

KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#05 UNDERHILL 28N-17HZ (849' FSL & 1520' FEL, SEC.17)
Field: WELD COUNTY (KERR MCGEE) Well: UNDERHILL 28N-17HZ
Facility: SEC.17-T1N-R67W Wellbore: UNDERHILL 28N-17HZ PWB

Plot reference wellpath is UNDERHILL 28N-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: 5125 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#05 UNDERHILL 28N-17HZ (849' FSL & 1520' FEL, SEC.17): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: precain on 5/6/2013

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#05 UNDERHILL 28N-17HZ (849' FSL & 1520' FEL, SEC.17)	-1800.70	1139.46	3165040.997	1260196.144	40°02'46.036"N	104°54'37.757"W
ENSGN 145 (RKB) to Mud line (At Slot: SLOT#05 UNDERHILL 28N-17HZ (849' FSL & 1520' FEL, SEC.17))					5125ft	
Mean Sea Level to Mud line (At Slot: SLOT#05 UNDERHILL 28N-17HZ (849' FSL & 1520' FEL, SEC.17))					0ft	
ENSGN 145 (RKB) to Mean Sea Level					5125ft	

Survey Program

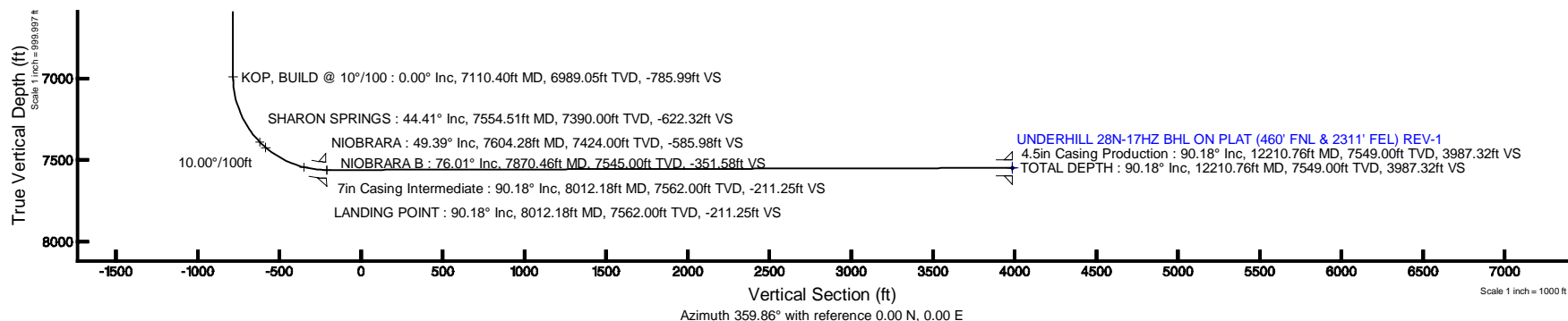
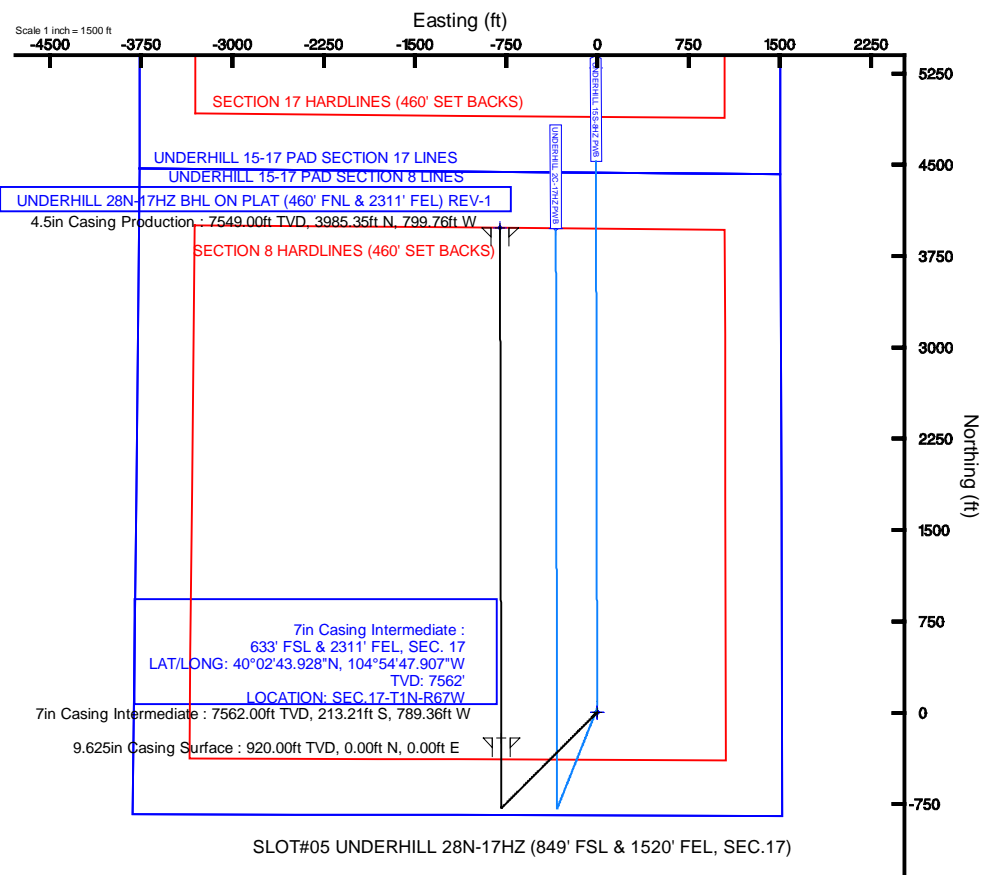
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
13.00	8012.18	NaviTrak	NaviTrak (MagCorr)		UNDERHILL 28N-17HZ PWB
8012.18	12210.76	OnTrak	OnTrak (MagCorr)		UNDERHILL 28N-17HZ PWB

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	225.000	13.00	0.00	0.00	0.00	0.00
BEGIN NUDGE	1050.00	0.000	225.000	1050.00	0.00	0.00	0.00	0.00
END NUDGE	1700.00	13.000	225.000	1694.44	-51.92	-51.92	2.00	-51.79
BEGIN DROP	6000.79	13.000	225.000	5885.00	-736.02	-736.02	0.00	-734.20
END DROP	6650.79	0.000	359.858	6529.44	-787.94	-787.94	2.00	-785.99
KOP, BUILD @ 10°/100	7110.40	0.000	359.858	6989.05	-787.94	-787.94	0.00	-785.99
LANDING POINT	8012.18	90.177	359.858	7562.00	-213.21	-789.36	10.00	-211.25
TOTAL DEPTH	12210.76	90.177	359.858	7549.00	3985.35	-799.76	0.00	3987.32

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)		5125.00	0.36	-0.28	3165040.71	1260196.51	40°02'46.036"N	104°54'37.780"W
UNDERHILL 15-17 PAD SECTION 17 LINES		5125.00	0.36	-0.28	3165040.71	1260196.51	40°02'46.036"N	104°54'37.780"W
UNDERHILL 15-17 PAD SECTION 8 HARDLINES (460' SET BACKS)		5125.00	0.36	-0.28	3165040.71	1260196.51	40°02'46.036"N	104°54'37.780"W
UNDERHILL 15-17 PAD SECTION 8 LINES		5125.00	0.36	-0.28	3165040.71	1260196.51	40°02'46.036"N	104°54'37.780"W
UNDERHILL 28N-17HZ BHL ON PLAT (460' FNL & 2311' FEL) REV-1	12210.76	7549.00	3985.35	-799.76	3164214.79	1264175.93	40°03'25.420"N	104°54'48.042"W





Planned Wellpath Report

UNDERHILL 28N-17HZ (PERMIT REV-2) PWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#05 UNDERHILL 28N-17HZ (849' FSL & 1520' FEL, SEC.17)
Area	COLORADO	Well	UNDERHILL 28N-17HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	UNDERHILL 28N-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	5/6/2013 at 3:51:58 PM
Convergence at slot	0.38° East	Database/Source file	WellArchitectDB/UNDERHILL_28N-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	-1800.70	1139.46	3165041.00	1260196.14	40°02'46.036"N	104°54'37.757"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	5125.00ft
Horizontal Reference Pt	Slot	ENSIGN 145 (RKB) to Mean Sea Level	5125.00ft
Vertical Reference Pt	ENSIGN 145 (RKB)	ENSIGN 145 (RKB) to Mud Line at Slot (SLOT#05 UNDERHILL 28N-17HZ (849' FSL & 1520' FEL, SEC.17))	5125.00ft
MD Reference Pt	ENSIGN 145 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	359.86°



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REFERENCE WELLPATH IDENTIFICATION			
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Area	COLORADO	Well	UNDERHILL 28N-17HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	UNDERHILL 28N-17HZ PWB
Facility	SEC.17-T1N-R67W		

WELLPATH DATA (135 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	225.000	0.00	0.00	0.00	0.00	40°02'46.036"N	104°54'37.757"W	0.00	
13.00	0.000	225.000	13.00	0.00	0.00	0.00	40°02'46.036"N	104°54'37.757"W	0.00	TIE-ON
113.00†	0.000	225.000	113.00	0.00	0.00	0.00	40°02'46.036"N	104°54'37.757"W	0.00	
213.00†	0.000	225.000	213.00	0.00	0.00	0.00	40°02'46.036"N	104°54'37.757"W	0.00	
313.00†	0.000	225.000	313.00	0.00	0.00	0.00	40°02'46.036"N	104°54'37.757"W	0.00	
413.00†	0.000	225.000	413.00	0.00	0.00	0.00	40°02'46.036"N	104°54'37.757"W	0.00	
513.00†	0.000	225.000	513.00	0.00	0.00	0.00	40°02'46.036"N	104°54'37.757"W	0.00	
613.00†	0.000	225.000	613.00	0.00	0.00	0.00	40°02'46.036"N	104°54'37.757"W	0.00	
713.00†	0.000	225.000	713.00	0.00	0.00	0.00	40°02'46.036"N	104°54'37.757"W	0.00	
813.00†	0.000	225.000	813.00	0.00	0.00	0.00	40°02'46.036"N	104°54'37.757"W	0.00	
913.00†	0.000	225.000	913.00	0.00	0.00	0.00	40°02'46.036"N	104°54'37.757"W	0.00	
1013.00†	0.000	225.000	1013.00	0.00	0.00	0.00	40°02'46.036"N	104°54'37.757"W	0.00	
1050.00	0.000	225.000	1050.00	0.00	0.00	0.00	40°02'46.036"N	104°54'37.757"W	0.00	BEGIN NUDGE
1113.00†	1.260	225.000	1112.99	-0.49	-0.49	-0.49	40°02'46.031"N	104°54'37.763"W	2.00	
1213.00†	3.260	225.000	1212.91	-3.27	-3.28	-3.28	40°02'46.003"N	104°54'37.799"W	2.00	
1313.00†	5.260	225.000	1312.63	-8.51	-8.53	-8.53	40°02'45.951"N	104°54'37.866"W	2.00	
1413.00†	7.260	225.000	1412.03	-16.20	-16.24	-16.24	40°02'45.875"N	104°54'37.966"W	2.00	
1513.00†	9.260	225.000	1510.99	-26.33	-26.40	-26.40	40°02'45.775"N	104°54'38.096"W	2.00	
1613.00†	11.260	225.000	1609.38	-38.90	-38.99	-38.99	40°02'45.650"N	104°54'38.258"W	2.00	
1700.00	13.000	225.000	1694.44	-51.79	-51.92	-51.92	40°02'45.523"N	104°54'38.424"W	2.00	END NUDGE
1713.00†	13.000	225.000	1707.10	-53.85	-53.99	-53.99	40°02'45.502"N	104°54'38.451"W	0.00	
1813.00†	13.000	225.000	1804.54	-69.72	-69.89	-69.89	40°02'45.345"N	104°54'38.656"W	0.00	
1913.00†	13.000	225.000	1901.98	-85.59	-85.80	-85.80	40°02'45.188"N	104°54'38.860"W	0.00	
2013.00†	13.000	225.000	1999.42	-101.45	-101.71	-101.71	40°02'45.031"N	104°54'39.065"W	0.00	
2113.00†	13.000	225.000	2096.85	-117.32	-117.61	-117.61	40°02'44.873"N	104°54'39.269"W	0.00	
2213.00†	13.000	225.000	2194.29	-133.19	-133.52	-133.52	40°02'44.716"N	104°54'39.474"W	0.00	
2313.00†	13.000	225.000	2291.73	-149.05	-149.43	-149.43	40°02'44.559"N	104°54'39.678"W	0.00	
2413.00†	13.000	225.000	2389.16	-164.92	-165.33	-165.33	40°02'44.402"N	104°54'39.883"W	0.00	
2513.00†	13.000	225.000	2486.60	-180.79	-181.24	-181.24	40°02'44.245"N	104°54'40.087"W	0.00	
2613.00†	13.000	225.000	2584.04	-196.66	-197.14	-197.14	40°02'44.087"N	104°54'40.292"W	0.00	
2713.00†	13.000	225.000	2681.47	-212.52	-213.05	-213.05	40°02'43.930"N	104°54'40.496"W	0.00	
2813.00†	13.000	225.000	2778.91	-228.39	-228.96	-228.96	40°02'43.773"N	104°54'40.701"W	0.00	
2913.00†	13.000	225.000	2876.35	-244.26	-244.86	-244.86	40°02'43.616"N	104°54'40.905"W	0.00	
3013.00†	13.000	225.000	2973.79	-260.12	-260.77	-260.77	40°02'43.459"N	104°54'41.110"W	0.00	
3113.00†	13.000	225.000	3071.22	-275.99	-276.68	-276.68	40°02'43.301"N	104°54'41.314"W	0.00	
3213.00†	13.000	225.000	3168.66	-291.86	-292.58	-292.58	40°02'43.144"N	104°54'41.519"W	0.00	
3313.00†	13.000	225.000	3266.10	-307.72	-308.49	-308.49	40°02'42.987"N	104°54'41.723"W	0.00	
3413.00†	13.000	225.000	3363.53	-323.59	-324.40	-324.40	40°02'42.830"N	104°54'41.928"W	0.00	
3513.00†	13.000	225.000	3460.97	-339.46	-340.30	-340.30	40°02'42.673"N	104°54'42.132"W	0.00	
3613.00†	13.000	225.000	3558.41	-355.33	-356.21	-356.21	40°02'42.515"N	104°54'42.337"W	0.00	
3713.00†	13.000	225.000	3655.84	-371.19	-372.12	-372.12	40°02'42.358"N	104°54'42.541"W	0.00	
3813.00†	13.000	225.000	3753.28	-387.06	-388.02	-388.02	40°02'42.201"N	104°54'42.746"W	0.00	
3913.00†	13.000	225.000	3850.72	-402.93	-403.93	-403.93	40°02'42.044"N	104°54'42.951"W	0.00	
4013.00†	13.000	225.000	3948.16	-418.79	-419.83	-419.83	40°02'41.887"N	104°54'43.155"W	0.00	
4113.00†	13.000	225.000	4045.59	-434.66	-435.74	-435.74	40°02'41.729"N	104°54'43.360"W	0.00	



Planned Wellpath Report

UNDERHILL 28N-17HZ (PERMIT REV-2) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#05 UNDERHILL 28N-17HZ (849' FSL & 1520' FEL, SEC.17)
Area	COLORADO	Well	UNDERHILL 28N-17HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	UNDERHILL 28N-17HZ PWB
Facility	SEC.17-T1N-R67W		

WELLPATH DATA (135 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4213.00†	13.000	225.000	4143.03	-450.53	-451.65	-451.65	40°02'41.572"N	104°54'43.564"W	0.00	
4313.00†	13.000	225.000	4240.47	-466.39	-467.55	-467.55	40°02'41.415"N	104°54'43.769"W	0.00	
4413.00†	13.000	225.000	4337.90	-482.26	-483.46	-483.46	40°02'41.258"N	104°54'43.973"W	0.00	
4513.00†	13.000	225.000	4435.34	-498.13	-499.37	-499.37	40°02'41.101"N	104°54'44.178"W	0.00	
4613.00†	13.000	225.000	4532.78	-513.99	-515.27	-515.27	40°02'40.943"N	104°54'44.382"W	0.00	
4713.00†	13.000	225.000	4630.21	-529.86	-531.18	-531.18	40°02'40.786"N	104°54'44.587"W	0.00	
4733.31†	13.000	225.000	4650.00	-533.08	-534.41	-534.41	40°02'40.754"N	104°54'44.628"W	0.00	SUSSEX
4813.00†	13.000	225.000	4727.65	-545.73	-547.09	-547.09	40°02'40.629"N	104°54'44.791"W	0.00	
4913.00†	13.000	225.000	4825.09	-561.60	-562.99	-562.99	40°02'40.472"N	104°54'44.996"W	0.00	
5013.00†	13.000	225.000	4922.53	-577.46	-578.90	-578.90	40°02'40.315"N	104°54'45.200"W	0.00	
5113.00†	13.000	225.000	5019.96	-593.33	-594.81	-594.81	40°02'40.158"N	104°54'45.405"W	0.00	
5213.00†	13.000	225.000	5117.40	-609.20	-610.71	-610.71	40°02'40.000"N	104°54'45.609"W	0.00	
5313.00†	13.000	225.000	5214.84	-625.06	-626.62	-626.62	40°02'39.843"N	104°54'45.814"W	0.00	
5358.33†	13.000	225.000	5259.00	-632.26	-633.83	-633.83	40°02'39.772"N	104°54'45.907"W	0.00	SHANNON
5413.00†	13.000	225.000	5312.27	-640.93	-642.53	-642.53	40°02'39.686"N	104°54'46.018"W	0.00	
5513.00†	13.000	225.000	5409.71	-656.80	-658.43	-658.43	40°02'39.529"N	104°54'46.223"W	0.00	
5613.00†	13.000	225.000	5507.15	-672.66	-674.34	-674.34	40°02'39.372"N	104°54'46.427"W	0.00	
5713.00†	13.000	225.000	5604.58	-688.53	-690.24	-690.24	40°02'39.214"N	104°54'46.632"W	0.00	
5813.00†	13.000	225.000	5702.02	-704.40	-706.15	-706.15	40°02'39.057"N	104°54'46.836"W	0.00	
5913.00†	13.000	225.000	5799.46	-720.27	-722.06	-722.06	40°02'38.900"N	104°54'47.041"W	0.00	
6000.79	13.000	225.000	5885.00	-734.20	-736.02	-736.02	40°02'38.762"N	104°54'47.221"W	0.00	BEGIN DROP
6013.00†	12.756	225.000	5896.90	-736.11	-737.95	-737.95	40°02'38.743"N	104°54'47.245"W	2.00	
6113.00†	10.756	225.000	5994.80	-750.48	-752.35	-752.35	40°02'38.601"N	104°54'47.430"W	2.00	
6213.00†	8.756	225.000	6093.35	-762.44	-764.33	-764.33	40°02'38.482"N	104°54'47.585"W	2.00	
6313.00†	6.756	225.000	6192.43	-771.95	-773.88	-773.88	40°02'38.388"N	104°54'47.707"W	2.00	
6413.00†	4.756	225.000	6291.92	-779.03	-780.97	-780.97	40°02'38.318"N	104°54'47.798"W	2.00	
6513.00†	2.756	225.000	6391.70	-783.65	-785.60	-785.60	40°02'38.272"N	104°54'47.858"W	2.00	
6613.00†	0.756	225.000	6491.65	-785.81	-787.76	-787.76	40°02'38.251"N	104°54'47.886"W	2.00	
6650.79	0.000	359.858	6529.44	-785.99	-787.94	-787.94	40°02'38.249"N	104°54'47.888"W	2.00	END DROP
6713.00†	0.000	359.858	6591.65	-785.99	-787.94	-787.94	40°02'38.249"N	104°54'47.888"W	0.00	
6813.00†	0.000	359.858	6691.65	-785.99	-787.94	-787.94	40°02'38.249"N	104°54'47.888"W	0.00	
6913.00†	0.000	359.858	6791.65	-785.99	-787.94	-787.94	40°02'38.249"N	104°54'47.888"W	0.00	
7013.00†	0.000	359.858	6891.65	-785.99	-787.94	-787.94	40°02'38.249"N	104°54'47.888"W	0.00	
7110.40	0.000	359.858	6989.05	-785.99	-787.94	-787.94	40°02'38.249"N	104°54'47.888"W	0.00	KOP, BUILD @ 10°/100
7113.00†	0.260	359.858	6991.65	-785.98	-787.93	-787.94	40°02'38.249"N	104°54'47.888"W	10.00	
7213.00†	10.260	359.858	7091.10	-776.82	-778.78	-787.96	40°02'38.339"N	104°54'47.888"W	10.00	
7313.00†	20.260	359.858	7187.45	-750.54	-752.49	-788.03	40°02'38.599"N	104°54'47.889"W	10.00	
7413.00†	30.260	359.858	7277.77	-707.92	-709.87	-788.13	40°02'39.020"N	104°54'47.891"W	10.00	
7513.00†	40.260	359.858	7359.32	-650.26	-652.22	-788.28	40°02'39.590"N	104°54'47.892"W	10.00	
7554.51†	44.411	359.858	7390.00	-622.32	-624.27	-788.35	40°02'39.866"N	104°54'47.893"W	10.00	SHARON SPRINGS
7604.28†	49.388	359.858	7424.00	-585.98	-587.94	-788.44	40°02'40.225"N	104°54'47.894"W	10.00	NIOBRARA
7613.00†	50.260	359.858	7429.62	-579.32	-581.28	-788.45	40°02'40.291"N	104°54'47.895"W	10.00	
7713.00†	60.260	359.858	7486.54	-497.25	-499.21	-788.66	40°02'41.102"N	104°54'47.897"W	10.00	
7813.00†	70.260	359.858	7528.33	-406.55	-408.50	-788.88	40°02'41.999"N	104°54'47.900"W	10.00	
7870.46†	76.006	359.858	7545.00	-351.58	-353.54	-789.02	40°02'42.542"N	104°54'47.902"W	10.00	NIOBRARA B



Planned Wellpath Report

UNDERHILL 28N-17HZ (PERMIT REV-2) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#05 UNDERHILL 28N-17HZ (849' FSL & 1520' FEL, SEC.17)
Area	COLORADO	Well	UNDERHILL 28N-17HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	UNDERHILL 28N-17HZ PWB
Facility	SEC.17-T1N-R67W		

WELLPATH DATA (135 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7913.00†	80.260	359.858	7553.75	-309.96	-311.92	-789.12	40°02'42.953"N	104°54'47.903"W	10.00	
8012.18	90.177	359.858	7562.00	-211.25	-213.21	-789.36	40°02'43.928"N	104°54'47.907"W	10.00	LANDING POINT
8013.00†	90.177	359.858	7562.00	-210.43	-212.39	-789.37	40°02'43.937"N	104°54'47.907"W	0.00	
8113.00†	90.177	359.858	7561.69	-110.43	-112.39	-789.61	40°02'44.925"N	104°54'47.910"W	0.00	
8213.00†	90.177	359.858	7561.38	-10.43	-12.39	-789.86	40°02'45.913"N	104°54'47.913"W	0.00	
8313.00†	90.177	359.858	7561.07	89.57	87.61	-790.11	40°02'46.901"N	104°54'47.916"W	0.00	
8413.00†	90.177	359.858	7560.76	189.57	187.61	-790.36	40°02'47.889"N	104°54'47.920"W	0.00	
8513.00†	90.177	359.858	7560.45	289.57	287.61	-790.60	40°02'48.878"N	104°54'47.923"W	0.00	
8613.00†	90.177	359.858	7560.14	389.57	387.61	-790.85	40°02'49.866"N	104°54'47.926"W	0.00	
8713.00†	90.177	359.858	7559.83	489.57	487.61	-791.10	40°02'50.854"N	104°54'47.929"W	0.00	
8813.00†	90.177	359.858	7559.52	589.57	587.61	-791.35	40°02'51.842"N	104°54'47.932"W	0.00	
8913.00†	90.177	359.858	7559.21	689.57	687.61	-791.59	40°02'52.831"N	104°54'47.936"W	0.00	
9013.00†	90.177	359.858	7558.90	789.57	787.61	-791.84	40°02'53.819"N	104°54'47.939"W	0.00	
9113.00†	90.177	359.858	7558.59	889.57	887.61	-792.09	40°02'54.807"N	104°54'47.942"W	0.00	
9213.00†	90.177	359.858	7558.28	989.56	987.60	-792.34	40°02'55.795"N	104°54'47.945"W	0.00	
9313.00†	90.177	359.858	7557.97	1089.56	1087.60	-792.58	40°02'56.783"N	104°54'47.949"W	0.00	
9413.00†	90.177	359.858	7557.66	1189.56	1187.60	-792.83	40°02'57.772"N	104°54'47.952"W	0.00	
9513.00†	90.177	359.858	7557.35	1289.56	1287.60	-793.08	40°02'58.760"N	104°54'47.955"W	0.00	
9613.00†	90.177	359.858	7557.04	1389.56	1387.60	-793.33	40°02'59.748"N	104°54'47.958"W	0.00	
9713.00†	90.177	359.858	7556.74	1489.56	1487.60	-793.58	40°03'00.736"N	104°54'47.961"W	0.00	
9813.00†	90.177	359.858	7556.43	1589.56	1587.60	-793.82	40°03'01.725"N	104°54'47.965"W	0.00	
9913.00†	90.177	359.858	7556.12	1689.56	1687.60	-794.07	40°03'02.713"N	104°54'47.968"W	0.00	
10013.00†	90.177	359.858	7555.81	1789.56	1787.60	-794.32	40°03'03.701"N	104°54'47.971"W	0.00	
10113.00†	90.177	359.858	7555.50	1889.56	1887.60	-794.57	40°03'04.689"N	104°54'47.974"W	0.00	
10213.00†	90.177	359.858	7555.19	1989.56	1987.60	-794.81	40°03'05.677"N	104°54'47.978"W	0.00	
10313.00†	90.177	359.858	7554.88	2089.56	2087.60	-795.06	40°03'06.666"N	104°54'47.981"W	0.00	
10413.00†	90.177	359.858	7554.57	2189.56	2187.59	-795.31	40°03'07.654"N	104°54'47.984"W	0.00	
10513.00†	90.177	359.858	7554.26	2289.56	2287.59	-795.56	40°03'08.642"N	104°54'47.987"W	0.00	
10613.00†	90.177	359.858	7553.95	2389.56	2387.59	-795.80	40°03'09.630"N	104°54'47.990"W	0.00	
10713.00†	90.177	359.858	7553.64	2489.56	2487.59	-796.05	40°03'10.618"N	104°54'47.994"W	0.00	
10813.00†	90.177	359.858	7553.33	2589.56	2587.59	-796.30	40°03'11.607"N	104°54'47.997"W	0.00	
10913.00†	90.177	359.858	7553.02	2689.56	2687.59	-796.55	40°03'12.595"N	104°54'48.000"W	0.00	
11013.00†	90.177	359.858	7552.71	2789.56	2787.59	-796.79	40°03'13.583"N	104°54'48.003"W	0.00	
11113.00†	90.177	359.858	7552.40	2889.56	2887.59	-797.04	40°03'14.571"N	104°54'48.007"W	0.00	
11213.00†	90.177	359.858	7552.09	2989.56	2987.59	-797.29	40°03'15.560"N	104°54'48.010"W	0.00	
11313.00†	90.177	359.858	7551.78	3089.55	3087.59	-797.54	40°03'16.548"N	104°54'48.013"W	0.00	
11413.00†	90.177	359.858	7551.47	3189.55	3187.59	-797.78	40°03'17.536"N	104°54'48.016"W	0.00	
11513.00†	90.177	359.858	7551.16	3289.55	3287.59	-798.03	40°03'18.524"N	104°54'48.019"W	0.00	
11613.00†	90.177	359.858	7550.85	3389.55	3387.59	-798.28	40°03'19.512"N	104°54'48.023"W	0.00	
11713.00†	90.177	359.858	7550.54	3489.55	3487.58	-798.53	40°03'20.501"N	104°54'48.026"W	0.00	
11813.00†	90.177	359.858	7550.23	3589.55	3587.58	-798.78	40°03'21.489"N	104°54'48.029"W	0.00	
11913.00†	90.177	359.858	7549.92	3689.55	3687.58	-799.02	40°03'22.477"N	104°54'48.032"W	0.00	
12013.00†	90.177	359.858	7549.61	3789.55	3787.58	-799.27	40°03'23.465"N	104°54'48.036"W	0.00	
12113.00†	90.177	359.858	7549.30	3889.55	3887.58	-799.52	40°03'24.453"N	104°54'48.039"W	0.00	
12210.76	90.177	359.858	7549.00†	3987.32	3985.35	-799.76	40°03'25.420"N	104°54'48.042"W	0.00	TOTAL DEPTH



Planned Wellpath Report

UNDERHILL 28N-17HZ (PERMIT REV-2) PWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#05 UNDERHILL 28N-17HZ (849' FSL & 1520' FEL, SEC.17)
Area	COLORADO	Well	UNDERHILL 28N-17HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	UNDERHILL 28N-17HZ PWB
Facility	SEC.17-T1N-R67W		

HOLE & CASING SECTIONS - Ref Wellbore: UNDERHILL 28N-17HZ PWB Ref Wellpath: UNDERHILL 28N-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	8012.18	7092.18	920.00	7562.00	0.00	0.00	-213.21	-789.36
7in Casing Intermediate	13.00	8012.18	7999.18	13.00	7562.00	0.00	0.00	-213.21	-789.36
6.125in Open Hole	8012.18	12210.76	4198.58	7562.00	7549.00	-213.21	-789.36	3985.35	-799.76
4.5in Casing Production	13.00	12210.76	12197.76	13.00	7549.00	0.00	0.00	3985.35	-799.76

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)		5125.00	0.36	-0.28	3165040.71	1260196.51	40°02'46.039"N	104°54'37.760"W	polygon
UNDERHILL 15-17 PAD SECTION 17 LINES		5125.00	0.36	-0.28	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)		5125.00	0.36	-0.28	3165040.71	1260196.51	40°02'46.039"N	104°54'37.760"W	polygon
UNDERHILL 15-17 PAD SECTION 8 LINES		5125.00	0.36	-0.28	3165040.71	1260196.51	40°02'46.039"N	104°54'37.760"W	polygon
1) UNDERHILL 28N-17HZ BHL ON PLAT (460' FNL & 2311' FEL) REV-1	12210.76	7549.00	3985.35	-799.76	3164214.79	1264175.93	40°03'25.420"N	104°54'48.042"W	point

SURVEY PROGRAM - Ref Wellbore: UNDERHILL 28N-17HZ PWB Ref Wellpath: UNDERHILL 28N-17HZ (PERMIT REV-2) PWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
13.00	8012.18	NaviTrak (MagCorr)		UNDERHILL 28N-17HZ PWB
8012.18	12210.76	OnTrak (MagCorr)		UNDERHILL 28N-17HZ PWB



Planned Wellpath Report

UNDERHILL 28N-17HZ (PERMIT REV-2) PWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#05 UNDERHILL 28N-17HZ (849' FSL & 1520' FEL, SEC.17)
Area	COLORADO	Well	UNDERHILL 28N-17HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	UNDERHILL 28N-17HZ PWB
Facility	SEC.17-T1N-R67W		

WELLPATH COMMENTS					
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment	
4733.31	13.000	225.000	4650.00	SUSSEX	
5358.33	13.000	225.000	5259.00	SHANNON	
7554.51	44.411	359.858	7390.00	SHARON SPRINGS	
7604.28	49.388	359.858	7424.00	NIOBRARA	
7870.46	76.006	359.858	7545.00	NIOBRARA B	