

KERR-MCGEE OIL & GAS ONSHORE LP_1



Location: Compass Import Slot: SLOT#03 POWERS 13C-22HZ
Field: WELD COUNTY (UTM (ZONE 13)/NAD83/TRUE NORTH) Well: POWERS 13C-22HZ
Facility: 2N-65W-22 Offsets Wellbore: POWERS 13C-22HZ PWB

Plot reference wellpath is POWERS 13C-22HZ (PERMIT REV-4) PWP

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#03 POWERS 13C-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#03 POWERS 13C-22HZ	4455.43	-1071.67	1737186.155	14574017.821	40°07'45.599"N	104°39'13.694"W
PERMIT (17KB) (RKB) to Mud line (At Slot: SLOT#03 POWERS 13C-22HZ)					4900ft	
Mean Sea Level to Mud line (At Slot: SLOT#03 POWERS 13C-22HZ)					0ft	
PERMIT (17KB) (RKB) to Mean Sea Level					4900ft	

Survey Program

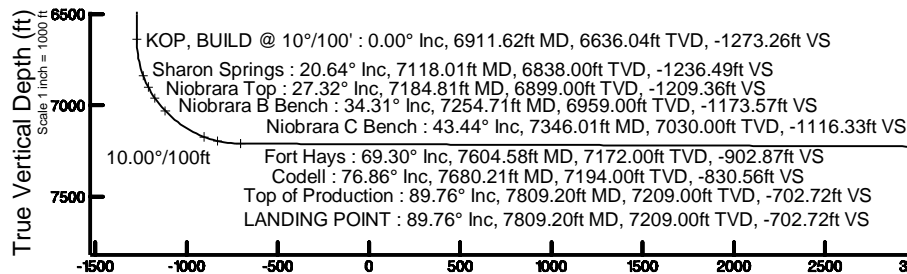
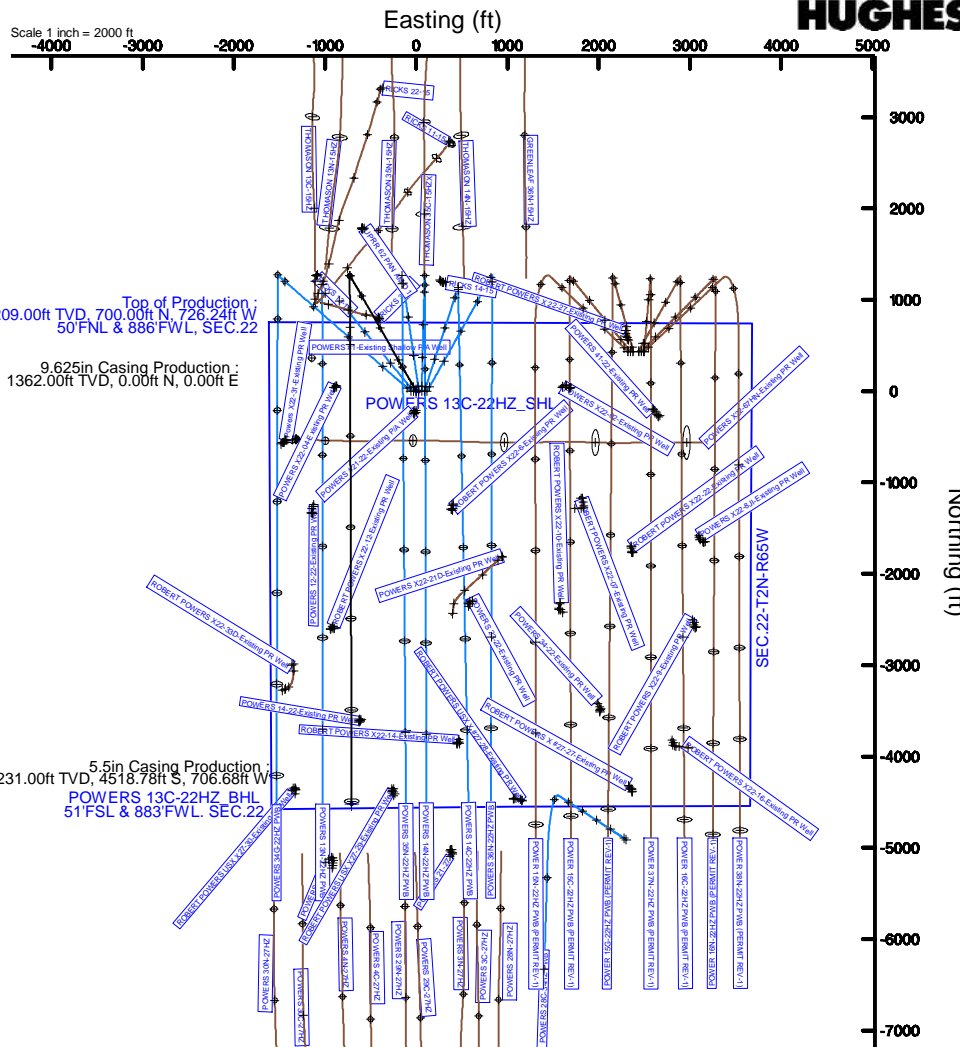
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
17.00	13028.07	ISOWSA MWD, Rev. 2, axial magnetic correction	ISOWSA MWD, Rev. 2, axial magnetic correction (Standard) (Mag/VAR IFR Wattenberg)		POWERS 13C-22HZ PWB

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	330.175	17.00	0.00	0.00	0.00	0.00
BEGIN NUDGE	1450.00	0.000	330.175	1450.00	0.00	0.00	0.00	0.00
END NUDGE	2650.00	24.000	330.175	2615.21	214.87	-123.18	2.00	-215.33
BEGIN DROP	5032.79	24.000	330.175	4792.00	1055.67	-605.20	0.00	-1057.93
END DROP	6232.79	0.000	179.785	5957.21	1270.54	-728.38	2.00	-1273.26
KOP, BUILD @ 10°/100'	6911.62	0.000	179.785	6636.04	1270.54	-728.38	0.00	-1273.26
LANDING POINT	7809.20	89.758	179.785	7209.00	700.00	-726.24	10.00	-702.72
TOTAL DEPTH	13028.07	89.758	179.785	7231.00	-4518.78	-706.68	0.00	4516.10

Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
POWERS 13C-22HZ_SHL		4900.00	0.00	0.00	1737186.16	14574017.82	40°07'45.599"N	104°39'13.694"W
SEC.22-T2N-R65W		4900.00	0.00	29.89	1737216.05	14574017.94	40°07'45.599"N	104°39'13.309"W
POWERS 13C-22HZ_BHL	13028.07	7231.00	-4518.78	-706.68	1736497.08	14569496.33	40°07'00.926"N	104°39'22.794"W



Vertical Section (ft)
Azimuth 179.79° with reference 0.00 N, 0.00 E

POWERS 13C-22HZ_BHL
+ TOTAL DEPTH : 89.76° Inc, 13028.07ft MD, 7231.00ft TVD, 4516.10ft VS
5.5in Casing Production : 89.76° Inc, 13028.07ft MD, 7231.00ft TVD, 4516.10ft VS

Scale 1 inch = 1000 ft

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP_1	Slot	SLOT#03 POWERS 13C-22HZ
Area	Compass Import	Well	POWERS 13C-22HZ
Field	WELD COUNTY (UTM (ZONE 13)/NAD83/TRUE NORTH)	Wellbore	POWERS 13C-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 1:28:42 PM
Convergence at slot	0.22° East	Database/Source file	WellArchitectDC/POWERS_13C-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	-1071.67	1737186.16	14574017.82	40°07'45.599"N	104°39'13.694"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#03 POWERS 13C-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	179.79°

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Field	WELD COUNTY (UTM (ZONE 13)/NAD83/TRUE NORTH)	Wellbore	POWERS 13C-22HZ PWB
Facility	2N-65W-22 Offsets		

WELLPATH DATA (148 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	330.175	0.00	0.00	0.00	0.00	40°07'45.599"N	104°39'13.694"W	0.00	
17.00	0.000	330.175	17.00	0.00	0.00	0.00	40°07'45.599"N	104°39'13.694"W	0.00	TIE-ON
117.00†	0.000	330.175	117.00	0.00	0.00	0.00	40°07'45.599"N	104°39'13.694"W	0.00	
217.00†	0.000	330.175	217.00	0.00	0.00	0.00	40°07'45.599"N	104°39'13.694"W	0.00	
317.00†	0.000	330.175	317.00	0.00	0.00	0.00	40°07'45.599"N	104°39'13.694"W	0.00	
417.00†	0.000	330.175	417.00	0.00	0.00	0.00	40°07'45.599"N	104°39'13.694"W	0.00	
517.00†	0.000	330.175	517.00	0.00	0.00	0.00	40°07'45.599"N	104°39'13.694"W	0.00	
617.00†	0.000	330.175	617.00	0.00	0.00	0.00	40°07'45.599"N	104°39'13.694"W	0.00	
717.00†	0.000	330.175	717.00	0.00	0.00	0.00	40°07'45.599"N	104°39'13.694"W	0.00	
817.00†	0.000	330.175	817.00	0.00	0.00	0.00	40°07'45.599"N	104°39'13.694"W	0.00	
917.00†	0.000	330.175	917.00	0.00	0.00	0.00	40°07'45.599"N	104°39'13.694"W	0.00	
1017.00†	0.000	330.175	1017.00	0.00	0.00	0.00	40°07'45.599"N	104°39'13.694"W	0.00	
1117.00†	0.000	330.175	1117.00	0.00	0.00	0.00	40°07'45.599"N	104°39'13.694"W	0.00	
1217.00†	0.000	330.175	1217.00	0.00	0.00	0.00	40°07'45.599"N	104°39'13.694"W	0.00	
1312.00†	0.000	330.175	1312.00	0.00	0.00	0.00	40°07'45.599"N	104°39'13.694"W	0.00	Fox Hills Base
1317.00†	0.000	330.175	1317.00	0.00	0.00	0.00	40°07'45.599"N	104°39'13.694"W	0.00	
1417.00†	0.000	330.175	1417.00	0.00	0.00	0.00	40°07'45.599"N	104°39'13.694"W	0.00	
1450.00	0.000	330.175	1450.00	0.00	0.00	0.00	40°07'45.599"N	104°39'13.694"W	0.00	BEGIN NUDGE
1517.00†	1.340	330.175	1516.99	-0.68	0.68	-0.39	40°07'45.606"N	104°39'13.699"W	2.00	
1617.00†	3.340	330.175	1616.91	-4.23	4.22	-2.42	40°07'45.641"N	104°39'13.725"W	2.00	
1717.00†	5.340	330.175	1716.61	-10.81	10.79	-6.18	40°07'45.706"N	104°39'13.774"W	2.00	
1817.00†	7.340	330.175	1816.00	-20.41	20.37	-11.68	40°07'45.800"N	104°39'13.844"W	2.00	
1917.00†	9.340	330.175	1914.93	-33.02	32.95	-18.89	40°07'45.925"N	104°39'13.937"W	2.00	
2017.00†	11.340	330.175	2013.31	-48.62	48.52	-27.82	40°07'46.079"N	104°39'14.052"W	2.00	
2117.00†	13.340	330.175	2110.99	-67.20	67.06	-38.44	40°07'46.262"N	104°39'14.189"W	2.00	
2217.00†	15.340	330.175	2207.87	-88.74	88.55	-50.76	40°07'46.474"N	104°39'14.348"W	2.00	
2317.00†	17.340	330.175	2303.83	-113.19	112.95	-64.75	40°07'46.716"N	104°39'14.528"W	2.00	
2417.00†	19.340	330.175	2398.74	-140.55	140.25	-80.40	40°07'46.985"N	104°39'14.730"W	2.00	
2517.00†	21.340	330.175	2492.50	-170.77	170.40	-97.69	40°07'47.284"N	104°39'14.952"W	2.00	
2617.00†	23.340	330.175	2584.99	-203.81	203.38	-116.59	40°07'47.610"N	104°39'15.196"W	2.00	
2650.00	24.000	330.175	2615.21	-215.33	214.87	-123.18	40°07'47.723"N	104°39'15.280"W	2.00	END NUDGE
2717.00†	24.000	330.175	2676.42	-239.02	238.51	-136.73	40°07'47.957"N	104°39'15.455"W	0.00	
2817.00†	24.000	330.175	2767.78	-274.38	273.80	-156.96	40°07'48.306"N	104°39'15.716"W	0.00	
2917.00†	24.000	330.175	2859.13	-309.75	309.08	-177.19	40°07'48.655"N	104°39'15.976"W	0.00	
3017.00†	24.000	330.175	2950.49	-345.11	344.37	-197.42	40°07'49.003"N	104°39'16.237"W	0.00	
3117.00†	24.000	330.175	3041.84	-380.47	379.66	-217.65	40°07'49.352"N	104°39'16.497"W	0.00	
3217.00†	24.000	330.175	3133.19	-415.83	414.94	-237.88	40°07'49.701"N	104°39'16.758"W	0.00	
3317.00†	24.000	330.175	3224.55	-451.19	450.23	-258.11	40°07'50.050"N	104°39'17.018"W	0.00	
3417.00†	24.000	330.175	3315.90	-486.56	485.52	-278.34	40°07'50.399"N	104°39'17.279"W	0.00	
3517.00†	24.000	330.175	3407.26	-521.92	520.80	-298.57	40°07'50.748"N	104°39'17.539"W	0.00	
3617.00†	24.000	330.175	3498.61	-557.28	556.09	-318.80	40°07'51.096"N	104°39'17.800"W	0.00	
3717.00†	24.000	330.175	3589.97	-592.64	591.37	-339.03	40°07'51.445"N	104°39'18.060"W	0.00	
3817.00†	24.000	330.175	3681.32	-628.00	626.66	-359.26	40°07'51.794"N	104°39'18.321"W	0.00	
3917.00†	24.000	330.175	3772.68	-663.37	661.95	-379.48	40°07'52.143"N	104°39'18.582"W	0.00	
4017.00†	24.000	330.175	3864.03	-698.73	697.23	-399.71	40°07'52.492"N	104°39'18.842"W	0.00	

Planned Wellpath Report

POWERS 13C-22HZ (PERMIT REV-4) PWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP_1	Slot	SLOT#03 POWERS 13C-22HZ
Area	Compass Import	Well	POWERS 13C-22HZ
Field	WELD COUNTY (UTM (ZONE 13)/NAD83/TRUE NORTH)	Wellbore	POWERS 13C-22HZ PWB
Facility	2N-65W-22 Offsets		

WELLPATH DATA (148 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4117.00†	24.000	330.175	3955.39	-734.09	732.52	-419.94	40°07'52.841"N	104°39'19.103"W	0.00	
4217.00†	24.000	330.175	4046.74	-769.45	767.81	-440.17	40°07'53.189"N	104°39'19.363"W	0.00	
4317.00†	24.000	330.175	4138.09	-804.82	803.09	-460.40	40°07'53.538"N	104°39'19.624"W	0.00	
4417.00†	24.000	330.175	4229.45	-840.18	838.38	-480.63	40°07'53.887"N	104°39'19.884"W	0.00	
4517.00†	24.000	330.175	4320.80	-875.54	873.67	-500.86	40°07'54.236"N	104°39'20.145"W	0.00	
4565.38†	24.000	330.175	4365.00	-892.65	890.74	-510.65	40°07'54.405"N	104°39'20.271"W	0.00	Sussex
4617.00†	24.000	330.175	4412.16	-910.90	908.95	-521.09	40°07'54.585"N	104°39'20.405"W	0.00	
4717.00†	24.000	330.175	4503.51	-946.26	944.24	-541.32	40°07'54.934"N	104°39'20.666"W	0.00	
4817.00†	24.000	330.175	4594.87	-981.63	979.53	-561.55	40°07'55.282"N	104°39'20.926"W	0.00	
4917.00†	24.000	330.175	4686.22	-1016.99	1014.81	-581.78	40°07'55.631"N	104°39'21.187"W	0.00	
5017.00†	24.000	330.175	4777.58	-1052.35	1050.10	-602.01	40°07'55.980"N	104°39'21.448"W	0.00	
5032.79	24.000	330.175	4792.00	-1057.93	1055.67	-605.20	40°07'56.035"N	104°39'21.489"W	0.00	BEGIN DROP
5117.00†	22.316	330.175	4869.42	-1086.72	1084.40	-621.67	40°07'56.319"N	104°39'21.701"W	2.00	
5217.00†	20.316	330.175	4962.58	-1118.33	1115.93	-639.75	40°07'56.631"N	104°39'21.934"W	2.00	
5317.00†	18.316	330.175	5056.94	-1147.08	1144.63	-656.20	40°07'56.915"N	104°39'22.146"W	2.00	
5417.00†	16.316	330.175	5152.41	-1172.96	1170.45	-671.00	40°07'57.170"N	104°39'22.336"W	2.00	
5517.00†	14.316	330.175	5248.85	-1195.92	1193.36	-684.14	40°07'57.396"N	104°39'22.505"W	2.00	
5617.00†	12.316	330.175	5346.16	-1215.94	1213.34	-695.59	40°07'57.594"N	104°39'22.653"W	2.00	
5717.00†	10.316	330.175	5444.21	-1233.00	1230.36	-705.35	40°07'57.762"N	104°39'22.779"W	2.00	
5817.00†	8.316	330.175	5542.88	-1247.08	1244.41	-713.40	40°07'57.901"N	104°39'22.882"W	2.00	
5917.00†	6.316	330.175	5642.07	-1258.15	1255.45	-719.73	40°07'58.010"N	104°39'22.964"W	2.00	
6017.00†	4.316	330.175	5741.63	-1266.20	1263.49	-724.34	40°07'58.090"N	104°39'23.023"W	2.00	
6117.00†	2.316	330.175	5841.46	-1271.23	1268.51	-727.22	40°07'58.139"N	104°39'23.060"W	2.00	
6217.00†	0.316	330.175	5941.43	-1273.22	1270.50	-728.36	40°07'58.159"N	104°39'23.075"W	2.00	
6232.79	0.000	179.785	5957.21	-1273.26	1270.54	-728.38	40°07'58.159"N	104°39'23.075"W	2.00	END DROP
6317.00†	0.000	179.785	6041.43	-1273.26	1270.54	-728.38	40°07'58.159"N	104°39'23.075"W	0.00	
6417.00†	0.000	179.785	6141.43	-1273.26	1270.54	-728.38	40°07'58.159"N	104°39'23.075"W	0.00	
6517.00†	0.000	179.785	6241.43	-1273.26	1270.54	-728.38	40°07'58.159"N	104°39'23.075"W	0.00	
6617.00†	0.000	179.785	6341.43	-1273.26	1270.54	-728.38	40°07'58.159"N	104°39'23.075"W	0.00	
6717.00†	0.000	179.785	6441.43	-1273.26	1270.54	-728.38	40°07'58.159"N	104°39'23.075"W	0.00	
6817.00†	0.000	179.785	6541.43	-1273.26	1270.54	-728.38	40°07'58.159"N	104°39'23.075"W	0.00	
6911.62	0.000	179.785	6636.04	-1273.26	1270.54	-728.38	40°07'58.159"N	104°39'23.075"W	0.00	KOP, BUILD @ 10°/100'
6917.00†	0.538	179.785	6641.43	-1273.24	1270.51	-728.38	40°07'58.159"N	104°39'23.075"W	10.00	
7017.00†	10.538	179.785	6740.83	-1263.60	1260.87	-728.34	40°07'58.064"N	104°39'23.075"W	10.00	
7117.00†	20.538	179.785	6837.06	-1236.84	1234.12	-728.24	40°07'57.799"N	104°39'23.073"W	10.00	
7118.01†	20.639	179.785	6838.00	-1236.49	1233.77	-728.24	40°07'57.796"N	104°39'23.073"W	10.00	Sharon Springs
7184.81†	27.319	179.785	6899.00	-1209.36	1206.63	-728.14	40°07'57.528"N	104°39'23.072"W	10.00	Niobrara Top
7217.00†	30.538	179.785	6927.17	-1193.79	1191.06	-728.08	40°07'57.374"N	104°39'23.071"W	10.00	
7254.71†	34.310	179.785	6959.00	-1173.57	1170.85	-728.01	40°07'57.174"N	104°39'23.070"W	10.00	Niobrara B Bench
7317.00†	40.538	179.785	7008.44	-1135.74	1133.01	-727.86	40°07'56.800"N	104°39'23.069"W	10.00	
7346.01†	43.439	179.785	7030.00	-1116.33	1113.61	-727.79	40°07'56.608"N	104°39'23.068"W	10.00	Niobrara C Bench
7417.00†	50.538	179.785	7078.40	-1064.46	1061.73	-727.60	40°07'56.095"N	104°39'23.065"W	10.00	
7517.00†	60.538	179.785	7134.91	-982.11	979.39	-727.29	40°07'55.281"N	104°39'23.061"W	10.00	
7604.58†	69.296	179.785	7172.00	-902.87	900.15	-726.99	40°07'54.498"N	104°39'23.057"W	10.00	Fort Hays
7617.00†	70.538	179.785	7176.27	-891.20	888.48	-726.95	40°07'54.382"N	104°39'23.057"W	10.00	

Planned Wellpath Report

POWERS 13C-22HZ (PERMIT REV-4) PWP

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Facility	2N-65W-22 Offsets		

WELLPATH DATA (148 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7680.21†	76.860	179.785	7194.00	-830.56	827.84	-726.72	40°07'53.783"N	104°39'23.054"W	10.00	Codell
7717.00†	80.538	179.785	7201.21	-794.49	791.77	-726.59	40°07'53.426"N	104°39'23.052"W	10.00	
7809.20†	89.758	179.785	7209.00	-702.72	700.00	-726.24	40°07'52.519"N	104°39'23.048"W	10.00	Top of Production
7809.20	89.758	179.785	7209.00	-702.72	700.00	-726.24	40°07'52.519"N	104°39'23.048"W	10.00	LANDING POINT
7817.00†	89.758	179.785	7209.03	-694.92	692.20	-726.21	40°07'52.442"N	104°39'23.047"W	0.00	
7917.00†	89.758	179.785	7209.45	-594.92	592.20	-725.84	40°07'51.453"N	104°39'23.042"W	0.00	
8017.00†	89.758	179.785	7209.87	-494.92	492.21	-725.46	40°07'50.465"N	104°39'23.037"W	0.00	
8117.00†	89.758	179.785	7210.30	-394.93	392.21	-725.09	40°07'49.476"N	104°39'23.033"W	0.00	
8217.00†	89.758	179.785	7210.72	-294.93	292.21	-724.71	40°07'48.488"N	104°39'23.028"W	0.00	
8317.00†	89.758	179.785	7211.14	-194.93	192.21	-724.34	40°07'47.499"N	104°39'23.023"W	0.00	
8417.00†	89.758	179.785	7211.56	-94.93	92.21	-723.96	40°07'46.511"N	104°39'23.018"W	0.00	
8517.00†	89.758	179.785	7211.98	5.07	-7.79	-723.59	40°07'45.522"N	104°39'23.013"W	0.00	
8617.00†	89.758	179.785	7212.40	105.07	-107.78	-723.21	40°07'44.533"N	104°39'23.008"W	0.00	
8717.00†	89.758	179.785	7212.82	205.07	-207.78	-722.84	40°07'43.545"N	104°39'23.003"W	0.00	
8817.00†	89.758	179.785	7213.25	305.07	-307.78	-722.46	40°07'42.556"N	104°39'22.998"W	0.00	
8917.00†	89.758	179.785	7213.67	405.07	-407.78	-722.09	40°07'41.568"N	104°39'22.994"W	0.00	
9017.00†	89.758	179.785	7214.09	505.07	-507.78	-721.71	40°07'40.579"N	104°39'22.989"W	0.00	
9117.00†	89.758	179.785	7214.51	605.07	-607.78	-721.34	40°07'39.590"N	104°39'22.984"W	0.00	
9217.00†	89.758	179.785	7214.93	705.06	-707.78	-720.97	40°07'38.602"N	104°39'22.979"W	0.00	
9317.00†	89.758	179.785	7215.35	805.06	-807.77	-720.59	40°07'37.613"N	104°39'22.974"W	0.00	
9417.00†	89.758	179.785	7215.78	905.06	-907.77	-720.22	40°07'36.625"N	104°39'22.969"W	0.00	
9517.00†	89.758	179.785	7216.20	1005.06	-1007.77	-719.84	40°07'35.636"N	104°39'22.964"W	0.00	
9617.00†	89.758	179.785	7216.62	1105.06	-1107.77	-719.47	40°07'34.648"N	104°39'22.960"W	0.00	
9717.00†	89.758	179.785	7217.04	1205.06	-1207.77	-719.09	40°07'33.659"N	104°39'22.955"W	0.00	
9817.00†	89.758	179.785	7217.46	1305.06	-1307.77	-718.72	40°07'32.670"N	104°39'22.950"W	0.00	
9917.00†	89.758	179.785	7217.88	1405.06	-1407.76	-718.34	40°07'31.682"N	104°39'22.945"W	0.00	
10017.00†	89.758	179.785	7218.31	1505.06	-1507.76	-717.97	40°07'30.693"N	104°39'22.940"W	0.00	
10117.00†	89.758	179.785	7218.73	1605.06	-1607.76	-717.59	40°07'29.705"N	104°39'22.935"W	0.00	
10217.00†	89.758	179.785	7219.15	1705.06	-1707.76	-717.22	40°07'28.716"N	104°39'22.930"W	0.00	
10317.00†	89.758	179.785	7219.57	1805.05	-1807.76	-716.84	40°07'27.727"N	104°39'22.926"W	0.00	
10417.00†	89.758	179.785	7219.99	1905.05	-1907.76	-716.47	40°07'26.739"N	104°39'22.921"W	0.00	
10517.00†	89.758	179.785	7220.41	2005.05	-2007.75	-716.09	40°07'25.750"N	104°39'22.916"W	0.00	
10617.00†	89.758	179.785	7220.83	2105.05	-2107.75	-715.72	40°07'24.762"N	104°39'22.911"W	0.00	
10717.00†	89.758	179.785	7221.26	2205.05	-2207.75	-715.34	40°07'23.773"N	104°39'22.906"W	0.00	
10817.00†	89.758	179.785	7221.68	2305.05	-2307.75	-714.97	40°07'22.785"N	104°39'22.901"W	0.00	
10917.00†	89.758	179.785	7222.10	2405.05	-2407.75	-714.59	40°07'21.796"N	104°39'22.896"W	0.00	
11017.00†	89.758	179.785	7222.52	2505.05	-2507.75	-714.22	40°07'20.807"N	104°39'22.891"W	0.00	
11117.00†	89.758	179.785	7222.94	2605.05	-2607.74	-713.84	40°07'19.819"N	104°39'22.887"W	0.00	
11217.00†	89.758	179.785	7223.36	2705.05	-2707.74	-713.47	40°07'18.830"N	104°39'22.882"W	0.00	
11317.00†	89.758	179.785	7223.79	2805.05	-2807.74	-713.09	40°07'17.842"N	104°39'22.877"W	0.00	
11417.00†	89.758	179.785	7224.21	2905.05	-2907.74	-712.72	40°07'16.853"N	104°39'22.872"W	0.00	
11517.00†	89.758	179.785	7224.63	3005.04	-3007.74	-712.34	40°07'15.865"N	104°39'22.867"W	0.00	
11617.00†	89.758	179.785	7225.05	3105.04	-3107.74	-711.97	40°07'14.876"N	104°39'22.862"W	0.00	
11717.00†	89.758	179.785	7225.47	3205.04	-3207.74	-711.59	40°07'13.887"N	104°39'22.857"W	0.00	
11817.00†	89.758	179.785	7225.89	3305.04	-3307.73	-711.22	40°07'12.899"N	104°39'22.853"W	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP_1	Slot	SLOT#03 POWERS 13C-22HZ
Area	Compass Import	Well	POWERS 13C-22HZ
Field	WELD COUNTY (UTM (ZONE 13)/NAD83/TRUE NORTH)	Wellbore	POWERS 13C-22HZ PWB
Facility	2N-65W-22 Offsets		

WELLPATH DATA (148 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11917.00†	89.758	179.785	7226.32	3405.04	-3407.73	-710.84	40°07'11.910"N	104°39'22.848"W	0.00	
12017.00†	89.758	179.785	7226.74	3505.04	-3507.73	-710.47	40°07'10.922"N	104°39'22.843"W	0.00	
12117.00†	89.758	179.785	7227.16	3605.04	-3607.73	-710.09	40°07'09.933"N	104°39'22.838"W	0.00	
12217.00†	89.758	179.785	7227.58	3705.04	-3707.73	-709.72	40°07'08.944"N	104°39'22.833"W	0.00	
12317.00†	89.758	179.785	7228.00	3805.04	-3807.73	-709.35	40°07'07.956"N	104°39'22.828"W	0.00	
12417.00†	89.758	179.785	7228.42	3905.04	-3907.72	-708.97	40°07'06.967"N	104°39'22.823"W	0.00	
12517.00†	89.758	179.785	7228.85	4005.04	-4007.72	-708.60	40°07'05.979"N	104°39'22.818"W	0.00	
12617.00†	89.758	179.785	7229.27	4105.03	-4107.72	-708.22	40°07'04.990"N	104°39'22.814"W	0.00	
12717.00†	89.758	179.785	7229.69	4205.03	-4207.72	-707.85	40°07'04.002"N	104°39'22.809"W	0.00	
12817.00†	89.758	179.785	7230.11	4305.03	-4307.72	-707.47	40°07'03.013"N	104°39'22.804"W	0.00	
12917.00†	89.758	179.785	7230.53	4405.03	-4407.72	-707.10	40°07'02.024"N	104°39'22.799"W	0.00	
13017.00†	89.758	179.785	7230.95	4505.03	-4507.71	-706.72	40°07'01.036"N	104°39'22.794"W	0.00	
13028.07	89.758	179.785	7231.00†	4516.10	-4518.78	-706.68	40°07'00.926"N	104°39'22.794"W	0.00	TOTAL DEPTH

HOLE & CASING SECTIONS									
- Ref Wellbore: POWERS 13C-22HZ PWB					Ref Wellpath: POWERS 13C-22HZ (PERMIT REV-4) 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 Production	17.00	1362.00	1345.00	17.00	1362.00	0.00	0.00	0.00	0.00
8.5in Open Hole	1362.00	13028.07	11666.07	1362.00	7231.00	0.00	0.00	-4518.78	-706.68
5.5in Casing Production	17.00	13028.07	13011.07	17.00	7231.00	0.00	0.00	-4518.78	-706.68

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
POWERS 13C-22HZ_SHL		4900.00	0.00	0.00	1737186.16	14574017.82	40°07'45.599"N	104°39'13.694"W	point
SEC.22-T2N-R65W		4900.00	0.00	29.89	1737216.05	14574017.94	40°07'45.599"N	104°39'13.309"W	polygon
1) POWERS 13C-22HZ_BHL	13028.07	7231.00	-4518.78	-706.68	1736497.08	14569496.33	40°07'00.926"N	104°39'22.794"W	point

SURVEY PROGRAM - Ref Wellbore: POWERS 13C-22HZ PWB Ref Wellpath: POWERS 13C-22HZ (PERMIT REV-4) PWP									
Start MD [ft]	End MD [ft]	Positional Uncertainty Model					Log Name/Comment	Wellbore	
17.00	13028.07	ISCWSA MWD, Rev. 2, axial magnetic correction (Standard) (MagVAR IFR Wattenberg)						POWERS 13C-22HZ PWB	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP_1	Slot	SLOT#03 POWERS 13C-22HZ
Area	Compass Import	Well	POWERS 13C-22HZ
Field	WELD COUNTY (UTM (ZONE 13)/NAD83/TRUE NORTH)	Wellbore	POWERS 13C-22HZ PWB
Facility	2N-65W-22 Offsets		

WELLPATH COMMENTS					
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment	
1312.00	0.000	330.175	1312.00	Fox Hills Base	
4565.38	24.000	330.175	4365.00	Sussex	
7118.01	20.639	179.785	6838.00	Sharon Springs	
7184.81	27.319	179.785	6899.00	Niobrara Top	
7254.71	34.310	179.785	6959.00	Niobrara B Bench	
7346.01	43.439	179.785	7030.00	Niobrara C Bench	
7604.58	69.296	179.785	7172.00	Fort Hays	
7680.21	76.860	179.785	7194.00	Codell	
7809.20	89.758	179.785	7209.00	Top of Production	

DESIGN COMMENTS					
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment	
17.00	0.000	330.175	17.00	TIE-ON	
1450.00	0.000	330.175	1450.00	BEGIN NUDGE	
2650.00	24.000	330.175	2615.21	END NUDGE	
5032.79	24.000	330.175	4792.00	BEGIN DROP	
6232.79	0.000	179.785	5957.21	END DROP	
6911.62	0.000	179.785	6636.04	KOP, BUILD @ 10°/100'	
7809.20	89.758	179.785	7209.00	LANDING POINT	
13028.07	89.758	179.785	7231.00	TOTAL DEPTH	