

# KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#16 MELBA 27N-14HZ (1736' FEL & 618' FNL, SEC.23)  
Field: WELD COUNTY (KERR MCGEE) Well: MELBA 27N-14HZ  
Facility: SEC.23-T3N-R66W Wellbore: MELBA 27N-14HZ PWB

Plot reference wellpath is MELBA 27N-14HZ (PERMIT REV-1) PWP

True vertical depths are referenced to PERMIT (17KB) (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to PERMIT (17KB) (RKB)	North Reference: True north
PERMIT (17KB) (RKB) to Mean Sea Level: 4977 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#16 MELBA 27N-14HZ (1736' FEL & 618' FNL, SEC.23)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: precin on 15/Nov2013

## Location Information

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC 23-T3N-R66W			3213104.907	1321212.980	40°12'45.396"N	104°44'12.984"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#16 MELBA 27N-14HZ (1736' FEL & 618' FNL, SEC.23)	1294.41	-1134.96	3211958.906	1322497.513	40°12'58.187"N	104°44'27.614"W
PERMT (17KB) (RKB) to Mud line (At Slot: SLOT#16 MELBA 27N-14HZ (1736' FEL & 618' FNL, SEC.23))					497ft	
Mean Sea Level to Mud line (At Slot: SLOT#16 MELBA 27N-14HZ (1736' FEL & 618' FNL, SEC.23))					0ft	
PERMT (17KB) (RKB) to Mean Sea Level					497ft	

## Survey Program

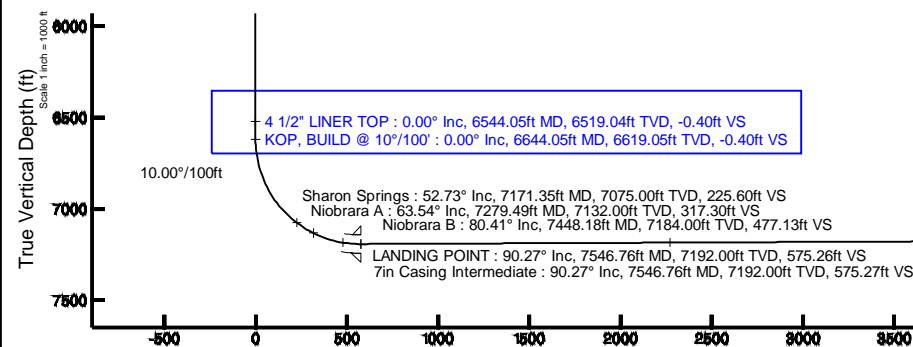
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
17.00	12848.24	NaviTrak	NaviTrak (MagCorr)		MELBA 27N-14HZ PWB

## Well Profile Data

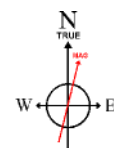
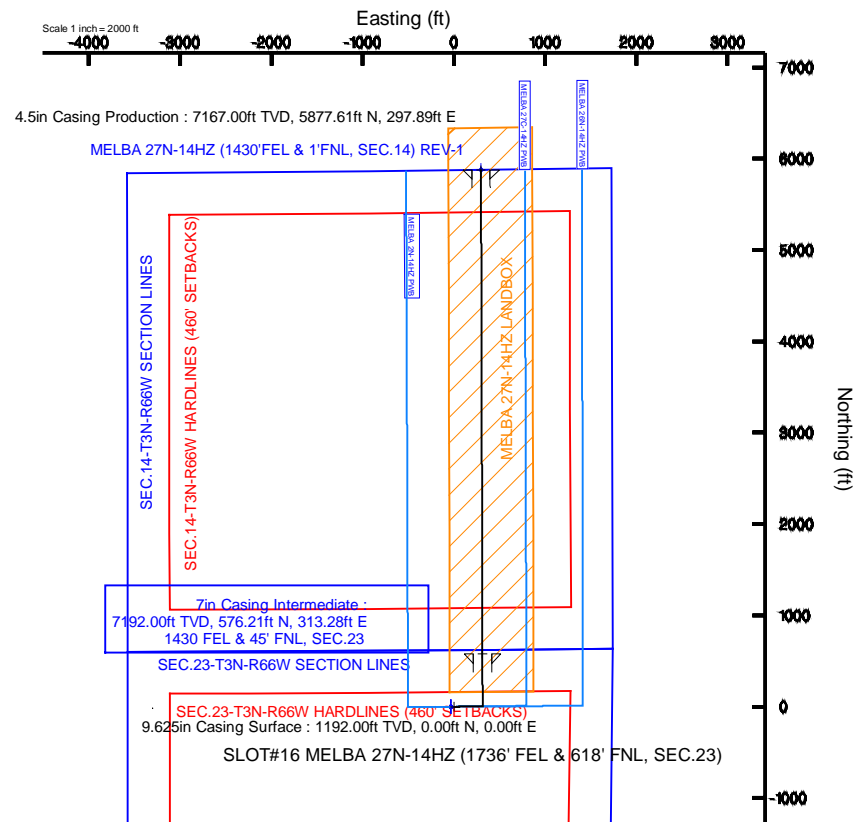
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
TIE-ON	17.00	0.000	89.900	17.00	0.00	0.00	0.00	0.00
BEGIN NUDGE	1300.00	0.000	89.900	1300.00	0.00	0.00	0.00	0.00
END NUDGE	1800.00	10.000	89.900	1797.47	0.08	43.52	2.00	-0.05
BEGIN DROP	3112.47	10.000	89.900	3090.00	0.47	271.43	0.00	-0.34
END DROP	3612.47	0.000	359.834	3587.47	0.55	314.95	2.00	-0.40
KOP, BUILD @ 10°/100'	6644.05	0.000	359.834	6619.05	0.55	314.95	0.00	-0.40
LANDING POINT	7546.76	90.270	359.834	7192.00	576.21	313.28	10.00	575.26
TOTAL DEPTH	12848.24	90.270	359.834	7167.00	5877.61	297.89	0.00	5876.69

## Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.14-T3N-R66W HARDLINES (460' SETBACKS)		0.00	0.00	-30.18	3211928.73	1322497.26	40°12'58.187"N	104°44'28.003"W
SEC.14-T3N-R66W SECTION LINES		0.00	0.00	-30.18	3211928.73	1322497.26	40°12'58.187"N	104°44'28.003"W
SEC.23-T3N-R66W HARDLINES (460' SETBACKS)		0.00	0.00	-30.18	3211928.73	1322497.26	40°12'58.187"N	104°44'28.003"W
SEC.23-T3N-R66W SECTION LINES		0.00	0.00	-30.18	3211928.73	1322497.26	40°12'58.187"N	104°44'28.003"W
MELBA 27N-14HZ (1430' FEL & 1' FNL, SEC.14) REV-1	12848.24	7167.00	5877.61	297.89	3212206.46	1328377.20	40°13'56.269"N	104°44'23.773"W
MELBA 27N-14HZ LANDBOX		7177.00	0.00	-30.18	3211928.73	1322497.26	40°12'58.187"N	104°44'28.003"W



Azimuth 359.83° with reference 0.00 N, 0.00 E



BGGM (1945.0 to 2015.0) Dip: 66.81° Field: 52707.2 nT  
Magnetic North is 8.55 degrees East of True North (at 14/Nov2013)

To correct azimuth from Magnetic to True add 8.55 degrees

MELBA 27N-14HZ (1430' FEL & 1' FNL, SEC.14) REV-1  
4.5in Casing Production : 90.27° Inc, 12848.24ft MD, 7167.00ft TVD, 5876.69ft VS  
TOTAL DEPTH : 90.27° Inc, 12848.24ft MD, 7167.00ft TVD, 5876.69ft VS

Scale 1 inch = 1000 ft

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#16 MELBA 27N-14HZ (1736' FEL & 618' FNL, SEC.23)
Area	COLORADO	Well	MELBA 27N-14HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	MELBA 27N-14HZ PWB
Facility	SEC.23-T3N-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	0.999957	Report Generated	15/Nov/2013 at 13:58
Convergence at slot	n/a	Database/Source file	WellArchitectDB/MELBA_27N-14HZ_PWB.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	1294.41	-1134.96	3211958.91	1322497.51	40°12'58.187"N	104°44'27.614"W
Facility Reference Pt			3213104.91	1321212.98	40°12'45.396"N	104°44'12.984"W
Field Reference Pt			3197771.84	1268891.29	40°04'09.600"N	104°47'36.000"W

WELLPATH DATUM			
Calculation method	Minimum curvature	PERMIT (17'KB) (RKB) to Facility Vertical Datum	4977.00ft
Horizontal Reference Pt	Slot	PERMIT (17'KB) (RKB) to Mean Sea Level	4977.00ft
Vertical Reference Pt	PERMIT (17'KB) (RKB)	PERMIT (17'KB) (RKB) to Mud Line at Slot (SLOT#16 MELBA 27N-14HZ (1736' FEL & 618' FNL, SEC.23))	4977.00ft
MD Reference Pt	PERMIT (17'KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	359.83°

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#16 MELBA 27N-14HZ (1736' FEL & 618' FNL, SEC.23)
Area	COLORADO	Well	MELBA 27N-14HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	MELBA 27N-14HZ PWB
Facility	SEC.23-T3N-R66W		

WELLPATH DATA (144 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	89.900	0.00	0.00	0.00	0.00	40°12'58.187"N	104°44'27.614"W	0.00	
17.00	0.000	89.900	17.00	0.00	0.00	0.00	40°12'58.187"N	104°44'27.614"W	0.00	TIE-ON
117.00†	0.000	89.900	117.00	0.00	0.00	0.00	40°12'58.187"N	104°44'27.614"W	0.00	
217.00†	0.000	89.900	217.00	0.00	0.00	0.00	40°12'58.187"N	104°44'27.614"W	0.00	
317.00†	0.000	89.900	317.00	0.00	0.00	0.00	40°12'58.187"N	104°44'27.614"W	0.00	
417.00†	0.000	89.900	417.00	0.00	0.00	0.00	40°12'58.187"N	104°44'27.614"W	0.00	
517.00†	0.000	89.900	517.00	0.00	0.00	0.00	40°12'58.187"N	104°44'27.614"W	0.00	
617.00†	0.000	89.900	617.00	0.00	0.00	0.00	40°12'58.187"N	104°44'27.614"W	0.00	
717.00†	0.000	89.900	717.00	0.00	0.00	0.00	40°12'58.187"N	104°44'27.614"W	0.00	
817.00†	0.000	89.900	817.00	0.00	0.00	0.00	40°12'58.187"N	104°44'27.614"W	0.00	
917.00†	0.000	89.900	917.00	0.00	0.00	0.00	40°12'58.187"N	104°44'27.614"W	0.00	
1017.00†	0.000	89.900	1017.00	0.00	0.00	0.00	40°12'58.187"N	104°44'27.614"W	0.00	
1117.00†	0.000	89.900	1117.00	0.00	0.00	0.00	40°12'58.187"N	104°44'27.614"W	0.00	
1142.00†	0.000	89.900	1142.00	0.00	0.00	0.00	40°12'58.187"N	104°44'27.614"W	0.00	Fox Hills Marker
1217.00†	0.000	89.900	1217.00	0.00	0.00	0.00	40°12'58.187"N	104°44'27.614"W	0.00	
1300.00	0.000	89.900	1300.00	0.00	0.00	0.00	40°12'58.187"N	104°44'27.614"W	0.00	BEGIN NUDGE
1317.00†	0.340	89.900	1317.00	0.00	0.00	0.05	40°12'58.187"N	104°44'27.613"W	2.00	
1417.00†	2.340	89.900	1416.97	0.00	0.00	2.39	40°12'58.187"N	104°44'27.583"W	2.00	
1517.00†	4.340	89.900	1516.79	-0.01	0.01	8.21	40°12'58.187"N	104°44'27.508"W	2.00	
1617.00†	6.340	89.900	1616.35	-0.02	0.03	17.52	40°12'58.187"N	104°44'27.388"W	2.00	
1717.00†	8.340	89.900	1715.53	-0.04	0.05	30.30	40°12'58.188"N	104°44'27.223"W	2.00	
1800.00	10.000	89.900	1797.47	-0.05	0.08	43.52	40°12'58.188"N	104°44'27.053"W	2.00	END NUDGE
1817.00†	10.000	89.900	1814.21	-0.06	0.08	46.47	40°12'58.188"N	104°44'27.015"W	0.00	
1917.00†	10.000	89.900	1912.69	-0.08	0.11	63.84	40°12'58.188"N	104°44'26.791"W	0.00	
2017.00†	10.000	89.900	2011.17	-0.10	0.14	81.20	40°12'58.188"N	104°44'26.567"W	0.00	
2117.00†	10.000	89.900	2109.65	-0.12	0.17	98.57	40°12'58.189"N	104°44'26.343"W	0.00	
2217.00†	10.000	89.900	2208.13	-0.15	0.20	115.93	40°12'58.189"N	104°44'26.120"W	0.00	
2317.00†	10.000	89.900	2306.61	-0.17	0.23	133.30	40°12'58.189"N	104°44'25.896"W	0.00	
2417.00†	10.000	89.900	2405.09	-0.19	0.26	150.66	40°12'58.190"N	104°44'25.672"W	0.00	
2517.00†	10.000	89.900	2503.57	-0.21	0.29	168.03	40°12'58.190"N	104°44'25.448"W	0.00	
2617.00†	10.000	89.900	2602.05	-0.23	0.32	185.39	40°12'58.190"N	104°44'25.224"W	0.00	
2717.00†	10.000	89.900	2700.53	-0.25	0.35	202.76	40°12'58.190"N	104°44'25.000"W	0.00	
2817.00†	10.000	89.900	2799.01	-0.28	0.38	220.12	40°12'58.191"N	104°44'24.777"W	0.00	
2917.00†	10.000	89.900	2897.50	-0.30	0.41	237.49	40°12'58.191"N	104°44'24.553"W	0.00	
3017.00†	10.000	89.900	2995.98	-0.32	0.44	254.85	40°12'58.191"N	104°44'24.329"W	0.00	
3112.47	10.000	89.900	3090.00	-0.34	0.47	271.43	40°12'58.192"N	104°44'24.115"W	0.00	BEGIN DROP
3117.00†	9.909	89.900	3094.46	-0.34	0.48	272.21	40°12'58.192"N	104°44'24.105"W	2.00	
3217.00†	7.909	89.900	3193.25	-0.36	0.50	287.70	40°12'58.192"N	104°44'23.905"W	2.00	
3317.00†	5.909	89.900	3292.51	-0.38	0.52	299.73	40°12'58.192"N	104°44'23.750"W	2.00	
3417.00†	3.909	89.900	3392.14	-0.39	0.54	308.29	40°12'58.192"N	104°44'23.640"W	2.00	
3517.00†	1.909	89.900	3492.01	-0.39	0.55	313.36	40°12'58.192"N	104°44'23.575"W	2.00	
3612.47	0.000	359.834	3587.47	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	2.00	END DROP
3617.00†	0.000	359.834	3591.99	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	
3717.00†	0.000	359.834	3691.99	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	
3817.00†	0.000	359.834	3791.99	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	

REFERENCE WELLPATH IDENTIFICATION				
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#16 MELBA 27N-14HZ (1736' FEL & 618' FNL, SEC.23)	
Area	COLORADO	Well	MELBA 27N-14HZ	
Field	WELD COUNTY (KERR MCGEE)	Wellbore	MELBA 27N-14HZ PWB	
Facility	SEC.23-T3N-R66W			

WELLPATH DATA (144 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
3917.00†	0.000	359.834	3891.99	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	
3998.01†	0.000	359.834	3973.00	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	Parkman
4017.00†	0.000	359.834	3991.99	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	
4117.00†	0.000	359.834	4091.99	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	
4217.00†	0.000	359.834	4191.99	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	
4317.00†	0.000	359.834	4291.99	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	
4417.00†	0.000	359.834	4391.99	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	
4430.01†	0.000	359.834	4405.00	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	Sussex
4517.00†	0.000	359.834	4491.99	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	
4617.00†	0.000	359.834	4591.99	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	
4717.00†	0.000	359.834	4691.99	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	
4817.00†	0.000	359.834	4791.99	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	
4917.00†	0.000	359.834	4891.99	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	
5017.00†	0.000	359.834	4991.99	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	
5117.00†	0.000	359.834	5091.99	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	
5217.00†	0.000	359.834	5191.99	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	
5317.00†	0.000	359.834	5291.99	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	
5417.00†	0.000	359.834	5391.99	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	
5517.00†	0.000	359.834	5491.99	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	
5617.00†	0.000	359.834	5591.99	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	
5717.00†	0.000	359.834	5691.99	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	
5817.00†	0.000	359.834	5791.99	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	
5917.00†	0.000	359.834	5891.99	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	
6017.00†	0.000	359.834	5991.99	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	
6117.00†	0.000	359.834	6091.99	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	
6217.00†	0.000	359.834	6191.99	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	
6317.00†	0.000	359.834	6291.99	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	
6417.00†	0.000	359.834	6391.99	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	
6517.00†	0.000	359.834	6491.99	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	
6544.05†	0.000	359.834	6519.04	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	4 1/2" LINER TOP
6617.00†	0.000	359.834	6591.99	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	
6644.05	0.000	359.834	6619.05	-0.40	0.55	314.95	40°12'58.192"N	104°44'23.554"W	0.00	KOP, BUILD @ 10°/100'
6717.00†	7.295	359.834	6691.79	4.24	5.19	314.94	40°12'58.238"N	104°44'23.554"W	10.00	
6817.00†	17.295	359.834	6789.38	25.51	26.45	314.88	40°12'58.448"N	104°44'23.555"W	10.00	
6917.00†	27.295	359.834	6881.78	63.40	64.34	314.77	40°12'58.823"N	104°44'23.557"W	10.00	
7017.00†	37.295	359.834	6966.21	116.76	117.70	314.61	40°12'59.350"N	104°44'23.558"W	10.00	
7117.00†	47.295	359.834	7040.08	183.97	184.91	314.42	40°13'00.014"N	104°44'23.561"W	10.00	
7171.35†	52.730	359.834	7075.00	225.60	226.54	314.30	40°13'00.426"N	104°44'23.563"W	10.00	Sharon Springs
7217.00†	57.295	359.834	7101.17	262.98	263.93	314.19	40°13'00.795"N	104°44'23.564"W	10.00	
7279.49†	63.544	359.834	7132.00	317.30	318.25	314.03	40°13'01.332"N	104°44'23.566"W	10.00	Niobrara A
7317.00†	67.295	359.834	7147.60	351.40	352.35	313.93	40°13'01.669"N	104°44'23.567"W	10.00	
7417.00†	77.295	359.834	7177.97	446.55	447.49	313.66	40°13'02.609"N	104°44'23.571"W	10.00	
7448.18†	80.413	359.834	7184.00	477.13	478.08	313.57	40°13'02.911"N	104°44'23.572"W	10.00	Niobrara B
7517.00†	87.295	359.834	7191.36	545.52	546.46	313.37	40°13'03.587"N	104°44'23.574"W	10.00	
7546.76	90.270	359.834	7192.00	575.26	576.21	313.28	40°13'03.881"N	104°44'23.576"W	10.00	LANDING POINT

REFERENCE WELLPATH IDENTIFICATION				
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#16 MELBA 27N-14HZ (1736' FEL & 618' FNL, SEC.23)	
Area	COLORADO	Well	MELBA 27N-14HZ	
Field	WELD COUNTY (KERR MCGEE)	Wellbore	MELBA 27N-14HZ PWB	
Facility	SEC.23-T3N-R66W			

WELLPATH DATA (144 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7617.00†	90.270	359.834	7191.67	645.51	646.45	313.08	40°13'04.575"N	104°44'23.578"W	0.00	
7717.00†	90.270	359.834	7191.19	745.51	746.45	312.79	40°13'05.563"N	104°44'23.582"W	0.00	
7817.00†	90.270	359.834	7190.72	845.50	846.45	312.50	40°13'06.552"N	104°44'23.586"W	0.00	
7917.00†	90.270	359.834	7190.25	945.50	946.45	312.21	40°13'07.540"N	104°44'23.589"W	0.00	
8017.00†	90.270	359.834	7189.78	1045.50	1046.44	311.92	40°13'08.528"N	104°44'23.593"W	0.00	
8117.00†	90.270	359.834	7189.31	1145.50	1146.44	311.63	40°13'09.516"N	104°44'23.597"W	0.00	
8217.00†	90.270	359.834	7188.84	1245.50	1246.44	311.34	40°13'10.504"N	104°44'23.601"W	0.00	
8317.00†	90.270	359.834	7188.37	1345.50	1346.44	311.05	40°13'11.492"N	104°44'23.604"W	0.00	
8417.00†	90.270	359.834	7187.89	1445.50	1446.44	310.75	40°13'12.481"N	104°44'23.608"W	0.00	
8517.00†	90.270	359.834	7187.42	1545.50	1546.44	310.46	40°13'13.469"N	104°44'23.612"W	0.00	
8617.00†	90.270	359.834	7186.95	1645.50	1646.43	310.17	40°13'14.457"N	104°44'23.615"W	0.00	
8717.00†	90.270	359.834	7186.48	1745.49	1746.43	309.88	40°13'15.445"N	104°44'23.619"W	0.00	
8817.00†	90.270	359.834	7186.01	1845.49	1846.43	309.59	40°13'16.433"N	104°44'23.623"W	0.00	
8917.00†	90.270	359.834	7185.54	1945.49	1946.43	309.30	40°13'17.422"N	104°44'23.627"W	0.00	
9017.00†	90.270	359.834	7185.06	2045.49	2046.43	309.01	40°13'18.410"N	104°44'23.630"W	0.00	
9117.00†	90.270	359.834	7184.59	2145.49	2146.43	308.72	40°13'19.398"N	104°44'23.634"W	0.00	
9217.00†	90.270	359.834	7184.12	2245.49	2246.43	308.43	40°13'20.386"N	104°44'23.638"W	0.00	
9317.00†	90.270	359.834	7183.65	2345.49	2346.42	308.14	40°13'21.374"N	104°44'23.642"W	0.00	
9417.00†	90.270	359.834	7183.18	2445.49	2446.42	307.85	40°13'22.362"N	104°44'23.645"W	0.00	
9517.00†	90.270	359.834	7182.71	2545.49	2546.42	307.56	40°13'23.351"N	104°44'23.649"W	0.00	
9617.00†	90.270	359.834	7182.24	2645.48	2646.42	307.27	40°13'24.339"N	104°44'23.653"W	0.00	
9717.00†	90.270	359.834	7181.76	2745.48	2746.42	306.98	40°13'25.327"N	104°44'23.656"W	0.00	
9817.00†	90.270	359.834	7181.29	2845.48	2846.42	306.69	40°13'26.315"N	104°44'23.660"W	0.00	
9917.00†	90.270	359.834	7180.82	2945.48	2946.41	306.40	40°13'27.303"N	104°44'23.664"W	0.00	
10017.00†	90.270	359.834	7180.35	3045.48	3046.41	306.11	40°13'28.291"N	104°44'23.668"W	0.00	
10117.00†	90.270	359.834	7179.88	3145.48	3146.41	305.82	40°13'29.280"N	104°44'23.671"W	0.00	
10217.00†	90.270	359.834	7179.41	3245.48	3246.41	305.53	40°13'30.268"N	104°44'23.675"W	0.00	
10317.00†	90.270	359.834	7178.93	3345.48	3346.41	305.24	40°13'31.256"N	104°44'23.679"W	0.00	
10417.00†	90.270	359.834	7178.46	3445.48	3446.41	304.95	40°13'32.244"N	104°44'23.683"W	0.00	
10517.00†	90.270	359.834	7177.99	3545.47	3546.41	304.66	40°13'33.232"N	104°44'23.686"W	0.00	
10617.00†	90.270	359.834	7177.52	3645.47	3646.40	304.37	40°13'34.221"N	104°44'23.690"W	0.00	
10717.00†	90.270	359.834	7177.05	3745.47	3746.40	304.08	40°13'35.209"N	104°44'23.694"W	0.00	
10817.00†	90.270	359.834	7176.58	3845.47	3846.40	303.79	40°13'36.197"N	104°44'23.697"W	0.00	
10917.00†	90.270	359.834	7176.11	3945.47	3946.40	303.50	40°13'37.185"N	104°44'23.701"W	0.00	
11017.00†	90.270	359.834	7175.63	4045.47	4046.40	303.21	40°13'38.173"N	104°44'23.705"W	0.00	
11117.00†	90.270	359.834	7175.16	4145.47	4146.40	302.92	40°13'39.161"N	104°44'23.709"W	0.00	
11217.00†	90.270	359.834	7174.69	4245.47	4246.39	302.62	40°13'40.150"N	104°44'23.712"W	0.00	
11317.00†	90.270	359.834	7174.22	4345.47	4346.39	302.33	40°13'41.138"N	104°44'23.716"W	0.00	
11417.00†	90.270	359.834	7173.75	4445.46	4446.39	302.04	40°13'42.126"N	104°44'23.720"W	0.00	
11517.00†	90.270	359.834	7173.28	4545.46	4546.39	301.75	40°13'43.114"N	104°44'23.724"W	0.00	
11617.00†	90.270	359.834	7172.81	4645.46	4646.39	301.46	40°13'44.102"N	104°44'23.727"W	0.00	
11717.00†	90.270	359.834	7172.33	4745.46	4746.39	301.17	40°13'45.091"N	104°44'23.731"W	0.00	
11817.00†	90.270	359.834	7171.86	4845.46	4846.39	300.88	40°13'46.079"N	104°44'23.735"W	0.00	
11917.00†	90.270	359.834	7171.39	4945.46	4946.38	300.59	40°13'47.067"N	104°44'23.738"W	0.00	
12017.00†	90.270	359.834	7170.92	5045.46	5046.38	300.30	40°13'48.055"N	104°44'23.742"W	0.00	

## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#16 MELBA 27N-14HZ (1736' FEL & 618' FNL, SEC.23)
Area	COLORADO	Well	MELBA 27N-14HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	MELBA 27N-14HZ PWB
Facility	SEC.23-T3N-R66W		

## WELLPATH DATA (144 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12117.00†	90.270	359.834	7170.45	5145.46	5146.38	300.01	40°13'49.043"N	104°44'23.746"W	0.00	
12217.00†	90.270	359.834	7169.98	5245.46	5246.38	299.72	40°13'50.031"N	104°44'23.750"W	0.00	
12317.00†	90.270	359.834	7169.50	5345.45	5346.38	299.43	40°13'51.020"N	104°44'23.753"W	0.00	
12417.00†	90.270	359.834	7169.03	5445.45	5446.38	299.14	40°13'52.008"N	104°44'23.757"W	0.00	
12517.00†	90.270	359.834	7168.56	5545.45	5546.37	298.85	40°13'52.996"N	104°44'23.761"W	0.00	
12617.00†	90.270	359.834	7168.09	5645.45	5646.37	298.56	40°13'53.984"N	104°44'23.765"W	0.00	
12717.00†	90.270	359.834	7167.62	5745.45	5746.37	298.27	40°13'54.972"N	104°44'23.768"W	0.00	
12817.00†	90.270	359.834	7167.15	5845.45	5846.37	297.98	40°13'55.960"N	104°44'23.772"W	0.00	
12848.24	90.270	359.834	7167.00 <sup>1</sup>	5876.69	5877.61	297.89	40°13'56.269"N	104°44'23.773"W	0.00	TOTAL DEPTH

## HOLE & CASING SECTIONS - Ref Wellbore: MELBA 27N-14HZ PWB Ref Wellpath: MELBA 27N-14HZ (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	1192.00	1175.00	17.00	1192.00	0.00	0.00	0.00	0.00
9.625in Casing Surface	17.00	1192.00	1175.00	17.00	1192.00	0.00	0.00	0.00	0.00
8.75in Open Hole	1192.00	7546.76	6354.76	1192.00	7192.00	0.00	0.00	576.21	313.28
7in Casing Intermediate	17.00	7546.76	7529.76	17.00	7192.00	0.00	0.00	576.21	313.28
6.125in Open Hole	7546.76	12848.24	5301.48	7192.00	7167.00	576.21	313.28	5877.61	297.89
4.5in Casing Production	17.00	12848.24	12831.24	17.00	7167.00	0.00	0.00	5877.61	297.89



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#16 MELBA 27N-14HZ (1736' FEL & 618' FNL, SEC.23)
Area	COLORADO	Well	MELBA 27N-14HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	MELBA 27N-14HZ PWB
Facility	SEC.23-T3N-R66W		

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.14-T3N-R66W HARDLINES (460' SETBACKS)		0.00	0.00	-30.18	3211928.73	1322497.26	40°12'58.187"N	104°44'28.003"W	polygon
SEC.14-T3N-R66W SECTION LINES		0.00	0.00	-30.18	3211928.73	1322497.26	40°12'58.187"N	104°44'28.003"W	polygon
SEC.23-T3N-R66W HARDLINES (460' SETBACKS)		0.00	0.00	-30.18	3211928.73	1322497.26	40°12'58.187"N	104°44'28.003"W	polygon
SEC.23-T3N-R66W SECTION LINES		0.00	0.00	-30.18	3211928.73	1322497.26	40°12'58.187"N	104°44'28.003"W	polygon
1) MELBA 27N-14HZ (1430'FEL & 1'FNL, SEC.14) REV-1	12848.24	7167.00	5877.61	297.89	3212206.46	1328377.20	40°13'56.269"N	104°44'23.773"W	point
MELBA 27N-14HZ LANDBOX		7177.00	0.00	-30.18	3211928.73	1322497.26	40°12'58.187"N	104°44'28.003"W	polygon

SURVEY PROGRAM - Ref Wellbore: MELBA 27N-14HZ PWB				Ref Wellpath: MELBA 27N-14HZ (PERMIT REV-1) PWP	
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment		Wellbore
17.00	12848.24	NaviTrak (MagCorr)			MELBA 27N-14HZ PWB

## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#16 MELBA 27N-14HZ (1736' FEL & 618' FNL, SEC.23)
Area	COLORADO	Well	MELBA 27N-14HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	MELBA 27N-14HZ PWB
Facility	SEC.23-T3N-R66W		

## WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1142.00	0.000	89.900	1142.00	Fox Hills Marker
3998.01	0.000	359.834	3973.00	Parkman
4430.01	0.000	359.834	4405.00	Sussex
6544.05	0.000	359.834	6519.04	4 1/2" LINER TOP
7171.35	52.730	359.834	7075.00	Sharon Springs
7279.49	63.544	359.834	7132.00	Niobrara A
7448.18	80.413	359.834	7184.00	Niobrara B

## DESIGN COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
17.00	0.000	89.900	17.00	TIE-ON
1300.00	0.000	89.900	1300.00	BEGIN NUDGE
1800.00	10.000	89.900	1797.47	END NUDGE
3112.47	10.000	89.900	3090.00	BEGIN DROP
3612.47	0.000	359.834	3587.47	END DROP
6644.05	0.000	359.834	6619.05	KOP, BUILD @ 10°/100'
7546.76	90.270	359.834	7192.00	LANDING POINT
12848.24	90.270	359.834	7167.00	TOTAL DEPTH