KERR-MCGEE OIL & GAS ONSHORE LP

Location:	COLORADO	Slot:	SLOT#27 GREENLEAF 28C-2HZ (452' FSL & 1795' FEL, SEC.02)
Field:	WELD COUNTY (KERR MCGEE)	Well:	GREENLEAF 28C-2HZ
Facility:	SEC.02-T2N-R65W	Wellbore:	GREENLEAF 28C-2HZ PWB

Plot reference wellpath is GREENLEAF 28C-2HZ (REV-A.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: 4862 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#27 GREENLEAF 28C-2HZ (452' FSL & 1795' FEL, SEC.02)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: precain on 1/6/2015

Location Information

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.02-T2N-R65W			3244904.724	1303182.744	40°09'44.316"N	104°37'25.392"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#27 GREENLEAF 28C-2HZ (452' FSL & 1795' FEL, SEC.02)	-231.30	-1129.19	3243777.927	1302940.305	40°09'42.030"N	104°37'39.936"W
XTREME 23 (16'KB) (RKB) to Mud line (At Slot: SLOT#27 GREENLEAF 28C-2HZ (452' FSL & 1795' FEL, SEC.02))					4862ft	
Mean Sea Level to Mud line (At Slot: SLOT#27 GREENLEAF 28C-2HZ (452' FSL & 1795' FEL, SEC.02))					0ft	
XTREME 23 (16'KB) (RKB) to Mean Sea Level					4862ft	

Survey Program

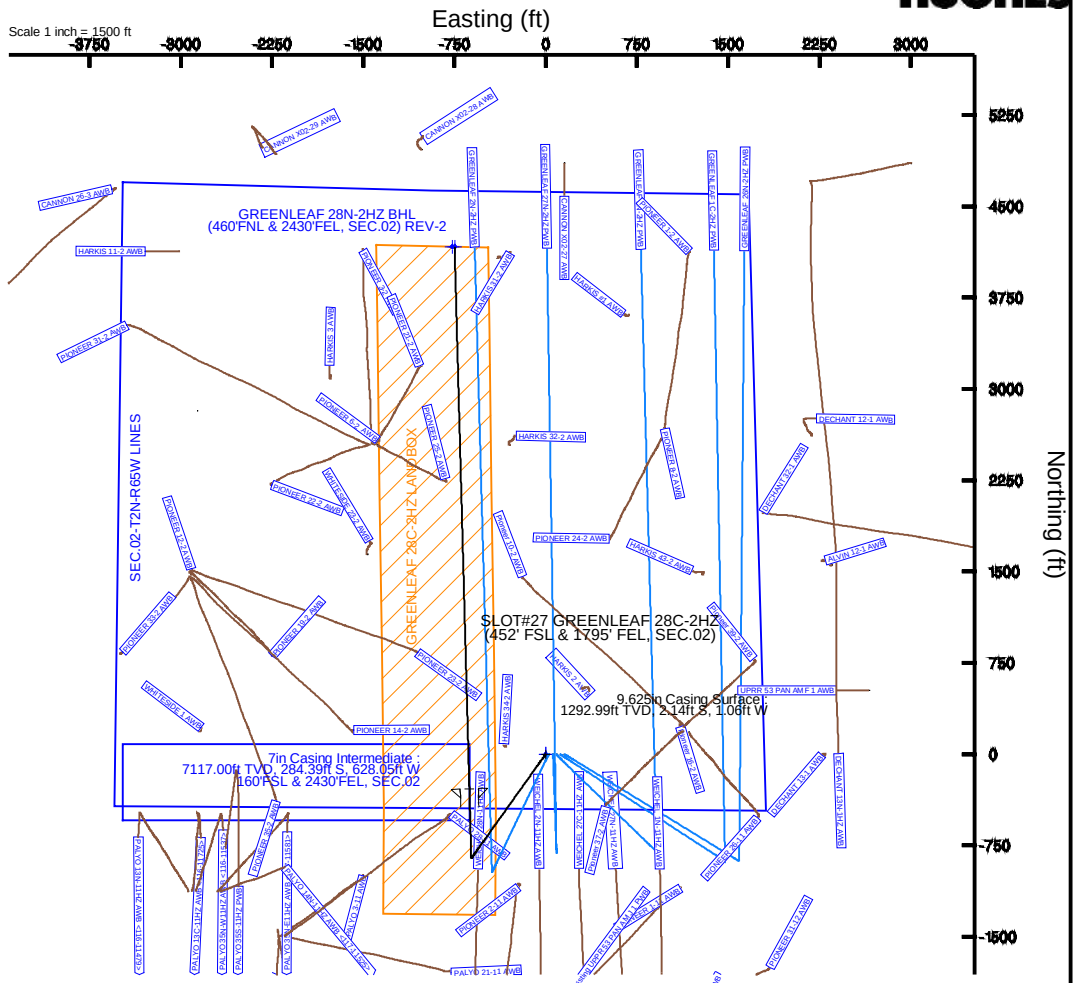
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
16.00	1258.00	ISCWSA MWD, Rev. 2	ISCWSA MWD, Rev. 2 (Standard)		GREENLEAF 28C-2HZ AWB
1258.00	7608.60	NaviTrak	NaviTrak (MAGCORR,IFR)		GREENLEAF 28C-2HZ PWB
7608.60	12062.94	NaviTrak	NaviTrak (MAGCORR,IFR)		GREENLEAF 28C-2HZ PWB

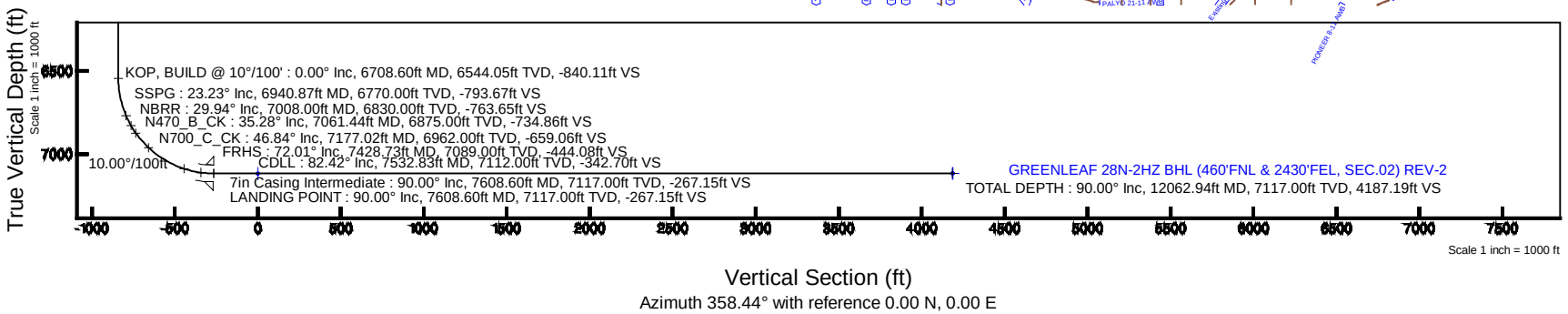
Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
TIE-INTO CATHEDRAL MWD SURVEYS	1258.00	0.700	224.900	1257.99	-1.84	-0.76	0.45	-1.81
BEGIN NUDGE	1425.02	0.700	224.900	1425.00	-3.28	-2.20	0.00	-3.22
END NUDGE	2390.51	20.000	215.500	2370.30	-143.20	-103.20	2.00	-140.33
BEGIN DROP	4449.37	20.000	215.500	4305.00	-716.48	-512.12	0.00	-702.24
END DROP	5449.37	0.000	358.439	5284.82	-857.13	-612.44	2.00	-840.11
KOP, BUILD @ 10°/100'	6708.60	0.000	358.439	6544.05	-857.13	-612.44	0.00	-840.11
LANDING POINT	7608.60	90.000	358.439	7117.00	-284.39	-628.05	10.00	-267.15
TOTAL DEPTH	12062.94	90.000	358.440	7117.00	4168.30	-749.34	0.00	4187.19

Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.02-T2N-R65W LINES		0.00	0.00	0.00	3243777.93	1302940.31	40°09'42.030"N	104°37'39.936"W
GREENLEAF 28N-2HZ BHL (460'FNL & 2430'FEL, SEC.02) REV-2	12062.94	7117.00	4168.30	-749.34	3242987.66	1307100.85	40°10'23.221"N	104°37'49.589"W
GREENLEAF 28N-2HZ BHL ON PLAT (460'FNL & 2450'FEL, SEC.02) REV-1		7117.00	4168.30	-769.34	3242967.66	1307100.65	40°10'23.221"N	104°37'49.847"W
GREENLEAF 28C-2HZ LANDBOX		7118.00	0.00	0.00	3243777.93	1302940.31	40°09'42.030"N	104°37'39.936"W





Planned Wellpath Report

GREENLEAF 28C-2HZ (REV-A.0) PWP

REFERENCE WELLPATH IDENTIFICATION			
Operator	**KERR-MCGEE OIL & GAS ONSHORE LP**	Slot	**SLOT#27 GREENLEAF 28C-2HZ (452' FSL & 1795' FEL, SEC.02)**
Area	**COLORADO**	Well	**GREENLEAF 28C-2HZ**
Field	**WELD COUNTY (KERR MCGEE)**	Wellbore	**GREENLEAF 28C-2HZ PWB**
Facility	**SEC.02-T2N-R65W**		

REPORT SETUP INFORMATION			
Projection System	**NAD83 / Lambert Colorado SP, Northern Zone (501), US feet**	Software System	**WellArchitect® 4.0.0**
North Reference	**True**	User	**Precain**
Scale	**0.999958**	Report Generated	**1/6/2015** at **10:34:03 AM**
Convergence at slot	**n/a**	Database/Source file	**WellArchitectDB/GREENLEAF_28C-2HZ_PWB.xml**

WELLPATH LOCATION	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	**East[ft]**	**Easting[US ft]**	**Northing[US ft]**	**Latitude**	**Longitude**
Slot Location	-231.30	-1129.19	3243777.93	1302940.31	**40°09'42.030"N**	**104°37'39.936"W**
Facility Reference Pt			3244904.72	1303182.74	**40°09'44.316"N**	**104°37'25.392"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	**4862.00ft**
Horizontal Reference Pt	**Slot**	XTREME 23 (16'KB) (RKB) to Mean Sea Level	**4862.00ft**
Vertical Reference Pt	**XTREME 23 (16'KB) (RKB)**	XTREME 23 (16'KB) (RKB) to Mud Line at Slot (SLOT#27 GREENLEAF 28C-2HZ (452' FSL & 1795' FEL, SEC.02))	**4862.00ft**
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	**358.44°**

REFERENCE WELLPATH IDENTIFICATION			
Operator	**KERR-MCGEE OIL & GAS ONSHORE LP**	Slot	**SLOT#27 GREENLEAF 28C-2HZ (452' FSL & 1795' FEL, SEC.02)**
Area	**COLORADO**	Well	**GREENLEAF 28C-2HZ**
Field	**WELD COUNTY (KERR MCGEE)**	Wellbore	**GREENLEAF 28C-2HZ PWB**
Facility	**SEC.02-T2N-R65W**		

WELLPATH DATA (141 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	70.600	0.00	0.00	0.00	0.00	40°09'42.030"N	104°37'39.936"W	0.00	
16.00	0.000	70.600	16.00	0.00	0.00	0.00	40°09'42.030"N	104°37'39.936"W	0.00	
129.00	0.200	70.600	129.00	0.06	0.07	0.19	40°09'42.031"N	104°37'39.934"W	0.18	
209.00	0.200	98.700	209.00	0.08	0.09	0.46	40°09'42.031"N	104°37'39.930"W	0.12	
289.00	0.400	93.200	289.00	0.03	0.05	0.87	40°09'42.031"N	104°37'39.925"W	0.25	
369.00	0.100	213.700	369.00	-0.05	-0.02	1.11	40°09'42.030"N	104°37'39.922"W	0.57	
449.00	0.300	238.000	449.00	-0.21	-0.19	0.90	40°09'42.028"N	104°37'39.924"W	0.27	
529.00	0.100	276.900	529.00	-0.31	-0.29	0.65	40°09'42.027"N	104°37'39.928"W	0.29	
609.00	0.100	278.300	609.00	-0.29	-0.27	0.51	40°09'42.027"N	104°37'39.929"W	0.00	
689.00	0.100	152.300	689.00	-0.34	-0.32	0.47	40°09'42.027"N	104°37'39.930"W	0.22	
769.00	0.100	152.700	769.00	-0.46	-0.45	0.54	40°09'42.026"N	104°37'39.929"W	0.00	
773.00†	0.100	152.202	773.00	-0.47	-0.45	0.54	40°09'42.026"N	104°37'39.929"W	0.02	Base Fox Hills
849.00	0.100	142.700	849.00	-0.58	-0.57	0.61	40°09'42.024"N	104°37'39.928"W	0.02	
929.00	0.100	169.600	929.00	-0.71	-0.69	0.67	40°09'42.023"N	104°37'39.927"W	0.06	
1009.00	0.400	247.500	1009.00	-0.88	-0.87	0.42	40°09'42.021"N	104°37'39.931"W	0.49	
1089.00	0.200	229.000	1088.99	-1.07	-1.06	0.06	40°09'42.019"N	104°37'39.935"W	0.27	
1169.00	0.300	228.300	1168.99	-1.29	-1.30	-0.20	40°09'42.017"N	104°37'39.939"W	0.13	
1258.00	0.700	224.900	1257.99	-1.81	-1.84	-0.76	40°09'42.012"N	104°37'39.946"W	0.45	TIE-INTO CATHEDRAL MWD SURVEYS
1358.00†	0.700	224.900	1357.98	-2.66	-2.70	-1.62	40°09'42.003"N	104°37'39.957"W	0.00	
1425.02	0.700	224.900	1425.00	-3.22	-3.28	-2.20	40°09'41.998"N	104°37'39.964"W	0.00	BEGIN NUDGE
1458.00†	1.355	220.182	1457.97	-3.65	-3.72	-2.59	40°09'41.993"N	104°37'39.969"W	2.00	
1558.00†	3.352	217.195	1557.88	-6.81	-6.95	-5.12	40°09'41.961"N	104°37'40.002"W	2.00	
1658.00†	5.351	216.438	1657.59	-12.76	-13.03	-9.66	40°09'41.901"N	104°37'40.060"W	2.00	
1758.00†	7.350	216.092	1756.97	-21.50	-21.95	-16.20	40°09'41.813"N	104°37'40.145"W	2.00	
1858.00†	9.350	215.893	1855.91	-33.02	-33.71	-24.73	40°09'41.697"N	104°37'40.255"W	2.00	
1958.00†	11.350	215.764	1954.27	-47.29	-48.27	-35.25	40°09'41.553"N	104°37'40.390"W	2.00	
2058.00†	13.350	215.673	2051.95	-64.31	-65.64	-47.73	40°09'41.381"N	104°37'40.551"W	2.00	
2158.00†	15.350	215.606	2148.83	-84.05	-85.78	-62.17	40°09'41.182"N	104°37'40.737"W	2.00	
2258.00†	17.350	215.554	2244.78	-106.49	-108.67	-78.55	40°09'40.956"N	104°37'40.948"W	2.00	
2358.00†	19.350	215.512	2339.69	-131.60	-134.29	-96.84	40°09'40.703"N	104°37'41.183"W	2.00	
2390.51	20.000	215.500	2370.30	-140.33	-143.20	-103.20	40°09'40.615"N	104°37'41.265"W	2.00	END NUDGE
2458.00†	20.000	215.500	2433.72	-158.75	-161.99	-116.60	40°09'40.429"N	104°37'41.438"W	0.00	
2558.00†	20.000	215.500	2527.69	-186.05	-189.84	-136.47	40°09'40.154"N	104°37'41.694"W	0.00	
2658.00†	20.000	215.500	2621.66	-213.34	-217.68	-156.33	40°09'39.879"N	104°37'41.949"W	0.00	
2758.00†	20.000	215.500	2715.63	-240.63	-245.53	-176.19	40°09'39.604"N	104°37'42.205"W	0.00	
2858.00†	20.000	215.500	2809.60	-267.92	-273.37	-196.05	40°09'39.329"N	104°37'42.461"W	0.00	
2958.00†	20.000	215.500	2903.57	-295.22	-301.22	-215.91	40°09'39.053"N	104°37'42.717"W	0.00	
3058.00†	20.000	215.500	2997.54	-322.51	-329.06	-235.77	40°09'38.778"N	104°37'42.973"W	0.00	
3158.00†	20.000	215.500	3091.51	-349.80	-356.91	-255.63	40°09'38.503"N	104°37'43.229"W	0.00	
3258.00†	20.000	215.500	3185.48	-377.09	-384.75	-275.49	40°09'38.228"N	104°37'43.484"W	0.00	
3358.00†	20.000	215.500	3279.45	-404.38	-412.59	-295.36	40°09'37.953"N	104°37'43.740"W	0.00	
3458.00†	20.000	215.500	3373.42	-431.68	-440.44	-315.22	40°09'37.678"N	104°37'43.996"W	0.00	
3558.00†	20.000	215.500	3467.38	-458.97	-468.28	-335.08	40°09'37.402"N	104°37'44.252"W	0.00	
3658.00†	20.000	215.500	3561.35	-486.26	-496.13	-354.94	40°09'37.127"N	104°37'44.508"W	0.00	
3758.00†	20.000	215.500	3655.32	-513.55	-523.97	-374.80	40°09'36.852"N	104°37'44.763"W	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	**KERR-MCGEE OIL & GAS ONSHORE LP**	Slot	**SLOT#27 GREENLEAF 28C-2HZ (452' FSL & 1795' FEL, SEC.02)**
Area	**COLORADO**	Well	**GREENLEAF 28C-2HZ**
Field	**WELD COUNTY (KERR MCGEE)**	Wellbore	**GREENLEAF 28C-2HZ PWB**
Facility	**SEC.02-T2N-R65W**		

WELLPATH DATA (141 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
3858.00†	20.000	215.500	3749.29	-540.85	-551.82	-394.66	40°09'36.577"N	104°37'45.019"W	0.00	
3958.00†	20.000	215.500	3843.26	-568.14	-579.66	-414.52	40°09'36.302"N	104°37'45.275"W	0.00	
4032.21†	20.000	215.500	3913.00	-588.39	-600.32	-429.26	40°09'36.098"N	104°37'45.465"W	0.00	Parkman
4058.00†	20.000	215.500	3937.23	-595.43	-607.50	-434.38	40°09'36.027"N	104°37'45.531"W	0.00	
4158.00†	20.000	215.500	4031.20	-622.72	-635.35	-454.25	40°09'35.751"N	104°37'45.787"W	0.00	
4250.37†	20.000	215.500	4118.00	-647.93	-661.07	-472.59	40°09'35.497"N	104°37'46.023"W	0.00	Sussex
4258.00†	20.000	215.500	4125.17	-650.01	-663.19	-474.11	40°09'35.476"N	104°37'46.042"W	0.00	
4358.00†	20.000	215.500	4219.14	-677.31	-691.04	-493.97	40°09'35.201"N	104°37'46.298"W	0.00	
4449.37	20.000	215.500	4305.00	-702.24	-716.48	-512.12	40°09'34.950"N	104°37'46.532"W	0.00	BEGIN DROP
4458.00†	19.827	215.500	4313.11	-704.59	-718.87	-513.82	40°09'34.926"N	104°37'46.554"W	2.00	
4558.00†	17.827	215.500	4407.76	-730.34	-745.14	-532.56	40°09'34.666"N	104°37'46.795"W	2.00	
4658.00†	15.827	215.500	4503.47	-753.44	-768.71	-549.37	40°09'34.434"N	104°37'47.012"W	2.00	
4758.00†	13.827	215.500	4600.14	-773.86	-789.54	-564.23	40°09'34.228"N	104°37'47.203"W	2.00	
4858.00†	11.827	215.500	4697.63	-791.58	-807.62	-577.12	40°09'34.049"N	104°37'47.369"W	2.00	
4958.00†	9.827	215.500	4795.85	-806.56	-822.91	-588.03	40°09'33.898"N	104°37'47.510"W	2.00	
5058.00†	7.827	215.500	4894.66	-818.81	-835.40	-596.94	40°09'33.774"N	104°37'47.624"W	2.00	
5158.00†	5.827	215.500	4993.95	-828.30	-845.08	-603.84	40°09'33.679"N	104°37'47.713"W	2.00	
5258.00†	3.827	215.500	5093.59	-835.01	-851.93	-608.73	40°09'33.611"N	104°37'47.776"W	2.00	
5358.00†	1.827	215.500	5193.46	-838.95	-855.95	-611.60	40°09'33.571"N	104°37'47.813"W	2.00	
5449.37	0.000	358.439	5284.82	-840.11	-857.13	-612.44	40°09'33.560"N	104°37'47.824"W	2.00	END DROP
5458.00†	0.000	358.439	5293.44	-840.11	-857.13	-612.44	40°09'33.560"N	104°37'47.824"W	0.00	
5558.00†	0.000	358.439	5393.44	-840.11	-857.13	-612.44	40°09'33.560"N	104°37'47.824"W	0.00	
5658.00†	0.000	358.439	5493.44	-840.11	-857.13	-612.44	40°09'33.560"N	104°37'47.824"W	0.00	
5758.00†	0.000	358.439	5593.44	-840.11	-857.13	-612.44	40°09'33.560"N	104°37'47.824"W	0.00	
5858.00†	0.000	358.439	5693.44	-840.11	-857.13	-612.44	40°09'33.560"N	104°37'47.824"W	0.00	
5958.00†	0.000	358.439	5793.44	-840.11	-857.13	-612.44	40°09'33.560"N	104°37'47.824"W	0.00	
6058.00†	0.000	358.439	5893.44	-840.11	-857.13	-612.44	40°09'33.560"N	104°37'47.824"W	0.00	
6158.00†	0.000	358.439	5993.44	-840.11	-857.13	-612.44	40°09'33.560"N	104°37'47.824"W	0.00	
6258.00†	0.000	358.439	6093.44	-840.11	-857.13	-612.44	40°09'33.560"N	104°37'47.824"W	0.00	
6358.00†	0.000	358.439	6193.44	-840.11	-857.13	-612.44	40°09'33.560"N	104°37'47.824"W	0.00	
6458.00†	0.000	358.439	6293.44	-840.11	-857.13	-612.44	40°09'33.560"N	104°37'47.824"W	0.00	
6558.00†	0.000	358.439	6393.44	-840.11	-857.13	-612.44	40°09'33.560"N	104°37'47.824"W	0.00	
6658.00†	0.000	358.439	6493.44	-840.11	-857.13	-612.44	40°09'33.560"N	104°37'47.824"W	0.00	
6708.60	0.000	358.439	6544.05	-840.11	-857.13	-612.44	40°09'33.560"N	104°37'47.824"W	0.00	KOP, BUILD @ 10°/100'
6758.00†	4.940	358.439	6593.38	-837.98	-855.01	-612.50	40°09'33.581"N	104°37'47.825"W	10.00	
6858.00†	14.940	358.439	6691.76	-820.74	-837.77	-612.97	40°09'33.751"N	104°37'47.831"W	10.00	
6940.87†	23.226	358.439	6770.00	-793.67	-810.71	-613.71	40°09'34.018"N	104°37'47.840"W	10.00	SSPG
6958.00†	24.940	358.439	6785.64	-786.68	-803.73	-613.90	40°09'34.087"N	104°37'47.843"W	10.00	
7008.00†	29.939	358.439	6830.00	-763.65	-780.70	-614.52	40°09'34.315"N	104°37'47.851"W	10.00	NBRR
7058.00†	34.940	358.439	6872.19	-736.84	-753.90	-615.26	40°09'34.580"N	104°37'47.860"W	10.00	
7061.44†	35.284	358.439	6875.00	-734.86	-751.92	-615.31	40°09'34.599"N	104°37'47.861"W	10.00	N470_B_CK
7158.00†	44.940	358.439	6948.76	-672.72	-689.80	-617.00	40°09'35.213"N	104°37'47.883"W	10.00	
7177.02†	46.842	358.439	6962.00	-659.06	-676.15	-617.37	40°09'35.348"N	104°37'47.888"W	10.00	N700_C_CK
7258.00†	54.940	358.439	7013.04	-596.28	-613.39	-619.08	40°09'35.968"N	104°37'47.910"W	10.00	
7358.00†	64.940	358.439	7063.07	-509.84	-526.99	-621.44	40°09'36.822"N	104°37'47.940"W	10.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	**KERR-MCGEE OIL & GAS ONSHORE LP**	Slot	**SLOT#27 GREENLEAF 28C-2HZ (452' FSL & 1795' FEL, SEC.02)**
Area	**COLORADO**	Well	**GREENLEAF 28C-2HZ**
Field	**WELD COUNTY (KERR MCGEE)**	Wellbore	**GREENLEAF 28C-2HZ PWB**
Facility	**SEC.02-T2N-R65W**		

WELLPATH DATA (141 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7428.73†	72.013	358.439	7089.00	-444.08	-461.25	-623.23	40°09'37.472"N	104°37'47.963"W	10.00	FRHS
7458.00†	74.940	358.439	7097.32	-416.02	-433.21	-623.99	40°09'37.749"N	104°37'47.973"W	10.00	
7532.83†	82.423	358.439	7112.00	-342.70	-359.91	-625.99	40°09'38.473"N	104°37'47.999"W	10.00	CDLL
7558.00†	84.940	358.439	7114.77	-317.69	-334.91	-626.67	40°09'38.720"N	104°37'48.007"W	10.00	
7608.60	90.000	358.439	7117.00	-267.15	-284.39	-628.05	40°09'39.220"N	104°37'48.025"W	10.00	LANDING POINT
7658.00†	90.000	358.439	7117.00	-217.75	-235.01	-629.40	40°09'39.708"N	104°37'48.043"W	0.00	
7758.00†	90.000	358.439	7117.00	-117.75	-135.04	-632.12	40°09'40.695"N	104°37'48.078"W	0.00	
7858.00†	90.000	358.439	7117.00	-17.75	-35.08	-634.84	40°09'41.683"N	104°37'48.113"W	0.00	
7958.00†	90.000	358.439	7117.00	82.25	64.88	-637.57	40°09'42.671"N	104°37'48.148"W	0.00	
8058.00†	90.000	358.439	7117.00	182.25	164.84	-640.29	40°09'43.659"N	104°37'48.183"W	0.00	
8158.00†	90.000	358.439	7117.00	282.25	264.81	-643.02	40°09'44.647"N	104°37'48.218"W	0.00	
8258.00†	90.000	358.439	7117.00	382.25	364.77	-645.74	40°09'45.635"N	104°37'48.253"W	0.00	
8358.00†	90.000	358.439	7117.00	482.25	464.73	-648.46	40°09'46.622"N	104°37'48.288"W	0.00	
8458.00†	90.000	358.439	7117.00	582.25	564.70	-651.19	40°09'47.610"N	104°37'48.324"W	0.00	
8558.00†	90.000	358.439	7117.00	682.25	664.66	-653.91	40°09'48.598"N	104°37'48.359"W	0.00	
8658.00†	90.000	358.439	7117.00	782.25	764.62	-656.63	40°09'49.586"N	104°37'48.394"W	0.00	
8758.00†	90.000	358.439	7117.00	882.25	864.58	-659.36	40°09'50.574"N	104°37'48.429"W	0.00	
8858.00†	90.000	358.439	7117.00	982.25	964.55	-662.08	40°09'51.562"N	104°37'48.464"W	0.00	
8958.00†	90.000	358.439	7117.00	1082.25	1064.51	-664.80	40°09'52.549"N	104°37'48.499"W	0.00	
9058.00†	90.000	358.439	7117.00	1182.25	1164.47	-667.53	40°09'53.537"N	104°37'48.534"W	0.00	
9158.00†	90.000	358.439	7117.00	1282.25	1264.44	-670.25	40°09'54.525"N	104°37'48.569"W	0.00	
9258.00†	90.000	358.439	7117.00	1382.25	1364.40	-672.97	40°09'55.513"N	104°37'48.604"W	0.00	
9358.00†	90.000	358.440	7117.00	1482.25	1464.36	-675.70	40°09'56.501"N	104°37'48.640"W	0.00	
9458.00†	90.000	358.440	7117.00	1582.25	1564.32	-678.42	40°09'57.489"N	104°37'48.675"W	0.00	
9558.00†	90.000	358.440	7117.00	1682.25	1664.29	-681.14	40°09'58.476"N	104°37'48.710"W	0.00	
9658.00†	90.000	358.440	7117.00	1782.25	1764.25	-683.87	40°09'59.464"N	104°37'48.745"W	0.00	
9758.00†	90.000	358.440	7117.00	1882.25	1864.21	-686.59	40°10'00.452"N	104°37'48.780"W	0.00	
9858.00†	90.000	358.440	7117.00	1982.25	1964.18	-689.31	40°10'01.440"N	104°37'48.815"W	0.00	
9958.00†	90.000	358.440	7117.00	2082.25	2064.14	-692.04	40°10'02.428"N	104°37'48.850"W	0.00	
10058.00†	90.000	358.440	7117.00	2182.25	2164.10	-694.76	40°10'03.416"N	104°37'48.885"W	0.00	
10158.00†	90.000	358.440	7117.00	2282.25	2264.06	-697.48	40°10'04.403"N	104°37'48.920"W	0.00	
10258.00†	90.000	358.440	7117.00	2382.25	2364.03	-700.20	40°10'05.391"N	104°37'48.956"W	0.00	
10358.00†	90.000	358.440	7117.00	2482.25	2463.99	-702.93	40°10'06.379"N	104°37'48.991"W	0.00	
10458.00†	90.000	358.440	7117.00	2582.25	2563.95	-705.65	40°10'07.367"N	104°37'49.026"W	0.00	
10558.00†	90.000	358.440	7117.00	2682.25	2663.92	-708.37	40°10'08.355"N	104°37'49.061"W	0.00	
10658.00†	90.000	358.440	7117.00	2782.25	2763.88	-711.10	40°10'09.343"N	104°37'49.096"W	0.00	
10758.00†	90.000	358.440	7117.00	2882.25	2863.84	-713.82	40°10'10.331"N	104°37'49.131"W	0.00	
10858.00†	90.000	358.440	7117.00	2982.25	2963.81	-716.54	40°10'11.318"N	104°37'49.166"W	0.00	
10958.00†	90.000	358.440	7117.00	3082.25	3063.77	-719.26	40°10'12.306"N	104°37'49.201"W	0.00	
11058.00†	90.000	358.440	7117.00	3182.25	3163.73	-721.98	40°10'13.294"N	104°37'49.236"W	0.00	
11158.00†	90.000	358.440	7117.00	3282.25	3263.69	-724.71	40°10'14.282"N	104°37'49.272"W	0.00	
11258.00†	90.000	358.440	7117.00	3382.25	3363.66	-727.43	40°10'15.270"N	104°37'49.307"W	0.00	
11358.00†	90.000	358.440	7117.00	3482.25	3463.62	-730.15	40°10'16.258"N	104°37'49.342"W	0.00	
11458.00†	90.000	358.440	7117.00	3582.25	3563.58	-732.87	40°10'17.245"N	104°37'49.377"W	0.00	
11558.00†	90.000	358.440	7117.00	3682.25	3663.55	-735.60	40°10'18.233"N	104°37'49.412"W	0.00	

REFERENCE WELLPATH IDENTIFICATION

Operator	**KERR-MCGEE OIL & GAS ONSHORE LP**	Slot	**SLOT#27 GREENLEAF 28C-2HZ (452' FSL & 1795' FEL, SEC.02)**
Area	**COLORADO**	Well	**GREENLEAF 28C-2HZ**
Field	**WELD COUNTY (KERR MCGEE)**	Wellbore	**GREENLEAF 28C-2HZ PWB**
Facility	**SEC.02-T2N-R65W**		

WELLPATH DATA (141 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11658.00†	90.000	358.440	7117.00	3782.25	3763.51	-738.32	40°10'19.221"N	104°37'49.447"W	0.00	
11758.00†	90.000	358.440	7117.00	3882.25	3863.47	-741.04	40°10'20.209"N	104°37'49.482"W	0.00	
11858.00†	90.000	358.440	7117.00	3982.25	3963.43	-743.76	40°10'21.197"N	104°37'49.517"W	0.00	
11958.00†	90.000	358.440	7117.00	4082.25	4063.40	-746.48	40°10'22.185"N	104°37'49.552"W	0.00	
12058.00†	90.000	358.440	7117.00	4182.25	4163.36	-749.21	40°10'23.172"N	104°37'49.587"W	0.00	
12062.94	90.000	358.440	7117.00[1]	4187.19	4168.30	-749.34	40°10'23.221"N	104°37'49.589"W	0.00	TOTAL DEPTH

HOLE & CASING SECTIONS - Ref Wellbore: GREENLEAF 28C-2HZ PWB Ref Wellpath: GREENLEAF 28C-2HZ (REV-A.0) PWP

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	1258.00	1242.00	16.00	1257.99	0.00	0.00	-1.84	-0.76
13.5in Open Hole	1258.00	1303.00	45.00	1257.99	1302.99	-1.84	-0.76	-2.22	-1.15
9.625in Casing Surface	16.00	1293.00	1277.00	16.00	1292.99	0.00	0.00	-2.14	-1.06
8.75in Open Hole	1303.00	7608.60	6305.60	1302.99	7117.00	-2.22	-1.15	-284.39	-628.05
7in Casing Intermediate	16.00	7608.60	7592.60	16.00	7117.00	0.00	0.00	-284.39	-628.05
6.125in Open Hole	7608.60	12062.94	4454.34	7117.00	7117.00	-284.39	-628.05	4168.30	-749.34
4.5in Open Hole	16.00	12062.94	12046.94	16.00	7117.00	0.00	0.00	4168.30	-749.34

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.02-T2N-R65W LINES		0.00	0.00	0.00	3243777.93	1302940.31	40°09'42.030"N	104°37'39.936"W	polygon
1) GREENLEAF 28N-2HZ BHL (460'FNL & 2430'FEL, SEC.02) REV-2	12062.94	7117.00	4168.30	-749.34	3242987.66	1307100.85	40°10'23.221"N	104°37'49.589"W	point
GREENLEAF 28N-2HZ BHL ON PLAT (460'FNL & 2450'FEL, SEC.02) REV-1		7117.00	4168.30	-769.34	3242967.66	1307100.65	40°10'23.221"N	104°37'49.847"W	point
GREENLEAF 28C-2HZ LANDBOX		7118.00	0.00	0.00	3243777.93	1302940.31	40°09'42.030"N	104°37'39.936"W	polygon

SURVEY PROGRAM - Ref Wellbore: GREENLEAF 28C-2HZ PWB Ref Wellpath: GREENLEAF 28C-2HZ (REV-A.0) PWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
16.00	1258.00	ISCWSA MWD, Rev. 2 (Standard)		GREENLEAF 28C-2HZ AWB
1258.00	7608.60	NaviTrak (MAGCORR,IFR)		GREENLEAF 28C-2HZ PWB
7608.60	12062.94	NaviTrak (MAGCORR,IFR)		GREENLEAF 28C-2HZ PWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	**KERR-MCGEE OIL & GAS ONSHORE LP**	Slot	**SLOT#27 GREENLEAF 28C-2HZ (452' FSL & 1795' FEL, SEC.02)**
Area	**COLORADO**	Well	**GREENLEAF 28C-2HZ**
Field	**WELD COUNTY (KERR MCGEE)**	Wellbore	**GREENLEAF 28C-2HZ PWB**
Facility	**SEC.02-T2N-R65W**		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
773.00	0.100	152.202	773.00	Base Fox Hills
4032.21	20.000	215.500	3913.00	Parkman
4250.37	20.000	215.500	4118.00	Sussex
6940.87	23.226	358.439	6770.00	SSPG
7008.00	29.939	358.439	6830.00	NBRR
7061.44	35.284	358.439	6875.00	N470_B_CK
7177.02	46.842	358.439	6962.00	N700_C_CK
7428.73	72.013	358.439	7089.00	FRHS
7532.83	82.423	358.439	7112.00	CDLL

DESIGN COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1258.00	0.700	224.900	1257.99	TIE-INTO CATHEDRAL MWD SURVEYS
1425.02	0.700	224.900	1425.00	BEGIN NUDGE
2390.51	20.000	215.500	2370.30	END NUDGE
4449.37	20.000	215.500	4305.00	BEGIN DROP
5449.37	0.000	358.439	5284.82	END DROP
6708.60	0.000	358.439	6544.05	KOP, BUILD @ 10°/100'
7608.60	90.000	358.439	7117.00	LANDING POINT
12062.94	90.000	358.440	7117.00	TOTAL DEPTH