

Location:	COLORADO	Slot:	SLOT#13 REYNOLDS CATTLE 5C-23HZ (2011'FNL & 339'FEL, SEC.23)
Field:	WELD COUNTY (KERR MCGEE)	Well:	REYNOLDS CATTLE 5C-23HZ
Facility:	SEC.23-T3N-R68W	Wellbore:	REYNOLDS CATTLE 5C-23HZ PWB

Location:	COLORADO	Slot:	SLOT#13 REYNOLDS CATTLE 5C-23HZ (2011'FNL & 339'FEL, SEC.23)
Field:	WELD COUNTY (KERR MCGEE)	Well:	REYNOLDS CATTLE 5C-23HZ
Facility:	SEC.23-T3N-R68W	Wellbore:	REYNOLDS CATTLE 5C-23HZ PWB

Plot reference wellpath is REYNOLDS CATTLE 5C-23HZ (PERMIT REV-2) PWP

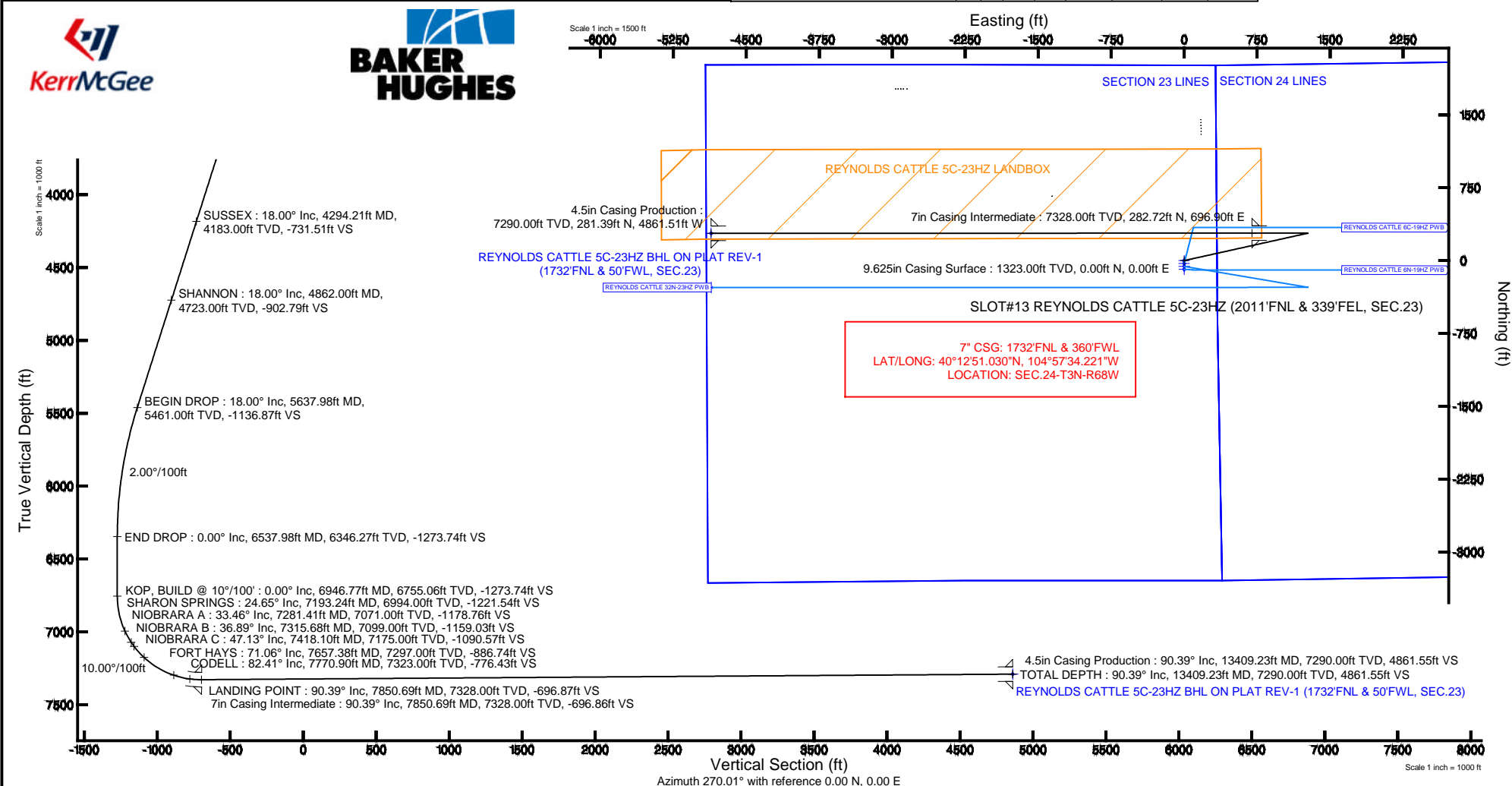
True vertical depths are referenced to PERMIT (17KB) (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to PERMIT (17KB) (RKB)	North Reference: True north
PERMIT (17KB) (RKB) to Mean Sea Level: 4973 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#13 REYNOLDS CATTLE 5C-23HZ (2011FNL & 339FEL, SEC.23)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: wjlsj02 on 1/7/2014

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC 23-T3N-R66W			3147390.982	1322789.280	40°13'05.700"N	104°58'19.520"W
Spot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#13 REYNOLDS CATTLE IC-23H2 (2011FNL & 339FEL, SEC.23)	-1767.10	2848.44	3150249.763	1321039.246	40°12'48.236"N	104°57'43.204"W
PERMIT (17XB) (RKB) to Mud line (At Slot: SLOT#13 REYNOLDS CATTLE IC-23H2 (2011FNL & 339FEL, SEC.23))					497'31"	
Mean Sea Level to Mud line (At Slot: SLOT#13 REYNOLDS CATTLE IC-23H2 (2011FNL & 339FEL, SEC.23))					0ft	
PERMIT (17XB) (RKB) to Mean Sea Level					497'31"	

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
TIE ON	17.00	0.000	77.480	17.00	0.00	0.00	0.00	0.00
BEGIN NUDGE	1423.00	0.000	77.480	1423.00	0.00	0.00	0.00	0.00
END NUDGE	2323.00	18.000	77.480	2308.27	30.40	136.88	2.00	-136.87
BEGIN DROP	5637.98	18.000	77.480	5461.00	252.46	1136.90	0.00	-1136.87
END DROP	6537.98	0.000	269.986	6346.27	282.86	1273.78	2.00	-1273.74
KOP, BUILD @ 10°/100'	6946.77	0.000	269.986	6755.06	282.86	1273.78	0.00	-1273.74
LANDING POINT	7850.69	90.392	269.986	7328.00	282.72	696.91	10.00	-696.87
TOTAL DEPTH	13409.23	90.392	269.986	7290.00	281.39	-4861.51	0.00	4861.55

Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
17.00	7850.69	NaviTrak	NaviTrak (IFR)		REYNOLDS CATTLE 5C-23HZ PWB
7850.69	13409.23	NaviTrak	NaviTrak (IFR)		REYNOLDS CATTLE 5C-23HZ PWB

Name	MO (m)	710 (m)	Local N (m)	Local E (m)	Grid East (m)	Grid North (m)	Latitude	Longitude
SEC.13 10m R/W SECTION LINES	25.00	1400.00	172.00	210301.31	132040.88	67°13'02.5727N	105°57'46.0800W	
SEC.13 20m R/W SECTION LINES	25.00	1400.00	172.00	210301.31	132040.88	67°13'02.5727N	105°57'46.0800W	
SEC.14 10m R/W SECTION LINES	25.00	1400.00	172.00	210301.31	132040.88	67°13'02.5727N	105°57'46.0800W	
SEC.14 20m R/W SECTION LINES	25.00	1400.00	172.00	210301.31	132040.88	67°13'02.5727N	105°57'46.0800W	
36 INCHES CASTLE GC 2ND BAY ON PLAT 901 + 1732P&L & SUPPL. SEC.13	15400.00	7500.00	39.00	-4861.51	2145386.06	120129.13	67°12'51.6178N	105°56'56.6500W
36 INCHES CASTLE GC 2ND LANDMARK	15400.00	7500.00	39.00	0.00	2103013.00	120129.26	67°12'58.2600N	105°57'43.5000W





# Planned Wellpath Report

REYNOLDS CATTLE 5C-23HZ (PERMIT REV-2) PWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#13 REYNOLDS CATTLE 5C-23HZ (2011'FNL & 339'FEL, SEC.23)
Area	COLORADO	Well	REYNOLDS CATTLE 5C-23HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	REYNOLDS CATTLE 5C-23HZ PWB
Facility	SEC.23-T3N-R68W		

## REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 4.0.0
North Reference	True	User	Wilsjef02
Scale	0.999957	Report Generated	1/7/2014 at 10:12:57
Convergence at slot	n/a	Database/Source file	WellArchitectDB/REYNOLDS_CATTLE_5C-23HZ_PWB.xml

## WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-1767.10	2848.44	3150249.76	1321039.25	40°12'48.236"N	104°57'43.204"W
Facility Reference Pt			3147390.98	1322789.28	40°13'05.700"N	104°58'19.920"W
Field Reference Pt			3197771.84	1268891.29	40°04'09.600"N	104°47'36.000"W

## WELLPATH DATUM

Calculation method	Minimum curvature	PERMIT (17'KB) (RKB) to Facility Vertical Datum	4973.00ft
Horizontal Reference Pt	Slot	PERMIT (17'KB) (RKB) to Mean Sea Level	4973.00ft
Vertical Reference Pt	PERMIT (17'KB) (RKB)	PERMIT (17'KB) (RKB) to Mud Line at Slot (SLOT#13 REYNOLDS CATTLE 5C-23HZ (2011'FNL & 339'FEL, SEC.23))	4973.00ft
MD Reference Pt	PERMIT (17'KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	270.01°



# Planned Wellpath Report

REYNOLDS CATTLE 5C-23HZ (PERMIT REV-2) PWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#13 REYNOLDS CATTLE 5C-23HZ (2011'FNL & 339'FEL, SEC.23)
Area	COLORADO	Well	REYNOLDS CATTLE 5C-23HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	REYNOLDS CATTLE 5C-23HZ PWB
Facility	SEC.23-T3N-R68W		

## WELLPATH DATA (151 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	77.480	0.00	0.00	0.00	0.00	40°12'48.236"N	104°57'43.204"W	0.00	
17.00	0.000	77.480	17.00	0.00	0.00	0.00	40°12'48.236"N	104°57'43.204"W	0.00	TIE ON
117.00†	0.000	77.480	117.00	0.00	0.00	0.00	40°12'48.236"N	104°57'43.204"W	0.00	
217.00†	0.000	77.480	217.00	0.00	0.00	0.00	40°12'48.236"N	104°57'43.204"W	0.00	
317.00†	0.000	77.480	317.00	0.00	0.00	0.00	40°12'48.236"N	104°57'43.204"W	0.00	
417.00†	0.000	77.480	417.00	0.00	0.00	0.00	40°12'48.236"N	104°57'43.204"W	0.00	
517.00†	0.000	77.480	517.00	0.00	0.00	0.00	40°12'48.236"N	104°57'43.204"W	0.00	
617.00†	0.000	77.480	617.00	0.00	0.00	0.00	40°12'48.236"N	104°57'43.204"W	0.00	
717.00†	0.000	77.480	717.00	0.00	0.00	0.00	40°12'48.236"N	104°57'43.204"W	0.00	
817.00†	0.000	77.480	817.00	0.00	0.00	0.00	40°12'48.236"N	104°57'43.204"W	0.00	
917.00†	0.000	77.480	917.00	0.00	0.00	0.00	40°12'48.236"N	104°57'43.204"W	0.00	
1017.00†	0.000	77.480	1017.00	0.00	0.00	0.00	40°12'48.236"N	104°57'43.204"W	0.00	
1117.00†	0.000	77.480	1117.00	0.00	0.00	0.00	40°12'48.236"N	104°57'43.204"W	0.00	
1217.00†	0.000	77.480	1217.00	0.00	0.00	0.00	40°12'48.236"N	104°57'43.204"W	0.00	
1273.00†	0.000	77.480	1273.00	0.00	0.00	0.00	40°12'48.236"N	104°57'43.204"W	0.00	FOX HILLS MARKER
1317.00†	0.000	77.480	1317.00	0.00	0.00	0.00	40°12'48.236"N	104°57'43.204"W	0.00	
1417.00†	0.000	77.480	1417.00	0.00	0.00	0.00	40°12'48.236"N	104°57'43.204"W	0.00	
1423.00	0.000	77.480	1423.00	0.00	0.00	0.00	40°12'48.236"N	104°57'43.204"W	0.00	BEGIN NUDGE
1517.00†	1.880	77.480	1516.98	-1.51	0.33	1.51	40°12'48.239"N	104°57'43.185"W	2.00	
1617.00†	3.880	77.480	1616.85	-6.41	1.42	6.41	40°12'48.250"N	104°57'43.121"W	2.00	
1717.00†	5.880	77.480	1716.48	-14.71	3.27	14.71	40°12'48.268"N	104°57'43.014"W	2.00	
1817.00†	7.880	77.480	1815.76	-26.41	5.86	26.41	40°12'48.294"N	104°57'42.864"W	2.00	
1917.00†	9.880	77.480	1914.56	-41.48	9.21	41.48	40°12'48.327"N	104°57'42.669"W	2.00	
2017.00†	11.880	77.480	2012.75	-59.90	13.30	59.90	40°12'48.367"N	104°57'42.432"W	2.00	
2117.00†	13.880	77.480	2110.23	-81.66	18.13	81.66	40°12'48.415"N	104°57'42.151"W	2.00	
2217.00†	15.880	77.480	2206.87	-106.73	23.70	106.73	40°12'48.470"N	104°57'41.828"W	2.00	
2317.00†	17.880	77.480	2302.56	-135.07	29.99	135.07	40°12'48.532"N	104°57'41.463"W	2.00	
2323.00	18.000	77.480	2308.27	-136.87	30.40	136.88	40°12'48.536"N	104°57'41.440"W	2.00	END NUDGE
2417.00†	18.000	77.480	2397.67	-165.23	36.69	165.24	40°12'48.599"N	104°57'41.074"W	0.00	
2517.00†	18.000	77.480	2492.77	-195.40	43.39	195.40	40°12'48.665"N	104°57'40.685"W	0.00	
2617.00†	18.000	77.480	2587.88	-225.56	50.09	225.57	40°12'48.731"N	104°57'40.296"W	0.00	
2717.00†	18.000	77.480	2682.98	-255.73	56.79	255.74	40°12'48.797"N	104°57'39.908"W	0.00	
2817.00†	18.000	77.480	2778.09	-285.89	63.49	285.90	40°12'48.863"N	104°57'39.519"W	0.00	
2917.00†	18.000	77.480	2873.20	-316.06	70.19	316.07	40°12'48.930"N	104°57'39.130"W	0.00	
3017.00†	18.000	77.480	2968.30	-346.23	76.89	346.24	40°12'48.996"N	104°57'38.741"W	0.00	
3117.00†	18.000	77.480	3063.41	-376.39	83.58	376.40	40°12'49.062"N	104°57'38.352"W	0.00	
3217.00†	18.000	77.480	3158.51	-406.56	90.28	406.57	40°12'49.128"N	104°57'37.963"W	0.00	
3317.00†	18.000	77.480	3253.62	-436.72	96.98	436.74	40°12'49.194"N	104°57'37.575"W	0.00	
3417.00†	18.000	77.480	3348.72	-466.89	103.68	466.90	40°12'49.261"N	104°57'37.186"W	0.00	
3517.00†	18.000	77.480	3443.83	-497.06	110.38	497.07	40°12'49.327"N	104°57'36.797"W	0.00	
3617.00†	18.000	77.480	3538.94	-527.22	117.08	527.24	40°12'49.393"N	104°57'36.408"W	0.00	
3717.00†	18.000	77.480	3634.04	-557.39	123.78	557.40	40°12'49.459"N	104°57'36.019"W	0.00	
3817.00†	18.000	77.480	3729.15	-587.55	130.48	587.57	40°12'49.525"N	104°57'35.630"W	0.00	
3917.00†	18.000	77.480	3824.25	-617.72	137.18	617.74	40°12'49.591"N	104°57'35.241"W	0.00	
4017.00†	18.000	77.480	3919.36	-647.89	143.87	647.91	40°12'49.658"N	104°57'34.853"W	0.00	



# Planned Wellpath Report

REYNOLDS CATTLE 5C-23HZ (PERMIT REV-2) PWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#13 REYNOLDS CATTLE 5C-23HZ (2011'FNL & 339'FEL, SEC.23)
Area	COLORADO	Well	REYNOLDS CATTLE 5C-23HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	REYNOLDS CATTLE 5C-23HZ PWB
Facility	SEC.23-T3N-R68W		

## WELLPATH DATA (151 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4117.00†	18.000	77.480	4014.46	-678.05	150.57	678.07	40°12'49.724"N	104°57'34.464"W	0.00	
4217.00†	18.000	77.480	4109.57	-708.22	157.27	708.24	40°12'49.790"N	104°57'34.075"W	0.00	
4294.21†	18.000	77.480	4183.00	-731.51	162.44	731.53	40°12'49.841"N	104°57'33.775"W	0.00	SUSSEX
4317.00†	18.000	77.480	4204.68	-738.38	163.97	738.41	40°12'49.856"N	104°57'33.686"W	0.00	
4417.00†	18.000	77.480	4299.78	-768.55	170.67	768.57	40°12'49.922"N	104°57'33.297"W	0.00	
4517.00†	18.000	77.480	4394.89	-798.71	177.37	798.74	40°12'49.989"N	104°57'32.908"W	0.00	
4617.00†	18.000	77.480	4489.99	-828.88	184.07	828.91	40°12'50.055"N	104°57'32.519"W	0.00	
4717.00†	18.000	77.480	4585.10	-859.05	190.77	859.07	40°12'50.121"N	104°57'32.131"W	0.00	
4817.00†	18.000	77.480	4680.20	-889.21	197.47	889.24	40°12'50.187"N	104°57'31.742"W	0.00	
4862.00†	18.000	77.480	4723.00	-902.79	200.48	902.82	40°12'50.217"N	104°57'31.567"W	0.00	SHANNON
4917.00†	18.000	77.480	4775.31	-919.38	204.16	919.41	40°12'50.253"N	104°57'31.353"W	0.00	
5017.00†	18.000	77.480	4870.41	-949.54	210.86	949.57	40°12'50.320"N	104°57'30.964"W	0.00	
5117.00†	18.000	77.480	4965.52	-979.71	217.56	979.74	40°12'50.386"N	104°57'30.575"W	0.00	
5217.00†	18.000	77.480	5060.63	-1009.88	224.26	1009.91	40°12'50.452"N	104°57'30.186"W	0.00	
5317.00†	18.000	77.480	5155.73	-1040.04	230.96	1040.07	40°12'50.518"N	104°57'29.797"W	0.00	
5417.00†	18.000	77.480	5250.84	-1070.21	237.66	1070.24	40°12'50.584"N	104°57'29.409"W	0.00	
5517.00†	18.000	77.480	5345.94	-1100.37	244.36	1100.41	40°12'50.650"N	104°57'29.020"W	0.00	
5617.00†	18.000	77.480	5441.05	-1130.54	251.06	1130.58	40°12'50.717"N	104°57'28.631"W	0.00	
5637.98	18.000	77.480	5461.00	-1136.87	252.46	1136.90	40°12'50.731"N	104°57'28.549"W	0.00	BEGIN DROP
5717.00†	16.420	77.480	5536.48	-1159.69	257.53	1159.73	40°12'50.781"N	104°57'28.255"W	2.00	
5817.00†	14.420	77.480	5632.88	-1185.65	263.29	1185.68	40°12'50.838"N	104°57'27.921"W	2.00	
5917.00†	12.420	77.480	5730.14	-1208.30	268.32	1208.34	40°12'50.887"N	104°57'27.629"W	2.00	
6017.00†	10.420	77.480	5828.16	-1227.63	272.62	1227.66	40°12'50.930"N	104°57'27.379"W	2.00	
6117.00†	8.420	77.480	5926.80	-1243.60	276.16	1243.64	40°12'50.965"N	104°57'27.173"W	2.00	
6217.00†	6.420	77.480	6025.96	-1256.21	278.96	1256.25	40°12'50.992"N	104°57'27.011"W	2.00	
6317.00†	4.420	77.480	6125.51	-1265.43	281.01	1265.47	40°12'51.013"N	104°57'26.892"W	2.00	
6417.00†	2.420	77.480	6225.33	-1271.25	282.30	1271.29	40°12'51.025"N	104°57'26.817"W	2.00	
6517.00†	0.420	77.480	6325.29	-1273.67	282.84	1273.71	40°12'51.031"N	104°57'26.786"W	2.00	
6537.98	0.000	269.986	6346.27	-1273.74	282.86	1273.78	40°12'51.031"N	104°57'26.785"W	2.00	END DROP
6617.00†	0.000	269.986	6425.29	-1273.74	282.86	1273.78	40°12'51.031"N	104°57'26.785"W	0.00	
6717.00†	0.000	269.986	6525.29	-1273.74	282.86	1273.78	40°12'51.031"N	104°57'26.785"W	0.00	
6817.00†	0.000	269.986	6625.29	-1273.74	282.86	1273.78	40°12'51.031"N	104°57'26.785"W	0.00	
6917.00†	0.000	269.986	6725.29	-1273.74	282.86	1273.78	40°12'51.031"N	104°57'26.785"W	0.00	
6946.77	0.000	269.986	6755.06	-1273.74	282.86	1273.78	40°12'51.031"N	104°57'26.785"W	0.00	KOP, BUILD @ 10°/100'
7017.00†	7.023	269.986	6825.11	-1269.44	282.86	1269.48	40°12'51.031"N	104°57'26.840"W	10.00	
7117.00†	17.023	269.986	6922.80	-1248.64	282.85	1248.68	40°12'51.031"N	104°57'27.109"W	10.00	
7193.24†	24.647	269.986	6994.00	-1221.54	282.84	1221.58	40°12'51.031"N	104°57'27.458"W	10.00	SHARON SPRINGS
7217.00†	27.023	269.986	7015.38	-1211.19	282.84	1211.23	40°12'51.031"N	104°57'27.591"W	10.00	
7281.41†	33.465	269.986	7071.00	-1178.76	282.83	1178.80	40°12'51.031"N	104°57'28.009"W	10.00	NIOBRARA A
7315.68†	36.891	269.986	7099.00	-1159.03	282.83	1159.07	40°12'51.031"N	104°57'28.264"W	10.00	NIOBRARA B
7317.00†	37.023	269.986	7100.06	-1158.23	282.83	1158.27	40°12'51.031"N	104°57'28.274"W	10.00	
7417.00†	47.023	269.986	7174.25	-1091.37	282.81	1091.41	40°12'51.031"N	104°57'29.136"W	10.00	
7418.10†	47.133	269.986	7175.00	-1090.57	282.81	1090.61	40°12'51.031"N	104°57'29.146"W	10.00	NIOBRARA C
7517.00†	57.023	269.986	7235.71	-1012.65	282.79	1012.69	40°12'51.030"N	104°57'30.150"W	10.00	
7617.00†	67.023	269.986	7282.56	-924.44	282.77	924.48	40°12'51.030"N	104°57'31.287"W	10.00	



# Planned Wellpath Report

REYNOLDS CATTLE 5C-23HZ (PERMIT REV-2) PWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#13 REYNOLDS CATTLE 5C-23HZ (2011'FNL & 339'FEL, SEC.23)
Area	COLORADO	Well	REYNOLDS CATTLE 5C-23HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	REYNOLDS CATTLE 5C-23HZ PWB
Facility	SEC.23-T3N-R68W		

## WELLPATH DATA (151 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7657.38†	71.061	269.986	7297.00	-886.74	282.76	886.78	40°12'51.030"N	104°57'31.773"W	10.00	FORT HAYS
7717.00†	77.023	269.986	7313.38	-829.45	282.75	829.49	40°12'51.030"N	104°57'32.512"W	10.00	
7770.90†	82.413	269.986	7323.00	-776.43	282.74	776.47	40°12'51.030"N	104°57'33.195"W	10.00	CODELL
7817.00†	87.023	269.986	7327.24	-730.54	282.73	730.58	40°12'51.030"N	104°57'33.787"W	10.00	
7850.69	90.392	269.986	7328.00	-696.87	282.72	696.91	40°12'51.030"N	104°57'34.221"W	10.00	LANDING POINT
7917.00†	90.392	269.986	7327.55	-630.55	282.70	630.59	40°12'51.030"N	104°57'35.076"W	0.00	
8017.00†	90.392	269.986	7326.87	-530.56	282.68	530.60	40°12'51.029"N	104°57'36.365"W	0.00	
8117.00†	90.392	269.986	7326.18	-430.56	282.66	430.60	40°12'51.029"N	104°57'37.654"W	0.00	
8217.00†	90.392	269.986	7325.50	-330.56	282.63	330.60	40°12'51.029"N	104°57'38.943"W	0.00	
8317.00†	90.392	269.986	7324.81	-230.56	282.61	230.60	40°12'51.029"N	104°57'40.232"W	0.00	
8417.00†	90.392	269.986	7324.13	-130.57	282.58	130.61	40°12'51.028"N	104°57'41.520"W	0.00	
8517.00†	90.392	269.986	7323.45	-30.57	282.56	30.61	40°12'51.028"N	104°57'42.809"W	0.00	
8617.00†	90.392	269.986	7322.76	69.43	282.54	-69.39	40°12'51.028"N	104°57'44.098"W	0.00	
8717.00†	90.392	269.986	7322.08	169.43	282.51	-169.39	40°12'51.028"N	104°57'45.387"W	0.00	
8817.00†	90.392	269.986	7321.40	269.42	282.49	-269.38	40°12'51.028"N	104°57'46.676"W	0.00	
8917.00†	90.392	269.986	7320.71	369.42	282.47	-369.38	40°12'51.027"N	104°57'47.965"W	0.00	
9017.00†	90.392	269.986	7320.03	469.42	282.44	-469.38	40°12'51.027"N	104°57'49.254"W	0.00	
9117.00†	90.392	269.986	7319.35	569.42	282.42	-569.38	40°12'51.027"N	104°57'50.543"W	0.00	
9217.00†	90.392	269.986	7318.66	669.41	282.39	-669.38	40°12'51.027"N	104°57'51.832"W	0.00	
9317.00†	90.392	269.986	7317.98	769.41	282.37	-769.37	40°12'51.026"N	104°57'53.121"W	0.00	
9417.00†	90.392	269.986	7317.29	869.41	282.35	-869.37	40°12'51.026"N	104°57'54.410"W	0.00	
9517.00†	90.392	269.986	7316.61	969.41	282.32	-969.37	40°12'51.026"N	104°57'55.699"W	0.00	
9617.00†	90.392	269.986	7315.93	1069.41	282.30	-1069.37	40°12'51.025"N	104°57'56.988"W	0.00	
9717.00†	90.392	269.986	7315.24	1169.40	282.27	-1169.36	40°12'51.025"N	104°57'58.277"W	0.00	
9817.00†	90.392	269.986	7314.56	1269.40	282.25	-1269.36	40°12'51.025"N	104°57'59.566"W	0.00	
9917.00†	90.392	269.986	7313.88	1369.40	282.23	-1369.36	40°12'51.025"N	104°58'00.855"W	0.00	
10017.00†	90.392	269.986	7313.19	1469.40	282.20	-1469.36	40°12'51.024"N	104°58'02.144"W	0.00	
10117.00†	90.392	269.986	7312.51	1569.39	282.18	-1569.35	40°12'51.024"N	104°58'03.433"W	0.00	
10217.00†	90.392	269.986	7311.82	1669.39	282.15	-1669.35	40°12'51.024"N	104°58'04.722"W	0.00	
10317.00†	90.392	269.986	7311.14	1769.39	282.13	-1769.35	40°12'51.023"N	104°58'06.011"W	0.00	
10417.00†	90.392	269.986	7310.46	1869.39	282.11	-1869.35	40°12'51.023"N	104°58'07.300"W	0.00	
10517.00†	90.392	269.986	7309.77	1969.38	282.08	-1969.35	40°12'51.023"N	104°58'08.589"W	0.00	
10617.00†	90.392	269.986	7309.09	2069.38	282.06	-2069.34	40°12'51.022"N	104°58'09.878"W	0.00	
10717.00†	90.392	269.986	7308.41	2169.38	282.04	-2169.34	40°12'51.022"N	104°58'11.167"W	0.00	
10817.00†	90.392	269.986	7307.72	2269.38	282.01	-2269.34	40°12'51.022"N	104°58'12.456"W	0.00	
10917.00†	90.392	269.986	7307.04	2369.38	281.99	-2369.34	40°12'51.021"N	104°58'13.745"W	0.00	
11017.00†	90.392	269.986	7306.36	2469.37	281.96	-2469.33	40°12'51.021"N	104°58'15.034"W	0.00	
11117.00†	90.392	269.986	7305.67	2569.37	281.94	-2569.33	40°12'51.021"N	104°58'16.323"W	0.00	
11217.00†	90.392	269.986	7304.99	2669.37	281.92	-2669.33	40°12'51.020"N	104°58'17.612"W	0.00	
11317.00†	90.392	269.986	7304.30	2769.37	281.89	-2769.33	40°12'51.020"N	104°58'18.901"W	0.00	
11417.00†	90.392	269.986	7303.62	2869.36	281.87	-2869.32	40°12'51.020"N	104°58'20.190"W	0.00	
11517.00†	90.392	269.986	7302.94	2969.36	281.84	-2969.32	40°12'51.019"N	104°58'21.479"W	0.00	
11617.00†	90.392	269.986	7302.25	3069.36	281.82	-3069.32	40°12'51.019"N	104°58'22.768"W	0.00	
11717.00†	90.392	269.986	7301.57	3169.36	281.80	-3169.32	40°12'51.019"N	104°58'24.056"W	0.00	
11817.00†	90.392	269.986	7300.89	3269.35	281.77	-3269.31	40°12'51.018"N	104°58'25.345"W	0.00	





# Planned Wellpath Report

REYNOLDS CATTLE 5C-23HZ (PERMIT REV-2) PWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#13 REYNOLDS CATTLE 5C-23HZ (2011'FNL & 339'FEL, SEC.23)
Area	COLORADO	Well	REYNOLDS CATTLE 5C-23HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	REYNOLDS CATTLE 5C-23HZ PWB
Facility	SEC.23-T3N-R68W		

## WELLPATH DATA (151 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11917.00†	90.392	269.986	7300.20	3369.35	281.75	-3369.31	40°12'51.018"N	104°58'26.634"W	0.00	
12017.00†	90.392	269.986	7299.52	3469.35	281.73	-3469.31	40°12'51.018"N	104°58'27.923"W	0.00	
12117.00†	90.392	269.986	7298.83	3569.35	281.70	-3569.31	40°12'51.017"N	104°58'29.212"W	0.00	
12217.00†	90.392	269.986	7298.15	3669.34	281.68	-3669.31	40°12'51.017"N	104°58'30.501"W	0.00	
12317.00†	90.392	269.986	7297.47	3769.34	281.65	-3769.30	40°12'51.016"N	104°58'31.790"W	0.00	
12417.00†	90.392	269.986	7296.78	3869.34	281.63	-3869.30	40°12'51.016"N	104°58'33.079"W	0.00	
12517.00†	90.392	269.986	7296.10	3969.34	281.61	-3969.30	40°12'51.016"N	104°58'34.368"W	0.00	
12617.00†	90.392	269.986	7295.42	4069.34	281.58	-4069.30	40°12'51.015"N	104°58'35.657"W	0.00	
12717.00†	90.392	269.986	7294.73	4169.33	281.56	-4169.29	40°12'51.015"N	104°58'36.946"W	0.00	
12817.00†	90.392	269.986	7294.05	4269.33	281.53	-4269.29	40°12'51.014"N	104°58'38.235"W	0.00	
12917.00†	90.392	269.986	7293.37	4369.33	281.51	-4369.29	40°12'51.014"N	104°58'39.524"W	0.00	
13017.00†	90.392	269.986	7292.68	4469.33	281.49	-4469.29	40°12'51.014"N	104°58'40.813"W	0.00	
13117.00†	90.392	269.986	7292.00	4569.32	281.46	-4569.28	40°12'51.013"N	104°58'42.102"W	0.00	
13217.00†	90.392	269.986	7291.31	4669.32	281.44	-4669.28	40°12'51.013"N	104°58'43.391"W	0.00	
13317.00†	90.392	269.986	7290.63	4769.32	281.42	-4769.28	40°12'51.012"N	104°58'44.680"W	0.00	
13409.23	90.392	269.986	7290.00 <sup>1</sup>	4861.55	281.39	-4861.51	40°12'51.012"N	104°58'45.869"W	0.00	TOTAL DEPTH

## HOLE & CASING SECTIONS -

Ref Wellbore: REYNOLDS CATTLE 5C-23HZ PWB Ref Wellpath: REYNOLDS CATTLE 5C-23HZ (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	17.00	1323.00	1306.00	17.00	1323.00	0.00	0.00	0.00	0.00
9.625in Casing Surface	17.00	1323.00	1306.00	17.00	1323.00	0.00	0.00	0.00	0.00
8.75in Open Hole	1323.00	7850.69	6527.69	1323.00	7328.00	0.00	0.00	282.72	696.90
7in Casing Intermediate	17.00	7850.69	7833.69	17.00	7328.00	0.00	0.00	282.72	696.90
6.125in Open Hole	7850.69	13409.23	5558.54	7328.00	7290.00	282.72	696.90	281.39	-4861.51
4.5in Casing Production	17.00	13409.23	13392.23	17.00	7290.00	0.00	0.00	281.39	-4861.51



# Planned Wellpath Report

REYNOLDS CATTLE 5C-23HZ (PERMIT REV-2) PWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#13 REYNOLDS CATTLE 5C-23HZ (2011'FNL & 339'FEL, SEC.23)
Area	COLORADO	Well	REYNOLDS CATTLE 5C-23HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	REYNOLDS CATTLE 5C-23HZ PWB
Facility	SEC.23-T3N-R68W		

## TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.19-T3N-R67W SECTION LINES		25.00	1450.69	172.06	3150413.01	1322490.88	40°13'02.572"N	104°57'40.986"W	polygon
SEC.23-T3N-R68W SECTION LINES		25.00	1450.69	172.06	3150413.01	1322490.88	40°13'02.572"N	104°57'40.986"W	polygon
SEC.24-T3N-R68W SECTION LINES		25.00	1450.69	172.06	3150413.01	1322490.88	40°13'02.572"N	104°57'40.986"W	polygon
1) REYNOLDS CATTLE 5C-23HZ BHL ON PLAT REV-1 (1732'FNL & 50'FWL, SEC.23)	13409.23	7290.00	281.39	-4861.51	3145386.86	1321291.13	40°12'51.012"N	104°58'45.869"W	point
REYNOLDS CATTLE 5C-23HZ LANDBOX		7290.00	0.00	0.00	3150249.76	1321039.25	40°12'48.236"N	104°57'43.204"W	polygon

## SURVEY PROGRAM -

Ref Wellbore: REYNOLDS CATTLE 5C-23HZ PWB Ref Wellpath: REYNOLDS CATTLE 5C-23HZ (PERMIT REV-2) PWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	7850.69	NaviTrak (IFR)		REYNOLDS CATTLE 5C-23HZ PWB
7850.69	13409.23	NaviTrak (IFR)		REYNOLDS CATTLE 5C-23HZ PWB



# Planned Wellpath Report

REYNOLDS CATTLE 5C-23HZ (PERMIT REV-2) PWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#13 REYNOLDS CATTLE 5C-23HZ (2011'FNL & 339'FEL, SEC.23)
Area	COLORADO	Well	REYNOLDS CATTLE 5C-23HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	REYNOLDS CATTLE 5C-23HZ PWB
Facility	SEC.23-T3N-R68W		

## WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1273.00	0.000	77.480	1273.00	FOX HILLS MARKER
4294.21	18.000	77.480	4183.00	SUSSEX
4862.00	18.000	77.480	4723.00	SHANNON
7193.24	24.647	269.986	6994.00	SHARON SPRINGS
7281.41	33.465	269.986	7071.00	NIOBRARA A
7315.68	36.891	269.986	7099.00	NIOBRARA B
7418.10	47.133	269.986	7175.00	NIOBRARA C
7657.38	71.061	269.986	7297.00	FORT HAYS
7770.90	82.413	269.986	7323.00	CODELL