

KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#12 THOMASON 22C-31HZ (275'FSL & 1449'FWL, SEC.6)
 Field: WELD COUNTY (KERR MCGEE) Well: THOMASON 22C-31HZ
 Facility: SEC.06-T1N-R65W Wellbore: THOMASON 22C-31HZ PWB

Plot reference wellpath is THOMASON 22C-31HZ (PERMIT) PWP

True vertical depths are referenced to Rig on SLOT#12 THOMASON 22C-31HZ (275'FSL & 1449'FWL, SEC.6) (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to Rig on SLOT#12 THOMASON 22C-31HZ (275'FSL & 1449'FWL, SEC.6) (RKB)	North Reference: True north
Rig on SLOT#12 THOMASON 22C-31HZ (275'FSL & 1449'FWL, SEC.6) (RKB)	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#12 THOMASON 22C-31HZ (275'FSL & 1449'FWL, SEC.6)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: wilsj02 on 6/20/2012

Location Information

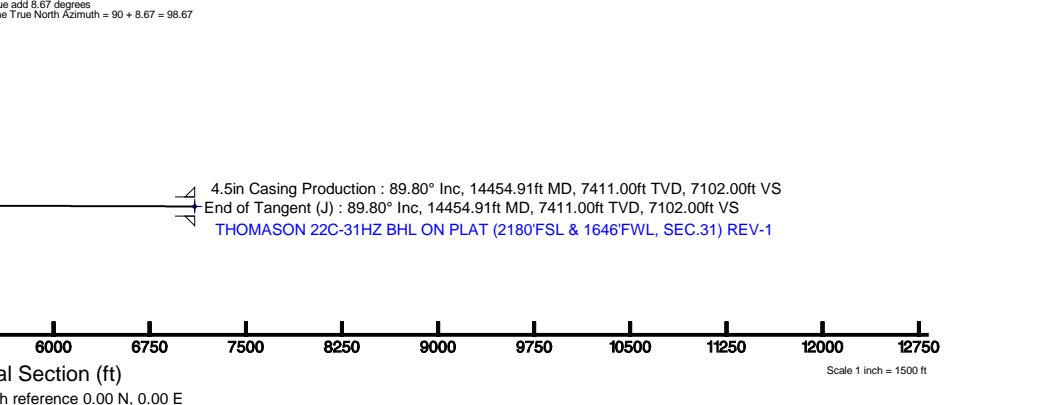
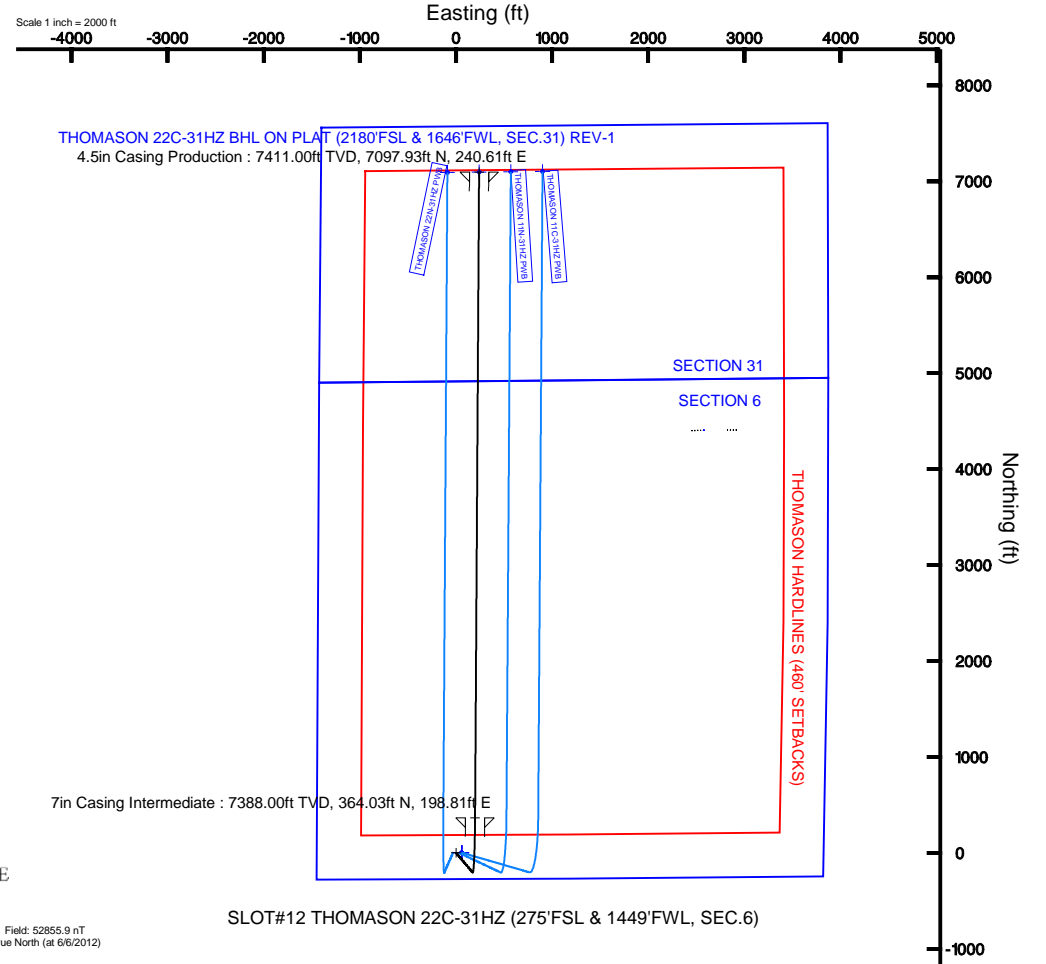
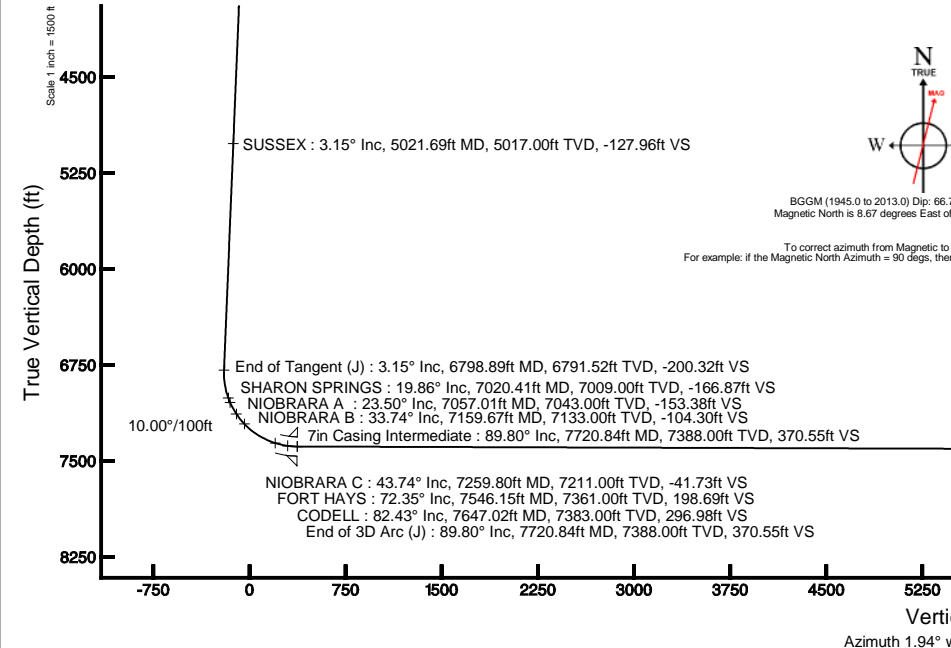
Facility Name				Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.06-T1N-R65W				322348.719	1275208.264	40°05'09.881"N	104°42'06.282"W
Slot				Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#12 THOMASON 22C-31HZ (275'FSL & 1449'FWL, SEC.6)				3220812.138	1270781.578	40°04'26.360"N	104°42'39.434"W
Rig on SLOT#12 THOMASON 22C-31HZ (275'FSL & 1449'FWL, SEC.6) (RKB)				9018R			
Main Sea Level to Mud line (At Slot: SLOT#12 THOMASON 22C-31HZ (275'FSL & 1449'FWL, SEC.6))				0R			
Rig on SLOT#12 THOMASON 22C-31HZ (275'FSL & 1449'FWL, SEC.6) (RKB) to Mean Sea Level				9018R			

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	139.850	17.00	0.00	0.00	0.00	0.00
End of Tangent	1800.00	0.000	139.850	1800.00	0.00	0.00	0.00	0.00
End of Build (J)	1957.25	3.145	139.850	1957.17	-3.30	2.78	2.00	-3.20
End of Tangent (J)	6798.89	3.145	139.850	6791.52	-206.33	174.06	0.00	-200.32
End of 3D Arc (J)	7720.84	89.804	0.356	7388.00	364.03	198.81	10.00	370.55
End of Tangent (J)	14454.91	89.804	0.356	7411.00	7097.93	240.61	0.00	7102.00

Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
THOMASON SECTION 31 LINES		1.00	0.40	59.94	3220872.07	1270782.52	40°04'26.364"N	104°42'38.653"W
PARAGON SECTION LINES		26.00	4404.12	2575.97	3223348.72	1275208.26	40°05'09.881"N	104°42'06.282"W
THOMASON 22C-31HZ BHL ON PLAT (2180'FSL & 1646'FWL, SEC.31) REV-1	14454.91	7411.00	7097.93	240.61	3220989.57	1277881.08	40°05'36.503"N	104°42'36.328"W
THOMASON HARDLINES (460' SETBACKS)		7426.00	0.40	59.94	3220872.07	1270782.52	40°04'26.364"N	104°42'38.653"W





Planned Wellpath Report

THOMASON 22C-31HZ (PERMIT) PWP
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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#12 THOMASON 22C-31HZ (275'FSL & 1449'FWL, SEC.6)
Area	COLORADO	Well	THOMASON 22C-31HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	THOMASON 22C-31HZ PWB
Facility	SEC.06-T1N-R65W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 3.0.2
North Reference	True	User	Wilsje02
Scale	0.999962	Report Generated	6/20/2012 at 10:00:20
Convergence at slot	0.51° East	Database/Source file	WellArchitectDB/THOMASON_22C-31HZ_PWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-4403.85	-2576.43	3220812.14	1270781.58	40°04'26.360"N	104°42'39.424"W
Facility Reference Pt			3223348.72	1275208.26	40°05'09.881"N	104°42'06.282"W
Field Reference Pt			3197771.84	1268891.29	40°04'09.600"N	104°47'36.000"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on SLOT#12 THOMASON 22C-31HZ (275'FSL & 1449'FWL, SEC.6) (RKB) to Facility Vertical Datum
Horizontal Reference Pt	Slot	Rig on SLOT#12 THOMASON 22C-31HZ (275'FSL & 1449'FWL, SEC.6) (RKB) to Mean Sea Level
Vertical Reference Pt	Rig on SLOT#12 THOMASON 22C-31HZ (275'FSL & 1449'FWL, SEC.6) (RKB)	Rig on SLOT#12 THOMASON 22C-31HZ (275'FSL & 1449'FWL, SEC.6) (RKB) to Mud Line at Slot (SLOT#12 THOMAS
MD Reference Pt	Rig on SLOT#12 THOMASON 22C-31HZ (275'FSL & 1449'FWL, SEC.6) (RKB)	Section Origin
Field Vertical Reference	Mean Sea Level	Section Azimuth



Planned Wellpath Report

THOMASON 22C-31HZ (PERMIT) PWP
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REFERENCE WELLPATH IDENTIFICATION			
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Area	COLORADO	Well	THOMASON 22C-31HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	THOMASON 22C-31HZ PWB
Facility	SEC.06-T1N-R6SW		

WELLPATH DATA (159 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	139.850	0.00	0.00	0.00	0.00	40°04'26.360"N	104°42'39.424"W	0.00	
17.00	0.000	139.850	17.00	0.00	0.00	0.00	40°04'26.360"N	104°42'39.424"W	0.00	Tie On
117.00†	0.000	139.850	117.00	0.00	0.00	0.00	40°04'26.360"N	104°42'39.424"W	0.00	
217.00†	0.000	139.850	217.00	0.00	0.00	0.00	40°04'26.360"N	104°42'39.424"W	0.00	
317.00†	0.000	139.850	317.00	0.00	0.00	0.00	40°04'26.360"N	104°42'39.424"W	0.00	
417.00†	0.000	139.850	417.00	0.00	0.00	0.00	40°04'26.360"N	104°42'39.424"W	0.00	
517.00†	0.000	139.850	517.00	0.00	0.00	0.00	40°04'26.360"N	104°42'39.424"W	0.00	
617.00†	0.000	139.850	617.00	0.00	0.00	0.00	40°04'26.360"N	104°42'39.424"W	0.00	
717.00†	0.000	139.850	717.00	0.00	0.00	0.00	40°04'26.360"N	104°42'39.424"W	0.00	
817.00†	0.000	139.850	817.00	0.00	0.00	0.00	40°04'26.360"N	104°42'39.424"W	0.00	
917.00†	0.000	139.850	917.00	0.00	0.00	0.00	40°04'26.360"N	104°42'39.424"W	0.00	
1017.00†	0.000	139.850	1017.00	0.00	0.00	0.00	40°04'26.360"N	104°42'39.424"W	0.00	
1117.00†	0.000	139.850	1117.00	0.00	0.00	0.00	40°04'26.360"N	104°42'39.424"W	0.00	
1217.00†	0.000	139.850	1217.00	0.00	0.00	0.00	40°04'26.360"N	104°42'39.424"W	0.00	
1317.00†	0.000	139.850	1317.00	0.00	0.00	0.00	40°04'26.360"N	104°42'39.424"W	0.00	
1417.00†	0.000	139.850	1417.00	0.00	0.00	0.00	40°04'26.360"N	104°42'39.424"W	0.00	
1450.00†	0.000	139.850	1450.00	0.00	0.00	0.00	40°04'26.360"N	104°42'39.424"W	0.00	FOX HILLS
1517.00†	0.000	139.850	1517.00	0.00	0.00	0.00	40°04'26.360"N	104°42'39.424"W	0.00	
1617.00†	0.000	139.850	1617.00	0.00	0.00	0.00	40°04'26.360"N	104°42'39.424"W	0.00	
1717.00†	0.000	139.850	1717.00	0.00	0.00	0.00	40°04'26.360"N	104°42'39.424"W	0.00	
1800.00	0.000	139.850	1800.00	0.00	0.00	0.00	40°04'26.360"N	104°42'39.424"W	0.00	End of Tangent
1817.00†	0.340	139.850	1817.00	-0.04	-0.04	0.03	40°04'26.360"N	104°42'39.424"W	2.00	
1917.00†	2.340	139.850	1916.97	-1.77	-1.83	1.54	40°04'26.342"N	104°42'39.404"W	2.00	
1957.25	3.145	139.850	1957.17	-3.20	-3.30	2.78	40°04'26.327"N	104°42'39.388"W	2.00	End of Build (J)
2017.00†	3.145	139.850	2016.83	-5.63	-5.80	4.90	40°04'26.303"N	104°42'39.361"W	0.00	
2117.00†	3.145	139.850	2116.68	-9.71	-10.00	8.43	40°04'26.261"N	104°42'39.316"W	0.00	
2217.00†	3.145	139.850	2216.53	-13.78	-14.19	11.97	40°04'26.220"N	104°42'39.270"W	0.00	
2317.00†	3.145	139.850	2316.38	-17.85	-18.38	15.51	40°04'26.178"N	104°42'39.225"W	0.00	
2417.00†	3.145	139.850	2416.23	-21.92	-22.58	19.05	40°04'26.137"N	104°42'39.179"W	0.00	
2517.00†	3.145	139.850	2516.08	-25.99	-26.77	22.58	40°04'26.095"N	104°42'39.133"W	0.00	
2617.00†	3.145	139.850	2615.93	-30.06	-30.96	26.12	40°04'26.054"N	104°42'39.088"W	0.00	
2717.00†	3.145	139.850	2715.78	-34.13	-35.16	29.66	40°04'26.013"N	104°42'39.042"W	0.00	
2817.00†	3.145	139.850	2815.63	-38.20	-39.35	33.20	40°04'25.971"N	104°42'38.997"W	0.00	
2917.00†	3.145	139.850	2915.48	-42.28	-43.55	36.73	40°04'25.930"N	104°42'38.951"W	0.00	
3017.00†	3.145	139.850	3015.32	-46.35	-47.74	40.27	40°04'25.888"N	104°42'38.906"W	0.00	
3117.00†	3.145	139.850	3115.17	-50.42	-51.93	43.81	40°04'25.847"N	104°42'38.860"W	0.00	
3217.00†	3.145	139.850	3215.02	-54.49	-56.13	47.35	40°04'25.805"N	104°42'38.815"W	0.00	
3317.00†	3.145	139.850	3314.87	-58.56	-60.32	50.88	40°04'25.764"N	104°42'38.769"W	0.00	
3417.00†	3.145	139.850	3414.72	-62.63	-64.51	54.42	40°04'25.722"N	104°42'38.724"W	0.00	
3517.00†	3.145	139.850	3514.57	-66.70	-68.71	57.96	40°04'25.681"N	104°42'38.678"W	0.00	
3617.00†	3.145	139.850	3614.42	-70.77	-72.90	61.50	40°04'25.640"N	104°42'38.633"W	0.00	
3717.00†	3.145	139.850	3714.27	-74.85	-77.09	65.03	40°04'25.598"N	104°42'38.587"W	0.00	
3817.00†	3.145	139.850	3814.12	-78.92	-81.29	68.57	40°04'25.557"N	104°42'38.542"W	0.00	
3917.00†	3.145	139.850	3913.97	-82.99	-85.48	72.11	40°04'25.515"N	104°42'38.496"W	0.00	
4017.00†	3.145	139.850	4013.82	-87.06	-89.67	75.65	40°04'25.474"N	104°42'38.451"W	0.00	



Planned Wellpath Report

THOMASON 22C-31HZ (PERMIT) PWP
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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#12 THOMASON 22C-31HZ (275'FSL & 1449'FWL, SEC.6)
Area	COLORADO	Well	THOMASON 22C-31HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	THOMASON 22C-31HZ PWB
Facility	SEC.06-T1N-R65W		

WELLPATH DATA (159 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4117.00†	3.145	139.850	4113.67	-91.13	-93.87	79.18	40°04'25.432"N	104°42'38.405"W	0.00	
4217.00†	3.145	139.850	4213.52	-95.20	-98.06	82.72	40°04'25.391"N	104°42'38.360"W	0.00	
4317.00†	3.145	139.850	4313.37	-99.27	-102.25	86.26	40°04'25.350"N	104°42'38.314"W	0.00	
4417.00†	3.145	139.850	4413.22	-103.34	-106.45	89.80	40°04'25.308"N	104°42'38.269"W	0.00	
4517.00†	3.145	139.850	4513.07	-107.42	-110.64	93.33	40°04'25.267"N	104°42'38.223"W	0.00	
4617.00†	3.145	139.850	4612.92	-111.49	-114.83	96.87	40°04'25.225"N	104°42'38.178"W	0.00	
4717.00†	3.145	139.850	4712.76	-115.56	-119.03	100.41	40°04'25.184"N	104°42'38.132"W	0.00	
4817.00†	3.145	139.850	4812.61	-119.63	-123.22	103.95	40°04'25.142"N	104°42'38.087"W	0.00	
4917.00†	3.145	139.850	4912.46	-123.70	-127.42	107.48	40°04'25.101"N	104°42'38.041"W	0.00	
5017.00†	3.145	139.850	5012.31	-127.77	-131.61	111.02	40°04'25.059"N	104°42'37.996"W	0.00	
5021.69†	3.145	139.850	5017.00	-127.96	-131.81	111.19	40°04'25.057"N	104°42'37.994"W	0.00	SUSSEX
5117.00†	3.145	139.850	5112.16	-131.84	-135.80	114.56	40°04'25.018"N	104°42'37.950"W	0.00	
5217.00†	3.145	139.850	5212.01	-135.91	-140.00	118.10	40°04'24.977"N	104°42'37.905"W	0.00	
5317.00†	3.145	139.850	5311.86	-139.99	-144.19	121.63	40°04'24.935"N	104°42'37.859"W	0.00	
5417.00†	3.145	139.850	5411.71	-144.06	-148.38	125.17	40°04'24.894"N	104°42'37.814"W	0.00	
5517.00†	3.145	139.850	5511.56	-148.13	-152.58	128.71	40°04'24.852"N	104°42'37.768"W	0.00	
5617.00†	3.145	139.850	5611.41	-152.20	-156.77	132.25	40°04'24.811"N	104°42'37.723"W	0.00	
5717.00†	3.145	139.850	5711.26	-156.27	-160.96	135.78	40°04'24.769"N	104°42'37.677"W	0.00	
5817.00†	3.145	139.850	5811.11	-160.34	-165.16	139.32	40°04'24.728"N	104°42'37.632"W	0.00	
5917.00†	3.145	139.850	5910.96	-164.41	-169.35	142.86	40°04'24.686"N	104°42'37.586"W	0.00	
6017.00†	3.145	139.850	6010.81	-168.48	-173.54	146.40	40°04'24.645"N	104°42'37.541"W	0.00	
6117.00†	3.145	139.850	6110.66	-172.56	-177.74	149.93	40°04'24.604"N	104°42'37.495"W	0.00	
6217.00†	3.145	139.850	6210.51	-176.63	-181.93	153.47	40°04'24.562"N	104°42'37.450"W	0.00	
6317.00†	3.145	139.850	6310.35	-180.70	-186.12	157.01	40°04'24.521"N	104°42'37.404"W	0.00	
6417.00†	3.145	139.850	6410.20	-184.77	-190.32	160.55	40°04'24.479"N	104°42'37.359"W	0.00	
6517.00†	3.145	139.850	6510.05	-188.84	-194.51	164.08	40°04'24.438"N	104°42'37.313"W	0.00	
6617.00†	3.145	139.850	6609.90	-192.91	-198.70	167.62	40°04'24.396"N	104°42'37.268"W	0.00	
6717.00†	3.145	139.850	6709.75	-196.98	-202.90	171.16	40°04'24.355"N	104°42'37.222"W	0.00	
6798.89	3.145	139.850	6791.52	-200.32	-206.33	174.06	40°04'24.321"N	104°42'37.185"W	0.00	End of Tangent (J)
6817.00†	2.124	106.197	6809.61	-200.77	-206.81	174.70	40°04'24.316"N	104°42'37.177"W	10.00	
6917.00†	9.637	12.479	6909.12	-192.98	-199.13	178.30	40°04'24.392"N	104°42'37.130"W	10.00	
7017.00†	19.523	6.125	7005.79	-168.02	-174.28	181.90	40°04'24.638"N	104°42'37.084"W	10.00	
7020.41†	19.862	6.017	7009.00	-166.87	-173.14	182.02	40°04'24.649"N	104°42'37.083"W	10.00	SHARON SPRINGS
7057.01†	23.505	5.055	7043.00	-153.38	-159.68	183.31	40°04'24.782"N	104°42'37.066"W	10.00	NIOBRARA A
7117.00†	29.485	3.967	7096.67	-126.65	-133.01	185.39	40°04'25.046"N	104°42'37.039"W	10.00	
7159.67†	33.742	3.411	7133.00	-104.30	-110.70	186.82	40°04'25.266"N	104°42'37.021"W	10.00	NIOBRARA B
7217.00†	39.464	2.833	7179.00	-70.14	-76.58	188.67	40°04'25.603"N	104°42'36.997"W	10.00	
7259.80†	43.738	2.486	7211.00	-41.73	-48.20	189.99	40°04'25.884"N	104°42'36.980"W	10.00	NIOBRARA C
7317.00†	49.451	2.098	7250.29	-0.19	-6.69	191.64	40°04'26.294"N	104°42'36.959"W	10.00	
7417.00†	59.442	1.556	7308.36	81.06	74.52	194.21	40°04'27.096"N	104°42'36.926"W	10.00	
7517.00†	69.434	1.116	7351.46	171.15	164.59	196.29	40°04'27.987"N	104°42'36.899"W	10.00	
7546.15†	72.346	0.999	7361.00	198.69	192.13	196.80	40°04'28.259"N	104°42'36.892"W	10.00	FORT HAYS
7617.00†	79.427	0.730	7378.27	267.34	260.79	197.84	40°04'28.937"N	104°42'36.879"W	10.00	
7647.02†	82.427	0.620	7383.00	296.98	290.43	198.19	40°04'29.230"N	104°42'36.875"W	10.00	CODELL
7717.00†	89.420	0.369	7387.97	366.71	360.19	198.79	40°04'29.919"N	104°42'36.867"W	10.00	



Planned Wellpath Report

THOMASON 22C-31HZ (PERMIT) PWP
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Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#12 THOMASON 22C-31HZ (275'FSL & 1449'FWL, SEC.6)
Area	COLORADO	Well	THOMASON 22C-31HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	THOMASON 22C-31HZ PWB
Facility	SEC.06-T1N-R65W		

WELLPATH DATA (159 stations) † = interpolated/extrapolated station											
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments	
7720.84	89.804	0.356	7388.00	370.55	364.03	198.81	40°04'29.957"N	104°42'36.867"W	10.00	End of 3D Arc (J)	
7817.00†	89.804	0.356	7388.33	466.68	460.18	199.41	40°04'30.908"N	104°42'36.859"W	0.00		
7917.00†	89.804	0.356	7388.67	566.64	560.18	200.03	40°04'31.896"N	104°42'36.851"W	0.00		
8017.00†	89.804	0.356	7389.01	666.60	660.18	200.65	40°04'32.884"N	104°42'36.843"W	0.00		
8117.00†	89.804	0.356	7389.35	766.56	760.18	201.27	40°04'33.872"N	104°42'36.835"W	0.00		
8217.00†	89.804	0.356	7389.69	866.52	860.17	201.89	40°04'34.860"N	104°42'36.827"W	0.00		
8317.00†	89.804	0.356	7390.03	966.48	960.17	202.51	40°04'35.849"N	104°42'36.819"W	0.00		
8417.00†	89.804	0.356	7390.38	1066.44	1060.17	203.13	40°04'36.837"N	104°42'36.811"W	0.00		
8517.00†	89.804	0.356	7390.72	1166.40	1160.17	203.75	40°04'37.825"N	104°42'36.803"W	0.00		
8617.00†	89.804	0.356	7391.06	1266.36	1260.16	204.37	40°04'38.813"N	104°42'36.795"W	0.00		
8717.00†	89.804	0.356	7391.40	1366.33	1360.16	205.00	40°04'39.801"N	104°42'36.787"W	0.00		
8817.00†	89.804	0.356	7391.74	1466.29	1460.16	205.62	40°04'40.790"N	104°42'36.779"W	0.00		
8917.00†	89.804	0.356	7392.08	1566.25	1560.16	206.24	40°04'41.778"N	104°42'36.771"W	0.00		
9017.00†	89.804	0.356	7392.42	1666.21	1660.15	206.86	40°04'42.766"N	104°42'36.763"W	0.00		
9117.00†	89.804	0.356	7392.77	1766.17	1760.15	207.48	40°04'43.754"N	104°42'36.755"W	0.00		
9217.00†	89.804	0.356	7393.11	1866.13	1860.15	208.10	40°04'44.742"N	104°42'36.747"W	0.00		
9317.00†	89.804	0.356	7393.45	1966.09	1960.15	208.72	40°04'45.731"N	104°42'36.739"W	0.00		
9417.00†	89.804	0.356	7393.79	2066.05	2060.14	209.34	40°04'46.719"N	104°42'36.731"W	0.00		
9517.00†	89.804	0.356	7394.13	2166.01	2160.14	209.96	40°04'47.707"N	104°42'36.723"W	0.00		
9617.00†	89.804	0.356	7394.47	2265.98	2260.14	210.58	40°04'48.695"N	104°42'36.715"W	0.00		
9717.00†	89.804	0.356	7394.82	2365.94	2360.14	211.20	40°04'49.683"N	104°42'36.707"W	0.00		
9817.00†	89.804	0.356	7395.16	2465.90	2460.13	211.82	40°04'50.672"N	104°42'36.699"W	0.00		
9917.00†	89.804	0.356	7395.50	2565.86	2560.13	212.44	40°04'51.660"N	104°42'36.691"W	0.00		
10017.00†	89.804	0.356	7395.84	2665.82	2660.13	213.06	40°04'52.648"N	104°42'36.683"W	0.00		
10117.00†	89.804	0.356	7396.18	2765.78	2760.13	213.69	40°04'53.636"N	104°42'36.675"W	0.00		
10217.00†	89.804	0.356	7396.52	2865.74	2860.12	214.31	40°04'54.624"N	104°42'36.667"W	0.00		
10317.00†	89.804	0.356	7396.87	2965.70	2960.12	214.93	40°04'55.612"N	104°42'36.659"W	0.00		
10417.00†	89.804	0.356	7397.21	3065.66	3060.12	215.55	40°04'56.601"N	104°42'36.651"W	0.00		
10517.00†	89.804	0.356	7397.55	3165.63	3160.12	216.17	40°04'57.589"N	104°42'36.643"W	0.00		
10617.00†	89.804	0.356	7397.89	3265.59	3260.11	216.79	40°04'58.577"N	104°42'36.635"W	0.00		
10717.00†	89.804	0.356	7398.23	3365.55	3360.11	217.41	40°04'59.565"N	104°42'36.627"W	0.00		
10817.00†	89.804	0.356	7398.57	3465.51	3460.11	218.03	40°05'00.553"N	104°42'36.619"W	0.00		
10917.00†	89.804	0.356	7398.91	3565.47	3560.11	218.65	40°05'01.542"N	104°42'36.611"W	0.00		
11017.00†	89.804	0.356	7399.26	3665.43	3660.10	219.27	40°05'02.530"N	104°42'36.603"W	0.00		
11117.00†	89.804	0.356	7399.60	3765.39	3760.10	219.89	40°05'03.518"N	104°42'36.595"W	0.00		
11217.00†	89.804	0.356	7399.94	3865.35	3860.10	220.51	40°05'04.506"N	104°42'36.587"W	0.00		
11317.00†	89.804	0.356	7400.28	3965.31	3960.10	221.13	40°05'05.494"N	104°42'36.579"W	0.00		
11417.00†	89.804	0.356	7400.62	4065.28	4060.09	221.75	40°05'06.483"N	104°42'36.571"W	0.00		
11517.00†	89.804	0.356	7400.96	4165.24	4160.09	222.38	40°05'07.471"N	104°42'36.563"W	0.00		
11617.00†	89.804	0.356	7401.31	4265.20	4260.09	223.00	40°05'08.459"N	104°42'36.555"W	0.00		
11717.00†	89.804	0.356	7401.65	4365.16	4360.09	223.62	40°05'09.447"N	104°42'36.547"W	0.00		
11817.00†	89.804	0.356	7401.99	4465.12	4460.08	224.24	40°05'10.435"N	104°42'36.539"W	0.00		
11917.00†	89.804	0.356	7402.33	4565.08	4560.08	224.86	40°05'11.424"N	104°42'36.531"W	0.00		
12017.00†	89.804	0.356	7402.67	4665.04	4660.08	225.48	40°05'12.412"N	104°42'36.523"W	0.00		
12117.00†	89.804	0.356	7403.01	4765.00	4760.08	226.10	40°05'13.400"N	104°42'36.515"W	0.00		



Planned Wellpath Report
 THOMASON 22C-31HZ (PERMIT) PWP
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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#12 THOMASON 22C-31HZ (275'FSL & 1449'FWL, SEC.6)
Area	COLORADO	Well	THOMASON 22C-31HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	THOMASON 22C-31HZ PWB
Facility	SEC.06-T1N-R6SW		

WELLPATH DATA (159 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12217.00†	89.804	0.356	7403.36	4864.96	4860.07	226.72	40°05'14.388"N	104°42'36.507"W	0.00	
12317.00†	89.804	0.356	7403.70	4964.93	4960.07	227.34	40°05'15.376"N	104°42'36.499"W	0.00	
12417.00†	89.804	0.356	7404.04	5064.89	5060.07	227.96	40°05'16.365"N	104°42'36.491"W	0.00	
12517.00†	89.804	0.356	7404.38	5164.85	5160.07	228.58	40°05'17.353"N	104°42'36.483"W	0.00	
12617.00†	89.804	0.356	7404.72	5264.81	5260.06	229.20	40°05'18.341"N	104°42'36.475"W	0.00	
12717.00†	89.804	0.356	7405.06	5364.77	5360.06	229.82	40°05'19.329"N	104°42'36.467"W	0.00	
12817.00†	89.804	0.356	7405.41	5464.73	5460.06	230.44	40°05'20.317"N	104°42'36.459"W	0.00	
12917.00†	89.804	0.356	7405.75	5564.69	5560.06	231.07	40°05'21.305"N	104°42'36.451"W	0.00	
13017.00†	89.804	0.356	7406.09	5664.65	5660.05	231.69	40°05'22.294"N	104°42'36.443"W	0.00	
13117.00†	89.804	0.356	7406.43	5764.61	5760.05	232.31	40°05'23.282"N	104°42'36.435"W	0.00	
13217.00†	89.804	0.356	7406.77	5864.58	5860.05	232.93	40°05'24.270"N	104°42'36.427"W	0.00	
13317.00†	89.804	0.356	7407.11	5964.54	5960.05	233.55	40°05'25.258"N	104°42'36.419"W	0.00	
13417.00†	89.804	0.356	7407.45	6064.50	6060.04	234.17	40°05'26.246"N	104°42'36.411"W	0.00	
13517.00†	89.804	0.356	7407.80	6164.46	6160.04	234.79	40°05'27.235"N	104°42'36.403"W	0.00	
13617.00†	89.804	0.356	7408.14	6264.42	6260.04	235.41	40°05'28.223"N	104°42'36.395"W	0.00	
13717.00†	89.804	0.356	7408.48	6364.38	6360.04	236.03	40°05'29.211"N	104°42'36.387"W	0.00	
13817.00†	89.804	0.356	7408.82	6464.34	6460.03	236.65	40°05'30.199"N	104°42'36.379"W	0.00	
13917.00†	89.804	0.356	7409.16	6564.30	6560.03	237.27	40°05'31.187"N	104°42'36.371"W	0.00	
14017.00†	89.804	0.356	7409.50	6664.26	6660.03	237.89	40°05'32.176"N	104°42'36.363"W	0.00	
14117.00†	89.804	0.356	7409.85	6764.23	6760.03	238.51	40°05'33.164"N	104°42'36.355"W	0.00	
14217.00†	89.804	0.356	7410.19	6864.19	6860.02	239.13	40°05'34.152"N	104°42'36.347"W	0.00	
14317.00†	89.804	0.356	7410.53	6964.15	6960.02	239.76	40°05'35.140"N	104°42'36.339"W	0.00	
14417.00†	89.804	0.356	7410.87	7064.11	7060.02	240.38	40°05'36.128"N	104°42'36.331"W	0.00	
14454.91	89.804	0.356	7411.00†	7102.00	7097.93	240.61	40°05'36.503"N	104°42'36.328"W	0.00	End of Tangent (J)

HOLE & CASING SECTIONS - Ref Wellbore: THOMASON 22C-31HZ PWB Ref Wellpath: THOMASON 22C-31HZ (PERMIT) 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]
12.25in Open Hole	17.00	1500.00	1483.00	17.00	1500.00	0.00	0.00	0.00	0.00
9.625in Casing Surface	17.00	1500.00	1483.00	17.00	1500.00	0.00	0.00	0.00	0.00
8.75in Open Hole	1500.00	7720.84	6220.84	1500.00	7388.00	0.00	0.00	364.03	198.81
7in Casing Intermediate	17.00	7720.84	7703.84	17.00	7388.00	0.00	0.00	364.03	198.81
6.125in Open Hole	7720.84	14454.91	6734.07	7388.00	7411.00	364.03	198.81	7097.93	240.61
4.5in Casing Production	17.00	14454.91	14437.91	17.00	7411.00	0.00	0.00	7097.93	240.61



Planned Wellpath Report

THOMASON 22C-31HZ (PERMIT) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#12 THOMASON 22C-31HZ (275'FSL & 1449'FWL, SEC.6)
Area	COLORADO	Well	THOMASON 22C-31HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	THOMASON 22C-31HZ PWB
Facility	SEC.06-T1N-R65W		

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
THOMASON SECTION 31 LINES		1.00	0.40	59.94	3220872.07	1270782.52	40°04'26.364"N	104°42'38.653"W	polygon
PARAGON SECTION LINES		26.00	4404.12	2575.97	3223348.72	1275208.26	40°05'09.881"N	104°42'06.282"W	polygon
1) THOMASON 22C-31HZ BHL ON PLAT (2180'FSL & 1646'FWL, SEC.31) REV-1	14454.91	7411.00	7097.93	240.61	3220989.57	1277881.08	40°05'36.503"N	104°42'36.328"W	point
THOMASON HARDLINES (460' SETBACKS)		7426.00	0.40	59.94	3220872.07	1270782.52	40°04'26.364"N	104°42'38.653"W	polygon

SURVEY PROGRAM - Ref Wellbore: THOMASON 22C-31HZ PWB Ref Wellpath: THOMASON 22C-31HZ (PERMIT) PWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	14454.91	NaviTrak (Standard)		THOMASON 22C-31HZ PWB



Planned Wellpath Report
 THOMASON 22C-31HZ (PERMIT) PWP
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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#12 THOMASON 22C-31HZ (275'FSL & 1449'FWL, SEC.6)
Area	COLORADO	Well	THOMASON 22C-31HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	THOMASON 22C-31HZ PWB
Facility	SEC.06-T1N-R65W		

WELLPATH COMMENTS					
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment	
1450.00	0.000	139.850	1450.00	FOX HILLS	
5021.69	3.145	139.850	5017.00	SUSSEX	
7020.41	19.862	6.017	7009.00	SHARON SPRINGS	
7057.01	23.505	5.055	7043.00	NIOBRARA A	
7159.67	33.742	3.411	7133.00	NIOBRARA B	
7259.80	43.738	2.486	7211.00	NIOBRARA C	
7546.15	72.346	0.999	7361.00	FORT HAYS	
7647.02	82.427	0.620	7383.00	CODELL	