



# KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#02 BOYD 2N-32HZ (325' FSL & 2336' FEL, SEC.05)  
Field: WELD COUNTY (KERR MCGEE) Well: BOYD 2N-32HZ  
Facility: SEC.05-T1N-R65W Wellbore: BOYD 2N-32HZ PWB

Plot reference wellpath is BOYD 2N-32HZ (PERMIT REV-1) PWP

True vertical depths are referenced to XTREME 20 (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to XTREME 20 (RKB)	North Reference: True north
XTREME 20 (RKB) to Mean Sea Level: 4966 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#02 BOYD 2N-32HZ (325' FSL & 2336' FEL, SEC.05)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: precain on 5/17/2013

## Location Information

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.05-T1N-R65W	3227276.210	1273237.510	40°04'50.053"N	104°41'15.984"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
SLOT#02 BOYD 2N-32HZ (325' FSL & 2336' FEL, SEC.05)	-2307.20	282.19	3227579.507	1270933.085
XTREME 20 (RKB) to Mud line (At Slot: SLOT#02 BOYD 2N-32HZ (325' FSL & 2336' FEL, SEC.05))				4966R
Mean Sea Level to Mud line (At Slot: SLOT#02 BOYD 2N-32HZ (325' FSL & 2336' FEL, SEC.05))				0ft
XTREME 20 (RKB) to Mean Sea Level				4966R

## Survey Program

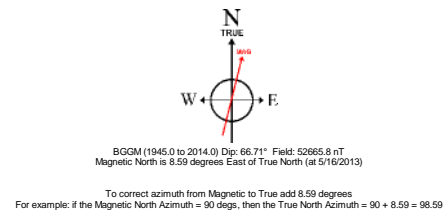
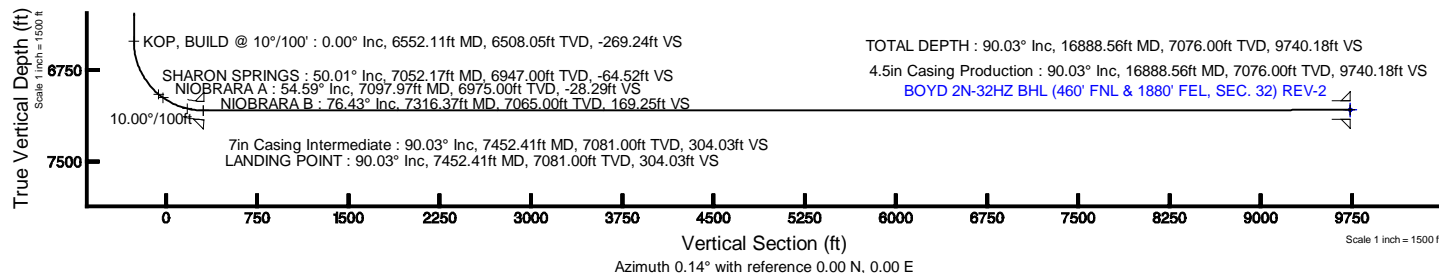
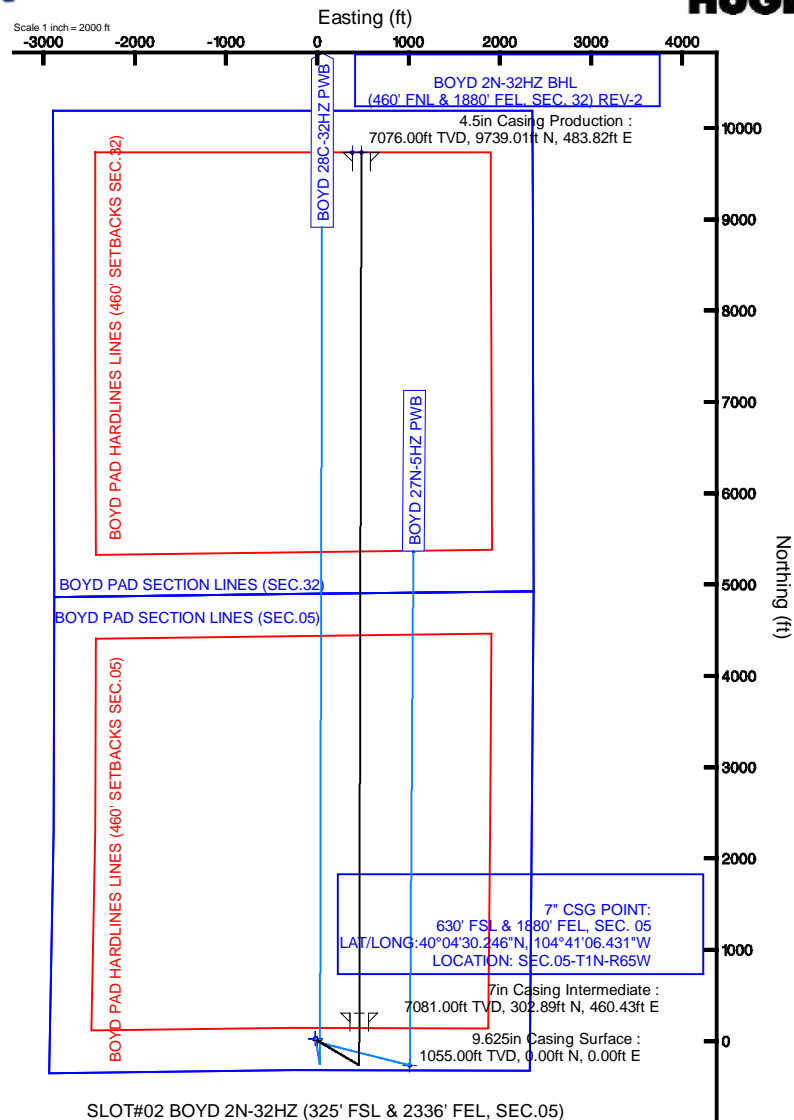
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
16.00	7452.41	NavTrak	NavTrak (MagCorr)		BOYD 2N-32HZ PWB
7452.41	16888.56	OnTrak	OnTrak (MagCorr)		BOYD 2N-32HZ PWB

## Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
TIE-ON	16.00	0.000	120.500	16.00	0.00	0.00	0.00	0.00
BEGIN NUDGE	1155.00	0.000	120.500	1155.00	0.00	0.00	0.00	0.00
END NUDGE	1655.00	10.000	120.500	1652.47	-22.09	37.50	2.00	-22.00
BEGIN DROP	4221.53	10.000	120.500	4180.00	-248.29	421.50	0.00	-247.24
END DROP	4721.53	0.000	0.142	4677.47	-270.37	459.01	2.00	-269.24
KOP, BUILD @ 10°/100'	6552.11	0.000	0.142	6508.05	-270.37	459.01	0.00	-269.24
LANDING POINT	7452.41	90.030	0.142	7081.00	302.89	460.43	10.00	304.03
TOTAL DEPTH	16888.56	90.030	0.142	7076.00	9739.01	483.82	0.00	9740.18

## Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
BOYD PAD HARDLINES LINES (460' SETBACKS SEC.05)		4966.00	21.86	-20.13	3227559.17	1270954.76	40°04'27.469"N	104°41'12.813"W
BOYD PAD HARDLINES LINES (460' SETBACKS SEC.32)		4966.00	21.86	-20.13	3227559.17	1270954.76	40°04'27.469"N	104°41'12.813"W
BOYD PAD SECTION LINES (SEC.05)		4966.00	21.86	-20.13	3227559.17	1270954.76	40°04'27.469"N	104°41'12.813"W
BOYD PAD SECTION LINES (SEC.32)		4966.00	21.86	-20.13	3227559.17	1270954.76	40°04'27.469"N	104°41'12.813"W
BOYD 2N-32HZ BHL (460' FNL & 1880' FEL, SEC. 32) REV-2	16888.56	7076.00	9739.01	483.82	3227973.98	1280675.73	40°06'03.496"N	104°41'06.128"W
BOYD 2N-32HZ BHL ON PLAT (460' FNL & 1880' FEL, SEC. 32) REV-1		7076.00	9739.05	383.80	3227873.97	1280674.85	40°06'03.496"N	104°41'07.415"W





# Planned Wellpath Report

BOYD 2N-32HZ (PERMIT REV-1) PWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#02 BOYD 2N-32HZ (325' FSL & 2336' FEL, SEC.05)
Area	COLORADO	Well	BOYD 2N-32HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BOYD 2N-32HZ PWB
Facility	SEC.05-T1N-R65W		

REPORT SETUP INFORMATION			
Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 3.0.2
North Reference	True	User	Precain
Scale	0.999962	Report Generated	5/17/2013 at 8:25:38 AM
Convergence at slot	0.53° East	Database/Source file	WellArchitectDB/BOYD_2N-32HZ_PWB.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-2307.20	282.19	3227579.51	1270933.09	40°04'27.253"N	104°41'12.354"W
Facility Reference Pt			3227276.21	1273237.51	40°04'50.053"N	104°41'15.984"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 20 (RKB) to Facility Vertical Datum	4966.00ft
Horizontal Reference Pt	Slot	XTREME 20 (RKB) to Mean Sea Level	4966.00ft
Vertical Reference Pt	XTREME 20 (RKB)	XTREME 20 (RKB) to Mud Line at Slot (SLOT#02 BOYD 2N-32HZ (325' FSL & 2336' FEL, SEC.05))	4966.00ft
MD Reference Pt	XTREME 20 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	0.14°



# Planned Wellpath Report

BOYD 2N-32HZ (PERMIT REV-1) PWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#02 BOYD 2N-32HZ (325' FSL & 2336' FEL, SEC.05)
Area	COLORADO	Well	BOYD 2N-32HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BOYD 2N-32HZ PWB
Facility	SEC.05-T1N-R65W		

## WELLPATH DATA (181 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	120.500	0.00	0.00	0.00	0.00	40°04'27.253"N	104°41'12.354"W	0.00	
16.00	0.000	120.500	16.00	0.00	0.00	0.00	40°04'27.253"N	104°41'12.354"W	0.00	TIE-ON
116.00†	0.000	120.500	116.00	0.00	0.00	0.00	40°04'27.253"N	104°41'12.354"W	0.00	
216.00†	0.000	120.500	216.00	0.00	0.00	0.00	40°04'27.253"N	104°41'12.354"W	0.00	
316.00†	0.000	120.500	316.00	0.00	0.00	0.00	40°04'27.253"N	104°41'12.354"W	0.00	
416.00†	0.000	120.500	416.00	0.00	0.00	0.00	40°04'27.253"N	104°41'12.354"W	0.00	
516.00†	0.000	120.500	516.00	0.00	0.00	0.00	40°04'27.253"N	104°41'12.354"W	0.00	
616.00†	0.000	120.500	616.00	0.00	0.00	0.00	40°04'27.253"N	104°41'12.354"W	0.00	
716.00†	0.000	120.500	716.00	0.00	0.00	0.00	40°04'27.253"N	104°41'12.354"W	0.00	
816.00†	0.000	120.500	816.00	0.00	0.00	0.00	40°04'27.253"N	104°41'12.354"W	0.00	
916.00†	0.000	120.500	916.00	0.00	0.00	0.00	40°04'27.253"N	104°41'12.354"W	0.00	
1016.00†	0.000	120.500	1016.00	0.00	0.00	0.00	40°04'27.253"N	104°41'12.354"W	0.00	
1116.00†	0.000	120.500	1116.00	0.00	0.00	0.00	40°04'27.253"N	104°41'12.354"W	0.00	
1155.00	0.000	120.500	1155.00	0.00	0.00	0.00	40°04'27.253"N	104°41'12.354"W	0.00	BEGIN NUDGE
1216.00†	1.220	120.500	1216.00	-0.33	-0.33	0.56	40°04'27.250"N	104°41'12.347"W	2.00	
1316.00†	3.220	120.500	1315.92	-2.29	-2.30	3.90	40°04'27.230"N	104°41'12.304"W	2.00	
1416.00†	5.220	120.500	1415.64	-6.00	-6.03	10.24	40°04'27.193"N	104°41'12.222"W	2.00	
1516.00†	7.220	120.500	1515.05	-11.48	-11.53	19.57	40°04'27.139"N	104°41'12.102"W	2.00	
1616.00†	9.220	120.500	1614.01	-18.71	-18.78	31.89	40°04'27.067"N	104°41'11.944"W	2.00	
1655.00	10.000	120.500	1652.47	-22.00	-22.09	37.50	40°04'27.035"N	104°41'11.872"W	2.00	END NUDGE
1716.00†	10.000	120.500	1712.54	-27.35	-27.47	46.63	40°04'26.982"N	104°41'11.754"W	0.00	
1816.00†	10.000	120.500	1811.02	-36.13	-36.28	61.59	40°04'26.894"N	104°41'11.562"W	0.00	
1916.00†	10.000	120.500	1909.50	-44.90	-45.09	76.55	40°04'26.807"N	104°41'11.369"W	0.00	
2016.00†	10.000	120.500	2007.98	-53.68	-53.91	91.51	40°04'26.720"N	104°41'11.177"W	0.00	
2116.00†	10.000	120.500	2106.46	-62.45	-62.72	106.48	40°04'26.633"N	104°41'10.984"W	0.00	
2216.00†	10.000	120.500	2204.94	-71.23	-71.53	121.44	40°04'26.546"N	104°41'10.792"W	0.00	
2316.00†	10.000	120.500	2303.42	-80.01	-80.35	136.40	40°04'26.459"N	104°41'10.599"W	0.00	
2416.00†	10.000	120.500	2401.90	-88.78	-89.16	151.36	40°04'26.372"N	104°41'10.407"W	0.00	
2516.00†	10.000	120.500	2500.38	-97.56	-97.97	166.32	40°04'26.285"N	104°41'10.214"W	0.00	
2616.00†	10.000	120.500	2598.87	-106.34	-106.79	181.29	40°04'26.198"N	104°41'10.022"W	0.00	
2716.00†	10.000	120.500	2697.35	-115.11	-115.60	196.25	40°04'26.111"N	104°41'09.830"W	0.00	
2816.00†	10.000	120.500	2795.83	-123.89	-124.41	211.21	40°04'26.024"N	104°41'09.637"W	0.00	
2916.00†	10.000	120.500	2894.31	-132.66	-133.23	226.17	40°04'25.936"N	104°41'09.445"W	0.00	
3016.00†	10.000	120.500	2992.79	-141.44	-142.04	241.13	40°04'25.849"N	104°41'09.252"W	0.00	
3116.00†	10.000	120.500	3091.27	-150.22	-150.85	256.10	40°04'25.762"N	104°41'09.060"W	0.00	
3216.00†	10.000	120.500	3189.75	-158.99	-159.67	271.06	40°04'25.675"N	104°41'08.867"W	0.00	
3316.00†	10.000	120.500	3288.23	-167.77	-168.48	286.02	40°04'25.588"N	104°41'08.675"W	0.00	
3416.00†	10.000	120.500	3386.71	-176.55	-177.29	300.98	40°04'25.501"N	104°41'08.482"W	0.00	
3516.00†	10.000	120.500	3485.19	-185.32	-186.11	315.94	40°04'25.414"N	104°41'08.290"W	0.00	
3616.00†	10.000	120.500	3583.67	-194.10	-194.92	330.91	40°04'25.327"N	104°41'08.097"W	0.00	
3716.00†	10.000	120.500	3682.15	-202.87	-203.73	345.87	40°04'25.240"N	104°41'07.905"W	0.00	
3816.00†	10.000	120.500	3780.63	-211.65	-212.55	360.83	40°04'25.153"N	104°41'07.712"W	0.00	
3916.00†	10.000	120.500	3879.12	-220.43	-221.36	375.79	40°04'25.065"N	104°41'07.520"W	0.00	
4016.00†	10.000	120.500	3977.60	-229.20	-230.17	390.75	40°04'24.978"N	104°41'07.328"W	0.00	
4116.00†	10.000	120.500	4076.08	-237.98	-238.98	405.72	40°04'24.891"N	104°41'07.135"W	0.00	



# Planned Wellpath Report

BOYD 2N-32HZ (PERMIT REV-1) PWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#02 BOYD 2N-32HZ (325' FSL & 2336' FEL, SEC.05)
Area	COLORADO	Well	BOYD 2N-32HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BOYD 2N-32HZ PWB
Facility	SEC.05-T1N-R65W		

## WELLPATH DATA (181 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4216.00†	10.000	120.500	4174.56	-246.75	-247.80	420.68	40°04'24.804"N	104°41'06.943"W	0.00	
4221.53	10.000	120.500	4180.00	-247.24	-248.29	421.50	40°04'24.799"N	104°41'06.932"W	0.00	BEGIN DROP
4316.00†	8.111	120.500	4273.29	-254.75	-255.83	434.32	40°04'24.725"N	104°41'06.767"W	2.00	
4416.00†	6.111	120.500	4372.52	-261.01	-262.11	444.98	40°04'24.663"N	104°41'06.630"W	2.00	
4461.70†	5.196	120.500	4418.00	-263.29	-264.40	448.86	40°04'24.640"N	104°41'06.580"W	2.00	SUSSEX
4516.00†	4.111	120.500	4472.12	-265.51	-266.63	452.66	40°04'24.618"N	104°41'06.531"W	2.00	
4616.00†	2.111	120.500	4571.96	-268.25	-269.39	457.33	40°04'24.591"N	104°41'06.471"W	2.00	
4716.00†	0.111	120.500	4671.94	-269.23	-270.37	459.00	40°04'24.581"N	104°41'06.450"W	2.00	
4721.53	0.000	0.142	4677.47	-269.24	-270.37	459.01	40°04'24.581"N	104°41'06.450"W	2.00	END DROP
4816.00†	0.000	0.142	4771.94	-269.24	-270.37	459.01	40°04'24.581"N	104°41'06.450"W	0.00	
4916.00†	0.000	0.142	4871.94	-269.24	-270.37	459.01	40°04'24.581"N	104°41'06.450"W	0.00	
5016.00†	0.000	0.142	4971.94	-269.24	-270.37	459.01	40°04'24.581"N	104°41'06.450"W	0.00	
5116.00†	0.000	0.142	5071.94	-269.24	-270.37	459.01	40°04'24.581"N	104°41'06.450"W	0.00	
5216.00†	0.000	0.142	5171.94	-269.24	-270.37	459.01	40°04'24.581"N	104°41'06.450"W	0.00	
5316.00†	0.000	0.142	5271.94	-269.24	-270.37	459.01	40°04'24.581"N	104°41'06.450"W	0.00	
5416.00†	0.000	0.142	5371.94	-269.24	-270.37	459.01	40°04'24.581"N	104°41'06.450"W	0.00	
5516.00†	0.000	0.142	5471.94	-269.24	-270.37	459.01	40°04'24.581"N	104°41'06.450"W	0.00	
5616.00†	0.000	0.142	5571.94	-269.24	-270.37	459.01	40°04'24.581"N	104°41'06.450"W	0.00	
5716.00†	0.000	0.142	5671.94	-269.24	-270.37	459.01	40°04'24.581"N	104°41'06.450"W	0.00	
5816.00†	0.000	0.142	5771.94	-269.24	-270.37	459.01	40°04'24.581"N	104°41'06.450"W	0.00	
5916.00†	0.000	0.142	5871.94	-269.24	-270.37	459.01	40°04'24.581"N	104°41'06.450"W	0.00	
6016.00†	0.000	0.142	5971.94	-269.24	-270.37	459.01	40°04'24.581"N	104°41'06.450"W	0.00	
6116.00†	0.000	0.142	6071.94	-269.24	-270.37	459.01	40°04'24.581"N	104°41'06.450"W	0.00	
6216.00†	0.000	0.142	6171.94	-269.24	-270.37	459.01	40°04'24.581"N	104°41'06.450"W	0.00	
6316.00†	0.000	0.142	6271.94	-269.24	-270.37	459.01	40°04'24.581"N	104°41'06.450"W	0.00	
6416.00†	0.000	0.142	6371.94	-269.24	-270.37	459.01	40°04'24.581"N	104°41'06.450"W	0.00	
6516.00†	0.000	0.142	6471.94	-269.24	-270.37	459.01	40°04'24.581"N	104°41'06.450"W	0.00	
6552.11	0.000	0.142	6508.05	-269.24	-270.37	459.01	40°04'24.581"N	104°41'06.450"W	0.00	KOP, BUILD @ 10°/100'
6616.00†	6.389	0.142	6571.81	-265.68	-266.82	459.01	40°04'24.616"N	104°41'06.450"W	10.00	
6716.00†	16.389	0.142	6669.71	-245.95	-247.09	459.06	40°04'24.811"N	104°41'06.449"W	10.00	
6816.00†	26.389	0.142	6762.71	-209.53	-210.67	459.15	40°04'25.171"N	104°41'06.448"W	10.00	
6916.00†	36.389	0.142	6847.96	-157.51	-158.65	459.28	40°04'25.685"N	104°41'06.446"W	10.00	
7016.00†	46.389	0.142	6922.89	-91.48	-92.62	459.45	40°04'26.338"N	104°41'06.444"W	10.00	
7052.17†	50.007	0.142	6947.00	-64.52	-65.66	459.51	40°04'26.604"N	104°41'06.443"W	10.00	SHARON SPRINGS
7097.97†	54.586	0.142	6975.00	-28.29	-29.43	459.60	40°04'26.962"N	104°41'06.442"W	10.00	NIOBRARA A
7116.00†	56.389	0.142	6985.22	-13.44	-14.58	459.64	40°04'27.109"N	104°41'06.441"W	10.00	
7216.00†	66.389	0.142	7033.04	74.24	73.10	459.86	40°04'27.975"N	104°41'06.439"W	10.00	
7316.00†	76.389	0.142	7064.91	168.89	167.75	460.09	40°04'28.911"N	104°41'06.436"W	10.00	
7316.37†	76.426	0.142	7065.00	169.25	168.11	460.09	40°04'28.914"N	104°41'06.436"W	10.00	NIOBRARA B
7416.00†	86.389	0.142	7079.87	267.64	266.50	460.34	40°04'29.887"N	104°41'06.432"W	10.00	
7452.41	90.030	0.142	7081.00	304.03	302.89	460.43	40°04'30.246"N	104°41'06.431"W	10.00	LANDING POINT
7516.00†	90.030	0.142	7080.97	367.62	366.48	460.58	40°04'30.875"N	104°41'06.429"W	0.00	
7616.00†	90.030	0.142	7080.92	467.62	466.47	460.83	40°04'31.863"N	104°41'06.426"W	0.00	
7716.00†	90.030	0.142	7080.86	567.62	566.47	461.08	40°04'32.851"N	104°41'06.423"W	0.00	
7816.00†	90.030	0.142	7080.81	667.62	666.47	461.33	40°04'33.839"N	104°41'06.420"W	0.00	



# Planned Wellpath Report

BOYD 2N-32HZ (PERMIT REV-1) PWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#02 BOYD 2N-32HZ (325' FSL & 2336' FEL, SEC.05)
Area	COLORADO	Well	BOYD 2N-32HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BOYD 2N-32HZ PWB
Facility	SEC.05-T1N-R65W		

## WELLPATH DATA (181 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7916.00†	90.030	0.142	7080.76	767.62	766.47	461.58	40°04'34.827"N	104°41'06.416"W	0.00	
8016.00†	90.030	0.142	7080.70	867.62	866.47	461.82	40°04'35.816"N	104°41'06.413"W	0.00	
8116.00†	90.030	0.142	7080.65	967.62	966.47	462.07	40°04'36.804"N	104°41'06.410"W	0.00	
8216.00†	90.030	0.142	7080.60	1067.62	1066.47	462.32	40°04'37.792"N	104°41'06.407"W	0.00	
8316.00†	90.030	0.142	7080.55	1167.62	1166.47	462.57	40°04'38.780"N	104°41'06.403"W	0.00	
8416.00†	90.030	0.142	7080.49	1267.62	1266.47	462.82	40°04'39.768"N	104°41'06.400"W	0.00	
8516.00†	90.030	0.142	7080.44	1367.62	1366.47	463.06	40°04'40.757"N	104°41'06.397"W	0.00	
8616.00†	90.030	0.142	7080.39	1467.62	1466.47	463.31	40°04'41.745"N	104°41'06.394"W	0.00	
8716.00†	90.030	0.142	7080.33	1567.62	1566.47	463.56	40°04'42.733"N	104°41'06.391"W	0.00	
8816.00†	90.030	0.142	7080.28	1667.62	1666.47	463.81	40°04'43.721"N	104°41'06.387"W	0.00	
8916.00†	90.030	0.142	7080.23	1767.62	1766.47	464.05	40°04'44.710"N	104°41'06.384"W	0.00	
9016.00†	90.030	0.142	7080.17	1867.62	1866.47	464.30	40°04'45.698"N	104°41'06.381"W	0.00	
9116.00†	90.030	0.142	7080.12	1967.62	1966.47	464.55	40°04'46.686"N	104°41'06.378"W	0.00	
9216.00†	90.030	0.142	7080.07	2067.62	2066.47	464.80	40°04'47.674"N	104°41'06.375"W	0.00	
9316.00†	90.030	0.142	7080.02	2167.62	2166.47	465.05	40°04'48.662"N	104°41'06.371"W	0.00	
9416.00†	90.030	0.142	7079.96	2267.62	2266.47	465.29	40°04'49.651"N	104°41'06.368"W	0.00	
9516.00†	90.030	0.142	7079.91	2367.62	2366.47	465.54	40°04'50.639"N	104°41'06.365"W	0.00	
9616.00†	90.030	0.142	7079.86	2467.62	2466.47	465.79	40°04'51.627"N	104°41'06.362"W	0.00	
9716.00†	90.030	0.142	7079.80	2567.62	2566.47	466.04	40°04'52.615"N	104°41'06.358"W	0.00	
9816.00†	90.030	0.142	7079.75	2667.62	2666.47	466.29	40°04'53.604"N	104°41'06.355"W	0.00	
9916.00†	90.030	0.142	7079.70	2767.62	2766.47	466.53	40°04'54.592"N	104°41'06.352"W	0.00	
10016.00†	90.030	0.142	7079.64	2867.62	2866.47	466.78	40°04'55.580"N	104°41'06.349"W	0.00	
10116.00†	90.030	0.142	7079.59	2967.62	2966.47	467.03	40°04'56.568"N	104°41'06.346"W	0.00	
10216.00†	90.030	0.142	7079.54	3067.62	3066.47	467.28	40°04'57.556"N	104°41'06.342"W	0.00	
10316.00†	90.030	0.142	7079.48	3167.62	3166.47	467.53	40°04'58.545"N	104°41'06.339"W	0.00	
10416.00†	90.030	0.142	7079.43	3267.62	3266.47	467.77	40°04'59.533"N	104°41'06.336"W	0.00	
10516.00†	90.030	0.142	7079.38	3367.62	3366.47	468.02	40°05'00.521"N	104°41'06.333"W	0.00	
10616.00†	90.030	0.142	7079.33	3467.62	3466.47	468.27	40°05'01.509"N	104°41'06.330"W	0.00	
10716.00†	90.030	0.142	7079.27	3567.62	3566.46	468.52	40°05'02.497"N	104°41'06.326"W	0.00	
10816.00†	90.030	0.142	7079.22	3667.62	3666.46	468.77	40°05'03.486"N	104°41'06.323"W	0.00	
10916.00†	90.030	0.142	7079.17	3767.62	3766.46	469.01	40°05'04.474"N	104°41'06.320"W	0.00	
11016.00†	90.030	0.142	7079.11	3867.62	3866.46	469.26	40°05'05.462"N	104°41'06.317"W	0.00	
11116.00†	90.030	0.142	7079.06	3967.62	3966.46	469.51	40°05'06.450"N	104°41'06.313"W	0.00	
11216.00†	90.030	0.142	7079.01	4067.62	4066.46	469.76	40°05'07.439"N	104°41'06.310"W	0.00	
11316.00†	90.030	0.142	7078.95	4167.62	4166.46	470.00	40°05'08.427"N	104°41'06.307"W	0.00	
11416.00†	90.030	0.142	7078.90	4267.62	4266.46	470.25	40°05'09.415"N	104°41'06.304"W	0.00	
11516.00†	90.030	0.142	7078.85	4367.62	4366.46	470.50	40°05'10.403"N	104°41'06.301"W	0.00	
11616.00†	90.030	0.142	7078.80	4467.62	4466.46	470.75	40°05'11.391"N	104°41'06.297"W	0.00	
11716.00†	90.030	0.142	7078.74	4567.62	4566.46	471.00	40°05'12.380"N	104°41'06.294"W	0.00	
11816.00†	90.030	0.142	7078.69	4667.62	4666.46	471.24	40°05'13.368"N	104°41'06.291"W	0.00	
11916.00†	90.030	0.142	7078.64	4767.61	4766.46	471.49	40°05'14.356"N	104°41'06.288"W	0.00	
12016.00†	90.030	0.142	7078.58	4867.61	4866.46	471.74	40°05'15.344"N	104°41'06.285"W	0.00	
12116.00†	90.030	0.142	7078.53	4967.61	4966.46	471.99	40°05'16.332"N	104°41'06.281"W	0.00	
12216.00†	90.030	0.142	7078.48	5067.61	5066.46	472.24	40°05'17.321"N	104°41'06.278"W	0.00	
12316.00†	90.030	0.142	7078.42	5167.61	5166.46	472.48	40°05'18.309"N	104°41'06.275"W	0.00	



# Planned Wellpath Report

BOYD 2N-32HZ (PERMIT REV-1) PWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#02 BOYD 2N-32HZ (325' FSL & 2336' FEL, SEC.05)
Area	COLORADO	Well	BOYD 2N-32HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BOYD 2N-32HZ PWB
Facility	SEC.05-T1N-R65W		

## WELLPATH DATA (181 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12416.00†	90.030	0.142	7078.37	5267.61	5266.46	472.73	40°05'19.297"N	104°41'06.272"W	0.00	
12516.00†	90.030	0.142	7078.32	5367.61	5366.46	472.98	40°05'20.285"N	104°41'06.268"W	0.00	
12616.00†	90.030	0.142	7078.27	5467.61	5466.46	473.23	40°05'21.274"N	104°41'06.265"W	0.00	
12716.00†	90.030	0.142	7078.21	5567.61	5566.46	473.48	40°05'22.262"N	104°41'06.262"W	0.00	
12816.00†	90.030	0.142	7078.16	5667.61	5666.46	473.72	40°05'23.250"N	104°41'06.259"W	0.00	
12916.00†	90.030	0.142	7078.11	5767.61	5766.46	473.97	40°05'24.238"N	104°41'06.256"W	0.00	
13016.00†	90.030	0.142	7078.05	5867.61	5866.46	474.22	40°05'25.226"N	104°41'06.252"W	0.00	
13116.00†	90.030	0.142	7078.00	5967.61	5966.46	474.47	40°05'26.215"N	104°41'06.249"W	0.00	
13216.00†	90.030	0.142	7077.95	6067.61	6066.46	474.72	40°05'27.203"N	104°41'06.246"W	0.00	
13316.00†	90.030	0.142	7077.89	6167.61	6166.46	474.96	40°05'28.191"N	104°41'06.243"W	0.00	
13416.00†	90.030	0.142	7077.84	6267.61	6266.46	475.21	40°05'29.179"N	104°41'06.240"W	0.00	
13516.00†	90.030	0.142	7077.79	6367.61	6366.46	475.46	40°05'30.167"N	104°41'06.236"W	0.00	
13616.00†	90.030	0.142	7077.74	6467.61	6466.46	475.71	40°05'31.156"N	104°41'06.233"W	0.00	
13716.00†	90.030	0.142	7077.68	6567.61	6566.46	475.95	40°05'32.144"N	104°41'06.230"W	0.00	
13816.00†	90.030	0.142	7077.63	6667.61	6666.45	476.20	40°05'33.132"N	104°41'06.227"W	0.00	
13916.00†	90.030	0.142	7077.58	6767.61	6766.45	476.45	40°05'34.120"N	104°41'06.223"W	0.00	
14016.00†	90.030	0.142	7077.52	6867.61	6866.45	476.70	40°05'35.109"N	104°41'06.220"W	0.00	
14116.00†	90.030	0.142	7077.47	6967.61	6966.45	476.95	40°05'36.097"N	104°41'06.217"W	0.00	
14216.00†	90.030	0.142	7077.42	7067.61	7066.45	477.19	40°05'37.085"N	104°41'06.214"W	0.00	
14316.00†	90.030	0.142	7077.36	7167.61	7166.45	477.44	40°05'38.073"N	104°41'06.211"W	0.00	
14416.00†	90.030	0.142	7077.31	7267.61	7266.45	477.69	40°05'39.061"N	104°41'06.207"W	0.00	
14516.00†	90.030	0.142	7077.26	7367.61	7366.45	477.94	40°05'40.050"N	104°41'06.204"W	0.00	
14616.00†	90.030	0.142	7077.20	7467.61	7466.45	478.19	40°05'41.038"N	104°41'06.201"W	0.00	
14716.00†	90.030	0.142	7077.15	7567.61	7566.45	478.43	40°05'42.026"N	104°41'06.198"W	0.00	
14816.00†	90.030	0.142	7077.10	7667.61	7666.45	478.68	40°05'43.014"N	104°41'06.195"W	0.00	
14916.00†	90.030	0.142	7077.05	7767.61	7766.45	478.93	40°05'44.002"N	104°41'06.191"W	0.00	
15016.00†	90.030	0.142	7076.99	7867.61	7866.45	479.18	40°05'44.991"N	104°41'06.188"W	0.00	
15116.00†	90.030	0.142	7076.94	7967.61	7966.45	479.43	40°05'45.979"N	104°41'06.185"W	0.00	
15216.00†	90.030	0.142	7076.89	8067.61	8066.45	479.67	40°05'46.967"N	104°41'06.182"W	0.00	
15316.00†	90.030	0.142	7076.83	8167.61	8166.45	479.92	40°05'47.955"N	104°41'06.178"W	0.00	
15416.00†	90.030	0.142	7076.78	8267.61	8266.45	480.17	40°05'48.944"N	104°41'06.175"W	0.00	
15516.00†	90.030	0.142	7076.73	8367.61	8366.45	480.42	40°05'49.932"N	104°41'06.172"W	0.00	
15616.00†	90.030	0.142	7076.67	8467.61	8466.45	480.67	40°05'50.920"N	104°41'06.169"W	0.00	
15716.00†	90.030	0.142	7076.62	8567.61	8566.45	480.91	40°05'51.908"N	104°41'06.166"W	0.00	
15816.00†	90.030	0.142	7076.57	8667.61	8666.45	481.16	40°05'52.896"N	104°41'06.162"W	0.00	
15916.00†	90.030	0.142	7076.52	8767.61	8766.45	481.41	40°05'53.885"N	104°41'06.159"W	0.00	
16016.00†	90.030	0.142	7076.46	8867.61	8866.45	481.66	40°05'54.873"N	104°41'06.156"W	0.00	
16116.00†	90.030	0.142	7076.41	8967.61	8966.45	481.90	40°05'55.861"N	104°41'06.153"W	0.00	
16216.00†	90.030	0.142	7076.36	9067.61	9066.45	482.15	40°05'56.849"N	104°41'06.150"W	0.00	
16316.00†	90.030	0.142	7076.30	9167.61	9166.45	482.40	40°05'57.837"N	104°41'06.146"W	0.00	
16416.00†	90.030	0.142	7076.25	9267.61	9266.45	482.65	40°05'58.826"N	104°41'06.143"W	0.00	
16516.00†	90.030	0.142	7076.20	9367.61	9366.45	482.90	40°05'59.814"N	104°41'06.140"W	0.00	
16616.00†	90.030	0.142	7076.14	9467.61	9466.45	483.14	40°06'00.802"N	104°41'06.137"W	0.00	
16716.00†	90.030	0.142	7076.09	9567.61	9566.45	483.39	40°06'01.790"N	104°41'06.133"W	0.00	
16816.00†	90.030	0.142	7076.04	9667.61	9666.45	483.64	40°06'02.778"N	104°41'06.130"W	0.00	





# Planned Wellpath Report

BOYD 2N-32HZ (PERMIT REV-1) PWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#02 BOYD 2N-32HZ (325' FSL & 2336' FEL, SEC.05)
Area	COLORADO	Well	BOYD 2N-32HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BOYD 2N-32HZ PWB
Facility	SEC.05-T1N-R65W		

WELLPATH DATA (181 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
16888.56	90.030	0.142	7076.00 <sup>1</sup>	9740.18	9739.01	483.82	40°06'03.496"N	104°41'06.128"W	0.00	TOTAL DEPTH

HOLE & CASING SECTIONS - Ref Wellbore: BOYD 2N-32HZ PWB Ref Wellpath: BOYD 2N-32HZ (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	16.00	1055.00	1039.00	16.00	1055.00	0.00	0.00	0.00	0.00
9.625in Casing Surface	16.00	1055.00	1039.00	16.00	1055.00	0.00	0.00	0.00	0.00
8.75in Open Hole	1055.00	7452.41	6397.41	1055.00	7081.00	0.00	0.00	302.89	460.43
7in Casing Intermediate	16.00	7452.41	7436.41	16.00	7081.00	0.00	0.00	302.89	460.43
4.5in Casing Production	16.00	16888.56	16872.56	16.00	7076.00	0.00	0.00	9739.01	483.82
6.125in Open Hole	7452.41	16888.56	9436.15	7081.00	7076.00	302.89	460.43	9739.01	483.82

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
BOYD PAD HARDLINES LINES (460' SETBACKS SEC.05)		4966.00	21.86	-20.13	3227559.17	1270954.76	40°04'27.469"N	104°41'12.613"W	polygon
BOYD PAD HARDLINES LINES (460' SETBACKS SEC.32)		4966.00	21.86	-20.13	3227559.17	1270954.76	40°04'27.469"N	104°41'12.613"W	polygon
BOYD PAD SECTION LINES (SEC.05)		4966.00	21.86	-20.13	3227559.17	1270954.76	40°04'27.469"N	104°41'12.613"W	polygon
BOYD PAD SECTION LINES (SEC.32)		4966.00	21.86	-20.13	3227559.17	1270954.76	40°04'27.469"N	104°41'12.613"W	polygon
1) BOYD 2N-32HZ BHL (460' FNL & 1880' FEL, SEC. 32) REV-2	16888.56	7076.00	9739.01	483.82	3227973.98	1280675.73	40°06'03.496"N	104°41'06.128"W	point
BOYD 2N-32HZ BHL ON PLAT (460' FNL & 1980' FEL, SEC. 32) REV-1		7076.00	9739.05	383.80	3227873.97	1280674.85	40°06'03.496"N	104°41'07.415"W	point

SURVEY PROGRAM - Ref Wellbore: BOYD 2N-32HZ PWB Ref Wellpath: BOYD 2N-32HZ (PERMIT REV-1) PWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
16.00	7452.41	NaviTrak (MagCorr)		BOYD 2N-32HZ PWB
7452.41	16888.56	OnTrak (MagCorr)		BOYD 2N-32HZ PWB



# Planned Wellpath Report

BOYD 2N-32HZ (PERMIT REV-1) PWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#02 BOYD 2N-32HZ (325' FSL & 2336' FEL, SEC.05)
Area	COLORADO	Well	BOYD 2N-32HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BOYD 2N-32HZ PWB
Facility	SEC.05-T1N-R65W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
4461.70	5.196	120.500	4418.00	SUSSEX
7052.17	50.007	0.142	6947.00	SHARON SPRINGS
7097.97	54.586	0.142	6975.00	NIOBRARA A
7316.37	76.426	0.142	7065.00	NIOBRARA B

DESIGN COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
16.00	0.000	120.500	16.00	TIE-ON
1155.00	0.000	120.500	1155.00	BEGIN NUDGE
1655.00	10.000	120.500	1652.47	END NUDGE
4221.53	10.000	120.500	4180.00	BEGIN DROP
4721.53	0.000	0.142	4677.47	END DROP
6552.11	0.000	0.142	6508.05	KOP, BUILD @ 10°/100'
7452.41	90.030	0.142	7081.00	LANDING POINT
16888.56	90.030	0.142	7076.00	TOTAL DEPTH