

Location:	COLORADO	Slot:	SLOT#12 VOLLMAR 29C-11HZ (1227°FNL & 1862°FWL, SEC.14)
Field:	WELD COUNTY (KERR MCGEE) Well:		VOLLMAR 29C-11HZ
Facility:	SEC.14-T2N-R67W	Wellbore:	VOLLMAR 29C-11HZ PWB

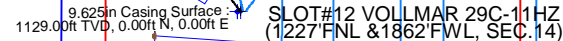
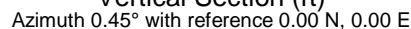
True vertical depths are referenced to PERMIT (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to PERMIT (RKB)	North Reference: True north
PERMIT (RKB) to Mean Sea Level: 4958 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#12 VOLLMAR 29C-11HZ (1227FNL &1862FWL, SEC.14)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: amarcas on 9/12/2014

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.14-T2N-R67W			3179914.426	1291732.032	40°07'56.662"N	104°51'23.565"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#12 VOLLMAR 29C-11HZ (1227FNL &1862FWL, SEC.14)	3477.53	-1134.56	3178754.710	1295201.088	40°08'31.027"N	104°51'38.174"W
PERMIT (RKB) to Mud line (At Slot: SLOT#12 VOLLMAR 29C-11HZ (1227FNL &1862FWL, SEC.14))					4958ft	
Mean Sea Level to Mud line (At Slot: SLOT#12 VOLLMAR 29C-11HZ (1227FNL &1862FWL, SEC.14))					0ft	
PERMIT (RKB) to Mean Sea Level					4958ft	

Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
17.00	1129.00	Generic gyro - continuous	Generic gyro - continuous (Standard)		VOLLMAR 29C-11HZ PWB
1129.00	7939.62	NaviTrak	NaviTrak (MAGCORR, IFR)		VOLLMAR 29C-11HZ PWB
7939.62	13119.94	NaviTrak	NaviTrak (MAGCORR, IFR)		VOLLMAR 29C-11HZ PWB

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
TIE ON	17.00	0.000	322.913	17.00	0.00	0.00	0.00	0.00
BEGIN NUDGE	4000.00	0.000	322.913	4000.00	0.00	0.00	0.00	0.00
END NUDGE	4978.55	19.571	322.913	4959.63	132.03	-99.80	2.00	131.24
KOP, BUILD @ 10°/100'	7193.66	19.571	322.913	7046.77	723.94	-547.25	0.00	719.64
LANDING POINT	7939.62	90.000	0.448	7458.00	1277.00	-632.00	10.00	1272.02
TOTAL DEPTH	13119.94	90.000	0.448	7458.00	6457.16	-591.47	0.00	6452.34

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
VOLLMAR SEC.11 SECTION LINES		0.00	-3.95	-29.98	3178724.76	1295196.93	40°08'30.988"N	104°51'38.560"W
VOLLMAR SEC.14 SECTION LINES		0.00	-3.95	-29.98	3178724.76	1295196.93	40°08'30.988"N	104°51'38.560"W
VOLLMAR SEC.11 HARDLINES (460' SETBACKS)		7313.00	-3.95	-29.98	3178724.76	1295196.93	40°08'30.988"N	104°51'38.560"W
VOLLMAR SEC.14 HARDLINES (460' SETBACKS)		7313.00	-3.95	-29.98	3178724.76	1295196.93	40°08'30.988"N	104°51'38.560"W
VOLLMAR 29C-11HZ BHL ON PLAT (100FWL & 1230FWL, SEC.11) REV-2		7458.00	6407.16	-591.47	3178111.08	1301653.54	40°09'34.343"N	104°51'45.792"W
VOLLMAR 29C-11HZ BHL ON PLAT (50FWL & 1230FWL, SEC.11) REV-1	13119.94	7458.00	6457.16	-591.47	3178116.72	1301653.53	40°09'34.827"N	104°51'45.792"W
VOLLMAR 29C-11HZ LANDBOX		7458.00	0.00	0.00	3178754.71	1295201.09	40°08'31.033"N	104°51'38.174"W



VOLLMAR 29C-11HZ BHL ON PLAT (50'FNL & 1230'FWL, SEC.11) REV-1
TOTAL DEPTH : 90.00° Inc, 13119.94ft MD, 7458.00ft TVD, 6452.34ft VS

Planned Wellpath Report

VOLLMAR 29C-11HZ (PERMIT REV-2)

Page 1 of 7

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#12 VOLLMAR 29C-11HZ (1227'FNL &1862'FWL, SEC.14)
Area	COLORADO	Well	VOLLMAR 29C-11HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	VOLLMAR 29C-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	Amarcar
Scale	0.999959	Report Generated	9/12/2014 at 2:45:31 PM
Convergence at slot	n/a	Database/Source file	WellArchitectDB/VOLLMAR_29C-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	3477.53	-1134.56	3178754.71	1295201.09	40°08'31.027"N	104°51'38.174"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 (RKB) to Facility Vertical Datum	4958.00ft
Horizontal Reference Pt	Slot	PERMIT (RKB) to Mean Sea Level	4958.00ft
Vertical Reference Pt	PERMIT (RKB)	PERMIT (RKB) to Mud Line at Slot (SLOT#12 VOLLMAR 29C-11HZ (1227'FNL &1862'FWL, SEC.14))	4958.00ft
MD Reference Pt	PERMIT (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	0.45°

Planned Wellpath Report

VOLLMAR 29C-11HZ (PERMIT REV-2)

Page 2 of 7

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#12 VOLLMAR 29C-11HZ (1227'FNL &1862'FWL, SEC.14)
Area	COLORADO	Well	VOLLMAR 29C-11HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	VOLLMAR 29C-11HZ PWB
Facility	SEC.14-T2N-R67W		

WELLPATH DATA (147 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	322.913	0.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
17.00	0.000	322.913	17.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	TIE ON
117.00†	0.000	322.913	117.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
217.00†	0.000	322.913	217.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
317.00†	0.000	322.913	317.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
417.00†	0.000	322.913	417.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
517.00†	0.000	322.913	517.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
617.00†	0.000	322.913	617.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
717.00†	0.000	322.913	717.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
801.00†	0.000	322.913	801.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	BASE FOX HILLS
817.00†	0.000	322.913	817.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
917.00†	0.000	322.913	917.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
1017.00†	0.000	322.913	1017.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
1117.00†	0.000	322.913	1117.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
1129.00†	0.000	322.913	1129.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	SURFACE CSG SETTING DEPTH
1217.00†	0.000	322.913	1217.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
1317.00†	0.000	322.913	1317.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
1417.00†	0.000	322.913	1417.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
1517.00†	0.000	322.913	1517.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
1617.00†	0.000	322.913	1617.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
1717.00†	0.000	322.913	1717.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
1817.00†	0.000	322.913	1817.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
1917.00†	0.000	322.913	1917.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
2017.00†	0.000	322.913	2017.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
2117.00†	0.000	322.913	2117.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
2217.00†	0.000	322.913	2217.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
2317.00†	0.000	322.913	2317.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
2417.00†	0.000	322.913	2417.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
2517.00†	0.000	322.913	2517.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
2617.00†	0.000	322.913	2617.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
2717.00†	0.000	322.913	2717.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
2817.00†	0.000	322.913	2817.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
2917.00†	0.000	322.913	2917.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
3017.00†	0.000	322.913	3017.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
3117.00†	0.000	322.913	3117.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
3217.00†	0.000	322.913	3217.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
3317.00†	0.000	322.913	3317.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
3417.00†	0.000	322.913	3417.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
3517.00†	0.000	322.913	3517.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
3617.00†	0.000	322.913	3617.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
3717.00†	0.000	322.913	3717.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
3817.00†	0.000	322.913	3817.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
3917.00†	0.000	322.913	3917.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	
4000.00	0.000	322.913	4000.00	0.00	0.00	0.00	40°08'31.027"N	104°51'38.174"W	0.00	BEGIN NUDGE
4017.00†	0.340	322.913	4017.00	0.04	0.04	-0.03	40°08'31.027"N	104°51'38.174"W	2.00	

Planned Wellpath Report

VOLLMAR 29C-11HZ (PERMIT REV-2)

Page 3 of 7

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#12 VOLLMAR 29C-11HZ (1227'FNL &1862'FWL, SEC.14)
Area	COLORADO	Well	VOLLMAR 29C-11HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	VOLLMAR 29C-11HZ PWB
Facility	SEC.14-T2N-R67W		

WELLPATH DATA (147 stations)				† = interpolated/extrapolated station						
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4043.00†	0.860	322.913	4043.00	0.26	0.26	-0.19	40°08'31.030"N	104°51'38.177"W	2.00	PARKMAN
4117.00†	2.340	322.913	4116.97	1.89	1.91	-1.44	40°08'31.046"N	104°51'38.193"W	2.00	
4217.00†	4.340	322.913	4216.79	6.51	6.55	-4.95	40°08'31.092"N	104°51'38.238"W	2.00	
4317.00†	6.340	322.913	4316.35	13.89	13.98	-10.57	40°08'31.165"N	104°51'38.310"W	2.00	
4417.00†	8.340	322.913	4415.53	24.02	24.17	-18.27	40°08'31.266"N	104°51'38.409"W	2.00	
4466.05†	9.321	322.913	4464.00	30.00	30.17	-22.81	40°08'31.325"N	104°51'38.468"W	2.00	SUSSEX
4517.00†	10.340	322.913	4514.20	36.89	37.11	-28.06	40°08'31.394"N	104°51'38.535"W	2.00	
4617.00†	12.340	322.913	4612.24	52.48	52.80	-39.91	40°08'31.549"N	104°51'38.688"W	2.00	
4717.00†	14.340	322.913	4709.54	70.78	71.20	-53.82	40°08'31.731"N	104°51'38.867"W	2.00	
4817.00†	16.340	322.913	4805.97	91.76	92.31	-69.78	40°08'31.939"N	104°51'39.072"W	2.00	
4917.00†	18.340	322.913	4901.42	115.39	116.08	-87.75	40°08'32.174"N	104°51'39.304"W	2.00	
4978.55	19.571	322.913	4959.63	131.24	132.03	-99.80	40°08'32.332"N	104°51'39.459"W	2.00	END NUDGE
5017.00†	19.571	322.913	4995.86	141.46	142.30	-107.57	40°08'32.433"N	104°51'39.559"W	0.00	
5117.00†	19.571	322.913	5090.08	168.02	169.03	-127.77	40°08'32.697"N	104°51'39.819"W	0.00	
5217.00†	19.571	322.913	5184.31	194.58	195.75	-147.97	40°08'32.961"N	104°51'40.079"W	0.00	
5317.00†	19.571	322.913	5278.53	221.15	222.47	-168.17	40°08'33.225"N	104°51'40.339"W	0.00	
5417.00†	19.571	322.913	5372.75	247.71	249.19	-188.37	40°08'33.490"N	104°51'40.600"W	0.00	
5517.00†	19.571	322.913	5466.97	274.27	275.91	-208.57	40°08'33.754"N	104°51'40.860"W	0.00	
5617.00†	19.571	322.913	5561.20	300.84	302.63	-228.77	40°08'34.018"N	104°51'41.120"W	0.00	
5717.00†	19.571	322.913	5655.42	327.40	329.36	-248.97	40°08'34.282"N	104°51'41.380"W	0.00	
5817.00†	19.571	322.913	5749.64	353.96	356.08	-269.17	40°08'34.546"N	104°51'41.640"W	0.00	
5917.00†	19.571	322.913	5843.86	380.52	382.80	-289.37	40°08'34.810"N	104°51'41.900"W	0.00	
6017.00†	19.571	322.913	5938.09	407.09	409.52	-309.57	40°08'35.074"N	104°51'42.160"W	0.00	
6117.00†	19.571	322.913	6032.31	433.65	436.24	-329.77	40°08'35.338"N	104°51'42.420"W	0.00	
6217.00†	19.571	322.913	6126.53	460.21	462.96	-349.97	40°08'35.602"N	104°51'42.680"W	0.00	
6317.00†	19.571	322.913	6220.76	486.78	489.69	-370.17	40°08'35.866"N	104°51'42.941"W	0.00	
6417.00†	19.571	322.913	6314.98	513.34	516.41	-390.37	40°08'36.130"N	104°51'43.201"W	0.00	
6505.00†	19.571	322.913	6397.89	536.71	539.92	-408.14	40°08'36.363"N	104°51'43.430"W	0.00	4 1/2" LINER TOP
6517.00†	19.571	322.913	6409.20	539.90	543.13	-410.57	40°08'36.394"N	104°51'43.461"W	0.00	
6617.00†	19.571	322.913	6503.42	566.46	569.85	-430.77	40°08'36.658"N	104°51'43.721"W	0.00	
6717.00†	19.571	322.913	6597.65	593.03	596.57	-450.97	40°08'36.922"N	104°51'43.981"W	0.00	
6817.00†	19.571	322.913	6691.87	619.59	623.29	-471.17	40°08'37.186"N	104°51'44.241"W	0.00	
6917.00†	19.571	322.913	6786.09	646.15	650.02	-491.37	40°08'37.450"N	104°51'44.501"W	0.00	
7017.00†	19.571	322.913	6880.31	672.72	676.74	-511.57	40°08'37.715"N	104°51'44.761"W	0.00	
7117.00†	19.571	322.913	6974.54	699.28	703.46	-531.77	40°08'37.979"N	104°51'45.021"W	0.00	
7193.66	19.571	322.913	7046.77	719.64	723.94	-547.25	40°08'38.181"N	104°51'45.221"W	0.00	KOP, BUILD @ 10°/100'
7217.00†	21.429	326.953	7068.63	726.30	730.64	-551.94	40°08'38.247"N	104°51'45.281"W	10.00	
7317.00†	30.114	338.521	7158.65	764.90	769.39	-571.13	40°08'38.630"N	104°51'45.528"W	10.00	
7339.60†	32.177	340.312	7178.00	775.82	780.34	-575.24	40°08'38.738"N	104°51'45.581"W	10.00	SSPG
7417.00†	39.386	345.151	7240.76	818.91	823.54	-588.49	40°08'39.165"N	104°51'45.752"W	10.00	
7446.37†	42.164	346.611	7263.00	837.48	842.14	-593.16	40°08'39.349"N	104°51'45.812"W	10.00	NBRR
7517.00†	48.907	349.560	7312.45	886.69	891.44	-603.49	40°08'39.836"N	104°51'45.945"W	10.00	
7517.84†	48.988	349.591	7313.00	887.31	892.06	-603.60	40°08'39.842"N	104°51'45.946"W	10.00	N470_B_CK
7617.00†	58.554	352.837	7371.55	966.18	971.02	-615.67	40°08'40.623"N	104°51'46.102"W	10.00	
7629.59†	59.774	353.199	7378.00	976.90	981.75	-616.98	40°08'40.729"N	104°51'46.119"W	10.00	N700_C_CK

Planned Wellpath Report

VOLLMAR 29C-11HZ (PERMIT REV-2)

Page 4 of 7

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#12 VOLLMAR 29C-11HZ (1227'FNL &1862'FWL, SEC.14)
Area	COLORADO	Well	VOLLMAR 29C-11HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	VOLLMAR 29C-11HZ PWB
Facility	SEC.14-T2N-R67W		

WELLPATH DATA (147 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7717.00†	68.269	355.496	7416.26	1054.96	1059.88	-624.66	40°08'41.501"N	104°51'46.218"W	10.00	
7817.00†	78.020	357.814	7445.22	1150.33	1155.30	-630.18	40°08'42.444"N	104°51'46.289"W	10.00	
7917.00†	87.790	359.969	7457.56	1249.41	1254.39	-632.08	40°08'43.423"N	104°51'46.313"W	10.00	
7939.62	90.000	0.448	7458.00	1272.02	1277.00	-632.00	40°08'43.646"N	104°51'46.312"W	10.00	LANDING POINT
8017.00†	90.000	0.448	7458.00	1349.40	1354.38	-631.39	40°08'44.411"N	104°51'46.304"W	0.00	
8117.00†	90.000	0.448	7458.00	1449.40	1454.38	-630.61	40°08'45.399"N	104°51'46.294"W	0.00	
8217.00†	90.000	0.448	7458.00	1549.40	1554.37	-629.83	40°08'46.387"N	104°51'46.284"W	0.00	
8317.00†	90.000	0.448	7458.00	1649.40	1654.37	-629.04	40°08'47.376"N	104°51'46.274"W	0.00	
8417.00†	90.000	0.448	7458.00	1749.40	1754.37	-628.26	40°08'48.364"N	104°51'46.264"W	0.00	
8517.00†	90.000	0.448	7458.00	1849.40	1854.36	-627.48	40°08'49.352"N	104°51'46.254"W	0.00	
8617.00†	90.000	0.448	7458.00	1949.40	1954.36	-626.69	40°08'50.340"N	104°51'46.244"W	0.00	
8717.00†	90.000	0.448	7458.00	2049.40	2054.36	-625.91	40°08'51.328"N	104°51'46.234"W	0.00	
8817.00†	90.000	0.448	7458.00	2149.40	2154.35	-625.13	40°08'52.316"N	104°51'46.224"W	0.00	
8917.00†	90.000	0.448	7458.00	2249.40	2254.35	-624.35	40°08'53.305"N	104°51'46.214"W	0.00	
9017.00†	90.000	0.448	7458.00	2349.40	2354.35	-623.56	40°08'54.293"N	104°51'46.204"W	0.00	
9117.00†	90.000	0.448	7458.00	2449.40	2454.35	-622.78	40°08'55.281"N	104°51'46.194"W	0.00	
9217.00†	90.000	0.448	7458.00	2549.40	2554.34	-622.00	40°08'56.269"N	104°51'46.184"W	0.00	
9317.00†	90.000	0.448	7458.00	2649.40	2654.34	-621.22	40°08'57.257"N	104°51'46.174"W	0.00	
9417.00†	90.000	0.448	7458.00	2749.40	2754.34	-620.43	40°08'58.245"N	104°51'46.164"W	0.00	
9517.00†	90.000	0.448	7458.00	2849.40	2854.33	-619.65	40°08'59.234"N	104°51'46.154"W	0.00	
9617.00†	90.000	0.448	7458.00	2949.40	2954.33	-618.87	40°09'00.222"N	104°51'46.144"W	0.00	
9717.00†	90.000	0.448	7458.00	3049.40	3054.33	-618.09	40°09'01.210"N	104°51'46.134"W	0.00	
9817.00†	90.000	0.448	7458.00	3149.40	3154.32	-617.30	40°09'02.198"N	104°51'46.124"W	0.00	
9917.00†	90.000	0.448	7458.00	3249.40	3254.32	-616.52	40°09'03.186"N	104°51'46.114"W	0.00	
10017.00†	90.000	0.448	7458.00	3349.40	3354.32	-615.74	40°09'04.175"N	104°51'46.104"W	0.00	
10117.00†	90.000	0.448	7458.00	3449.40	3454.31	-614.96	40°09'05.163"N	104°51'46.094"W	0.00	
10217.00†	90.000	0.448	7458.00	3549.40	3554.31	-614.18	40°09'06.151"N	104°51'46.083"W	0.00	
10317.00†	90.000	0.448	7458.00	3649.40	3654.31	-613.39	40°09'07.139"N	104°51'46.073"W	0.00	
10417.00†	90.000	0.448	7458.00	3749.40	3754.31	-612.61	40°09'08.127"N	104°51'46.063"W	0.00	
10517.00†	90.000	0.448	7458.00	3849.40	3854.30	-611.83	40°09'09.115"N	104°51'46.053"W	0.00	
10617.00†	90.000	0.448	7458.00	3949.40	3954.30	-611.05	40°09'10.104"N	104°51'46.043"W	0.00	
10717.00†	90.000	0.448	7458.00	4049.40	4054.30	-610.26	40°09'11.092"N	104°51'46.033"W	0.00	
10817.00†	90.000	0.448	7458.00	4149.40	4154.29	-609.48	40°09'12.080"N	104°51'46.023"W	0.00	
10917.00†	90.000	0.448	7458.00	4249.40	4254.29	-608.70	40°09'13.068"N	104°51'46.013"W	0.00	
11017.00†	90.000	0.448	7458.00	4349.40	4354.29	-607.92	40°09'14.056"N	104°51'46.003"W	0.00	
11117.00†	90.000	0.448	7458.00	4449.40	4454.28	-607.14	40°09'15.044"N	104°51'45.993"W	0.00	
11217.00†	90.000	0.448	7458.00	4549.40	4554.28	-606.35	40°09'16.033"N	104°51'45.983"W	0.00	
11317.00†	90.000	0.448	7458.00	4649.40	4654.28	-605.57	40°09'17.021"N	104°51'45.973"W	0.00	
11417.00†	90.000	0.448	7458.00	4749.40	4754.27	-604.79	40°09'18.009"N	104°51'45.963"W	0.00	
11517.00†	90.000	0.448	7458.00	4849.40	4854.27	-604.01	40°09'18.997"N	104°51'45.953"W	0.00	
11617.00†	90.000	0.448	7458.00	4949.40	4954.27	-603.22	40°09'19.985"N	104°51'45.943"W	0.00	
11717.00†	90.000	0.448	7458.00	5049.40	5054.27	-602.44	40°09'20.974"N	104°51'45.933"W	0.00	
11817.00†	90.000	0.448	7458.00	5149.40	5154.26	-601.66	40°09'21.962"N	104°51'45.923"W	0.00	
11917.00†	90.000	0.448	7458.00	5249.40	5254.26	-600.88	40°09'22.950"N	104°51'45.913"W	0.00	
12017.00†	90.000	0.448	7458.00	5349.40	5354.26	-600.10	40°09'23.938"N	104°51'45.903"W	0.00	

Planned Wellpath Report

VOLLMAR 29C-11HZ (PERMIT REV-2)

Page 5 of 7

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#12 VOLLMAR 29C-11HZ (1227'FNL &1862'FWL, SEC.14)
Area	COLORADO	Well	VOLLMAR 29C-11HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	VOLLMAR 29C-11HZ PWB
Facility	SEC.14-T2N-R67W		

WELLPATH DATA (147 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12117.00†	90.000	0.448	7458.00	5449.40	5454.25	-599.31	40°09'24.926"N	104°51'45.893"W	0.00	
12217.00†	90.000	0.448	7458.00	5549.40	5554.25	-598.53	40°09'25.914"N	104°51'45.883"W	0.00	
12317.00†	90.000	0.448	7458.00	5649.40	5654.25	-597.75	40°09'26.903"N	104°51'45.873"W	0.00	
12417.00†	90.000	0.448	7458.00	5749.40	5754.24	-596.97	40°09'27.891"N	104°51'45.863"W	0.00	
12517.00†	90.000	0.448	7458.00	5849.40	5854.24	-596.19	40°09'28.879"N	104°51'45.853"W	0.00	
12617.00†	90.000	0.448	7458.00	5949.40	5954.24	-595.41	40°09'29.867"N	104°51'45.842"W	0.00	
12717.00†	90.000	0.448	7458.00	6049.40	6054.24	-594.62	40°09'30.855"N	104°51'45.832"W	0.00	
12817.00†	90.000	0.448	7458.00	6149.40	6154.23	-593.84	40°09'31.843"N	104°51'45.822"W	0.00	
12917.00†	90.000	0.448	7458.00	6249.40	6254.23	-593.06	40°09'32.832"N	104°51'45.812"W	0.00	
13017.00†	90.000	0.448	7458.00	6349.40	6354.23	-592.28	40°09'33.820"N	104°51'45.802"W	0.00	
13117.00†	90.000	0.448	7458.00	6449.40	6454.22	-591.50	40°09'34.808"N	104°51'45.792"W	0.00	
13119.94	90.000	0.448	7458.00 ¹	6452.34	6457.16	-591.47	40°09'34.837"N	104°51'45.792"W	0.00	TOTAL DEPTH

HOLE & CASING SECTIONS - Ref Wellbore: VOLLMAR 29C-11HZ PWB Ref Wellpath: VOLLMAR 29C-11HZ (PERMIT REV-2)

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	1129.00	1112.00	17.00	1129.00	0.00	0.00	0.00	0.00
9.625in Casing Surface	17.00	1129.00	1112.00	17.00	1129.00	0.00	0.00	0.00	0.00
8.75in Open Hole	1129.00	7939.62	6810.62	1129.00	7458.00	0.00	0.00	1277.00	-632.00
7in Casing Intermediate	17.00	7939.62	7922.62	17.00	7458.00	0.00	0.00	1277.00	-632.00
6.125in Open Hole	7939.62	13119.94	5180.32	7458.00	7458.00	1277.00	-632.00	6457.16	-591.47
4.5in Casing Production	17.00	13119.94	13102.94	17.00	7458.00	0.00	0.00	6457.16	-591.47

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#12 VOLLMAR 29C-11HZ (1227'FNL &1862'FWL, SEC.14)
Area	COLORADO	Well	VOLLMAR 29C-11HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	VOLLMAR 29C-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
VOLLMAR SEC.11 SECTION LINES		0.00	-3.95	-29.98	3178724.76	1295196.93	40°08'30.988"N	104°51'38.560"W	polygon
VOLLMAR SEC.14 SECTION LINES		0.00	-3.95	-29.98	3178724.76	1295196.93	40°08'30.988"N	104°51'38.560"W	polygon
VOLLMAR SEC.11 HARDLINES (460' SETBACKS)		7313.00	-3.95	-29.98	3178724.76	1295196.93	40°08'30.988"N	104°51'38.560"W	polygon
VOLLMAR SEC.14 HARDLINES (460' SETBACKS)		7313.00	-3.95	-29.98	3178724.76	1295196.93	40°08'30.988"N	104°51'38.560"W	polygon
VOLLMAR 29C-11HZ BHL ON PLAT (100'FNL & 1230'FWL, SEC.11) REV-2		7458.00	6407.16	-591.47	3178117.08	1301603.54	40°09'34.343"N	104°51'45.792"W	point
1) VOLLMAR 29C-11HZ BHL ON PLAT (50'FNL & 1230'FWL, SEC.11) REV-1	13119.94	7458.00	6457.16	-591.47	3178116.72	1301653.53	40°09'34.837"N	104°51'45.792"W	point
VOLLMAR 29C-11HZ LANDBOX		7458.00	0.00	0.00	3178754.71	1295201.09	40°08'31.027"N	104°51'38.174"W	polygon

SURVEY PROGRAM - Ref Wellbore: VOLLMAR 29C-11HZ PWB					Ref Wellpath: VOLLMAR 29C-11HZ (PERMIT REV-2)	
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment		Wellbore	
17.00	1129.00	Generic gyro - continuous (Standard)			VOLLMAR 29C-11HZ PWB	
1129.00	7939.62	NaviTrak (MAGCORR,IFR)			VOLLMAR 29C-11HZ PWB	
7939.62	13119.94	NaviTrak (MAGCORR,IFR)			VOLLMAR 29C-11HZ PWB	

REFERENCE WELLPATH IDENTIFICATION				
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#12 VOLLMAR 29C-11HZ (1227'FNL &1862'FWL, SEC.14)	
Area	COLORADO	Well	VOLLMAR 29C-11HZ	
Field	WELD COUNTY (KERR MCGEE)	Wellbore	VOLLMAR 29C-11HZ PWB	
Facility	SEC.14-T2N-R67W			

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
801.00	0.000	322.913	801.00	BASE FOX HILLS
1129.00	0.000	322.913	1129.00	SURFACE CSG SETTING DEPTH
4043.00	0.860	322.913	4043.00	PARKMAN
4466.05	9.321	322.913	4464.00	SUSSEX
6505.00	19.571	322.913	6397.89	4 1/2" LINER TOP
7339.60	32.177	340.312	7178.00	SSPG
7446.37	42.164	346.611	7263.00	NBRR
7517.84	48.988	349.591	7313.00	N470_B_CK
7629.59	59.774	353.199	7378.00	N700_C_CK

DESIGN COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
17.00	0.000	322.913	17.00	TIE ON
4000.00	0.000	322.913	4000.00	BEGIN NUDGE
4978.55	19.571	322.913	4959.63	END NUDGE
7193.66	19.571	322.913	7046.77	KOP, BUILD @ 10°/100'
7939.62	90.000	0.448	7458.00	LANDING POINT
13119.94	90.000	0.448	7458.00	TOTAL DEPTH