

# KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#06 UNDERHILL 27N-17HZ (848'FSL & 992'FEL, SEC. 17)  
Field: WELD COUNTY (KERR MCGEE) Well: UNDERHILL 27N-17HZ  
Facility: SEC.17-T1N-R67W Wellbore: UNDERHILL 27N-17HZ PWB

Plot reference wellpath is UNDERHILL 27N-17HZ (PERMIT REV-3) PWB

True vertical depths are referenced to ENSIGN 145 (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to ENSIGN 145 (RKB)	North Reference: True north
ENSGN 145 (RKB) to Mean Sea Level: 5116 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#06 UNDERHILL 27N-17HZ (848'FSL & 992'FEL, SEC. 17)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: precain on 5/14/2013

## Location Information

Facility Name				Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.17-T1N-R67W				3163889.720	1261989.210	40°03'03.831"N	104°54'52.408"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
SLOT#06 UNDERHILL 27N-17HZ (848FSL & 992FEL,SEC.17)	-1804.27	1667.20	3165568.726	1260196.056	40°02'46.000"N	104°54'30.971"W	
ENSGN 145 (RKB) to Mud line (At Slot: SLOT#06 UNDERHILL 27N-17HZ (848FSL & 992FEL,SEC.17))						5116ft	
Mean Sea Level to Mud line (At Slot: SLOT#06 UNDERHILL 27N-17HZ (848FSL & 992FEL,SEC.17))						0ft	
ENSGN 145 (RKB) to Mean Sea Level						5116ft	

## Survey Program

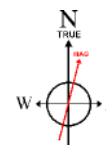
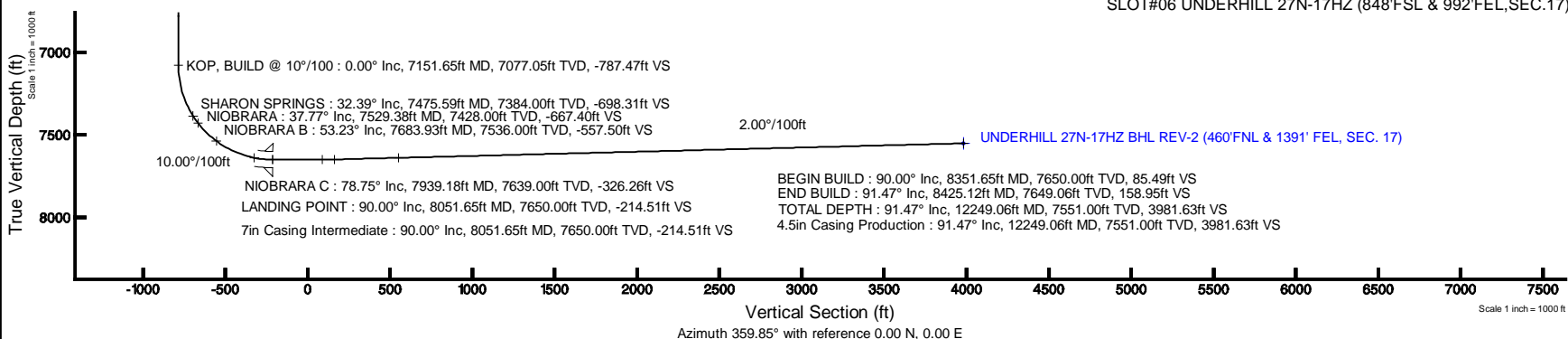
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
13.00	8051.65	NaviTrak	NaviTrak (MagCorr)		UNDERHILL 27N-17HZ PWB
8051.65	12249.06	OnTrak	OnTrak (MagCorr)		UNDERHILL 27N-17HZ PWB

## Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
TIE-ON	13.00	0.000	206.600	13.00	0.00	0.00	0.00	0.00
BEGIN NUDGE	1100.00	0.000	206.600	1100.00	0.00	0.00	0.00	0.00
END NUDGE	1600.00	10.000	206.600	1597.47	-38.92	-19.49	2.00	-38.86
BEGIN DROP	6177.07	10.000	206.600	6105.00	-749.59	-375.37	0.00	-748.60
END DROP	6677.07	0.000	359.850	6602.47	-788.51	-394.85	2.00	-787.47
KOP, BUILD @ 10°/100	7151.65	0.000	359.850	7077.05	-788.51	-394.85	0.00	-787.47
LANDING POINT	8051.65	90.000	359.850	7650.00	-215.55	-396.35	10.00	-214.51
BEGIN BUILD	8351.65	90.000	359.850	7650.00	84.45	-397.14	0.00	85.49
END BUILD	8425.12	91.469	359.851	7649.06	157.91	-397.33	2.00	158.95
TOTAL DEPTH	12249.06	91.469	359.851	7551.00	3980.58	-407.30	0.00	3981.63

## Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
UNDERHILL 15-17 PAD SECTION 17 HARDLINES (460' SET BACKS)		5116.00	3.97	-528.02	3165040.71	1260196.51	40°02'46.039"N	104°54'37.760"W
UNDERHILL 15-17 PAD SECTION 17 LINES		5116.00	3.97	-528.02	3165040.71	1260196.51	40°02'46.039"N	104°54'37.760"W
UNDERHILL 27N-17HZ BHL ON PLAT REV-1 (460'FNL & 1391' FEL, SEC. 17)		7451.00	3980.58	-407.30	3165134.91	1264173.68	40°03'25.337"N	104°54'36.209"W
UNDERHILL 27N-17HZ BHL REV-2 (460'FNL & 1391' FEL, SEC. 17)		12249.06	7551.00	-407.30	3165134.91	1264173.68	40°03'25.337"N	104°54'36.209"W



BGGM (1945.0 to 2014.0) Dip: 66.66° Field: 52686.6 nT  
Magnetic North is 8.73 degrees East of True North (at 4/2/2013)

To correct azimuth from Magnetic to True add 8.73 degrees  
For example: if the Magnetic North Azimuth = 90 degs, then the True North Azimuth = 90 + 8.73 = 98.73





# Planned Wellpath Report

## UNDERHILL 27N-17HZ (PERMIT REV-3) PWP

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### REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#06 UNDERHILL 27N-17HZ (848'FSL & 992'FEL,SEC.17)
Area	COLORADO	Well	UNDERHILL 27N-17HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	UNDERHILL 27N-17HZ PWB
Facility	SEC.17-T1N-R67W		

### REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 3.0.2
North Reference	True	User	Precain
Scale	0.999963	Report Generated	5/14/2013 at 9:25:19 AM
Convergence at slot	0.38° East	Database/Source file	WellArchitectDB/UNDERHILL_27N-17HZ_PWB.xml

### WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-1804.27	1667.20	3165568.73	1260196.06	40°02'46.000"N	104°54'30.971"W
Facility Reference Pt			3163889.72	1261989.21	40°03'03.831"N	104°54'52.408"W
Field Reference Pt			3197771.84	1268891.29	40°04'09.600"N	104°47'36.000"W

### WELLPATH DATUM

Calculation method	Minimum curvature	ENSIGN 145 (RKB) to Facility Vertical Datum	5116.00ft
Horizontal Reference Pt	Slot	ENSIGN 145 (RKB) to Mean Sea Level	5116.00ft
Vertical Reference Pt	ENSIGN 145 (RKB)	ENSIGN 145 (RKB) to Mud Line at Slot (SLOT#06 UNDERHILL 27N-17HZ (848'FSL & 992'FEL,SEC.17))	5116.00ft
MD Reference Pt	ENSIGN 145 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	359.85°



# Planned Wellpath Report

## UNDERHILL 27N-17HZ (PERMIT REV-3) PWP

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### REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#06 UNDERHILL 27N-17HZ (848'FSL & 992'FEL,SEC.17)
Area	COLORADO	Well	UNDERHILL 27N-17HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	UNDERHILL 27N-17HZ PWB
Facility	SEC.17-T1N-R67W		

### WELLPATH DATA (139 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	206.600	0.00	0.00	0.00	0.00	40°02'46.000"N	104°54'30.971"W	0.00	
13.00	0.000	206.600	13.00	0.00	0.00	0.00	40°02'46.000"N	104°54'30.971"W	0.00	TIE-ON
113.00†	0.000	206.600	113.00	0.00	0.00	0.00	40°02'46.000"N	104°54'30.971"W	0.00	
213.00†	0.000	206.600	213.00	0.00	0.00	0.00	40°02'46.000"N	104°54'30.971"W	0.00	
313.00†	0.000	206.600	313.00	0.00	0.00	0.00	40°02'46.000"N	104°54'30.971"W	0.00	
413.00†	0.000	206.600	413.00	0.00	0.00	0.00	40°02'46.000"N	104°54'30.971"W	0.00	
513.00†	0.000	206.600	513.00	0.00	0.00	0.00	40°02'46.000"N	104°54'30.971"W	0.00	
613.00†	0.000	206.600	613.00	0.00	0.00	0.00	40°02'46.000"N	104°54'30.971"W	0.00	
713.00†	0.000	206.600	713.00	0.00	0.00	0.00	40°02'46.000"N	104°54'30.971"W	0.00	
813.00†	0.000	206.600	813.00	0.00	0.00	0.00	40°02'46.000"N	104°54'30.971"W	0.00	
913.00†	0.000	206.600	913.00	0.00	0.00	0.00	40°02'46.000"N	104°54'30.971"W	0.00	
1013.00†	0.000	206.600	1013.00	0.00	0.00	0.00	40°02'46.000"N	104°54'30.971"W	0.00	
1100.00	0.000	206.600	1100.00	0.00	0.00	0.00	40°02'46.000"N	104°54'30.971"W	0.00	BEGIN NUDGE
1113.00†	0.260	206.600	1113.00	-0.03	-0.03	-0.01	40°02'46.000"N	104°54'30.971"W	2.00	
1213.00†	2.260	206.600	1212.97	-1.99	-1.99	-1.00	40°02'45.980"N	104°54'30.984"W	2.00	
1313.00†	4.260	206.600	1312.80	-7.07	-7.08	-3.54	40°02'45.930"N	104°54'31.017"W	2.00	
1413.00†	6.260	206.600	1412.38	-15.25	-15.27	-7.65	40°02'45.849"N	104°54'31.069"W	2.00	
1513.00†	8.260	206.600	1511.57	-26.54	-26.57	-13.31	40°02'45.737"N	104°54'31.142"W	2.00	
1600.00	10.000	206.600	1597.47	-38.86	-38.92	-19.49	40°02'45.615"N	104°54'31.222"W	2.00	END NUDGE
1613.00†	10.000	206.600	1610.27	-40.88	-40.93	-20.50	40°02'45.595"N	104°54'31.235"W	0.00	
1713.00†	10.000	206.600	1708.75	-56.39	-56.46	-28.27	40°02'45.442"N	104°54'31.335"W	0.00	
1813.00†	10.000	206.600	1807.23	-71.89	-71.99	-36.05	40°02'45.289"N	104°54'31.435"W	0.00	
1913.00†	10.000	206.600	1905.71	-87.40	-87.51	-43.82	40°02'45.135"N	104°54'31.535"W	0.00	
2013.00†	10.000	206.600	2004.19	-102.91	-103.04	-51.60	40°02'44.982"N	104°54'31.634"W	0.00	
2113.00†	10.000	206.600	2102.67	-118.41	-118.57	-59.37	40°02'44.828"N	104°54'31.734"W	0.00	
2213.00†	10.000	206.600	2201.15	-133.92	-134.10	-67.15	40°02'44.675"N	104°54'31.834"W	0.00	
2313.00†	10.000	206.600	2299.63	-149.43	-149.62	-74.93	40°02'44.521"N	104°54'31.934"W	0.00	
2413.00†	10.000	206.600	2398.11	-164.93	-165.15	-82.70	40°02'44.368"N	104°54'32.034"W	0.00	
2513.00†	10.000	206.600	2496.59	-180.44	-180.68	-90.48	40°02'44.215"N	104°54'32.134"W	0.00	
2613.00†	10.000	206.600	2595.08	-195.94	-196.20	-98.25	40°02'44.061"N	104°54'32.234"W	0.00	
2713.00†	10.000	206.600	2693.56	-211.45	-211.73	-106.03	40°02'43.908"N	104°54'32.334"W	0.00	
2813.00†	10.000	206.600	2792.04	-226.96	-227.26	-113.80	40°02'43.754"N	104°54'32.434"W	0.00	
2913.00†	10.000	206.600	2890.52	-242.46	-242.78	-121.58	40°02'43.601"N	104°54'32.534"W	0.00	
3013.00†	10.000	206.600	2989.00	-257.97	-258.31	-129.35	40°02'43.447"N	104°54'32.634"W	0.00	
3113.00†	10.000	206.600	3087.48	-273.48	-273.84	-137.13	40°02'43.294"N	104°54'32.734"W	0.00	
3213.00†	10.000	206.600	3185.96	-288.98	-289.36	-144.90	40°02'43.140"N	104°54'32.834"W	0.00	
3313.00†	10.000	206.600	3284.44	-304.49	-304.89	-152.68	40°02'42.987"N	104°54'32.934"W	0.00	
3413.00†	10.000	206.600	3382.92	-320.00	-320.42	-160.45	40°02'42.834"N	104°54'33.034"W	0.00	
3513.00†	10.000	206.600	3481.40	-335.50	-335.94	-168.23	40°02'42.680"N	104°54'33.134"W	0.00	
3613.00†	10.000	206.600	3579.88	-351.01	-351.47	-176.00	40°02'42.527"N	104°54'33.234"W	0.00	
3713.00†	10.000	206.600	3678.36	-366.52	-367.00	-183.78	40°02'42.373"N	104°54'33.334"W	0.00	
3813.00†	10.000	206.600	3776.84	-382.02	-382.52	-191.55	40°02'42.220"N	104°54'33.434"W	0.00	
3913.00†	10.000	206.600	3875.33	-397.53	-398.05	-199.33	40°02'42.066"N	104°54'33.534"W	0.00	
4013.00†	10.000	206.600	3973.81	-413.03	-413.58	-207.10	40°02'41.913"N	104°54'33.634"W	0.00	
4113.00†	10.000	206.600	4072.29	-428.54	-429.11	-214.88	40°02'41.759"N	104°54'33.734"W	0.00	



# Planned Wellpath Report

## UNDERHILL 27N-17HZ (PERMIT REV-3) PWP

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### REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#06 UNDERHILL 27N-17HZ (848'FSL & 992'FEL,SEC.17)
Area	COLORADO	Well	UNDERHILL 27N-17HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	UNDERHILL 27N-17HZ PWB
Facility	SEC.17-T1N-R67W		

### WELLPATH DATA (139 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4213.00†	10.000	206.600	4170.77	-444.05	-444.63	-222.66	40°02'41.606"N	104°54'33.834"W	0.00	
4313.00†	10.000	206.600	4269.25	-459.55	-460.16	-230.43	40°02'41.453"N	104°54'33.934"W	0.00	
4413.00†	10.000	206.600	4367.73	-475.06	-475.69	-238.21	40°02'41.299"N	104°54'34.034"W	0.00	
4513.00†	10.000	206.600	4466.21	-490.57	-491.21	-245.98	40°02'41.146"N	104°54'34.134"W	0.00	
4613.00†	10.000	206.600	4564.69	-506.07	-506.74	-253.76	40°02'40.992"N	104°54'34.234"W	0.00	
4690.49†	10.000	206.600	4641.00	-518.09	-518.77	-259.78	40°02'40.873"N	104°54'34.311"W	0.00	SUSSEX
4713.00†	10.000	206.600	4663.17	-521.58	-522.27	-261.53	40°02'40.839"N	104°54'34.334"W	0.00	
4813.00†	10.000	206.600	4761.65	-537.09	-537.79	-269.31	40°02'40.685"N	104°54'34.434"W	0.00	
4913.00†	10.000	206.600	4860.13	-552.59	-553.32	-277.08	40°02'40.532"N	104°54'34.534"W	0.00	
5013.00†	10.000	206.600	4958.61	-568.10	-568.85	-284.86	40°02'40.379"N	104°54'34.634"W	0.00	
5113.00†	10.000	206.600	5057.10	-583.61	-584.37	-292.63	40°02'40.225"N	104°54'34.734"W	0.00	
5213.00†	10.000	206.600	5155.58	-599.11	-599.90	-300.41	40°02'40.072"N	104°54'34.834"W	0.00	
5308.88†	10.000	206.600	5250.00	-613.98	-614.79	-307.86	40°02'39.925"N	104°54'34.929"W	0.00	SHANNON
5313.00†	10.000	206.600	5254.06	-614.62	-615.43	-308.18	40°02'39.918"N	104°54'34.934"W	0.00	
5413.00†	10.000	206.600	5352.54	-630.12	-630.95	-315.96	40°02'39.765"N	104°54'35.034"W	0.00	
5513.00†	10.000	206.600	5451.02	-645.63	-646.48	-323.73	40°02'39.611"N	104°54'35.134"W	0.00	
5613.00†	10.000	206.600	5549.50	-661.14	-662.01	-331.51	40°02'39.458"N	104°54'35.234"W	0.00	
5713.00†	10.000	206.600	5647.98	-676.64	-677.53	-339.28	40°02'39.304"N	104°54'35.333"W	0.00	
5813.00†	10.000	206.600	5746.46	-692.15	-693.06	-347.06	40°02'39.151"N	104°54'35.433"W	0.00	
5913.00†	10.000	206.600	5844.94	-707.66	-708.59	-354.83	40°02'38.998"N	104°54'35.533"W	0.00	
6013.00†	10.000	206.600	5943.42	-723.16	-724.11	-362.61	40°02'38.844"N	104°54'35.633"W	0.00	
6113.00†	10.000	206.600	6041.90	-738.67	-739.64	-370.38	40°02'38.691"N	104°54'35.733"W	0.00	
6177.07	10.000	206.600	6105.00	-748.60	-749.59	-375.37	40°02'38.592"N	104°54'35.797"W	0.00	BEGIN DROP
6213.00†	9.281	206.600	6140.42	-753.98	-754.97	-378.06	40°02'38.539"N	104°54'35.832"W	2.00	
6313.00†	7.281	206.600	6239.37	-766.84	-767.85	-384.51	40°02'38.412"N	104°54'35.915"W	2.00	
6413.00†	5.281	206.600	6338.77	-776.61	-777.63	-389.41	40°02'38.315"N	104°54'35.978"W	2.00	
6513.00†	3.281	206.600	6438.48	-783.27	-784.31	-392.75	40°02'38.249"N	104°54'36.021"W	2.00	
6613.00†	1.281	206.600	6538.40	-786.83	-787.86	-394.53	40°02'38.214"N	104°54'36.044"W	2.00	
6677.07	0.000	359.850	6602.47	-787.47	-788.51	-394.85	40°02'38.208"N	104°54'36.048"W	2.00	END DROP
6713.00†	0.000	359.850	6638.39	-787.47	-788.51	-394.85	40°02'38.208"N	104°54'36.048"W	0.00	
6813.00†	0.000	359.850	6738.39	-787.47	-788.51	-394.85	40°02'38.208"N	104°54'36.048"W	0.00	
6913.00†	0.000	359.850	6838.39	-787.47	-788.51	-394.85	40°02'38.208"N	104°54'36.048"W	0.00	
7013.00†	0.000	359.850	6938.39	-787.47	-788.51	-394.85	40°02'38.208"N	104°54'36.048"W	0.00	
7113.00†	0.000	359.850	7038.39	-787.47	-788.51	-394.85	40°02'38.208"N	104°54'36.048"W	0.00	
7151.65	0.000	359.850	7077.05	-787.47	-788.51	-394.85	40°02'38.208"N	104°54'36.048"W	0.00	KOP, BUILD @ 10°/100
7213.00†	6.135	359.850	7138.28	-784.19	-785.22	-394.86	40°02'38.240"N	104°54'36.048"W	10.00	
7313.00†	16.135	359.850	7236.27	-764.90	-765.94	-394.91	40°02'38.431"N	104°54'36.049"W	10.00	
7413.00†	26.135	359.850	7329.43	-728.89	-729.93	-395.01	40°02'38.787"N	104°54'36.050"W	10.00	
7475.59†	32.394	359.850	7384.00	-698.31	-699.35	-395.09	40°02'39.089"N	104°54'36.051"W	10.00	SHARON SPRINGS
7513.00†	36.135	359.850	7414.91	-677.25	-678.29	-395.14	40°02'39.297"N	104°54'36.052"W	10.00	
7529.38†	37.773	359.850	7428.00	-667.40	-668.44	-395.17	40°02'39.394"N	104°54'36.052"W	10.00	NIOBRARA
7613.00†	46.135	359.850	7490.13	-611.55	-612.59	-395.31	40°02'39.946"N	104°54'36.054"W	10.00	
7683.93†	53.228	359.850	7536.00	-557.50	-558.54	-395.46	40°02'40.480"N	104°54'36.056"W	10.00	NIOBRARA B
7713.00†	56.135	359.850	7552.80	-533.79	-534.82	-395.52	40°02'40.715"N	104°54'36.057"W	10.00	
7813.00†	66.135	359.850	7601.02	-446.32	-447.36	-395.75	40°02'41.579"N	104°54'36.060"W	10.00	



# Planned Wellpath Report

## UNDERHILL 27N-17HZ (PERMIT REV-3) PWP

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### REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#06 UNDERHILL 27N-17HZ (848'FSL & 992'FEL,SEC.17)
Area	COLORADO	Well	UNDERHILL 27N-17HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	UNDERHILL 27N-17HZ PWB
Facility	SEC.17-T1N-R67W		

### WELLPATH DATA (139 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7913.00†	76.135	359.850	7633.31	-351.81	-352.85	-395.99	40°02'42.513"N	104°54'36.063"W	10.00	
7939.18†	78.753	359.850	7639.00	-326.26	-327.30	-396.06	40°02'42.766"N	104°54'36.064"W	10.00	NIOBRARA C
8013.00†	86.135	359.850	7648.70	-253.13	-254.17	-396.25	40°02'43.488"N	104°54'36.066"W	10.00	
8051.65	90.000	359.850	7650.00	-214.51	-215.55	-396.35	40°02'43.870"N	104°54'36.067"W	10.00	LANDING POINT
8113.00†	90.000	359.850	7650.00	-153.16	-154.20	-396.51	40°02'44.476"N	104°54'36.069"W	0.00	
8213.00†	90.000	359.850	7650.00	-53.16	-54.20	-396.78	40°02'45.464"N	104°54'36.073"W	0.00	
8313.00†	90.000	359.850	7650.00	46.84	45.80	-397.04	40°02'46.453"N	104°54'36.076"W	0.00	
8351.65	90.000	359.850	7650.00	85.49	84.45	-397.14	40°02'46.835"N	104°54'36.078"W	0.00	BEGIN BUILD
8413.00†	91.227	359.851	7649.35	146.83	145.79	-397.30	40°02'47.441"N	104°54'36.080"W	2.00	
8425.12	91.469	359.851	7649.06	158.95	157.91	-397.33	40°02'47.561"N	104°54'36.080"W	2.00	END BUILD
8513.00†	91.469	359.851	7646.81	246.80	245.76	-397.56	40°02'48.429"N	104°54'36.083"W	0.00	
8613.00†	91.469	359.851	7644.24	346.77	345.73	-397.82	40°02'49.417"N	104°54'36.086"W	0.00	
8713.00†	91.469	359.851	7641.68	446.74	445.69	-398.08	40°02'50.404"N	104°54'36.090"W	0.00	
8813.00†	91.469	359.851	7639.11	546.70	545.66	-398.34	40°02'51.392"N	104°54'36.093"W	0.00	
8913.00†	91.469	359.851	7636.55	646.67	645.63	-398.60	40°02'52.380"N	104°54'36.096"W	0.00	
9013.00†	91.469	359.851	7633.99	746.64	745.60	-398.86	40°02'53.368"N	104°54'36.100"W	0.00	
9113.00†	91.469	359.851	7631.42	846.60	845.56	-399.12	40°02'54.356"N	104°54'36.103"W	0.00	
9213.00†	91.469	359.851	7628.86	946.57	945.53	-399.39	40°02'55.344"N	104°54'36.107"W	0.00	
9313.00†	91.469	359.851	7626.29	1046.54	1045.50	-399.65	40°02'56.332"N	104°54'36.110"W	0.00	
9413.00†	91.469	359.851	7623.73	1146.51	1145.46	-399.91	40°02'57.320"N	104°54'36.113"W	0.00	
9513.00†	91.469	359.851	7621.16	1246.47	1245.43	-400.17	40°02'58.308"N	104°54'36.117"W	0.00	
9613.00†	91.469	359.851	7618.60	1346.44	1345.40	-400.43	40°02'59.295"N	104°54'36.120"W	0.00	
9713.00†	91.469	359.851	7616.03	1446.41	1445.36	-400.69	40°03'00.283"N	104°54'36.123"W	0.00	
9813.00†	91.469	359.851	7613.47	1546.37	1545.33	-400.95	40°03'01.271"N	104°54'36.127"W	0.00	
9913.00†	91.469	359.851	7610.91	1646.34	1645.30	-401.21	40°03'02.259"N	104°54'36.130"W	0.00	
10013.00†	91.469	359.851	7608.34	1746.31	1745.26	-401.47	40°03'03.247"N	104°54'36.134"W	0.00	
10113.00†	91.469	359.851	7605.78	1846.27	1845.23	-401.73	40°03'04.235"N	104°54'36.137"W	0.00	
10213.00†	91.469	359.851	7603.21	1946.24	1945.20	-401.99	40°03'05.223"N	104°54'36.140"W	0.00	
10313.00†	91.469	359.851	7600.65	2046.21	2045.16	-402.25	40°03'06.211"N	104°54'36.144"W	0.00	
10413.00†	91.469	359.851	7598.08	2146.18	2145.13	-402.51	40°03'07.199"N	104°54'36.147"W	0.00	
10513.00†	91.469	359.851	7595.52	2246.14	2245.10	-402.77	40°03'08.187"N	104°54'36.150"W	0.00	
10613.00†	91.469	359.851	7592.96	2346.11	2345.06	-403.03	40°03'09.174"N	104°54'36.154"W	0.00	
10713.00†	91.469	359.851	7590.39	2446.08	2445.03	-403.29	40°03'10.162"N	104°54'36.157"W	0.00	
10813.00†	91.469	359.851	7587.83	2546.04	2545.00	-403.56	40°03'11.150"N	104°54'36.161"W	0.00	
10913.00†	91.469	359.851	7585.26	2646.01	2644.96	-403.82	40°03'12.138"N	104°54'36.164"W	0.00	
11013.00†	91.469	359.851	7582.70	2745.98	2744.93	-404.08	40°03'13.126"N	104°54'36.167"W	0.00	
11113.00†	91.469	359.851	7580.13	2845.95	2844.90	-404.34	40°03'14.114"N	104°54'36.171"W	0.00	
11213.00†	91.469	359.851	7577.57	2945.91	2944.86	-404.60	40°03'15.102"N	104°54'36.174"W	0.00	
11313.00†	91.469	359.851	7575.00	3045.88	3044.83	-404.86	40°03'16.090"N	104°54'36.177"W	0.00	
11413.00†	91.469	359.851	7572.44	3145.85	3144.80	-405.12	40°03'17.078"N	104°54'36.181"W	0.00	
11513.00†	91.469	359.851	7569.88	3245.81	3244.76	-405.38	40°03'18.066"N	104°54'36.184"W	0.00	
11613.00†	91.469	359.851	7567.31	3345.78	3344.73	-405.64	40°03'19.053"N	104°54'36.188"W	0.00	
11713.00†	91.469	359.851	7564.75	3445.75	3444.70	-405.90	40°03'20.041"N	104°54'36.191"W	0.00	
11813.00†	91.469	359.851	7562.18	3545.72	3544.66	-406.16	40°03'21.029"N	104°54'36.194"W	0.00	
11913.00†	91.469	359.851	7559.62	3645.68	3644.63	-406.42	40°03'22.017"N	104°54'36.198"W	0.00	



# Planned Wellpath Report

## UNDERHILL 27N-17HZ (PERMIT REV-3) PWP

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### REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#06 UNDERHILL 27N-17HZ (848'FSL & 992'FEL,SEC.17)
Area	COLORADO	Well	UNDERHILL 27N-17HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	UNDERHILL 27N-17HZ PWB
Facility	SEC.17-T1N-R67W		

### WELLPATH DATA (139 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12013.00†	91.469	359.851	7557.05	3745.65	3744.60	-406.68	40°03'23.005"N	104°54'36.201"W	0.00	
12113.00†	91.469	359.851	7554.49	3845.62	3844.57	-406.94	40°03'23.993"N	104°54'36.204"W	0.00	
12213.00†	91.469	359.851	7551.92	3945.58	3944.53	-407.20	40°03'24.981"N	104°54'36.208"W	0.00	
12249.06	91.469	359.851	7551.00 <sup>1</sup>	3981.63	3980.58	-407.30	40°03'25.337"N	104°54'36.209"W	0.00	TOTAL DEPTH

### HOLE & CASING SECTIONS - Ref Wellbore: UNDERHILL 27N-17HZ PWB Ref Wellpath: UNDERHILL 27N-17HZ (PERMIT REV-3) 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	13.00	917.00	904.00	13.00	917.00	0.00	0.00	0.00	0.00
9.625in Casing Surface	13.00	917.00	904.00	13.00	917.00	0.00	0.00	0.00	0.00
8.75in Open Hole	917.00	8051.65	7134.65	917.00	7650.00	0.00	0.00	-215.55	-396.35
7in Casing Intermediate	13.00	8051.65	8038.65	13.00	7650.00	0.00	0.00	-215.55	-396.35
6.125in Open Hole	8051.65	12249.06	4197.41	7650.00	7551.00	-215.55	-396.35	3980.58	-407.30
4.5in Casing Production	13.00	12249.06	12236.06	13.00	7551.00	0.00	0.00	3980.58	-407.30

### TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
UNDERHILL 15-17 PAD SECTION 17 HARDLINES (460' SET BACKS)		5116.00	3.97	-528.02	3165040.71	1260196.51	40°02'46.039"N	104°54'37.760"W	polygon
UNDERHILL 15-17 PAD SECTION 17 LINES		5116.00	3.97	-528.02	3165040.71	1260196.51	40°02'46.039"N	104°54'37.760"W	polygon
UNDERHILL 27N-17HZ BHL ON PLAT REV-1 (460'FNL & 1391'FEL,SEC.17)		7451.00	3980.58	-407.30	3165134.91	1264173.68	40°03'25.337"N	104°54'36.209"W	point
1) UNDERHILL 27N17HZ BHL REV-2 (460'FNL & 1391' FEL, SEC. 17)	12249.06	7551.00	3980.58	-407.30	3165134.91	1264173.68	40°03'25.337"N	104°54'36.209"W	point

### SURVEY PROGRAM - Ref Wellbore: UNDERHILL 27N-17HZ PWB Ref Wellpath: UNDERHILL 27N-17HZ (PERMIT REV-3) PWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
13.00	8051.65	NaviTrak (MagCorr)		UNDERHILL 27N-17HZ PWB
8051.65	12249.06	OnTrak (MagCorr)		UNDERHILL 27N-17HZ PWB



# Planned Wellpath Report

## UNDERHILL 27N-17HZ (PERMIT REV-3) PWP

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### REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#06 UNDERHILL 27N-17HZ (848'FSL & 992'FEL,SEC.17)
Area	COLORADO	Well	UNDERHILL 27N-17HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	UNDERHILL 27N-17HZ PWB
Facility	SEC.17-T1N-R67W		

### WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
4690.49	10.000	206.600	4641.00	SUSSEX
5308.88	10.000	206.600	5250.00	SHANNON
7475.59	32.394	359.850	7384.00	SHARON SPRINGS
7529.38	37.773	359.850	7428.00	NIOBRARA
7683.93	53.228	359.850	7536.00	NIOBRARA B
7939.18	78.753	359.850	7639.00	NIOBRARA C

### DESIGN COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
13.00	0.000	206.600	13.00	TIE-ON
1100.00	0.000	206.600	1100.00	BEGIN NUDGE
1600.00	10.000	206.600	1597.47	END NUDGE
6177.07	10.000	206.600	6105.00	BEGIN DROP
6677.07	0.000	359.850	6602.47	END DROP
7151.65	0.000	359.850	7077.05	KOP, BUILD @ 10°/100
8051.65	90.000	359.850	7650.00	LANDING POINT
8351.65	90.000	359.850	7650.00	BEGIN BUILD
8425.12	91.469	359.851	7649.06	END BUILD
12249.06	91.469	359.851	7551.00	TOTAL DEPTH