

KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#32 NRC 4C-32HZ (667°FNL & 635°FWL, SEC.08)
Field: WELD COUNTY (KERR MCGEE) Well: NRC 4C-32HZ
Facility: SEC.08-T1N-R67W Wellbore: NRC 4C-32HZ PWB

Plot reference wellpath is NRC 4C-32HZ (PERMIT REV-1) PWP

True vertical depths are referenced to Rig on SLOT#32 NRC 4C-32HZ (667°FNL & 635°FWL, SEC.08) (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to Rig on SLOT#32 NRC 4C-32HZ (667°FNL & 635°FWL, SEC.08) (RKB)	North Reference: True north
Rig on SLOT#32 NRC 4C-32HZ (667°FNL & 635°FWL, SEC.08) (RKB) to Mean Sea Level: 5078 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#32 NRC 4C-32HZ (667°FNL & 635°FWL, SEC.08)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: wlljg02 on 1/16/2014

Location Information

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.08-T1N-R67W			3165100.027	1265676.420	40°03'40.190"N	104°54'36.529"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#32 NRC 4C-32HZ (667°FNL & 635°FWL, SEC.08)	3603.86	-3216.59	3161859.661	1265028.657	40°04'15.802"N	104°55'17.904"W
Rig on SLOT#32 NRC 4C-32HZ (667°FNL & 635°FWL, SEC.08) to Mud line (At Slot: SLOT#32 NRC 4C-32HZ (667°FNL & 635°FWL, SEC.08))						5078ft
Mean Sea Level to Mud line (At Slot: SLOT#32 NRC 4C-32HZ (667°FNL & 635°FWL, SEC.08))						0ft
Rig on SLOT#32 NRC 4C-32HZ (667°FNL & 635°FWL, SEC.08) to Mean Sea Level						5078ft

Survey Program

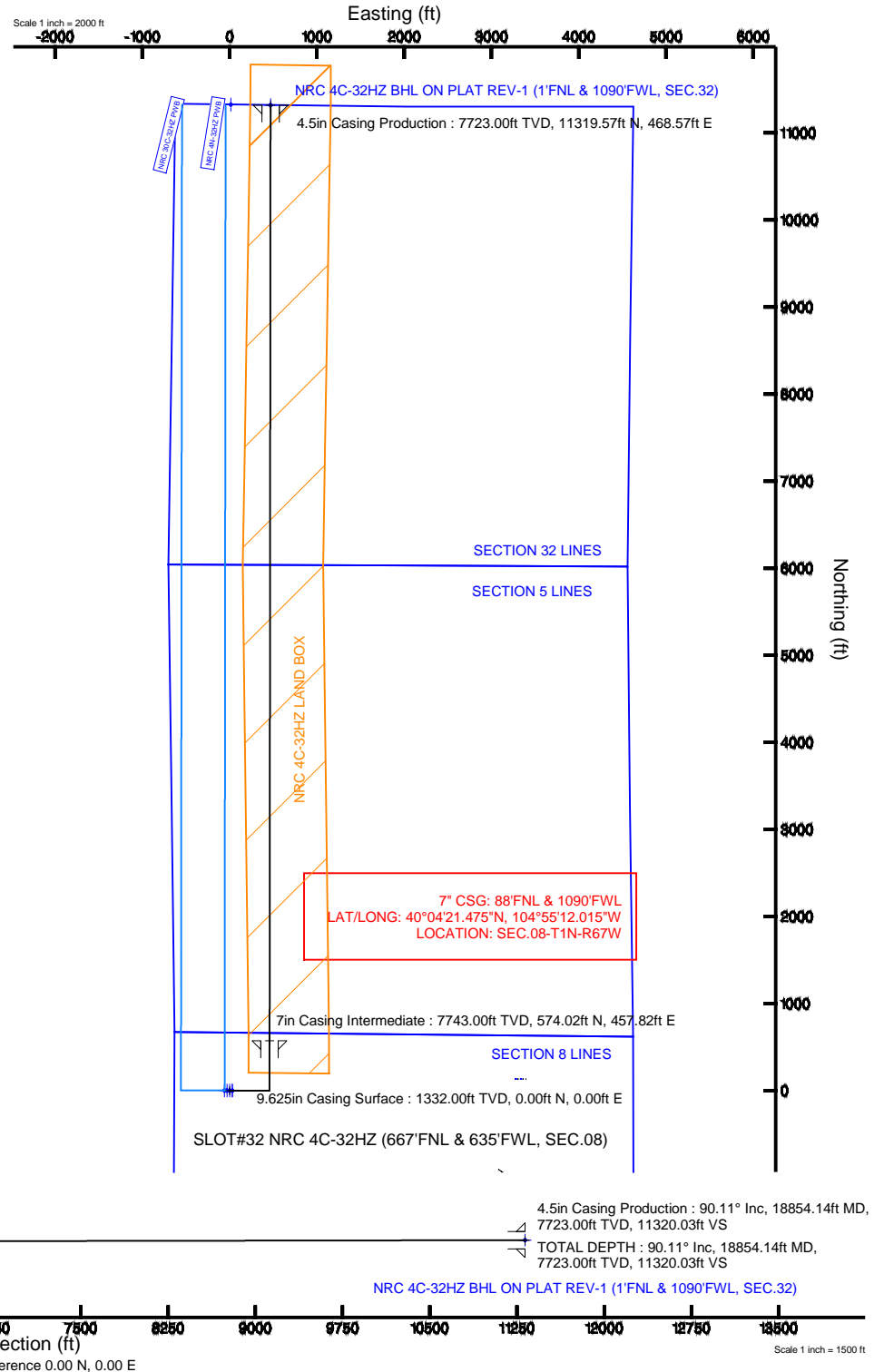
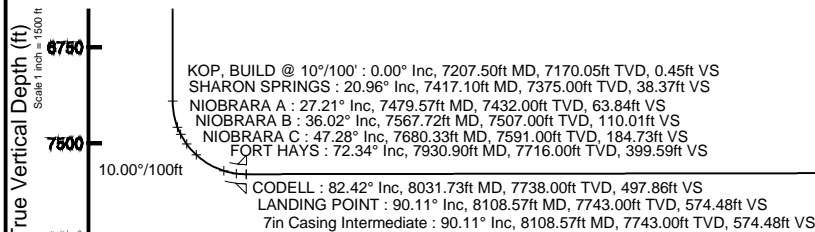
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
17.00	8108.57	NavitTrak	NavitTrak (MAGCORR,IFR)		NRC 4C-32HZ PWB
8108.57	18854.14	NavitTrak	NavitTrak (MAGCORR,IFR)		NRC 4C-32HZ PWB

Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
TIE-ON	17.00	0.000	90.000	17.00	0.00	0.00	0.00	0.00
BEGIN NUDGE	1450.00	0.000	90.000	1450.00	0.00	0.00	0.00	0.00
END NUDGE	1950.00	10.000	90.000	1947.47	0.00	43.52	2.00	0.04
BEGIN DROP	4081.92	10.000	90.000	4047.00	0.00	413.73	0.00	0.41
END DROP	4581.92	0.000	0.057	4544.47	0.00	457.25	2.00	0.45
KOP, BUILD @ 10°/100'	7207.50	0.000	0.057	7170.05	0.00	457.25	0.00	0.45
LANDING POINT	8108.57	90.107	0.057	7743.00	574.02	457.82	10.00	574.48
TOTAL DEPTH	18854.14	90.107	0.057	7723.00	11319.57	468.57	0.00	11320.03

Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SECTION 32 LINES		100.00	0.71	-60.17	3161799.49	1265258.97	40°04'15.800"N	104°55'18.678"W
NRC SECTION 5 LINES		7552.00	133.89	3274.50	3165133.08	1269413.90	40°04'17.123"N	104°54'35.794"W
NRC SECTION 8 LINES		7552.00	133.89	3274.50	3165133.08	1269413.90	40°04'17.123"N	104°54'35.794"W
NRC 4C-32HZ BHL ON PLAT REV-1 (1°FNL & 1090°FWL, SEC.32)	18854.14	7723.00	11319.57	468.57	3162254.38	1280580.59	40°06'07.664"N	104°55'11.874"W
NRC 4C-32HZ LAND BOX		7890.00	0.30	-30.24	3161829.42	1265258.76	40°04'15.800"N	104°55'18.293"W





Planned Wellpath Report

NRC 4C-32HZ (PERMIT REV-1) PWP

Page 1 of 8



REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#32 NRC 4C-32HZ (667'FNL & 635'FWL, SEC.08)
Area	COLORADO	Well	NRC 4C-32HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	NRC 4C-32HZ PWB
Facility	SEC.08-T1N-R67W		

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	0.999962	Report Generated	1/16/2014 at 10:49:16
Convergence at slot	n/a	Database/Source file	WellArchitectDB/NRC_4C-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	3603.86	-3216.59	3161859.66	1269258.66	40°04'15.802"N	104°55'17.904"W
Facility Reference Pt			3165100.03	1265676.42	40°03'40.190"N	104°54'36.529"W
Field Reference Pt			3197771.84	1268891.29	40°04'09.600"N	104°47'36.000"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on SLOT#32 NRC 4C-32HZ (667'FNL & 635'FWL, SEC.08) (RKB) to Facility Vertical Datum	5078.00ft
Horizontal Reference Pt	Slot	Rig on SLOT#32 NRC 4C-32HZ (667'FNL & 635'FWL, SEC.08) (RKB) to Mean Sea Level	5078.00ft
Vertical Reference Pt	Rig on SLOT#32 NRC 4C-32HZ (667'FNL & 635'FWL, SEC.08) (RKB)	Rig on SLOT#32 NRC 4C-32HZ (667'FNL & 635'FWL, SEC.08) (RKB) to Mud Line at Slot (SLOT#32 NRC 4C-32HZ (667'FNL & 635'FWL, SEC.08))	5078.00ft
MD Reference Pt	Rig on SLOT#32 NRC 4C-32HZ (667'FNL & 635'FWL, SEC.08) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	0.06°



Planned Wellpath Report

NRC 4C-32HZ (PERMIT REV-1) PWP

Page 2 of 8



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Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#32 NRC 4C-32HZ (667'FNL & 635'FWL, SEC.08)
Area	COLORADO	Well	NRC 4C-32HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	NRC 4C-32HZ PWB
Facility	SEC.08-T1N-R67W		

WELLPATH DATA (206 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	90.000	0.00	0.00	0.00	0.00	40°04'15.802"N	104°55'17.904"W	0.00	
17.00	0.000	90.000	17.00	0.00	0.00	0.00	40°04'15.802"N	104°55'17.904"W	0.00	TIE-ON
117.00†	0.000	90.000	117.00	0.00	0.00	0.00	40°04'15.802"N	104°55'17.904"W	0.00	
217.00†	0.000	90.000	217.00	0.00	0.00	0.00	40°04'15.802"N	104°55'17.904"W	0.00	
317.00†	0.000	90.000	317.00	0.00	0.00	0.00	40°04'15.802"N	104°55'17.904"W	0.00	
417.00†	0.000	90.000	417.00	0.00	0.00	0.00	40°04'15.802"N	104°55'17.904"W	0.00	
517.00†	0.000	90.000	517.00	0.00	0.00	0.00	40°04'15.802"N	104°55'17.904"W	0.00	
617.00†	0.000	90.000	617.00	0.00	0.00	0.00	40°04'15.802"N	104°55'17.904"W	0.00	
717.00†	0.000	90.000	717.00	0.00	0.00	0.00	40°04'15.802"N	104°55'17.904"W	0.00	
817.00†	0.000	90.000	817.00	0.00	0.00	0.00	40°04'15.802"N	104°55'17.904"W	0.00	
917.00†	0.000	90.000	917.00	0.00	0.00	0.00	40°04'15.802"N	104°55'17.904"W	0.00	
1017.00†	0.000	90.000	1017.00	0.00	0.00	0.00	40°04'15.802"N	104°55'17.904"W	0.00	
1117.00†	0.000	90.000	1117.00	0.00	0.00	0.00	40°04'15.802"N	104°55'17.904"W	0.00	
1217.00†	0.000	90.000	1217.00	0.00	0.00	0.00	40°04'15.802"N	104°55'17.904"W	0.00	
1282.00†	0.000	90.000	1282.00	0.00	0.00	0.00	40°04'15.802"N	104°55'17.904"W	0.00	FOX HILLS MARKER
1317.00†	0.000	90.000	1317.00	0.00	0.00	0.00	40°04'15.802"N	104°55'17.904"W	0.00	
1417.00†	0.000	90.000	1417.00	0.00	0.00	0.00	40°04'15.802"N	104°55'17.904"W	0.00	
1450.00	0.000	90.000	1450.00	0.00	0.00	0.00	40°04'15.802"N	104°55'17.904"W	0.00	BEGIN NUDGE
1517.00†	1.340	90.000	1516.99	0.00	0.00	0.78	40°04'15.802"N	104°55'17.894"W	2.00	
1617.00†	3.340	90.000	1616.91	0.00	0.00	4.87	40°04'15.802"N	104°55'17.841"W	2.00	
1717.00†	5.340	90.000	1716.61	0.01	0.00	12.43	40°04'15.802"N	104°55'17.744"W	2.00	
1817.00†	7.340	90.000	1816.00	0.02	0.00	23.48	40°04'15.802"N	104°55'17.602"W	2.00	
1917.00†	9.340	90.000	1914.93	0.04	0.00	37.98	40°04'15.802"N	104°55'17.415"W	2.00	
1950.00	10.000	90.000	1947.47	0.04	0.00	43.52	40°04'15.802"N	104°55'17.344"W	2.00	END NUDGE
2017.00†	10.000	90.000	2013.45	0.05	0.00	55.16	40°04'15.802"N	104°55'17.195"W	0.00	
2117.00†	10.000	90.000	2111.93	0.07	0.00	72.52	40°04'15.802"N	104°55'16.971"W	0.00	
2217.00†	10.000	90.000	2210.41	0.09	0.00	89.89	40°04'15.802"N	104°55'16.748"W	0.00	
2317.00†	10.000	90.000	2308.89	0.11	0.00	107.25	40°04'15.802"N	104°55'16.524"W	0.00	
2417.00†	10.000	90.000	2407.37	0.12	0.00	124.62	40°04'15.802"N	104°55'16.301"W	0.00	
2517.00†	10.000	90.000	2505.85	0.14	0.00	141.98	40°04'15.802"N	104°55'16.078"W	0.00	
2617.00†	10.000	90.000	2604.33	0.16	0.00	159.35	40°04'15.802"N	104°55'15.854"W	0.00	
2717.00†	10.000	90.000	2702.81	0.18	0.00	176.71	40°04'15.802"N	104°55'15.631"W	0.00	
2817.00†	10.000	90.000	2801.29	0.19	0.00	194.08	40°04'15.802"N	104°55'15.408"W	0.00	
2917.00†	10.000	90.000	2899.77	0.21	0.00	211.44	40°04'15.802"N	104°55'15.184"W	0.00	
3017.00†	10.000	90.000	2998.26	0.23	0.00	228.81	40°04'15.802"N	104°55'14.961"W	0.00	
3117.00†	10.000	90.000	3096.74	0.24	0.00	246.17	40°04'15.802"N	104°55'14.738"W	0.00	
3217.00†	10.000	90.000	3195.22	0.26	0.00	263.53	40°04'15.802"N	104°55'14.514"W	0.00	
3317.00†	10.000	90.000	3293.70	0.28	0.00	280.90	40°04'15.802"N	104°55'14.291"W	0.00	
3417.00†	10.000	90.000	3392.18	0.30	0.00	298.26	40°04'15.802"N	104°55'14.067"W	0.00	
3517.00†	10.000	90.000	3490.66	0.31	0.00	315.63	40°04'15.802"N	104°55'13.844"W	0.00	
3617.00†	10.000	90.000	3589.14	0.33	0.00	332.99	40°04'15.802"N	104°55'13.621"W	0.00	
3717.00†	10.000	90.000	3687.62	0.35	0.00	350.36	40°04'15.802"N	104°55'13.397"W	0.00	
3817.00†	10.000	90.000	3786.10	0.37	0.00	367.72	40°04'15.802"N	104°55'13.174"W	0.00	
3917.00†	10.000	90.000	3884.58	0.38	0.00	385.09	40°04'15.802"N	104°55'12.951"W	0.00	
4017.00†	10.000	90.000	3983.06	0.40	0.00	402.45	40°04'15.802"N	104°55'12.727"W	0.00	



Planned Wellpath Report

NRC 4C-32HZ (PERMIT REV-1) PWP

Page 3 of 8



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Area	COLORADO	Well	NRC 4C-32HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	NRC 4C-32HZ PWB
Facility	SEC.08-T1N-R67W		

WELLPATH DATA (206 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4081.92	10.000	90.000	4047.00	0.41	0.00	413.73	40°04'15.802"N	104°55'12.582"W	0.00	BEGIN DROP
4117.00†	9.298	90.000	4081.58	0.42	0.00	419.61	40°04'15.802"N	104°55'12.507"W	2.00	
4217.00†	7.298	90.000	4180.53	0.43	0.00	434.04	40°04'15.802"N	104°55'12.321"W	2.00	
4308.04†	5.478	90.000	4271.00	0.44	0.00	444.17	40°04'15.802"N	104°55'12.191"W	2.00	PARKMAN
4317.00†	5.298	90.000	4279.92	0.44	0.00	445.01	40°04'15.802"N	104°55'12.180"W	2.00	
4417.00†	3.298	90.000	4379.63	0.45	0.00	452.50	40°04'15.802"N	104°55'12.083"W	2.00	
4517.00†	1.298	90.000	4479.55	0.45	0.00	456.51	40°04'15.802"N	104°55'12.032"W	2.00	
4581.92	0.000	0.057	4544.47	0.45	0.00	457.25	40°04'15.802"N	104°55'12.022"W	2.00	END DROP
4617.00†	0.000	0.057	4579.54	0.45	0.00	457.25	40°04'15.802"N	104°55'12.022"W	0.00	
4643.46†	0.000	0.057	4606.00	0.45	0.00	457.25	40°04'15.802"N	104°55'12.022"W	0.00	SUSSEX
4717.00†	0.000	0.057	4679.54	0.45	0.00	457.25	40°04'15.802"N	104°55'12.022"W	0.00	
4817.00†	0.000	0.057	4779.54	0.45	0.00	457.25	40°04'15.802"N	104°55'12.022"W	0.00	
4917.00†	0.000	0.057	4879.54	0.45	0.00	457.25	40°04'15.802"N	104°55'12.022"W	0.00	
5017.00†	0.000	0.057	4979.54	0.45	0.00	457.25	40°04'15.802"N	104°55'12.022"W	0.00	
5117.00†	0.000	0.057	5079.54	0.45	0.00	457.25	40°04'15.802"N	104°55'12.022"W	0.00	
5217.00†	0.000	0.057	5179.54	0.45	0.00	457.25	40°04'15.802"N	104°55'12.022"W	0.00	
5317.00†	0.000	0.057	5279.54	0.45	0.00	457.25	40°04'15.802"N	104°55'12.022"W	0.00	
5417.00†	0.000	0.057	5379.54	0.45	0.00	457.25	40°04'15.802"N	104°55'12.022"W	0.00	
5517.00†	0.000	0.057	5479.54	0.45	0.00	457.25	40°04'15.802"N	104°55'12.022"W	0.00	
5617.00†	0.000	0.057	5579.54	0.45	0.00	457.25	40°04'15.802"N	104°55'12.022"W	0.00	
5717.00†	0.000	0.057	5679.54	0.45	0.00	457.25	40°04'15.802"N	104°55'12.022"W	0.00	
5817.00†	0.000	0.057	5779.54	0.45	0.00	457.25	40°04'15.802"N	104°55'12.022"W	0.00	
5917.00†	0.000	0.057	5879.54	0.45	0.00	457.25	40°04'15.802"N	104°55'12.022"W	0.00	
6017.00†	0.000	0.057	5979.54	0.45	0.00	457.25	40°04'15.802"N	104°55'12.022"W	0.00	
6117.00†	0.000	0.057	6079.54	0.45	0.00	457.25	40°04'15.802"N	104°55'12.022"W	0.00	
6217.00†	0.000	0.057	6179.54	0.45	0.00	457.25	40°04'15.802"N	104°55'12.022"W	0.00	
6317.00†	0.000	0.057	6279.54	0.45	0.00	457.25	40°04'15.802"N	104°55'12.022"W	0.00	
6417.00†	0.000	0.057	6379.54	0.45	0.00	457.25	40°04'15.802"N	104°55'12.022"W	0.00	
6517.00†	0.000	0.057	6479.54	0.45	0.00	457.25	40°04'15.802"N	104°55'12.022"W	0.00	
6617.00†	0.000	0.057	6579.54	0.45	0.00	457.25	40°04'15.802"N	104°55'12.022"W	0.00	
6717.00†	0.000	0.057	6679.54	0.45	0.00	457.25	40°04'15.802"N	104°55'12.022"W	0.00	
6817.00†	0.000	0.057	6779.54	0.45	0.00	457.25	40°04'15.802"N	104°55'12.022"W	0.00	
6917.00†	0.000	0.057	6879.54	0.45	0.00	457.25	40°04'15.802"N	104°55'12.022"W	0.00	
7017.00†	0.000	0.057	6979.54	0.45	0.00	457.25	40°04'15.802"N	104°55'12.022"W	0.00	
7117.00†	0.000	0.057	7079.54	0.45	0.00	457.25	40°04'15.802"N	104°55'12.022"W	0.00	
7207.50	0.000	0.057	7170.05	0.45	0.00	457.25	40°04'15.802"N	104°55'12.022"W	0.00	KOP, BUILD @ 10°/100'
7217.00†	0.950	0.057	7179.54	0.53	0.08	457.25	40°04'15.803"N	104°55'12.022"W	10.00	
7317.00†	10.950	0.057	7278.88	10.89	10.43	457.26	40°04'15.905"N	104°55'12.022"W	10.00	
7417.00†	20.950	0.057	7374.91	38.33	37.88	457.29	40°04'16.176"N	104°55'12.022"W	10.00	
7417.10†	20.960	0.057	7375.00	38.37	37.91	457.29	40°04'16.177"N	104°55'12.022"W	10.00	SHARON SPRINGS
7479.57†	27.206	0.057	7432.00	63.84	63.39	457.31	40°04'16.428"N	104°55'12.022"W	10.00	NIOBRARA A
7517.00†	30.950	0.057	7464.71	82.03	81.58	457.33	40°04'16.608"N	104°55'12.021"W	10.00	
7567.72†	36.022	0.057	7507.00	110.01	109.55	457.36	40°04'16.885"N	104°55'12.021"W	10.00	NIOBRARA B
7617.00†	40.950	0.057	7545.56	140.67	140.21	457.39	40°04'17.188"N	104°55'12.021"W	10.00	
7680.33†	47.282	0.057	7591.00	184.73	184.27	457.43	40°04'17.623"N	104°55'12.020"W	10.00	NIOBRARA C



Planned Wellpath Report

NRC 4C-32HZ (PERMIT REV-1) PWP

Page 4 of 8



REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#32 NRC 4C-32HZ (667'FNL & 635'FWL, SEC.08)
Area	COLORADO	Well	NRC 4C-32HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	NRC 4C-32HZ PWB
Facility	SEC.08-T1N-R67W		

WELLPATH DATA (206 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7717.00†	50.950	0.057	7615.00	212.45	211.99	457.46	40°04'17.897"N	104°55'12.020"W	10.00	
7817.00†	60.950	0.057	7670.92	295.20	294.74	457.54	40°04'18.715"N	104°55'12.019"W	10.00	
7917.00†	70.950	0.057	7711.62	386.40	385.94	457.64	40°04'19.616"N	104°55'12.017"W	10.00	
7930.90†	72.339	0.057	7716.00	399.59	399.14	457.65	40°04'19.746"N	104°55'12.017"W	10.00	FORT HAYS
8017.00†	80.950	0.057	7735.87	483.29	482.83	457.73	40°04'20.573"N	104°55'12.016"W	10.00	
8031.73†	82.423	0.057	7738.00	497.86	497.40	457.75	40°04'20.717"N	104°55'12.016"W	10.00	CODELL
8108.57	90.107	0.057	7743.00	574.48	574.02	457.82	40°04'21.475"N	104°55'12.015"W	10.00	LANDING POINT
8117.00†	90.107	0.057	7742.99	582.91	582.45	457.83	40°04'21.558"N	104°55'12.015"W	0.00	
8217.00†	90.107	0.057	7742.80	682.91	682.45	457.93	40°04'22.546"N	104°55'12.013"W	0.00	
8317.00†	90.107	0.057	7742.61	782.91	782.45	458.03	40°04'23.534"N	104°55'12.012"W	0.00	
8417.00†	90.107	0.057	7742.43	882.91	882.45	458.13	40°04'24.523"N	104°55'12.011"W	0.00	
8517.00†	90.107	0.057	7742.24	982.91	982.45	458.23	40°04'25.511"N	104°55'12.010"W	0.00	
8617.00†	90.107	0.057	7742.06	1082.91	1082.45	458.33	40°04'26.499"N	104°55'12.008"W	0.00	
8717.00†	90.107	0.057	7741.87	1182.91	1182.45	458.43	40°04'27.487"N	104°55'12.007"W	0.00	
8817.00†	90.107	0.057	7741.68	1282.91	1282.45	458.53	40°04'28.475"N	104°55'12.006"W	0.00	
8917.00†	90.107	0.057	7741.50	1382.91	1382.45	458.63	40°04'29.464"N	104°55'12.004"W	0.00	
9017.00†	90.107	0.057	7741.31	1482.91	1482.45	458.73	40°04'30.452"N	104°55'12.003"W	0.00	
9117.00†	90.107	0.057	7741.13	1582.91	1582.45	458.83	40°04'31.440"N	104°55'12.002"W	0.00	
9217.00†	90.107	0.057	7740.94	1682.91	1682.45	458.93	40°04'32.428"N	104°55'12.000"W	0.00	
9317.00†	90.107	0.057	7740.75	1782.91	1782.45	459.03	40°04'33.416"N	104°55'11.999"W	0.00	
9417.00†	90.107	0.057	7740.57	1882.91	1882.45	459.13	40°04'34.405"N	104°55'11.998"W	0.00	
9517.00†	90.107	0.057	7740.38	1982.91	1982.45	459.23	40°04'35.393"N	104°55'11.996"W	0.00	
9617.00†	90.107	0.057	7740.19	2082.91	2082.45	459.33	40°04'36.381"N	104°55'11.995"W	0.00	
9717.00†	90.107	0.057	7740.01	2182.91	2182.45	459.43	40°04'37.369"N	104°55'11.994"W	0.00	
9817.00†	90.107	0.057	7739.82	2282.91	2282.45	459.53	40°04'38.358"N	104°55'11.992"W	0.00	
9917.00†	90.107	0.057	7739.64	2382.91	2382.45	459.63	40°04'39.346"N	104°55'11.991"W	0.00	
10017.00†	90.107	0.057	7739.45	2482.91	2482.45	459.73	40°04'40.334"N	104°55'11.990"W	0.00	
10117.00†	90.107	0.057	7739.26	2582.91	2582.45	459.83	40°04'41.322"N	104°55'11.989"W	0.00	
10217.00†	90.107	0.057	7739.08	2682.91	2682.45	459.93	40°04'42.310"N	104°55'11.987"W	0.00	
10317.00†	90.107	0.057	7738.89	2782.91	2782.45	460.03	40°04'43.299"N	104°55'11.986"W	0.00	
10417.00†	90.107	0.057	7738.71	2882.91	2882.45	460.13	40°04'44.287"N	104°55'11.985"W	0.00	
10517.00†	90.107	0.057	7738.52	2982.91	2982.45	460.23	40°04'45.275"N	104°55'11.983"W	0.00	
10617.00†	90.107	0.057	7738.33	3082.91	3082.45	460.33	40°04'46.263"N	104°55'11.982"W	0.00	
10717.00†	90.107	0.057	7738.15	3182.90	3182.45	460.43	40°04'47.252"N	104°55'11.981"W	0.00	
10817.00†	90.107	0.057	7737.96	3282.90	3282.45	460.53	40°04'48.240"N	104°55'11.979"W	0.00	
10917.00†	90.107	0.057	7737.77	3382.90	3382.45	460.63	40°04'49.228"N	104°55'11.978"W	0.00	
11017.00†	90.107	0.057	7737.59	3482.90	3482.45	460.73	40°04'50.216"N	104°55'11.977"W	0.00	
11117.00†	90.107	0.057	7737.40	3582.90	3582.45	460.83	40°04'51.204"N	104°55'11.975"W	0.00	
11217.00†	90.107	0.057	7737.22	3682.90	3682.45	460.93	40°04'52.193"N	104°55'11.974"W	0.00	
11317.00†	90.107	0.057	7737.03	3782.90	3782.45	461.03	40°04'53.181"N	104°55'11.973"W	0.00	
11417.00†	90.107	0.057	7736.84	3882.90	3882.45	461.13	40°04'54.169"N	104°55'11.972"W	0.00	
11517.00†	90.107	0.057	7736.66	3982.90	3982.45	461.23	40°04'55.157"N	104°55'11.970"W	0.00	
11617.00†	90.107	0.057	7736.47	4082.90	4082.45	461.33	40°04'56.145"N	104°55'11.969"W	0.00	
11717.00†	90.107	0.057	7736.29	4182.90	4182.45	461.43	40°04'57.134"N	104°55'11.968"W	0.00	
11817.00†	90.107	0.057	7736.10	4282.90	4282.45	461.53	40°04'58.122"N	104°55'11.966"W	0.00	



Planned Wellpath Report

NRC 4C-32HZ (PERMIT REV-1) PWP

Page 5 of 8



REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#32 NRC 4C-32HZ (667'FNL & 635'FWL, SEC.08)
Area	COLORADO	Well	NRC 4C-32HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	NRC 4C-32HZ PWB
Facility	SEC.08-T1N-R67W		

WELLPATH DATA (206 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11917.00†	90.107	0.057	7735.91	4382.90	4382.45	461.63	40°04'59.110"N	104°55'11.965"W	0.00	
12017.00†	90.107	0.057	7735.73	4482.90	4482.45	461.73	40°05'00.098"N	104°55'11.964"W	0.00	
12117.00†	90.107	0.057	7735.54	4582.90	4582.45	461.83	40°05'01.087"N	104°55'11.962"W	0.00	
12217.00†	90.107	0.057	7735.35	4682.90	4682.45	461.93	40°05'02.075"N	104°55'11.961"W	0.00	
12317.00†	90.107	0.057	7735.17	4782.90	4782.44	462.03	40°05'03.063"N	104°55'11.960"W	0.00	
12417.00†	90.107	0.057	7734.98	4882.90	4882.44	462.13	40°05'04.051"N	104°55'11.958"W	0.00	
12517.00†	90.107	0.057	7734.80	4982.90	4982.44	462.23	40°05'05.039"N	104°55'11.957"W	0.00	
12617.00†	90.107	0.057	7734.61	5082.90	5082.44	462.33	40°05'06.028"N	104°55'11.956"W	0.00	
12717.00†	90.107	0.057	7734.42	5182.90	5182.44	462.43	40°05'07.016"N	104°55'11.954"W	0.00	
12817.00†	90.107	0.057	7734.24	5282.90	5282.44	462.53	40°05'08.004"N	104°55'11.953"W	0.00	
12917.00†	90.107	0.057	7734.05	5382.90	5382.44	462.63	40°05'08.992"N	104°55'11.952"W	0.00	
13017.00†	90.107	0.057	7733.87	5482.90	5482.44	462.73	40°05'09.981"N	104°55'11.951"W	0.00	
13117.00†	90.107	0.057	7733.68	5582.90	5582.44	462.83	40°05'10.969"N	104°55'11.949"W	0.00	
13217.00†	90.107	0.057	7733.49	5682.90	5682.44	462.93	40°05'11.957"N	104°55'11.948"W	0.00	
13317.00†	90.107	0.057	7733.31	5782.90	5782.44	463.03	40°05'12.945"N	104°55'11.947"W	0.00	
13417.00†	90.107	0.057	7733.12	5882.90	5882.44	463.13	40°05'13.933"N	104°55'11.945"W	0.00	
13517.00†	90.107	0.057	7732.93	5982.90	5982.44	463.23	40°05'14.922"N	104°55'11.944"W	0.00	
13617.00†	90.107	0.057	7732.75	6082.90	6082.44	463.33	40°05'15.910"N	104°55'11.943"W	0.00	
13717.00†	90.107	0.057	7732.56	6182.90	6182.44	463.43	40°05'16.898"N	104°55'11.941"W	0.00	
13817.00†	90.107	0.057	7732.38	6282.90	6282.44	463.53	40°05'17.886"N	104°55'11.940"W	0.00	
13917.00†	90.107	0.057	7732.19	6382.90	6382.44	463.63	40°05'18.874"N	104°55'11.939"W	0.00	
14017.00†	90.107	0.057	7732.00	6482.90	6482.44	463.73	40°05'19.863"N	104°55'11.937"W	0.00	
14117.00†	90.107	0.057	7731.82	6582.90	6582.44	463.83	40°05'20.851"N	104°55'11.936"W	0.00	
14217.00†	90.107	0.057	7731.63	6682.90	6682.44	463.93	40°05'21.839"N	104°55'11.935"W	0.00	
14317.00†	90.107	0.057	7731.45	6782.90	6782.44	464.03	40°05'22.827"N	104°55'11.934"W	0.00	
14417.00†	90.107	0.057	7731.26	6882.90	6882.44	464.13	40°05'23.816"N	104°55'11.932"W	0.00	
14517.00†	90.107	0.057	7731.07	6982.90	6982.44	464.23	40°05'24.804"N	104°55'11.931"W	0.00	
14617.00†	90.107	0.057	7730.89	7082.90	7082.44	464.33	40°05'25.792"N	104°55'11.930"W	0.00	
14717.00†	90.107	0.057	7730.70	7182.90	7182.44	464.43	40°05'26.780"N	104°55'11.928"W	0.00	
14817.00†	90.107	0.057	7730.51	7282.90	7282.44	464.53	40°05'27.768"N	104°55'11.927"W	0.00	
14917.00†	90.107	0.057	7730.33	7382.90	7382.44	464.63	40°05'28.757"N	104°55'11.926"W	0.00	
15017.00†	90.107	0.057	7730.14	7482.90	7482.44	464.73	40°05'29.745"N	104°55'11.924"W	0.00	
15117.00†	90.107	0.057	7729.96	7582.90	7582.44	464.83	40°05'30.733"N	104°55'11.923"W	0.00	
15217.00†	90.107	0.057	7729.77	7682.90	7682.44	464.93	40°05'31.721"N	104°55'11.922"W	0.00	
15317.00†	90.107	0.057	7729.58	7782.90	7782.44	465.03	40°05'32.709"N	104°55'11.920"W	0.00	
15417.00†	90.107	0.057	7729.40	7882.90	7882.44	465.14	40°05'33.698"N	104°55'11.919"W	0.00	
15517.00†	90.107	0.057	7729.21	7982.90	7982.44	465.24	40°05'34.686"N	104°55'11.918"W	0.00	
15617.00†	90.107	0.057	7729.03	8082.90	8082.44	465.34	40°05'35.674"N	104°55'11.916"W	0.00	
15717.00†	90.107	0.057	7728.84	8182.90	8182.44	465.44	40°05'36.662"N	104°55'11.915"W	0.00	
15817.00†	90.107	0.057	7728.65	8282.90	8282.44	465.54	40°05'37.651"N	104°55'11.914"W	0.00	
15917.00†	90.107	0.057	7728.47	8382.90	8382.44	465.64	40°05'38.639"N	104°55'11.913"W	0.00	
16017.00†	90.107	0.057	7728.28	8482.90	8482.44	465.74	40°05'39.627"N	104°55'11.911"W	0.00	
16117.00†	90.107	0.057	7728.10	8582.90	8582.44	465.84	40°05'40.615"N	104°55'11.910"W	0.00	
16217.00†	90.107	0.057	7727.91	8682.90	8682.44	465.94	40°05'41.603"N	104°55'11.909"W	0.00	
16317.00†	90.107	0.057	7727.72	8782.90	8782.44	466.04	40°05'42.592"N	104°55'11.907"W	0.00	



Planned Wellpath Report

NRC 4C-32HZ (PERMIT REV-1) PWP

Page 6 of 8



REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#32 NRC 4C-32HZ (667'FNL & 635'FWL, SEC.08)
Area	COLORADO	Well	NRC 4C-32HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	NRC 4C-32HZ PWB
Facility	SEC.08-T1N-R67W		

WELLPATH DATA (206 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
16417.00†	90.107	0.057	7727.54	8882.89	8882.44	466.14	40°05'43.580"N	104°55'11.906"W	0.00	
16517.00†	90.107	0.057	7727.35	8982.89	8982.44	466.24	40°05'44.568"N	104°55'11.905"W	0.00	
16617.00†	90.107	0.057	7727.16	9082.89	9082.44	466.34	40°05'45.556"N	104°55'11.903"W	0.00	
16717.00†	90.107	0.057	7726.98	9182.89	9182.43	466.44	40°05'46.544"N	104°55'11.902"W	0.00	
16817.00†	90.107	0.057	7726.79	9282.89	9282.43	466.54	40°05'47.533"N	104°55'11.901"W	0.00	
16917.00†	90.107	0.057	7726.61	9382.89	9382.43	466.64	40°05'48.521"N	104°55'11.899"W	0.00	
17017.00†	90.107	0.057	7726.42	9482.89	9482.43	466.74	40°05'49.509"N	104°55'11.898"W	0.00	
17117.00†	90.107	0.057	7726.23	9582.89	9582.43	466.84	40°05'50.497"N	104°55'11.897"W	0.00	
17217.00†	90.107	0.057	7726.05	9682.89	9682.43	466.94	40°05'51.486"N	104°55'11.895"W	0.00	
17317.00†	90.107	0.057	7725.86	9782.89	9782.43	467.04	40°05'52.474"N	104°55'11.894"W	0.00	
17417.00†	90.107	0.057	7725.68	9882.89	9882.43	467.14	40°05'53.462"N	104°55'11.893"W	0.00	
17517.00†	90.107	0.057	7725.49	9982.89	9982.43	467.24	40°05'54.450"N	104°55'11.892"W	0.00	
17617.00†	90.107	0.057	7725.30	10082.89	10082.43	467.34	40°05'55.438"N	104°55'11.890"W	0.00	
17717.00†	90.107	0.057	7725.12	10182.89	10182.43	467.44	40°05'56.427"N	104°55'11.889"W	0.00	
17817.00†	90.107	0.057	7724.93	10282.89	10282.43	467.54	40°05'57.415"N	104°55'11.888"W	0.00	
17917.00†	90.107	0.057	7724.74	10382.89	10382.43	467.64	40°05'58.403"N	104°55'11.886"W	0.00	
18017.00†	90.107	0.057	7724.56	10482.89	10482.43	467.74	40°05'59.391"N	104°55'11.885"W	0.00	
18117.00†	90.107	0.057	7724.37	10582.89	10582.43	467.84	40°06'00.379"N	104°55'11.884"W	0.00	
18217.00†	90.107	0.057	7724.19	10682.89	10682.43	467.94	40°06'01.368"N	104°55'11.882"W	0.00	
18317.00†	90.107	0.057	7724.00	10782.89	10782.43	468.04	40°06'02.356"N	104°55'11.881"W	0.00	
18417.00†	90.107	0.057	7723.81	10882.89	10882.43	468.14	40°06'03.344"N	104°55'11.880"W	0.00	
18517.00†	90.107	0.057	7723.63	10982.89	10982.43	468.24	40°06'04.332"N	104°55'11.878"W	0.00	
18617.00†	90.107	0.057	7723.44	11082.89	11082.43	468.34	40°06'05.321"N	104°55'11.877"W	0.00	
18717.00†	90.107	0.057	7723.26	11182.89	11182.43	468.44	40°06'06.309"N	104°55'11.876"W	0.00	
18817.00†	90.107	0.057	7723.07	11282.89	11282.43	468.54	40°06'07.297"N	104°55'11.874"W	0.00	
18854.14	90.107	0.057	7723.00 ¹	11320.03	11319.57	468.57	40°06'07.664"N	104°55'11.874"W	0.00	TOTAL DEPTH

HOLE & CASING SECTIONS - Ref Wellbore: NRC 4C-32HZ PWB Ref Wellpath: NRC 4C-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	17.00	1332.00	1315.00	17.00	1332.00	0.00	0.00	0.00	0.00
9.625in Casing Surface	17.00	1332.00	1315.00	17.00	1332.00	0.00	0.00	0.00	0.00
8.75in Open Hole	1332.00	8108.57	6776.57	1332.00	7743.00	0.00	0.00	574.02	457.82
7in Casing Intermediate	17.00	8108.57	8091.57	17.00	7743.00	0.00	0.00	574.02	457.82
6.125in Open Hole	8108.57	18854.14	10745.57	7743.00	7723.00	574.02	457.82	11319.57	468.57
4.5in Casing Production	17.00	18854.14	18837.14	17.00	7723.00	0.00	0.00	11319.57	468.57



Planned Wellpath Report

NRC 4C-32HZ (PERMIT REV-1) PWP

Page 7 of 8



REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#32 NRC 4C-32HZ (667'FNL & 635'FWL, SEC.08)
Area	COLORADO	Well	NRC 4C-32HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	NRC 4C-32HZ PWB
Facility	SEC.08-T1N-R67W		

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SECTION 32 LINES		100.00	0.71	-60.17	3161799.49	1269258.97	40°04'15.809"N	104°55'18.678"W	polygon
NRC SECTION 5 LINES		7552.00	133.89	3274.50	3165133.08	1269413.90	40°04'17.123"N	104°54'35.784"W	polygon
NRC SECTION 8 LINES		7552.00	133.89	3274.50	3165133.08	1269413.90	40°04'17.123"N	104°54'35.784"W	polygon
1) NRC 4C-32HZ BHL ON PLAT REV-1 (1'FNL & 1090'FWL, SEC.32)	18854.14	7723.00	11319.57	468.57	3162254.38	1280580.59	40°06'07.664"N	104°55'11.874"W	point
NRC 4C-32HZ LAND BOX		7800.00	0.30	-30.24	3161829.42	1269258.76	40°04'15.805"N	104°55'18.293"W	polygon

SURVEY PROGRAM - Ref Wellbore: NRC 4C-32HZ PWB Ref Wellpath: NRC 4C-32HZ (PERMIT REV-1) PWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	8108.57	NaviTrak (MAGCORR,IFR)		NRC 4C-32HZ PWB
8108.57	18854.14	NaviTrak (MAGCORR,IFR)		NRC 4C-32HZ PWB



Planned Wellpath Report

NRC 4C-32HZ (PERMIT REV-1) PWP

Page 8 of 8



REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#32 NRC 4C-32HZ (667'FNL & 635'FWL, SEC.08)
Area	COLORADO	Well	NRC 4C-32HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	NRC 4C-32HZ PWB
Facility	SEC.08-T1N-R67W		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1282.00	0.000	90.000	1282.00	FOX HILLS MARKER
4308.04	5.478	90.000	4271.00	PARKMAN
4643.46	0.000	0.057	4606.00	SUSSEX
7417.10	20.960	0.057	7375.00	SHARON SPRINGS
7479.57	27.206	0.057	7432.00	NIOBRARA A
7567.72	36.022	0.057	7507.00	NIOBRARA B
7680.33	47.282	0.057	7591.00	NIOBRARA C
7930.90	72.339	0.057	7716.00	FORT HAYS
8031.73	82.423	0.057	7738.00	CODELL