

KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#05 UNDERHILL 1N-17HZ (908°FSL & 992°FEL, SEC. 17)
Field: WELD COUNTY (KERR MCGEE) Well: UNDERHILL 1N-17HZ
Facility: SEC.17-T1N-R67W Wellbore: UNDERHILL 1N-17HZ PWB

Plot reference wellpath is UNDERHILL 1N-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
ENSIGN 145 (RKB) to Mean Sea Level: 5116 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#05 UNDERHILL 1N-17HZ (908°FSL & 992°FEL, SEC. 17)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: wilje02 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#05 UNDERHILL 1N-17HZ (908°FSL & 992°FEL, SEC. 17)	-1743.86	1667.50	3165568.634	1260256.466	40°02'46.597"N	104°54'30.967"W	
ENSIGN 145 (RKB) to Mud line (At Slot: SLOT#05 UNDERHILL 1N-17HZ (908°FSL & 992°FEL, SEC. 17))						5116ft	
Mean Sea Level to Mud line (At Slot: SLOT#05 UNDERHILL 1N-17HZ (908°FSL & 992°FEL, SEC. 17))						0ft	
ENSIGN 145 (RKB) to Mean Sea Level						5116ft	

Survey Program

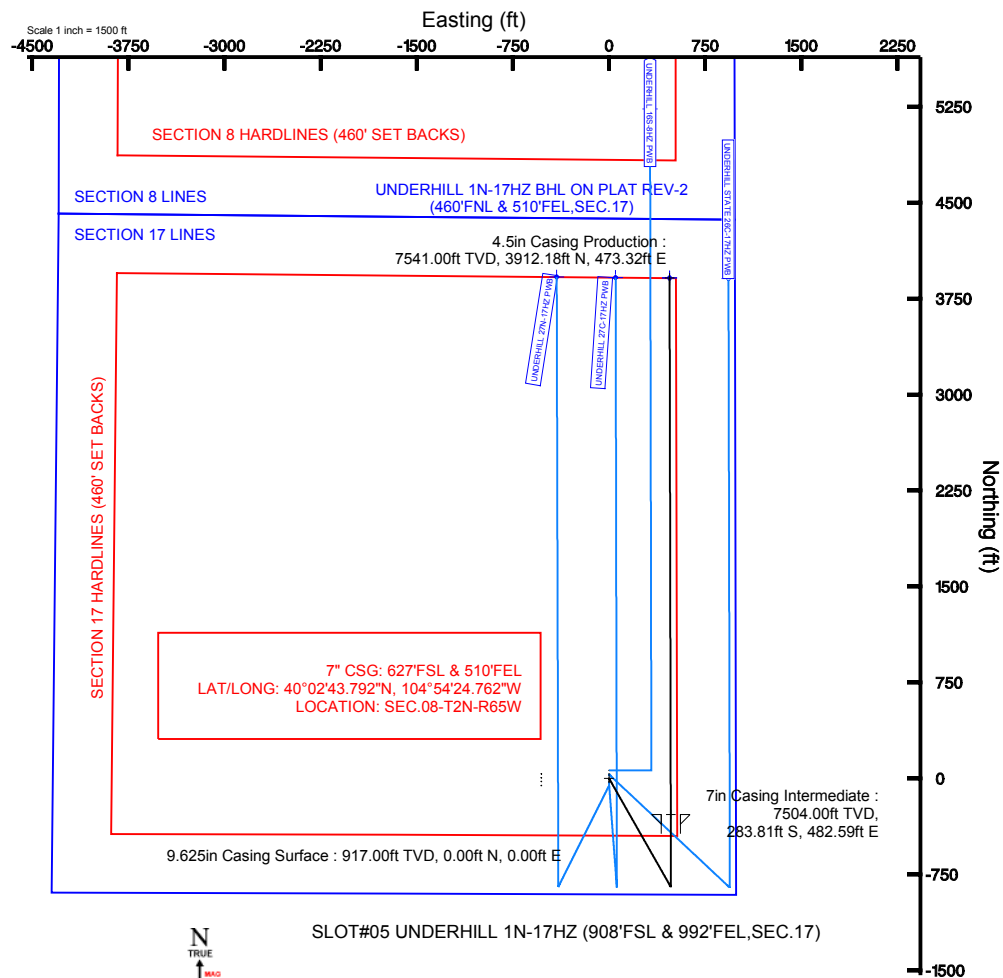
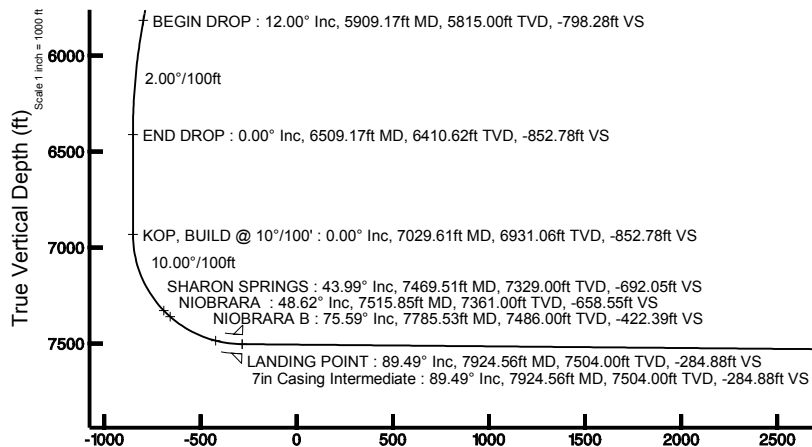
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
13.00	7924.56	NaviTrak	NaviTrak (Standard)		UNDERHILL 1N-17HZ PWB
7924.56	12120.72	OnTrak	OnTrak (Standard)		UNDERHILL 1N-17HZ PWB

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	150.400	13.00	0.00	0.00	0.00	0.00
BEGIN NUDGE	1200.00	0.000	150.400	1200.00	0.00	0.00	0.00	0.00
END NUDGE	1800.00	12.000	150.400	1795.62	-54.43	30.92	2.00	-54.50
BEGIN DROP	5909.17	12.000	150.400	5815.00	-797.28	452.92	0.00	-798.28
END DROP	6509.17	0.000	359.873	6410.62	-851.71	483.84	2.00	-852.78
KOP, BUILD @ 10°/100'	7029.61	0.000	359.873	6931.06	-851.71	483.84	0.00	-852.78
LANDING POINT	7924.56	89.495	359.873	7504.00	-283.81	482.59	10.00	-284.88
TOTAL DEPTH	12120.72	89.495	359.873	7541.00	3912.18	473.32	0.00	3911.12

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	-56.44	-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	-56.44	-528.33	3165040.71	1260196.51	40°02'46.039"N	104°54'37.790"W
UNDERHILL 1N-17HZ BHL ON PLAT REV-2 (460°FNL & 510°FEL, SEC. 17)	12120.72	7541.00	3912.18	473.32	3166015.83	1264171.56	40°03'25.256"N	104°54'24.890"W
UNDERHILL 1N-17HZ BHL ON PLAT REV-1 (460°FNL & 510°FEL, SEC. 17)		7546.00	3912.18	473.32	3166015.83	1264171.56	40°03'25.256"N	104°54'24.890"W



BGGM (1945.0 to 2014.0) Dip: 66.65° Field: 52629.7 nT
Magnetic North is 8.71 degrees East of True North (at 5/8/2013)

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

4.5in Casing Production : 89.49° Inc, 12120.72ft MD, 7541.00ft TVD, 3911.12ft VS
TOTAL DEPTH : 89.49° Inc, 12120.72ft MD, 7541.00ft TVD, 3911.12ft VS
UNDERHILL 1N-17HZ BHL ON PLAT REV-2 (460°FNL & 510°FEL, SEC. 17)

Vertical Section (ft)

Azimuth 359.87° with reference 0.00 N, 0.00 E

Scale 1 inch = 1000 ft



Planned Wellpath Report

UNDERHILL 1N-17HZ (PERMIT REV-2) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#05 UNDERHILL 1N-17HZ (908'FSL & 992'FEL,SEC.17)
Area	COLORADO	Well	UNDERHILL 1N-17HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	UNDERHILL 1N-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	Wilsjef02
Scale	0.999963	Report Generated	5/13/2013 at 15:23:23
Convergence at slot	0.38° East	Database/Source file	WellArchitectDB/UNDERHILL_1N-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	-1743.86	1667.50	3165568.63	1260256.47	40°02'46.597"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#05 UNDERHILL 1N-17HZ (908'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	359.87°



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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#05 UNDERHILL 1N-17HZ (908'FSL & 992'FEL,SEC.17)
Area	COLORADO	Well	UNDERHILL 1N-17HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	UNDERHILL 1N-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	150.400	0.00	0.00	0.00	0.00	40°02'46.597"N	104°54'30.967"W	0.00	
13.00	0.000	150.400	13.00	0.00	0.00	0.00	40°02'46.597"N	104°54'30.967"W	0.00	TIE-ON
113.00†	0.000	150.400	113.00	0.00	0.00	0.00	40°02'46.597"N	104°54'30.967"W	0.00	
213.00†	0.000	150.400	213.00	0.00	0.00	0.00	40°02'46.597"N	104°54'30.967"W	0.00	
313.00†	0.000	150.400	313.00	0.00	0.00	0.00	40°02'46.597"N	104°54'30.967"W	0.00	
413.00†	0.000	150.400	413.00	0.00	0.00	0.00	40°02'46.597"N	104°54'30.967"W	0.00	
513.00†	0.000	150.400	513.00	0.00	0.00	0.00	40°02'46.597"N	104°54'30.967"W	0.00	
613.00†	0.000	150.400	613.00	0.00	0.00	0.00	40°02'46.597"N	104°54'30.967"W	0.00	
713.00†	0.000	150.400	713.00	0.00	0.00	0.00	40°02'46.597"N	104°54'30.967"W	0.00	
813.00†	0.000	150.400	813.00	0.00	0.00	0.00	40°02'46.597"N	104°54'30.967"W	0.00	
913.00†	0.000	150.400	913.00	0.00	0.00	0.00	40°02'46.597"N	104°54'30.967"W	0.00	
1013.00†	0.000	150.400	1013.00	0.00	0.00	0.00	40°02'46.597"N	104°54'30.967"W	0.00	
1113.00†	0.000	150.400	1113.00	0.00	0.00	0.00	40°02'46.597"N	104°54'30.967"W	0.00	
1200.00	0.000	150.400	1200.00	0.00	0.00	0.00	40°02'46.597"N	104°54'30.967"W	0.00	BEGIN NUDGE
1213.00†	0.260	150.400	1213.00	-0.03	-0.03	0.01	40°02'46.597"N	104°54'30.967"W	2.00	
1313.00†	2.260	150.400	1312.97	-1.94	-1.94	1.10	40°02'46.578"N	104°54'30.953"W	2.00	
1413.00†	4.260	150.400	1412.80	-6.89	-6.88	3.91	40°02'46.529"N	104°54'30.917"W	2.00	
1513.00†	6.260	150.400	1512.38	-14.87	-14.85	8.44	40°02'46.450"N	104°54'30.859"W	2.00	
1613.00†	8.260	150.400	1611.57	-25.87	-25.84	14.68	40°02'46.342"N	104°54'30.778"W	2.00	
1713.00†	10.260	150.400	1710.26	-39.88	-39.83	22.63	40°02'46.203"N	104°54'30.676"W	2.00	
1800.00	12.000	150.400	1795.62	-54.50	-54.43	30.92	40°02'46.059"N	104°54'30.569"W	2.00	END NUDGE
1813.00†	12.000	150.400	1808.34	-56.85	-56.78	32.26	40°02'46.036"N	104°54'30.552"W	0.00	
1913.00†	12.000	150.400	1906.15	-74.95	-74.86	42.53	40°02'45.857"N	104°54'30.420"W	0.00	
2013.00†	12.000	150.400	2003.97	-93.06	-92.94	52.80	40°02'45.679"N	104°54'30.288"W	0.00	
2113.00†	12.000	150.400	2101.78	-111.16	-111.02	63.07	40°02'45.500"N	104°54'30.156"W	0.00	
2213.00†	12.000	150.400	2199.60	-129.26	-129.09	73.34	40°02'45.321"N	104°54'30.024"W	0.00	
2313.00†	12.000	150.400	2297.41	-147.36	-147.17	83.61	40°02'45.143"N	104°54'29.892"W	0.00	
2413.00†	12.000	150.400	2395.23	-165.46	-165.25	93.87	40°02'44.964"N	104°54'29.760"W	0.00	
2513.00†	12.000	150.400	2493.04	-183.56	-183.33	104.14	40°02'44.785"N	104°54'29.628"W	0.00	
2613.00†	12.000	150.400	2590.86	-201.66	-201.41	114.41	40°02'44.607"N	104°54'29.496"W	0.00	
2713.00†	12.000	150.400	2688.67	-219.76	-219.48	124.68	40°02'44.428"N	104°54'29.364"W	0.00	
2813.00†	12.000	150.400	2786.49	-237.86	-237.56	134.95	40°02'44.249"N	104°54'29.232"W	0.00	
2913.00†	12.000	150.400	2884.30	-255.96	-255.64	145.22	40°02'44.071"N	104°54'29.100"W	0.00	
3013.00†	12.000	150.400	2982.12	-274.06	-273.72	155.49	40°02'43.892"N	104°54'28.968"W	0.00	
3113.00†	12.000	150.400	3079.93	-292.16	-291.79	165.76	40°02'43.713"N	104°54'28.836"W	0.00	
3213.00†	12.000	150.400	3177.75	-310.26	-309.87	176.03	40°02'43.535"N	104°54'28.704"W	0.00	
3313.00†	12.000	150.400	3275.56	-328.36	-327.95	186.30	40°02'43.356"N	104°54'28.572"W	0.00	
3413.00†	12.000	150.400	3373.38	-346.46	-346.03	196.57	40°02'43.177"N	104°54'28.439"W	0.00	
3513.00†	12.000	150.400	3471.19	-364.56	-364.11	206.84	40°02'42.999"N	104°54'28.307"W	0.00	
3613.00†	12.000	150.400	3569.00	-382.66	-382.18	217.11	40°02'42.820"N	104°54'28.175"W	0.00	
3713.00†	12.000	150.400	3666.82	-400.76	-400.26	227.38	40°02'42.642"N	104°54'28.043"W	0.00	
3813.00†	12.000	150.400	3764.63	-418.86	-418.34	237.65	40°02'42.463"N	104°54'27.911"W	0.00	
3913.00†	12.000	150.400	3862.45	-436.97	-436.42	247.92	40°02'42.284"N	104°54'27.779"W	0.00	
4013.00†	12.000	150.400	3960.26	-455.07	-454.49	258.19	40°02'42.106"N	104°54'27.647"W	0.00	
4113.00†	12.000	150.400	4058.08	-473.17	-472.57	268.46	40°02'41.927"N	104°54'27.515"W	0.00	



Planned Wellpath Report

UNDERHILL 1N-17HZ (PERMIT REV-2) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#05 UNDERHILL 1N-17HZ (908'FSL & 992'FEL,SEC.17)
Area	COLORADO	Well	UNDERHILL 1N-17HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	UNDERHILL 1N-17HZ PWB
Facility	SEC.17-TIN-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†	12.000	150.400	4155.89	-491.27	-490.65	278.73	40°02'41.748"N	104°54'27.383"W	0.00	
4313.00†	12.000	150.400	4253.71	-509.37	-508.73	289.00	40°02'41.570"N	104°54'27.251"W	0.00	
4413.00†	12.000	150.400	4351.52	-527.47	-526.81	299.27	40°02'41.391"N	104°54'27.119"W	0.00	
4513.00†	12.000	150.400	4449.34	-545.57	-544.88	309.54	40°02'41.212"N	104°54'26.987"W	0.00	
4613.00†	12.000	150.400	4547.15	-563.67	-562.96	319.81	40°02'41.034"N	104°54'26.855"W	0.00	
4708.94†	12.000	150.400	4641.00	-581.04	-580.31	329.66	40°02'40.862"N	104°54'26.728"W	0.00	SUSSEX
4713.00†	12.000	150.400	4644.97	-581.77	-581.04	330.08	40°02'40.855"N	104°54'26.723"W	0.00	
4813.00†	12.000	150.400	4742.78	-599.87	-599.12	340.35	40°02'40.676"N	104°54'26.591"W	0.00	
4913.00†	12.000	150.400	4840.60	-617.97	-617.19	350.62	40°02'40.498"N	104°54'26.459"W	0.00	
5013.00†	12.000	150.400	4938.41	-636.07	-635.27	360.89	40°02'40.319"N	104°54'26.327"W	0.00	
5113.00†	12.000	150.400	5036.23	-654.17	-653.35	371.15	40°02'40.140"N	104°54'26.195"W	0.00	
5213.00†	12.000	150.400	5134.04	-672.27	-671.43	381.42	40°02'39.962"N	104°54'26.063"W	0.00	
5313.00†	12.000	150.400	5231.86	-690.37	-689.51	391.69	40°02'39.783"N	104°54'25.931"W	0.00	
5331.55†	12.000	150.400	5250.00	-693.73	-692.86	393.60	40°02'39.750"N	104°54'25.906"W	0.00	SHANNON
5413.00†	12.000	150.400	5329.67	-708.47	-707.58	401.96	40°02'39.604"N	104°54'25.799"W	0.00	
5513.00†	12.000	150.400	5427.49	-726.57	-725.66	412.23	40°02'39.426"N	104°54'25.667"W	0.00	
5613.00†	12.000	150.400	5525.30	-744.67	-743.74	422.50	40°02'39.247"N	104°54'25.534"W	0.00	
5713.00†	12.000	150.400	5623.11	-762.77	-761.82	432.77	40°02'39.068"N	104°54'25.402"W	0.00	
5813.00†	12.000	150.400	5720.93	-780.88	-779.90	443.04	40°02'38.890"N	104°54'25.270"W	0.00	
5909.17	12.000	150.400	5815.00	-798.28	-797.28	452.92	40°02'38.718"N	104°54'25.143"W	0.00	BEGIN DROP
5913.00†	11.923	150.400	5818.74	-798.97	-797.97	453.31	40°02'38.711"N	104°54'25.138"W	2.00	
6013.00†	9.923	150.400	5916.93	-815.47	-814.45	462.67	40°02'38.548"N	104°54'25.018"W	2.00	
6113.00†	7.923	150.400	6015.71	-828.97	-827.93	470.33	40°02'38.415"N	104°54'24.920"W	2.00	
6213.00†	5.923	150.400	6114.98	-839.47	-838.41	476.29	40°02'38.312"N	104°54'24.843"W	2.00	
6313.00†	3.923	150.400	6214.60	-846.94	-845.88	480.52	40°02'38.238"N	104°54'24.788"W	2.00	
6413.00†	1.923	150.400	6314.47	-851.38	-850.31	483.04	40°02'38.194"N	104°54'24.756"W	2.00	
6509.17	0.000	359.873	6410.62	-852.78	-851.71	483.84	40°02'38.180"N	104°54'24.746"W	2.00	END DROP
6513.00†	0.000	359.873	6414.45	-852.78	-851.71	483.84	40°02'38.180"N	104°54'24.746"W	0.00	
6613.00†	0.000	359.873	6514.45	-852.78	-851.71	483.84	40°02'38.180"N	104°54'24.746"W	0.00	
6713.00†	0.000	359.873	6614.45	-852.78	-851.71	483.84	40°02'38.180"N	104°54'24.746"W	0.00	
6813.00†	0.000	359.873	6714.45	-852.78	-851.71	483.84	40°02'38.180"N	104°54'24.746"W	0.00	
6913.00†	0.000	359.873	6814.45	-852.78	-851.71	483.84	40°02'38.180"N	104°54'24.746"W	0.00	
7013.00†	0.000	359.873	6914.45	-852.78	-851.71	483.84	40°02'38.180"N	104°54'24.746"W	0.00	
7029.61	0.000	359.873	6931.06	-852.78	-851.71	483.84	40°02'38.180"N	104°54'24.746"W	0.00	KOP, BUILD @ 10°/100'
7113.00†	8.339	359.873	7014.16	-846.73	-845.66	483.83	40°02'38.240"N	104°54'24.746"W	10.00	
7213.00†	18.339	359.873	7111.34	-823.69	-822.61	483.78	40°02'38.468"N	104°54'24.747"W	10.00	
7313.00†	28.339	359.873	7203.04	-784.12	-783.05	483.69	40°02'38.859"N	104°54'24.748"W	10.00	
7413.00†	38.339	359.873	7286.47	-729.23	-728.16	483.57	40°02'39.401"N	104°54'24.749"W	10.00	
7469.51†	43.990	359.873	7329.00	-692.05	-690.98	483.49	40°02'39.769"N	104°54'24.750"W	10.00	SHARON SPRINGS
7513.00†	48.339	359.873	7359.11	-660.69	-659.62	483.42	40°02'40.078"N	104°54'24.751"W	10.00	
7515.85†	48.623	359.873	7361.00	-658.55	-657.48	483.41	40°02'40.100"N	104°54'24.751"W	10.00	NIOBRARA
7613.00†	58.339	359.873	7418.75	-580.57	-579.50	483.24	40°02'40.870"N	104°54'24.753"W	10.00	
7713.00†	68.339	359.873	7463.56	-491.32	-490.25	483.04	40°02'41.752"N	104°54'24.756"W	10.00	
7785.53†	75.592	359.873	7486.00	-422.39	-421.33	482.89	40°02'42.433"N	104°54'24.758"W	10.00	NIOBRARA B
7813.00†	78.339	359.873	7492.19	-395.64	-394.57	482.83	40°02'42.698"N	104°54'24.759"W	10.00	



Planned Wellpath Report

UNDERHILL 1N-17HZ (PERMIT REV-2) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#05 UNDERHILL 1N-17HZ (908'FSL & 992'FEL,SEC.17)
Area	COLORADO	Well	UNDERHILL 1N-17HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	UNDERHILL 1N-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†	88.339	359.873	7503.78	-296.44	-295.37	482.61	40°02'43.678"N	104°54'24.761"W	10.00	
7924.56	89.495	359.873	7504.00	-284.88	-283.81	482.59	40°02'43.792"N	104°54'24.762"W	10.00	LANDING POINT
8013.00†	89.495	359.873	7504.78	-196.44	-195.37	482.39	40°02'44.666"N	104°54'24.764"W	0.00	
8113.00†	89.495	359.873	7505.66	-96.45	-95.38	482.17	40°02'45.654"N	104°54'24.767"W	0.00	
8213.00†	89.495	359.873	7506.54	3.55	4.62	481.95	40°02'46.643"N	104°54'24.770"W	0.00	
8313.00†	89.495	359.873	7507.42	103.55	104.61	481.73	40°02'47.631"N	104°54'24.773"W	0.00	
8413.00†	89.495	359.873	7508.31	203.54	204.61	481.51	40°02'48.619"N	104°54'24.776"W	0.00	
8513.00†	89.495	359.873	7509.19	303.54	304.61	481.29	40°02'49.607"N	104°54'24.778"W	0.00	
8613.00†	89.495	359.873	7510.07	403.53	404.60	481.07	40°02'50.595"N	104°54'24.781"W	0.00	
8713.00†	89.495	359.873	7510.95	503.53	504.60	480.85	40°02'51.584"N	104°54'24.784"W	0.00	
8813.00†	89.495	359.873	7511.83	603.53	604.59	480.62	40°02'52.572"N	104°54'24.787"W	0.00	
8913.00†	89.495	359.873	7512.71	703.52	704.59	480.40	40°02'53.560"N	104°54'24.790"W	0.00	
9013.00†	89.495	359.873	7513.60	803.52	804.59	480.18	40°02'54.548"N	104°54'24.792"W	0.00	
9113.00†	89.495	359.873	7514.48	903.52	904.58	479.96	40°02'55.536"N	104°54'24.795"W	0.00	
9213.00†	89.495	359.873	7515.36	1003.51	1004.58	479.74	40°02'56.524"N	104°54'24.798"W	0.00	
9313.00†	89.495	359.873	7516.24	1103.51	1104.57	479.52	40°02'57.513"N	104°54'24.801"W	0.00	
9413.00†	89.495	359.873	7517.12	1203.50	1204.57	479.30	40°02'58.501"N	104°54'24.804"W	0.00	
9513.00†	89.495	359.873	7518.01	1303.50	1304.56	479.08	40°02'59.489"N	104°54'24.807"W	0.00	
9613.00†	89.495	359.873	7518.89	1403.50	1404.56	478.86	40°03'00.477"N	104°54'24.809"W	0.00	
9713.00†	89.495	359.873	7519.77	1503.49	1504.56	478.64	40°03'01.465"N	104°54'24.812"W	0.00	
9813.00†	89.495	359.873	7520.65	1603.49	1604.55	478.42	40°03'02.454"N	104°54'24.815"W	0.00	
9913.00†	89.495	359.873	7521.53	1703.48	1704.55	478.20	40°03'03.442"N	104°54'24.818"W	0.00	
10013.00†	89.495	359.873	7522.41	1803.48	1804.54	477.97	40°03'04.430"N	104°54'24.821"W	0.00	
10113.00†	89.495	359.873	7523.30	1903.48	1904.54	477.75	40°03'05.418"N	104°54'24.823"W	0.00	
10213.00†	89.495	359.873	7524.18	2003.47	2004.54	477.53	40°03'06.406"N	104°54'24.826"W	0.00	
10313.00†	89.495	359.873	7525.06	2103.47	2104.53	477.31	40°03'07.394"N	104°54'24.829"W	0.00	
10413.00†	89.495	359.873	7525.94	2203.46	2204.53	477.09	40°03'08.383"N	104°54'24.832"W	0.00	
10513.00†	89.495	359.873	7526.82	2303.46	2304.52	476.87	40°03'09.371"N	104°54'24.835"W	0.00	
10613.00†	89.495	359.873	7527.71	2403.46	2404.52	476.65	40°03'10.359"N	104°54'24.837"W	0.00	
10713.00†	89.495	359.873	7528.59	2503.45	2504.52	476.43	40°03'11.347"N	104°54'24.840"W	0.00	
10813.00†	89.495	359.873	7529.47	2603.45	2604.51	476.21	40°03'12.335"N	104°54'24.843"W	0.00	
10913.00†	89.495	359.873	7530.35	2703.45	2704.51	475.99	40°03'13.324"N	104°54'24.846"W	0.00	
11013.00†	89.495	359.873	7531.23	2803.44	2804.50	475.77	40°03'14.312"N	104°54'24.849"W	0.00	
11113.00†	89.495	359.873	7532.11	2903.44	2904.50	475.55	40°03'15.300"N	104°54'24.852"W	0.00	
11213.00†	89.495	359.873	7533.00	3003.43	3004.49	475.32	40°03'16.288"N	104°54'24.854"W	0.00	
11313.00†	89.495	359.873	7533.88	3103.43	3104.49	475.10	40°03'17.276"N	104°54'24.857"W	0.00	
11413.00†	89.495	359.873	7534.76	3203.43	3204.49	474.88	40°03'18.264"N	104°54'24.860"W	0.00	
11513.00†	89.495	359.873	7535.64	3303.42	3304.48	474.66	40°03'19.253"N	104°54'24.863"W	0.00	
11613.00†	89.495	359.873	7536.52	3403.42	3404.48	474.44	40°03'20.241"N	104°54'24.866"W	0.00	
11713.00†	89.495	359.873	7537.40	3503.41	3504.47	474.22	40°03'21.229"N	104°54'24.868"W	0.00	
11813.00†	89.495	359.873	7538.29	3603.41	3604.47	474.00	40°03'22.217"N	104°54'24.871"W	0.00	
11913.00†	89.495	359.873	7539.17	3703.41	3704.47	473.78	40°03'23.205"N	104°54'24.874"W	0.00	
12013.00†	89.495	359.873	7540.05	3803.40	3804.46	473.56	40°03'24.194"N	104°54'24.877"W	0.00	
12113.00†	89.495	359.873	7540.93	3903.40	3904.46	473.34	40°03'25.182"N	104°54'24.880"W	0.00	
12120.72	89.495	359.873	7541.00 ¹	3911.12	3912.18	473.32	40°03'25.258"N	104°54'24.880"W	0.00	TOTAL DEPTH



Planned Wellpath Report

UNDERHILL 1N-17HZ (PERMIT REV-2) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#05 UNDERHILL 1N-17HZ (908'FSL & 992'FEL,SEC.17)
Area	COLORADO	Well	UNDERHILL 1N-17HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	UNDERHILL 1N-17HZ PWB
Facility	SEC.17-T1N-R67W		

HOLE & CASING SECTIONS - Ref Wellbore: UNDERHILL 1N-17HZ PWB Ref Wellpath: UNDERHILL 1N-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	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	7924.56	7007.56	917.00	7504.00	0.00	0.00	-283.81	482.59
7in Casing Intermediate	13.00	7924.56	7911.56	13.00	7504.00	0.00	0.00	-283.81	482.59
6.125in Open Hole	7924.56	12120.72	4196.16	7504.00	7541.00	-283.81	482.59	3912.18	473.32
4.5in Casing Production	13.00	12120.72	12107.72	13.00	7541.00	0.00	0.00	3912.18	473.32

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	-56.44	-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	-56.44	-528.33	3165040.71	1260196.51	40°02'46.039"N	104°54'37.760"W	polygon
1) UNDERHILL 1N-17HZ BHL ON PLAT REV-2 (460'FNL & 510'FEL,SEC.17)	12120.72	7541.00	3912.18	473.32	3166015.83	1264171.56	40°03'25.258"N	104°54'24.880"W	point
UNDERHILL 1N-17HZ BHL ON PLAT REV-1 (460'FNL & 510'FEL,SEC.17)		7546.00	3912.18	473.32	3166015.83	1264171.56	40°03'25.258"N	104°54'24.880"W	point

SURVEY PROGRAM - Ref Wellbore: UNDERHILL 1N-17HZ PWB Ref Wellpath: UNDERHILL 1N-17HZ (PERMIT REV-2) PWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
13.00	7924.56	NaviTrak (Standard)		UNDERHILL 1N-17HZ PWB
7924.56	12120.72	OnTrak (Standard)		UNDERHILL 1N-17HZ PWB



Planned Wellpath Report

UNDERHILL 1N-17HZ (PERMIT REV-2) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#05 UNDERHILL 1N-17HZ (908'FSL & 992'FEL,SEC.17)
Area	COLORADO	Well	UNDERHILL 1N-17HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	UNDERHILL 1N-17HZ PWB
Facility	SEC.17-T1N-R67W		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
4708.94	12.000	150.400	4641.00	SUSSEX
5331.55	12.000	150.400	5250.00	SHANNON
7469.51	43.990	359.873	7329.00	SHARON SPRINGS
7515.85	48.623	359.873	7361.00	NIOBRARA
7785.53	75.592	359.873	7486.00	NIOBRARA B