

KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLO708 BARCLAY 27C-11HZ (577FSL & 1679FEL, SEC.14)
Field: WELD COUNTY (KERR MCGEE) Well: BARCLAY 27C-11HZ
Facility: SEC.14-T2N-R67W Wellbore: BARCLAY 27C-11HZ PWB

Plot reference wellpath is BARCLAY 27C-11HZ (PERMIT REV-1) PWP

True vertical depths are referenced to PERMIT (17 KB) (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to PERMIT (17 KB) (RKB)	North Reference: True north
PERMIT (17 KB) (RKB) to Mean Sea Level: 4942 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLO708 BARCLAY 27C-11HZ (577FSL & 1679FEL, SEC.14)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: robale01 on 21/Aug/2013

Location Information

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.14-T2N-R67W	3175914.426	1291732.032	40°07'56.662"N	104°51'23.585"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
SLO708 BARCLAY 27C-11HZ (577FSL & 1679FEL, SEC.14)	-3.84	544.02	3180458.436	1291732.140
PERMIT (17 KB) (RKB) to Mud line (At Slot: SLO708 BARCLAY 27C-11HZ (577FSL & 1679FEL, SEC.14))				4942ft
Mean Sea Level to Mud line (At Slot: SLO708 BARCLAY 27C-11HZ (577FSL & 1679FEL, SEC.14))				0ft
PERMIT (17 KB) (RKB) to Mean Sea Level				4942ft

Survey Program

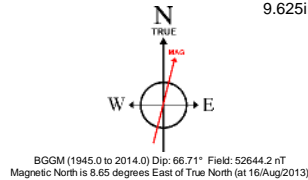
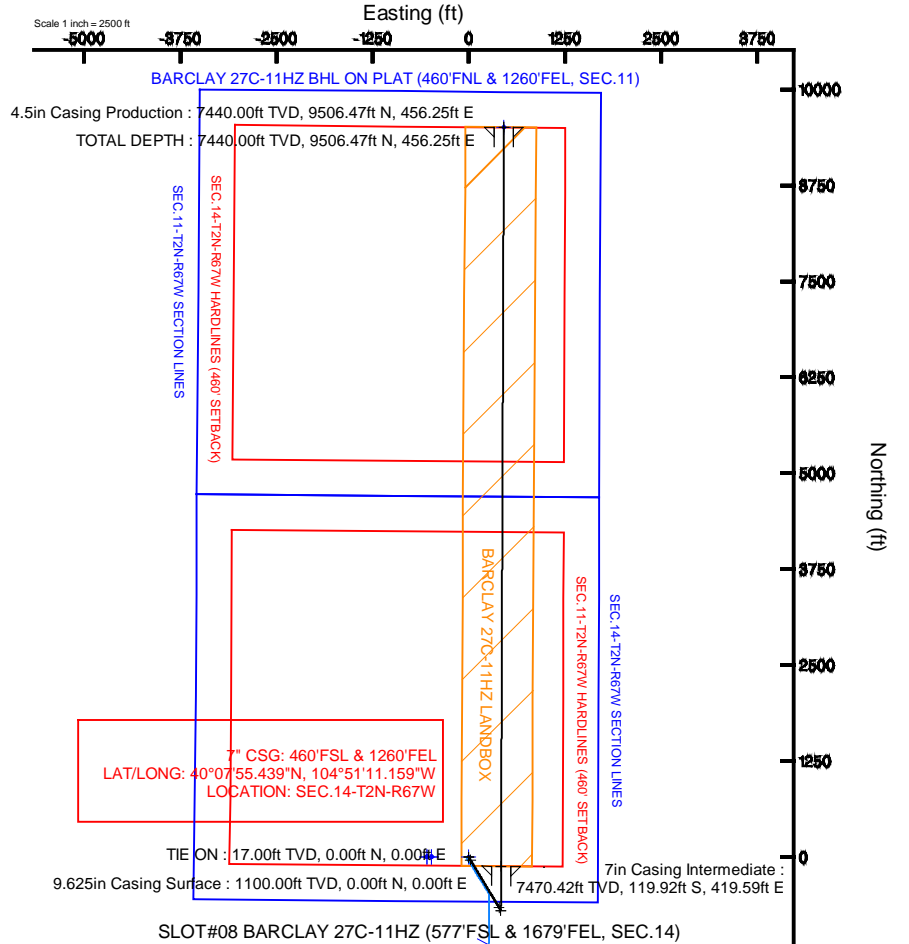
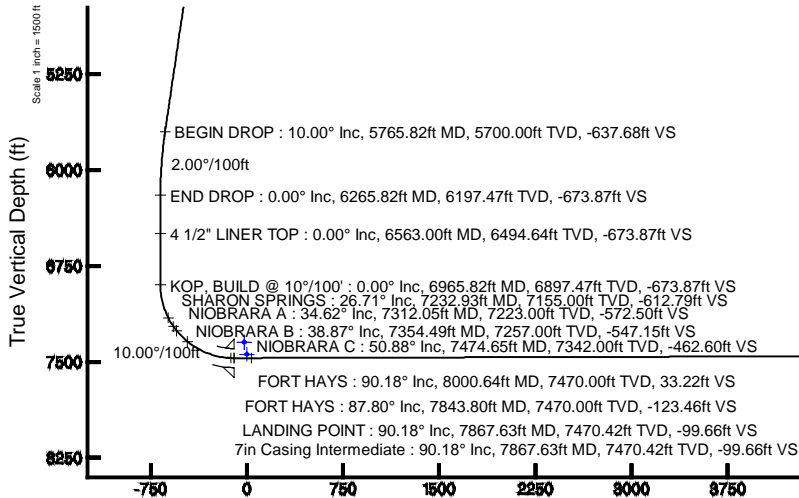
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
17.00	7867.63	NavTrak	NavTrak (Standard)		BARCLAY 27C-11HZ PWB
7867.63	17494.13	OnTrak	OnTrak (Standard)		BARCLAY 27C-11HZ PWB

Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.11-T2N-R67W SECTION LINES		-7.00	3.40	-483.38	3175914.47	1291732.06	40°07'56.662"N	104°51'23.585"W
SEC.14-T2N-R67W SECTION LINES		-7.00	3.85	-544.02	3175914.43	1291732.03	40°07'56.662"N	104°51'23.585"W
SEC.11-T2N-R67W HARDLINES (460 SETBACK)		7346.00	3.40	-483.38	3175914.47	1291732.06	40°07'56.662"N	104°51'23.585"W
SEC.14-T2N-R67W HARDLINES (460 SETBACK)		7346.00	3.85	-544.02	3175914.43	1291732.03	40°07'56.662"N	104°51'23.585"W
BARCLAY 27C-11HZ BHL ON PLAT (460'FNL & 1260'FEL, SEC.11)	17494.13	7440.00	9506.47	456.25	3180458.46	1301241.27	40°08'30.588"N	104°51'10.688"W
BARCLAY 27C-11HZ LANDBOX		7440.00	0.00	0.00	3180458.44	1291732.14	40°07'56.624"N	104°51'16.581"W

Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
TIE ON	17.00	0.000	149.000	17.00	0.00	0.00	0.00	0.00
BEGIN NUDGE	1100.00	0.000	149.000	1100.00	0.00	0.00	0.00	0.00
END NUDGE	1600.00	10.000	149.000	1597.47	-37.31	22.42	2.00	-36.19
BEGIN DROP	5765.82	10.000	149.000	5700.00	-657.37	394.99	0.00	-637.68
END DROP	6265.82	0.000	0.218	6197.47	-694.68	417.40	2.00	-673.87
KOP, BUILD @ 10°/100'	6965.82	0.000	0.218	6897.47	-694.68	417.40	0.00	-673.87
LANDING POINT	7867.63	90.181	0.218	7470.42	-119.91	419.59	10.00	-99.66
TOTAL DEPTH	17494.13	90.181	0.218	7440.00	9506.47	456.25	0.00	9517.41



To correct azimuth from Magnetic to True add 8.65 degrees

Vertical Section (ft)
Azimuth 2.75° with reference 0.00 N, 0.00 E

BARCLAY 27C-11HZ BHL ON PLAT (460'FNL & 1260'FEL, SEC.11)

4.5in Casing Production : 90.18° Inc, 17494.13ft MD, 7440.00ft TVD, 9517.41ft VS
TOTAL DEPTH : 90.18° Inc, 17494.13ft MD, 7440.00ft TVD, 9517.41ft VS

Scale 1 inch = 1500 ft



Planned Wellpath Report

BARCLAY 27C-11HZ (PERMIT REV-1) PWP

Page 1 of 8



REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#08 BARCLAY 27C-11HZ (577'FSL & 1679'FEL, SEC.14)
Area	COLORADO	Well	BARCLAY 27C-11HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BARCLAY 27C-11HZ PWB
Facility	SEC.14-T2N-R67W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 4.0.0
North Reference	True	User	Robiale01
Scale	0.999959	Report Generated	20/Aug/2013 at 14:52
Convergence at slot	n/a	Database/Source file	WA_ANADARKO/BARCLAY_27C-11HZ_PWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-3.84	544.02	3180458.44	1291732.14	40°07'56.624"N	104°51'16.561"W
Facility Reference Pt			3179914.43	1291732.03	40°07'56.662"N	104°51'23.565"W
Field Reference Pt			3197771.84	1268891.29	40°04'09.600"N	104°47'36.000"W

WELLPATH DATUM

Calculation method	Minimum curvature	PERMIT (17' KB) (RKB) to Facility Vertical Datum	4942.00ft
Horizontal Reference Pt	Slot	PERMIT (17' KB) (RKB) to Mean Sea Level	4942.00ft
Vertical Reference Pt	PERMIT (17' KB) (RKB)	PERMIT (17' KB) (RKB) to Mud Line at Slot (SLOT#08 BARCLAY 27C-11HZ (577'FSL & 1679'FEL, SEC.14))	4942.00ft
MD Reference Pt	PERMIT (17' KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	2.75°



Planned Wellpath Report

BARCLAY 27C-11HZ (PERMIT REV-1) PWP

Page 2 of 8



REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#08 BARCLAY 27C-11HZ (577'FSL & 1679'FEL, SEC.14)
Area	COLORADO	Well	BARCLAY 27C-11HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BARCLAY 27C-11HZ PWB
Facility	SEC.14-T2N-R67W		

WELLPATH DATA (193 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	149.000	0.00	0.00	0.00	0.00	40°07'56.624"N	104°51'16.561"W	0.00	
17.00	0.000	149.000	17.00	0.00	0.00	0.00	40°07'56.624"N	104°51'16.561"W	0.00	TIE ON
117.00†	0.000	149.000	117.00	0.00	0.00	0.00	40°07'56.624"N	104°51'16.561"W	0.00	
217.00†	0.000	149.000	217.00	0.00	0.00	0.00	40°07'56.624"N	104°51'16.561"W	0.00	
317.00†	0.000	149.000	317.00	0.00	0.00	0.00	40°07'56.624"N	104°51'16.561"W	0.00	
417.00†	0.000	149.000	417.00	0.00	0.00	0.00	40°07'56.624"N	104°51'16.561"W	0.00	
517.00†	0.000	149.000	517.00	0.00	0.00	0.00	40°07'56.624"N	104°51'16.561"W	0.00	
617.00†	0.000	149.000	617.00	0.00	0.00	0.00	40°07'56.624"N	104°51'16.561"W	0.00	
717.00†	0.000	149.000	717.00	0.00	0.00	0.00	40°07'56.624"N	104°51'16.561"W	0.00	
817.00†	0.000	149.000	817.00	0.00	0.00	0.00	40°07'56.624"N	104°51'16.561"W	0.00	
917.00†	0.000	149.000	917.00	0.00	0.00	0.00	40°07'56.624"N	104°51'16.561"W	0.00	
984.00†	0.000	149.000	984.00	0.00	0.00	0.00	40°07'56.624"N	104°51'16.561"W	0.00	FOX HILLS BASE
1017.00†	0.000	149.000	1017.00	0.00	0.00	0.00	40°07'56.624"N	104°51'16.561"W	0.00	
1100.00	0.000	149.000	1100.00	0.00	0.00	0.00	40°07'56.624"N	104°51'16.561"W	0.00	BEGIN NUDGE
1117.00†	0.340	149.000	1117.00	-0.04	-0.04	0.03	40°07'56.624"N	104°51'16.561"W	2.00	
1217.00†	2.340	149.000	1216.97	-1.99	-2.05	1.23	40°07'56.604"N	104°51'16.545"W	2.00	
1317.00†	4.340	149.000	1316.79	-6.83	-7.04	4.23	40°07'56.554"N	104°51'16.507"W	2.00	
1417.00†	6.340	149.000	1416.35	-14.57	-15.02	9.02	40°07'56.476"N	104°51'16.445"W	2.00	
1517.00†	8.340	149.000	1515.53	-25.19	-25.97	15.60	40°07'56.367"N	104°51'16.360"W	2.00	
1600.00	10.000	149.000	1597.47	-36.19	-37.31	22.42	40°07'56.255"N	104°51'16.272"W	2.00	END NUDGE
1617.00†	10.000	149.000	1614.21	-38.64	-39.84	23.94	40°07'56.230"N	104°51'16.253"W	0.00	
1717.00†	10.000	149.000	1712.69	-53.08	-54.72	32.88	40°07'56.083"N	104°51'16.138"W	0.00	
1817.00†	10.000	149.000	1811.17	-67.52	-69.61	41.82	40°07'55.936"N	104°51'16.023"W	0.00	
1917.00†	10.000	149.000	1909.65	-81.96	-84.49	50.77	40°07'55.789"N	104°51'15.907"W	0.00	
2017.00†	10.000	149.000	2008.13	-96.40	-99.37	59.71	40°07'55.642"N	104°51'15.792"W	0.00	
2117.00†	10.000	149.000	2106.61	-110.84	-114.26	68.65	40°07'55.495"N	104°51'15.677"W	0.00	
2217.00†	10.000	149.000	2205.09	-125.28	-129.14	77.60	40°07'55.348"N	104°51'15.562"W	0.00	
2317.00†	10.000	149.000	2303.57	-139.71	-144.03	86.54	40°07'55.201"N	104°51'15.447"W	0.00	
2417.00†	10.000	149.000	2402.05	-154.15	-158.91	95.48	40°07'55.054"N	104°51'15.332"W	0.00	
2517.00†	10.000	149.000	2500.53	-168.59	-173.80	104.43	40°07'54.907"N	104°51'15.217"W	0.00	
2617.00†	10.000	149.000	2599.01	-183.03	-188.68	113.37	40°07'54.759"N	104°51'15.101"W	0.00	
2717.00†	10.000	149.000	2697.50	-197.47	-203.57	122.32	40°07'54.612"N	104°51'14.986"W	0.00	
2817.00†	10.000	149.000	2795.98	-211.91	-218.45	131.26	40°07'54.465"N	104°51'14.871"W	0.00	
2917.00†	10.000	149.000	2894.46	-226.35	-233.34	140.20	40°07'54.318"N	104°51'14.756"W	0.00	
3017.00†	10.000	149.000	2992.94	-240.79	-248.22	149.15	40°07'54.171"N	104°51'14.641"W	0.00	
3117.00†	10.000	149.000	3091.42	-255.22	-263.10	158.09	40°07'54.024"N	104°51'14.526"W	0.00	
3217.00†	10.000	149.000	3189.90	-269.66	-277.99	167.03	40°07'53.877"N	104°51'14.411"W	0.00	
3317.00†	10.000	149.000	3288.38	-284.10	-292.87	175.98	40°07'53.730"N	104°51'14.295"W	0.00	
3417.00†	10.000	149.000	3386.86	-298.54	-307.76	184.92	40°07'53.583"N	104°51'14.180"W	0.00	
3517.00†	10.000	149.000	3485.34	-312.98	-322.64	193.86	40°07'53.436"N	104°51'14.065"W	0.00	
3617.00†	10.000	149.000	3583.82	-327.42	-337.53	202.81	40°07'53.289"N	104°51'13.950"W	0.00	
3717.00†	10.000	149.000	3682.30	-341.86	-352.41	211.75	40°07'53.141"N	104°51'13.835"W	0.00	
3817.00†	10.000	149.000	3780.78	-356.29	-367.30	220.69	40°07'52.994"N	104°51'13.720"W	0.00	
3917.00†	10.000	149.000	3879.26	-370.73	-382.18	229.64	40°07'52.847"N	104°51'13.605"W	0.00	
4017.00†	10.000	149.000	3977.75	-385.17	-397.07	238.58	40°07'52.700"N	104°51'13.489"W	0.00	



Planned Wellpath Report

BARCLAY 27C-11HZ (PERMIT REV-1) PWP

Page 3 of 8



REFERENCE WELLPATH IDENTIFICATION				
Operator	KERR-MCGEE OIL & GAS ONSHORE LP		Slot	SLOT#08 BARCLAY 27C-11HZ (577'FSL & 1679'FEL, SEC.14)
Area	COLORADO		Well	BARCLAY 27C-11HZ
Field	WELD COUNTY (KERR MCGEE)		Wellbore	BARCLAY 27C-11HZ PWB
Facility	SEC.14-T2N-R67W			

WELLPATH DATA (193 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4050.77†	10.000	149.000	4011.00	-390.05	-402.09	241.60	40°07'52.650"N	104°51'13.451"W	0.00	PARKMAN
4117.00†	10.000	149.000	4076.23	-399.61	-411.95	247.52	40°07'52.553"N	104°51'13.374"W	0.00	
4217.00†	10.000	149.000	4174.71	-414.05	-426.83	256.47	40°07'52.406"N	104°51'13.259"W	0.00	
4317.00†	10.000	149.000	4273.19	-428.49	-441.72	265.41	40°07'52.259"N	104°51'13.144"W	0.00	
4417.00†	10.000	149.000	4371.67	-442.93	-456.60	274.36	40°07'52.112"N	104°51'13.029"W	0.00	
4474.20†	10.000	149.000	4428.00	-451.19	-465.12	279.47	40°07'52.028"N	104°51'12.963"W	0.00	SUSSEX
4517.00†	10.000	149.000	4470.15	-457.37	-471.49	283.30	40°07'51.965"N	104°51'12.914"W	0.00	
4617.00†	10.000	149.000	4568.63	-471.80	-486.37	292.24	40°07'51.818"N	104°51'12.799"W	0.00	
4717.00†	10.000	149.000	4667.11	-486.24	-501.26	301.19	40°07'51.671"N	104°51'12.683"W	0.00	
4817.00†	10.000	149.000	4765.59	-500.68	-516.14	310.13	40°07'51.523"N	104°51'12.568"W	0.00	
4917.00†	10.000	149.000	4864.07	-515.12	-531.03	319.07	40°07'51.376"N	104°51'12.453"W	0.00	
5017.00†	10.000	149.000	4962.55	-529.56	-545.91	328.02	40°07'51.229"N	104°51'12.338"W	0.00	
5117.00†	10.000	149.000	5061.03	-544.00	-560.80	336.96	40°07'51.082"N	104°51'12.223"W	0.00	
5217.00†	10.000	149.000	5159.52	-558.44	-575.68	345.90	40°07'50.935"N	104°51'12.108"W	0.00	
5317.00†	10.000	149.000	5258.00	-572.88	-590.57	354.85	40°07'50.788"N	104°51'11.993"W	0.00	
5417.00†	10.000	149.000	5356.48	-587.31	-605.45	363.79	40°07'50.641"N	104°51'11.877"W	0.00	
5517.00†	10.000	149.000	5454.96	-601.75	-620.33	372.73	40°07'50.494"N	104°51'11.762"W	0.00	
5617.00†	10.000	149.000	5553.44	-616.19	-635.22	381.68	40°07'50.347"N	104°51'11.647"W	0.00	
5717.00†	10.000	149.000	5651.92	-630.63	-650.10	390.62	40°07'50.200"N	104°51'11.532"W	0.00	
5765.82	10.000	149.000	5700.00	-637.68	-657.37	394.99	40°07'50.128"N	104°51'11.476"W	0.00	BEGIN DROP
5817.00†	8.976	149.000	5750.48	-644.69	-664.60	399.33	40°07'50.056"N	104°51'11.420"W	2.00	
5917.00†	6.976	149.000	5849.50	-656.23	-676.50	406.48	40°07'49.939"N	104°51'11.328"W	2.00	
6017.00†	4.976	149.000	5948.96	-664.89	-685.42	411.84	40°07'49.851"N	104°51'11.259"W	2.00	
6117.00†	2.976	149.000	6048.71	-670.65	-691.36	415.41	40°07'49.792"N	104°51'11.213"W	2.00	
6217.00†	0.976	149.000	6148.64	-673.52	-694.32	417.19	40°07'49.763"N	104°51'11.190"W	2.00	
6265.82	0.000	0.218	6197.47	-673.87	-694.68	417.40	40°07'49.759"N	104°51'11.187"W	2.00	END DROP
6317.00†	0.000	0.218	6248.64	-673.87	-694.68	417.40	40°07'49.759"N	104°51'11.187"W	0.00	
6417.00†	0.000	0.218	6348.64	-673.87	-694.68	417.40	40°07'49.759"N	104°51'11.187"W	0.00	
6517.00†	0.000	0.218	6448.64	-673.87	-694.68	417.40	40°07'49.759"N	104°51'11.187"W	0.00	
6563.00†	0.000	0.218	6494.64	-673.87	-694.68	417.40	40°07'49.759"N	104°51'11.187"W	0.00	4 1/2" LINER TOP
6617.00†	0.000	0.218	6548.64	-673.87	-694.68	417.40	40°07'49.759"N	104°51'11.187"W	0.00	
6717.00†	0.000	0.218	6648.64	-673.87	-694.68	417.40	40°07'49.759"N	104°51'11.187"W	0.00	
6817.00†	0.000	0.218	6748.64	-673.87	-694.68	417.40	40°07'49.759"N	104°51'11.187"W	0.00	
6917.00†	0.000	0.218	6848.64	-673.87	-694.68	417.40	40°07'49.759"N	104°51'11.187"W	0.00	
6965.82	0.000	0.218	6897.47	-673.87	-694.68	417.40	40°07'49.759"N	104°51'11.187"W	0.00	KOP, BUILD @ 10°/100'
7017.00†	5.118	0.218	6948.57	-671.59	-692.39	417.41	40°07'49.782"N	104°51'11.187"W	10.00	
7117.00†	15.118	0.218	7046.89	-654.06	-674.85	417.48	40°07'49.955"N	104°51'11.186"W	10.00	
7217.00†	25.118	0.218	7140.67	-619.74	-640.50	417.61	40°07'50.295"N	104°51'11.185"W	10.00	
7232.93†	26.710	0.218	7155.00	-612.79	-633.54	417.64	40°07'50.363"N	104°51'11.184"W	10.00	SHARON SPRINGS
7312.05†	34.622	0.218	7223.00	-572.50	-593.21	417.79	40°07'50.762"N	104°51'11.182"W	10.00	NIOBRARA A
7317.00†	35.118	0.218	7227.06	-569.68	-590.38	417.80	40°07'50.790"N	104°51'11.182"W	10.00	
7354.49†	38.866	0.218	7257.00	-547.15	-567.83	417.89	40°07'51.013"N	104°51'11.181"W	10.00	NIOBRARA B
7417.00†	45.118	0.218	7303.44	-505.38	-526.03	418.05	40°07'51.426"N	104°51'11.179"W	10.00	
7474.65†	50.883	0.218	7342.00	-462.60	-483.20	418.21	40°07'51.849"N	104°51'11.177"W	10.00	NIOBRARA C
7517.00†	55.118	0.218	7367.48	-428.82	-449.39	418.34	40°07'52.183"N	104°51'11.175"W	10.00	



Planned Wellpath Report

BARCLAY 27C-11HZ (PERMIT REV-1) PWP

Page 4 of 8



REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#08 BARCLAY 27C-11HZ (577'FSL & 1679'FEL, SEC.14)
Area	COLORADO	Well	BARCLAY 27C-11HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BARCLAY 27C-11HZ PWB
Facility	SEC.14-T2N-R67W		

WELLPATH DATA (193 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7617.00†	65.118	0.218	7417.24	-342.31	-362.80	418.67	40°07'53.039"N	104°51'11.171"W	10.00	
7717.00†	75.118	0.218	7451.20	-248.48	-268.88	419.02	40°07'53.967"N	104°51'11.166"W	10.00	
7817.00†	85.118	0.218	7468.34	-150.19	-170.49	419.40	40°07'54.939"N	104°51'11.161"W	10.00	
7843.80†	87.798	0.218	7470.00	-123.46	-143.74	419.50	40°07'55.204"N	104°51'11.160"W	10.00	FORT HAYS
7867.63	90.181	0.218	7470.42	-99.66	-119.91	419.59	40°07'55.439"N	104°51'11.159"W	10.00	LANDING POINT
7917.00†	90.181	0.218	7470.26	-50.34	-70.55	419.78	40°07'55.927"N	104°51'11.157"W	0.00	
8000.64†	90.181	0.218	7470.00	33.22	13.10	420.10	40°07'56.753"N	104°51'11.152"W	0.00	FORT HAYS
8017.00†	90.181	0.218	7469.95	49.56	29.45	420.16	40°07'56.915"N	104°51'11.152"W	0.00	
8117.00†	90.181	0.218	7469.63	149.46	129.45	420.54	40°07'57.903"N	104°51'11.147"W	0.00	
8217.00†	90.181	0.218	7469.32	249.36	229.45	420.92	40°07'58.891"N	104°51'11.142"W	0.00	
8317.00†	90.181	0.218	7469.00	349.27	329.45	421.30	40°07'59.880"N	104°51'11.137"W	0.00	
8417.00†	90.181	0.218	7468.68	449.17	429.45	421.68	40°08'00.868"N	104°51'11.132"W	0.00	
8517.00†	90.181	0.218	7468.37	549.07	529.45	422.06	40°08'01.856"N	104°51'11.127"W	0.00	
8617.00†	90.181	0.218	7468.05	648.97	629.45	422.45	40°08'02.844"N	104°51'11.122"W	0.00	
8717.00†	90.181	0.218	7467.74	748.87	729.44	422.83	40°08'03.832"N	104°51'11.117"W	0.00	
8817.00†	90.181	0.218	7467.42	848.78	829.44	423.21	40°08'04.821"N	104°51'11.112"W	0.00	
8917.00†	90.181	0.218	7467.10	948.68	929.44	423.59	40°08'05.809"N	104°51'11.107"W	0.00	
9017.00†	90.181	0.218	7466.79	1048.58	1029.44	423.97	40°08'06.797"N	104°51'11.102"W	0.00	
9117.00†	90.181	0.218	7466.47	1148.48	1129.44	424.35	40°08'07.785"N	104°51'11.097"W	0.00	
9217.00†	90.181	0.218	7466.16	1248.39	1229.44	424.73	40°08'08.773"N	104°51'11.093"W	0.00	
9317.00†	90.181	0.218	7465.84	1348.29	1329.44	425.11	40°08'09.762"N	104°51'11.088"W	0.00	
9417.00†	90.181	0.218	7465.52	1448.19	1429.44	425.49	40°08'10.750"N	104°51'11.083"W	0.00	
9517.00†	90.181	0.218	7465.21	1548.09	1529.43	425.87	40°08'11.738"N	104°51'11.078"W	0.00	
9617.00†	90.181	0.218	7464.89	1647.99	1629.43	426.25	40°08'12.726"N	104°51'11.073"W	0.00	
9717.00†	90.181	0.218	7464.58	1747.90	1729.43	426.63	40°08'13.714"N	104°51'11.068"W	0.00	
9817.00†	90.181	0.218	7464.26	1847.80	1829.43	427.01	40°08'14.703"N	104°51'11.063"W	0.00	
9917.00†	90.181	0.218	7463.94	1947.70	1929.43	427.40	40°08'15.691"N	104°51'11.058"W	0.00	
10017.00†	90.181	0.218	7463.63	2047.60	2029.43	427.78	40°08'16.679"N	104°51'11.053"W	0.00	
10117.00†	90.181	0.218	7463.31	2147.50	2129.43	428.16	40°08'17.667"N	104°51'11.048"W	0.00	
10217.00†	90.181	0.218	7463.00	2247.41	2229.43	428.54	40°08'18.655"N	104°51'11.043"W	0.00	
10317.00†	90.181	0.218	7462.68	2347.31	2329.42	428.92	40°08'19.644"N	104°51'11.038"W	0.00	
10417.00†	90.181	0.218	7462.36	2447.21	2429.42	429.30	40°08'20.632"N	104°51'11.033"W	0.00	
10517.00†	90.181	0.218	7462.05	2547.11	2529.42	429.68	40°08'21.620"N	104°51'11.029"W	0.00	
10617.00†	90.181	0.218	7461.73	2647.01	2629.42	430.06	40°08'22.608"N	104°51'11.024"W	0.00	
10717.00†	90.181	0.218	7461.42	2746.92	2729.42	430.44	40°08'23.596"N	104°51'11.019"W	0.00	
10817.00†	90.181	0.218	7461.10	2846.82	2829.42	430.82	40°08'24.585"N	104°51'11.014"W	0.00	
10917.00†	90.181	0.218	7460.78	2946.72	2929.42	431.20	40°08'25.573"N	104°51'11.009"W	0.00	
11017.00†	90.181	0.218	7460.47	3046.62	3029.42	431.58	40°08'26.561"N	104°51'11.004"W	0.00	
11117.00†	90.181	0.218	7460.15	3146.52	3129.41	431.96	40°08'27.549"N	104°51'10.999"W	0.00	
11217.00†	90.181	0.218	7459.84	3246.43	3229.41	432.34	40°08'28.537"N	104°51'10.994"W	0.00	
11317.00†	90.181	0.218	7459.52	3346.33	3329.41	432.73	40°08'29.526"N	104°51'10.989"W	0.00	
11417.00†	90.181	0.218	7459.20	3446.23	3429.41	433.11	40°08'30.514"N	104°51'10.984"W	0.00	
11517.00†	90.181	0.218	7458.89	3546.13	3529.41	433.49	40°08'31.502"N	104°51'10.979"W	0.00	
11617.00†	90.181	0.218	7458.57	3646.03	3629.41	433.87	40°08'32.490"N	104°51'10.974"W	0.00	
11717.00†	90.181	0.218	7458.26	3745.94	3729.41	434.25	40°08'33.478"N	104°51'10.969"W	0.00	



Planned Wellpath Report

BARCLAY 27C-11HZ (PERMIT REV-1) PWP

Page 5 of 8



REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#08 BARCLAY 27C-11HZ (577'FSL & 1679'FEL, SEC.14)
Area	COLORADO	Well	BARCLAY 27C-11HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BARCLAY 27C-11HZ PWB
Facility	SEC.14-T2N-R67W		

WELLPATH DATA (193 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11817.00†	90.181	0.218	7457.94	3845.84	3829.41	434.63	40°08'34.466"N	104°51'10.964"W	0.00	
11917.00†	90.181	0.218	7457.62	3945.74	3929.40	435.01	40°08'35.455"N	104°51'10.960"W	0.00	
12017.00†	90.181	0.218	7457.31	4045.64	4029.40	435.39	40°08'36.443"N	104°51'10.955"W	0.00	
12117.00†	90.181	0.218	7456.99	4145.54	4129.40	435.77	40°08'37.431"N	104°51'10.950"W	0.00	
12217.00†	90.181	0.218	7456.68	4245.45	4229.40	436.15	40°08'38.419"N	104°51'10.945"W	0.00	
12317.00†	90.181	0.218	7456.36	4345.35	4329.40	436.53	40°08'39.407"N	104°51'10.940"W	0.00	
12417.00†	90.181	0.218	7456.04	4445.25	4429.40	436.91	40°08'40.396"N	104°51'10.935"W	0.00	
12517.00†	90.181	0.218	7455.73	4545.15	4529.40	437.29	40°08'41.384"N	104°51'10.930"W	0.00	
12617.00†	90.181	0.218	7455.41	4645.06	4629.40	437.68	40°08'42.372"N	104°51'10.925"W	0.00	
12717.00†	90.181	0.218	7455.10	4744.96	4729.40	438.06	40°08'43.360"N	104°51'10.920"W	0.00	
12817.00†	90.181	0.218	7454.78	4844.86	4829.39	438.44	40°08'44.348"N	104°51'10.915"W	0.00	
12917.00†	90.181	0.218	7454.46	4944.76	4929.39	438.82	40°08'45.337"N	104°51'10.910"W	0.00	
13017.00†	90.181	0.218	7454.15	5044.66	5029.39	439.20	40°08'46.325"N	104°51'10.905"W	0.00	
13117.00†	90.181	0.218	7453.83	5144.57	5129.39	439.58	40°08'47.313"N	104°51'10.900"W	0.00	
13217.00†	90.181	0.218	7453.52	5244.47	5229.39	439.96	40°08'48.301"N	104°51'10.896"W	0.00	
13317.00†	90.181	0.218	7453.20	5344.37	5329.39	440.34	40°08'49.289"N	104°51'10.891"W	0.00	
13417.00†	90.181	0.218	7452.88	5444.27	5429.39	440.72	40°08'50.278"N	104°51'10.886"W	0.00	
13517.00†	90.181	0.218	7452.57	5544.17	5529.39	441.10	40°08'51.266"N	104°51'10.881"W	0.00	
13617.00†	90.181	0.218	7452.25	5644.08	5629.38	441.48	40°08'52.254"N	104°51'10.876"W	0.00	
13717.00†	90.181	0.218	7451.94	5743.98	5729.38	441.86	40°08'53.242"N	104°51'10.871"W	0.00	
13817.00†	90.181	0.218	7451.62	5843.88	5829.38	442.24	40°08'54.230"N	104°51'10.866"W	0.00	
13917.00†	90.181	0.218	7451.30	5943.78	5929.38	442.63	40°08'55.219"N	104°51'10.861"W	0.00	
14017.00†	90.181	0.218	7450.99	6043.68	6029.38	443.01	40°08'56.207"N	104°51'10.856"W	0.00	
14117.00†	90.181	0.218	7450.67	6143.59	6129.38	443.39	40°08'57.195"N	104°51'10.851"W	0.00	
14217.00†	90.181	0.218	7450.36	6243.49	6229.38	443.77	40°08'58.183"N	104°51'10.846"W	0.00	
14317.00†	90.181	0.218	7450.04	6343.39	6329.38	444.15	40°08'59.171"N	104°51'10.841"W	0.00	
14417.00†	90.181	0.218	7449.72	6443.29	6429.37	444.53	40°09'00.160"N	104°51'10.836"W	0.00	
14517.00†	90.181	0.218	7449.41	6543.19	6529.37	444.91	40°09'01.148"N	104°51'10.831"W	0.00	
14617.00†	90.181	0.218	7449.09	6643.10	6629.37	445.29	40°09'02.136"N	104°51'10.827"W	0.00	
14717.00†	90.181	0.218	7448.78	6743.00	6729.37	445.67	40°09'03.124"N	104°51'10.822"W	0.00	
14817.00†	90.181	0.218	7448.46	6842.90	6829.37	446.05	40°09'04.112"N	104°51'10.817"W	0.00	
14917.00†	90.181	0.218	7448.14	6942.80	6929.37	446.43	40°09'05.101"N	104°51'10.812"W	0.00	
15017.00†	90.181	0.218	7447.83	7042.70	7029.37	446.81	40°09'06.089"N	104°51'10.807"W	0.00	
15117.00†	90.181	0.218	7447.51	7142.61	7129.37	447.19	40°09'07.077"N	104°51'10.802"W	0.00	
15217.00†	90.181	0.218	7447.20	7242.51	7229.36	447.58	40°09'08.065"N	104°51'10.797"W	0.00	
15317.00†	90.181	0.218	7446.88	7342.41	7329.36	447.96	40°09'09.053"N	104°51'10.792"W	0.00	
15417.00†	90.181	0.218	7446.56	7442.31	7429.36	448.34	40°09'10.042"N	104°51'10.787"W	0.00	
15517.00†	90.181	0.218	7446.25	7542.21	7529.36	448.72	40°09'11.030"N	104°51'10.782"W	0.00	
15617.00†	90.181	0.218	7445.93	7642.12	7629.36	449.10	40°09'12.018"N	104°51'10.777"W	0.00	
15717.00†	90.181	0.218	7445.62	7742.02	7729.36	449.48	40°09'13.006"N	104°51'10.772"W	0.00	
15817.00†	90.181	0.218	7445.30	7841.92	7829.36	449.86	40°09'13.994"N	104°51'10.767"W	0.00	
15917.00†	90.181	0.218	7444.98	7941.82	7929.36	450.24	40°09'14.982"N	104°51'10.763"W	0.00	
16017.00†	90.181	0.218	7444.67	8041.73	8029.35	450.62	40°09'15.971"N	104°51'10.758"W	0.00	
16117.00†	90.181	0.218	7444.35	8141.63	8129.35	451.00	40°09'16.959"N	104°51'10.753"W	0.00	
16217.00†	90.181	0.218	7444.04	8241.53	8229.35	451.38	40°09'17.947"N	104°51'10.748"W	0.00	



Planned Wellpath Report

BARCLAY 27C-11HZ (PERMIT REV-1) PWP

Page 6 of 8



REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#08 BARCLAY 27C-11HZ (577'FSL & 1679'FEL, SEC.14)
Area	COLORADO	Well	BARCLAY 27C-11HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BARCLAY 27C-11HZ PWB
Facility	SEC.14-T2N-R67W		

WELLPATH DATA (193 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
16317.00†	90.181	0.218	7443.72	8341.43	8329.35	451.76	40°09'18.935"N	104°51'10.743"W	0.00	
16417.00†	90.181	0.218	7443.40	8441.33	8429.35	452.14	40°09'19.923"N	104°51'10.738"W	0.00	
16517.00†	90.181	0.218	7443.09	8541.24	8529.35	452.52	40°09'20.912"N	104°51'10.733"W	0.00	
16617.00†	90.181	0.218	7442.77	8641.14	8629.35	452.91	40°09'21.900"N	104°51'10.728"W	0.00	
16717.00†	90.181	0.218	7442.46	8741.04	8729.35	453.29	40°09'22.888"N	104°51'10.723"W	0.00	
16817.00†	90.181	0.218	7442.14	8840.94	8829.34	453.67	40°09'23.876"N	104°51'10.718"W	0.00	
16917.00†	90.181	0.218	7441.82	8940.84	8929.34	454.05	40°09'24.864"N	104°51'10.713"W	0.00	
17017.00†	90.181	0.218	7441.51	9040.75	9029.34	454.43	40°09'25.853"N	104°51'10.708"W	0.00	
17117.00†	90.181	0.218	7441.19	9140.65	9129.34	454.81	40°09'26.841"N	104°51'10.703"W	0.00	
17217.00†	90.181	0.218	7440.88	9240.55	9229.34	455.19	40°09'27.829"N	104°51'10.698"W	0.00	
17317.00†	90.181	0.218	7440.56	9340.45	9329.34	455.57	40°09'28.817"N	104°51'10.694"W	0.00	
17417.00†	90.181	0.218	7440.24	9440.35	9429.34	455.95	40°09'29.805"N	104°51'10.689"W	0.00	
17494.13	90.181	0.218	7440.00 ¹	9517.41	9506.47	456.25	40°09'30.568"N	104°51'10.685"W	0.00	TOTAL DEPTH

HOLE & CASING SECTIONS -

Ref Wellbore: BARCLAY 27C-11HZ PWB Ref Wellpath: BARCLAY 27C-11HZ (PERMIT REV-1) 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	17.00	1100.00	1083.00	17.00	1100.00	0.00	0.00	0.00	0.00
9.625in Casing Surface	17.00	1100.00	1083.00	17.00	1100.00	0.00	0.00	0.00	0.00
8.75in Open Hole	1100.00	7867.63	6767.63	1100.00	7470.42	0.00	0.00	-119.92	419.59
7in Casing Intermediate	17.00	7867.63	7850.63	17.00	7470.42	0.00	0.00	-119.92	419.59
6.125in Open Hole	7867.63	17494.13	9626.50	7470.42	7440.00	-119.92	419.59	9506.47	456.25
4.5in Casing Production	17.00	17494.13	17477.13	17.00	7440.00	0.00	0.00	9506.47	456.25



Planned Wellpath Report

BARCLAY 27C-11HZ (PERMIT REV-1) PWP

Page 7 of 8



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#08 BARCLAY 27C-11HZ (577'FSL & 1679'FEL, SEC.14)
Area	COLORADO	Well	BARCLAY 27C-11HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BARCLAY 27C-11HZ PWB
Facility	SEC.14-T2N-R67W		

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.11-T2N-R67W SECTION LINES		-7.00	3.45	-483.98	3179974.47	1291732.06	40°07'56.658"N	104°51'22.792"W	polygon
SEC.14-T2N-R67W SECTION LINES		-7.00	0.30	-29.98	3180428.45	1291732.23	40°07'56.627"N	104°51'16.947"W	polygon
SEC.11-T2N-R67W HARDLINES (460' SETBACK)		7346.00	3.45	-483.98	3179974.47	1291732.06	40°07'56.658"N	104°51'22.792"W	polygon
SEC.14-T2N-R67W HARDLINES (460' SETBACK)		7346.00	0.30	-29.98	3180428.45	1291732.23	40°07'56.627"N	104°51'16.947"W	polygon
1) BARCLAY 27C-11HZ BHL ON PLAT (460'FNL & 1260'FEL, SEC.11)	17494.13	7440.00	9506.47	456.25	3180845.46	1301241.27	40°09'30.568"N	104°51'10.685"W	point
BARCLAY 27C-11HZ LANDBOX		7440.00	0.00	0.00	3180458.44	1291732.14	40°07'56.624"N	104°51'16.561"W	polygon

SURVEY PROGRAM - Ref Wellbore: BARCLAY 27C-11HZ PWB					Ref Wellpath: BARCLAY 27C-11HZ (PERMIT REV-1) PWP	
Start MD [ft]	End MD [ft]	Positional Uncertainty Model		Log Name/Comment		Wellbore
17.00	7867.63	NaviTrak (Standard)				BARCLAY 27C-11HZ PWB
7867.63	17494.13	OnTrak (Standard)				BARCLAY 27C-11HZ PWB



Planned Wellpath Report

BARCLAY 27C-11HZ (PERMIT REV-1) PWP

Page 8 of 8



REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#08 BARCLAY 27C-11HZ (577'FSL & 1679'FEL, SEC.14)
Area	COLORADO	Well	BARCLAY 27C-11HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BARCLAY 27C-11HZ PWB
Facility	SEC.14-T2N-R67W		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
984.00	0.000	149.000	984.00	FOX HILLS BASE
4050.77	10.000	149.000	4011.00	PARKMAN
4474.20	10.000	149.000	4428.00	SUSSEX
6563.00	0.000	0.218	6494.64	4 1/2" LINER TOP
7232.93	26.710	0.218	7155.00	SHARON SPRINGS
7312.05	34.622	0.218	7223.00	NIOBRARA A
7354.49	38.866	0.218	7257.00	NIOBRARA B
7474.65	50.883	0.218	7342.00	NIOBRARA C
7843.80	87.798	0.218	7470.00	FORT HAYS
8000.64	90.181	0.218	7470.00	FORT HAYS

DESIGN COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
17.00	0.000	149.000	17.00	TIE ON
1100.00	0.000	149.000	1100.00	BEGIN NUDGE
1600.00	10.000	149.000	1597.47	END NUDGE
5765.82	10.000	149.000	5700.00	BEGIN DROP
6265.82	0.000	0.218	6197.47	END DROP
6965.82	0.000	0.218	6897.47	KOP, BUILD @ 10°/100'
7867.63	90.181	0.218	7470.42	LANDING POINT
17494.13	90.181	0.218	7440.00	TOTAL DEPTH