00	2.500	106.700	894.96	1.84	-1.83	3.05	40°08'42.173"N	104°38'55.508"W	2.03	Begin BHI MWD+IFR Surveys
988.00	2.200	67.900	987.88	1.75	-1.75	6.64	40°08'42.174"N	104°38'55.461"W	1.71	
1082.00	3.100	358.000	1081.80	-1.47	1.47	8.23	40°08'42.206"N	104°38'55.441"W	3.32	
1270.00	9.200	339.700	1268.65	-20.67	20.67	2.83	40°08'42.395"N	104°38'55.511"W	3.37	
1363.00	12.800	340.000	1359.92	-37.33	37.33	-3.27	40°08'42.560"N	104°38'55.589"W	3.87	
1457.00	13.300	342.400	1451.50	-57.42	57.42	-10.10	40°08'42.758"N	104°38'55.677"W	0.78	
1552.00	13.800	343.600	1543.85	-78.70	78.70	-16.61	40°08'42.969"N	104°38'55.761"W	0.60	
1643.00	14.000	343.500	1632.19	-99.67	99.67	-22.80	40°08'43.176"N	104°38'55.841"W	0.22	
1736.00	13.500	343.500	1722.52	-120.87	120.86	-29.08	40°08'43.385"N	104°38'55.921"W	0.54	
1827.00	13.600	337.300	1810.99	-140.92	140.92	-36.22	40°08'43.584"N	104°38'56.013"W	1.60	
1918.00	14.500	329.000	1899.28	-160.56	160.56	-46.22	40°08'43.778"N	104°38'56.142"W	2.42	
2010.00	15.000	318.800	1988.26	-179.39	179.39	-60.00	40°08'43.964"N	104°38'56.320"W	2.87	
2104.00	14.000	309.200	2079.28	-195.74	195.73	-76.82	40°08'44.125"N	104°38'56.536"W	2.77	
2196.00	13.000	301.900	2168.74	-208.24	208.24	-94.23	40°08'44.249"N	104°38'56.760"W	2.15	
2288.00	12.600	301.700	2258.46	-218.98	218.98	-111.56	40°08'44.355"N	104°38'56.984"W	0.44	
2381.00	12.600	303.500	2349.22	-229.91	229.91	-128.65	40°08'44.463"N	104°38'57.204"W	0.42	
2474.00	10.600	305.200	2440.31	-240.44	240.44	-144.10	40°08'44.567"N	104°38'57.403"W	2.18	
2566.00	9.900	305.100	2530.85	-249.87	249.86	-157.48	40°08'44.660"N	104°38'57.575"W	0.76	
2657.00	9.600	304.200	2620.53	-258.63	258.63	-170.16	40°08'44.747"N	104°38'57.738"W	0.37	
2749.00	7.500	302.500	2711.50	-266.17	266.16	-181.57	40°08'44.821"N	104°38'57.885"W	2.30	
2841.00	6.100	297.600	2802.85	-271.66	271.66	-190.96	40°08'44.876"N	104°38'58.006"W	1.65	
2933.00	4.400	290.800	2894.47	-275.18	275.17	-198.59	40°08'44.910"N	104°38'58.104"W	1.96	
3025.00	2.400	305.000	2986.30	-277.54	277.53	-203.47	40°08'44.934"N	104°38'58.167"W	2.34	
3117.00	2.400	302.600	3078.22	-279.68	279.67	-206.67	40°08'44.955"N	104°38'58.208"W	0.11	
3208.00	0.800	299.600	3169.18	-281.02	281.02	-208.83	40°08'44.968"N	104°38'58.236"W	1.76	
3300.00	0.900	307.100	3261.17	-281.78	281.77	-209.97	40°08'44.975"N	104°38'58.251"W	0.16	
3385.00	0.800	137.500	3346.17	-281.74	281.73	-210.10	40°08'44.975"N	104°38'58.252"W	1.99	
3472.00	0.800	124.700	3433.16	-280.95	280.94	-209.19	40°08'44.967"N	104°38'58.241"W	0.20	
3900.00	0.300	288.600	3861.15	-279.60	279.60	-207.79	40°08'44.954"N	104°38'58.223"W	0.26	
4328.00	1.200	61.400	4289.12	-282.11	282.10	-204.92	40°08'44.979"N	104°38'58.186"W	0.33	
4754.00	1.600	48.000	4714.99	-288.22	288.21	-196.58	40°08'45.039"N	104°38'58.078"W	0.12	
4841.00	1.600	182.300	4801.98	-287.82	287.81	-195.73	40°08'45.035"N	104°38'58.067"W	3.39	
5269.00	1.400	171.600	5229.83	-276.68	276.67	-195.21	40°08'44.925"N	104°38'58.061"W	0.08	

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#40 GREENLEAF 36N-15HZ (330'FNL & 2298'FEL, SEC.15)
Area	COLORADO	Well	GREENLEAF 36N-15HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	GREENLEAF 36N-15HZ AWB <11553>
Facility	SEC.15-T2N-R65W		

WELLPATH DATA (96 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
5695.00	0.500	101.300	5655.78	-271.16	271.16	-192.62	40°08'44.871"N	104°38'58.027"W	0.31	
5867.00	2.000	90.000	5827.74	-271.02	271.01	-188.88	40°08'44.869"N	104°38'57.979"W	0.88	
5952.00	1.600	316.900	5912.72	-271.88	271.88	-188.21	40°08'44.878"N	104°38'57.971"W	3.89	
6125.00	1.200	315.300	6085.66	-274.93	274.93	-191.14	40°08'44.908"N	104°38'58.008"W	0.23	
6298.00	0.800	322.100	6258.64	-277.18	277.17	-193.15	40°08'44.930"N	104°38'58.034"W	0.24	
6425.00	2.900	183.800	6385.59	-274.67	274.66	-193.91	40°08'44.905"N	104°38'58.044"W	2.79	
6468.00	3.400	175.600	6428.53	-272.31	272.31	-193.88	40°08'44.882"N	104°38'58.044"W	1.56	
6553.00	11.800	176.700	6512.70	-261.10	261.10	-193.19	40°08'44.771"N	104°38'58.035"W	9.88	
6639.00	19.900	176.000	6595.37	-237.68	237.68	-191.66	40°08'44.540"N	104°38'58.015"W	9.42	
6726.00	25.700	183.500	6675.55	-204.05	204.04	-191.78	40°08'44.207"N	104°38'58.017"W	7.44	
6813.00	32.300	186.700	6751.60	-162.09	162.08	-195.65	40°08'43.793"N	104°38'58.066"W	7.79	
6898.00	42.400	185.500	6819.09	-110.87	110.86	-201.06	40°08'43.287"N	104°38'58.136"W	11.91	
6983.00	53.000	181.900	6876.22	-48.23	48.22	-204.94	40°08'42.668"N	104°38'58.186"W	12.85	
7069.00	61.100	179.800	6922.96	23.86	-23.87	-205.95	40°08'41.955"N	104°38'58.199"W	9.64	
7156.00	67.300	178.500	6960.81	102.14	-102.15	-204.77	40°08'41.182"N	104°38'58.184"W	7.25	
7241.00	75.700	179.600	6987.76	182.66	-182.67	-203.45	40°08'40.386"N	104°38'58.167"W	9.96	
7326.00	87.400	181.300	7000.23	266.59	-266.59	-204.13	40°08'39.556"N	104°38'58.176"W	13.91	
7362.00†	88.779	181.377	7001.43	302.56	-302.56	-204.97	40°08'39.201"N	104°38'58.186"W	3.84	7" Casing Point
7420.00	91.000	181.500	7001.54	360.53	-360.54	-206.42	40°08'38.628"N	104°38'58.205"W	3.84	
7506.00	91.000	181.000	7000.04	446.50	-446.51	-208.30	40°08'37.779"N	104°38'58.229"W	0.58	
7593.00	89.800	181.100	6999.43	533.48	-533.49	-209.89	40°08'36.919"N	104°38'58.250"W	1.38	
7765.00	89.800	180.800	7000.03	705.46	-705.47	-212.75	40°08'35.220"N	104°38'58.286"W	0.17	
7937.00	88.300	180.600	7002.88	877.42	-877.42	-214.85	40°08'33.520"N	104°38'58.313"W	0.88	
8023.00	89.300	179.900	7004.69	963.39	-963.40	-215.22	40°08'32.671"N	104°38'58.318"W	1.42	
8195.00	90.100	180.200	7005.59	1135.39	-1135.40	-215.37	40°08'30.971"N	104°38'58.320"W	0.50	
8368.00	89.400	179.800	7006.34	1308.39	-1308.40	-215.37	40°08'29.261"N	104°38'58.320"W	0.47	
8455.00	90.400	180.800	7006.49	1395.38	-1395.39	-215.83	40°08'28.402"N	104°38'58.326"W	1.63	
8540.00	89.500	180.100	7006.57	1480.38	-1480.39	-216.49	40°08'27.562"N	104°38'58.335"W	1.34	
8627.00	89.600	180.000	7007.25	1567.38	-1567.38	-216.57	40°08'26.702"N	104°38'58.336"W	0.16	
8711.00	90.000	180.400	7007.54	1651.38	-1651.38	-216.86	40°08'25.872"N	104°38'58.339"W	0.67	
8796.00	90.300	180.100	7007.32	1736.37	-1736.38	-217.23	40°08'25.032"N	104°38'58.344"W	0.50	
8883.00	91.200	180.700	7006.18	1823.36	-1823.37	-217.84	40°08'24.172"N	104°38'58.352"W	1.24	
8968.00	89.600	179.800	7005.59	1908.36	-1908.36	-218.21	40°08'23.332"N	104°38'58.357"W	2.16	
9144.00	91.400	180.700	7004.05	2084.34	-2084.35	-218.98	40°08'21.593"N	104°38'58.367"W	1.14	
9231.00	90.300	180.400	7002.76	2171.32	-2171.33	-219.82	40°08'20.734"N	104°38'58.377"W	1.31	
9318.00	89.900	179.800	7002.61	2258.32	-2258.33	-219.97	40°08'19.874"N	104°38'58.379"W	0.83	
9403.00	88.600	180.400	7003.72	2343.31	-2343.32	-220.12	40°08'19.034"N	104°38'58.381"W	1.68	
9488.00	88.800	180.600	7005.65	2428.29	-2428.30	-220.86	40°08'18.194"N	104°38'58.391"W	0.33	
9574.00	89.000	180.300	7007.30	2514.27	-2514.28	-221.53	40°08'17.345"N	104°38'58.399"W	0.42	
9746.00	88.800	179.300	7010.60	2686.24	-2686.24	-220.93	40°08'15.645"N	104°38'58.392"W	0.59	
9833.00	90.200	179.800	7011.36	2773.23	-2773.23	-220.25	40°08'14.786"N	104°38'58.383"W	1.71	
10006.00	91.000	180.600	7009.55	2946.21	-2946.22	-220.85	40°08'13.076"N	104°38'58.391"W	0.65	
10093.00	90.100	179.400	7008.72	3033.21	-3033.21	-220.85	40°08'12.217"N	104°38'58.391"W	1.72	
10178.00	90.600	180.000	7008.20	3118.20	-3118.21	-220.41	40°08'11.377"N	104°38'58.385"W	0.92	
10350.00	90.300	178.800	7006.85	3290.19	-3290.19	-218.61	40°08'09.677"N	104°38'58.362"W	0.72	

Actual Wellpath Report

GREENLEAF 36N-15HZ AWP

Page 4 of 5

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#40 GREENLEAF 36N-15HZ (330'FNL & 2298'FEL, SEC.15)
Area	COLORADO	Well	GREENLEAF 36N-15HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	GREENLEAF 36N-15HZ AWB <11553>
Facility	SEC.15-T2N-R65W		

WELLPATH DATA (96 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
10609.00	90.000	178.600	7006.17	3549.12	-3549.13	-212.73	40°08'07.118"N	104°38'58.286"W	0.14	
10865.00	90.000	179.200	7006.17	3805.07	-3805.08	-207.82	40°08'04.589"N	104°38'58.223"W	0.23	
11123.00	88.700	178.500	7009.10	4062.99	-4063.00	-202.64	40°08'02.040"N	104°38'58.156"W	0.57	
11382.00	90.700	180.500	7010.45	4321.95	-4321.96	-200.38	40°07'59.481"N	104°38'58.127"W	1.09	
11498.00	91.200	179.800	7008.53	4437.94	-4437.94	-200.68	40°07'58.335"N	104°38'58.131"W	0.74	Last BHI MWD+IFR Surveys
11553.00	91.200	179.500	7007.38	4492.92	-4492.93	-200.35	40°07'57.791"N	104°38'58.126"W	0.55	Projection to Bit

HOLE & CASING SECTIONS - Ref Wellbore: GREENLEAF 36N-15HZ AWB <11553> Ref Wellpath: GREENLEAF 36N-15HZ 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	16.00	825.00	809.00	16.00	824.99	0.00	0.00	-1.25	0.94
9.625in Casing Surface	16.00	817.00	801.00	16.00	816.99	0.00	0.00	-1.22	0.81
8.75in Open Hole	825.00	7372.00	6547.00	824.99	7001.61	-1.25	0.94	-312.56	-205.21
7in Casing Intermediate	16.00	7362.00	7346.00	16.00	7001.43	0.00	0.00	-302.56	-204.97
6.125in Open Hole	7372.00	11553.00	4181.00	7001.61	7007.38	-312.56	-205.21	-4492.93	-200.35

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
GREENLEAF 36N-15HZ LAND BOX	16.00	-0.02	0.02	3237966.21	1296828.47	40°08'42.191"N	104°38'55.547"W	polygon
SEC.15-T2N-R65W LINES	16.00	-0.02	0.02	3237966.21	1296828.47	40°08'42.191"N	104°38'55.547"W	polygon
GREENLEAF 36N-15HZ BHL (460'FSL & 2480'FEL, SEC.15) REV-2	6999.00	-4518.72	-205.82	3237803.77	1292308.19	40°07'57.537"N	104°38'58.197"W	point
GREENLEAF 36N-15HZ BHL ON PLAT (460'FSL & 2360'FEL, SEC.15) REV-1	6999.00	-4518.72	-85.82	3237923.76	1292309.34	40°07'57.537"N	104°38'56.652"W	point
GREENLEAF 36N-15HZ BHL (460'FSL & 2480'FEL, SEC.15) REV-3	7012.00	-4518.72	-205.82	3237803.77	1292308.19	40°07'57.537"N	104°38'58.197"W	point

WELLPATH COMPOSITION - Ref Wellbore: GREENLEAF 36N-15HZ AWB <11553> Ref Wellpath: GREENLEAF 36N-15HZ AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
16.00	780.00	ISCWSA MWD, Rev. 3 (Standard)	CATHEDRAL ENERGY MWD SURVEYS <92-780>	GREENLEAF 36N-15HZ AWB <11553>
780.00	7326.00	NaviTrak (MAGCORR,IFR)	BHI MWD+IFR SURVEYS 8 3/4" HOLE <895-7326>	GREENLEAF 36N-15HZ AWB <11553>
7326.00	11498.00	NaviTrak (MAGCORR,IFR)	BHI MWD+IFR SURVEYS 6 1/8" HOLE <7420-11498>	GREENLEAF 36N-15HZ AWB <11553>
11498.00	11553.00	Blind Drilling (std)	Projection to bit	GREENLEAF 36N-15HZ AWB <11553>

Actual Wellpath Report

GREENLEAF 36N-15HZ AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#40 GREENLEAF 36N-15HZ (330'FNL & 2298'FEL, SEC.15)
Area	COLORADO	Well	GREENLEAF 36N-15HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	GREENLEAF 36N-15HZ AWB <11553>
Facility	SEC.15-T2N-R65W		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
16.00	0.000	222.600	16.00	Tie-On
92.00	0.400	222.600	92.00	Begin CATHEDRAL MWD Surveys
780.00	0.200	71.300	780.00	Tie-Into CATHEDRAL MWD Surveys
895.00	2.500	106.700	894.96	Begin BHI MWD+IFR Surveys
7362.00	88.779	181.377	7001.43	7" Casing Point
11498.00	91.200	179.800	7008.53	Last BHI MWD+IFR Surveys
11553.00	91.200	179.500	7007.38	Projection to Bit