

KERR-MCGEE OIL & GAS ONSHORE LP_1



Location: Compass Import Slot: SLOT#05 POWERS 14N-22HZ
Field: WELD COUNTY (UTM (ZONE 13)/NAD83/TRUE NORTH) Well: POWERS 14N-22HZ
Facility: 2N-65W-22 Offsets Wellbore: POWERS 14N-22HZ PWB

Plot reference wellpath is POWERS 14N-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#05 POWERS 14N-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#05 POWERS 14N-22HZ	4455.43	-1011.57	1737246.253	14574018.055	40°07'45.599"N	104°39'12.920"W
PERMIT (17KB) (RKB) to Mud line (At Slot: SLOT#05 POWERS 14N-22HZ)					4900ft	
Mean Sea Level to Mud line (At Slot: SLOT#05 POWERS 14N-22HZ)					0ft	
PERMIT (17KB) (RKB) to Mean Sea Level					4900ft	

Survey Program

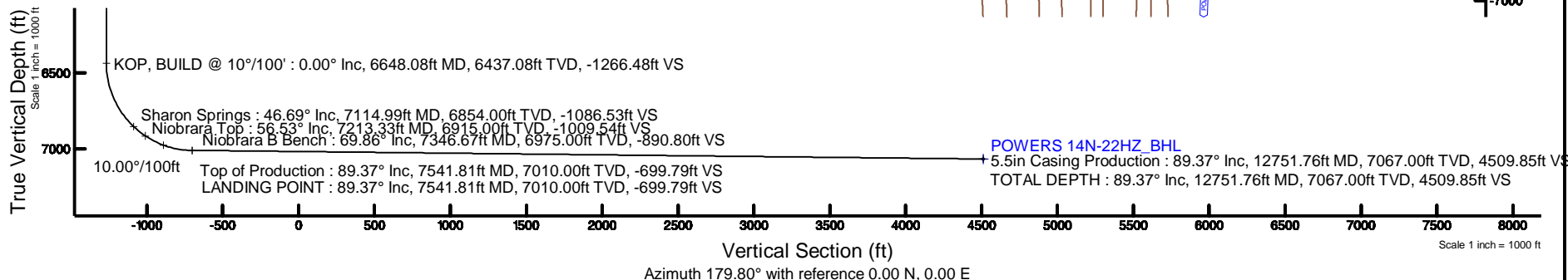
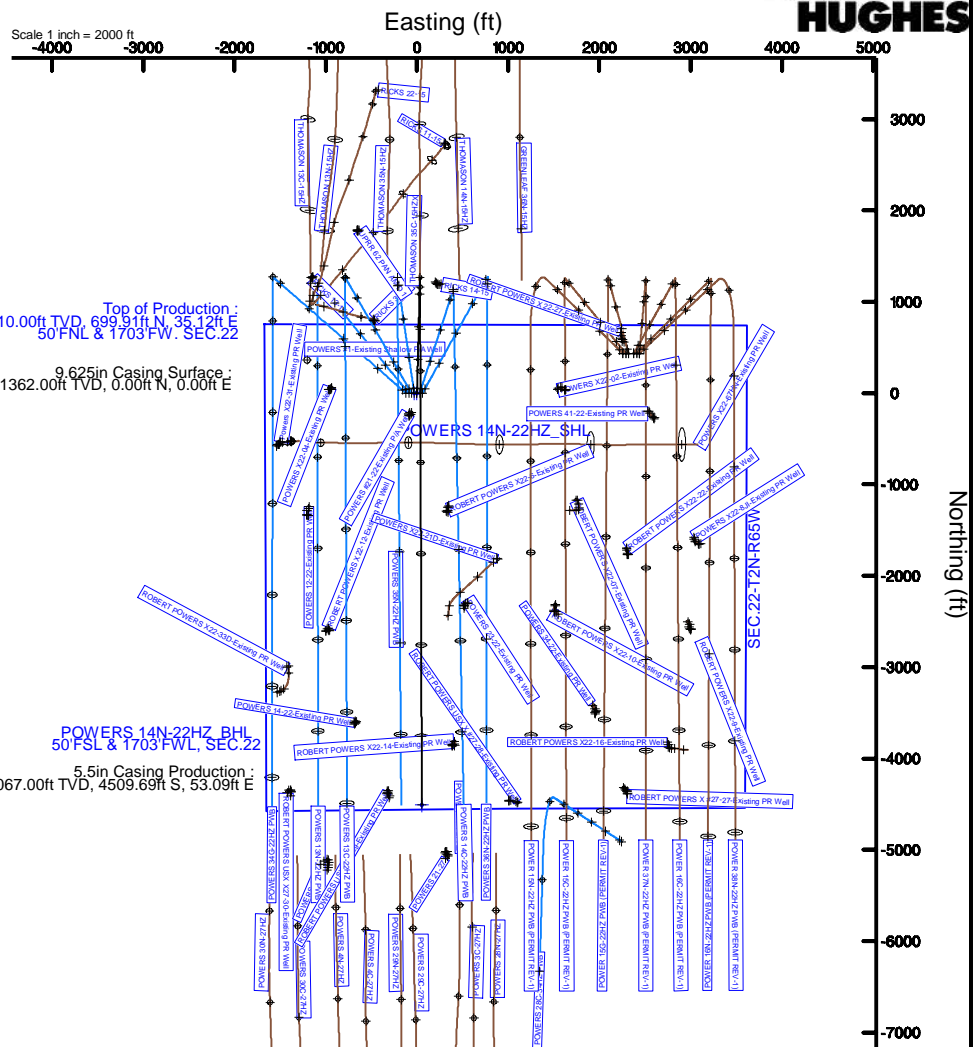
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
17.00	12751.76	ISOWSA MWD, Rev. 2, axial magnetic correction	ISOWSA MWD, Rev. 2, axial magnetic correction (Standard) (Mag/VAR IFR Wattenberg)		POWERS 14N-22HZ PWB

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	1.500	17.00	0.00	0.00	0.00	0.00
BEGIN NUDGE	1450.00	0.000	1.500	1450.00	0.00	0.00	0.00	0.00
END NUDGE	2500.00	21.000	1.500	2476.65	190.21	4.98	2.00	-190.19
BEGIN DROP	4973.65	21.000	1.500	4786.00	1076.39	28.19	0.00	-1076.28
END DROP	6023.65	0.000	179.802	5812.65	1266.60	33.17	2.00	-1266.48
KOP, BUILD @ 10°/100'	6648.08	0.000	179.802	6437.08	1266.60	33.17	0.00	-1266.48
LANDING POINT	7541.81	89.373	179.802	7010.00	699.91	35.12	10.00	-699.79
TOTAL DEPTH	12751.76	89.373	179.802	7067.00	-4509.69	53.09	0.00	4509.85

Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
POWERS 14N-22HZ_SHL		4900.00	0.00	0.00	1737246.25	14574018.06	40°07'45.599"N	104°39'12.920"W
SEC.22-T2N-R65W		4900.00	0.00	-30.20	1737216.05	14574017.94	40°07'45.599"N	104°39'13.309"W
POWERS 14N-22HZ_RHL	12751.76	7067.00	-4509.69	53.09	1737316.92	14569508.62	40°07'01.016"N	104°39'12.236"W



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP_1	Slot	SLOT#05 POWERS 14N-22HZ
Area	Compass Import	Well	POWERS 14N-22HZ
Field	WELD COUNTY (UTM (ZONE 13)/NAD83/TRUE NORTH)	Wellbore	POWERS 14N-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 1:45:19 PM
Convergence at slot	0.22° East	Database/Source file	WellArchitectDC/POWERS_14N-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	-1011.57	1737246.25	14574018.06	40°07'45.599"N	104°39'12.920"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#05 POWERS 14N-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	179.80°

Planned Wellpath Report

POWERS 14N-22HZ (PERMIT REV-3) PWP

Page 2 of 6

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP_1	Slot	SLOT#05 POWERS 14N-22HZ
Area	Compass Import	Well	POWERS 14N-22HZ
Field	WELD COUNTY (UTM (ZONE 13)/NAD83/TRUE NORTH)	Wellbore	POWERS 14N-22HZ PWB
Facility	2N-65W-22 Offsets		

WELLPATH DATA (142 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	1.500	0.00	0.00	0.00	0.00	40°07'45.599"N	104°39'12.920"W	0.00	
17.00	0.000	1.500	17.00	0.00	0.00	0.00	40°07'45.599"N	104°39'12.920"W	0.00	TIE-ON
117.00†	0.000	1.500	117.00	0.00	0.00	0.00	40°07'45.599"N	104°39'12.920"W	0.00	
217.00†	0.000	1.500	217.00	0.00	0.00	0.00	40°07'45.599"N	104°39'12.920"W	0.00	
317.00†	0.000	1.500	317.00	0.00	0.00	0.00	40°07'45.599"N	104°39'12.920"W	0.00	
417.00†	0.000	1.500	417.00	0.00	0.00	0.00	40°07'45.599"N	104°39'12.920"W	0.00	
517.00†	0.000	1.500	517.00	0.00	0.00	0.00	40°07'45.599"N	104°39'12.920"W	0.00	
617.00†	0.000	1.500	617.00	0.00	0.00	0.00	40°07'45.599"N	104°39'12.920"W	0.00	
717.00†	0.000	1.500	717.00	0.00	0.00	0.00	40°07'45.599"N	104°39'12.920"W	0.00	
817.00†	0.000	1.500	817.00	0.00	0.00	0.00	40°07'45.599"N	104°39'12.920"W	0.00	
917.00†	0.000	1.500	917.00	0.00	0.00	0.00	40°07'45.599"N	104°39'12.920"W	0.00	
1017.00†	0.000	1.500	1017.00	0.00	0.00	0.00	40°07'45.599"N	104°39'12.920"W	0.00	
1117.00†	0.000	1.500	1117.00	0.00	0.00	0.00	40°07'45.599"N	104°39'12.920"W	0.00	
1217.00†	0.000	1.500	1217.00	0.00	0.00	0.00	40°07'45.599"N	104°39'12.920"W	0.00	
1312.00†	0.000	1.500	1312.00	0.00	0.00	0.00	40°07'45.599"N	104°39'12.920"W	0.00	Fox Hills Base
1317.00†	0.000	1.500	1317.00	0.00	0.00	0.00	40°07'45.599"N	104°39'12.920"W	0.00	
1417.00†	0.000	1.500	1417.00	0.00	0.00	0.00	40°07'45.599"N	104°39'12.920"W	0.00	
1450.00	0.000	1.500	1450.00	0.00	0.00	0.00	40°07'45.599"N	104°39'12.920"W	0.00	BEGIN NUDGE
1517.00†	1.340	1.500	1516.99	-0.78	0.78	0.02	40°07'45.607"N	104°39'12.920"W	2.00	
1617.00†	3.340	1.500	1616.91	-4.86	4.86	0.13	40°07'45.647"N	104°39'12.918"W	2.00	
1717.00†	5.340	1.500	1716.61	-12.43	12.43	0.33	40°07'45.722"N	104°39'12.916"W	2.00	
1817.00†	7.340	1.500	1816.00	-23.47	23.47	0.61	40°07'45.831"N	104°39'12.912"W	2.00	
1917.00†	9.340	1.500	1914.93	-37.96	37.97	0.99	40°07'45.974"N	104°39'12.907"W	2.00	
2017.00†	11.340	1.500	2013.31	-55.90	55.91	1.46	40°07'46.152"N	104°39'12.901"W	2.00	
2117.00†	13.340	1.500	2110.99	-77.26	77.27	2.02	40°07'46.363"N	104°39'12.894"W	2.00	
2217.00†	15.340	1.500	2207.87	-102.02	102.03	2.67	40°07'46.608"N	104°39'12.886"W	2.00	
2317.00†	17.340	1.500	2303.83	-130.14	130.15	3.41	40°07'46.886"N	104°39'12.876"W	2.00	
2417.00†	19.340	1.500	2398.74	-161.59	161.60	4.23	40°07'47.197"N	104°39'12.865"W	2.00	
2500.00	21.000	1.500	2476.65	-190.19	190.21	4.98	40°07'47.479"N	104°39'12.856"W	2.00	END NUDGE
2517.00†	21.000	1.500	2492.52	-196.28	196.30	5.14	40°07'47.540"N	104°39'12.854"W	0.00	
2617.00†	21.000	1.500	2585.88	-232.11	232.13	6.08	40°07'47.894"N	104°39'12.842"W	0.00	
2717.00†	21.000	1.500	2679.24	-267.93	267.95	7.02	40°07'48.248"N	104°39'12.830"W	0.00	
2817.00†	21.000	1.500	2772.59	-303.75	303.78	7.95	40°07'48.602"N	104°39'12.818"W	0.00	
2917.00†	21.000	1.500	2865.95	-339.57	339.60	8.89	40°07'48.956"N	104°39'12.805"W	0.00	
3017.00†	21.000	1.500	2959.31	-375.39	375.43	9.83	40°07'49.310"N	104°39'12.793"W	0.00	
3117.00†	21.000	1.500	3052.67	-411.21	411.25	10.77	40°07'49.665"N	104°39'12.781"W	0.00	
3217.00†	21.000	1.500	3146.03	-447.03	447.07	11.71	40°07'50.019"N	104°39'12.769"W	0.00	
3317.00†	21.000	1.500	3239.38	-482.85	482.90	12.65	40°07'50.373"N	104°39'12.757"W	0.00	
3417.00†	21.000	1.500	3332.74	-518.67	518.72	13.58	40°07'50.727"N	104°39'12.745"W	0.00	
3517.00†	21.000	1.500	3426.10	-554.49	554.55	14.52	40°07'51.081"N	104°39'12.733"W	0.00	
3617.00†	21.000	1.500	3519.46	-590.32	590.37	15.46	40°07'51.435"N	104°39'12.721"W	0.00	
3717.00†	21.000	1.500	3612.82	-626.14	626.20	16.40	40°07'51.790"N	104°39'12.709"W	0.00	
3817.00†	21.000	1.500	3706.17	-661.96	662.02	17.34	40°07'52.144"N	104°39'12.697"W	0.00	
3917.00†	21.000	1.500	3799.53	-697.78	697.85	18.27	40°07'52.498"N	104°39'12.685"W	0.00	
4017.00†	21.000	1.500	3892.89	-733.60	733.67	19.21	40°07'52.852"N	104°39'12.673"W	0.00	

Planned Wellpath Report

POWERS 14N-22HZ (PERMIT REV-3) PWP

Page 3 of 6

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP_1	Slot	SLOT#05 POWERS 14N-22HZ
Area	Compass Import	Well	POWERS 14N-22HZ
Field	WELD COUNTY (UTM (ZONE 13)/NAD83/TRUE NORTH)	Wellbore	POWERS 14N-22HZ PWB
Facility	2N-65W-22 Offsets		

WELLPATH DATA (142 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4117.00†	21.000	1.500	3986.25	-769.42	769.50	20.15	40°07'53.206"N	104°39'12.660"W	0.00	
4217.00†	21.000	1.500	4079.61	-805.24	805.32	21.09	40°07'53.560"N	104°39'12.648"W	0.00	
4317.00†	21.000	1.500	4172.96	-841.06	841.14	22.03	40°07'53.915"N	104°39'12.636"W	0.00	
4417.00†	21.000	1.500	4266.32	-876.88	876.97	22.96	40°07'54.269"N	104°39'12.624"W	0.00	
4517.00†	21.000	1.500	4359.68	-912.71	912.79	23.90	40°07'54.623"N	104°39'12.612"W	0.00	
4522.70†	21.000	1.500	4365.00	-914.75	914.83	23.96	40°07'54.643"N	104°39'12.611"W	0.00	Sussex
4617.00†	21.000	1.500	4453.04	-948.53	948.62	24.84	40°07'54.977"N	104°39'12.600"W	0.00	
4717.00†	21.000	1.500	4546.40	-984.35	984.44	25.78	40°07'55.331"N	104°39'12.588"W	0.00	
4817.00†	21.000	1.500	4639.75	-1020.17	1020.27	26.72	40°07'55.685"N	104°39'12.576"W	0.00	
4917.00†	21.000	1.500	4733.11	-1055.99	1056.09	27.65	40°07'56.039"N	104°39'12.564"W	0.00	
4973.65	21.000	1.500	4786.00	-1076.28	1076.39	28.19	40°07'56.240"N	104°39'12.557"W	0.00	BEGIN DROP
5017.00†	20.133	1.500	4826.59	-1091.50	1091.61	28.58	40°07'56.391"N	104°39'12.552"W	2.00	
5117.00†	18.133	1.500	4921.06	-1124.26	1124.37	29.44	40°07'56.714"N	104°39'12.541"W	2.00	
5217.00†	16.133	1.500	5016.62	-1153.71	1153.82	30.21	40°07'57.006"N	104°39'12.531"W	2.00	
5317.00†	14.133	1.500	5113.14	-1179.80	1179.92	30.90	40°07'57.264"N	104°39'12.522"W	2.00	
5417.00†	12.133	1.500	5210.52	-1202.51	1202.63	31.49	40°07'57.488"N	104°39'12.514"W	2.00	
5517.00†	10.133	1.500	5308.64	-1221.81	1221.93	32.00	40°07'57.679"N	104°39'12.508"W	2.00	
5617.00†	8.133	1.500	5407.36	-1237.68	1237.80	32.41	40°07'57.836"N	104°39'12.503"W	2.00	
5717.00†	6.133	1.500	5506.58	-1250.09	1250.21	32.74	40°07'57.958"N	104°39'12.498"W	2.00	
5817.00†	4.133	1.500	5606.18	-1259.03	1259.15	32.97	40°07'58.047"N	104°39'12.495"W	2.00	
5917.00†	2.133	1.500	5706.02	-1264.49	1264.61	33.12	40°07'58.101"N	104°39'12.493"W	2.00	
6017.00†	0.133	1.500	5806.00	-1266.47	1266.59	33.17	40°07'58.120"N	104°39'12.493"W	2.00	
6023.65	0.000	179.802	5812.65	-1266.48	1266.60	33.17	40°07'58.121"N	104°39'12.493"W	2.00	END DROP
6117.00†	0.000	179.802	5906.00	-1266.48	1266.60	33.17	40°07'58.121"N	104°39'12.493"W	0.00	
6217.00†	0.000	179.802	6006.00	-1266.48	1266.60	33.17	40°07'58.121"N	104°39'12.493"W	0.00	
6317.00†	0.000	179.802	6106.00	-1266.48	1266.60	33.17	40°07'58.121"N	104°39'12.493"W	0.00	
6417.00†	0.000	179.802	6206.00	-1266.48	1266.60	33.17	40°07'58.121"N	104°39'12.493"W	0.00	
6517.00†	0.000	179.802	6306.00	-1266.48	1266.60	33.17	40°07'58.121"N	104°39'12.493"W	0.00	
6617.00†	0.000	179.802	6406.00	-1266.48	1266.60	33.17	40°07'58.121"N	104°39'12.493"W	0.00	
6648.08	0.000	179.802	6437.08	-1266.48	1266.60	33.17	40°07'58.121"N	104°39'12.493"W	0.00	KOP, BUILD @ 10°/100'
6717.00†	6.892	179.802	6505.83	-1262.34	1262.46	33.18	40°07'58.080"N	104°39'12.493"W	10.00	
6817.00†	16.892	179.802	6603.56	-1241.76	1241.88	33.25	40°07'57.876"N	104°39'12.492"W	10.00	
6917.00†	26.892	179.802	6696.23	-1204.52	1204.64	33.38	40°07'57.508"N	104°39'12.490"W	10.00	
7017.00†	36.892	179.802	6781.03	-1151.75	1151.88	33.56	40°07'56.986"N	104°39'12.488"W	10.00	
7114.99†	46.691	179.802	6854.00	-1086.53	1086.65	33.79	40°07'56.342"N	104°39'12.485"W	10.00	Sharon Springs
7117.00†	46.892	179.802	6855.38	-1085.06	1085.19	33.79	40°07'56.327"N	104°39'12.485"W	10.00	
7213.33†	56.525	179.802	6915.00	-1009.54	1009.67	34.05	40°07'55.581"N	104°39'12.481"W	10.00	Niobrara Top
7217.00†	56.892	179.802	6917.01	-1006.48	1006.60	34.06	40°07'55.550"N	104°39'12.481"W	10.00	
7317.00†	66.892	179.802	6964.07	-918.39	918.51	34.37	40°07'54.679"N	104°39'12.477"W	10.00	
7346.67†	69.859	179.802	6975.00	-890.80	890.93	34.46	40°07'54.407"N	104°39'12.476"W	10.00	Niobrara B Bench
7417.00†	76.892	179.802	6995.11	-823.46	823.58	34.69	40°07'53.741"N	104°39'12.473"W	10.00	
7517.00†	86.892	179.802	7009.19	-724.58	724.71	35.04	40°07'52.763"N	104°39'12.469"W	10.00	
7541.81†	89.373	179.802	7010.00	-699.79	699.91	35.12	40°07'52.518"N	104°39'12.468"W	10.00	Top of Production
7541.81	89.373	179.802	7010.00	-699.79	699.91	35.12	40°07'52.518"N	104°39'12.468"W	10.00	LANDING POINT
7617.00†	89.373	179.802	7010.82	-624.60	624.73	35.38	40°07'51.775"N	104°39'12.464"W	0.00	

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Field	WELD COUNTY (UTM (ZONE 13)/NAD83/TRUE NORTH)	Wellbore	POWERS 14N-22HZ PWB
Facility	2N-65W-22 Offsets		

WELLPATH DATA (142 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7717.00†	89.373	179.802	7011.92	-524.61	524.74	35.73	40°07'50.787"N	104°39'12.460"W	0.00	
7817.00†	89.373	179.802	7013.01	-424.62	424.74	36.07	40°07'49.798"N	104°39'12.455"W	0.00	
7917.00†	89.373	179.802	7014.11	-324.62	324.75	36.41	40°07'48.809"N	104°39'12.451"W	0.00	
8017.00†	89.373	179.802	7015.20	-224.63	224.76	36.76	40°07'47.821"N	104°39'12.447"W	0.00	
8117.00†	89.373	179.802	7016.29	-124.63	124.76	37.10	40°07'46.832"N	104°39'12.442"W	0.00	
8217.00†	89.373	179.802	7017.39	-24.64	24.77	37.45	40°07'45.844"N	104°39'12.438"W	0.00	
8317.00†	89.373	179.802	7018.48	75.35	-75.22	37.79	40°07'44.855"N	104°39'12.433"W	0.00	
8417.00†	89.373	179.802	7019.58	175.35	-175.22	38.14	40°07'43.867"N	104°39'12.429"W	0.00	
8517.00†	89.373	179.802	7020.67	275.34	-275.21	38.48	40°07'42.878"N	104°39'12.424"W	0.00	
8617.00†	89.373	179.802	7021.76	375.34	-375.20	38.83	40°07'41.890"N	104°39'12.420"W	0.00	
8717.00†	89.373	179.802	7022.86	475.33	-475.20	39.17	40°07'40.901"N	104°39'12.415"W	0.00	
8817.00†	89.373	179.802	7023.95	575.32	-575.19	39.52	40°07'39.913"N	104°39'12.411"W	0.00	
8917.00†	89.373	179.802	7025.05	675.32	-675.18	39.86	40°07'38.924"N	104°39'12.407"W	0.00	
9017.00†	89.373	179.802	7026.14	775.31	-775.18	40.21	40°07'37.936"N	104°39'12.402"W	0.00	
9117.00†	89.373	179.802	7027.23	875.31	-875.17	40.55	40°07'36.947"N	104°39'12.398"W	0.00	
9217.00†	89.373	179.802	7028.33	975.30	-975.17	40.90	40°07'35.959"N	104°39'12.393"W	0.00	
9317.00†	89.373	179.802	7029.42	1075.29	-1075.16	41.24	40°07'34.970"N	104°39'12.389"W	0.00	
9417.00†	89.373	179.802	7030.52	1175.29	-1175.15	41.59	40°07'33.982"N	104°39'12.384"W	0.00	
9517.00†	89.373	179.802	7031.61	1275.28	-1275.15	41.93	40°07'32.993"N	104°39'12.380"W	0.00	
9617.00†	89.373	179.802	7032.71	1375.28	-1375.14	42.28	40°07'32.004"N	104°39'12.376"W	0.00	
9717.00†	89.373	179.802	7033.80	1475.27	-1475.13	42.62	40°07'31.016"N	104°39'12.371"W	0.00	
9817.00†	89.373	179.802	7034.89	1575.26	-1575.13	42.97	40°07'30.027"N	104°39'12.367"W	0.00	
9917.00†	89.373	179.802	7035.99	1675.26	-1675.12	43.31	40°07'29.039"N	104°39'12.362"W	0.00	
10017.00†	89.373	179.802	7037.08	1775.25	-1775.11	43.66	40°07'28.050"N	104°39'12.358"W	0.00	
10117.00†	89.373	179.802	7038.18	1875.25	-1875.11	44.00	40°07'27.062"N	104°39'12.353"W	0.00	
10217.00†	89.373	179.802	7039.27	1975.24	-1975.10	44.35	40°07'26.073"N	104°39'12.349"W	0.00	
10317.00†	89.373	179.802	7040.36	2075.23	-2075.09	44.69	40°07'25.085"N	104°39'12.344"W	0.00	
10417.00†	89.373	179.802	7041.46	2175.23	-2175.09	45.04	40°07'24.096"N	104°39'12.340"W	0.00	
10517.00†	89.373	179.802	7042.55	2275.22	-2275.08	45.38	40°07'23.108"N	104°39'12.336"W	0.00	
10617.00†	89.373	179.802	7043.65	2375.22	-2375.07	45.73	40°07'22.119"N	104°39'12.331"W	0.00	
10717.00†	89.373	179.802	7044.74	2475.21	-2475.07	46.07	40°07'21.131"N	104°39'12.327"W	0.00	
10817.00†	89.373	179.802	7045.83	2575.20	-2575.06	46.41	40°07'20.142"N	104°39'12.322"W	0.00	
10917.00†	89.373	179.802	7046.93	2675.20	-2675.05	46.76	40°07'19.154"N	104°39'12.318"W	0.00	
11017.00†	89.373	179.802	7048.02	2775.19	-2775.05	47.10	40°07'18.165"N	104°39'12.313"W	0.00	
11117.00†	89.373	179.802	7049.12	2875.19	-2875.04	47.45	40°07'17.176"N	104°39'12.309"W	0.00	
11217.00†	89.373	179.802	7050.21	2975.18	-2975.03	47.79	40°07'16.188"N	104°39'12.305"W	0.00	
11317.00†	89.373	179.802	7051.30	3075.18	-3075.03	48.14	40°07'15.199"N	104°39'12.300"W	0.00	
11417.00†	89.373	179.802	7052.40	3175.17	-3175.02	48.48	40°07'14.211"N	104°39'12.296"W	0.00	
11517.00†	89.373	179.802	7053.49	3275.16	-3275.01	48.83	40°07'13.222"N	104°39'12.291"W	0.00	
11617.00†	89.373	179.802	7054.59	3375.16	-3375.01	49.17	40°07'12.234"N	104°39'12.287"W	0.00	
11717.00†	89.373	179.802	7055.68	3475.15	-3475.00	49.52	40°07'11.245"N	104°39'12.282"W	0.00	
11817.00†	89.373	179.802	7056.77	3575.15	-3574.99	49.86	40°07'10.257"N	104°39'12.278"W	0.00	
11917.00†	89.373	179.802	7057.87	3675.14	-3674.99	50.21	40°07'09.268"N	104°39'12.273"W	0.00	
12017.00†	89.373	179.802	7058.96	3775.13	-3774.98	50.55	40°07'08.280"N	104°39'12.269"W	0.00	
12117.00†	89.373	179.802	7060.06	3875.13	-3874.97	50.90	40°07'07.291"N	104°39'12.265"W	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP_1	Slot	SLOT#05 POWERS 14N-22HZ
Area	Compass Import	Well	POWERS 14N-22HZ
Field	WELD COUNTY (UTM (ZONE 13)/NAD83/TRUE NORTH)	Wellbore	POWERS 14N-22HZ PWB
Facility	2N-65W-22 Offsets		

WELLPATH DATA (142 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12217.00†	89.373	179.802	7061.15	3975.12	-3974.97	51.24	40°07'06.303"N	104°39'12.260"W	0.00	
12317.00†	89.373	179.802	7062.24	4075.12	-4074.96	51.59	40°07'05.314"N	104°39'12.256"W	0.00	
12417.00†	89.373	179.802	7063.34	4175.11	-4174.95	51.93	40°07'04.326"N	104°39'12.251"W	0.00	
12517.00†	89.373	179.802	7064.43	4275.10	-4274.95	52.28	40°07'03.337"N	104°39'12.247"W	0.00	
12617.00†	89.373	179.802	7065.53	4375.10	-4374.94	52.62	40°07'02.349"N	104°39'12.242"W	0.00	
12717.00†	89.373	179.802	7066.62	4475.09	-4474.93	52.97	40°07'01.360"N	104°39'12.238"W	0.00	
12751.76	89.373	179.802	7067.00†	4509.85	-4509.69	53.09	40°07'01.016"N	104°39'12.236"W	0.00	TOTAL DEPTH

HOLE & CASING SECTIONS										
- Ref Wellbore: POWERS 14N-22HZ PWB Ref Wellpath: POWERS 14N-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	12751.76	11389.76	1362.00	7067.00	0.00	0.00	-4509.69	53.09	
5.5in Casing Production	17.00	12751.76	12734.76	17.00	7067.00	0.00	0.00	-4509.69	53.09	

TARGETS										
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape	
POWERS 14N-22HZ_SHL		4900.00	0.00	0.00	1737246.25	14574018.06	40°07'45.599"N	104°39'12.920"W	point	
SEC.22-T2N-R65W		4900.00	0.00	-30.20	1737216.05	14574017.94	40°07'45.599"N	104°39'13.309"W	polygon	
1) POWERS 14N-22HZ_BHL	12751.76	7067.00	-4509.69	53.09	1737316.92	14569508.62	40°07'01.016"N	104°39'12.236"W	point	

SURVEY PROGRAM - Ref Wellbore: POWERS 14N-22HZ PWB Ref Wellpath: POWERS 14N-22HZ (PERMIT REV-3) PWP										
Start MD [ft]	End MD [ft]	Positional Uncertainty Model						Log Name/Comment	Wellbore	
17.00	12751.76	ISCWSA MWD, Rev. 2, axial magnetic correction (Standard) (MagVAR IFR Wattenberg)							POWERS 14N-22HZ PWB	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP_1	Slot	SLOT#05 POWERS 14N-22HZ
Area	Compass Import	Well	POWERS 14N-22HZ
Field	WELD COUNTY (UTM (ZONE 13)/NAD83/TRUE NORTH)	Wellbore	POWERS 14N-22HZ PWB
Facility	2N-65W-22 Offsets		

WELLPATH COMMENTS					
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment	
1312.00	0.000	1.500	1312.00	Fox Hills Base	
4522.70	21.000	1.500	4365.00	Sussex	
7114.99	46.691	179.802	6854.00	Sharon Springs	
7213.33	56.525	179.802	6915.00	Niobrara Top	
7346.67	69.859	179.802	6975.00	Niobrara B Bench	
7541.81	89.373	179.802	7010.00	Top of Production	

DESIGN COMMENTS					
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment	
17.00	0.000	1.500	17.00	TIE-ON	
1450.00	0.000	1.500	1450.00	BEGIN NUDGE	
2500.00	21.000	1.500	2476.65	END NUDGE	
4973.65	21.000	1.500	4786.00	BEGIN DROP	
6023.65	0.000	179.802	5812.65	END DROP	
6648.08	0.000	179.802	6437.08	KOP, BUILD @ 10°/100'	
7541.81	89.373	179.802	7010.00	LANDING POINT	
12751.76	89.373	179.802	7067.00	TOTAL DEPTH	