

# KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#07 UNDERHILL 27C-17HZ (878' FSL & 992' FEL, SEC.17)  
Field: WELD COUNTY (KERR MCGEE) Well: UNDERHILL 27C-17HZ  
Facility: SEC.17-T1N-R67W Wellbore: UNDERHILL 27C-17HZ PWB

Plot reference wellpath is UNDERHILL 27C-17HZ (PERMIT REV-2) PWP

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#07 UNDERHILL 27C-17HZ (878' FSL & 992' FEL, SEC.17)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: preacin on 5/13/2013

## 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#07 UNDERHILL 27C-17HZ (878' FSL & 992' FEL, SEC.17)	-1774.12	1667.50	3165568.836	1260226.211	40°02'46.298"N	104°54'30.967"W	
ENSGN 145 (RKB) to Mud line (At Slot: SLOT#07 UNDERHILL 27C-17HZ (878' FSL & 992' FEL, SEC.17))						5116R	
Mean Sea Level to Mud line (At Slot: SLOT#07 UNDERHILL 27C-17HZ (878' FSL & 992' FEL, SEC.17))						0ft	
ENSGN 145 (RKB) to Mean Sea Level						5116R	

## Survey Program

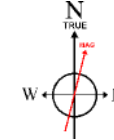
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
13.00	8181.92	NaviTrak	NaviTrak (MagCorr)		UNDERHILL 27C-17HZ PWB
8181.92	12378.42	OnTrak	OnTrak (MagCorr)		UNDERHILL 27C-17HZ PWB

## 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	175.700	13.00	0.00	0.00	0.00	0.00
BEGIN NUDGE	1050.00	0.000	175.700	1050.00	0.00	0.00	0.00	0.00
END NUDGE	1550.00	10.000	175.700	1547.47	-43.40	3.26	2.00	-43.41
BEGIN DROP	5810.00	10.000	175.700	5742.75	-781.06	58.73	0.00	-781.18
END DROP	6310.00	0.000	359.884	6240.21	-824.46	61.99	2.00	-824.58
KOP, BUILD @ 10°/100	7280.83	0.000	359.884	7211.04	-824.46	61.99	0.00	-824.58
LANDING POINT	8181.92	90.109	359.884	7784.00	-250.41	60.83	10.00	-250.53
TOTAL DEPTH	12378.42	90.109	359.884	7776.00	3946.07	52.33	0.00	3945.96

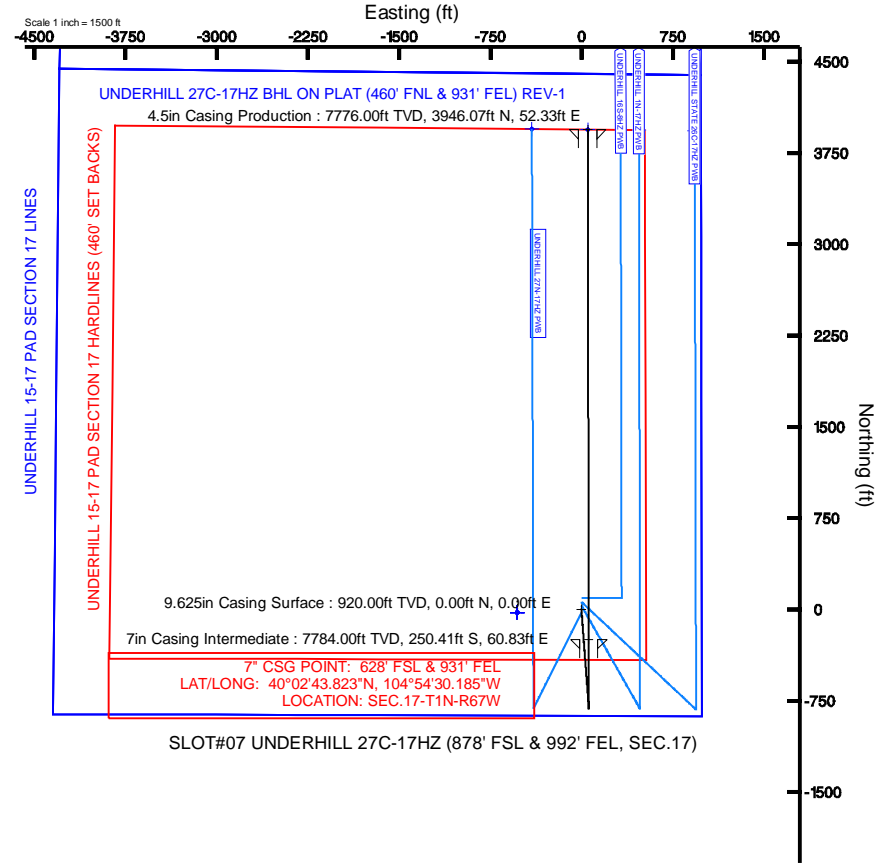
## Targets

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	-26.18	-528.33	3165040.71	1260196.51	40°02'46.039"N	104°54'37.790"W
UNDERHILL 15-17 PAD SECTION 17 LINES		5116.00	-26.18	-528.33	3165040.71	1260196.51	40°02'46.039"N	104°54'37.790"W
UNDERHILL 15-17 PAD SECTION 8 HARDLINES (460' SET BACKS)		5116.00	-26.18	-528.33	3165040.71	1260196.51	40°02'46.039"N	104°54'37.790"W
UNDERHILL 15-17 PAD SECTION 8 LINES		5116.00	-26.18	-528.33	3165040.71	1260196.51	40°02'46.039"N	104°54'37.790"W
UNDERHILL 27C-17HZ BHL ON PLAT (460' FNL & 931' FEL) REV-1	12378.42	7776.00	3946.07	52.33	3165568.85	1264172.39	40°03'25.294"N	104°54'30.294"W

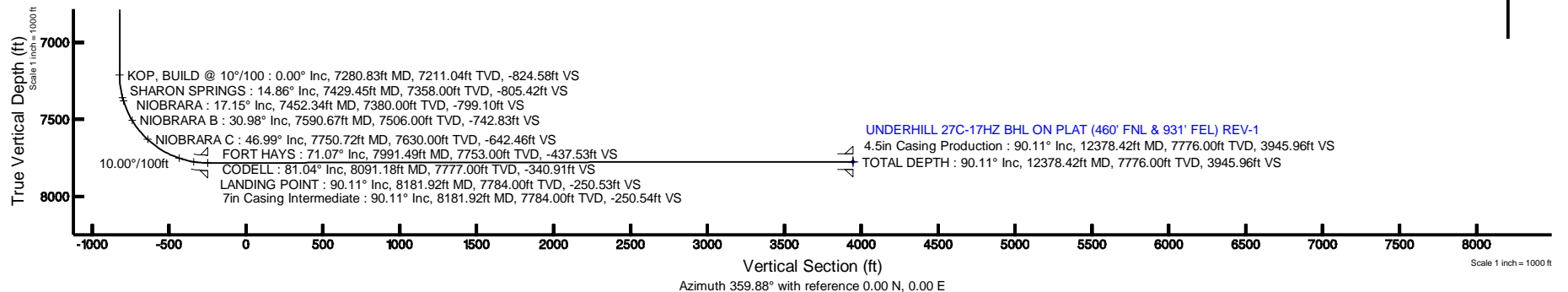


BGGM (1945.0 to 2014.0) Dip: 66.65° Field: 52630.3 nT  
Magnetic North is 8.71 degrees East of True North (at 5/6/2013)

To correct azimuth from Magnetic to True add 8.71 degrees  
For example: if the Magnetic North Azimuth = 90 degs, then the True North Azimuth = 90 + 8.71 = 98.71



SLOT#07 UNDERHILL 27C-17HZ (878' FSL & 992' FEL, SEC.17)





# Planned Wellpath Report

UNDERHILL 27C-17HZ (PERMIT REV-2) PWP

Page 1 of 6



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#07 UNDERHILL 27C-17HZ (878' FSL & 992' FEL, SEC.17)
Area	COLORADO	Well	UNDERHILL 27C-17HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	UNDERHILL 27C-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	5/13/2013 at 3:37:45 PM
Convergence at slot	0.38° East	Database/Source file	WellArchitectDB/UNDERHILL_27C-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	-1774.12	1667.50	3165568.84	1260226.21	40°02'46.298"N	104°54'30.967"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#07 UNDERHILL 27C-17HZ (878' 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	359.88°



# Planned Wellpath Report

## UNDERHILL 27C-17HZ (PERMIT REV-2) PWP

Page 2 of 6



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#07 UNDERHILL 27C-17HZ (878' FSL & 992' FEL, SEC.17)
Area	COLORADO	Well	UNDERHILL 27C-17HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	UNDERHILL 27C-17HZ PWB
Facility	SEC.17-T1N-R67W		

WELLPATH DATA (140 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	175.700	0.00	0.00	0.00	0.00	40°02'46.298"N	104°54'30.967"W	0.00	
13.00	0.000	175.700	13.00	0.00	0.00	0.00	40°02'46.298"N	104°54'30.967"W	0.00	TIE-ON
113.00†	0.000	175.700	113.00	0.00	0.00	0.00	40°02'46.298"N	104°54'30.967"W	0.00	
213.00†	0.000	175.700	213.00	0.00	0.00	0.00	40°02'46.298"N	104°54'30.967"W	0.00	
313.00†	0.000	175.700	313.00	0.00	0.00	0.00	40°02'46.298"N	104°54'30.967"W	0.00	
413.00†	0.000	175.700	413.00	0.00	0.00	0.00	40°02'46.298"N	104°54'30.967"W	0.00	
513.00†	0.000	175.700	513.00	0.00	0.00	0.00	40°02'46.298"N	104°54'30.967"W	0.00	
613.00†	0.000	175.700	613.00	0.00	0.00	0.00	40°02'46.298"N	104°54'30.967"W	0.00	
713.00†	0.000	175.700	713.00	0.00	0.00	0.00	40°02'46.298"N	104°54'30.967"W	0.00	
813.00†	0.000	175.700	813.00	0.00	0.00	0.00	40°02'46.298"N	104°54'30.967"W	0.00	
913.00†	0.000	175.700	913.00	0.00	0.00	0.00	40°02'46.298"N	104°54'30.967"W	0.00	
1013.00†	0.000	175.700	1013.00	0.00	0.00	0.00	40°02'46.298"N	104°54'30.967"W	0.00	
1050.00	0.000	175.700	1050.00	0.00	0.00	0.00	40°02'46.298"N	104°54'30.967"W	0.00	BEGIN NUDGE
1113.00†	1.260	175.700	1112.99	-0.69	-0.69	0.05	40°02'46.291"N	104°54'30.966"W	2.00	
1213.00†	3.260	175.700	1212.91	-4.62	-4.62	0.35	40°02'46.252"N	104°54'30.963"W	2.00	
1313.00†	5.260	175.700	1312.63	-12.03	-12.03	0.90	40°02'46.179"N	104°54'30.955"W	2.00	
1413.00†	7.260	175.700	1412.03	-22.91	-22.90	1.72	40°02'46.072"N	104°54'30.945"W	2.00	
1513.00†	9.260	175.700	1510.99	-37.23	-37.23	2.80	40°02'45.930"N	104°54'30.931"W	2.00	
1550.00	10.000	175.700	1547.47	-43.41	-43.40	3.26	40°02'45.869"N	104°54'30.925"W	2.00	END NUDGE
1613.00†	10.000	175.700	1609.51	-54.32	-54.31	4.08	40°02'45.761"N	104°54'30.914"W	0.00	
1713.00†	10.000	175.700	1707.99	-71.64	-71.63	5.39	40°02'45.590"N	104°54'30.898"W	0.00	
1813.00†	10.000	175.700	1806.47	-88.94	-88.94	6.69	40°02'45.419"N	104°54'30.881"W	0.00	
1913.00†	10.000	175.700	1904.95	-106.27	-106.26	7.99	40°02'45.248"N	104°54'30.864"W	0.00	
2013.00†	10.000	175.700	2003.43	-123.59	-123.57	9.29	40°02'45.077"N	104°54'30.848"W	0.00	
2113.00†	10.000	175.700	2101.91	-140.91	-140.89	10.59	40°02'44.906"N	104°54'30.831"W	0.00	
2213.00†	10.000	175.700	2200.39	-158.23	-158.20	11.90	40°02'44.735"N	104°54'30.814"W	0.00	
2313.00†	10.000	175.700	2298.87	-175.55	-175.52	13.20	40°02'44.563"N	104°54'30.797"W	0.00	
2413.00†	10.000	175.700	2397.35	-192.87	-192.84	14.50	40°02'44.392"N	104°54'30.781"W	0.00	
2513.00†	10.000	175.700	2495.84	-210.18	-210.15	15.80	40°02'44.221"N	104°54'30.764"W	0.00	
2613.00†	10.000	175.700	2594.32	-227.50	-227.47	17.10	40°02'44.050"N	104°54'30.747"W	0.00	
2713.00†	10.000	175.700	2692.80	-244.82	-244.78	18.41	40°02'43.879"N	104°54'30.730"W	0.00	
2813.00†	10.000	175.700	2791.28	-262.14	-262.10	19.71	40°02'43.708"N	104°54'30.714"W	0.00	
2913.00†	10.000	175.700	2889.76	-279.46	-279.42	21.01	40°02'43.537"N	104°54'30.697"W	0.00	
3013.00†	10.000	175.700	2988.24	-296.78	-296.73	22.31	40°02'43.366"N	104°54'30.680"W	0.00	
3113.00†	10.000	175.700	3086.72	-314.10	-314.05	23.61	40°02'43.194"N	104°54'30.663"W	0.00	
3213.00†	10.000	175.700	3185.20	-331.41	-331.36	24.92	40°02'43.023"N	104°54'30.647"W	0.00	
3313.00†	10.000	175.700	3283.68	-348.73	-348.68	26.22	40°02'42.852"N	104°54'30.630"W	0.00	
3413.00†	10.000	175.700	3382.16	-366.05	-366.00	27.52	40°02'42.681"N	104°54'30.613"W	0.00	
3513.00†	10.000	175.700	3480.64	-383.37	-383.31	28.82	40°02'42.510"N	104°54'30.596"W	0.00	
3613.00†	10.000	175.700	3579.12	-400.69	-400.63	30.12	40°02'42.339"N	104°54'30.580"W	0.00	
3713.00†	10.000	175.700	3677.60	-418.01	-417.94	31.43	40°02'42.168"N	104°54'30.563"W	0.00	
3813.00†	10.000	175.700	3776.09	-435.33	-435.26	32.73	40°02'41.997"N	104°54'30.546"W	0.00	
3913.00†	10.000	175.700	3874.57	-452.64	-452.58	34.03	40°02'41.826"N	104°54'30.529"W	0.00	
4013.00†	10.000	175.700	3973.05	-469.96	-469.89	35.33	40°02'41.654"N	104°54'30.513"W	0.00	
4113.00†	10.000	175.700	4071.53	-487.28	-487.21	36.63	40°02'41.483"N	104°54'30.496"W	0.00	



# Planned Wellpath Report

## UNDERHILL 27C-17HZ (PERMIT REV-2) PWP

Page 3 of 6



REFERENCE WELLPATH IDENTIFICATION			
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Area	COLORADO	Well	UNDERHILL 27C-17HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	UNDERHILL 27C-17HZ PWB
Facility	SEC.17-T1N-R67W		

WELLPATH DATA (140 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	175.700	4170.01	-504.60	-504.52	37.94	40°02'41.312"N	104°54'30.479"W	0.00	
4313.00†	10.000	175.700	4268.49	-521.92	-521.84	39.24	40°02'41.141"N	104°54'30.462"W	0.00	
4413.00†	10.000	175.700	4366.97	-539.24	-539.16	40.54	40°02'40.970"N	104°54'30.446"W	0.00	
4513.00†	10.000	175.700	4465.45	-556.55	-556.47	41.84	40°02'40.799"N	104°54'30.429"W	0.00	
4613.00†	10.000	175.700	4563.93	-573.87	-573.79	43.14	40°02'40.628"N	104°54'30.412"W	0.00	
4691.26†	10.000	175.700	4641.00	-587.43	-587.34	44.16	40°02'40.494"N	104°54'30.399"W	0.00	SUSSEX
4713.00†	10.000	175.700	4662.41	-591.19	-591.10	44.45	40°02'40.457"N	104°54'30.396"W	0.00	
4813.00†	10.000	175.700	4760.89	-608.51	-608.42	45.75	40°02'40.285"N	104°54'30.379"W	0.00	
4913.00†	10.000	175.700	4859.37	-625.83	-625.74	47.05	40°02'40.114"N	104°54'30.362"W	0.00	
5013.00†	10.000	175.700	4957.85	-643.15	-643.05	48.35	40°02'39.943"N	104°54'30.345"W	0.00	
5113.00†	10.000	175.700	5056.34	-660.47	-660.37	49.65	40°02'39.772"N	104°54'30.329"W	0.00	
5213.00†	10.000	175.700	5154.82	-677.78	-677.68	50.96	40°02'39.601"N	104°54'30.312"W	0.00	
5309.65†	10.000	175.700	5250.00	-694.52	-694.42	52.21	40°02'39.436"N	104°54'30.296"W	0.00	SHANNON
5313.00†	10.000	175.700	5253.30	-695.10	-695.00	52.26	40°02'39.430"N	104°54'30.295"W	0.00	
5413.00†	10.000	175.700	5351.78	-712.42	-712.31	53.56	40°02'39.259"N	104°54'30.278"W	0.00	
5513.00†	10.000	175.700	5450.26	-729.74	-729.63	54.86	40°02'39.088"N	104°54'30.262"W	0.00	
5613.00†	10.000	175.700	5548.74	-747.06	-746.95	56.16	40°02'38.916"N	104°54'30.245"W	0.00	
5713.00†	10.000	175.700	5647.22	-764.38	-764.26	57.47	40°02'38.745"N	104°54'30.228"W	0.00	
5810.00	10.000	175.700	5742.75	-781.18	-781.06	58.73	40°02'38.579"N	104°54'30.212"W	0.00	BEGIN DROP
5813.00†	9.940	175.700	5745.70	-781.69	-781.58	58.77	40°02'38.574"N	104°54'30.211"W	2.00	
5913.00†	7.940	175.700	5844.48	-797.19	-797.07	59.93	40°02'38.421"N	104°54'30.196"W	2.00	
6013.00†	5.940	175.700	5943.74	-809.24	-809.12	60.84	40°02'38.302"N	104°54'30.185"W	2.00	
6113.00†	3.940	175.700	6043.37	-817.83	-817.71	61.48	40°02'38.217"N	104°54'30.176"W	2.00	
6213.00†	1.940	175.700	6143.23	-822.95	-822.82	61.87	40°02'38.167"N	104°54'30.172"W	2.00	
6310.00	0.000	359.884	6240.21	-824.58	-824.46	61.99	40°02'38.150"N	104°54'30.170"W	2.00	END DROP
6313.00†	0.000	359.884	6243.21	-824.58	-824.46	61.99	40°02'38.150"N	104°54'30.170"W	0.00	
6413.00†	0.000	359.884	6343.21	-824.58	-824.46	61.99	40°02'38.150"N	104°54'30.170"W	0.00	
6513.00†	0.000	359.884	6443.21	-824.58	-824.46	61.99	40°02'38.150"N	104°54'30.170"W	0.00	
6613.00†	0.000	359.884	6543.21	-824.58	-824.46	61.99	40°02'38.150"N	104°54'30.170"W	0.00	
6713.00†	0.000	359.884	6643.21	-824.58	-824.46	61.99	40°02'38.150"N	104°54'30.170"W	0.00	
6813.00†	0.000	359.884	6743.21	-824.58	-824.46	61.99	40°02'38.150"N	104°54'30.170"W	0.00	
6913.00†	0.000	359.884	6843.21	-824.58	-824.46	61.99	40°02'38.150"N	104°54'30.170"W	0.00	
7013.00†	0.000	359.884	6943.21	-824.58	-824.46	61.99	40°02'38.150"N	104°54'30.170"W	0.00	
7113.00†	0.000	359.884	7043.21	-824.58	-824.46	61.99	40°02'38.150"N	104°54'30.170"W	0.00	
7213.00†	0.000	359.884	7143.21	-824.58	-824.46	61.99	40°02'38.150"N	104°54'30.170"W	0.00	
7280.83	0.000	359.884	7211.04	-824.58	-824.46	61.99	40°02'38.150"N	104°54'30.170"W	0.00	KOP, BUILD @ 10°/100
7313.00†	3.217	359.884	7243.19	-823.68	-823.56	61.99	40°02'38.159"N	104°54'30.170"W	10.00	
7413.00†	13.217	359.884	7342.04	-809.41	-809.28	61.96	40°02'38.300"N	104°54'30.170"W	10.00	
7429.45†	14.862	359.884	7358.00	-805.42	-805.29	61.95	40°02'38.340"N	104°54'30.170"W	10.00	SHARON SPRINGS
7452.34†	17.151	359.884	7380.00	-799.10	-798.98	61.94	40°02'38.402"N	104°54'30.171"W	10.00	NIORARA
7513.00†	23.217	359.884	7436.91	-778.18	-778.06	61.90	40°02'38.609"N	104°54'30.171"W	10.00	
7590.67†	30.984	359.884	7506.00	-742.83	-742.70	61.83	40°02'38.958"N	104°54'30.172"W	10.00	NIORARA B
7613.00†	33.217	359.884	7524.91	-730.96	-730.84	61.80	40°02'39.076"N	104°54'30.172"W	10.00	
7713.00†	43.217	359.884	7603.38	-669.18	-669.05	61.68	40°02'39.686"N	104°54'30.174"W	10.00	
7750.72†	46.989	359.884	7630.00	-642.46	-642.34	61.62	40°02'39.950"N	104°54'30.175"W	10.00	NIORARA C



# Planned Wellpath Report

## UNDERHILL 27C-17HZ (PERMIT REV-2) PWP

Page 4 of 6



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#07 UNDERHILL 27C-17HZ (878' FSL & 992' FEL, SEC.17)
Area	COLORADO	Well	UNDERHILL 27C-17HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	UNDERHILL 27C-17HZ PWB
Facility	SEC.17-T1N-R67W		

WELLPATH DATA (140 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7813.00†	53.217	359.884	7669.93	-594.70	-594.58	61.53	40°02'40.422"N	104°54'30.176"W	10.00	
7913.00†	63.217	359.884	7722.53	-509.81	-509.68	61.35	40°02'41.261"N	104°54'30.178"W	10.00	
7991.49†	71.066	359.884	7753.00	-437.53	-437.41	61.21	40°02'41.975"N	104°54'30.180"W	10.00	FORT HAYS
8013.00†	73.217	359.884	7759.59	-417.07	-416.94	61.17	40°02'42.178"N	104°54'30.181"W	10.00	
8091.18†	81.035	359.884	7777.00	-340.91	-340.79	61.01	40°02'42.930"N	104°54'30.183"W	10.00	CODELL
8113.00†	83.217	359.884	7779.99	-319.30	-319.17	60.97	40°02'43.144"N	104°54'30.183"W	10.00	
8181.92	90.109	359.884	7784.00	-250.53	-250.41	60.83	40°02'43.823"N	104°54'30.185"W	10.00	LANDING POINT
8213.00†	90.109	359.884	7783.94	-219.46	-219.33	60.77	40°02'44.131"N	104°54'30.186"W	0.00	
8313.00†	90.109	359.884	7783.75	-119.46	-119.33	60.56	40°02'45.119"N	104°54'30.188"W	0.00	
8413.00†	90.109	359.884	7783.56	-19.46	-19.33	60.36	40°02'46.107"N	104°54'30.191"W	0.00	
8513.00†	90.109	359.884	7783.37	80.54	80.67	60.16	40°02'47.095"N	104°54'30.193"W	0.00	
8613.00†	90.109	359.884	7783.18	180.54	180.67	59.96	40°02'48.083"N	104°54'30.196"W	0.00	
8713.00†	90.109	359.884	7782.99	280.54	280.67	59.75	40°02'49.072"N	104°54'30.199"W	0.00	
8813.00†	90.109	359.884	7782.80	380.54	380.67	59.55	40°02'50.060"N	104°54'30.201"W	0.00	
8913.00†	90.109	359.884	7782.61	480.54	480.66	59.35	40°02'51.048"N	104°54'30.204"W	0.00	
9013.00†	90.109	359.884	7782.41	580.54	580.66	59.15	40°02'52.036"N	104°54'30.206"W	0.00	
9113.00†	90.109	359.884	7782.22	680.54	680.66	58.94	40°02'53.024"N	104°54'30.209"W	0.00	
9213.00†	90.109	359.884	7782.03	780.54	780.66	58.74	40°02'54.013"N	104°54'30.212"W	0.00	
9313.00†	90.109	359.884	7781.84	880.54	880.66	58.54	40°02'55.001"N	104°54'30.214"W	0.00	
9413.00†	90.109	359.884	7781.65	980.54	980.66	58.34	40°02'55.989"N	104°54'30.217"W	0.00	
9513.00†	90.109	359.884	7781.46	1080.54	1080.66	58.13	40°02'56.977"N	104°54'30.219"W	0.00	
9613.00†	90.109	359.884	7781.27	1180.54	1180.66	57.93	40°02'57.966"N	104°54'30.222"W	0.00	
9713.00†	90.109	359.884	7781.08	1280.54	1280.66	57.73	40°02'58.954"N	104°54'30.225"W	0.00	
9813.00†	90.109	359.884	7780.89	1380.54	1380.66	57.53	40°02'59.942"N	104°54'30.227"W	0.00	
9913.00†	90.109	359.884	7780.70	1480.54	1480.66	57.32	40°03'00.930"N	104°54'30.230"W	0.00	
10013.00†	90.109	359.884	7780.51	1580.54	1580.66	57.12	40°03'01.918"N	104°54'30.232"W	0.00	
10113.00†	90.109	359.884	7780.32	1680.54	1680.66	56.92	40°03'02.907"N	104°54'30.235"W	0.00	
10213.00†	90.109	359.884	7780.13	1780.54	1780.66	56.72	40°03'03.895"N	104°54'30.238"W	0.00	
10313.00†	90.109	359.884	7779.94	1880.54	1880.66	56.51	40°03'04.883"N	104°54'30.240"W	0.00	
10413.00†	90.109	359.884	7779.75	1980.54	1980.66	56.31	40°03'05.871"N	104°54'30.243"W	0.00	
10513.00†	90.109	359.884	7779.56	2080.54	2080.66	56.11	40°03'06.860"N	104°54'30.245"W	0.00	
10613.00†	90.109	359.884	7779.36	2180.54	2180.66	55.91	40°03'07.848"N	104°54'30.248"W	0.00	
10713.00†	90.109	359.884	7779.17	2280.54	2280.66	55.70	40°03'08.836"N	104°54'30.251"W	0.00	
10813.00†	90.109	359.884	7778.98	2380.54	2380.66	55.50	40°03'09.824"N	104°54'30.253"W	0.00	
10913.00†	90.109	359.884	7778.79	2480.54	2480.66	55.30	40°03'10.812"N	104°54'30.256"W	0.00	
11013.00†	90.109	359.884	7778.60	2580.54	2580.66	55.10	40°03'11.801"N	104°54'30.258"W	0.00	
11113.00†	90.109	359.884	7778.41	2680.54	2680.66	54.89	40°03'12.789"N	104°54'30.261"W	0.00	
11213.00†	90.109	359.884	7778.22	2780.54	2780.66	54.69	40°03'13.777"N	104°54'30.264"W	0.00	
11313.00†	90.109	359.884	7778.03	2880.54	2880.66	54.49	40°03'14.765"N	104°54'30.266"W	0.00	
11413.00†	90.109	359.884	7777.84	2980.54	2980.66	54.29	40°03'15.754"N	104°54'30.269"W	0.00	
11513.00†	90.109	359.884	7777.65	3080.54	3080.65	54.08	40°03'16.742"N	104°54'30.271"W	0.00	
11613.00†	90.109	359.884	7777.46	3180.54	3180.65	53.88	40°03'17.730"N	104°54'30.274"W	0.00	
11713.00†	90.109	359.884	7777.27	3280.54	3280.65	53.68	40°03'18.718"N	104°54'30.277"W	0.00	
11813.00†	90.109	359.884	7777.08	3380.54	3380.65	53.48	40°03'19.706"N	104°54'30.279"W	0.00	
11913.00†	90.109	359.884	7776.89	3480.54	3480.65	53.27	40°03'20.695"N	104°54'30.282"W	0.00	



# Planned Wellpath Report

## UNDERHILL 27C-17HZ (PERMIT REV-2) PWP

Page 5 of 6



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#07 UNDERHILL 27C-17HZ (878' FSL & 992' FEL, SEC.17)
Area	COLORADO	Well	UNDERHILL 27C-17HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	UNDERHILL 27C-17HZ PWB
Facility	SEC.17-T1N-R67W		

WELLPATH DATA (140 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12013.00†	90.109	359.884	7776.70	3580.54	3580.65	53.07	40°03'21.683"N	104°54'30.284"W	0.00	
12113.00†	90.109	359.884	7776.51	3680.54	3680.65	52.87	40°03'22.671"N	104°54'30.287"W	0.00	
12213.00†	90.109	359.884	7776.32	3780.54	3780.65	52.67	40°03'23.659"N	104°54'30.290"W	0.00	
12313.00†	90.109	359.884	7776.12	3880.54	3880.65	52.46	40°03'24.648"N	104°54'30.292"W	0.00	
12378.42	90.109	359.884	7776.00 <sup>1</sup>	3945.96	3946.07	52.33	40°03'25.294"N	104°54'30.294"W	0.00	TOTAL DEPTH

HOLE & CASING SECTIONS - Ref Wellbore: UNDERHILL 27C-17HZ PWB Ref Wellpath: UNDERHILL 27C-17HZ (PERMIT REV-2) 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	920.00	907.00	13.00	920.00	0.00	0.00	0.00	0.00
9.625in Casing Surface	13.00	920.00	907.00	13.00	920.00	0.00	0.00	0.00	0.00
8.75in Open Hole	920.00	8181.92	7261.92	920.00	7784.00	0.00	0.00	-250.41	60.83
7in Casing Intermediate	13.00	8181.92	8168.92	13.00	7784.00	0.00	0.00	-250.41	60.83
6.125in Open Hole	8181.92	12378.42	4196.50	7784.00	7776.00	-250.41	60.83	3946.07	52.33
4.5in Casing Production	13.00	12378.42	12365.42	13.00	7776.00	0.00	0.00	3946.07	52.33

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	-26.18	-528.33	3165040.71	1260196.51	40°02'46.039"N	104°54'37.760"W	polygon
UNDERHILL 15-17 PAD SECTION 17 LINES		5116.00	-26.18	-528.33	3165040.71	1260196.51	40°02'46.039"N	104°54'37.760"W	polygon
UNDERHILL 15-17 PAD SECTION 8 HARDLINES (460' SET BACKS)		5116.00	-26.18	-528.33	3165040.71	1260196.51	40°02'46.039"N	104°54'37.760"W	polygon
UNDERHILL 15-17 PAD SECTION 8 LINES		5116.00	-26.18	-528.33	3165040.71	1260196.51	40°02'46.039"N	104°54'37.760"W	polygon
1) UNDERHILL 27C-17HZ BHL ON PLAT (460' FNL & 931' FEL) REV-1	12378.42	7776.00	3946.07	52.33	3165594.85	1264172.39	40°03'25.294"N	104°54'30.294"W	point

SURVEY PROGRAM - Ref Wellbore: UNDERHILL 27C-17HZ PWB Ref Wellpath: UNDERHILL 27C-17HZ (PERMIT REV-2) PWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
13.00	8181.92	NaviTrak (MagCorr)		UNDERHILL 27C-17HZ PWB
8181.92	12378.42	OnTrak (MagCorr)		UNDERHILL 27C-17HZ PWB



# Planned Wellpath Report

UNDERHILL 27C-17HZ (PERMIT REV-2) PWP

Page 6 of 6



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#07 UNDERHILL 27C-17HZ (878' FSL & 992' FEL, SEC.17)
Area	COLORADO	Well	UNDERHILL 27C-17HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	UNDERHILL 27C-17HZ PWB
Facility	SEC.17-T1N-R67W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
4691.26	10.000	175.700	4641.00	SUSSEX
5309.65	10.000	175.700	5250.00	SHANNON
7429.45	14.862	359.884	7358.00	SHARON SPRINGS
7452.34	17.151	359.884	7380.00	NIOBRARA
7590.67	30.984	359.884	7506.00	NIOBRARA B
7750.72	46.989	359.884	7630.00	NIOBRARA C
7991.49	71.066	359.884	7753.00	FORT HAYS
8091.18	81.035	359.884	7777.00	CODELL