

# KERR-MCGEE OIL & GAS ONSHORE LP\_1



Location: Compass Import Slot: SLOT#02 POWERS 13N-22HZ  
Field: WELD COUNTY (UTM (ZONE 13)/NAD83/TRUE NORTH) Well: POWERS 13N-22HZ  
Facility: 2N-65W-22 Offsets Wellbore: POWERS 13N-22HZ PWB

Plot reference wellpath is POWERS 13N-22HZ (PERMIT REV-3) PWB

True vertical depths are referenced to PERMIT (17KB) (RKB) Grid System: NAD83 / UTM Zone 13 North, US feet  
Measured depths are referenced to PERMIT (17KB) (RKB) North Reference: True north  
PERMIT (17KB) (RKB) to Mean Sea Level: 4900 feet Scale: Grid distance  
Mean Sea Level to Mud line (At Slot: SLOT#02 POWERS 13N-22HZ): 0 feet Depths are in feet  
Coordinates are in feet referenced to Slot Created by: precain on 2/9/2015

## Location Information

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
2N-65W-22 Offsets			1738275.355	14569566.651	40°07'01.553"N	104°38'59.892"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#02 POWERS 13N-22HZ	4455.43	-1101.88	1737155.951	14574017.704	40°07'45.599"N	104°39'14.083"W
PERMIT (17KB) (RKB) to Mud line (At Slot: SLOT#02 POWERS 13N-22HZ)					4900ft	
Mean Sea Level to Mud line (At Slot: SLOT#02 POWERS 13N-22HZ)					0ft	
PERMIT (17KB) (RKB) to Mean Sea Level					4900ft	

## Survey Program

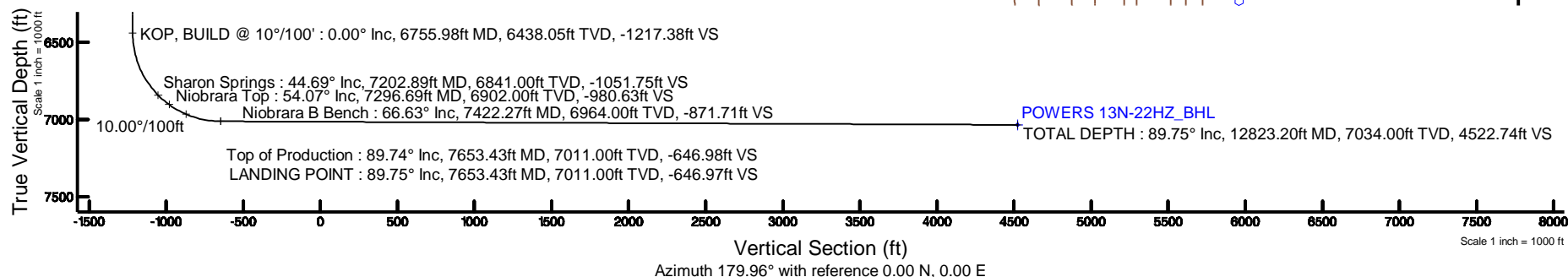
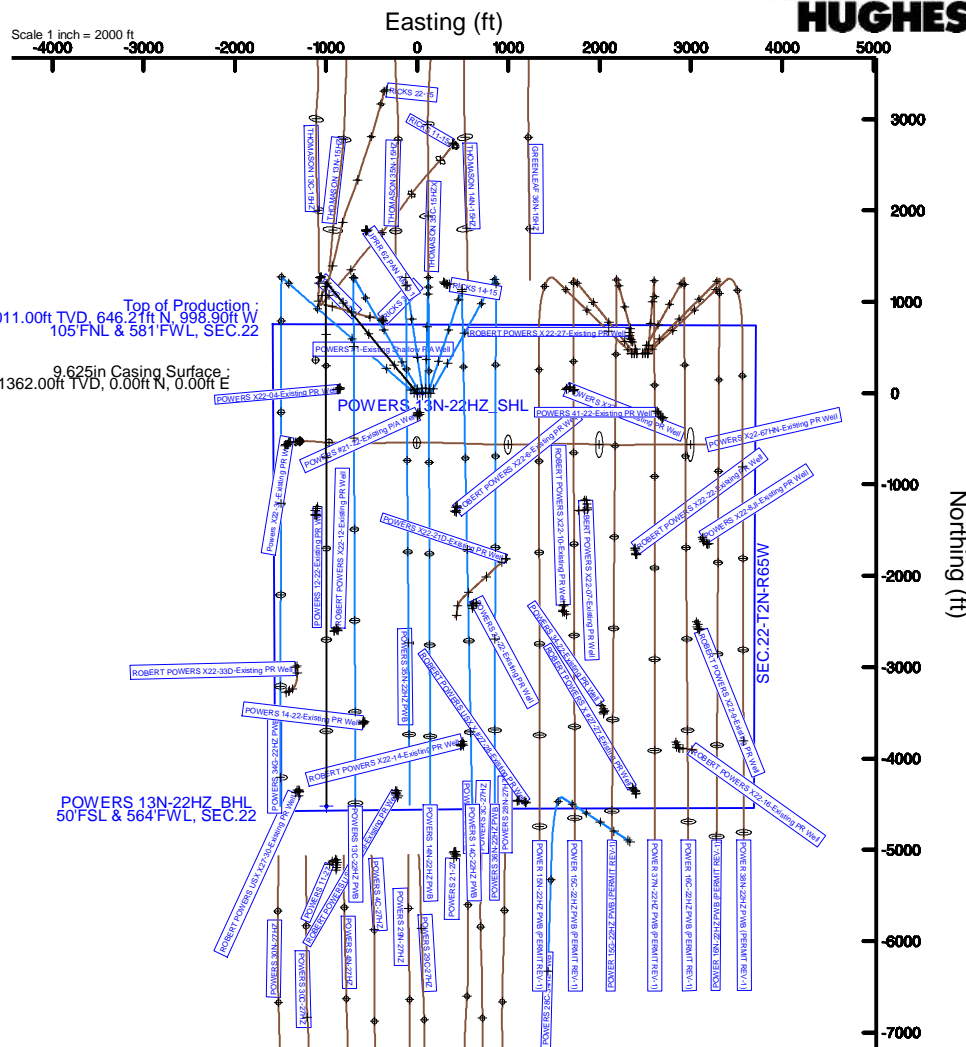
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
17.00	12823.20	ISCWSA MWD, Rev. 2, axial magnetic correction	ISCWSA MWD, Rev. 2, axial magnetic correction (Standard) (MagVAR IPR Wattenberg)		POWERS 13N-22HZ PWB

## Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
TIE-ON	17.00	0.000	320.600	17.00	0.00	0.00	0.00	0.00
BEGIN NUDGE	1450.00	0.000	320.600	1450.00	0.00	0.00	0.00	0.00
END NUDGE	2750.00	26.000	320.600	2705.84	224.04	-184.03	2.00	-224.18
BEGIN DROP	5018.77	26.000	320.600	4745.00	992.57	-815.31	0.00	-993.20
END DROP	6318.77	0.000	179.956	6000.84	1216.62	-999.34	2.00	-1217.38
KOP, BUILD @ 10°/100'	6755.98	0.000	179.956	6438.05	1216.62	-999.34	0.00	-1217.38
LANDING POINT	7653.43	89.745	179.956	7011.00	646.21	-998.90	10.00	-646.97
TOTAL DEPTH	12823.20	89.745	179.956	7034.00	-4523.50	-994.91	0.00	4522.74

## Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
POWERS 13N-22HZ_SHL		4900.00	0.00	0.00	1737155.95	14574017.70	40°07'45.599"N	104°39'14.083"W
SEC.22-T2N-R65W		4900.00	0.00	60.10	1737216.05	14574017.94	40°07'45.599"N	104°39'13.309"W
POWERS 13N-22HZ_BHL	12823.20	7034.00	-4523.50	-994.91	1736178.66	14569490.37	40°07'00.880"N	104°39'26.894"W



Azimuth 179.96° with reference 0.00 N, 0.00 E

# Planned Wellpath Report

POWERS 13N-22HZ (PERMIT REV-3) PWP

Page 1 of 6

## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP_1	Slot	SLOT#02 POWERS 13N-22HZ
Area	Compass Import	Well	POWERS 13N-22HZ
Field	WELD COUNTY (UTM (ZONE 13)/NAD83/TRUE NORTH)	Wellbore	POWERS 13N-22HZ PWB
Facility	2N-65W-22 Offsets		

## REPORT SETUP INFORMATION

Projection System	NAD83 / UTM Zone 13 North, US feet	Software System	WellArchitect® 4.1.1
North Reference	True	User	Precain
Scale	0.999611	Report Generated	4/28/2015 at 1:19:41 PM
Convergence at slot	0.22° East	Database/Source file	WellArchitectDC/POWERS_13N-22HZ_PWB.xml

## WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	4455.43	-1101.88	1737155.95	14574017.70	40°07'45.599"N	104°39'14.083"W
Facility Reference Pt			1738275.36	14569566.65	40°07'01.553"N	104°38'59.892"W
Field Reference Pt			1700626.56	14568707.73	40°06'54.245"N	104°47'04.711"W

## WELLPATH DATUM

Calculation method	Minimum curvature	PERMIT (17'KB) (RKB) to 2N-65W-22 Offsets vertical datum	4900.00ft
Horizontal Reference Pt	Slot	PERMIT (17'KB) (RKB) to Mean Sea Level	4900.00ft
Vertical Reference Pt	PERMIT (17'KB) (RKB)	PERMIT (17'KB) (RKB) to Mud Line at Slot (SLOT#02 POWERS 13N-22HZ)	4900.00ft
MD Reference Pt	PERMIT (17'KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	179.96°

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP_1	Slot	SLOT#02 POWERS 13N-22HZ
Area	Compass Import	Well	POWERS 13N-22HZ
Field	WELD COUNTY (UTM (ZONE 13)/NAD83/TRUE NORTH)	Wellbore	POWERS 13N-22HZ PWB
Facility	2N-65W-22 Offsets		

WELLPATH DATA (143 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	320.600	0.00	0.00	0.00	0.00	40°07'45.599"N	104°39'14.083"W	0.00	
17.00	0.000	320.600	17.00	0.00	0.00	0.00	40°07'45.599"N	104°39'14.083"W	0.00	TIE-ON
117.00†	0.000	320.600	117.00	0.00	0.00	0.00	40°07'45.599"N	104°39'14.083"W	0.00	
217.00†	0.000	320.600	217.00	0.00	0.00	0.00	40°07'45.599"N	104°39'14.083"W	0.00	
317.00†	0.000	320.600	317.00	0.00	0.00	0.00	40°07'45.599"N	104°39'14.083"W	0.00	
417.00†	0.000	320.600	417.00	0.00	0.00	0.00	40°07'45.599"N	104°39'14.083"W	0.00	
517.00†	0.000	320.600	517.00	0.00	0.00	0.00	40°07'45.599"N	104°39'14.083"W	0.00	
617.00†	0.000	320.600	617.00	0.00	0.00	0.00	40°07'45.599"N	104°39'14.083"W	0.00	
717.00†	0.000	320.600	717.00	0.00	0.00	0.00	40°07'45.599"N	104°39'14.083"W	0.00	
817.00†	0.000	320.600	817.00	0.00	0.00	0.00	40°07'45.599"N	104°39'14.083"W	0.00	
917.00†	0.000	320.600	917.00	0.00	0.00	0.00	40°07'45.599"N	104°39'14.083"W	0.00	
1017.00†	0.000	320.600	1017.00	0.00	0.00	0.00	40°07'45.599"N	104°39'14.083"W	0.00	
1117.00†	0.000	320.600	1117.00	0.00	0.00	0.00	40°07'45.599"N	104°39'14.083"W	0.00	
1217.00†	0.000	320.600	1217.00	0.00	0.00	0.00	40°07'45.599"N	104°39'14.083"W	0.00	
1312.00†	0.000	320.600	1312.00	0.00	0.00	0.00	40°07'45.599"N	104°39'14.083"W	0.00	Fox Hills Marker
1317.00†	0.000	320.600	1317.00	0.00	0.00	0.00	40°07'45.599"N	104°39'14.083"W	0.00	
1417.00†	0.000	320.600	1417.00	0.00	0.00	0.00	40°07'45.599"N	104°39'14.083"W	0.00	
1450.00	0.000	320.600	1450.00	0.00	0.00	0.00	40°07'45.599"N	104°39'14.083"W	0.00	BEGIN NUDGE
1517.00†	1.340	320.600	1516.99	-0.61	0.61	-0.50	40°07'45.605"N	104°39'14.089"W	2.00	
1617.00†	3.340	320.600	1616.91	-3.76	3.76	-3.09	40°07'45.636"N	104°39'14.123"W	2.00	
1717.00†	5.340	320.600	1716.61	-9.61	9.61	-7.89	40°07'45.694"N	104°39'14.185"W	2.00	
1817.00†	7.340	320.600	1816.00	-18.15	18.14	-14.90	40°07'45.778"N	104°39'14.275"W	2.00	
1917.00†	9.340	320.600	1914.93	-29.37	29.35	-24.11	40°07'45.889"N	104°39'14.393"W	2.00	
2017.00†	11.340	320.600	2013.31	-43.24	43.22	-35.50	40°07'46.026"N	104°39'14.540"W	2.00	
2117.00†	13.340	320.600	2110.99	-59.77	59.73	-49.06	40°07'46.189"N	104°39'14.715"W	2.00	
2217.00†	15.340	320.600	2207.87	-78.92	78.87	-64.78	40°07'46.379"N	104°39'14.917"W	2.00	
2317.00†	17.340	320.600	2303.83	-100.67	100.61	-82.64	40°07'46.594"N	104°39'15.147"W	2.00	
2417.00†	19.340	320.600	2398.74	-125.00	124.92	-102.61	40°07'46.834"N	104°39'15.405"W	2.00	
2517.00†	21.340	320.600	2492.50	-151.87	151.78	-124.67	40°07'47.099"N	104°39'15.689"W	2.00	
2617.00†	23.340	320.600	2584.99	-181.26	181.15	-148.80	40°07'47.390"N	104°39'15.999"W	2.00	
2717.00†	25.340	320.600	2676.10	-213.13	213.00	-174.96	40°07'47.705"N	104°39'16.336"W	2.00	
2750.00	26.000	320.600	2705.84	-224.18	224.04	-184.03	40°07'47.814"N	104°39'16.453"W	2.00	END NUDGE
2817.00†	26.000	320.600	2766.06	-246.89	246.74	-202.67	40°07'48.038"N	104°39'16.693"W	0.00	
2917.00†	26.000	320.600	2855.94	-280.79	280.61	-230.50	40°07'48.373"N	104°39'17.052"W	0.00	
3017.00†	26.000	320.600	2945.82	-314.68	314.49	-258.32	40°07'48.708"N	104°39'17.410"W	0.00	
3117.00†	26.000	320.600	3035.70	-348.58	348.36	-286.15	40°07'49.043"N	104°39'17.768"W	0.00	
3217.00†	26.000	320.600	3125.58	-382.48	382.24	-313.97	40°07'49.378"N	104°39'18.127"W	0.00	
3317.00†	26.000	320.600	3215.46	-416.37	416.11	-341.80	40°07'49.713"N	104°39'18.485"W	0.00	
3417.00†	26.000	320.600	3305.34	-450.27	449.98	-369.62	40°07'50.047"N	104°39'18.843"W	0.00	
3517.00†	26.000	320.600	3395.22	-484.16	483.86	-397.45	40°07'50.382"N	104°39'19.202"W	0.00	
3617.00†	26.000	320.600	3485.10	-518.06	517.73	-425.27	40°07'50.717"N	104°39'19.560"W	0.00	
3717.00†	26.000	320.600	3574.97	-551.95	551.61	-453.10	40°07'51.052"N	104°39'19.919"W	0.00	
3817.00†	26.000	320.600	3664.85	-585.85	585.48	-480.92	40°07'51.387"N	104°39'20.277"W	0.00	
3917.00†	26.000	320.600	3754.73	-619.75	619.36	-508.74	40°07'51.722"N	104°39'20.635"W	0.00	
4017.00†	26.000	320.600	3844.61	-653.64	653.23	-536.57	40°07'52.057"N	104°39'20.994"W	0.00	

# Planned Wellpath Report

POWERS 13N-22HZ (PERMIT REV-3) PWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP_1	Slot	SLOT#02 POWERS 13N-22HZ
Area	Compass Import	Well	POWERS 13N-22HZ
Field	WELD COUNTY (UTM (ZONE 13)/NAD83/TRUE NORTH)	Wellbore	POWERS 13N-22HZ PWB
Facility	2N-65W-22 Offsets		

WELLPATH DATA (143 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4117.00†	26.000	320.600	3934.49	-687.54	687.10	-564.39	40°07'52.392"N	104°39'21.352"W	0.00	
4217.00†	26.000	320.600	4024.37	-721.43	720.98	-592.22	40°07'52.726"N	104°39'21.710"W	0.00	
4317.00†	26.000	320.600	4114.25	-755.33	754.85	-620.04	40°07'53.061"N	104°39'22.069"W	0.00	
4417.00†	26.000	320.600	4204.13	-789.23	788.73	-647.87	40°07'53.396"N	104°39'22.427"W	0.00	
4517.00†	26.000	320.600	4294.01	-823.12	822.60	-675.69	40°07'53.731"N	104°39'22.786"W	0.00	
4595.98†	26.000	320.600	4365.00	-849.89	849.36	-697.67	40°07'53.996"N	104°39'23.069"W	0.00	Sussex
4617.00†	26.000	320.600	4383.89	-857.02	856.48	-703.52	40°07'54.066"N	104°39'23.144"W	0.00	
4717.00†	26.000	320.600	4473.77	-890.91	890.35	-731.34	40°07'54.401"N	104°39'23.502"W	0.00	
4817.00†	26.000	320.600	4563.65	-924.81	924.23	-759.17	40°07'54.736"N	104°39'23.861"W	0.00	
4917.00†	26.000	320.600	4653.53	-958.70	958.10	-786.99	40°07'55.071"N	104°39'24.219"W	0.00	
5017.00†	26.000	320.600	4743.41	-992.60	991.97	-814.82	40°07'55.405"N	104°39'24.577"W	0.00	
5018.77	26.000	320.600	4745.00	-993.20	992.57	-815.31	40°07'55.411"N	104°39'24.584"W	0.00	BEGIN DROP
5117.00†	24.035	320.600	4834.01	-1025.32	1024.67	-841.68	40°07'55.729"N	104°39'24.923"W	2.00	
5217.00†	22.035	320.600	4926.03	-1055.57	1054.91	-866.51	40°07'56.028"N	104°39'25.243"W	2.00	
5317.00†	20.035	320.600	5019.36	-1083.33	1082.64	-889.29	40°07'56.302"N	104°39'25.537"W	2.00	
5417.00†	18.035	320.600	5113.89	-1108.54	1107.85	-909.99	40°07'56.551"N	104°39'25.803"W	2.00	
5517.00†	16.035	320.600	5209.49	-1131.20	1130.48	-928.59	40°07'56.775"N	104°39'26.043"W	2.00	
5617.00†	14.035	320.600	5306.07	-1151.25	1150.53	-945.05	40°07'56.973"N	104°39'26.255"W	2.00	
5717.00†	12.035	320.600	5403.48	-1168.69	1167.96	-959.37	40°07'57.145"N	104°39'26.439"W	2.00	
5817.00†	10.035	320.600	5501.63	-1183.49	1182.75	-971.52	40°07'57.291"N	104°39'26.596"W	2.00	
5917.00†	8.035	320.600	5600.38	-1195.63	1194.88	-981.49	40°07'57.411"N	104°39'26.724"W	2.00	
6017.00†	6.035	320.600	5699.63	-1205.11	1204.35	-989.26	40°07'57.505"N	104°39'26.824"W	2.00	
6117.00†	4.035	320.600	5799.24	-1211.89	1211.13	-994.83	40°07'57.572"N	104°39'26.896"W	2.00	
6217.00†	2.035	320.600	5899.09	-1215.99	1215.22	-998.19	40°07'57.612"N	104°39'26.939"W	2.00	
6317.00†	0.035	320.600	5999.07	-1217.38	1216.62	-999.34	40°07'57.626"N	104°39'26.954"W	2.00	
6318.77	0.000	179.956	6000.84	-1217.38	1216.62	-999.34	40°07'57.626"N	104°39'26.954"W	2.00	END DROP
6417.00†	0.000	179.956	6099.07	-1217.38	1216.62	-999.34	40°07'57.626"N	104°39'26.954"W	0.00	
6517.00†	0.000	179.956	6199.07	-1217.38	1216.62	-999.34	40°07'57.626"N	104°39'26.954"W	0.00	
6617.00†	0.000	179.956	6299.07	-1217.38	1216.62	-999.34	40°07'57.626"N	104°39'26.954"W	0.00	
6717.00†	0.000	179.956	6399.07	-1217.38	1216.62	-999.34	40°07'57.626"N	104°39'26.954"W	0.00	
6755.98	0.000	179.956	6438.05	-1217.38	1216.62	-999.34	40°07'57.626"N	104°39'26.954"W	0.00	KOP, BUILD @ 10°/100'
6817.00†	6.102	179.956	6498.95	-1214.14	1213.37	-999.34	40°07'57.594"N	104°39'26.954"W	10.00	
6917.00†	16.102	179.956	6596.96	-1194.91	1194.14	-999.32	40°07'57.404"N	104°39'26.954"W	10.00	
7017.00†	26.102	179.956	6690.13	-1158.95	1158.18	-999.29	40°07'57.049"N	104°39'26.953"W	10.00	
7117.00†	36.102	179.956	6775.65	-1107.36	1106.59	-999.25	40°07'56.539"N	104°39'26.953"W	10.00	
7202.89†	44.691	179.956	6841.00	-1051.75	1050.98	-999.21	40°07'55.989"N	104°39'26.952"W	10.00	Sharon Springs
7217.00†	46.102	179.956	6850.91	-1041.70	1040.94	-999.20	40°07'55.889"N	104°39'26.952"W	10.00	
7296.69†	54.071	179.956	6902.00	-980.63	979.86	-999.16	40°07'55.286"N	104°39'26.952"W	10.00	Niobrara Top
7317.00†	56.102	179.956	6913.62	-963.98	963.21	-999.14	40°07'55.121"N	104°39'26.951"W	10.00	
7417.00†	66.102	179.956	6961.89	-876.54	875.77	-999.08	40°07'54.257"N	104°39'26.951"W	10.00	
7422.27†	66.629	179.956	6964.00	-871.71	870.94	-999.07	40°07'54.209"N	104°39'26.950"W	10.00	Niobrara B Bench
7517.00†	76.102	179.956	6994.23	-782.05	781.28	-999.00	40°07'53.323"N	104°39'26.950"W	10.00	
7617.00†	86.102	179.956	7009.68	-683.38	682.61	-998.93	40°07'52.347"N	104°39'26.949"W	10.00	
7653.43†	89.745	179.956	7011.00	-646.98	646.21	-998.90	40°07'51.987"N	104°39'26.948"W	10.00	Top of Production
7653.43	89.745	179.956	7011.00	-646.97	646.21	-998.90	40°07'51.987"N	104°39'26.948"W	10.00	LANDING POINT

REFERENCE WELLPATH IDENTIFICATION			
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Area	Compass Import	Well	POWERS 13N-22HZ
Field	WELD COUNTY (UTM (ZONE 13)/NAD83/TRUE NORTH)	Wellbore	POWERS 13N-22HZ PWB
Facility	2N-65W-22 Offsets		

WELLPATH DATA (143 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7717.00†	89.745	179.956	7011.29	-583.41	582.64	-998.85	40°07'51.359"N	104°39'26.947"W	0.00	
7817.00†	89.745	179.956	7011.73	-483.41	482.64	-998.77	40°07'50.370"N	104°39'26.946"W	0.00	
7917.00†	89.745	179.956	7012.18	-383.41	382.64	-998.70	40°07'49.382"N	104°39'26.945"W	0.00	
8017.00†	89.745	179.956	7012.62	-283.41	282.64	-998.62	40°07'48.393"N	104°39'26.944"W	0.00	
8117.00†	89.745	179.956	7013.07	-183.41	182.65	-998.54	40°07'47.404"N	104°39'26.943"W	0.00	
8217.00†	89.745	179.956	7013.51	-83.41	82.65	-998.46	40°07'46.416"N	104°39'26.942"W	0.00	
8317.00†	89.745	179.956	7013.95	16.59	-17.35	-998.39	40°07'45.427"N	104°39'26.941"W	0.00	
8417.00†	89.745	179.956	7014.40	116.58	-117.35	-998.31	40°07'44.439"N	104°39'26.940"W	0.00	
8517.00†	89.745	179.956	7014.84	216.58	-217.35	-998.23	40°07'43.450"N	104°39'26.939"W	0.00	
8617.00†	89.745	179.956	7015.29	316.58	-317.35	-998.16	40°07'42.462"N	104°39'26.938"W	0.00	
8717.00†	89.745	179.956	7015.73	416.58	-417.35	-998.08	40°07'41.473"N	104°39'26.937"W	0.00	
8817.00†	89.745	179.956	7016.18	516.58	-517.35	-998.00	40°07'40.484"N	104°39'26.936"W	0.00	
8917.00†	89.745	179.956	7016.62	616.58	-617.35	-997.92	40°07'39.496"N	104°39'26.935"W	0.00	
9017.00†	89.745	179.956	7017.07	716.58	-717.34	-997.85	40°07'38.507"N	104°39'26.934"W	0.00	
9117.00†	89.745	179.956	7017.51	816.58	-817.34	-997.77	40°07'37.519"N	104°39'26.933"W	0.00	
9217.00†	89.745	179.956	7017.96	916.58	-917.34	-997.69	40°07'36.530"N	104°39'26.932"W	0.00	
9317.00†	89.745	179.956	7018.40	1016.58	-1017.34	-997.62	40°07'35.541"N	104°39'26.931"W	0.00	
9417.00†	89.745	179.956	7018.85	1116.57	-1117.34	-997.54	40°07'34.553"N	104°39'26.930"W	0.00	
9517.00†	89.745	179.956	7019.29	1216.57	-1217.34	-997.46	40°07'33.564"N	104°39'26.929"W	0.00	
9617.00†	89.745	179.956	7019.74	1316.57	-1317.34	-997.38	40°07'32.576"N	104°39'26.928"W	0.00	
9717.00†	89.745	179.956	7020.18	1416.57	-1417.34	-997.31	40°07'31.587"N	104°39'26.927"W	0.00	
9817.00†	89.745	179.956	7020.63	1516.57	-1517.34	-997.23	40°07'30.598"N	104°39'26.926"W	0.00	
9917.00†	89.745	179.956	7021.07	1616.57	-1617.34	-997.15	40°07'29.610"N	104°39'26.924"W	0.00	
10017.00†	89.745	179.956	7021.52	1716.57	-1717.33	-997.08	40°07'28.621"N	104°39'26.923"W	0.00	
10117.00†	89.745	179.956	7021.96	1816.57	-1817.33	-997.00	40°07'27.633"N	104°39'26.922"W	0.00	
10217.00†	89.745	179.956	7022.41	1916.57	-1917.33	-996.92	40°07'26.644"N	104°39'26.921"W	0.00	
10317.00†	89.745	179.956	7022.85	2016.57	-2017.33	-996.84	40°07'25.656"N	104°39'26.920"W	0.00	
10417.00†	89.745	179.956	7023.30	2116.56	-2117.33	-996.77	40°07'24.667"N	104°39'26.919"W	0.00	
10517.00†	89.745	179.956	7023.74	2216.56	-2217.33	-996.69	40°07'23.678"N	104°39'26.918"W	0.00	
10617.00†	89.745	179.956	7024.19	2316.56	-2317.33	-996.61	40°07'22.690"N	104°39'26.917"W	0.00	
10717.00†	89.745	179.956	7024.63	2416.56	-2417.33	-996.54	40°07'21.701"N	104°39'26.916"W	0.00	
10817.00†	89.745	179.956	7025.08	2516.56	-2517.33	-996.46	40°07'20.713"N	104°39'26.915"W	0.00	
10917.00†	89.745	179.956	7025.52	2616.56	-2617.33	-996.38	40°07'19.724"N	104°39'26.914"W	0.00	
11017.00†	89.745	179.956	7025.97	2716.56	-2717.32	-996.30	40°07'18.735"N	104°39'26.913"W	0.00	
11117.00†	89.745	179.956	7026.41	2816.56	-2817.32	-996.23	40°07'17.747"N	104°39'26.912"W	0.00	
11217.00†	89.745	179.956	7026.86	2916.56	-2917.32	-996.15	40°07'16.758"N	104°39'26.911"W	0.00	
11317.00†	89.745	179.956	7027.30	3016.56	-3017.32	-996.07	40°07'15.770"N	104°39'26.910"W	0.00	
11417.00†	89.745	179.956	7027.74	3116.55	-3117.32	-996.00	40°07'14.781"N	104°39'26.909"W	0.00	
11517.00†	89.745	179.956	7028.19	3216.55	-3217.32	-995.92	40°07'13.793"N	104°39'26.908"W	0.00	
11617.00†	89.745	179.956	7028.63	3316.55	-3317.32	-995.84	40°07'12.804"N	104°39'26.907"W	0.00	
11717.00†	89.745	179.956	7029.08	3416.55	-3417.32	-995.76	40°07'11.815"N	104°39'26.906"W	0.00	
11817.00†	89.745	179.956	7029.52	3516.55	-3517.32	-995.69	40°07'10.827"N	104°39'26.905"W	0.00	
11917.00†	89.745	179.956	7029.97	3616.55	-3617.32	-995.61	40°07'09.838"N	104°39'26.904"W	0.00	
12017.00†	89.745	179.956	7030.41	3716.55	-3717.31	-995.53	40°07'08.850"N	104°39'26.902"W	0.00	
12117.00†	89.745	179.956	7030.86	3816.55	-3817.31	-995.45	40°07'07.861"N	104°39'26.901"W	0.00	



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP_1	Slot	SLOT#02 POWERS 13N-22HZ
Area	Compass Import	Well	POWERS 13N-22HZ
Field	WELD COUNTY (UTM (ZONE 13)/NAD83/TRUE NORTH)	Wellbore	POWERS 13N-22HZ PWB
Facility	2N-65W-22 Offsets		

WELLPATH DATA (143 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12217.00†	89.745	179.956	7031.30	3916.55	-3917.31	-995.38	40°07'06.872"N	104°39'26.900"W	0.00	
12317.00†	89.745	179.956	7031.75	4016.55	-4017.31	-995.30	40°07'05.884"N	104°39'26.899"W	0.00	
12417.00†	89.745	179.956	7032.19	4116.54	-4117.31	-995.22	40°07'04.895"N	104°39'26.898"W	0.00	
12517.00†	89.745	179.956	7032.64	4216.54	-4217.31	-995.15	40°07'03.907"N	104°39'26.897"W	0.00	
12617.00†	89.745	179.956	7033.08	4316.54	-4317.31	-995.07	40°07'02.918"N	104°39'26.896"W	0.00	
12717.00†	89.745	179.956	7033.53	4416.54	-4417.31	-994.99	40°07'01.929"N	104°39'26.895"W	0.00	
12817.00†	89.745	179.956	7033.97	4516.54	-4517.31	-994.91	40°07'00.941"N	104°39'26.894"W	0.00	
12823.20	89.745	179.956	7034.00†	4522.74	-4523.50	-994.91	40°07'00.880"N	104°39'26.894"W	0.00	TOTAL DEPTH

HOLE & CASING SECTIONS										
- Ref Wellbore: POWERS 13N-22HZ PWB      Ref Wellpath: POWERS 13N-22HZ (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	17.00	1362.00	1345.00	17.00	1362.00	0.00	0.00	0.00	0.00	
9.625in Casing Surface	17.00	1362.00	1345.00	17.00	1362.00	0.00	0.00	0.00	0.00	
8.5in Open Hole	1362.00	12823.20	11461.20	1362.00	7034.00	0.00	0.00	-4523.50	-994.91	
5.5in Casing Production	17.00	12823.20	12806.20	17.00	7034.00	0.00	0.00	-4523.50	-994.91	

TARGETS										
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape	
POWERS 13N-22HZ_SHL		4900.00	0.00	0.00	1737155.95	14574017.70	40°07'45.599"N	104°39'14.083"W	point	
SEC.22-T2N-R65W		4900.00	0.00	60.10	1737216.05	14574017.94	40°07'45.599"N	104°39'13.309"W	polygon	
1) POWERS 13N-22HZ_BHL	12823.20	7034.00	-4523.50	-994.91	1736178.66	14569490.37	40°07'00.880"N	104°39'26.894"W	point	

SURVEY PROGRAM - Ref Wellbore: POWERS 13N-22HZ PWB      Ref Wellpath: POWERS 13N-22HZ (PERMIT REV-3) PWP										
Start MD [ft]	End MD [ft]	Positional Uncertainty Model					Log Name/Comment		Wellbore	
17.00	12823.20	ISCWSA MWD, Rev. 2, axial magnetic correction (Standard) (MagVAR IFR Wattenberg)							POWERS 13N-22HZ PWB	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP_1	Slot	SLOT#02 POWERS 13N-22HZ
Area	Compass Import	Well	POWERS 13N-22HZ
Field	WELD COUNTY (UTM (ZONE 13)/NAD83/TRUE NORTH)	Wellbore	POWERS 13N-22HZ PWB
Facility	2N-65W-22 Offsets		

WELLPATH COMMENTS					
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment	
1312.00	0.000	320.600	1312.00	Fox Hills Marker	
4595.98	26.000	320.600	4365.00	Sussex	
7202.89	44.691	179.956	6841.00	Sharon Springs	
7296.69	54.071	179.956	6902.00	Niobrara Top	
7422.27	66.629	179.956	6964.00	Niobrara B Bench	
7653.43	89.745	179.956	7011.00	Top of Production	

DESIGN COMMENTS					
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment	
17.00	0.000	320.600	17.00	TIE-ON	
1450.00	0.000	320.600	1450.00	BEGIN NUDGE	
2750.00	26.000	320.600	2705.84	END NUDGE	
5018.77	26.000	320.600	4745.00	BEGIN DROP	
6318.77	0.000	179.956	6000.84	END DROP	
6755.98	0.000	179.956	6438.05	KOP, BUILD @ 10°/100'	
7653.43	89.745	179.956	7011.00	LANDING POINT	
12823.20	89.745	179.956	7034.00	TOTAL DEPTH	