

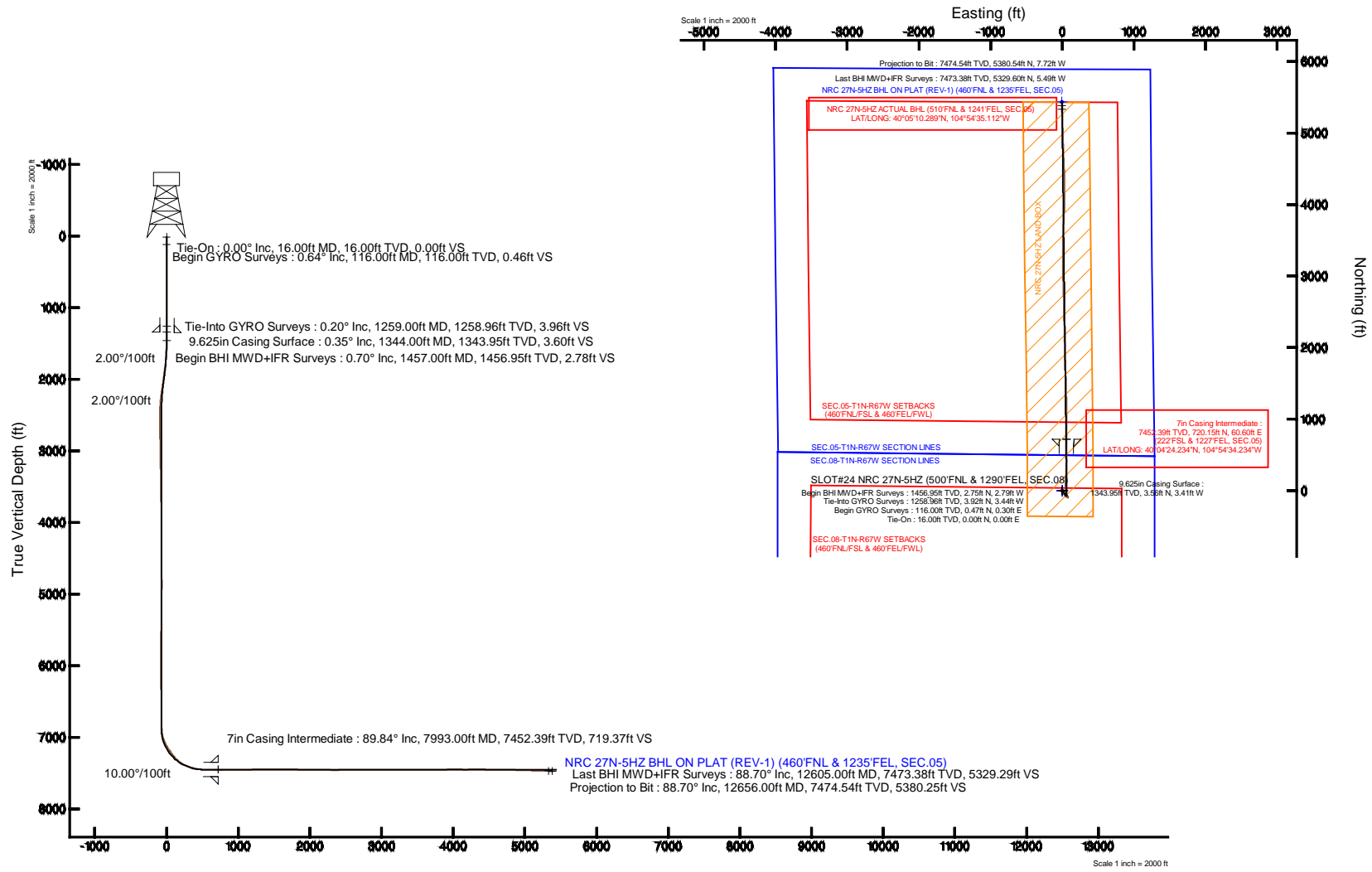
# KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#24 NRC 27N-5HZ (500'FNL & 1290'FEL, SEC.08)  
 Field: WELD COUNTY (KERR MCGEE) Well: NRC 27N-5HZ  
 Facility: SEC.08-T1N-R67W Wellbore: NRC 27N-5HZ PWB



Plot reference wellpath is NRC 27N-5HZ PWB (REV-A.0)

True vertical depths are referenced to XTREME 23 (16KB) (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to XTREME 23 (16KB) (RKB)	North Reference: True north
XTREME 23 (16KB) (RKB) to Mean Sea Level: 5025 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#24 NRC 27N-5HZ (500'FNL & 1290'FEL, SEC.08)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: preclin on 14/Aug/2014



# Actual Wellpath Report

NRC 27N-5HZ AWP

Page 1 of 5

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#24 NRC 27N-5HZ (500'FNL & 1290'FEL, SEC.08)
Area	COLORADO	Well	NRC 27N-5HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	NRC 27N-5HZ AWB
Facility	SEC.08-T1N-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	Precain
Scale	0.999962	Report Generated	14/Aug/2014 at 20:34
Convergence at slot	n/a	Database/Source file	WellArchitectDB/NRC_27N-5HZ_AWB.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	3736.71	117.86	3165193.02	1269413.69	40°04'17.117"N	104°54'35.013"W
Facility Reference Pt			3165100.03	1265676.42	40°03'40.190"N	104°54'36.529"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	5025.00ft
Horizontal Reference Pt	Slot	XTREME 23 (16'KB) (RKB) to Mean Sea Level	5025.00ft
Vertical Reference Pt	XTREME 23 (16'KB) (RKB)	XTREME 23 (16'KB) (RKB) to Mud Line at Slot (SLOT#24 NRC 27N-5HZ (500'FNL & 1290'FEL, SEC.08))	5025.00ft
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	359.31°

# Actual Wellpath Report

NRC 27N-5HZ AWP

Page 2 of 5

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#24 NRC 27N-5HZ (500'FNL & 1290'FEL, SEC.08)
Area	COLORADO	Well	NRC 27N-5HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	NRC 27N-5HZ AWB
Facility	SEC.08-T1N-R67W		

## WELLPATH DATA (93 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	33.020	0.00	0.00	0.00	0.00	40°04'17.117"N	104°54'35.013"W	0.00	
16.00	0.000	33.020	16.00	0.00	0.00	0.00	40°04'17.117"N	104°54'35.013"W	0.00	Tie-On
116.00	0.640	33.020	116.00	0.46	0.47	0.30	40°04'17.122"N	104°54'35.009"W	0.64	Begin GYRO Surveys
216.00	0.730	21.360	215.99	1.52	1.53	0.84	40°04'17.132"N	104°54'35.002"W	0.17	
316.00	0.570	23.490	315.98	2.56	2.58	1.27	40°04'17.142"N	104°54'34.997"W	0.16	
416.00	0.490	2.830	415.98	3.44	3.46	1.49	40°04'17.151"N	104°54'34.994"W	0.21	
516.00	0.350	346.580	515.98	4.17	4.19	1.44	40°04'17.158"N	104°54'34.994"W	0.18	
616.00	0.260	293.830	615.98	4.56	4.58	1.16	40°04'17.162"N	104°54'34.998"W	0.28	
716.00	0.290	301.900	715.98	4.79	4.80	0.74	40°04'17.164"N	104°54'35.003"W	0.05	
816.00	0.380	274.940	815.97	4.96	4.96	0.19	40°04'17.166"N	104°54'35.010"W	0.18	
916.00	0.470	273.500	915.97	5.02	5.02	-0.55	40°04'17.167"N	104°54'35.020"W	0.09	
1016.00	0.600	259.720	1015.97	4.97	4.95	-1.47	40°04'17.166"N	104°54'35.032"W	0.18	
1116.00	0.610	252.070	1115.96	4.72	4.69	-2.49	40°04'17.163"N	104°54'35.045"W	0.08	
1216.00	0.540	216.370	1215.96	4.19	4.15	-3.28	40°04'17.158"N	104°54'35.055"W	0.36	
1259.00	0.200	212.080	1258.96	3.96	3.92	-3.44	40°04'17.156"N	104°54'35.057"W	0.79	Tie-Into GYRO Surveys
1457.00	0.700	136.600	1456.95	2.78	2.75	-2.79	40°04'17.144"N	104°54'35.049"W	0.34	Begin BHI MWD+IFR Surveys
1556.00	2.700	162.300	1555.90	0.11	0.09	-1.67	40°04'17.118"N	104°54'35.034"W	2.11	
1647.00	3.800	157.300	1646.75	-4.74	-4.74	0.15	40°04'17.070"N	104°54'35.011"W	1.25	
1738.00	5.900	145.200	1737.43	-11.41	-11.36	3.98	40°04'17.005"N	104°54'34.962"W	2.55	
1830.00	7.700	145.900	1828.77	-20.47	-20.35	10.14	40°04'16.916"N	104°54'34.883"W	1.96	
1922.00	8.600	141.400	1919.85	-31.04	-30.83	17.89	40°04'16.812"N	104°54'34.783"W	1.20	
2106.00	11.500	145.700	2101.01	-57.17	-56.74	36.81	40°04'16.556"N	104°54'34.540"W	1.63	
2291.00	9.900	123.800	2282.86	-81.55	-80.83	60.43	40°04'16.318"N	104°54'34.236"W	2.34	
2382.00	6.600	122.300	2372.90	-88.82	-87.98	71.35	40°04'16.248"N	104°54'34.095"W	3.63	
2474.00	4.200	109.800	2464.49	-92.88	-91.94	78.99	40°04'16.208"N	104°54'33.997"W	2.89	
2659.00	1.400	335.700	2649.35	-93.18	-92.18	84.44	40°04'16.206"N	104°54'33.927"W	2.85	
2842.00	1.500	317.700	2832.29	-89.34	-88.37	81.91	40°04'16.244"N	104°54'33.959"W	0.25	
3305.00	1.600	303.500	3295.12	-81.18	-80.32	72.44	40°04'16.323"N	104°54'34.081"W	0.09	
3646.00	1.300	314.100	3636.01	-75.78	-75.00	65.69	40°04'16.376"N	104°54'34.168"W	0.12	
3816.00	1.600	299.400	3805.96	-73.23	-72.49	62.24	40°04'16.401"N	104°54'34.212"W	0.28	
3902.00	1.000	358.600	3891.94	-71.88	-71.15	61.17	40°04'16.414"N	104°54'34.226"W	1.61	
3987.00	0.400	103.800	3976.93	-71.21	-70.48	61.44	40°04'16.420"N	104°54'34.223"W	1.38	
4413.00	0.800	298.100	4402.92	-70.15	-69.44	60.27	40°04'16.431"N	104°54'34.238"W	0.28	
4841.00	0.700	317.500	4830.89	-66.77	-66.10	55.86	40°04'16.464"N	104°54'34.294"W	0.06	
4926.00	0.700	156.700	4915.89	-66.86	-66.20	55.72	40°04'16.463"N	104°54'34.296"W	1.62	
5011.00	0.900	180.800	5000.88	-68.01	-67.34	55.91	40°04'16.452"N	104°54'34.294"W	0.46	
5096.00	1.300	201.900	5085.86	-69.56	-68.90	55.54	40°04'16.436"N	104°54'34.299"W	0.66	
5181.00	0.900	141.700	5170.85	-70.98	-70.32	55.60	40°04'16.422"N	104°54'34.298"W	1.36	
5352.00	0.900	133.300	5341.83	-72.98	-72.30	57.41	40°04'16.403"N	104°54'34.275"W	0.08	
5693.00	0.200	91.500	5682.81	-74.86	-74.15	59.95	40°04'16.384"N	104°54'34.242"W	0.22	
6120.00	0.400	264.100	6109.81	-75.02	-74.32	59.21	40°04'16.383"N	104°54'34.251"W	0.14	
6460.00	0.800	308.700	6449.79	-73.63	-72.96	56.18	40°04'16.396"N	104°54'34.290"W	0.17	
6631.00	0.800	289.900	6620.77	-72.45	-71.81	54.13	40°04'16.407"N	104°54'34.317"W	0.15	
6837.00	1.800	332.900	6826.72	-69.05	-68.44	51.30	40°04'16.441"N	104°54'34.353"W	0.65	
6887.00	2.400	334.600	6876.69	-67.39	-66.79	50.49	40°04'16.457"N	104°54'34.363"W	1.21	

# Actual Wellpath Report

NRC 27N-5HZ AWP

Page 3 of 5

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#24 NRC 27N-5HZ (500'FNL & 1290'FEL, SEC.08)
Area	COLORADO	Well	NRC 27N-5HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	NRC 27N-5HZ AWB
Facility	SEC.08-T1N-R67W		

WELLPATH DATA (93 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
6973.00	11.000	355.300	6962.03	-57.55	-56.97	49.05	40°04'16.554"N	104°54'34.382"W	10.23	
7058.00	19.900	355.700	7043.87	-34.98	-34.42	47.29	40°04'16.777"N	104°54'34.405"W	10.47	
7143.00	30.500	357.400	7120.68	1.12	1.66	45.23	40°04'17.133"N	104°54'34.431"W	12.50	
7229.00	34.700	359.400	7193.11	47.43	47.96	43.98	40°04'17.591"N	104°54'34.447"W	5.04	
7314.00	37.000	0.900	7262.01	97.20	97.74	44.13	40°04'18.083"N	104°54'34.445"W	2.90	
7399.00	48.900	3.200	7324.11	154.93	155.50	46.32	40°04'18.654"N	104°54'34.417"W	14.12	
7484.00	60.800	2.400	7372.96	224.18	224.79	49.68	40°04'19.338"N	104°54'34.374"W	14.02	
7570.00	69.900	2.800	7408.79	302.13	302.79	53.23	40°04'20.109"N	104°54'34.328"W	10.59	
7655.00	75.600	1.600	7433.99	383.17	383.87	56.33	40°04'20.911"N	104°54'34.288"W	6.84	
7740.00	83.000	0.400	7449.76	466.60	467.32	57.78	40°04'21.735"N	104°54'34.270"W	8.82	
7755.00	85.200	0.300	7451.30	481.52	482.24	57.87	40°04'21.883"N	104°54'34.269"W	14.68	
7813.00	89.900	0.600	7453.78	539.44	540.17	58.32	40°04'22.455"N	104°54'34.263"W	8.12	
7898.00	91.000	0.800	7453.11	624.41	625.16	59.36	40°04'23.295"N	104°54'34.249"W	1.32	
7983.00	90.000	0.700	7452.37	709.38	710.15	60.48	40°04'24.135"N	104°54'34.235"W	1.18	
7993.00†	89.835	0.688	7452.39	719.37	720.15	60.60	40°04'24.234"N	104°54'34.234"W	1.65	7" Casing Point
8068.00	88.600	0.600	7453.41	794.34	795.14	61.44	40°04'24.975"N	104°54'34.223"W	1.65	
8153.00	89.100	0.200	7455.12	879.31	880.12	62.03	40°04'25.814"N	104°54'34.215"W	0.75	
8323.00	91.300	359.200	7454.52	1049.29	1050.10	61.14	40°04'27.494"N	104°54'34.226"W	1.42	
8407.00	91.400	359.100	7452.54	1133.27	1134.07	59.90	40°04'28.324"N	104°54'34.243"W	0.17	
8493.00	90.600	358.700	7451.04	1219.25	1220.04	58.25	40°04'29.174"N	104°54'34.264"W	1.04	
8578.00	90.100	359.000	7450.52	1304.25	1305.02	56.54	40°04'30.013"N	104°54'34.286"W	0.69	
8748.00	90.100	358.200	7450.23	1474.23	1474.97	52.39	40°04'31.693"N	104°54'34.339"W	0.47	
8833.00	90.600	358.400	7449.71	1559.22	1559.93	49.87	40°04'32.533"N	104°54'34.372"W	0.63	
8918.00	89.500	358.500	7449.63	1644.21	1644.90	47.57	40°04'33.372"N	104°54'34.401"W	1.30	
9003.00	89.600	357.700	7450.30	1729.19	1729.85	44.75	40°04'34.212"N	104°54'34.437"W	0.95	
9089.00	89.200	358.200	7451.20	1815.16	1815.79	41.67	40°04'35.061"N	104°54'34.477"W	0.74	
9259.00	89.700	358.300	7452.83	1985.12	1985.70	36.48	40°04'36.740"N	104°54'34.544"W	0.30	
9430.00	88.700	358.700	7455.22	2156.08	2156.62	32.00	40°04'38.429"N	104°54'34.601"W	0.63	
9515.00	88.200	358.200	7457.52	2241.04	2241.56	29.71	40°04'39.269"N	104°54'34.631"W	0.83	
9600.00	89.600	358.900	7459.15	2326.01	2326.51	27.56	40°04'40.108"N	104°54'34.659"W	1.84	
9685.00	91.000	359.800	7458.71	2411.01	2411.50	26.59	40°04'40.948"N	104°54'34.671"W	1.96	
9771.00	91.200	359.200	7457.06	2496.99	2497.48	25.84	40°04'41.798"N	104°54'34.681"W	0.74	
9942.00	90.600	357.800	7454.37	2667.95	2668.40	21.37	40°04'43.487"N	104°54'34.738"W	0.89	
10112.00	89.800	358.000	7453.78	2837.90	2838.28	15.14	40°04'45.165"N	104°54'34.818"W	0.49	
10283.00	88.500	358.600	7456.31	3008.85	3009.18	10.06	40°04'46.854"N	104°54'34.884"W	0.84	
10453.00	89.900	359.100	7458.69	3178.82	3179.13	6.65	40°04'48.534"N	104°54'34.927"W	0.87	
10623.00	90.800	0.700	7457.65	3348.80	3349.12	6.36	40°04'50.214"N	104°54'34.931"W	1.08	
10879.00	90.500	2.500	7454.74	3604.57	3604.99	13.50	40°04'52.742"N	104°54'34.839"W	0.71	
11132.00	90.800	2.700	7451.87	3857.14	3857.71	24.98	40°04'55.240"N	104°54'34.692"W	0.14	
11387.00	89.500	0.100	7451.21	4111.94	4112.61	31.21	40°04'57.759"N	104°54'34.611"W	1.14	
11557.00	90.900	359.800	7450.61	4281.92	4282.60	31.06	40°04'59.438"N	104°54'34.613"W	0.84	
11726.00	88.500	358.100	7451.50	4450.90	4451.55	27.96	40°05'01.108"N	104°54'34.653"W	1.74	
11897.00	89.600	357.300	7454.33	4621.80	4622.39	21.10	40°05'02.796"N	104°54'34.742"W	0.80	
12066.00	88.700	358.000	7456.84	4790.71	4791.22	14.17	40°05'04.465"N	104°54'34.831"W	0.67	
12236.00	87.900	358.000	7461.88	4960.59	4961.04	8.24	40°05'06.143"N	104°54'34.907"W	0.47	

REFERENCE WELLPATH IDENTIFICATION									
Operator	KERR-MCGEE OIL & GAS ONSHORE LP					Slot	SLOT#24 NRC 27N-5HZ (500'FNL & 1290'FEL, SEC.08)		
Area	COLORADO					Well	NRC 27N-5HZ		
Field	WELD COUNTY (KERR MCGEE)					Wellbore	NRC 27N-5HZ AWB		
Facility	SEC.08-T1N-R67W								

WELLPATH DATA (93 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12407.00	88.100	358.000	7467.85	5131.44	5131.84	2.28	40°05'07.831"N	104°54'34.984"W	0.12	
12605.00	88.700	357.500	7473.38	5329.29	5329.60	-5.49	40°05'09.785"N	104°54'35.084"W	0.39	Last BHI MWD+IFR Surveys
12656.00	88.700	357.500	7474.54	5380.25	5380.54	-7.72	40°05'10.289"N	104°54'35.112"W	0.00	Projection to Bit

HOLE & CASING SECTIONS - Ref Wellbore: NRC 27N-5HZ AWB Ref Wellpath: NRC 27N-5HZ 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	1354.00	1338.00	16.00	1353.95	0.00	0.00	3.51	-3.38
9.625in Casing Surface	16.00	1344.00	1328.00	16.00	1343.95	0.00	0.00	3.56	-3.41
8.75in Open Hole	1354.00	7993.00	6639.00	1353.95	7452.39	3.51	-3.38	720.15	60.60
7in Casing Intermediate	16.00	7993.00	7977.00	16.00	7452.39	0.00	0.00	720.15	60.60
6.125in Open Hole	7993.00	12656.00	4663.00	7452.39	7474.54	720.15	60.60	5380.54	-7.72

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.05-T1N-R67W SECTION LINES		0.00	0.00	0.00	3165193.02	1269413.69	40°04'17.117"N	104°54'35.013"W	polygon
SEC.05-T1N-R67W SETBACKS (460'FNL/FSL & 460'FEL/FWL)		0.00	0.00	0.00	3165193.02	1269413.69	40°04'17.117"N	104°54'35.013"W	polygon
SEC.08-T1N-R67W SECTION LINES		0.00	0.00	0.00	3165193.02	1269413.69	40°04'17.117"N	104°54'35.013"W	polygon
SEC.08-T1N-R67W SETBACKS (460'FNL/FSL & 460'FEL/FWL)		0.00	0.00	0.00	3165193.02	1269413.69	40°04'17.117"N	104°54'35.013"W	polygon
NRC 27N-5HZ BHL ON PLAT (REV-1) (460'FNL & 1235'FEL, SEC.05)		7452.00	5431.79	-3.11	3165153.76	1274845.12	40°05'10.795"N	104°54'35.053"W	point
NRC 27N-5HZ LAND BOX		7452.00	0.00	0.00	3165193.02	1269413.69	40°04'17.117"N	104°54'35.013"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: NRC 27N-5HZ AWB Ref Wellpath: NRC 27N-5HZ AWP									
Start MD [ft]	End MD [ft]	Positional Uncertainty Model			Log Name/Comment			Wellbore	
16.00	1259.00	Generic gyro - continuous (Standard)			MS ENERGY GYRO SURVEYS <116-1259>			NRC 27N-5HZ AWB	
1259.00	7755.00	NaviTrak (IFR)			BHI MWD+IFR SURVEYS 8 3/4" HOLE <1457-7755>			NRC 27N-5HZ AWB	
7755.00	12605.00	NaviTrak (IFR)			BHI MWD+IFR SURVEYS 6 1/8" HOLE <7813-12605>			NRC 27N-5HZ AWB	
12605.00	12656.00	Blind Drilling (std)			Projection to bit			NRC 27N-5HZ AWB	

# Actual Wellpath Report

NRC 27N-5HZ AWP

Page 5 of 5

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#24 NRC 27N-5HZ (500'FNL & 1290'FEL, SEC.08)
Area	COLORADO	Well	NRC 27N-5HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	NRC 27N-5HZ AWB
Facility	SEC.08-T1N-R67W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
16.00	0.000	33.020	16.00	Tie-On
116.00	0.640	33.020	116.00	Begin GYRO Surveys
1259.00	0.200	212.080	1258.96	Tie-Into GYRO Surveys
1457.00	0.700	136.600	1456.95	Begin BHI MWD+IFR Surveys
7993.00	89.835	0.688	7452.39	7" Casing Point
12605.00	88.700	357.500	7473.38	Last BHI MWD+IFR Surveys
12656.00	88.700	357.500	7474.54	Projection to Bit