

KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#16 REYNOLDS CATTLE 6N-19HZ (2101'FNL & 338'FEL, SEC.23)
 Field: WELD COUNTY (KERR MCGEE) Well: REYNOLDS CATTLE 6N-19HZ
 Facility: SEC.23-T3N-R68W Wellbore: REYNOLDS CATTLE 6N-19HZ PWB

Plot reference wellpath is REYNOLDS CATTLE 6N-19HZ (PERMIT REV-1) 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#16 REYNOLDS CATTLE 6N-19HZ (2101'FNL & 338'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#16 REYNOLDS CATTLE 6N-19HZ (2101'FNL & 338'FEL, SEC.23)	-1857.06	2849.85	3150251.705	1320549.298	40°12'47.347"N	104°57'43.186"W
PERMIT (17KB) (RKB) to Mud line (At Slot: SLOT#16 REYNOLDS CATTLE 6N-19HZ (2101'FNL & 338'FEL, SEC.23))					4973ft	
Mean Sea Level to Mud line (At Slot: SLOT#16 REYNOLDS CATTLE 6N-19HZ (2101'FNL & 338'FEL, SEC.23))					0ft	
PERMIT (17KB) (RKB) to Mean Sea Level					4973ft	

Well Profile Data

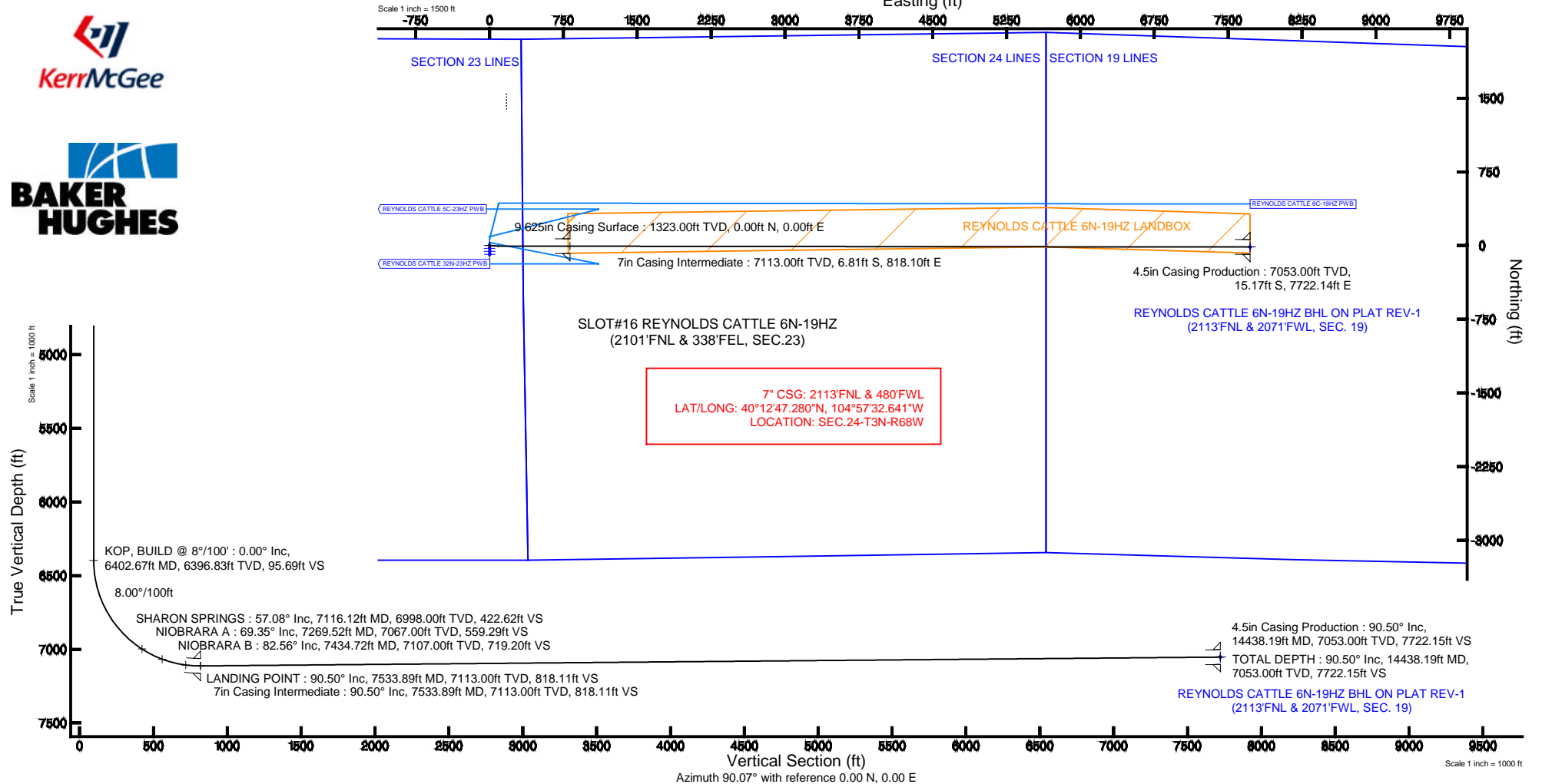
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
TIE ON	17.00	0.000	93.550	17.00	0.00	0.00	0.00	0.00
BEGIN NUDGE	1423.00	0.000	93.550	1423.00	0.00	0.00	0.00	0.00
END NUDGE	1923.00	10.000	93.550	1920.47	-2.69	43.44	2.00	43.44
BEGIN DROP	1973.81	10.000	93.550	1970.50	-3.24	52.24	0.00	52.25
END DROP	2473.81	0.000	90.069	2467.97	-5.94	95.68	2.00	95.69
KOP, BUILD @ 8°/100'	6402.67	0.000	90.069	6396.83	-5.94	95.68	0.00	95.69
LANDING POINT	7533.89	90.498	90.069	7113.00	-6.81	818.10	8.00	818.11
TOTAL DEPTH	14438.19	90.498	90.069	7053.00	-15.17	7722.14	0.00	7722.15

Survey Program

Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
17.00	7533.89	NaviTrak	NaviTrak (IFR)		REYNOLDS CATTLE 6N-19HZ PWB
7533.89	14438.19	NaviTrak	NaviTrak (IFR)		REYNOLDS CATTLE 6N-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	1540.85	17047	3150413.01	1321498.89	40°13'02.077"N	104°57'43.987"W
SEC.24-T3N-R68W SECTION LINES		25.00	1540.85	17047	3150413.01	1321498.89	40°13'02.077"N	104°57'43.987"W
SEC.24-T3N-R68W SECTION LINES		25.00	1540.85	17047	3150413.01	1321498.89	40°13'02.077"N	104°57'43.987"W
REYNOLDS CATTLE 6N-19HZ BHL ON PLAT REV-1 (2113'FNL & 2071'FWL, SEC. 19)	14438.19	7053.00	-15.17	7722.14	3150251.71	1320549.30	40°12'47.347"N	104°57'43.186"W
REYNOLDS CATTLE 6N-19HZ LANDBOX		7053.00	0.00	0.00	3150251.71	1320549.30	40°12'47.347"N	104°57'43.186"W



Azimuth 90.07° with reference 0.00 N, 0.00 E

Scale 1 inch = 1000 ft



Planned Wellpath Report

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

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#16 REYNOLDS CATTLE 6N-19HZ (2101'FNL & 338'FEL, SEC.23)
Area	COLORADO	Well	REYNOLDS CATTLE 6N-19HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	REYNOLDS CATTLE 6N-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 10:42:50
Convergence at slot	n/a	Database/Source file	WellArchitectDB/REYNOLDS_CATTLE_6N-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	-1857.06	2849.85	3150251.71	1320949.30	40°12'47.347"N	104°57'43.186"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#16 REYNOLDS CATTLE 6N-19HZ (2101'FNL & 338'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	90.07°



Planned Wellpath Report

REYNOLDS CATTLE 6N-19HZ (PERMIT REV-1) PWP
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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#16 REYNOLDS CATTLE 6N-19HZ (2101'FNL & 338'FEL, SEC.23)
Area	COLORADO	Well	REYNOLDS CATTLE 6N-19HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	REYNOLDS CATTLE 6N-19HZ PWB
Facility	SEC.23-T3N-R68W		

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	93.550	0.00	0.00	0.00	0.00	40°12'47.347"N	104°57'43.186"W	0.00	
17.00	0.000	93.550	17.00	0.00	0.00	0.00	40°12'47.347"N	104°57'43.186"W	0.00	TIE ON
117.00†	0.000	93.550	117.00	0.00	0.00	0.00	40°12'47.347"N	104°57'43.186"W	0.00	
217.00†	0.000	93.550	217.00	0.00	0.00	0.00	40°12'47.347"N	104°57'43.186"W	0.00	
317.00†	0.000	93.550	317.00	0.00	0.00	0.00	40°12'47.347"N	104°57'43.186"W	0.00	
417.00†	0.000	93.550	417.00	0.00	0.00	0.00	40°12'47.347"N	104°57'43.186"W	0.00	
517.00†	0.000	93.550	517.00	0.00	0.00	0.00	40°12'47.347"N	104°57'43.186"W	0.00	
617.00†	0.000	93.550	617.00	0.00	0.00	0.00	40°12'47.347"N	104°57'43.186"W	0.00	
717.00†	0.000	93.550	717.00	0.00	0.00	0.00	40°12'47.347"N	104°57'43.186"W	0.00	
817.00†	0.000	93.550	817.00	0.00	0.00	0.00	40°12'47.347"N	104°57'43.186"W	0.00	
917.00†	0.000	93.550	917.00	0.00	0.00	0.00	40°12'47.347"N	104°57'43.186"W	0.00	
1017.00†	0.000	93.550	1017.00	0.00	0.00	0.00	40°12'47.347"N	104°57'43.186"W	0.00	
1117.00†	0.000	93.550	1117.00	0.00	0.00	0.00	40°12'47.347"N	104°57'43.186"W	0.00	
1217.00†	0.000	93.550	1217.00	0.00	0.00	0.00	40°12'47.347"N	104°57'43.186"W	0.00	
1273.00†	0.000	93.550	1273.00	0.00	0.00	0.00	40°12'47.347"N	104°57'43.186"W	0.00	FOX HILLS MARKER
1317.00†	0.000	93.550	1317.00	0.00	0.00	0.00	40°12'47.347"N	104°57'43.186"W	0.00	
1417.00†	0.000	93.550	1417.00	0.00	0.00	0.00	40°12'47.347"N	104°57'43.186"W	0.00	
1423.00	0.000	93.550	1423.00	0.00	0.00	0.00	40°12'47.347"N	104°57'43.186"W	0.00	BEGIN NUDGE
1517.00†	1.880	93.550	1516.98	1.54	-0.10	1.54	40°12'47.346"N	104°57'43.166"W	2.00	
1617.00†	3.880	93.550	1616.85	6.55	-0.41	6.55	40°12'47.343"N	104°57'43.102"W	2.00	
1717.00†	5.880	93.550	1716.48	15.04	-0.93	15.04	40°12'47.338"N	104°57'42.992"W	2.00	
1817.00†	7.880	93.550	1815.76	27.00	-1.67	27.00	40°12'47.330"N	104°57'42.838"W	2.00	
1917.00†	9.880	93.550	1914.56	42.41	-2.63	42.41	40°12'47.321"N	104°57'42.639"W	2.00	
1923.00	10.000	93.550	1920.47	43.44	-2.69	43.44	40°12'47.320"N	104°57'42.626"W	2.00	END NUDGE
1973.81	10.000	93.550	1970.50	52.25	-3.24	52.24	40°12'47.315"N	104°57'42.513"W	0.00	BEGIN DROP
2017.00†	9.136	93.550	2013.09	59.41	-3.69	59.41	40°12'47.311"N	104°57'42.420"W	2.00	
2117.00†	7.136	93.550	2112.08	73.54	-4.56	73.54	40°12'47.302"N	104°57'42.238"W	2.00	
2217.00†	5.136	93.550	2211.50	84.21	-5.22	84.20	40°12'47.295"N	104°57'42.101"W	2.00	
2317.00†	3.136	93.550	2311.24	91.41	-5.67	91.40	40°12'47.291"N	104°57'42.008"W	2.00	
2417.00†	1.136	93.550	2411.16	95.13	-5.90	95.12	40°12'47.289"N	104°57'41.960"W	2.00	
2473.81	0.000	90.069	2467.97	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	2.00	END DROP
2517.00†	0.000	90.069	2511.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
2617.00†	0.000	90.069	2611.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
2717.00†	0.000	90.069	2711.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
2817.00†	0.000	90.069	2811.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
2917.00†	0.000	90.069	2911.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
3017.00†	0.000	90.069	3011.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
3117.00†	0.000	90.069	3111.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
3217.00†	0.000	90.069	3211.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
3317.00†	0.000	90.069	3311.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
3417.00†	0.000	90.069	3411.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
3517.00†	0.000	90.069	3511.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
3617.00†	0.000	90.069	3611.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
3717.00†	0.000	90.069	3711.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
3817.00†	0.000	90.069	3811.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	



Planned Wellpath Report

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

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#16 REYNOLDS CATTLE 6N-19HZ (2101'FNL & 338'FEL, SEC.23)
Area	COLORADO	Well	REYNOLDS CATTLE 6N-19HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	REYNOLDS CATTLE 6N-19HZ PWB
Facility	SEC.23-T3N-R68W		

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
3917.00†	0.000	90.069	3911.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
4017.00†	0.000	90.069	4011.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
4117.00†	0.000	90.069	4111.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
4188.84†	0.000	90.069	4183.00	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	SUSSEX
4217.00†	0.000	90.069	4211.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
4317.00†	0.000	90.069	4311.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
4417.00†	0.000	90.069	4411.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
4517.00†	0.000	90.069	4511.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
4617.00†	0.000	90.069	4611.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
4717.00†	0.000	90.069	4711.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
4728.84†	0.000	90.069	4723.00	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	SHANNON
4817.00†	0.000	90.069	4811.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
4917.00†	0.000	90.069	4911.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
5017.00†	0.000	90.069	5011.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
5117.00†	0.000	90.069	5111.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
5217.00†	0.000	90.069	5211.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
5317.00†	0.000	90.069	5311.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
5417.00†	0.000	90.069	5411.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
5517.00†	0.000	90.069	5511.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
5617.00†	0.000	90.069	5611.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
5717.00†	0.000	90.069	5711.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
5817.00†	0.000	90.069	5811.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
5917.00†	0.000	90.069	5911.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
6017.00†	0.000	90.069	6011.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
6117.00†	0.000	90.069	6111.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
6217.00†	0.000	90.069	6211.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
6317.00†	0.000	90.069	6311.16	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	
6402.67	0.000	90.069	6396.83	95.69	-5.94	95.68	40°12'47.288"N	104°57'41.953"W	0.00	KOP, BUILD @ 8°/100'
6417.00†	1.147	90.069	6411.16	95.83	-5.94	95.83	40°12'47.288"N	104°57'41.951"W	8.00	
6517.00†	9.147	90.069	6510.67	104.80	-5.95	104.79	40°12'47.288"N	104°57'41.835"W	8.00	
6617.00†	17.147	90.069	6607.97	127.52	-5.97	127.52	40°12'47.288"N	104°57'41.542"W	8.00	
6717.00†	25.147	90.069	6701.16	163.57	-6.02	163.56	40°12'47.288"N	104°57'41.078"W	8.00	
6817.00†	33.147	90.069	6788.43	212.24	-6.08	212.23	40°12'47.287"N	104°57'40.450"W	8.00	
6917.00†	41.147	90.069	6868.08	272.57	-6.15	272.56	40°12'47.286"N	104°57'39.673"W	8.00	
7017.00†	49.147	90.069	6938.55	343.41	-6.24	343.40	40°12'47.285"N	104°57'38.760"W	8.00	
7116.12†	57.077	90.069	6998.00	422.62	-6.33	422.62	40°12'47.284"N	104°57'37.739"W	8.00	SHARON SPRINGS
7117.00†	57.147	90.069	6998.48	423.36	-6.33	423.35	40°12'47.284"N	104°57'37.729"W	8.00	
7217.00†	65.147	90.069	7046.69	510.87	-6.44	510.87	40°12'47.283"N	104°57'36.601"W	8.00	
7269.52†	69.348	90.069	7067.00	559.29	-6.50	559.29	40°12'47.283"N	104°57'35.977"W	8.00	NIOBRARA A
7317.00†	73.147	90.069	7082.26	604.25	-6.55	604.24	40°12'47.282"N	104°57'35.397"W	8.00	
7417.00†	81.147	90.069	7104.49	701.66	-6.67	701.65	40°12'47.281"N	104°57'34.142"W	8.00	
7434.72†	82.564	90.069	7107.00	719.20	-6.69	719.19	40°12'47.281"N	104°57'33.916"W	8.00	NIOBRARA B
7517.00†	89.147	90.069	7112.94	801.22	-6.79	801.21	40°12'47.280"N	104°57'32.859"W	8.00	
7533.89	90.498	90.069	7113.00	818.11	-6.81	818.10	40°12'47.280"N	104°57'32.641"W	8.00	LANDING POINT
7617.00†	90.498	90.069	7112.27	901.22	-6.91	901.21	40°12'47.279"N	104°57'31.570"W	0.00	



Planned Wellpath Report

REYNOLDS CATTLE 6N-19HZ (PERMIT REV-1) PWP
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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#16 REYNOLDS CATTLE 6N-19HZ (2101'FNL & 338'FEL, SEC.23)
Area	COLORADO	Well	REYNOLDS CATTLE 6N-19HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	REYNOLDS CATTLE 6N-19HZ PWB
Facility	SEC.23-T3N-R68W		

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
7717.00†	90.498	90.069	7111.40	1001.21	-7.03	1001.21	40°12'47.277"N	104°57'30.281"W	0.00	
7817.00†	90.498	90.069	7110.54	1101.21	-7.15	1101.20	40°12'47.276"N	104°57'28.992"W	0.00	
7917.00†	90.498	90.069	7109.67	1201.21	-7.27	1201.20	40°12'47.275"N	104°57'27.703"W	0.00	
8017.00†	90.498	90.069	7108.80	1301.20	-7.40	1301.20	40°12'47.274"N	104°57'26.414"W	0.00	
8117.00†	90.498	90.069	7107.93	1401.20	-7.52	1401.19	40°12'47.272"N	104°57'25.125"W	0.00	
8217.00†	90.498	90.069	7107.06	1501.20	-7.64	1501.19	40°12'47.271"N	104°57'23.836"W	0.00	
8317.00†	90.498	90.069	7106.19	1601.19	-7.76	1601.18	40°12'47.270"N	104°57'22.547"W	0.00	
8417.00†	90.498	90.069	7105.32	1701.19	-7.88	1701.18	40°12'47.269"N	104°57'21.258"W	0.00	
8517.00†	90.498	90.069	7104.45	1801.18	-8.00	1801.18	40°12'47.267"N	104°57'19.969"W	0.00	
8617.00†	90.498	90.069	7103.58	1901.18	-8.12	1901.17	40°12'47.266"N	104°57'18.680"W	0.00	
8717.00†	90.498	90.069	7102.71	2001.18	-8.24	2001.17	40°12'47.265"N	104°57'17.391"W	0.00	
8817.00†	90.498	90.069	7101.85	2101.17	-8.36	2101.16	40°12'47.263"N	104°57'16.102"W	0.00	
8917.00†	90.498	90.069	7100.98	2201.17	-8.49	2201.16	40°12'47.262"N	104°57'14.813"W	0.00	
9017.00†	90.498	90.069	7100.11	2301.17	-8.61	2301.16	40°12'47.261"N	104°57'13.525"W	0.00	
9117.00†	90.498	90.069	7099.24	2401.16	-8.73	2401.15	40°12'47.260"N	104°57'12.236"W	0.00	
9217.00†	90.498	90.069	7098.37	2501.16	-8.85	2501.15	40°12'47.258"N	104°57'10.947"W	0.00	
9317.00†	90.498	90.069	7097.50	2601.15	-8.97	2601.15	40°12'47.257"N	104°57'09.658"W	0.00	
9417.00†	90.498	90.069	7096.63	2701.15	-9.09	2701.14	40°12'47.256"N	104°57'08.369"W	0.00	
9517.00†	90.498	90.069	7095.76	2801.15	-9.21	2801.14	40°12'47.254"N	104°57'07.080"W	0.00	
9617.00†	90.498	90.069	7094.89	2901.14	-9.33	2901.13	40°12'47.253"N	104°57'05.791"W	0.00	
9717.00†	90.498	90.069	7094.03	3001.14	-9.45	3001.13	40°12'47.252"N	104°57'04.502"W	0.00	
9817.00†	90.498	90.069	7093.16	3101.14	-9.57	3101.13	40°12'47.250"N	104°57'03.213"W	0.00	
9917.00†	90.498	90.069	7092.29	3201.13	-9.70	3201.12	40°12'47.249"N	104°57'01.924"W	0.00	
10017.00†	90.498	90.069	7091.42	3301.13	-9.82	3301.12	40°12'47.248"N	104°57'00.635"W	0.00	
10117.00†	90.498	90.069	7090.55	3401.12	-9.94	3401.11	40°12'47.246"N	104°56'59.346"W	0.00	
10217.00†	90.498	90.069	7089.68	3501.12	-10.06	3501.11	40°12'47.245"N	104°56'58.057"W	0.00	
10317.00†	90.498	90.069	7088.81	3601.12	-10.18	3601.11	40°12'47.244"N	104°56'56.768"W	0.00	
10417.00†	90.498	90.069	7087.94	3701.11	-10.30	3701.10	40°12'47.242"N	104°56'55.480"W	0.00	
10517.00†	90.498	90.069	7087.07	3801.11	-10.42	3801.10	40°12'47.241"N	104°56'54.191"W	0.00	
10617.00†	90.498	90.069	7086.20	3901.11	-10.54	3901.10	40°12'47.240"N	104°56'52.902"W	0.00	
10717.00†	90.498	90.069	7085.34	4001.10	-10.66	4001.09	40°12'47.238"N	104°56'51.613"W	0.00	
10817.00†	90.498	90.069	7084.47	4101.10	-10.79	4101.09	40°12'47.237"N	104°56'50.324"W	0.00	
10917.00†	90.498	90.069	7083.60	4201.09	-10.91	4201.08	40°12'47.236"N	104°56'49.035"W	0.00	
11017.00†	90.498	90.069	7082.73	4301.09	-11.03	4301.08	40°12'47.234"N	104°56'47.746"W	0.00	
11117.00†	90.498	90.069	7081.86	4401.09	-11.15	4401.08	40°12'47.233"N	104°56'46.457"W	0.00	
11217.00†	90.498	90.069	7080.99	4501.08	-11.27	4501.07	40°12'47.232"N	104°56'45.168"W	0.00	
11317.00†	90.498	90.069	7080.12	4601.08	-11.39	4601.07	40°12'47.230"N	104°56'43.879"W	0.00	
11417.00†	90.498	90.069	7079.25	4701.07	-11.51	4701.06	40°12'47.229"N	104°56'42.590"W	0.00	
11517.00†	90.498	90.069	7078.38	4801.07	-11.63	4801.06	40°12'47.227"N	104°56'41.301"W	0.00	
11617.00†	90.498	90.069	7077.52	4901.07	-11.75	4901.06	40°12'47.226"N	104°56'40.012"W	0.00	
11717.00†	90.498	90.069	7076.65	5001.06	-11.87	5001.05	40°12'47.225"N	104°56'38.723"W	0.00	
11817.00†	90.498	90.069	7075.78	5101.06	-12.00	5101.05	40°12'47.223"N	104°56'37.435"W	0.00	
11917.00†	90.498	90.069	7074.91	5201.06	-12.12	5201.05	40°12'47.222"N	104°56'36.146"W	0.00	
12017.00†	90.498	90.069	7074.04	5301.05	-12.24	5301.04	40°12'47.220"N	104°56'34.857"W	0.00	
12117.00†	90.498	90.069	7073.17	5401.05	-12.36	5401.04	40°12'47.219"N	104°56'33.568"W	0.00	



Planned Wellpath Report

REYNOLDS CATTLE 6N-19HZ (PERMIT REV-1) PWP
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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#16 REYNOLDS CATTLE 6N-19HZ (2101'FNL & 338'FEL, SEC.23)
Area	COLORADO	Well	REYNOLDS CATTLE 6N-19HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	REYNOLDS CATTLE 6N-19HZ PWB
Facility	SEC.23-T3N-R68W		

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†	90.498	90.069	7072.30	5501.04	-12.48	5501.03	40°12'47.218"N	104°56'32.279"W	0.00	
12317.00†	90.498	90.069	7071.43	5601.04	-12.60	5601.03	40°12'47.216"N	104°56'30.990"W	0.00	
12417.00†	90.498	90.069	7070.56	5701.04	-12.72	5701.03	40°12'47.215"N	104°56'29.701"W	0.00	
12517.00†	90.498	90.069	7069.69	5801.03	-12.84	5801.02	40°12'47.213"N	104°56'28.412"W	0.00	
12617.00†	90.498	90.069	7068.83	5901.03	-12.96	5901.02	40°12'47.212"N	104°56'27.123"W	0.00	
12717.00†	90.498	90.069	7067.96	6001.03	-13.09	6001.01	40°12'47.211"N	104°56'25.834"W	0.00	
12817.00†	90.498	90.069	7067.09	6101.02	-13.21	6101.01	40°12'47.209"N	104°56'24.545"W	0.00	
12917.00†	90.498	90.069	7066.22	6201.02	-13.33	6201.01	40°12'47.208"N	104°56'23.256"W	0.00	
13017.00†	90.498	90.069	7065.35	6301.01	-13.45	6301.00	40°12'47.206"N	104°56'21.967"W	0.00	
13117.00†	90.498	90.069	7064.48	6401.01	-13.57	6401.00	40°12'47.205"N	104°56'20.678"W	0.00	
13217.00†	90.498	90.069	7063.61	6501.01	-13.69	6501.00	40°12'47.203"N	104°56'19.389"W	0.00	
13317.00†	90.498	90.069	7062.74	6601.00	-13.81	6600.99	40°12'47.202"N	104°56'18.101"W	0.00	
13417.00†	90.498	90.069	7061.87	6701.00	-13.93	6700.99	40°12'47.200"N	104°56'16.812"W	0.00	
13517.00†	90.498	90.069	7061.00	6801.00	-14.05	6800.98	40°12'47.199"N	104°56'15.523"W	0.00	
13617.00†	90.498	90.069	7060.14	6900.99	-14.18	6900.98	40°12'47.197"N	104°56'14.234"W	0.00	
13717.00†	90.498	90.069	7059.27	7000.99	-14.30	7000.98	40°12'47.196"N	104°56'12.945"W	0.00	
13817.00†	90.498	90.069	7058.40	7100.98	-14.42	7100.97	40°12'47.194"N	104°56'11.656"W	0.00	
13917.00†	90.498	90.069	7057.53	7200.98	-14.54	7200.97	40°12'47.193"N	104°56'10.367"W	0.00	
14017.00†	90.498	90.069	7056.66	7300.98	-14.66	7300.96	40°12'47.192"N	104°56'09.078"W	0.00	
14117.00†	90.498	90.069	7055.79	7400.97	-14.78	7400.96	40°12'47.190"N	104°56'07.789"W	0.00	
14217.00†	90.498	90.069	7054.92	7500.97	-14.90	7500.96	40°12'47.189"N	104°56'06.500"W	0.00	
14317.00†	90.498	90.069	7054.05	7600.97	-15.02	7600.95	40°12'47.187"N	104°56'05.211"W	0.00	
14417.00†	90.498	90.069	7053.18	7700.96	-15.14	7700.95	40°12'47.186"N	104°56'03.922"W	0.00	
14438.19	90.498	90.069	7053.00 ¹	7722.15	-15.17	7722.14	40°12'47.185"N	104°56'03.649"W	0.00	TOTAL DEPTH

HOLE & CASING SECTIONS -									
Ref Wellbore: REYNOLDS CATTLE 6N-19HZ PWB Ref Wellpath: REYNOLDS CATTLE 6N-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	7533.89	6210.89	1323.00	7113.00	0.00	0.00	-6.81	818.10
7in Casing Intermediate	17.00	7533.89	7516.89	17.00	7113.00	0.00	0.00	-6.81	818.10
6.128in Open Hole	7533.89	14438.19	6904.30	7113.00	7053.00	-6.81	818.10	-15.17	7722.14
4.5in Casing Production	17.00	14438.19	14421.19	17.00	7053.00	0.00	0.00	-15.17	7722.14



Planned Wellpath Report

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

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#16 REYNOLDS CATTLE 6N-19HZ (2101'FNL & 338'FEL, SEC.23)
Area	COLORADO	Well	REYNOLDS CATTLE 6N-19HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	REYNOLDS CATTLE 6N-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	1540.65	170.67	3150413.01	1322490.88	40°13'02.572"N	104°57'40.986"W	polygon
SEC.23-T3N-R68W SECTION LINES		25.00	1540.65	170.67	3150413.01	1322490.88	40°13'02.572"N	104°57'40.986"W	polygon
SEC.24-T3N-R68W SECTION LINES		25.00	1540.65	170.67	3150413.01	1322490.88	40°13'02.572"N	104°57'40.986"W	polygon
1) REYNOLDS CATTLE 6N-19HZ BHL ON PLAT REV-1 (2113'FNL & 2071'FWL, SEC. 19)	14438.19	7053.00	-15.17	7722.14	3157973.45	1320980.98	40°12'47.185"N	104°56'03.649"W	point
REYNOLDS CATTLE 6N-19HZ LANDBOX		7053.00	0.00	0.00	3150251.71	1320949.30	40°12'47.347"N	104°57'43.186"W	polygon

SURVEY PROGRAM -

Ref Wellbore: REYNOLDS CATTLE 6N-19HZ PWB Ref Wellpath: REYNOLDS CATTLE 6N-19HZ (PERMIT REV-1) PWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	7533.89	NaviTrak (IFR)		REYNOLDS CATTLE 6N-19HZ PWB
7533.89	14438.19	NaviTrak (IFR)		REYNOLDS CATTLE 6N-19HZ PWB



Planned Wellpath Report

REYNOLDS CATTLE 6N-19HZ (PERMIT REV-1) PWP
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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#16 REYNOLDS CATTLE 6N-19HZ (2101'FNL & 338'FEL, SEC.23)
Area	COLORADO	Well	REYNOLDS CATTLE 6N-19HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	REYNOLDS CATTLE 6N-19HZ PWB
Facility	SEC.23-T3N-R68W		

WELLPATH COMMENTS					
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment	
1273.00	0.000	93.550	1273.00	FOX HILLS MARKER	
4188.84	0.000	90.069	4183.00	SUSSEX	
4728.84	0.000	90.069	4723.00	SHANNON	
7116.12	57.077	90.069	6998.00	SHARON SPRINGS	
7269.52	69.348	90.069	7067.00	NIOBRARA A	
7434.72	82.564	90.069	7107.00	NIOBRARA B	