

# KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#07 GRISWOLD 27N-11HZ (560'FSL & 1998'FEL, SEC.11)  
Field: WELD COUNTY (KERR MCGEE) Well: GRISWOLD 27N-11HZ  
Facility: SEC.11-T1N-R66W Wellbore: GRISWOLD 27N-11HZ PWB

Plot reference wellpath is GRISWOLD 27N-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) to Mean Sea Level: 5142 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#07 GRISWOLD 27N-11HZ (560'FSL & 1998'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	1269845.229	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)	Latitude	Longitude	
SLOT#07 GRISWOLD 27N-11HZ (560'FSL & 1998'FEL, SEC. 11)	-4234.02	2800.04	3212156.140	1265635.149	40°03'36.248"N	104°44'31.337"W	
PERMT (17KB) (RKB) to Mud line (At Slot: SLOT#07 GRISWOLD 27N-11HZ (560'FSL & 1998'FEL, SEC. 11))						5142ft	
Mean Sea Level to Mud line (At Slot: SLOT#07 GRISWOLD 27N-11HZ (560'FSL & 1998'FEL, SEC. 11))						0ft	
PERMT (17KB) (RKB) to Mean Sea Level						5142ft	

## Survey Program

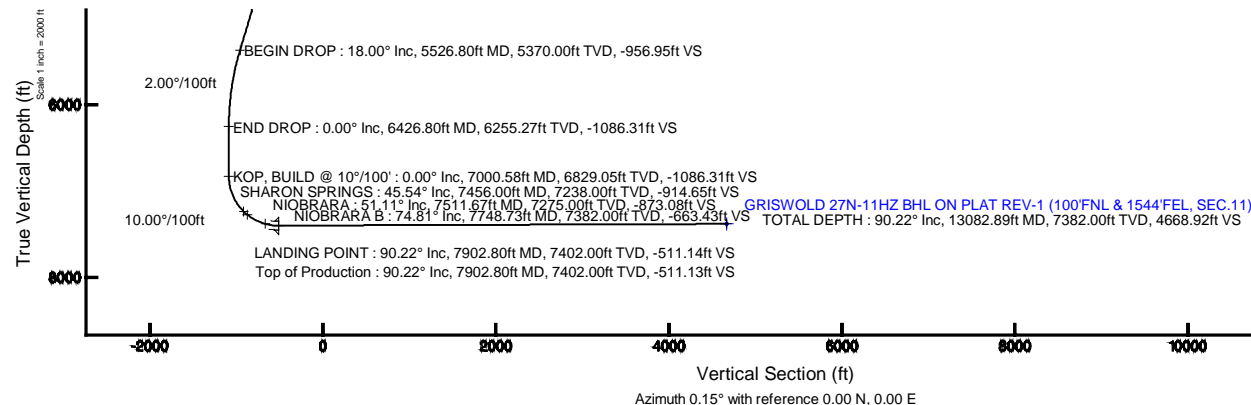
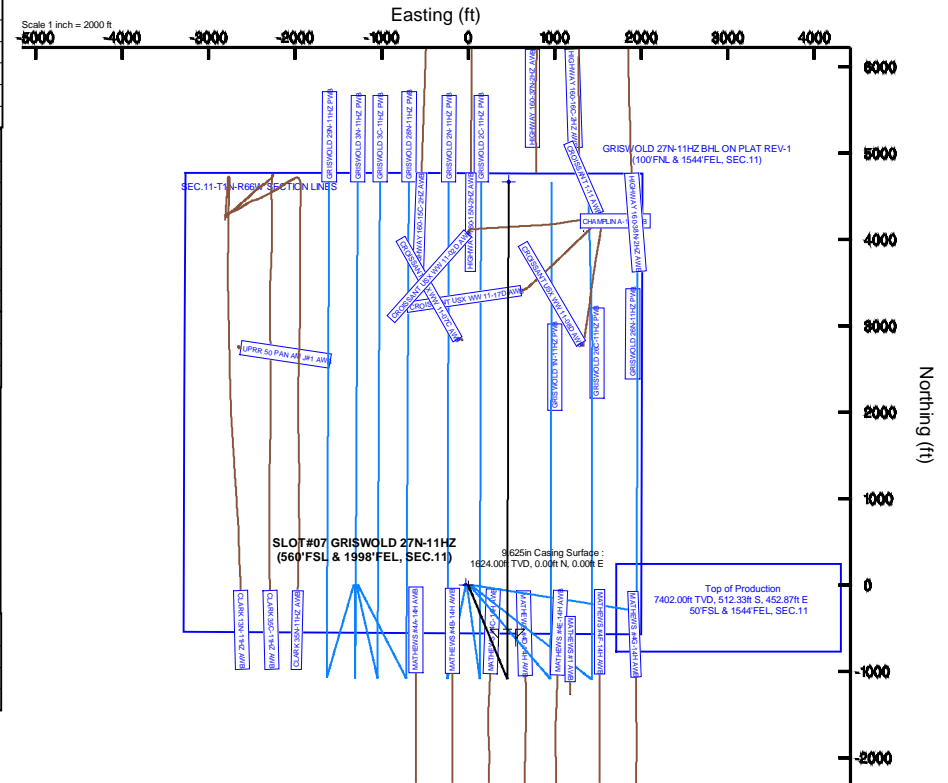
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
17.00	13082.89	NaviTrak	NaviTrak (MAGCORR, IFR)		GRISWOLD 27N-11HZ PWB

## 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	157.460	17.00	0.00	0.00	0.00	0.00
BEGIN NUDGE	1724.00	0.000	157.460	1724.00	0.00	0.00	0.00	0.00
END NUDGE	2624.00	18.000	157.460	2609.27	-129.50	53.75	2.00	-129.36
BEGIN DROP	5526.80	18.000	157.460	5370.00	-958.00	397.60	0.00	-956.95
END DROP	6426.80	0.000	0.151	6255.27	-1087.50	451.35	2.00	-1086.31
KOP, BUILD @ 10°/100'	7000.58	0.000	0.151	6829.05	-1087.50	451.35	0.00	-1086.31
LANDING POINT	7902.80	90.221	0.151	7402.00	-512.33	452.87	10.00	-511.14
TOTAL DEPTH	13082.89	90.221	0.151	7382.00	4667.70	466.55	0.00	4668.92

## 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	-29.94	3212126.21	1265634.89	40°03'36.248"N	104°44'31.722"W
GRISWOLD 27N-11HZ BHL ON PLAT REV-1 (100'FNL & 1544'FEL, SEC.11)	13082.89	7382.00	4667.70	466.55	3212562.76	1270306.48	40°04'22.375"N	104°44'25.336"W



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#07 GRISWOLD 27N-11HZ (560'FSL & 1998'FEL, SEC.11)
Area	COLORADO	Well	GRISWOLD 27N-11HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	GRISWOLD 27N-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 09:42
Convergence at slot	n/a	Database/Source file	WellArchitectDB/GRISWOLD_27N-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	2800.04	3212156.14	1265635.15	40°03'36.248"N	104°44'31.337"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#07 GRISWOLD 27N-11HZ (560'FSL & 1998'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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Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#07 GRISWOLD 27N-11HZ (560'FSL & 1998'FEL, SEC.11)
Area	COLORADO	Well	GRISWOLD 27N-11HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	GRISWOLD 27N-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	157.460	0.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.337"W	0.00	
17.00	0.000	157.460	17.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.337"W	0.00	TIE ON
117.00†	0.000	157.460	117.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.337"W	0.00	
217.00†	0.000	157.460	217.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.337"W	0.00	
317.00†	0.000	157.460	317.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.337"W	0.00	
417.00†	0.000	157.460	417.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.337"W	0.00	
517.00†	0.000	157.460	517.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.337"W	0.00	
617.00†	0.000	157.460	617.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.337"W	0.00	
717.00†	0.000	157.460	717.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.337"W	0.00	
817.00†	0.000	157.460	817.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.337"W	0.00	
890.00†	0.000	157.460	890.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.337"W	0.00	BASE FOX HILLS
917.00†	0.000	157.460	917.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.337"W	0.00	
1017.00†	0.000	157.460	1017.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.337"W	0.00	
1117.00†	0.000	157.460	1117.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.337"W	0.00	
1217.00†	0.000	157.460	1217.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.337"W	0.00	
1317.00†	0.000	157.460	1317.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.337"W	0.00	
1417.00†	0.000	157.460	1417.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.337"W	0.00	
1517.00†	0.000	157.460	1517.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.337"W	0.00	
1617.00†	0.000	157.460	1617.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.337"W	0.00	
1624.00†	0.000	157.460	1624.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.337"W	0.00	SURFACE CSG SETTING DEPTH
1717.00†	0.000	157.460	1717.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.337"W	0.00	
1724.00	0.000	157.460	1724.00	0.00	0.00	0.00	40°03'36.248"N	104°44'31.337"W	0.00	BEGIN NUDGE
1817.00†	1.860	157.460	1816.98	-1.39	-1.39	0.58	40°03'36.234"N	104°44'31.330"W	2.00	
1917.00†	3.860	157.460	1916.85	-6.00	-6.00	2.49	40°03'36.189"N	104°44'31.305"W	2.00	
2017.00†	5.860	157.460	2016.49	-13.81	-13.83	5.74	40°03'36.111"N	104°44'31.263"W	2.00	
2117.00†	7.860	157.460	2115.77	-24.83	-24.86	10.32	40°03'36.002"N	104°44'31.204"W	2.00	
2217.00†	9.860	157.460	2214.57	-39.04	-39.08	16.22	40°03'35.862"N	104°44'31.128"W	2.00	
2317.00†	11.860	157.460	2312.77	-56.42	-56.48	23.44	40°03'35.690"N	104°44'31.036"W	2.00	
2417.00†	13.860	157.460	2410.26	-76.96	-77.04	31.97	40°03'35.487"N	104°44'30.926"W	2.00	
2517.00†	15.860	157.460	2506.91	-100.61	-100.73	41.80	40°03'35.253"N	104°44'30.799"W	2.00	
2617.00†	17.860	157.460	2602.61	-127.37	-127.51	52.92	40°03'34.988"N	104°44'30.656"W	2.00	
2624.00	18.000	157.460	2609.27	-129.36	-129.50	53.75	40°03'34.968"N	104°44'30.646"W	2.00	END NUDGE
2717.00†	18.000	157.460	2697.72	-155.87	-156.05	64.76	40°03'34.706"N	104°44'30.504"W	0.00	
2817.00†	18.000	157.460	2792.82	-184.38	-184.59	76.61	40°03'34.424"N	104°44'30.352"W	0.00	
2917.00†	18.000	157.460	2887.93	-212.89	-213.13	88.45	40°03'34.142"N	104°44'30.199"W	0.00	
3017.00†	18.000	157.460	2983.03	-241.40	-241.67	100.30	40°03'33.860"N	104°44'30.047"W	0.00	
3117.00†	18.000	157.460	3078.14	-269.91	-270.21	112.15	40°03'33.578"N	104°44'29.895"W	0.00	
3217.00†	18.000	157.460	3173.24	-298.42	-298.75	123.99	40°03'33.296"N	104°44'29.742"W	0.00	
3317.00†	18.000	157.460	3268.35	-326.93	-327.29	135.84	40°03'33.014"N	104°44'29.590"W	0.00	
3417.00†	18.000	157.460	3363.46	-355.44	-355.83	147.68	40°03'32.732"N	104°44'29.438"W	0.00	
3517.00†	18.000	157.460	3458.56	-383.95	-384.37	159.53	40°03'32.450"N	104°44'29.285"W	0.00	
3617.00†	18.000	157.460	3553.67	-412.46	-412.92	171.37	40°03'32.167"N	104°44'29.133"W	0.00	
3717.00†	18.000	157.460	3648.77	-440.97	-441.46	183.22	40°03'31.885"N	104°44'28.981"W	0.00	
3817.00†	18.000	157.460	3743.88	-469.48	-470.00	195.06	40°03'31.603"N	104°44'28.828"W	0.00	
3917.00†	18.000	157.460	3838.98	-497.99	-498.54	206.91	40°03'31.321"N	104°44'28.676"W	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#07 GRISWOLD 27N-11HZ (560'FSL & 1998'FEL, SEC.11)
Area	COLORADO	Well	GRISWOLD 27N-11HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	GRISWOLD 27N-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	157.460	3934.09	-526.50	-527.08	218.76	40°03'31.039"N	104°44'28.524"W	0.00	
4117.00†	18.000	157.460	4029.20	-555.01	-555.62	230.60	40°03'30.757"N	104°44'28.371"W	0.00	
4217.00†	18.000	157.460	4124.30	-583.52	-584.16	242.45	40°03'30.475"N	104°44'28.219"W	0.00	
4317.00†	18.000	157.460	4219.41	-612.03	-612.70	254.29	40°03'30.193"N	104°44'28.067"W	0.00	
4417.00†	18.000	157.460	4314.51	-640.54	-641.25	266.14	40°03'29.911"N	104°44'27.914"W	0.00	
4506.89†	18.000	157.460	4400.00	-666.17	-666.90	276.78	40°03'29.658"N	104°44'27.777"W	0.00	PARKMAN
4517.00†	18.000	157.460	4409.62	-669.05	-669.79	277.98	40°03'29.629"N	104°44'27.762"W	0.00	
4617.00†	18.000	157.460	4504.72	-697.56	-698.33	289.83	40°03'29.347"N	104°44'27.610"W	0.00	
4717.00†	18.000	157.460	4599.83	-726.07	-726.87	301.67	40°03'29.065"N	104°44'27.457"W	0.00	
4817.00†	18.000	157.460	4694.94	-754.58	-755.41	313.52	40°03'28.783"N	104°44'27.305"W	0.00	
4818.12†	18.000	157.460	4696.00	-754.90	-755.73	313.65	40°03'28.780"N	104°44'27.303"W	0.00	SUSSEX
4917.00†	18.000	157.460	4790.04	-783.09	-783.95	325.36	40°03'28.501"N	104°44'27.153"W	0.00	
5017.00†	18.000	157.460	4885.15	-811.60	-812.49	337.21	40°03'28.219"N	104°44'27.000"W	0.00	
5117.00†	18.000	157.460	4980.25	-840.11	-841.03	349.06	40°03'27.937"N	104°44'26.848"W	0.00	
5217.00†	18.000	157.460	5075.36	-868.62	-869.58	360.90	40°03'27.655"N	104°44'26.696"W	0.00	
5317.00†	18.000	157.460	5170.46	-897.13	-898.12	372.75	40°03'27.373"N	104°44'26.543"W	0.00	
5417.00†	18.000	157.460	5265.57	-925.64	-926.66	384.59	40°03'27.091"N	104°44'26.391"W	0.00	
5517.00†	18.000	157.460	5360.67	-954.15	-955.20	396.44	40°03'26.808"N	104°44'26.239"W	0.00	
5526.80	18.000	157.460	5370.00	-956.95	-958.00	397.60	40°03'26.781"N	104°44'26.224"W	0.00	BEGIN DROP
5617.00†	16.196	157.460	5456.21	-981.41	-982.49	407.76	40°03'26.539"N	104°44'26.093"W	2.00	
5717.00†	14.196	157.460	5552.70	-1005.59	-1006.70	417.81	40°03'26.300"N	104°44'25.964"W	2.00	
5817.00†	12.196	157.460	5650.06	-1026.65	-1027.78	426.56	40°03'26.091"N	104°44'25.851"W	2.00	
5917.00†	10.196	157.460	5748.15	-1044.57	-1045.71	434.00	40°03'25.914"N	104°44'25.756"W	2.00	
6017.00†	8.196	157.460	5846.86	-1059.31	-1060.47	440.13	40°03'25.768"N	104°44'25.677"W	2.00	
6117.00†	6.196	157.460	5946.07	-1070.87	-1072.04	444.93	40°03'25.654"N	104°44'25.615"W	2.00	
6217.00†	4.196	157.460	6045.65	-1079.22	-1080.41	448.40	40°03'25.571"N	104°44'25.570"W	2.00	
6317.00†	2.196	157.460	6145.49	-1084.36	-1085.56	450.54	40°03'25.520"N	104°44'25.543"W	2.00	
6417.00†	0.196	157.460	6245.46	-1086.29	-1087.48	451.34	40°03'25.501"N	104°44'25.533"W	2.00	
6426.80	0.000	0.151	6255.27	-1086.31	-1087.50	451.35	40°03'25.501"N	104°44'25.533"W	2.00	END DROP
6517.00†	0.000	0.151	6345.46	-1086.31	-1087.50	451.35	40°03'25.501"N	104°44'25.533"W	0.00	
6617.00†	0.000	0.151	6445.46	-1086.31	-1087.50	451.35	40°03'25.501"N	104°44'25.533"W	0.00	
6717.00†	0.000	0.151	6545.46	-1086.31	-1087.50	451.35	40°03'25.501"N	104°44'25.533"W	0.00	
6817.00†	0.000	0.151	6645.46	-1086.31	-1087.50	451.35	40°03'25.501"N	104°44'25.533"W	0.00	
6917.00†	0.000	0.151	6745.46	-1086.31	-1087.50	451.35	40°03'25.501"N	104°44'25.533"W	0.00	
7000.58	0.000	0.151	6829.05	-1086.31	-1087.50	451.35	40°03'25.501"N	104°44'25.533"W	0.00	KOP, BUILD @ 10°/100'
7017.00†	1.642	0.151	6845.46	-1086.07	-1087.26	451.35	40°03'25.503"N	104°44'25.533"W	10.00	
7117.00†	11.642	0.151	6944.66	-1074.52	-1075.71	451.38	40°03'25.618"N	104°44'25.532"W	10.00	
7217.00†	21.642	0.151	7040.35	-1045.92	-1047.11	451.45	40°03'25.900"N	104°44'25.531"W	10.00	
7317.00†	31.642	0.151	7129.62	-1001.13	-1002.33	451.57	40°03'26.343"N	104°44'25.530"W	10.00	
7417.00†	41.642	0.151	7209.76	-941.53	-942.72	451.73	40°03'26.932"N	104°44'25.528"W	10.00	
7456.00†	45.541	0.151	7238.00	-914.65	-915.84	451.80	40°03'27.197"N	104°44'25.527"W	10.00	SHARON SPRINGS
7511.67†	51.108	0.151	7275.00	-873.08	-874.28	451.91	40°03'27.608"N	104°44'25.525"W	10.00	NIOBRARA
7517.00†	51.642	0.151	7278.33	-868.91	-870.11	451.92	40°03'27.649"N	104°44'25.525"W	10.00	
7617.00†	61.642	0.151	7333.25	-785.50	-786.69	452.14	40°03'28.474"N	104°44'25.522"W	10.00	
7717.00†	71.642	0.151	7372.85	-693.81	-695.00	452.38	40°03'29.380"N	104°44'25.519"W	10.00	

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Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#07 GRISWOLD 27N-11HZ (560'FSL & 1998'FEL, SEC.11)
Area	COLORADO	Well	GRISWOLD 27N-11HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	GRISWOLD 27N-11HZ PWB
Facility	SEC.11-T1N-R66W		

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7748.73†	74.815	0.151	7382.00	-663.43	-664.63	452.46	40°03'29.680"N	104°44'25.518"W	10.00	NIOBRARA B
7817.00†	81.642	0.151	7395.92	-596.64	-597.83	452.64	40°03'30.340"N	104°44'25.516"W	10.00	
7902.80	90.221	0.151	7402.00	-511.14	-512.33	452.87	40°03'31.185"N	104°44'25.513"W	10.00	LANDING POINT
7917.00†	90.221	0.151	7401.95	-496.93	-498.13	452.90	40°03'31.325"N	104°44'25.512"W	0.00	
8017.00†	90.221	0.151	7401.56	-396.93	-398.13	453.17	40°03'32.314"N	104°44'25.509"W	0.00	
8117.00†	90.221	0.151	7401.17	-296.93	-298.13	453.43	40°03'33.302"N	104°44'25.506"W	0.00	
8217.00†	90.221	0.151	7400.79	-196.94	-198.13	453.70	40°03'34.290"N	104°44'25.502"W	0.00	
8317.00†	90.221	0.151	7400.40	-96.94	-98.13	453.96	40°03'35.278"N	104°44'25.499"W	0.00	
8417.00†	90.221	0.151	7400.02	3.06	1.87	454.22	40°03'36.266"N	104°44'25.495"W	0.00	
8517.00†	90.221	0.151	7399.63	103.06	101.86	454.49	40°03'37.255"N	104°44'25.492"W	0.00	
8617.00†	90.221	0.151	7399.24	203.06	201.86	454.75	40°03'38.243"N	104°44'25.488"W	0.00	
8717.00†	90.221	0.151	7398.86	303.06	301.86	455.02	40°03'39.231"N	104°44'25.485"W	0.00	
8817.00†	90.221	0.151	7398.47	403.06	401.86	455.28	40°03'40.219"N	104°44'25.482"W	0.00	
8917.00†	90.221	0.151	7398.09	503.06	501.86	455.55	40°03'41.207"N	104°44'25.478"W	0.00	
9017.00†	90.221	0.151	7397.70	603.06	601.86	455.81	40°03'42.196"N	104°44'25.475"W	0.00	
9117.00†	90.221	0.151	7397.31	703.06	701.86	456.07	40°03'43.184"N	104°44'25.471"W	0.00	
9217.00†	90.221	0.151	7396.93	803.06	801.86	456.34	40°03'44.172"N	104°44'25.468"W	0.00	
9317.00†	90.221	0.151	7396.54	903.06	901.86	456.60	40°03'45.160"N	104°44'25.464"W	0.00	
9417.00†	90.221	0.151	7396.16	1003.06	1001.85	456.87	40°03'46.149"N	104°44'25.461"W	0.00	
9517.00†	90.221	0.151	7395.77	1103.05	1101.85	457.13	40°03'47.137"N	104°44'25.458"W	0.00	
9617.00†	90.221	0.151	7395.38	1203.05	1201.85	457.39	40°03'48.125"N	104°44'25.454"W	0.00	
9717.00†	90.221	0.151	7395.00	1303.05	1301.85	457.66	40°03'49.113"N	104°44'25.451"W	0.00	
9817.00†	90.221	0.151	7394.61	1403.05	1401.85	457.92	40°03'50.101"N	104°44'25.447"W	0.00	
9917.00†	90.221	0.151	7394.22	1503.05	1501.85	458.19	40°03'51.090"N	104°44'25.444"W	0.00	
10017.00†	90.221	0.151	7393.84	1603.05	1601.85	458.45	40°03'52.078"N	104°44'25.441"W	0.00	
10117.00†	90.221	0.151	7393.45	1703.05	1701.85	458.72	40°03'53.066"N	104°44'25.437"W	0.00	
10217.00†	90.221	0.151	7393.07	1803.05	1801.85	458.98	40°03'54.054"N	104°44'25.434"W	0.00	
10317.00†	90.221	0.151	7392.68	1903.05	1901.85	459.24	40°03'55.042"N	104°44'25.430"W	0.00	
10417.00†	90.221	0.151	7392.29	2003.05	2001.84	459.51	40°03'56.031"N	104°44'25.427"W	0.00	
10517.00†	90.221	0.151	7391.91	2103.05	2101.84	459.77	40°03'57.019"N	104°44'25.423"W	0.00	
10617.00†	90.221	0.151	7391.52	2203.05	2201.84	460.04	40°03'58.007"N	104°44'25.420"W	0.00	
10717.00†	90.221	0.151	7391.14	2303.05	2301.84	460.30	40°03'58.995"N	104°44'25.417"W	0.00	
10817.00†	90.221	0.151	7390.75	2403.05	2401.84	460.56	40°03'59.983"N	104°44'25.413"W	0.00	
10917.00†	90.221	0.151	7390.36	2503.04	2501.84	460.83	40°04'00.972"N	104°44'25.410"W	0.00	
11017.00†	90.221	0.151	7389.98	2603.04	2601.84	461.09	40°04'01.960"N	104°44'25.406"W	0.00	
11117.00†	90.221	0.151	7389.59	2703.04	2701.84	461.36	40°04'02.948"N	104°44'25.403"W	0.00	
11217.00†	90.221	0.151	7389.20	2803.04	2801.84	461.62	40°04'03.936"N	104°44'25.399"W	0.00	
11317.00†	90.221	0.151	7388.82	2903.04	2901.83	461.89	40°04'04.925"N	104°44'25.396"W	0.00	
11417.00†	90.221	0.151	7388.43	3003.04	3001.83	462.15	40°04'05.913"N	104°44'25.393"W	0.00	
11517.00†	90.221	0.151	7388.05	3103.04	3101.83	462.41	40°04'06.901"N	104°44'25.389"W	0.00	
11617.00†	90.221	0.151	7387.66	3203.04	3201.83	462.68	40°04'07.889"N	104°44'25.386"W	0.00	
11717.00†	90.221	0.151	7387.27	3303.04	3301.83	462.94	40°04'08.877"N	104°44'25.382"W	0.00	
11817.00†	90.221	0.151	7386.89	3403.04	3401.83	463.21	40°04'09.866"N	104°44'25.379"W	0.00	
11917.00†	90.221	0.151	7386.50	3503.04	3501.83	463.47	40°04'10.854"N	104°44'25.375"W	0.00	
12017.00†	90.221	0.151	7386.12	3603.04	3601.83	463.74	40°04'11.842"N	104°44'25.372"W	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#07 GRISWOLD 27N-11HZ (560'FSL & 1998'FEL, SEC.11)
Area	COLORADO	Well	GRISWOLD 27N-11HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	GRISWOLD 27N-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†	90.221	0.151	7385.73	3703.04	3701.83	464.00	40°04'12.830"N	104°44'25.369"W	0.00	
12217.00†	90.221	0.151	7385.34	3803.03	3801.82	464.26	40°04'13.818"N	104°44'25.365"W	0.00	
12317.00†	90.221	0.151	7384.96	3903.03	3901.82	464.53	40°04'14.807"N	104°44'25.362"W	0.00	
12417.00†	90.221	0.151	7384.57	4003.03	4001.82	464.79	40°04'15.795"N	104°44'25.358"W	0.00	
12517.00†	90.221	0.151	7384.19	4103.03	4101.82	465.06	40°04'16.783"N	104°44'25.355"W	0.00	
12617.00†	90.221	0.151	7383.80	4203.03	4201.82	465.32	40°04'17.771"N	104°44'25.352"W	0.00	
12717.00†	90.221	0.151	7383.41	4303.03	4301.82	465.58	40°04'18.759"N	104°44'25.348"W	0.00	
12817.00†	90.221	0.151	7383.03	4403.03	4401.82	465.85	40°04'19.748"N	104°44'25.345"W	0.00	
12917.00†	90.221	0.151	7382.64	4503.03	4501.82	466.11	40°04'20.736"N	104°44'25.341"W	0.00	
13017.00†	90.221	0.151	7382.25	4603.03	4601.82	466.38	40°04'21.724"N	104°44'25.338"W	0.00	
13082.89	90.221	0.151	7382.00 <sup>1</sup>	4668.92	4667.70	466.55	40°04'22.375"N	104°44'25.336"W	0.00	TOTAL DEPTH

HOLE & CASING SECTIONS - Ref Wellbore: GRISWOLD 27N-11HZ PWB Ref Wellpath: GRISWOLD 27N-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	7902.80	6278.80	1624.00	7402.00	0.00	0.00	-512.33	452.87
Top Of Production	17.00	7902.80	7885.80	17.00	7402.00	0.00	0.00	-512.33	452.87
6.125in Open Hole	7902.80	13082.89	5180.09	7402.00	NA	-512.33	452.87	NA	NA
4.5in Casing Production	17.00	13082.89	13065.89	17.00	NA	0.00	0.00	NA	NA

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	-29.94	3212126.21	1265634.89	40°03'36.248"N	104°44'31.722"W	polygon
1) GRISWOLD 27N-11HZ BHL ON PLAT REV-1 (100'FNL & 1544'FEL, SEC.11)	13082.89	7382.00	4667.70	466.55	3212582.76	1270306.48	40°04'22.375"N	104°44'25.336"W	point

SURVEY PROGRAM - Ref Wellbore: GRISWOLD 27N-11HZ PWB Ref Wellpath: GRISWOLD 27N-11HZ (PERMIT REV-1) PWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	13082.89	NaviTrak (MAGCORR,IFR)		GRISWOLD 27N-11HZ PWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#07 GRISWOLD 27N-11HZ (560'FSL & 1998'FEL, SEC.11)
Area	COLORADO	Well	GRISWOLD 27N-11HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	GRISWOLD 27N-11HZ PWB
Facility	SEC.11-T1N-R66W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
890.00	0.000	157.460	890.00	BASE FOX HILLS
1624.00	0.000	157.460	1624.00	SURFACE CSG SETTING DEPTH
4506.89	18.000	157.460	4400.00	PARKMAN
4818.12	18.000	157.460	4696.00	SUSSEX
7456.00	45.541	0.151	7238.00	SHARON SPRINGS
7511.67	51.108	0.151	7275.00	NIOBRARA
7748.73	74.815	0.151	7382.00	NIOBRARA B

DESIGN COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
17.00	0.000	157.460	17.00	TIE ON
1724.00	0.000	157.460	1724.00	BEGIN NUDGE
2624.00	18.000	157.460	2609.27	END NUDGE
5526.80	18.000	157.460	5370.00	BEGIN DROP
6426.80	0.000	0.151	6255.27	END DROP
7000.58	0.000	0.151	6829.05	KOP, BUILD @ 10°/100'
7902.80	90.221	0.151	7402.00	LANDING POINT
13082.89	90.221	0.151	7382.00	TOTAL DEPTH