

KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#09 NICHOLS 16N-31HZ (346°FSL & 1292°FEL,SEC.6)
Field: WELD COUNTY (KERR MCGEE) Well: NICHOLS 16N-31HZ
Facility: SEC.06-T2N-R65W Wellbore: NICHOLS 16N-31HZ PWB

Plot reference wellpath is NICHOLS 16N-31HZ (PERMIT) PWB

True vertical depths are referenced to XTREME 6 (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to XTREME 6 (RKB)	North Reference: True north
XTREME 6 (RKB) to Mean Sea Level: 4942 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#09 NICHOLS 16N-31HZ (346°FSL & 1292°FEL,SEC.6)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: wiljeff02 on 3/6/2012

Location Information

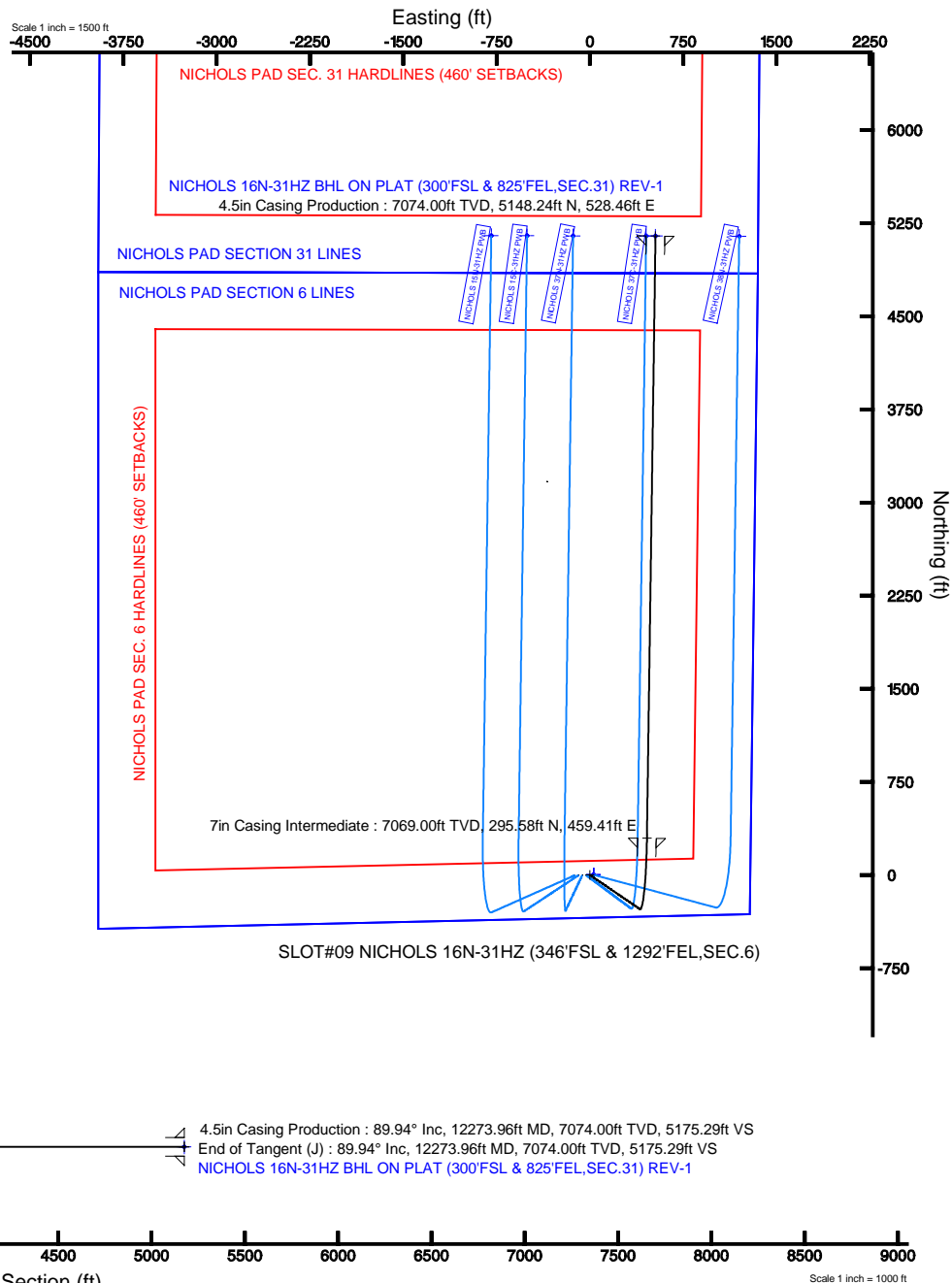
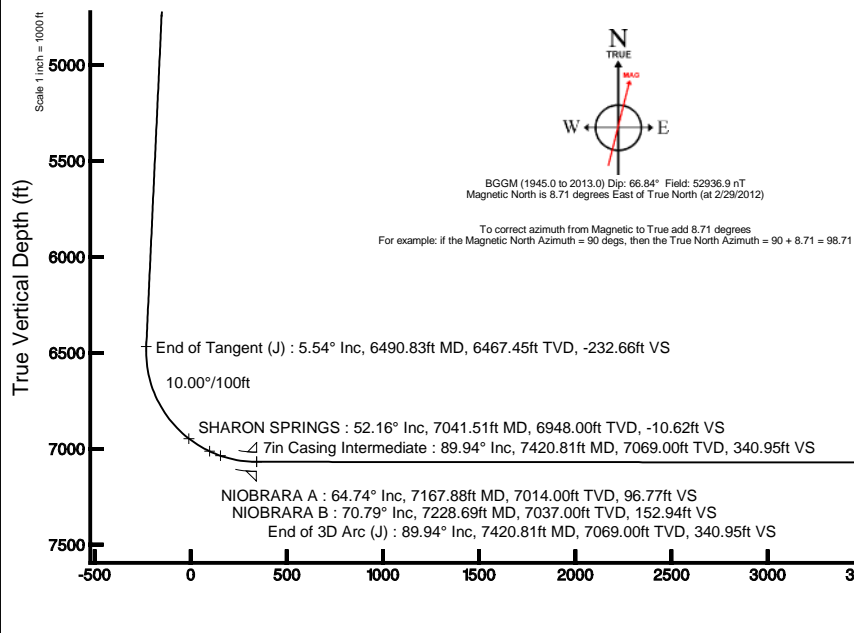
Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.06-T2N-R65W			3222483.590	1306833.950	40°10'22.487"N	104°42'13.759"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#09 NICHOLS 16N-31HZ (346°FSL & 1292°FEL,SEC.6)	-4205.08	593.65	3223114.940	1302634.554	40°09'40.932"N	104°42'06.113"W
XTREME 6 (RKB) to Mud line (At Slot: SLOT#09 NICHOLS 16N-31HZ (346°FSL & 1292°FEL,SEC.6))					4942ft	
Mean Sea Level to Mud line (At Slot: SLOT#09 NICHOLS 16N-31HZ (346°FSL & 1292°FEL,SEC.6))					0ft	
XTREME 6 (RKB) to Mean Sea Level					4942ft	

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	124.350	17.00	0.00	0.00	0.00	0.00
End of Tangent	1300.00	0.000	124.350	1300.00	0.00	0.00	0.00	0.00
End of Build (J)	1577.00	5.540	124.350	1576.57	-7.55	11.05	2.00	-6.38
End of Tangent (J)	6490.83	5.540	124.350	6467.45	-275.22	402.70	0.00	-232.66
End of 3D Arc (J)	7420.81	89.941	0.815	7069.00	295.59	459.41	10.00	340.95
End of Tangent (J)	12273.96	89.941	0.815	7074.00	5148.24	528.46	0.00	5175.29

Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
NICHOLS PAD SECTION 31 LINES		0.00	0.73	29.92	3223144.85	1302635.55	40°09'40.939"N	104°42'05.728"W
NICHOLS PAD SECTION 6 LINES		0.00	0.73	29.92	3223144.85	1302635.55	40°09'40.939"N	104°42'05.728"W
NICHOLS 16N-31HZ BHL ON PLAT (300°FSL & 825°FEL,SEC.31) REV-1	12273.96	7074.00	5148.24	528.46	3223697.01	1307787.11	40°10'31.807"N	104°41'59.305"W
NICHOLS PAD SEC. 31 HARDLINES (460' SETBACKS)		7118.00	0.73	29.92	3223144.85	1302635.55	40°09'40.939"N	104°42'05.728"W
NICHOLS PAD SEC. 6 HARDLINES (460' SETBACKS)		7118.00	0.73	29.92	3223144.85	1302635.55	40°09'40.939"N	104°42'05.728"W





Planned Wellpath Report

NICHOLS 16N-31HZ (PERMIT) PWP

Page 1 of 5



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#09 NICHOLS 16N-31HZ (346'FSL & 1292'FEL,SEC.6)
Area	COLORADO	Well	NICHOLS 16N-31HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	NICHOLS 16N-31HZ PWB
Facility	SEC.06-T2N-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	Wilsjef02
Scale	0.999958	Report Generated	3/6/2012 at 11:15:24
Convergence at slot	0.52° East	Database/Source file	WellArchitectDB/NICHOLS_16N-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	-4205.08	593.65	3223114.94	1302634.55	40°09'40.932"N	104°42'06.113"W
Facility Reference Pt			3222483.59	1306833.95	40°10'22.487"N	104°42'13.759"W
Field Reference Pt			3197771.84	1268891.29	40°04'09.600"N	104°47'36.000"W

WELLPATH DATUM			
Calculation method	Minimum curvature	XTREME 6 (RKB) to Facility Vertical Datum	4942.00ft
Horizontal Reference Pt	Slot	XTREME 6 (RKB) to Mean Sea Level	4942.00ft
Vertical Reference Pt	XTREME 6 (RKB)	XTREME 6 (RKB) to Mud Line at Slot (SLOT#09 NICHOLS 16N-31HZ (346'FSL & 1292'FEL,SEC.6))	4942.00ft
MD Reference Pt	XTREME 6 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	5.86°



Planned Wellpath Report

NICHOLS 16N-31HZ (PERMIT) PWP

Page 2 of 5



REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#09 NICHOLS 16N-31HZ (346'FSL & 1292'FEL,SEC.6)
Area	COLORADO	Well	NICHOLS 16N-31HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	NICHOLS 16N-31HZ PWB
Facility	SEC.06-T2N-R65W		

WELLPATH DATA (134 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	124.350	0.00	0.00	0.00	0.00	40°09'40.932"N	104°42'06.113"W	0.00	
17.00	0.000	124.350	17.00	0.00	0.00	0.00	40°09'40.932"N	104°42'06.113"W	0.00	Tie On
117.00†	0.000	124.350	117.00	0.00	0.00	0.00	40°09'40.932"N	104°42'06.113"W	0.00	
217.00†	0.000	124.350	217.00	0.00	0.00	0.00	40°09'40.932"N	104°42'06.113"W	0.00	
317.00†	0.000	124.350	317.00	0.00	0.00	0.00	40°09'40.932"N	104°42'06.113"W	0.00	
417.00†	0.000	124.350	417.00	0.00	0.00	0.00	40°09'40.932"N	104°42'06.113"W	0.00	
517.00†	0.000	124.350	517.00	0.00	0.00	0.00	40°09'40.932"N	104°42'06.113"W	0.00	
617.00†	0.000	124.350	617.00	0.00	0.00	0.00	40°09'40.932"N	104°42'06.113"W	0.00	
717.00†	0.000	124.350	717.00	0.00	0.00	0.00	40°09'40.932"N	104°42'06.113"W	0.00	
817.00†	0.000	124.350	817.00	0.00	0.00	0.00	40°09'40.932"N	104°42'06.113"W	0.00	
917.00†	0.000	124.350	917.00	0.00	0.00	0.00	40°09'40.932"N	104°42'06.113"W	0.00	
1017.00†	0.000	124.350	1017.00	0.00	0.00	0.00	40°09'40.932"N	104°42'06.113"W	0.00	
1117.00†	0.000	124.350	1117.00	0.00	0.00	0.00	40°09'40.932"N	104°42'06.113"W	0.00	
1217.00†	0.000	124.350	1217.00	0.00	0.00	0.00	40°09'40.932"N	104°42'06.113"W	0.00	
1300.00	0.000	124.350	1300.00	0.00	0.00	0.00	40°09'40.932"N	104°42'06.113"W	0.00	End of Tangent
1317.00†	0.340	124.350	1317.00	-0.02	-0.03	0.04	40°09'40.932"N	104°42'06.112"W	2.00	
1417.00†	2.340	124.350	1416.97	-1.14	-1.35	1.97	40°09'40.919"N	104°42'06.088"W	2.00	
1517.00†	4.340	124.350	1516.79	-3.92	-4.64	6.78	40°09'40.886"N	104°42'06.026"W	2.00	
1577.00	5.540	124.350	1576.57	-6.38	-7.55	11.05	40°09'40.857"N	104°42'05.971"W	2.00	End of Build (J)
1617.00†	5.540	124.350	1616.38	-8.22	-9.73	14.24	40°09'40.836"N	104°42'05.930"W	0.00	
1717.00†	5.540	124.350	1715.91	-12.83	-15.18	22.21	40°09'40.782"N	104°42'05.827"W	0.00	
1817.00†	5.540	124.350	1815.45	-17.43	-20.62	30.18	40°09'40.728"N	104°42'05.724"W	0.00	
1917.00†	5.540	124.350	1914.98	-22.04	-26.07	38.15	40°09'40.674"N	104°42'05.622"W	0.00	
2017.00†	5.540	124.350	2014.51	-26.64	-31.52	46.12	40°09'40.621"N	104°42'05.519"W	0.00	
2117.00†	5.540	124.350	2114.05	-31.25	-36.97	54.09	40°09'40.567"N	104°42'05.416"W	0.00	
2217.00†	5.540	124.350	2213.58	-35.85	-42.41	62.06	40°09'40.513"N	104°42'05.314"W	0.00	
2317.00†	5.540	124.350	2313.11	-40.46	-47.86	70.03	40°09'40.459"N	104°42'05.211"W	0.00	
2417.00†	5.540	124.350	2412.64	-45.06	-53.31	78.00	40°09'40.405"N	104°42'05.108"W	0.00	
2517.00†	5.540	124.350	2512.18	-49.67	-58.75	85.97	40°09'40.351"N	104°42'05.006"W	0.00	
2617.00†	5.540	124.350	2611.71	-54.27	-64.20	93.94	40°09'40.298"N	104°42'04.903"W	0.00	
2717.00†	5.540	124.350	2711.24	-58.88	-69.65	101.91	40°09'40.244"N	104°42'04.800"W	0.00	
2817.00†	5.540	124.350	2810.78	-63.48	-75.10	109.88	40°09'40.190"N	104°42'04.698"W	0.00	
2917.00†	5.540	124.350	2910.31	-68.09	-80.54	117.85	40°09'40.136"N	104°42'04.595"W	0.00	
3017.00†	5.540	124.350	3009.84	-72.69	-85.99	125.82	40°09'40.082"N	104°42'04.492"W	0.00	
3117.00†	5.540	124.350	3109.38	-77.30	-91.44	133.79	40°09'40.028"N	104°42'04.390"W	0.00	
3217.00†	5.540	124.350	3208.91	-81.90	-96.89	141.76	40°09'39.975"N	104°42'04.287"W	0.00	
3317.00†	5.540	124.350	3308.44	-86.51	-102.33	149.73	40°09'39.921"N	104°42'04.184"W	0.00	
3417.00†	5.540	124.350	3407.97	-91.11	-107.78	157.70	40°09'39.867"N	104°42'04.082"W	0.00	
3517.00†	5.540	124.350	3507.51	-95.72	-113.23	165.67	40°09'39.813"N	104°42'03.979"W	0.00	
3617.00†	5.540	124.350	3607.04	-100.32	-118.67	173.64	40°09'39.759"N	104°42'03.876"W	0.00	
3717.00†	5.540	124.350	3706.57	-104.93	-124.12	181.62	40°09'39.705"N	104°42'03.774"W	0.00	
3817.00†	5.540	124.350	3806.11	-109.53	-129.57	189.59	40°09'39.652"N	104°42'03.671"W	0.00	
3917.00†	5.540	124.350	3905.64	-114.14	-135.02	197.56	40°09'39.598"N	104°42'03.568"W	0.00	
4016.83†	5.540	124.350	4005.00	-118.73	-140.45	205.51	40°09'39.544"N	104°42'03.466"W	0.00	PARKMAN
4017.00†	5.540	124.350	4005.17	-118.74	-140.46	205.53	40°09'39.544"N	104°42'03.466"W	0.00	
4117.00†	5.540	124.350	4104.70	-123.35	-145.91	213.50	40°09'39.490"N	104°42'03.363"W	0.00	
4217.00†	5.540	124.350	4204.24	-127.95	-151.36	221.47	40°09'39.436"N	104°42'03.261"W	0.00	
4317.00†	5.540	124.350	4303.77	-132.56	-156.81	229.44	40°09'39.382"N	104°42'03.158"W	0.00	
4417.00†	5.540	124.350	4403.30	-137.16	-162.25	237.41	40°09'39.329"N	104°42'03.055"W	0.00	
4516.16†	5.540	124.350	4502.00	-141.73	-167.65	245.31	40°09'39.275"N	104°42'02.953"W	0.00	SUSSEX
4517.00†	5.540	124.350	4502.84	-141.77	-167.70	245.38	40°09'39.275"N	104°42'02.953"W	0.00	
4617.00†	5.540	124.350	4602.37	-146.37	-173.15	253.35	40°09'39.221"N	104°42'02.850"W	0.00	
4717.00†	5.540	124.350	4701.90	-150.98	-178.59	261.32	40°09'39.167"N	104°42'02.747"W	0.00	
4817.00†	5.540	124.350	4801.43	-155.58	-184.04	269.29	40°09'39.113"N	104°42'02.645"W	0.00	
4917.00†	5.540	124.350	4900.97	-160.19	-189.49	277.26	40°09'39.059"N	104°42'02.542"W	0.00	
5017.00†	5.540	124.350	5000.50	-164.79	-194.94	285.23	40°09'39.006"N	104°42'02.439"W	0.00	
5117.00†	5.540	124.350	5100.03	-169.40	-200.38	293.20	40°09'38.952"N	104°42'02.337"W	0.00	
5217.00†	5.540	124.350	5199.57	-174.00	-205.83	301.17	40°09'38.898"N	104°42'02.234"W	0.00	
5317.00†	5.540	124.350	5299.10	-178.61	-211.28	309.14	40°09'38.844"N	104°42'02.131"W	0.00	
5417.00†	5.540	124.350	5398.63	-183.21	-216.73	317.11	40°09'38.790"N	104°42'02.029"W	0.00	



Planned Wellpath Report

NICHOLS 16N-31HZ (PERMIT) PWP

Page 3 of 5



REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#09 NICHOLS 16N-31HZ (346'FSL & 1292'FEL,SEC.6)
Area	COLORADO	Well	NICHOLS 16N-31HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	NICHOLS 16N-31HZ PWB
Facility	SEC.06-T2N-R65W		

WELLPATH DATA (134 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
5517.00†	5.540	124.350	5498.17	-187.82	-222.17	325.08	40°09'38.736"N	104°42'01.926"W	0.00	
5617.00†	5.540	124.350	5597.70	-192.42	-227.62	333.05	40°09'38.683"N	104°42'01.823"W	0.00	
5717.00†	5.540	124.350	5697.23	-197.03	-233.07	341.02	40°09'38.629"N	104°42'01.721"W	0.00	
5817.00†	5.540	124.350	5796.76	-201.63	-238.51	349.00	40°09'38.575"N	104°42'01.618"W	0.00	
5917.00†	5.540	124.350	5896.30	-206.24	-243.96	356.97	40°09'38.521"N	104°42'01.515"W	0.00	
6017.00†	5.540	124.350	5995.83	-210.84	-249.41	364.94	40°09'38.467"N	104°42'01.413"W	0.00	
6117.00†	5.540	124.350	6095.36	-215.45	-254.86	372.91	40°09'38.413"N	104°42'01.310"W	0.00	
6217.00†	5.540	124.350	6194.90	-220.05	-260.30	380.88	40°09'38.360"N	104°42'01.207"W	0.00	
6317.00†	5.540	124.350	6294.43	-224.66	-265.75	388.85	40°09'38.306"N	104°42'01.105"W	0.00	
6417.00†	5.540	124.350	6393.96	-229.26	-271.20	396.82	40°09'38.252"N	104°42'01.002"W	0.00	
6490.83	5.540	124.350	6467.45	-232.66	-275.22	402.70	40°09'38.212"N	104°42'00.926"W	0.00	End of Tangent (J)
6517.00†	4.643	96.262	6463.52	-233.27	-276.05	404.80	40°09'38.204"N	104°42'00.899"W	10.00	
6617.00†	10.609	26.381	6592.75	-224.66	-268.22	412.93	40°09'38.281"N	104°42'00.794"W	10.00	
6717.00†	20.077	13.589	6689.10	-198.96	-243.23	421.08	40°09'38.528"N	104°42'00.690"W	10.00	
6817.00†	29.886	8.897	6779.64	-156.97	-201.83	428.98	40°09'38.938"N	104°42'00.588"W	10.00	
6917.00†	39.784	6.382	6861.63	-99.95	-145.27	436.41	40°09'39.496"N	104°42'00.492"W	10.00	
7017.00†	49.718	4.739	6932.56	-29.64	-75.28	443.14	40°09'40.188"N	104°42'00.405"W	10.00	
7041.51†	52.156	4.412	6948.00	-10.62	-56.32	444.65	40°09'40.375"N	104°42'00.386"W	10.00	SHARON SPRINGS
7117.00†	59.669	3.522	6990.28	51.82	6.01	448.95	40°09'40.991"N	104°42'00.330"W	10.00	
7167.88†	64.735	2.997	7014.00	96.77	50.93	451.51	40°09'41.435"N	104°42'00.298"W	10.00	NIOBRARA A
7217.00†	69.629	2.531	7033.04	141.96	96.14	453.69	40°09'41.882"N	104°42'00.270"W	10.00	
7228.69†	70.793	2.424	7037.00	152.94	107.13	454.16	40°09'41.991"N	104°42'00.263"W	10.00	NIOBRARA B
7317.00†	79.594	1.661	7059.55	238.05	192.37	457.19	40°09'42.833"N	104°42'00.224"W	10.00	
7417.00†	89.561	0.846	7068.99	337.15	291.77	459.36	40°09'43.815"N	104°42'00.196"W	10.00	
7420.81	89.941	0.815	7069.00	340.95	295.59	459.41	40°09'43.853"N	104°42'00.196"W	10.00	End of 3D Arc (J)
7517.00†	89.941	0.815	7069.10	436.76	391.76	460.78	40°09'44.803"N	104°42'00.178"W	0.00	
7617.00†	89.941	0.815	7069.20	536.38	491.75	462.21	40°09'45.791"N	104°42'00.160"W	0.00	
7717.00†	89.941	0.815	7069.31	635.99	591.74	463.63	40°09'46.780"N	104°42'00.141"W	0.00	
7817.00†	89.941	0.815	7069.41	735.60	691.73	465.05	40°09'47.768"N	104°42'00.123"W	0.00	
7917.00†	89.941	0.815	7069.51	835.21	791.72	466.47	40°09'48.756"N	104°42'00.105"W	0.00	
8017.00†	89.941	0.815	7069.62	934.83	891.71	467.90	40°09'49.744"N	104°42'00.086"W	0.00	
8117.00†	89.941	0.815	7069.72	1034.44	991.70	469.32	40°09'50.732"N	104°42'00.068"W	0.00	
8217.00†	89.941	0.815	7069.82	1134.05	1091.69	470.74	40°09'51.720"N	104°42'00.050"W	0.00	
8317.00†	89.941	0.815	7069.93	1233.66	1191.68	472.16	40°09'52.708"N	104°42'00.031"W	0.00	
8417.00†	89.941	0.815	7070.03	1333.28	1291.67	473.59	40°09'53.696"N	104°42'00.013"W	0.00	
8517.00†	89.941	0.815	7070.13	1432.89	1391.66	475.01	40°09'54.684"N	104°41'59.995"W	0.00	
8617.00†	89.941	0.815	7070.23	1532.50	1491.65	476.43	40°09'55.672"N	104°41'59.976"W	0.00	
8717.00†	89.941	0.815	7070.34	1632.11	1591.64	477.86	40°09'56.661"N	104°41'59.958"W	0.00	
8817.00†	89.941	0.815	7070.44	1731.73	1691.63	479.28	40°09'57.649"N	104°41'59.939"W	0.00	
8917.00†	89.941	0.815	7070.54	1831.34	1791.62	480.70	40°09'58.637"N	104°41'59.921"W	0.00	
9017.00†	89.941	0.815	7070.65	1930.95	1891.61	482.12	40°09'59.625"N	104°41'59.903"W	0.00	
9117.00†	89.941	0.815	7070.75	2030.56	1991.60	483.55	40°10'00.613"N	104°41'59.884"W	0.00	
9217.00†	89.941	0.815	7070.85	2130.18	2091.59	484.97	40°10'01.601"N	104°41'59.866"W	0.00	
9317.00†	89.941	0.815	7070.96	2229.79	2191.58	486.39	40°10'02.589"N	104°41'59.848"W	0.00	
9417.00†	89.941	0.815	7071.06	2329.40	2291.57	487.81	40°10'03.577"N	104°41'59.829"W	0.00	
9517.00†	89.941	0.815	7071.16	2429.01	2391.56	489.24	40°10'04.565"N	104°41'59.811"W	0.00	
9617.00†	89.941	0.815	7071.26	2528.63	2491.55	490.66	40°10'05.554"N	104°41'59.793"W	0.00	
9717.00†	89.941	0.815	7071.37	2628.24	2591.54	492.08	40°10'06.542"N	104°41'59.774"W	0.00	
9817.00†	89.941	0.815	7071.47	2727.85	2691.53	493.51	40°10'07.530"N	104°41'59.756"W	0.00	
9917.00†	89.941	0.815	7071.57	2827.46	2791.52	494.93	40°10'08.518"N	104°41'59.738"W	0.00	
10017.00†	89.941	0.815	7071.68	2927.08	2891.51	496.35	40°10'09.506"N	104°41'59.719"W	0.00	
10117.00†	89.941	0.815	7071.78	3026.69	2991.50	497.77	40°10'10.494"N	104°41'59.701"W	0.00	
10217.00†	89.941	0.815	7071.88	3126.30	3091.49	499.20	40°10'11.482"N	104°41'59.683"W	0.00	
10317.00†	89.941	0.815	7071.98	3225.91	3191.48	500.62	40°10'12.470"N	104°41'59.664"W	0.00	
10417.00†	89.941	0.815	7072.09	3325.53	3291.47	502.04	40°10'13.458"N	104°41'59.646"W	0.00	
10517.00†	89.941	0.815	7072.19	3425.14	3391.46	503.46	40°10'14.446"N	104°41'59.627"W	0.00	
10617.00†	89.941	0.815	7072.29	3524.75	3491.45	504.89	40°10'15.435"N	104°41'59.609"W	0.00	
10717.00†	89.941	0.815	7072.40	3624.36	3591.44	506.31	40°10'16.423"N	104°41'59.591"W	0.00	
10817.00†	89.941	0.815	7072.50	3723.98	3691.43	507.73	40°10'17.411"N	104°41'59.572"W	0.00	
10917.00†	89.941	0.815	7072.60	3823.59	3791.42	509.16	40°10'18.399"N	104°41'59.554"W	0.00	



Planned Wellpath Report

NICHOLS 16N-31HZ (PERMIT) PWP

Page 4 of 5



REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#09 NICHOLS 16N-31HZ (346'FSL & 1292'FEL,SEC.6)
Area	COLORADO	Well	NICHOLS 16N-31HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	NICHOLS 16N-31HZ PWB
Facility	SEC.06-T2N-R65W		

WELLPATH DATA (134 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11017.00†	89.941	0.815	7072.71	3923.20	3891.40	510.58	40°10'19.387"N	104°41'59.536"W	0.00	
11117.00†	89.941	0.815	7072.81	4022.81	3991.39	512.00	40°10'20.375"N	104°41'59.517"W	0.00	
11217.00†	89.941	0.815	7072.91	4122.43	4091.38	513.42	40°10'21.363"N	104°41'59.499"W	0.00	
11317.00†	89.941	0.815	7073.01	4222.04	4191.37	514.85	40°10'22.351"N	104°41'59.481"W	0.00	
11417.00†	89.941	0.815	7073.12	4321.65	4291.36	516.27	40°10'23.339"N	104°41'59.462"W	0.00	
11517.00†	89.941	0.815	7073.22	4421.26	4391.35	517.69	40°10'24.327"N	104°41'59.444"W	0.00	
11617.00†	89.941	0.815	7073.32	4520.88	4491.34	519.11	40°10'25.316"N	104°41'59.426"W	0.00	
11717.00†	89.941	0.815	7073.43	4620.49	4591.33	520.54	40°10'26.304"N	104°41'59.407"W	0.00	
11817.00†	89.941	0.815	7073.53	4720.10	4691.32	521.96	40°10'27.292"N	104°41'59.389"W	0.00	
11917.00†	89.941	0.815	7073.63	4819.71	4791.31	523.38	40°10'28.280"N	104°41'59.371"W	0.00	
12017.00†	89.941	0.815	7073.74	4919.32	4891.30	524.81	40°10'29.268"N	104°41'59.352"W	0.00	
12117.00†	89.941	0.815	7073.84	5018.94	4991.29	526.23	40°10'30.256"N	104°41'59.334"W	0.00	
12217.00†	89.941	0.815	7073.94	5118.55	5091.28	527.65	40°10'31.244"N	104°41'59.315"W	0.00	
12273.96	89.941	0.815	7074.00 ¹	5175.29	5148.24	528.46	40°10'31.807"N	104°41'59.305"W	0.00	End of Tangent (J)

HOLE & CASING SECTIONS - Ref Wellbore: NICHOLS 16N-31HZ PWB Ref Wellpath: NICHOLS 16N-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]
13.5in Open Hole	17.00	900.00	883.00	17.00	900.00	0.00	0.00	0.00	0.00
9.625in Casing Surface	17.00	900.00	883.00	17.00	900.00	0.00	0.00	0.00	0.00
8.75in Open Hole	900.00	7420.81	6520.81	900.00	7069.00	0.00	0.00	295.58	459.41
7in Casing Intermediate	17.00	7420.81	7403.81	17.00	7069.00	0.00	0.00	295.58	459.41
6.125in Open Hole	7420.81	12273.96	4853.15	7069.00	7074.00	295.58	459.41	5148.24	528.46
4.5in Casing Production	17.00	12273.96	12256.96	17.00	7074.00	0.00	0.00	5148.24	528.46

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
NICHOLS PAD SECTION 31 LINES		0.00	0.73	29.92	3223144.85	1302635.55	40°09'40.939"N	104°42'05.728"W	polygon
NICHOLS PAD SECTION 6 LINES		0.00	0.73	29.92	3223144.85	1302635.55	40°09'40.939"N	104°42'05.728"W	polygon
1) NICHOLS 16N-31HZ BHL ON PLAT (300'FSL & 825'FEL,SEC.31) REV-1	12273.96	7074.00	5148.24	528.46	3223597.01	1307787.11	40°10'31.807"N	104°41'59.305"W	point
NICHOLS PAD SEC. 31 HARDLINES (460' SETBACKS)		7118.00	0.73	29.92	3223144.85	1302635.55	40°09'40.939"N	104°42'05.728"W	polygon
NICHOLS PAD SEC. 6 HARDLINES (460' SETBACKS)		7118.00	0.73	29.92	3223144.85	1302635.55	40°09'40.939"N	104°42'05.728"W	polygon

SURVEY PROGRAM - Ref Wellbore: NICHOLS 16N-31HZ PWB Ref Wellpath: NICHOLS 16N-31HZ (PERMIT) PWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	12273.96	NaviTrak (Standard)		NICHOLS 16N-31HZ PWB



Planned Wellpath Report

NICHOLS 16N-31HZ (PERMIT) PWP

Page 5 of 5

**REFERENCE WELLPATH IDENTIFICATION**

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#09 NICHOLS 16N-31HZ (346'FSL & 1292'FEL,SEC.6)
Area	COLORADO	Well	NICHOLS 16N-31HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	NICHOLS 16N-31HZ PWB
Facility	SEC.06-T2N-R65W		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
4016.83	5.540	124.350	4005.00	PARKMAN
4516.16	5.540	124.350	4502.00	SUSSEX
7041.51	52.156	4.412	6948.00	SHARON SPRINGS
7167.88	64.735	2.997	7014.00	NIOBRARA A
7228.69	70.793	2.424	7037.00	NIOBRARA B