

KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#14 REYNOLDS CATTLE 6C-19HZ (2041'FNL & 339'FEL, SEC.23)
 Field: WELD COUNTY (KERR MCGEE) Well: REYNOLDS CATTLE 6C-19HZ
 Facility: SEC.23-T3N-R68W Wellbore: REYNOLDS CATTLE 6C-19HZ PWB

Plot reference wellpath is REYNOLDS CATTLE 6C-19HZ (PERMIT REV-1) PWB

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#14 REYNOLDS CATTLE 6C-19HZ (2041'FNL & 339'FEL, SEC.23)): 0 feet Depths are in feet
 Coordinates are in feet referenced to Slot Created by: wlsjpf02 on 12/9/2013

Location Information

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude		
SEC.23-T3N-R68W	3147390.982	1322789.280	40°13'05.700"N	104°58'19.920"W		
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#14 REYNOLDS CATTLE 6C-19HZ (2041'FNL & 339'FEL, SEC.23)	-1756.95	2848.76	3150250.254	1321009.397	40°12'47.941"N	104°57'43.200"W
PERMIT (17KB) (RKB) to Mud line (At Slot: SLOT#14 REYNOLDS CATTLE 6C-19HZ (2041'FNL & 339'FEL, SEC.23))						4973ft
Mean Sea Level to Mud line (At Slot: SLOT#14 REYNOLDS CATTLE 6C-19HZ (2041'FNL & 339'FEL, SEC.23))						0ft
PERMIT (17KB) (RKB) to Mean Sea Level						4973ft

Well Profile Data

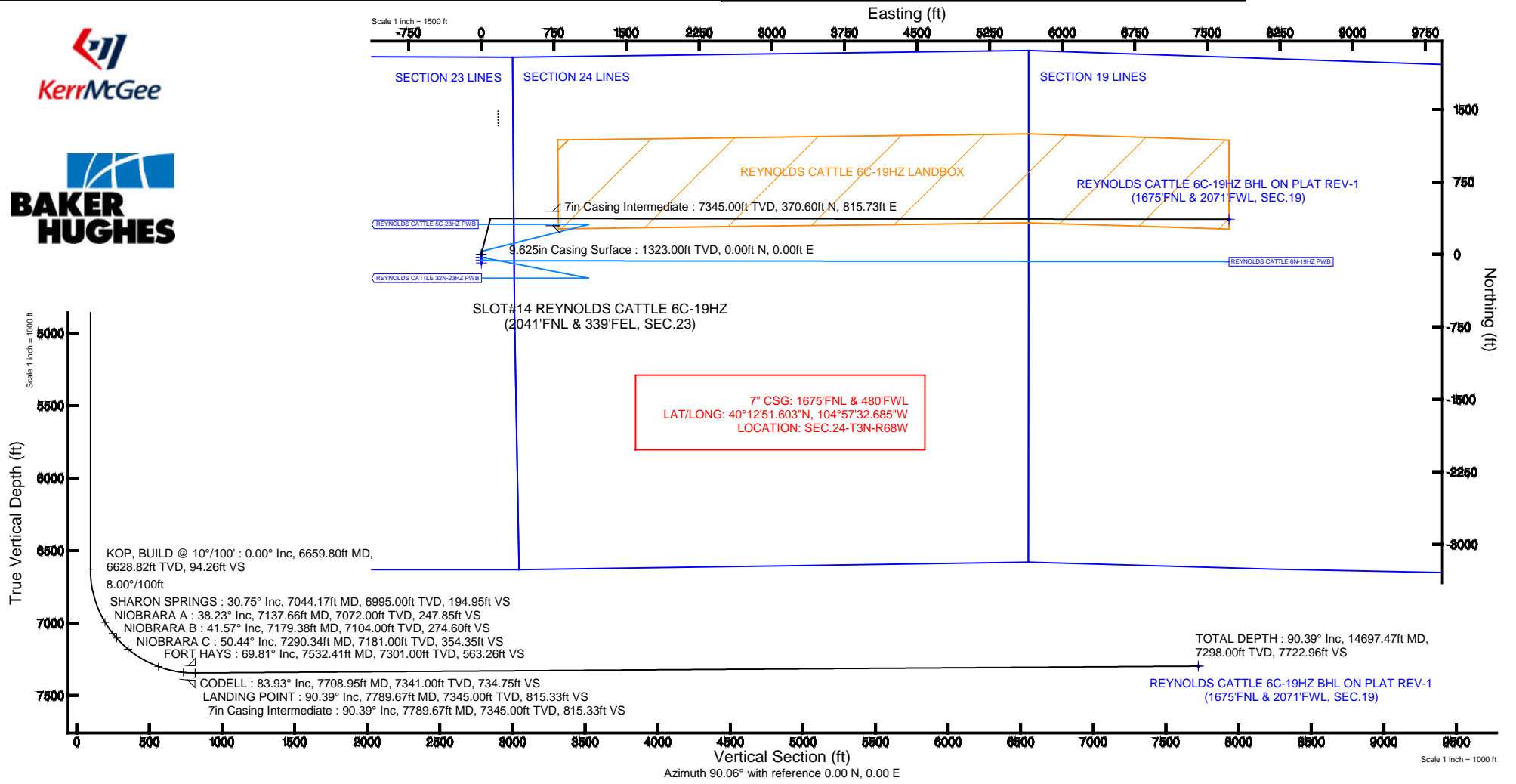
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
TIE ON	17.00	0.000	14.300	17.00	0.00	0.00	0.00	0.00
BEGIN NUDGE	1423.00	0.000	14.300	1423.00	0.00	0.00	0.00	0.00
END NUDGE	1923.00	10.000	14.300	1920.47	42.17	10.75	2.00	10.70
BEGIN DROP	3628.90	10.000	14.300	3600.45	329.22	83.92	0.00	83.56
END DROP	4128.90	0.000	90.063	4097.92	371.40	94.67	2.00	94.26
KOP, BUILD @ 10°/100'	6659.80	0.000	90.063	6628.82	371.40	94.67	0.00	94.26
LANDING POINT	7789.67	90.390	90.063	7345.00	370.60	815.74	8.00	815.33
TOTAL DEPTH	14697.47	90.390	90.063	7298.00	362.97	7723.37	0.00	7722.96

Survey Program

Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
17.00	7789.67	NaviTrak	NaviTrak (IFR)		REYNOLDS CATTLE 6C-19HZ PWB
7789.67	14697.47	NaviTrak	NaviTrak (IFR)		REYNOLDS CATTLE 6C-19HZ PWB

Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.23-T3N-R68W SECTION LINES		25.00	148554	171.75	3150150.00	1322849.00	40°13'02.00"N	104°57'43.00"W
SEC.24-T3N-R68W SECTION LINES		25.00	148554	171.75	3150150.00	1322849.00	40°13'02.00"N	104°57'43.00"W
SEC.24-T3N-R68W SECTION LINES		25.00	148554	171.75	3150150.00	1322849.00	40°13'02.00"N	104°57'43.00"W
REYNOLDS CATTLE 6C-19HZ BHL ON PLAT REV-1 (1675'FNL & 2071'FWL, SEC. 19)	14697.47	7298.00	362.97	7723.37	3150700.00	1321415.00	40°12'53.94"N	104°58'04.00"W
REYNOLDS CATTLE 6C-19HZ LANDBOX	7298.00	0.00	0.00	0.00	3150250.00	1321009.00	40°12'47.94"N	104°57'43.00"W



Azimuth 90.06° with reference 0.00 N, 0.00 E

Scale 1 inch = 1000 ft



Planned Wellpath Report

REYNOLDS CATTLE 6C-19HZ (PERMIT REV-1) PWP
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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#14 REYNOLDS CATTLE 6C-19HZ (2041'FNL & 339'FEL, SEC.23)
Area	COLORADO	Well	REYNOLDS CATTLE 6C-19HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	REYNOLDS CATTLE 6C-19HZ 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	12/9/2013 at 10:00:38
Convergence at slot	n/a	Database/Source file	WellArchitectDB/REYNOLDS_CATTLE_6C-19HZ_PWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-1796.95	2848.76	3150250.25	1321009.40	40°12'47.941"N	104°57'43.200"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#14 REYNOLDS CATTLE 6C-19HZ (2041'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	90.06°



Planned Wellpath Report

REYNOLDS CATTLE 6C-19HZ (PERMIT REV-1) PWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#14 REYNOLDS CATTLE 6C-19HZ (2041'FNL & 339'FEL, SEC.23)
Area	COLORADO	Well	REYNOLDS CATTLE 6C-19HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	REYNOLDS CATTLE 6C-19HZ PWB
Facility	SEC.23-T3N-R68W		

WELLPATH DATA (164 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	14.300	0.00	0.00	0.00	0.00	40°12'47.941"N	104°57'43.200"W	0.00	
17.00	0.000	14.300	17.00	0.00	0.00	0.00	40°12'47.941"N	104°57'43.200"W	0.00	TIE ON
117.00†	0.000	14.300	117.00	0.00	0.00	0.00	40°12'47.941"N	104°57'43.200"W	0.00	
217.00†	0.000	14.300	217.00	0.00	0.00	0.00	40°12'47.941"N	104°57'43.200"W	0.00	
317.00†	0.000	14.300	317.00	0.00	0.00	0.00	40°12'47.941"N	104°57'43.200"W	0.00	
417.00†	0.000	14.300	417.00	0.00	0.00	0.00	40°12'47.941"N	104°57'43.200"W	0.00	
517.00†	0.000	14.300	517.00	0.00	0.00	0.00	40°12'47.941"N	104°57'43.200"W	0.00	
617.00†	0.000	14.300	617.00	0.00	0.00	0.00	40°12'47.941"N	104°57'43.200"W	0.00	
717.00†	0.000	14.300	717.00	0.00	0.00	0.00	40°12'47.941"N	104°57'43.200"W	0.00	
817.00†	0.000	14.300	817.00	0.00	0.00	0.00	40°12'47.941"N	104°57'43.200"W	0.00	
917.00†	0.000	14.300	917.00	0.00	0.00	0.00	40°12'47.941"N	104°57'43.200"W	0.00	
1017.00†	0.000	14.300	1017.00	0.00	0.00	0.00	40°12'47.941"N	104°57'43.200"W	0.00	
1117.00†	0.000	14.300	1117.00	0.00	0.00	0.00	40°12'47.941"N	104°57'43.200"W	0.00	
1217.00†	0.000	14.300	1217.00	0.00	0.00	0.00	40°12'47.941"N	104°57'43.200"W	0.00	
1273.00†	0.000	14.300	1273.00	0.00	0.00	0.00	40°12'47.941"N	104°57'43.200"W	0.00	FOX HILLS MARKER
1317.00†	0.000	14.300	1317.00	0.00	0.00	0.00	40°12'47.941"N	104°57'43.200"W	0.00	
1417.00†	0.000	14.300	1417.00	0.00	0.00	0.00	40°12'47.941"N	104°57'43.200"W	0.00	
1423.00	0.000	14.300	1423.00	0.00	0.00	0.00	40°12'47.941"N	104°57'43.200"W	0.00	BEGIN NUDGE
1517.00†	1.880	14.300	1516.98	0.38	1.49	0.38	40°12'47.956"N	104°57'43.195"W	2.00	
1617.00†	3.880	14.300	1616.85	1.61	6.36	1.62	40°12'48.004"N	104°57'43.179"W	2.00	
1717.00†	5.880	14.300	1716.48	3.71	14.61	3.72	40°12'48.085"N	104°57'43.152"W	2.00	
1817.00†	7.880	14.300	1815.76	6.65	26.21	6.68	40°12'48.200"N	104°57'43.114"W	2.00	
1917.00†	9.880	14.300	1914.56	10.45	41.17	10.49	40°12'48.348"N	104°57'43.065"W	2.00	
1923.00	10.000	14.300	1920.47	10.70	42.17	10.75	40°12'48.358"N	104°57'43.061"W	2.00	END NUDGE
2017.00†	10.000	14.300	2013.04	14.72	57.99	14.78	40°12'48.514"N	104°57'43.009"W	0.00	
2117.00†	10.000	14.300	2111.52	18.99	74.82	19.07	40°12'48.680"N	104°57'42.954"W	0.00	
2217.00†	10.000	14.300	2210.00	23.26	91.64	23.36	40°12'48.847"N	104°57'42.899"W	0.00	
2317.00†	10.000	14.300	2308.48	27.53	108.47	27.65	40°12'49.013"N	104°57'42.844"W	0.00	
2417.00†	10.000	14.300	2406.96	31.80	125.30	31.94	40°12'49.179"N	104°57'42.788"W	0.00	
2517.00†	10.000	14.300	2505.44	36.07	142.13	36.23	40°12'49.345"N	104°57'42.733"W	0.00	
2617.00†	10.000	14.300	2603.92	40.34	158.95	40.52	40°12'49.512"N	104°57'42.678"W	0.00	
2717.00†	10.000	14.300	2702.40	44.61	175.78	44.81	40°12'49.678"N	104°57'42.622"W	0.00	
2817.00†	10.000	14.300	2800.88	48.88	192.61	49.09	40°12'49.844"N	104°57'42.567"W	0.00	
2917.00†	10.000	14.300	2899.36	53.15	209.43	53.38	40°12'50.011"N	104°57'42.512"W	0.00	
3017.00†	10.000	14.300	2997.85	57.42	226.26	57.67	40°12'50.177"N	104°57'42.457"W	0.00	
3117.00†	10.000	14.300	3096.33	61.69	243.09	61.96	40°12'50.343"N	104°57'42.401"W	0.00	
3217.00†	10.000	14.300	3194.81	65.97	259.91	66.25	40°12'50.509"N	104°57'42.346"W	0.00	
3317.00†	10.000	14.300	3293.29	70.24	276.74	70.54	40°12'50.676"N	104°57'42.291"W	0.00	
3417.00†	10.000	14.300	3391.77	74.51	293.57	74.83	40°12'50.842"N	104°57'42.235"W	0.00	
3517.00†	10.000	14.300	3490.25	78.78	310.39	79.12	40°12'51.008"N	104°57'42.180"W	0.00	
3617.00†	10.000	14.300	3588.73	83.05	327.22	83.41	40°12'51.175"N	104°57'42.125"W	0.00	
3628.90	10.000	14.300	3600.45	83.56	329.22	83.92	40°12'51.194"N	104°57'42.118"W	0.00	BEGIN DROP
3717.00†	8.238	14.300	3687.43	86.99	342.75	87.37	40°12'51.328"N	104°57'42.074"W	2.00	
3817.00†	6.238	14.300	3786.63	90.09	354.96	90.48	40°12'51.449"N	104°57'42.034"W	2.00	
3917.00†	4.238	14.300	3886.21	92.33	363.81	92.73	40°12'51.536"N	104°57'42.005"W	2.00	



Planned Wellpath Report

REYNOLDS CATTLE 6C-19HZ (PERMIT REV-1) PWP
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REFERENCE WELLPATH IDENTIFICATION			
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Area	COLORADO	Well	REYNOLDS CATTLE 6C-19HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	REYNOLDS CATTLE 6C-19HZ PWB
Facility	SEC.23-T3N-R68W		

WELLPATH DATA (164 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4017.00†	2.238	14.300	3986.04	93.72	369.28	94.13	40°12'51.590"N	104°57'41.987"W	2.00	
4117.00†	0.238	14.300	4086.01	94.25	371.37	94.66	40°12'51.611"N	104°57'41.980"W	2.00	
4128.90	0.000	90.063	4097.92	94.26	371.40	94.67	40°12'51.611"N	104°57'41.980"W	2.00	END DROP
4213.99†	0.000	90.063	4183.00	94.26	371.40	94.67	40°12'51.611"N	104°57'41.980"W	0.00	SUSSEX
4217.00†	0.000	90.063	4186.01	94.26	371.40	94.67	40°12'51.611"N	104°57'41.980"W	0.00	
4317.00†	0.000	90.063	4286.01	94.26	371.40	94.67	40°12'51.611"N	104°57'41.980"W	0.00	
4417.00†	0.000	90.063	4386.01	94.26	371.40	94.67	40°12'51.611"N	104°57'41.980"W	0.00	
4517.00†	0.000	90.063	4486.01	94.26	371.40	94.67	40°12'51.611"N	104°57'41.980"W	0.00	
4617.00†	0.000	90.063	4586.01	94.26	371.40	94.67	40°12'51.611"N	104°57'41.980"W	0.00	
4717.00†	0.000	90.063	4686.01	94.26	371.40	94.67	40°12'51.611"N	104°57'41.980"W	0.00	
4753.99†	0.000	90.063	4723.00	94.26	371.40	94.67	40°12'51.611"N	104°57'41.980"W	0.00	SHANNON
4817.00†	0.000	90.063	4786.01	94.26	371.40	94.67	40°12'51.611"N	104°57'41.980"W	0.00	
4917.00†	0.000	90.063	4886.01	94.26	371.40	94.67	40°12'51.611"N	104°57'41.980"W	0.00	
5017.00†	0.000	90.063	4986.01	94.26	371.40	94.67	40°12'51.611"N	104°57'41.980"W	0.00	
5117.00†	0.000	90.063	5086.01	94.26	371.40	94.67	40°12'51.611"N	104°57'41.980"W	0.00	
5217.00†	0.000	90.063	5186.01	94.26	371.40	94.67	40°12'51.611"N	104°57'41.980"W	0.00	
5317.00†	0.000	90.063	5286.01	94.26	371.40	94.67	40°12'51.611"N	104°57'41.980"W	0.00	
5417.00†	0.000	90.063	5386.01	94.26	371.40	94.67	40°12'51.611"N	104°57'41.980"W	0.00	
5517.00†	0.000	90.063	5486.01	94.26	371.40	94.67	40°12'51.611"N	104°57'41.980"W	0.00	
5617.00†	0.000	90.063	5586.01	94.26	371.40	94.67	40°12'51.611"N	104°57'41.980"W	0.00	
5717.00†	0.000	90.063	5686.01	94.26	371.40	94.67	40°12'51.611"N	104°57'41.980"W	0.00	
5817.00†	0.000	90.063	5786.01	94.26	371.40	94.67	40°12'51.611"N	104°57'41.980"W	0.00	
5917.00†	0.000	90.063	5886.01	94.26	371.40	94.67	40°12'51.611"N	104°57'41.980"W	0.00	
6017.00†	0.000	90.063	5986.01	94.26	371.40	94.67	40°12'51.611"N	104°57'41.980"W	0.00	
6117.00†	0.000	90.063	6086.01	94.26	371.40	94.67	40°12'51.611"N	104°57'41.980"W	0.00	
6217.00†	0.000	90.063	6186.01	94.26	371.40	94.67	40°12'51.611"N	104°57'41.980"W	0.00	
6317.00†	0.000	90.063	6286.01	94.26	371.40	94.67	40°12'51.611"N	104°57'41.980"W	0.00	
6417.00†	0.000	90.063	6386.01	94.26	371.40	94.67	40°12'51.611"N	104°57'41.980"W	0.00	
6517.00†	0.000	90.063	6486.01	94.26	371.40	94.67	40°12'51.611"N	104°57'41.980"W	0.00	
6617.00†	0.000	90.063	6586.01	94.26	371.40	94.67	40°12'51.611"N	104°57'41.980"W	0.00	
6659.80	0.000	90.063	6628.82	94.26	371.40	94.67	40°12'51.611"N	104°57'41.980"W	0.00	KOP, BUILD @ 10°/100'
6717.00†	4.576	90.063	6685.95	96.54	371.39	96.95	40°12'51.611"N	104°57'41.950"W	8.00	
6817.00†	12.576	90.063	6784.76	111.44	371.38	111.85	40°12'51.611"N	104°57'41.758"W	8.00	
6917.00†	20.576	90.063	6880.52	139.95	371.35	140.36	40°12'51.611"N	104°57'41.391"W	8.00	
7017.00†	28.576	90.063	6971.39	181.50	371.30	181.91	40°12'51.610"N	104°57'40.855"W	8.00	
7044.17†	30.750	90.063	6995.00	194.95	371.29	195.36	40°12'51.610"N	104°57'40.682"W	8.00	SHARON SPRINGS
7117.00†	36.576	90.063	7055.59	235.30	371.24	235.71	40°12'51.610"N	104°57'40.162"W	8.00	
7137.66†	38.229	90.063	7072.00	247.85	371.23	248.26	40°12'51.609"N	104°57'40.000"W	8.00	NIOBRARA A
7179.38†	41.566	90.063	7104.00	274.60	371.20	275.01	40°12'51.609"N	104°57'39.655"W	8.00	NIOBRARA B
7217.00†	44.576	90.063	7131.48	300.29	371.17	300.70	40°12'51.609"N	104°57'39.324"W	8.00	
7290.34†	50.443	90.063	7181.00	354.35	371.11	354.76	40°12'51.608"N	104°57'38.627"W	8.00	NIOBRARA C
7317.00†	52.576	90.063	7197.59	375.22	371.09	375.62	40°12'51.608"N	104°57'38.358"W	8.00	
7417.00†	60.576	90.063	7252.63	458.61	370.99	459.02	40°12'51.607"N	104°57'37.283"W	8.00	
7517.00†	68.576	90.063	7295.53	548.85	370.89	549.26	40°12'51.606"N	104°57'36.120"W	8.00	
7532.41†	69.809	90.063	7301.00	563.26	370.88	563.67	40°12'51.606"N	104°57'35.934"W	8.00	FORT HAYS



Planned Wellpath Report

REYNOLDS CATTLE 6C-19HZ (PERMIT REV-1) PWP
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Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#14 REYNOLDS CATTLE 6C-19HZ (2041'FNL & 339'FEL, SEC.23)
Area	COLORADO	Well	REYNOLDS CATTLE 6C-19HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	REYNOLDS CATTLE 6C-19HZ PWB
Facility	SEC.23-T3N-R68W		

WELLPATH DATA (164 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7617.00†	76.576	90.063	7325.44	644.19	370.79	644.59	40°12'51.605"N	104°57'34.891"W	8.00	
7708.95†	83.932	90.063	7341.00	734.75	370.69	735.16	40°12'51.604"N	104°57'33.724"W	8.00	CODELL
7717.00†	84.576	90.063	7341.81	742.76	370.68	743.16	40°12'51.604"N	104°57'33.621"W	8.00	
7789.67	90.390	90.063	7345.00	815.33	370.60	815.74	40°12'51.603"N	104°57'32.685"W	8.00	LANDING POINT
7817.00†	90.390	90.063	7344.81	842.65	370.57	843.06	40°12'51.603"N	104°57'32.333"W	0.00	
7917.00†	90.390	90.063	7344.13	942.65	370.46	943.06	40°12'51.602"N	104°57'31.044"W	0.00	
8017.00†	90.390	90.063	7343.45	1042.65	370.35	1043.06	40°12'51.601"N	104°57'29.755"W	0.00	
8117.00†	90.390	90.063	7342.77	1142.65	370.24	1143.06	40°12'51.599"N	104°57'28.466"W	0.00	
8217.00†	90.390	90.063	7342.09	1242.65	370.13	1243.05	40°12'51.598"N	104°57'27.177"W	0.00	
8317.00†	90.390	90.063	7341.41	1342.64	370.02	1343.05	40°12'51.597"N	104°57'25.888"W	0.00	
8417.00†	90.390	90.063	7340.73	1442.64	369.91	1443.05	40°12'51.596"N	104°57'24.599"W	0.00	
8517.00†	90.390	90.063	7340.05	1542.64	369.80	1543.05	40°12'51.595"N	104°57'23.310"W	0.00	
8617.00†	90.390	90.063	7339.37	1642.64	369.69	1643.04	40°12'51.594"N	104°57'22.021"W	0.00	
8717.00†	90.390	90.063	7338.69	1742.63	369.58	1743.04	40°12'51.593"N	104°57'20.732"W	0.00	
8817.00†	90.390	90.063	7338.01	1842.63	369.47	1843.04	40°12'51.591"N	104°57'19.443"W	0.00	
8917.00†	90.390	90.063	7337.33	1942.63	369.36	1943.04	40°12'51.590"N	104°57'18.154"W	0.00	
9017.00†	90.390	90.063	7336.65	2042.63	369.25	2043.03	40°12'51.589"N	104°57'16.865"W	0.00	
9117.00†	90.390	90.063	7335.97	2142.62	369.14	2143.03	40°12'51.588"N	104°57'15.576"W	0.00	
9217.00†	90.390	90.063	7335.29	2242.62	369.02	2243.03	40°12'51.587"N	104°57'14.287"W	0.00	
9317.00†	90.390	90.063	7334.61	2342.62	368.91	2343.03	40°12'51.586"N	104°57'12.998"W	0.00	
9417.00†	90.390	90.063	7333.92	2442.62	368.80	2443.02	40°12'51.584"N	104°57'11.709"W	0.00	
9517.00†	90.390	90.063	7333.24	2542.62	368.69	2543.02	40°12'51.583"N	104°57'10.420"W	0.00	
9617.00†	90.390	90.063	7332.56	2642.61	368.58	2643.02	40°12'51.582"N	104°57'09.131"W	0.00	
9717.00†	90.390	90.063	7331.88	2742.61	368.47	2743.02	40°12'51.581"N	104°57'07.842"W	0.00	
9817.00†	90.390	90.063	7331.20	2842.61	368.36	2843.02	40°12'51.580"N	104°57'06.553"W	0.00	
9917.00†	90.390	90.063	7330.52	2942.61	368.25	2943.01	40°12'51.578"N	104°57'05.264"W	0.00	
10017.00†	90.390	90.063	7329.84	3042.60	368.14	3043.01	40°12'51.577"N	104°57'03.976"W	0.00	
10117.00†	90.390	90.063	7329.16	3142.60	368.03	3143.01	40°12'51.576"N	104°57'02.687"W	0.00	
10217.00†	90.390	90.063	7328.48	3242.60	367.92	3243.01	40°12'51.575"N	104°57'01.398"W	0.00	
10317.00†	90.390	90.063	7327.80	3342.60	367.81	3343.00	40°12'51.573"N	104°57'00.109"W	0.00	
10417.00†	90.390	90.063	7327.12	3442.59	367.70	3443.00	40°12'51.572"N	104°56'58.820"W	0.00	
10517.00†	90.390	90.063	7326.44	3542.59	367.59	3543.00	40°12'51.571"N	104°56'57.531"W	0.00	
10617.00†	90.390	90.063	7325.76	3642.59	367.48	3643.00	40°12'51.570"N	104°56'56.242"W	0.00	
10717.00†	90.390	90.063	7325.08	3742.59	367.37	3742.99	40°12'51.569"N	104°56'54.953"W	0.00	
10817.00†	90.390	90.063	7324.40	3842.59	367.26	3842.99	40°12'51.567"N	104°56'53.664"W	0.00	
10917.00†	90.390	90.063	7323.72	3942.58	367.15	3942.99	40°12'51.566"N	104°56'52.375"W	0.00	
11017.00†	90.390	90.063	7323.04	4042.58	367.04	4042.99	40°12'51.565"N	104°56'51.086"W	0.00	
11117.00†	90.390	90.063	7322.36	4142.58	366.93	4142.98	40°12'51.564"N	104°56'49.797"W	0.00	
11217.00†	90.390	90.063	7321.68	4242.58	366.82	4242.98	40°12'51.562"N	104°56'48.508"W	0.00	
11317.00†	90.390	90.063	7321.00	4342.57	366.71	4342.98	40°12'51.561"N	104°56'47.219"W	0.00	
11417.00†	90.390	90.063	7320.32	4442.57	366.60	4442.98	40°12'51.560"N	104°56'45.930"W	0.00	
11517.00†	90.390	90.063	7319.64	4542.57	366.49	4542.97	40°12'51.558"N	104°56'44.641"W	0.00	
11617.00†	90.390	90.063	7318.96	4642.57	366.38	4642.97	40°12'51.557"N	104°56'43.352"W	0.00	
11717.00†	90.390	90.063	7318.28	4742.56	366.26	4742.97	40°12'51.556"N	104°56'42.063"W	0.00	
11817.00†	90.390	90.063	7317.60	4842.56	366.15	4842.97	40°12'51.555"N	104°56'40.774"W	0.00	



Planned Wellpath Report

REYNOLDS CATTLE 6C-19HZ (PERMIT REV-1) PWP
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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#14 REYNOLDS CATTLE 6C-19HZ (2041'FNL & 339'FEL, SEC.23)
Area	COLORADO	Well	REYNOLDS CATTLE 6C-19HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	REYNOLDS CATTLE 6C-19HZ PWB
Facility	SEC.23-T3N-R68W		

WELLPATH DATA (164 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11917.00†	90.390	90.063	7316.92	4942.56	366.04	4942.97	40°12'51.553"N	104°56'39.485"W	0.00	
12017.00†	90.390	90.063	7316.24	5042.56	365.93	5042.96	40°12'51.552"N	104°56'38.196"W	0.00	
12117.00†	90.390	90.063	7315.56	5142.56	365.82	5142.96	40°12'51.551"N	104°56'36.907"W	0.00	
12217.00†	90.390	90.063	7314.88	5242.55	365.71	5242.96	40°12'51.549"N	104°56'35.618"W	0.00	
12317.00†	90.390	90.063	7314.20	5342.55	365.60	5342.96	40°12'51.548"N	104°56'34.329"W	0.00	
12417.00†	90.390	90.063	7313.51	5442.55	365.49	5442.95	40°12'51.547"N	104°56'33.040"W	0.00	
12517.00†	90.390	90.063	7312.83	5542.55	365.38	5542.95	40°12'51.546"N	104°56'31.751"W	0.00	
12617.00†	90.390	90.063	7312.15	5642.54	365.27	5642.95	40°12'51.544"N	104°56'30.462"W	0.00	
12717.00†	90.390	90.063	7311.47	5742.54	365.16	5742.95	40°12'51.543"N	104°56'29.173"W	0.00	
12817.00†	90.390	90.063	7310.79	5842.54	365.05	5842.94	40°12'51.542"N	104°56'27.884"W	0.00	
12917.00†	90.390	90.063	7310.11	5942.54	364.94	5942.94	40°12'51.540"N	104°56'26.595"W	0.00	
13017.00†	90.390	90.063	7309.43	6042.53	364.83	6042.94	40°12'51.539"N	104°56'25.306"W	0.00	
13117.00†	90.390	90.063	7308.75	6142.53	364.72	6142.94	40°12'51.538"N	104°56'24.017"W	0.00	
13217.00†	90.390	90.063	7308.07	6242.53	364.61	6242.93	40°12'51.536"N	104°56'22.728"W	0.00	
13317.00†	90.390	90.063	7307.39	6342.53	364.50	6342.93	40°12'51.535"N	104°56'21.439"W	0.00	
13417.00†	90.390	90.063	7306.71	6442.53	364.39	6442.93	40°12'51.534"N	104°56'20.150"W	0.00	
13517.00†	90.390	90.063	7306.03	6542.52	364.28	6542.93	40°12'51.532"N	104°56'18.862"W	0.00	
13617.00†	90.390	90.063	7305.35	6642.52	364.17	6642.93	40°12'51.531"N	104°56'17.573"W	0.00	
13717.00†	90.390	90.063	7304.67	6742.52	364.06	6742.92	40°12'51.530"N	104°56'16.284"W	0.00	
13817.00†	90.390	90.063	7303.99	6842.52	363.95	6842.92	40°12'51.528"N	104°56'14.995"W	0.00	
13917.00†	90.390	90.063	7303.31	6942.51	363.84	6942.92	40°12'51.527"N	104°56'13.706"W	0.00	
14017.00†	90.390	90.063	7302.63	7042.51	363.73	7042.92	40°12'51.525"N	104°56'12.417"W	0.00	
14117.00†	90.390	90.063	7301.95	7142.51	363.62	7142.91	40°12'51.524"N	104°56'11.128"W	0.00	
14217.00†	90.390	90.063	7301.27	7242.51	363.51	7242.91	40°12'51.523"N	104°56'09.839"W	0.00	
14317.00†	90.390	90.063	7300.59	7342.50	363.39	7342.91	40°12'51.521"N	104°56'08.550"W	0.00	
14417.00†	90.390	90.063	7299.91	7442.50	363.28	7442.91	40°12'51.520"N	104°56'07.261"W	0.00	
14517.00†	90.390	90.063	7299.23	7542.50	363.17	7542.90	40°12'51.519"N	104°56'05.972"W	0.00	
14617.00†	90.390	90.063	7298.55	7642.50	363.06	7642.90	40°12'51.517"N	104°56'04.683"W	0.00	
14697.47	90.390	90.063	7298.00 ¹	7722.96	362.97	7723.37	40°12'51.516"N	104°56'03.646"W	0.00	TOTAL DEPTH

HOLE & CASING SECTIONS -

Ref Wellbore: REYNOLDS CATTLE 6C-19HZ PWB Ref Wellpath: REYNOLDS CATTLE 6C-19HZ (PERMIT REV-1) 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	7789.67	6466.67	1323.00	7345.00	0.00	0.00	370.60	815.73
7in Casing Intermediate	17.00	7789.67	7772.67	17.00	7345.00	0.00	0.00	370.60	815.73
6.125in Open Hole	7789.67	14697.47	6907.80	7345.00	NA	370.60	815.73	NA	NA
4.5in Casing Production	17.00	14697.47	14680.47	17.00	NA	0.00	0.00	NA	NA



Planned Wellpath Report

REYNOLDS CATTLE 6C-19HZ (PERMIT REV-1) PWP



REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#14 REYNOLDS CATTLE 6C-19HZ (2041'FNL & 339'FEL, SEC.23)
Area	COLORADO	Well	REYNOLDS CATTLE 6C-19HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	REYNOLDS CATTLE 6C-19HZ 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	1480.54	171.75	3150413.01	1322490.88	40°13'02.572"N	104°57'40.986"W	polygon
SEC.23-T3N-R68W SECTION LINES		25.00	1480.54	171.75	3150413.01	1322490.88	40°13'02.572"N	104°57'40.986"W	polygon
SEC.24-T3N-R68W SECTION LINES		25.00	1480.54	171.75	3150413.01	1322490.88	40°13'02.572"N	104°57'40.986"W	polygon
1) REYNOLDS CATTLE 6C-19HZ BHL ON PLAT REV-1 (1675'FNL & 2071'FWL, SEC.19)	14697.47	7298.00	362.97	7723.37	3157970.93	1321419.20	40°12'51.516"N	104°56'03.646"W	point
REYNOLDS CATTLE 6C-19HZ LANDBOX		7298.00	0.00	0.00	3150250.25	1321009.40	40°12'47.941"N	104°57'43.200"W	polygon

SURVEY PROGRAM -

Ref Wellbore: REYNOLDS CATTLE 6C-19HZ PWB Ref Wellpath: REYNOLDS CATTLE 6C-19HZ (PERMIT REV-1) PWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	7789.67	NaviTrak (IFR)		REYNOLDS CATTLE 6C-19HZ PWB
7789.67	14697.47	NaviTrak (IFR)		REYNOLDS CATTLE 6C-19HZ PWB



Planned Wellpath Report

REYNOLDS CATTLE 6C-19HZ (PERMIT REV-1) PWP
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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#14 REYNOLDS CATTLE 6C-19HZ (2041'FNL & 339'FEL, SEC.23)
Area	COLORADO	Well	REYNOLDS CATTLE 6C-19HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	REYNOLDS CATTLE 6C-19HZ PWB
Facility	SEC.23-T3N-R68W		

WELLPATH COMMENTS					
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment	
1273.00	0.000	14.300	1273.00	FOX HILLS MARKER	
4213.99	0.000	90.063	4183.00	SUSSEX	
4753.99	0.000	90.063	4723.00	SHANNON	
7044.17	30.750	90.063	6995.00	SHARON SPRINGS	
7137.66	38.229	90.063	7072.00	NIOBRARA A	
7179.38	41.566	90.063	7104.00	NIOBRARA B	
7290.34	50.443	90.063	7181.00	NIOBRARA C	
7532.41	69.809	90.063	7301.00	FORT HAYS	
7708.95	83.932	90.063	7341.00	CODELL	