

# KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#05 GRISWOLD 2N-11HZ (560'FSL & 2028'FEL, SEC.11)  
Field: WELD COUNTY (KERR MCGEE) Well: GRISWOLD 2N-11HZ  
Facility: SEC.11-T1N-R66W Wellbore: GRISWOLD 2N-11HZ PWB

Plot reference wellpath is GRISWOLD 2N-11HZ (PERMIT REV-1) PWP

True vertical depths are referenced to PERMT (17KB) (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to PERMT (17KB) (RKB)	North Reference: True north
PERMT (17KB) (RKB) to Mean Sea Level: 5142 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#05 GRISWOLD 2N-11HZ (560'FSL & 2028'FEL, SEC.11)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: precin on 14/Oct/2014

## Location Information

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.11-T1N-R66W	3209320.605	1289845.229	40°04'18.091"N	104°45'07.548"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
SLOT#05 GRISWOLD 2N-11HZ (560'FSL & 2028'FEL, SEC.11)	-4234.02	2770.10	3212126.207	1289634.893
PERMT (17KB) (RKB) to Mud line (At Slot: SLOT#05 GRISWOLD 2N-11HZ (560'FSL & 2028'FEL, SEC.11))				5142ft
Mean Sea Level to Mud line (At Slot: SLOT#05 GRISWOLD 2N-11HZ (560'FSL & 2028'FEL, SEC.11))				0ft
PERMT (17KB) (RKB) to Mean Sea Level				5142ft

## Survey Program

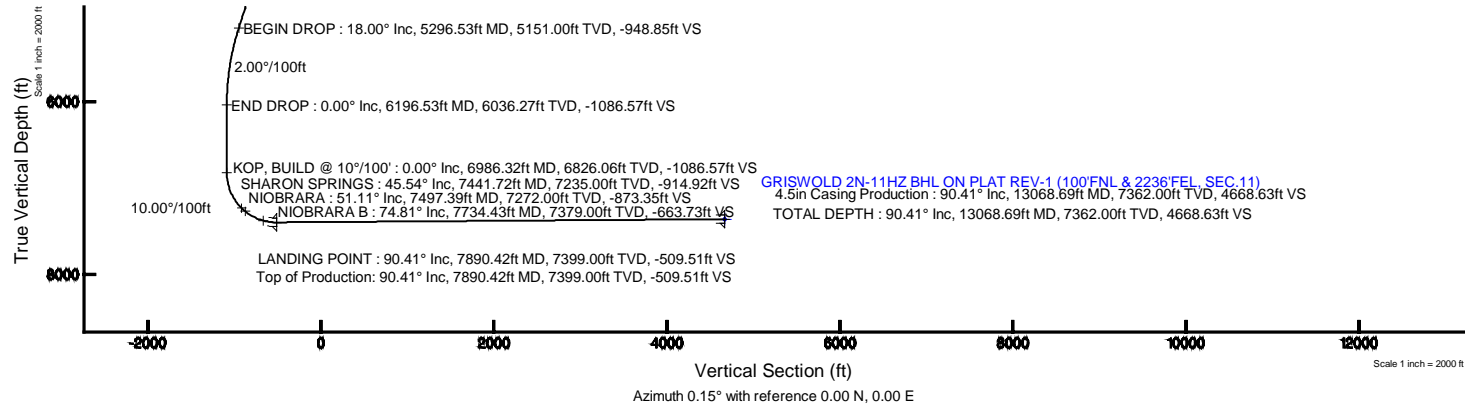
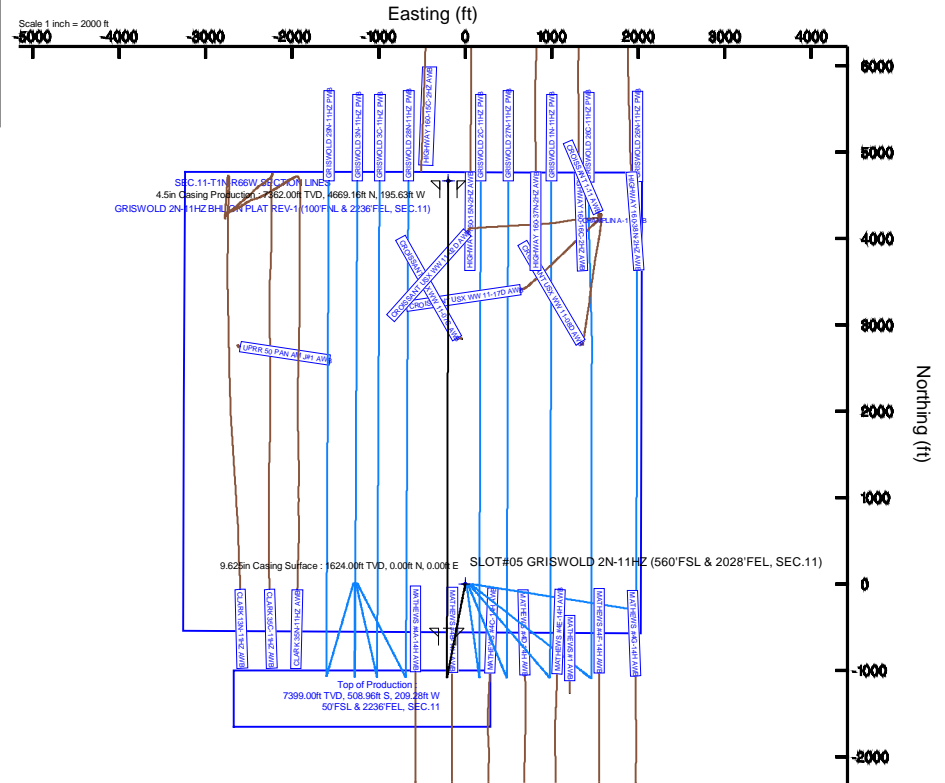
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
17.00	13068.69	NaviTrak	NaviTrak (MAGCORR,IFR)		GRISWOLD 2N-11HZ PWB

## 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	190.985	17.00	0.00	0.00	0.00	0.00
BEGIN NUDGE	1724.00	0.000	190.985	1724.00	0.00	0.00	0.00	0.00
END NUDGE	2624.00	18.000	190.985	2609.27	-137.64	-26.72	2.00	-137.71
BEGIN DROP	5296.53	18.000	190.985	5151.00	-948.37	-184.09	0.00	-948.85
END DROP	6196.53	0.000	0.151	6036.27	-1086.01	-210.80	2.00	-1086.57
KOP, BUILD @ 10°/100'	6986.32	0.000	0.151	6826.06	-1086.01	-210.80	0.00	-1086.57
LANDING POINT	7890.42	90.409	0.151	7399.00	-508.96	-209.28	10.00	-509.51
TOTAL DEPTH	13068.69	90.409	0.151	7362.00	4669.16	-195.63	0.00	4668.63

## Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.11-T1N-R66W SECTION LINES	0.00	0.00	0.00	0.00	3212126.21	1289634.89	40°03'36.248"N	104°44'31.722"W
GRISWOLD 2N-11HZ BHL ON PLAT REV-1 (100'FNL & 2236'FEL, SEC.11)	13068.69	7362.00	4669.16	-195.63	3211890.69	1270302.02	40°04'22.390"N	104°44'34.238"W



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#05 GRISWOLD 2N-11HZ (560'FSL & 2028'FEL, SEC.11)
Area	COLORADO	Well	GRISWOLD 2N-11HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	GRISWOLD 2N-11HZ PWB
Facility	SEC.11-T1N-R66W		

REPORT SETUP INFORMATION			
Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 4.0.0
North Reference	True	User	Precain
Scale	0.999962	Report Generated	14/Oct/2014 at 09:30
Convergence at slot	n/a	Database/Source file	WellArchitectDB/GRISWOLD_2N-11HZ_PWB.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-4234.02	2770.10	3212126.21	1265634.89	40°03'36.248"N	104°44'31.722"W
Facility Reference Pt			3209320.61	1269845.23	40°04'18.091"N	104°45'07.348"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	5142.00ft
Horizontal Reference Pt	Slot	PERMIT (17'KB) (RKB) to Mean Sea Level	5142.00ft
Vertical Reference Pt	PERMIT (17'KB) (RKB)	PERMIT (17'KB) (RKB) to Mud Line at Slot (SLOT#05 GRISWOLD 2N-11HZ (560'FSL & 2028'FEL, SEC.11))	5142.00ft
MD Reference Pt	PERMIT (17'KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	0.15°

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Area	COLORADO	Well	GRISWOLD 2N-11HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	GRISWOLD 2N-11HZ PWB
Facility	SEC.11-T1N-R66W		

WELLPATH DATA (146 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	190.985	0.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.722"W	0.00	
17.00	0.000	190.985	17.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.722"W	0.00	TIE ON
117.00†	0.000	190.985	117.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.722"W	0.00	
217.00†	0.000	190.985	217.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.722"W	0.00	
317.00†	0.000	190.985	317.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.722"W	0.00	
417.00†	0.000	190.985	417.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.722"W	0.00	
517.00†	0.000	190.985	517.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.722"W	0.00	
617.00†	0.000	190.985	617.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.722"W	0.00	
717.00†	0.000	190.985	717.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.722"W	0.00	
817.00†	0.000	190.985	817.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.722"W	0.00	
890.00†	0.000	190.985	890.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.722"W	0.00	BASE FOX HILLS
917.00†	0.000	190.985	917.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.722"W	0.00	
1017.00†	0.000	190.985	1017.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.722"W	0.00	
1117.00†	0.000	190.985	1117.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.722"W	0.00	
1217.00†	0.000	190.985	1217.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.722"W	0.00	
1317.00†	0.000	190.985	1317.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.722"W	0.00	
1417.00†	0.000	190.985	1417.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.722"W	0.00	
1517.00†	0.000	190.985	1517.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.722"W	0.00	
1617.00†	0.000	190.985	1617.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.722"W	0.00	
1624.00†	0.000	190.985	1624.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.722"W	0.00	SURFACE CSG SETTING DEPTH
1717.00†	0.000	190.985	1717.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.722"W	0.00	
1724.00	0.000	190.985	1724.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.722"W	0.00	BEGIN NUDGE
1817.00†	1.860	190.985	1816.98	-1.48	-1.48	-0.29	40°03'36.233"N	104°44'31.726"W	2.00	
1917.00†	3.860	190.985	1916.85	-6.38	-6.38	-1.24	40°03'36.185"N	104°44'31.738"W	2.00	
2017.00†	5.860	190.985	2016.49	-14.70	-14.70	-2.85	40°03'36.103"N	104°44'31.759"W	2.00	
2117.00†	7.860	190.985	2115.77	-26.43	-26.42	-5.13	40°03'35.987"N	104°44'31.788"W	2.00	
2217.00†	9.860	190.985	2214.57	-41.56	-41.54	-8.06	40°03'35.837"N	104°44'31.826"W	2.00	
2317.00†	11.860	190.985	2312.77	-60.07	-60.03	-11.65	40°03'35.655"N	104°44'31.872"W	2.00	
2417.00†	13.860	190.985	2410.26	-81.92	-81.88	-15.89	40°03'35.439"N	104°44'31.926"W	2.00	
2517.00†	15.860	190.985	2506.91	-107.11	-107.06	-20.78	40°03'35.190"N	104°44'31.989"W	2.00	
2617.00†	17.860	190.985	2602.61	-135.60	-135.53	-26.31	40°03'34.909"N	104°44'32.060"W	2.00	
2624.00	18.000	190.985	2609.27	-137.71	-137.64	-26.72	40°03'34.888"N	104°44'32.066"W	2.00	END NUDGE
2717.00†	18.000	190.985	2697.72	-165.94	-165.86	-32.19	40°03'34.609"N	104°44'32.136"W	0.00	
2817.00†	18.000	190.985	2792.82	-196.29	-196.19	-38.08	40°03'34.309"N	104°44'32.212"W	0.00	
2917.00†	18.000	190.985	2887.93	-226.64	-226.53	-43.97	40°03'34.009"N	104°44'32.287"W	0.00	
3017.00†	18.000	190.985	2983.03	-256.99	-256.86	-49.86	40°03'33.710"N	104°44'32.363"W	0.00	
3117.00†	18.000	190.985	3078.14	-287.34	-287.20	-55.75	40°03'33.410"N	104°44'32.439"W	0.00	
3217.00†	18.000	190.985	3173.24	-317.69	-317.53	-61.64	40°03'33.110"N	104°44'32.515"W	0.00	
3317.00†	18.000	190.985	3268.35	-348.05	-347.87	-67.52	40°03'32.810"N	104°44'32.590"W	0.00	
3417.00†	18.000	190.985	3363.46	-378.40	-378.20	-73.41	40°03'32.511"N	104°44'32.666"W	0.00	
3517.00†	18.000	190.985	3458.56	-408.75	-408.54	-79.30	40°03'32.211"N	104°44'32.742"W	0.00	
3617.00†	18.000	190.985	3553.67	-439.10	-438.88	-85.19	40°03'31.911"N	104°44'32.818"W	0.00	
3717.00†	18.000	190.985	3648.77	-469.45	-469.21	-91.08	40°03'31.611"N	104°44'32.893"W	0.00	
3817.00†	18.000	190.985	3743.88	-499.80	-499.55	-96.97	40°03'31.311"N	104°44'32.969"W	0.00	
3917.00†	18.000	190.985	3838.98	-530.15	-529.88	-102.85	40°03'31.012"N	104°44'33.045"W	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#05 GRISWOLD 2N-11HZ (560'FSL & 2028'FEL, SEC.11)
Area	COLORADO	Well	GRISWOLD 2N-11HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	GRISWOLD 2N-11HZ PWB
Facility	SEC.11-T1N-R66W		

WELLPATH DATA (146 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4017.00†	18.000	190.985	3934.09	-560.50	-560.22	-108.74	40°03'30.712"N	104°44'33.121"W	0.00	
4117.00†	18.000	190.985	4029.20	-590.85	-590.55	-114.63	40°03'30.412"N	104°44'33.196"W	0.00	
4217.00†	18.000	190.985	4124.30	-621.20	-620.89	-120.52	40°03'30.112"N	104°44'33.272"W	0.00	
4317.00†	18.000	190.985	4219.41	-651.55	-651.22	-126.41	40°03'29.812"N	104°44'33.348"W	0.00	
4417.00†	18.000	190.985	4314.51	-681.91	-681.56	-132.30	40°03'29.513"N	104°44'33.423"W	0.00	
4503.73†	18.000	190.985	4397.00	-708.23	-707.87	-137.40	40°03'29.253"N	104°44'33.489"W	0.00	PARKMAN
4517.00†	18.000	190.985	4409.62	-712.26	-711.89	-138.18	40°03'29.213"N	104°44'33.499"W	0.00	
4617.00†	18.000	190.985	4504.72	-742.61	-742.23	-144.07	40°03'28.913"N	104°44'33.575"W	0.00	
4717.00†	18.000	190.985	4599.83	-772.96	-772.57	-149.96	40°03'28.613"N	104°44'33.651"W	0.00	
4814.96†	18.000	190.985	4693.00	-802.69	-802.28	-155.73	40°03'28.320"N	104°44'33.725"W	0.00	SUSSEX
4817.00†	18.000	190.985	4694.94	-803.31	-802.90	-155.85	40°03'28.314"N	104°44'33.726"W	0.00	
4917.00†	18.000	190.985	4790.04	-833.66	-833.24	-161.74	40°03'28.014"N	104°44'33.802"W	0.00	
5017.00†	18.000	190.985	4885.15	-864.01	-863.57	-167.63	40°03'27.714"N	104°44'33.878"W	0.00	
5117.00†	18.000	190.985	4980.25	-894.36	-893.91	-173.52	40°03'27.414"N	104°44'33.953"W	0.00	
5217.00†	18.000	190.985	5075.36	-924.71	-924.24	-179.40	40°03'27.114"N	104°44'34.029"W	0.00	
5296.53	18.000	190.985	5151.00	-948.85	-948.37	-184.09	40°03'26.876"N	104°44'34.089"W	0.00	BEGIN DROP
5317.00†	17.591	190.985	5170.49	-955.00	-954.51	-185.28	40°03'26.815"N	104°44'34.105"W	2.00	
5417.00†	15.591	190.985	5266.32	-983.04	-982.54	-190.72	40°03'26.538"N	104°44'34.175"W	2.00	
5517.00†	13.591	190.985	5363.09	-1007.78	-1007.27	-195.52	40°03'26.294"N	104°44'34.236"W	2.00	
5617.00†	11.591	190.985	5460.68	-1029.19	-1028.67	-199.67	40°03'26.082"N	104°44'34.290"W	2.00	
5717.00†	9.591	190.985	5558.97	-1047.24	-1046.71	-203.17	40°03'25.904"N	104°44'34.335"W	2.00	
5817.00†	7.591	190.985	5657.84	-1061.91	-1061.37	-206.02	40°03'25.759"N	104°44'34.372"W	2.00	
5917.00†	5.591	190.985	5757.18	-1073.18	-1072.64	-208.21	40°03'25.648"N	104°44'34.400"W	2.00	
6017.00†	3.591	190.985	5856.85	-1081.04	-1080.49	-209.73	40°03'25.570"N	104°44'34.419"W	2.00	
6117.00†	1.591	190.985	5956.74	-1085.48	-1084.93	-210.59	40°03'25.526"N	104°44'34.430"W	2.00	
6196.53	0.000	0.151	6036.27	-1086.57	-1086.01	-210.80	40°03'25.516"N	104°44'34.433"W	2.00	END DROP
6217.00†	0.000	0.151	6056.73	-1086.57	-1086.01	-210.80	40°03'25.516"N	104°44'34.433"W	0.00	
6317.00†	0.000	0.151	6156.73	-1086.57	-1086.01	-210.80	40°03'25.516"N	104°44'34.433"W	0.00	
6417.00†	0.000	0.151	6256.73	-1086.57	-1086.01	-210.80	40°03'25.516"N	104°44'34.433"W	0.00	
6517.00†	0.000	0.151	6356.73	-1086.57	-1086.01	-210.80	40°03'25.516"N	104°44'34.433"W	0.00	
6617.00†	0.000	0.151	6456.73	-1086.57	-1086.01	-210.80	40°03'25.516"N	104°44'34.433"W	0.00	
6717.00†	0.000	0.151	6556.73	-1086.57	-1086.01	-210.80	40°03'25.516"N	104°44'34.433"W	0.00	
6817.00†	0.000	0.151	6656.73	-1086.57	-1086.01	-210.80	40°03'25.516"N	104°44'34.433"W	0.00	
6917.00†	0.000	0.151	6756.73	-1086.57	-1086.01	-210.80	40°03'25.516"N	104°44'34.433"W	0.00	
6986.32	0.000	0.151	6826.06	-1086.57	-1086.01	-210.80	40°03'25.516"N	104°44'34.433"W	0.00	KOP, BUILD @ 10°/100'
7017.00†	3.068	0.151	6856.72	-1085.74	-1085.19	-210.80	40°03'25.524"N	104°44'34.433"W	10.00	
7117.00†	13.068	0.151	6955.60	-1071.73	-1071.18	-210.77	40°03'25.662"N	104°44'34.433"W	10.00	
7217.00†	23.068	0.151	7050.55	-1040.75	-1040.20	-210.68	40°03'25.968"N	104°44'34.431"W	10.00	
7317.00†	33.068	0.151	7138.68	-993.76	-993.21	-210.56	40°03'26.433"N	104°44'34.430"W	10.00	
7417.00†	43.068	0.151	7217.31	-932.18	-931.63	-210.40	40°03'27.041"N	104°44'34.428"W	10.00	
7441.72†	45.540	0.151	7235.00	-914.92	-914.36	-210.35	40°03'27.212"N	104°44'34.427"W	10.00	SHARON SPRINGS
7497.39†	51.107	0.151	7272.00	-873.35	-872.80	-210.24	40°03'27.623"N	104°44'34.426"W	10.00	NIORARA
7517.00†	53.068	0.151	7284.05	-857.88	-857.33	-210.20	40°03'27.776"N	104°44'34.425"W	10.00	
7617.00†	63.068	0.151	7336.87	-773.12	-772.57	-209.98	40°03'28.613"N	104°44'34.422"W	10.00	
7717.00†	73.068	0.151	7374.18	-680.48	-679.93	-209.73	40°03'29.529"N	104°44'34.419"W	10.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#05 GRISWOLD 2N-11HZ (560'FSL & 2028'FEL, SEC.11)
Area	COLORADO	Well	GRISWOLD 2N-11HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	GRISWOLD 2N-11HZ PWB
Facility	SEC.11-T1N-R66W		

### WELLPATH DATA (146 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7734.43†	74.811	0.151	7379.00	-663.73	-663.18	-209.69	40°03'29.694"N	104°44'34.419"W	10.00	NIOBRARA B
7817.00†	83.068	0.151	7394.83	-582.76	-582.21	-209.48	40°03'30.494"N	104°44'34.416"W	10.00	
7890.42	90.409	0.151	7399.00	-509.51	-508.96	-209.28	40°03'31.218"N	104°44'34.414"W	10.00	LANDING POINT
7917.00†	90.409	0.151	7398.81	-482.93	-482.38	-209.21	40°03'31.481"N	104°44'34.413"W	0.00	
8017.00†	90.409	0.151	7398.10	-382.94	-382.39	-208.95	40°03'32.469"N	104°44'34.409"W	0.00	
8117.00†	90.409	0.151	7397.38	-282.94	-282.39	-208.69	40°03'33.457"N	104°44'34.406"W	0.00	
8217.00†	90.409	0.151	7396.67	-182.94	-182.39	-208.42	40°03'34.446"N	104°44'34.402"W	0.00	
8317.00†	90.409	0.151	7395.95	-82.94	-82.40	-208.16	40°03'35.434"N	104°44'34.399"W	0.00	
8417.00†	90.409	0.151	7395.24	17.05	17.60	-207.89	40°03'36.422"N	104°44'34.396"W	0.00	
8517.00†	90.409	0.151	7394.52	117.05	117.60	-207.63	40°03'37.410"N	104°44'34.392"W	0.00	
8617.00†	90.409	0.151	7393.81	217.05	217.60	-207.37	40°03'38.398"N	104°44'34.389"W	0.00	
8717.00†	90.409	0.151	7393.10	317.05	317.59	-207.10	40°03'39.387"N	104°44'34.386"W	0.00	
8817.00†	90.409	0.151	7392.38	417.04	417.59	-206.84	40°03'40.375"N	104°44'34.382"W	0.00	
8917.00†	90.409	0.151	7391.67	517.04	517.59	-206.58	40°03'41.363"N	104°44'34.379"W	0.00	
9017.00†	90.409	0.151	7390.95	617.04	617.58	-206.31	40°03'42.351"N	104°44'34.375"W	0.00	
9117.00†	90.409	0.151	7390.24	717.04	717.58	-206.05	40°03'43.339"N	104°44'34.372"W	0.00	
9217.00†	90.409	0.151	7389.52	817.03	817.58	-205.78	40°03'44.327"N	104°44'34.369"W	0.00	
9317.00†	90.409	0.151	7388.81	917.03	917.58	-205.52	40°03'45.316"N	104°44'34.365"W	0.00	
9417.00†	90.409	0.151	7388.09	1017.03	1017.57	-205.26	40°03'46.304"N	104°44'34.362"W	0.00	
9517.00†	90.409	0.151	7387.38	1117.03	1117.57	-204.99	40°03'47.292"N	104°44'34.359"W	0.00	
9617.00†	90.409	0.151	7386.66	1217.02	1217.57	-204.73	40°03'48.280"N	104°44'34.355"W	0.00	
9717.00†	90.409	0.151	7385.95	1317.02	1317.56	-204.47	40°03'49.268"N	104°44'34.352"W	0.00	
9817.00†	90.409	0.151	7385.24	1417.02	1417.56	-204.20	40°03'50.257"N	104°44'34.348"W	0.00	
9917.00†	90.409	0.151	7384.52	1517.02	1517.56	-203.94	40°03'51.245"N	104°44'34.345"W	0.00	
10017.00†	90.409	0.151	7383.81	1617.01	1617.56	-203.67	40°03'52.233"N	104°44'34.342"W	0.00	
10117.00†	90.409	0.151	7383.09	1717.01	1717.55	-203.41	40°03'53.221"N	104°44'34.338"W	0.00	
10217.00†	90.409	0.151	7382.38	1817.01	1817.55	-203.15	40°03'54.209"N	104°44'34.335"W	0.00	
10317.00†	90.409	0.151	7381.66	1917.01	1917.55	-202.88	40°03'55.198"N	104°44'34.331"W	0.00	
10417.00†	90.409	0.151	7380.95	2017.00	2017.54	-202.62	40°03'56.186"N	104°44'34.328"W	0.00	
10517.00†	90.409	0.151	7380.23	2117.00	2117.54	-202.36	40°03'57.174"N	104°44'34.325"W	0.00	
10617.00†	90.409	0.151	7379.52	2217.00	2217.54	-202.09	40°03'58.162"N	104°44'34.321"W	0.00	
10717.00†	90.409	0.151	7378.80	2317.00	2317.54	-201.83	40°03'59.150"N	104°44'34.318"W	0.00	
10817.00†	90.409	0.151	7378.09	2416.99	2417.53	-201.56	40°04'00.139"N	104°44'34.315"W	0.00	
10917.00†	90.409	0.151	7377.38	2516.99	2517.53	-201.30	40°04'01.127"N	104°44'34.311"W	0.00	
11017.00†	90.409	0.151	7376.66	2616.99	2617.53	-201.04	40°04'02.115"N	104°44'34.308"W	0.00	
11117.00†	90.409	0.151	7375.95	2716.99	2717.52	-200.77	40°04'03.103"N	104°44'34.304"W	0.00	
11217.00†	90.409	0.151	7375.23	2816.98	2817.52	-200.51	40°04'04.091"N	104°44'34.301"W	0.00	
11317.00†	90.409	0.151	7374.52	2916.98	2917.52	-200.25	40°04'05.080"N	104°44'34.298"W	0.00	
11417.00†	90.409	0.151	7373.80	3016.98	3017.51	-199.98	40°04'06.068"N	104°44'34.294"W	0.00	
11517.00†	90.409	0.151	7373.09	3116.97	3117.51	-199.72	40°04'07.056"N	104°44'34.291"W	0.00	
11617.00†	90.409	0.151	7372.37	3216.97	3217.51	-199.45	40°04'08.044"N	104°44'34.287"W	0.00	
11717.00†	90.409	0.151	7371.66	3316.97	3317.51	-199.19	40°04'09.032"N	104°44'34.284"W	0.00	
11817.00†	90.409	0.151	7370.94	3416.97	3417.50	-198.93	40°04'10.020"N	104°44'34.281"W	0.00	
11917.00†	90.409	0.151	7370.23	3516.96	3517.50	-198.66	40°04'11.009"N	104°44'34.277"W	0.00	
12017.00†	90.409	0.151	7369.51	3616.96	3617.50	-198.40	40°04'11.997"N	104°44'34.274"W	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#05 GRISWOLD 2N-11HZ (560'FSL & 2028'FEL, SEC.11)
Area	COLORADO	Well	GRISWOLD 2N-11HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	GRISWOLD 2N-11HZ PWB
Facility	SEC.11-T1N-R66W		

WELLPATH DATA (146 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12117.00†	90.409	0.151	7368.80	3716.96	3717.49	-198.14	40°04'12.985"N	104°44'34.271"W	0.00	
12217.00†	90.409	0.151	7368.09	3816.96	3817.49	-197.87	40°04'13.973"N	104°44'34.267"W	0.00	
12317.00†	90.409	0.151	7367.37	3916.95	3917.49	-197.61	40°04'14.961"N	104°44'34.264"W	0.00	
12417.00†	90.409	0.151	7366.66	4016.95	4017.49	-197.34	40°04'15.950"N	104°44'34.260"W	0.00	
12517.00†	90.409	0.151	7365.94	4116.95	4117.48	-197.08	40°04'16.938"N	104°44'34.257"W	0.00	
12617.00†	90.409	0.151	7365.23	4216.95	4217.48	-196.82	40°04'17.926"N	104°44'34.254"W	0.00	
12717.00†	90.409	0.151	7364.51	4316.94	4317.48	-196.55	40°04'18.914"N	104°44'34.250"W	0.00	
12817.00†	90.409	0.151	7363.80	4416.94	4417.47	-196.29	40°04'19.902"N	104°44'34.247"W	0.00	
12917.00†	90.409	0.151	7363.08	4516.94	4517.47	-196.03	40°04'20.891"N	104°44'34.244"W	0.00	
13017.00†	90.409	0.151	7362.37	4616.94	4617.47	-195.76	40°04'21.879"N	104°44'34.240"W	0.00	
13068.69	90.409	0.151	7362.00 <sup>1</sup>	4668.63	4669.16	-195.63	40°04'22.390"N	104°44'34.238"W	0.00	TOTAL DEPTH

HOLE & CASING SECTIONS - Ref Wellbore: GRISWOLD 2N-11HZ PWB Ref Wellpath: GRISWOLD 2N-11HZ (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	1624.00	1607.00	17.00	1624.00	0.00	0.00	0.00	0.00
9.625in Casing Surface	17.00	1624.00	1607.00	17.00	1624.00	0.00	0.00	0.00	0.00
8.75in Open Hole	1624.00	7890.42	6266.42	1624.00	7399.00	0.00	0.00	-508.96	-209.28
Top of Production	17.00	7890.42	7873.42	17.00	7399.00	0.00	0.00	-508.96	-209.28
6.125in Open Hole	7890.42	13068.69	5178.27	7399.00	7362.00	-508.96	-209.28	4669.16	-195.63
4.5in Casing Production	17.00	13068.69	13051.69	17.00	7362.00	0.00	0.00	4669.16	-195.63

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.11-T1N-R66W SECTION LINES		0.00	0.00	0.00	3212126.21	1265634.89	40°03'36.248"N	104°44'31.722"W	polygon
1) GRISWOLD 2N-11HZ BHL ON PLAT REV-1 (100'FNL & 2236'FEL, SEC.11)	13068.69	7362.00	4669.16	-195.63	3211890.69	1270302.02	40°04'22.390"N	104°44'34.238"W	point

SURVEY PROGRAM - Ref Wellbore: GRISWOLD 2N-11HZ PWB Ref Wellpath: GRISWOLD 2N-11HZ (PERMIT REV-1) PWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	13068.69	NaviTrak (MAGCORR,IFR)		GRISWOLD 2N-11HZ PWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#05 GRISWOLD 2N-11HZ (560'FSL & 2028'FEL, SEC.11)
Area	COLORADO	Well	GRISWOLD 2N-11HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	GRISWOLD 2N-11HZ PWB
Facility	SEC.11-T1N-R66W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
890.00	0.000	190.985	890.00	BASE FOX HILLS
1624.00	0.000	190.985	1624.00	SURFACE CSG SETTING DEPTH
4503.73	18.000	190.985	4397.00	PARKMAN
4814.96	18.000	190.985	4693.00	SUSSEX
7441.72	45.540	0.151	7235.00	SHARON SPRINGS
7497.39	51.107	0.151	7272.00	NIOBRARA
7734.43	74.811	0.151	7379.00	NIOBRARA B

DESIGN COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
17.00	0.000	190.985	17.00	TIE ON
1724.00	0.000	190.985	1724.00	BEGIN NUDGE
2624.00	18.000	190.985	2609.27	END NUDGE
5296.53	18.000	190.985	5151.00	BEGIN DROP
6196.53	0.000	0.151	6036.27	END DROP
6986.32	0.000	0.151	6826.06	KOP, BUILD @ 10°/100'
7890.42	90.409	0.151	7399.00	LANDING POINT
13068.69	90.409	0.151	7362.00	TOTAL DEPTH