

# KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#06 BARCLAY 16N-26HZ (451°FSL & 576°FEL, SEC.14) (NEW SHL)  
Field: WELD COUNTY (KERR MCGEE) Well: BARCLAY 16N-26HZ  
Facility: SEC.14-T2N-R67W Wellbore: BARCLAY 16N-26HZ PWB

Plot reference wellpath is BARCLAY 16N-26HZ (PERMIT REV-2) PWP

True vertical depths are referenced to PERMIT (17 KB) (RWS)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to PERMIT (17 KB) (RWS)	North Reference: True north
PERMIT (17 KB) (RWS) to Mean Sea Level: 4027 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOTH06 BARCLAY 16N-26HZ (451°FSL & 576°FEL, SEC.14) (NEW SHL)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: robab01 on 09/03/2013

## Location Information

Facility Name	Grid East (US Ft)	Grid North (US Ft)	Latitude	Longitude
SEC.14-T2N-R67W	3178014.436	1281732.032	40°07'36.662"N	104°51'23.580"W
Slot	Local N (Ft)	Local E (Ft)	Grid East (US Ft)	Grid North (US Ft)
SLOTH06 BARCLAY 16N-26HZ (451°FSL & 576°FEL, SEC.14) (NEW SHL)	-137.33	1046.93	3161562.242	1281696.666
PERMIT (17 KB) (RWS) to Mud line (At Slot: SLOTH06 BARCLAY 16N-26HZ (451°FSL & 576°FEL, SEC.14) (NEW SHL))			452701	
Mean Sea Level to Mud line (At Slot: SLOTH06 BARCLAY 16N-26HZ (451°FSL & 576°FEL, SEC.14) (NEW SHL))			01	
PERMIT (17 KB) (RWS) to Mean Sea Level			452701	

## Survey Program

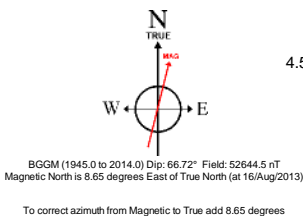
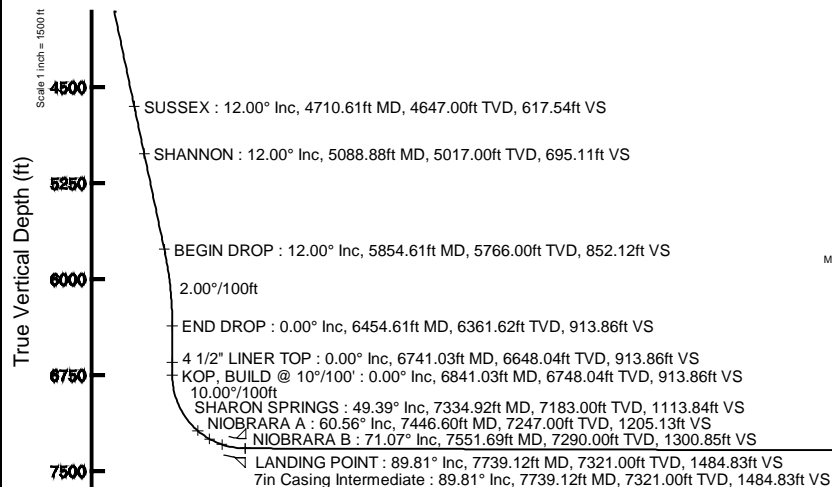
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
17.00	7739.12	NavTrak	NavTrak (Standard)		BARCLAY 16N-26HZ PWB
7739.12	16742.92	OnTrak	OnTrak (Standard)		BARCLAY 16N-26HZ PWB

## Targets

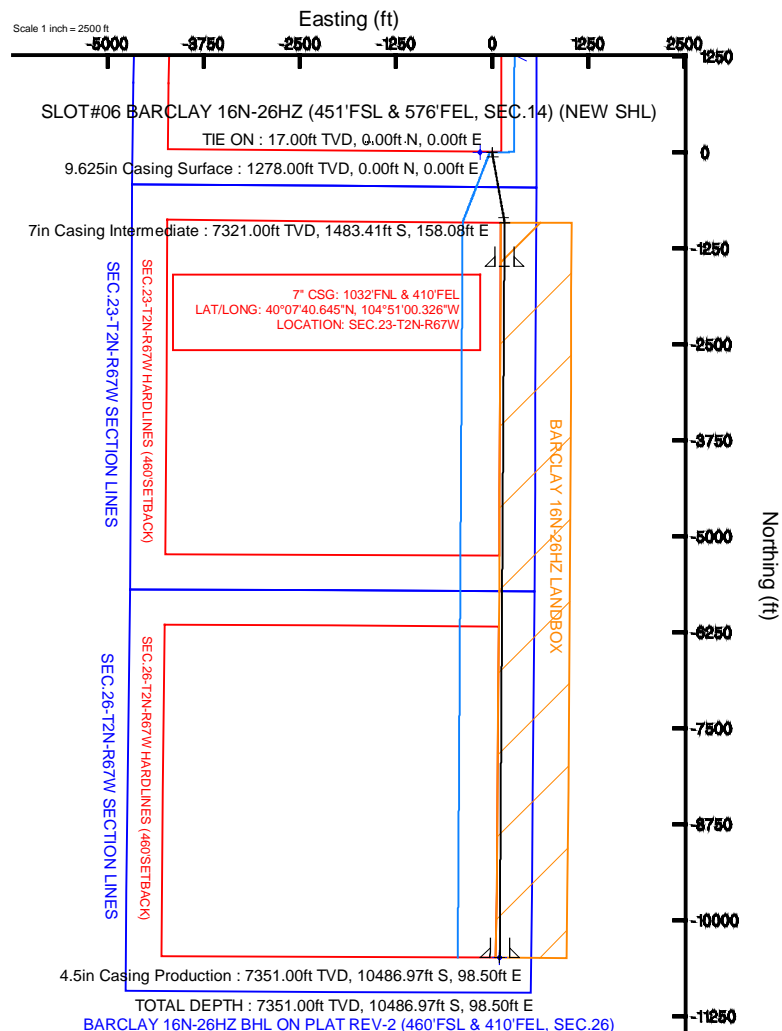
Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US Ft)	Grid North (US Ft)	Latitude	Longitude
SEC.14-T2N-R67W SECTION LINES		-22.00	137.43	-1646.93	3178014.43	1281732.03	40°07'36.662"N	104°51'23.580"W
SEC.23-T2N-R67W SECTION LINES		-22.00	137.43	-1646.93	3178014.43	1281732.03	40°07'36.662"N	104°51'23.580"W
SEC.26-T2N-R67W SECTION LINES		-22.00	137.43	-1646.93	3178014.43	1281732.03	40°07'36.662"N	104°51'23.580"W
BARCLAY 16N-26HZ BHL ON PLAT (460°FSL & 410°FEL, SEC.26)	7351.00	-10486.94	98.47	-10486.94	3161737.48	1281121.17	40°08'11.471"N	104°51'01.084"W
BARCLAY 16N-26HZ LARNDON	7351.00	1.00	-157.94	-157.94	3161404.30	1281696.66	40°07'35.315"N	104°51'04.380"W
SEC.14-T2N-R67W HARDLINES (460° SETBACK)	7351.00	137.43	-1646.93	-1646.93	3178014.43	1281732.03	40°07'36.662"N	104°51'23.580"W
SEC.23-T2N-R67W HARDLINES (460° SETBACK)	7351.00	137.43	-1646.93	-1646.93	3178014.43	1281732.03	40°07'36.662"N	104°51'23.580"W
SEC.26-T2N-R67W HARDLINES (460° SETBACK)	7351.00	137.43	-1646.93	-1646.93	3178014.43	1281732.03	40°07'36.662"N	104°51'23.580"W
BARCLAY 16N-26HZ BHL ON PLAT REV-2 (460°FSL & 410°FEL, SEC.26)	16742.92	7351.00	-10486.97	-10486.97	3161737.52	1281121.15	40°08'11.471"N	104°51'01.084"W

## 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	0.00	169.940	17.00	0.00	0.00	0.00	0.00
BEGIN NUDGE	1400.00	0.00	169.940	1400.00	0.00	0.00	0.00	0.00
END NUDGE	2000.00	12.00	169.940	1995.62	-61.64	10.94	2.00	61.74
BEGIN DROP	5854.61	12.00	169.940	5766.00	-850.74	150.93	0.00	852.12
END DROP	6454.61	0.00	180.379	6361.62	-912.38	161.86	2.00	913.86
KOP, BUILD @ 10°/100'	6841.03	0.00	180.379	6748.04	-912.38	161.86	0.00	913.86
LANDING POINT	7739.12	89.809	180.379	7321.00	-1483.41	158.08	10.00	1484.83
TOTAL DEPTH	16742.92	89.809	180.379	7351.00	-10486.97	98.50	0.00	10487.43



Vertical Section (ft)  
Azimuth 179.46° with reference 0.00 N, 0.00 E



BARCLAY 16N-26HZ BHL ON PLAT REV-2 (460°FSL & 410°FEL, SEC.26)  
4.5in Casing Production : 89.81° Inc, 16742.92ft MD, 7351.00ft TVD, 10487.43ft VS  
TOTAL DEPTH : 89.81° Inc, 16742.92ft MD, 7351.00ft TVD, 10487.43ft VS

Scale 1 inch = 1500 ft



# Planned Wellpath Report

BARCLAY 16N-26HZ (PERMIT REV-2) PWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#06 BARCLAY 16N-26HZ (451'FSL & 576'FEL, SEC.14) (I
Area	COLORADO	Well	BARCLAY 16N-26HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BARCLAY 16N-26HZ PWB
Facility	SEC.14-T2N-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	Robiale01
Scale	0.999959	Report Generated	09/Oct/2013 at 11:19
Convergence at slot	n/a	Database/Source file	WA_ANADARKO/BARCLAY_16N-26HZ_PWB.xml

## WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-137.33	1646.93	3181562.24	1291606.67	40°07'55.304"N	104°51'02.362"W
Facility Reference Pt			3179914.43	1291732.03	40°07'56.662"N	104°51'23.565"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	4927.00ft
Horizontal Reference Pt	Slot	PERMIT (17' KB) (RKB) to Mean Sea Level	4927.00ft
Vertical Reference Pt	PERMIT (17' KB) (RKB)	PERMIT (17' KB) (RKB) to Mud Line at Slot (SLOT#06 BARCLAY 16N-26HZ (451'FSL & 576'FEL, SEC.14) (NEW SHL))	4927.00ft
MD Reference Pt	PERMIT (17' KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	179.46°

### REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#06 BARCLAY 16N-26HZ (451'FSL & 576'FEL, SEC.14) (1
Area	COLORADO	Well	BARCLAY 16N-26HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BARCLAY 16N-26HZ PWB
Facility	SEC.14-T2N-R67W		

### WELLPATH DATA (183 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	169.940	0.00	0.00	0.00	0.00	40°07'55.304"N	104°51'02.362"W	0.00	
17.00	0.000	169.940	17.00	0.00	0.00	0.00	40°07'55.304"N	104°51'02.362"W	0.00	TIE ON
117.00†	0.000	169.940	117.00	0.00	0.00	0.00	40°07'55.304"N	104°51'02.362"W	0.00	
217.00†	0.000	169.940	217.00	0.00	0.00	0.00	40°07'55.304"N	104°51'02.362"W	0.00	
317.00†	0.000	169.940	317.00	0.00	0.00	0.00	40°07'55.304"N	104°51'02.362"W	0.00	
417.00†	0.000	169.940	417.00	0.00	0.00	0.00	40°07'55.304"N	104°51'02.362"W	0.00	
517.00†	0.000	169.940	517.00	0.00	0.00	0.00	40°07'55.304"N	104°51'02.362"W	0.00	
617.00†	0.000	169.940	617.00	0.00	0.00	0.00	40°07'55.304"N	104°51'02.362"W	0.00	
717.00†	0.000	169.940	717.00	0.00	0.00	0.00	40°07'55.304"N	104°51'02.362"W	0.00	
817.00†	0.000	169.940	817.00	0.00	0.00	0.00	40°07'55.304"N	104°51'02.362"W	0.00	
917.00†	0.000	169.940	917.00	0.00	0.00	0.00	40°07'55.304"N	104°51'02.362"W	0.00	
1017.00†	0.000	169.940	1017.00	0.00	0.00	0.00	40°07'55.304"N	104°51'02.362"W	0.00	
1117.00†	0.000	169.940	1117.00	0.00	0.00	0.00	40°07'55.304"N	104°51'02.362"W	0.00	
1217.00†	0.000	169.940	1217.00	0.00	0.00	0.00	40°07'55.304"N	104°51'02.362"W	0.00	
1227.00†	0.000	169.940	1227.00	0.00	0.00	0.00	40°07'55.304"N	104°51'02.362"W	0.00	FOX HILLS BASE
1317.00†	0.000	169.940	1317.00	0.00	0.00	0.00	40°07'55.304"N	104°51'02.362"W	0.00	
1400.00	0.000	169.940	1400.00	0.00	0.00	0.00	40°07'55.304"N	104°51'02.362"W	0.00	BEGIN NUDGE
1417.00†	0.340	169.940	1417.00	0.05	-0.05	0.01	40°07'55.304"N	104°51'02.361"W	2.00	
1517.00†	2.340	169.940	1516.97	2.36	-2.35	0.42	40°07'55.281"N	104°51'02.356"W	2.00	
1617.00†	4.340	169.940	1616.79	8.10	-8.09	1.43	40°07'55.224"N	104°51'02.343"W	2.00	
1717.00†	6.340	169.940	1716.35	17.28	-17.25	3.06	40°07'55.134"N	104°51'02.322"W	2.00	
1817.00†	8.340	169.940	1815.53	29.88	-29.83	5.29	40°07'55.010"N	104°51'02.293"W	2.00	
1917.00†	10.340	169.940	1914.20	45.88	-45.81	8.13	40°07'54.852"N	104°51'02.257"W	2.00	
2000.00	12.000	169.940	1995.62	61.74	-61.64	10.94	40°07'54.695"N	104°51'02.221"W	2.00	END NUDGE
2017.00†	12.000	169.940	2012.25	65.23	-65.12	11.55	40°07'54.661"N	104°51'02.213"W	0.00	
2117.00†	12.000	169.940	2110.07	85.73	-85.59	15.18	40°07'54.459"N	104°51'02.166"W	0.00	
2217.00†	12.000	169.940	2207.88	106.24	-106.06	18.82	40°07'54.256"N	104°51'02.119"W	0.00	
2317.00†	12.000	169.940	2305.70	126.74	-126.53	22.45	40°07'54.054"N	104°51'02.073"W	0.00	
2417.00†	12.000	169.940	2403.51	147.24	-147.01	26.08	40°07'53.852"N	104°51'02.026"W	0.00	
2517.00†	12.000	169.940	2501.33	167.75	-167.48	29.71	40°07'53.649"N	104°51'01.979"W	0.00	
2617.00†	12.000	169.940	2599.14	188.25	-187.95	33.34	40°07'53.447"N	104°51'01.932"W	0.00	
2717.00†	12.000	169.940	2696.95	208.76	-208.42	36.98	40°07'53.245"N	104°51'01.886"W	0.00	
2817.00†	12.000	169.940	2794.77	229.26	-228.89	40.61	40°07'53.042"N	104°51'01.839"W	0.00	
2917.00†	12.000	169.940	2892.58	249.77	-249.36	44.24	40°07'52.840"N	104°51'01.792"W	0.00	
3017.00†	12.000	169.940	2990.40	270.27	-269.84	47.87	40°07'52.638"N	104°51'01.745"W	0.00	
3117.00†	12.000	169.940	3088.21	290.78	-290.31	51.50	40°07'52.436"N	104°51'01.699"W	0.00	
3217.00†	12.000	169.940	3186.03	311.28	-310.78	55.13	40°07'52.233"N	104°51'01.652"W	0.00	
3317.00†	12.000	169.940	3283.84	331.79	-331.25	58.77	40°07'52.031"N	104°51'01.605"W	0.00	
3417.00†	12.000	169.940	3381.66	352.29	-351.72	62.40	40°07'51.829"N	104°51'01.558"W	0.00	
3517.00†	12.000	169.940	3479.47	372.80	-372.19	66.03	40°07'51.626"N	104°51'01.512"W	0.00	
3617.00†	12.000	169.940	3577.29	393.30	-392.66	69.66	40°07'51.424"N	104°51'01.465"W	0.00	
3717.00†	12.000	169.940	3675.10	413.81	-413.14	73.29	40°07'51.222"N	104°51'01.418"W	0.00	
3817.00†	12.000	169.940	3772.92	434.31	-433.61	76.92	40°07'51.019"N	104°51'01.371"W	0.00	
3917.00†	12.000	169.940	3870.73	454.82	-454.08	80.56	40°07'50.817"N	104°51'01.324"W	0.00	
4017.00†	12.000	169.940	3968.55	475.32	-474.55	84.19	40°07'50.615"N	104°51'01.278"W	0.00	

### REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#06 BARCLAY 16N-26HZ (451'FSL & 576'FEL, SEC.14) (1
Area	COLORADO	Well	BARCLAY 16N-26HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BARCLAY 16N-26HZ PWB
Facility	SEC.14-T2N-R67W		

### WELLPATH DATA (183 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4117.00†	12.000	169.940	4066.36	495.82	-495.02	87.82	40°07'50.413"N	104°51'01.231"W	0.00	
4217.00†	12.000	169.940	4164.18	516.33	-515.49	91.45	40°07'50.210"N	104°51'01.184"W	0.00	
4317.00†	12.000	169.940	4261.99	536.83	-535.96	95.08	40°07'50.008"N	104°51'01.137"W	0.00	
4417.00†	12.000	169.940	4359.81	557.34	-556.44	98.72	40°07'49.806"N	104°51'01.091"W	0.00	
4517.00†	12.000	169.940	4457.62	577.84	-576.91	102.35	40°07'49.603"N	104°51'01.044"W	0.00	
4617.00†	12.000	169.940	4555.44	598.35	-597.38	105.98	40°07'49.401"N	104°51'00.997"W	0.00	
4710.61†	12.000	169.940	4647.00	617.54	-616.54	109.38	40°07'49.212"N	104°51'00.953"W	0.00	SUSSEX
4717.00†	12.000	169.940	4653.25	618.85	-617.85	109.61	40°07'49.199"N	104°51'00.950"W	0.00	
4817.00†	12.000	169.940	4751.06	639.36	-638.32	113.24	40°07'48.996"N	104°51'00.904"W	0.00	
4917.00†	12.000	169.940	4848.88	659.86	-658.79	116.87	40°07'48.794"N	104°51'00.857"W	0.00	
5017.00†	12.000	169.940	4946.69	680.37	-679.27	120.51	40°07'48.592"N	104°51'00.810"W	0.00	
5088.88†	12.000	169.940	5017.00	695.11	-693.98	123.12	40°07'48.446"N	104°51'00.777"W	0.00	SHANNON
5117.00†	12.000	169.940	5044.51	700.87	-699.74	124.14	40°07'48.390"N	104°51'00.763"W	0.00	
5217.00†	12.000	169.940	5142.32	721.38	-720.21	127.77	40°07'48.187"N	104°51'00.717"W	0.00	
5317.00†	12.000	169.940	5240.14	741.88	-740.68	131.40	40°07'47.985"N	104°51'00.670"W	0.00	
5417.00†	12.000	169.940	5337.95	762.39	-761.15	135.03	40°07'47.783"N	104°51'00.623"W	0.00	
5517.00†	12.000	169.940	5435.77	782.89	-781.62	138.67	40°07'47.580"N	104°51'00.576"W	0.00	
5617.00†	12.000	169.940	5533.58	803.40	-802.09	142.30	40°07'47.378"N	104°51'00.530"W	0.00	
5717.00†	12.000	169.940	5631.40	823.90	-822.57	145.93	40°07'47.176"N	104°51'00.483"W	0.00	
5817.00†	12.000	169.940	5729.21	844.41	-843.04	149.56	40°07'46.973"N	104°51'00.436"W	0.00	
5854.61	12.000	169.940	5766.00	852.12	-850.74	150.93	40°07'46.897"N	104°51'00.419"W	0.00	BEGIN DROP
5917.00†	10.752	169.940	5827.16	864.25	-862.85	153.08	40°07'46.778"N	104°51'00.391"W	2.00	
6017.00†	8.752	169.940	5925.71	880.96	-879.53	156.03	40°07'46.613"N	104°51'00.353"W	2.00	
6117.00†	6.752	169.940	6024.79	894.26	-892.81	158.39	40°07'46.482"N	104°51'00.322"W	2.00	
6217.00†	4.752	169.940	6124.29	904.14	-902.68	160.14	40°07'46.384"N	104°51'00.300"W	2.00	
6317.00†	2.752	169.940	6224.07	910.60	-909.12	161.28	40°07'46.320"N	104°51'00.285"W	2.00	
6417.00†	0.752	169.940	6324.01	913.61	-912.13	161.82	40°07'46.291"N	104°51'00.278"W	2.00	
6454.61	0.000	180.379	6361.62	913.86	-912.38	161.86	40°07'46.288"N	104°51'00.278"W	2.00	END DROP
6517.00†	0.000	180.379	6424.01	913.86	-912.38	161.86	40°07'46.288"N	104°51'00.278"W	0.00	
6617.00†	0.000	180.379	6524.01	913.86	-912.38	161.86	40°07'46.288"N	104°51'00.278"W	0.00	
6717.00†	0.000	180.379	6624.01	913.86	-912.38	161.86	40°07'46.288"N	104°51'00.278"W	0.00	
6741.03†	0.000	180.379	6648.04	913.86	-912.38	161.86	40°07'46.288"N	104°51'00.278"W	0.00	4 1/2" LINER TOP
6817.00†	0.000	180.379	6724.01	913.86	-912.38	161.86	40°07'46.288"N	104°51'00.278"W	0.00	
6841.03	0.000	180.379	6748.04	913.86	-912.38	161.86	40°07'46.288"N	104°51'00.278"W	0.00	KOP, BUILD @ 10°/100'
6917.00†	7.597	180.379	6823.79	918.89	-917.41	161.83	40°07'46.238"N	104°51'00.278"W	10.00	
7017.00†	17.597	180.379	6921.26	940.66	-939.19	161.68	40°07'46.023"N	104°51'00.280"W	10.00	
7117.00†	27.597	180.379	7013.47	979.04	-977.56	161.43	40°07'45.644"N	104°51'00.283"W	10.00	
7217.00†	37.597	180.379	7097.61	1032.83	-1031.37	161.07	40°07'45.112"N	104°51'00.288"W	10.00	
7317.00†	47.597	180.379	7171.13	1100.42	-1098.96	160.63	40°07'44.444"N	104°51'00.294"W	10.00	
7334.92†	49.389	180.379	7183.00	1113.84	-1112.38	160.54	40°07'44.312"N	104°51'00.295"W	10.00	SHARON SPRINGS
7417.00†	57.597	180.379	7231.79	1179.75	-1178.30	160.10	40°07'43.660"N	104°51'00.300"W	10.00	
7446.60†	60.557	180.379	7247.00	1205.13	-1203.69	159.93	40°07'43.409"N	104°51'00.303"W	10.00	NIOBRARA A
7517.00†	67.597	180.379	7277.76	1268.40	-1266.96	159.52	40°07'42.784"N	104°51'00.308"W	10.00	
7551.69†	71.066	180.379	7290.00	1300.85	-1299.41	159.30	40°07'42.463"N	104°51'00.311"W	10.00	NIOBRARA B
7617.00†	77.597	180.379	7307.63	1363.69	-1362.26	158.88	40°07'41.842"N	104°51'00.316"W	10.00	

## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#06 BARCLAY 16N-26HZ (451'FSL & 576'FEL, SEC.14) (1
Area	COLORADO	Well	BARCLAY 16N-26HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BARCLAY 16N-26HZ PWB
Facility	SEC.14-T2N-R67W		

## WELLPATH DATA (183 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7717.00†	87.597	180.379	7320.50	1462.72	-1461.30	158.23	40°07'40.864"N	104°51'00.325"W	10.00	
7739.12	89.809	180.379	7321.00	1484.83	-1483.41	158.08	40°07'40.645"N	104°51'00.326"W	10.00	LANDING POINT
7817.00†	89.809	180.379	7321.26	1562.70	-1561.29	157.57	40°07'39.876"N	104°51'00.333"W	0.00	
7917.00†	89.809	180.379	7321.59	1662.69	-1661.29	156.91	40°07'38.887"N	104°51'00.342"W	0.00	
8017.00†	89.809	180.379	7321.92	1762.67	-1761.29	156.24	40°07'37.899"N	104°51'00.350"W	0.00	
8117.00†	89.809	180.379	7322.26	1862.66	-1861.28	155.58	40°07'36.911"N	104°51'00.359"W	0.00	
8217.00†	89.809	180.379	7322.59	1962.65	-1961.28	154.92	40°07'35.923"N	104°51'00.367"W	0.00	
8317.00†	89.809	180.379	7322.92	2062.63	-2061.28	154.26	40°07'34.935"N	104°51'00.376"W	0.00	
8417.00†	89.809	180.379	7323.26	2162.62	-2161.27	153.60	40°07'33.946"N	104°51'00.384"W	0.00	
8517.00†	89.809	180.379	7323.59	2262.61	-2261.27	152.94	40°07'32.958"N	104°51'00.393"W	0.00	
8617.00†	89.809	180.379	7323.92	2362.59	-2361.27	152.27	40°07'31.970"N	104°51'00.401"W	0.00	
8717.00†	89.809	180.379	7324.26	2462.58	-2461.27	151.61	40°07'30.982"N	104°51'00.410"W	0.00	
8817.00†	89.809	180.379	7324.59	2562.57	-2561.26	150.95	40°07'29.994"N	104°51'00.418"W	0.00	
8917.00†	89.809	180.379	7324.92	2662.55	-2661.26	150.29	40°07'29.006"N	104°51'00.427"W	0.00	
9017.00†	89.809	180.379	7325.26	2762.54	-2761.26	149.63	40°07'28.017"N	104°51'00.435"W	0.00	
9117.00†	89.809	180.379	7325.59	2862.53	-2861.26	148.96	40°07'27.029"N	104°51'00.444"W	0.00	
9217.00†	89.809	180.379	7325.92	2962.51	-2961.25	148.30	40°07'26.041"N	104°51'00.453"W	0.00	
9317.00†	89.809	180.379	7326.26	3062.50	-3061.25	147.64	40°07'25.053"N	104°51'00.461"W	0.00	
9417.00†	89.809	180.379	7326.59	3162.49	-3161.25	146.98	40°07'24.065"N	104°51'00.470"W	0.00	
9517.00†	89.809	180.379	7326.92	3262.47	-3261.24	146.32	40°07'23.076"N	104°51'00.478"W	0.00	
9617.00†	89.809	180.379	7327.26	3362.46	-3361.24	145.66	40°07'22.088"N	104°51'00.487"W	0.00	
9717.00†	89.809	180.379	7327.59	3462.45	-3461.24	144.99	40°07'21.100"N	104°51'00.495"W	0.00	
9817.00†	89.809	180.379	7327.92	3562.43	-3561.24	144.33	40°07'20.112"N	104°51'00.504"W	0.00	
9917.00†	89.809	180.379	7328.25	3662.42	-3661.23	143.67	40°07'19.124"N	104°51'00.512"W	0.00	
10017.00†	89.809	180.379	7328.59	3762.41	-3761.23	143.01	40°07'18.136"N	104°51'00.521"W	0.00	
10117.00†	89.809	180.379	7328.92	3862.39	-3861.23	142.35	40°07'17.147"N	104°51'00.529"W	0.00	
10217.00†	89.809	180.379	7329.25	3962.38	-3961.22	141.69	40°07'16.159"N	104°51'00.538"W	0.00	
10317.00†	89.809	180.379	7329.59	4062.37	-4061.22	141.02	40°07'15.171"N	104°51'00.546"W	0.00	
10417.00†	89.809	180.379	7329.92	4162.35	-4161.22	140.36	40°07'14.183"N	104°51'00.555"W	0.00	
10517.00†	89.809	180.379	7330.25	4262.34	-4261.22	139.70	40°07'13.195"N	104°51'00.563"W	0.00	
10617.00†	89.809	180.379	7330.59	4362.33	-4361.21	139.04	40°07'12.206"N	104°51'00.572"W	0.00	
10717.00†	89.809	180.379	7330.92	4462.31	-4461.21	138.38	40°07'11.218"N	104°51'00.580"W	0.00	
10817.00†	89.809	180.379	7331.25	4562.30	-4561.21	137.72	40°07'10.230"N	104°51'00.589"W	0.00	
10917.00†	89.809	180.379	7331.59	4662.29	-4661.21	137.05	40°07'09.242"N	104°51'00.597"W	0.00	
11017.00†	89.809	180.379	7331.92	4762.27	-4761.20	136.39	40°07'08.254"N	104°51'00.606"W	0.00	
11117.00†	89.809	180.379	7332.25	4862.26	-4861.20	135.73	40°07'07.266"N	104°51'00.614"W	0.00	
11217.00†	89.809	180.379	7332.59	4962.25	-4961.20	135.07	40°07'06.277"N	104°51'00.623"W	0.00	
11317.00†	89.809	180.379	7332.92	5062.23	-5061.19	134.41	40°07'05.289"N	104°51'00.632"W	0.00	
11417.00†	89.809	180.379	7333.25	5162.22	-5161.19	133.74	40°07'04.301"N	104°51'00.640"W	0.00	
11517.00†	89.809	180.379	7333.59	5262.21	-5261.19	133.08	40°07'03.313"N	104°51'00.649"W	0.00	
11617.00†	89.809	180.379	7333.92	5362.19	-5361.19	132.42	40°07'02.325"N	104°51'00.657"W	0.00	
11717.00†	89.809	180.379	7334.25	5462.18	-5461.18	131.76	40°07'01.336"N	104°51'00.666"W	0.00	
11817.00†	89.809	180.379	7334.59	5562.17	-5561.18	131.10	40°07'00.348"N	104°51'00.674"W	0.00	
11917.00†	89.809	180.379	7334.92	5662.15	-5661.18	130.44	40°06'59.360"N	104°51'00.683"W	0.00	
12017.00†	89.809	180.379	7335.25	5762.14	-5761.18	129.77	40°06'58.372"N	104°51'00.691"W	0.00	



## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#06 BARCLAY 16N-26HZ (451'FSL & 576'FEL, SEC.14) (1
Area	COLORADO	Well	BARCLAY 16N-26HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BARCLAY 16N-26HZ PWB
Facility	SEC.14-T2N-R67W		

## WELLPATH DATA (183 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12117.00†	89.809	180.379	7335.59	5862.13	-5861.17	129.11	40°06'57.384"N	104°51'00.700"W	0.00	
12217.00†	89.809	180.379	7335.92	5962.11	-5961.17	128.45	40°06'56.395"N	104°51'00.708"W	0.00	
12317.00†	89.809	180.379	7336.25	6062.10	-6061.17	127.79	40°06'55.407"N	104°51'00.717"W	0.00	
12417.00†	89.809	180.379	7336.59	6162.09	-6161.16	127.13	40°06'54.419"N	104°51'00.725"W	0.00	
12517.00†	89.809	180.379	7336.92	6262.07	-6261.16	126.47	40°06'53.431"N	104°51'00.734"W	0.00	
12617.00†	89.809	180.379	7337.25	6362.06	-6361.16	125.80	40°06'52.443"N	104°51'00.742"W	0.00	
12717.00†	89.809	180.379	7337.58	6462.05	-6461.16	125.14	40°06'51.455"N	104°51'00.751"W	0.00	
12817.00†	89.809	180.379	7337.92	6562.03	-6561.15	124.48	40°06'50.466"N	104°51'00.759"W	0.00	
12917.00†	89.809	180.379	7338.25	6662.02	-6661.15	123.82	40°06'49.478"N	104°51'00.768"W	0.00	
13017.00†	89.809	180.379	7338.58	6762.01	-6761.15	123.16	40°06'48.490"N	104°51'00.776"W	0.00	
13117.00†	89.809	180.379	7338.92	6861.99	-6861.15	122.49	40°06'47.502"N	104°51'00.785"W	0.00	
13217.00†	89.809	180.379	7339.25	6961.98	-6961.14	121.83	40°06'46.514"N	104°51'00.794"W	0.00	
13317.00†	89.809	180.379	7339.58	7061.97	-7061.14	121.17	40°06'45.525"N	104°51'00.802"W	0.00	
13417.00†	89.809	180.379	7339.92	7161.95	-7161.14	120.51	40°06'44.537"N	104°51'00.811"W	0.00	
13517.00†	89.809	180.379	7340.25	7261.94	-7261.13	119.85	40°06'43.549"N	104°51'00.819"W	0.00	
13617.00†	89.809	180.379	7340.58	7361.93	-7361.13	119.19	40°06'42.561"N	104°51'00.828"W	0.00	
13717.00†	89.809	180.379	7340.92	7461.91	-7461.13	118.52	40°06'41.573"N	104°51'00.836"W	0.00	
13817.00†	89.809	180.379	7341.25	7561.90	-7561.13	117.86	40°06'40.585"N	104°51'00.845"W	0.00	
13917.00†	89.809	180.379	7341.58	7661.89	-7661.12	117.20	40°06'39.596"N	104°51'00.853"W	0.00	
14017.00†	89.809	180.379	7341.92	7761.87	-7761.12	116.54	40°06'38.608"N	104°51'00.862"W	0.00	
14117.00†	89.809	180.379	7342.25	7861.86	-7861.12	115.88	40°06'37.620"N	104°51'00.870"W	0.00	
14217.00†	89.809	180.379	7342.58	7961.85	-7961.12	115.22	40°06'36.632"N	104°51'00.879"W	0.00	
14317.00†	89.809	180.379	7342.92	8061.83	-8061.11	114.55	40°06'35.644"N	104°51'00.887"W	0.00	
14417.00†	89.809	180.379	7343.25	8161.82	-8161.11	113.89	40°06'34.655"N	104°51'00.896"W	0.00	
14517.00†	89.809	180.379	7343.58	8261.81	-8261.11	113.23	40°06'33.667"N	104°51'00.904"W	0.00	
14617.00†	89.809	180.379	7343.92	8361.79	-8361.10	112.57	40°06'32.679"N	104°51'00.913"W	0.00	
14717.00†	89.809	180.379	7344.25	8461.78	-8461.10	111.91	40°06'31.691"N	104°51'00.921"W	0.00	
14817.00†	89.809	180.379	7344.58	8561.77	-8561.10	111.24	40°06'30.703"N	104°51'00.930"W	0.00	
14917.00†	89.809	180.379	7344.92	8661.75	-8661.10	110.58	40°06'29.714"N	104°51'00.938"W	0.00	
15017.00†	89.809	180.379	7345.25	8761.74	-8761.09	109.92	40°06'28.726"N	104°51'00.947"W	0.00	
15117.00†	89.809	180.379	7345.58	8861.73	-8861.09	109.26	40°06'27.738"N	104°51'00.955"W	0.00	
15217.00†	89.809	180.379	7345.92	8961.71	-8961.09	108.60	40°06'26.750"N	104°51'00.964"W	0.00	
15317.00†	89.809	180.379	7346.25	9061.70	-9061.08	107.94	40°06'25.762"N	104°51'00.972"W	0.00	
15417.00†	89.809	180.379	7346.58	9161.69	-9161.08	107.27	40°06'24.774"N	104°51'00.981"W	0.00	
15517.00†	89.809	180.379	7346.92	9261.67	-9261.08	106.61	40°06'23.785"N	104°51'00.990"W	0.00	
15617.00†	89.809	180.379	7347.25	9361.66	-9361.08	105.95	40°06'22.797"N	104°51'00.998"W	0.00	
15717.00†	89.809	180.379	7347.58	9461.65	-9461.07	105.29	40°06'21.809"N	104°51'01.007"W	0.00	
15817.00†	89.809	180.379	7347.91	9561.63	-9561.07	104.63	40°06'20.821"N	104°51'01.015"W	0.00	
15917.00†	89.809	180.379	7348.25	9661.62	-9661.07	103.97	40°06'19.833"N	104°51'01.024"W	0.00	
16017.00†	89.809	180.379	7348.58	9761.61	-9761.07	103.30	40°06'18.844"N	104°51'01.032"W	0.00	
16117.00†	89.809	180.379	7348.91	9861.59	-9861.06	102.64	40°06'17.856"N	104°51'01.041"W	0.00	
16217.00†	89.809	180.379	7349.25	9961.58	-9961.06	101.98	40°06'16.868"N	104°51'01.049"W	0.00	
16317.00†	89.809	180.379	7349.58	10061.57	-10061.06	101.32	40°06'15.880"N	104°51'01.058"W	0.00	
16417.00†	89.809	180.379	7349.91	10161.55	-10161.05	100.66	40°06'14.892"N	104°51'01.066"W	0.00	
16517.00†	89.809	180.379	7350.25	10261.54	-10261.05	100.00	40°06'13.904"N	104°51'01.075"W	0.00	

### REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#06 BARCLAY 16N-26HZ (451'FSL & 576'FEL, SEC.14) (I
Area	COLORADO	Well	BARCLAY 16N-26HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BARCLAY 16N-26HZ PWB
Facility	SEC.14-T2N-R67W		

### WELLPATH DATA (183 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
16617.00†	89.809	180.379	7350.58	10361.53	-10361.05	99.33	40°06'12.915"N	104°51'01.083"W	0.00	
16717.00†	89.809	180.379	7350.91	10461.51	-10461.05	98.67	40°06'11.927"N	104°51'01.092"W	0.00	
16742.92	89.809	180.379	7351.00 <sup>1</sup>	10487.43	-10486.97	98.50	40°06'11.671"N	104°51'01.094"W	0.00	TOTAL DEPTH

### HOLE & CASING SECTIONS -

Ref Wellbore: BARCLAY 16N-26HZ PWB      Ref Wellpath: BARCLAY 16N-26HZ (PERMIT REV-2) 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	1278.00	1261.00	17.00	1278.00	0.00	0.00	0.00	0.00
9.625in Casing Surface	17.00	1278.00	1261.00	17.00	1278.00	0.00	0.00	0.00	0.00
8.75in Open Hole	1278.00	7739.12	6461.12	1278.00	7321.00	0.00	0.00	-1483.41	158.08
7in Casing Intermediate	17.00	7739.12	7722.12	17.00	7321.00	0.00	0.00	-1483.41	158.08
6.125in Open Hole	7739.12	16742.92	9003.80	7321.00	7351.00	-1483.41	158.08	-10486.97	98.50
4.5in Casing Production	17.00	16742.92	16725.92	17.00	7351.00	0.00	0.00	-10486.97	98.50

## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#06 BARCLAY 16N-26HZ (451'FSL & 576'FEL, SEC.14) (I
Area	COLORADO	Well	BARCLAY 16N-26HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BARCLAY 16N-26HZ PWB
Facility	SEC.14-T2N-R67W		

## TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.14-T2N-R67W SECTION LINES		-22.00	137.43	-1646.93	3179914.43	1291732.03	40°07'56.662"N	104°51'23.565"W	polygon
SEC.23-T2N-R67W SECTION LINES		-22.00	137.43	-1646.93	3179914.43	1291732.03	40°07'56.662"N	104°51'23.565"W	polygon
SEC.26-T2N-R67W SECTION LINES		-22.00	137.43	-1646.93	3179914.43	1291732.03	40°07'56.662"N	104°51'23.565"W	polygon
BARCLAY 16N-26HZ BHL ON PLAT (460'FSL & 410'FEL, SEC.26)		7331.00	-10486.94	98.47	3181737.49	1281121.17	40°06'11.671"N	104°51'01.094"W	point
BARCLAY 16N-26HZ LANDBOX		7331.00	1.07	-157.94	3181404.30	1291606.58	40°07'55.315"N	104°51'04.395"W	polygon
SEC.14-T2N-R67W HARDLINES (460' SETBACK)		7331.00	137.43	-1646.93	3179914.43	1291732.03	40°07'56.662"N	104°51'23.565"W	polygon
SEC.23-T2N-R67W HARDLINES (460' SETBACK)		7331.00	137.43	-1646.93	3179914.43	1291732.03	40°07'56.662"N	104°51'23.565"W	polygon
SEC.26-T2N-R67W HARDLINES (460' SETBACK)		7331.00	137.43	-1646.93	3179914.43	1291732.03	40°07'56.662"N	104°51'23.565"W	polygon
1) BARCLAY 16N-26HZ BHL ON PLAT REV-2 (460'FSL & 410'FEL, SEC.26)	16742.92	7351.00	-10486.97	98.50	3181737.52	1281121.15	40°06'11.671"N	104°51'01.094"W	point

## SURVEY PROGRAM - Ref Wellbore: BARCLAY 16N-26HZ PWB Ref Wellpath: BARCLAY 16N-26HZ (PERMIT REV-2) PWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	7739.12	NaviTrak (Standard)		BARCLAY 16N-26HZ PWB
7739.12	16742.92	OnTrak (Standard)		BARCLAY 16N-26HZ PWB



## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#06 BARCLAY 16N-26HZ (451'FSL & 576'FEL, SEC.14) (I
Area	COLORADO	Well	BARCLAY 16N-26HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BARCLAY 16N-26HZ PWB
Facility	SEC.14-T2N-R67W		

## WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1227.00	0.000	169.940	1227.00	FOX HILLS BASE
4710.61	12.000	169.940	4647.00	SUSSEX
5088.88	12.000	169.940	5017.00	SHANNON
6741.03	0.000	180.379	6648.04	4 1/2" LINER TOP
7334.92	49.389	180.379	7183.00	SHARON SPRINGS
7446.60	60.557	180.379	7247.00	NIOBRARA A
7551.69	71.066	180.379	7290.00	NIOBRARA B

## DESIGN COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
17.00	0.000	169.940	17.00	TIE ON
1400.00	0.000	169.940	1400.00	BEGIN NUDGE
2000.00	12.000	169.940	1995.62	END NUDGE
5854.61	12.000	169.940	5766.00	BEGIN DROP
6454.61	0.000	180.379	6361.62	END DROP
6841.03	0.000	180.379	6748.04	KOP, BUILD @ 10°/100'
7739.12	89.809	180.379	7321.00	LANDING POINT
16742.92	89.809	180.379	7351.00	TOTAL DEPTH