

# KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#17 MELBA 27C-14HZ (1706' FEL & 618' FNL, SEC.23)  
Field: WELD COUNTY (KERR MCGEE) Well: MELBA 27C-14HZ  
Facility: SEC.23-T3N-R66W Wellbore: MELBA 27C-14HZ PWB

Plot reference wellpath is MELBA 27C-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#17 MELBA 27C-14HZ (1706' FEL & 618' FNL, SEC.23)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: precain on 15/Nov/2013

## 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°44'12.384"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#17 MELBA 27C-14HZ (1706' FEL & 618' FNL, SEC.23)	1294.71	-1105.09	3211988.769	1322498.072	40°12'58.190"N	104°44'27.229"W
PERMIT (17KB) (RKB) to Mud line (At Slot: SLOT#17 MELBA 27C-14HZ (1706' FEL & 618' FNL, SEC.23))					4977ft	
Mean Sea Level to Mud line (At Slot: SLOT#17 MELBA 27C-14HZ (1706' FEL & 618' FNL, SEC.23))					0ft	
PERMIT (17KB) (RKB) to Mean Sea Level					4977ft	

## Survey Program

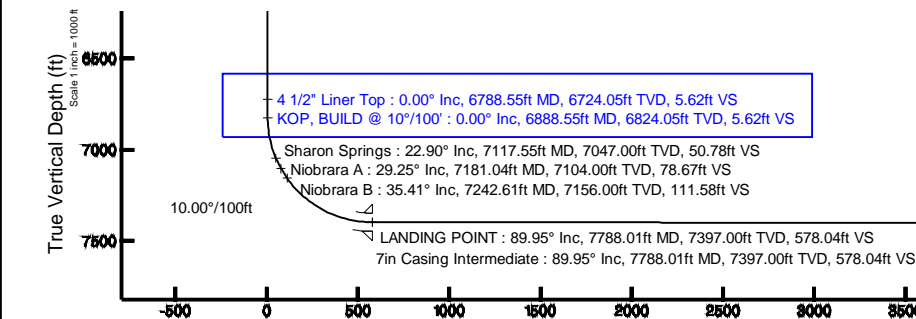
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
17.00	13091.11	NaviTrak	NaviTrak (MagCorr)		MELBA 27C-14HZ PWB

## Well Profile Data

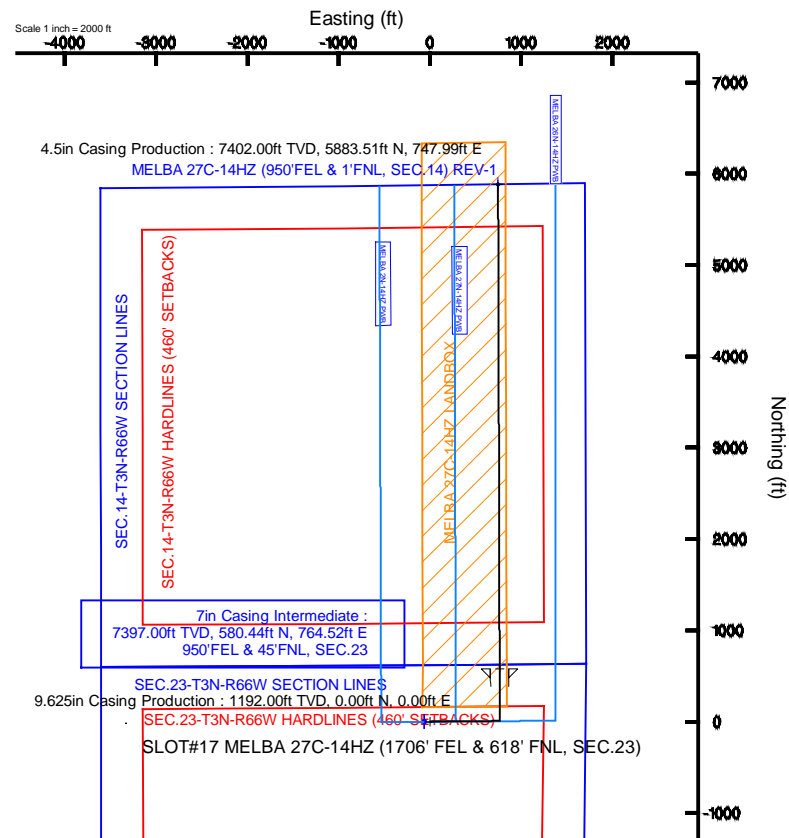
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
TIE-ON	17.00	0.000	89.400	17.00	0.00	0.00	0.00	0.00
BEGIN NUDGE	1300.00	0.000	89.400	1300.00	0.00	0.00	0.00	0.00
END NUDGE	1800.00	10.000	89.400	1797.47	0.46	43.52	2.00	0.32
BEGIN DROP	5711.97	10.000	89.400	5650.00	7.57	722.79	0.00	5.30
END DROP	6211.97	0.000	359.821	6147.47	8.03	766.31	2.00	5.62
KOP, BUILD @ 10°/100'	6888.55	0.000	359.821	6824.05	8.03	766.31	0.00	5.62
LANDING POINT	7788.01	89.946	359.821	7397.00	580.44	764.52	10.00	578.04
TOTAL DEPTH	13091.11	89.946	359.821	7402.00	5883.51	747.99	0.00	5881.13

## 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	-0.30	-60.04	3211928.73	1322497.26	40°12'58.187"N	104°44'28.003"W
SEC.14-T3N-R66W SECTION LINES		0.00	-0.30	-60.04	3211928.73	1322497.26	40°12'58.187"N	104°44'28.003"W
SEC.23-T3N-R66W HARDLINES (460' SETBACKS)		0.00	-0.30	-60.04	3211928.73	1322497.26	40°12'58.187"N	104°44'28.003"W
SEC.23-T3N-R66W SECTION LINES		0.00	-0.30	-60.04	3211928.73	1322497.26	40°12'58.187"N	104°44'28.003"W
MELBA 27C-14HZ LANDBOX		7177.00	-0.30	-60.04	3211928.73	1322497.26	40°12'58.187"N	104°44'28.003"W
MELBA 27C-14HZ (950' FEL & 1' FNL, SEC.14) REV-1	13091.11	7402.00	5883.51	747.99	3212686.34	1326387.51	40°13'56.330"N	104°44'17.585"W



Vertical Section (ft)  
Azimuth 359.82° 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/Nov/2013)

To correct azimuth from Magnetic to True add 8.55 degrees

MELBA 27C-14HZ (950' FEL & 1' FNL, SEC.14) REV-1  
4.5in Casing Production : 89.95° Inc, 13091.11ft MD, 7402.00ft TVD, 5881.13ft VS  
+ TOTAL DEPTH : 89.95° Inc, 13091.11ft MD, 7402.00ft TVD, 5881.13ft VS

Scale 1 inch = 1000 ft

## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#17 MELBA 27C-14HZ (1706' FEL & 618' FNL, SEC.23)
Area	COLORADO	Well	MELBA 27C-14HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	MELBA 27C-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 14:20
Convergence at slot	n/a	Database/Source file	WellArchitectDB/MELBA_27C-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	1294.71	-1105.09	3211988.77	1322498.07	40°12'58.190"N	104°44'27.229"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#17 MELBA 27C-14HZ (1706' 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	359.82°

REFERENCE WELLPATH IDENTIFICATION				
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#17 MELBA 27C-14HZ (1706' FEL & 618' FNL, SEC.23)	
Area	COLORADO	Well	MELBA 27C-14HZ	
Field	WELD COUNTY (KERR MCGEE)	Wellbore	MELBA 27C-14HZ PWB	
Facility	SEC.23-T3N-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	89.400	0.00	0.00	0.00	0.00	40°12'58.190"N	104°44'27.229"W	0.00	
17.00	0.000	89.400	17.00	0.00	0.00	0.00	40°12'58.190"N	104°44'27.229"W	0.00	TIE-ON
117.00†	0.000	89.400	117.00	0.00	0.00	0.00	40°12'58.190"N	104°44'27.229"W	0.00	
217.00†	0.000	89.400	217.00	0.00	0.00	0.00	40°12'58.190"N	104°44'27.229"W	0.00	
317.00†	0.000	89.400	317.00	0.00	0.00	0.00	40°12'58.190"N	104°44'27.229"W	0.00	
417.00†	0.000	89.400	417.00	0.00	0.00	0.00	40°12'58.190"N	104°44'27.229"W	0.00	
517.00†	0.000	89.400	517.00	0.00	0.00	0.00	40°12'58.190"N	104°44'27.229"W	0.00	
617.00†	0.000	89.400	617.00	0.00	0.00	0.00	40°12'58.190"N	104°44'27.229"W	0.00	
717.00†	0.000	89.400	717.00	0.00	0.00	0.00	40°12'58.190"N	104°44'27.229"W	0.00	
817.00†	0.000	89.400	817.00	0.00	0.00	0.00	40°12'58.190"N	104°44'27.229"W	0.00	
917.00†	0.000	89.400	917.00	0.00	0.00	0.00	40°12'58.190"N	104°44'27.229"W	0.00	
1017.00†	0.000	89.400	1017.00	0.00	0.00	0.00	40°12'58.190"N	104°44'27.229"W	0.00	
1117.00†	0.000	89.400	1117.00	0.00	0.00	0.00	40°12'58.190"N	104°44'27.229"W	0.00	
1142.00†	0.000	89.400	1142.00	0.00	0.00	0.00	40°12'58.190"N	104°44'27.229"W	0.00	Fox Hills Marker
1217.00†	0.000	89.400	1217.00	0.00	0.00	0.00	40°12'58.190"N	104°44'27.229"W	0.00	
1300.00	0.000	89.400	1300.00	0.00	0.00	0.00	40°12'58.190"N	104°44'27.229"W	0.00	BEGIN NUDGE
1317.00†	0.340	89.400	1317.00	0.00	0.00	0.05	40°12'58.190"N	104°44'27.228"W	2.00	
1417.00†	2.340	89.400	1416.97	0.02	0.03	2.39	40°12'58.190"N	104°44'27.198"W	2.00	
1517.00†	4.340	89.400	1516.79	0.06	0.09	8.21	40°12'58.191"N	104°44'27.123"W	2.00	
1617.00†	6.340	89.400	1616.35	0.13	0.18	17.52	40°12'58.192"N	104°44'27.003"W	2.00	
1717.00†	8.340	89.400	1715.53	0.22	0.32	30.29	40°12'58.193"N	104°44'26.838"W	2.00	
1800.00	10.000	89.400	1797.47	0.32	0.46	43.52	40°12'58.195"N	104°44'26.668"W	2.00	END NUDGE
1817.00†	10.000	89.400	1814.21	0.34	0.49	46.47	40°12'58.195"N	104°44'26.630"W	0.00	
1917.00†	10.000	89.400	1912.69	0.47	0.67	63.84	40°12'58.197"N	104°44'26.406"W	0.00	
2017.00†	10.000	89.400	2011.17	0.60	0.85	81.20	40°12'58.198"N	104°44'26.182"W	0.00	
2117.00†	10.000	89.400	2109.65	0.72	1.03	98.56	40°12'58.200"N	104°44'25.958"W	0.00	
2217.00†	10.000	89.400	2208.13	0.85	1.21	115.93	40°12'58.202"N	104°44'25.735"W	0.00	
2317.00†	10.000	89.400	2306.61	0.98	1.40	133.29	40°12'58.204"N	104°44'25.511"W	0.00	
2417.00†	10.000	89.400	2405.09	1.10	1.58	150.66	40°12'58.206"N	104°44'25.287"W	0.00	
2517.00†	10.000	89.400	2503.57	1.23	1.76	168.02	40°12'58.207"N	104°44'25.063"W	0.00	
2617.00†	10.000	89.400	2602.05	1.36	1.94	185.38	40°12'58.209"N	104°44'24.839"W	0.00	
2717.00†	10.000	89.400	2700.53	1.49	2.12	202.75	40°12'58.211"N	104°44'24.616"W	0.00	
2817.00†	10.000	89.400	2799.01	1.61	2.31	220.11	40°12'58.213"N	104°44'24.392"W	0.00	
2917.00†	10.000	89.400	2897.50	1.74	2.49	237.47	40°12'58.215"N	104°44'24.168"W	0.00	
3017.00†	10.000	89.400	2995.98	1.87	2.67	254.84	40°12'58.216"N	104°44'23.944"W	0.00	
3117.00†	10.000	89.400	3094.46	2.00	2.85	272.20	40°12'58.218"N	104°44'23.720"W	0.00	
3217.00†	10.000	89.400	3192.94	2.12	3.03	289.57	40°12'58.220"N	104°44'23.496"W	0.00	
3317.00†	10.000	89.400	3291.42	2.25	3.21	306.93	40°12'58.222"N	104°44'23.273"W	0.00	
3417.00†	10.000	89.400	3389.90	2.38	3.40	324.29	40°12'58.224"N	104°44'23.049"W	0.00	
3517.00†	10.000	89.400	3488.38	2.50	3.58	341.66	40°12'58.225"N	104°44'22.825"W	0.00	
3617.00†	10.000	89.400	3586.86	2.63	3.76	359.02	40°12'58.227"N	104°44'22.601"W	0.00	
3717.00†	10.000	89.400	3685.34	2.76	3.94	376.39	40°12'58.229"N	104°44'22.377"W	0.00	
3817.00†	10.000	89.400	3783.82	2.89	4.12	393.75	40°12'58.231"N	104°44'22.153"W	0.00	
3917.00†	10.000	89.400	3882.30	3.01	4.31	411.11	40°12'58.233"N	104°44'21.930"W	0.00	
3980.66†	10.000	89.400	3945.00	3.09	4.42	422.17	40°12'58.234"N	104°44'21.787"W	0.00	Parkman

REFERENCE WELLPATH IDENTIFICATION				
Operator	KERR-MCGEE OIL & GAS ONSHORE LP		Slot	SLOT#17 MELBA 27C-14HZ (1706' FEL & 618' FNL, SEC.23)
Area	COLORADO		Well	MELBA 27C-14HZ
Field	WELD COUNTY (KERR MCGEE)		Wellbore	MELBA 27C-14HZ PWB
Facility	SEC.23-T3N-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†	10.000	89.400	3980.78	3.14	4.49	428.48	40°12'58.234"N	104°44'21.706"W	0.00	
4117.00†	10.000	89.400	4079.26	3.27	4.67	445.84	40°12'58.236"N	104°44'21.482"W	0.00	
4217.00†	10.000	89.400	4177.75	3.40	4.85	463.20	40°12'58.238"N	104°44'21.258"W	0.00	
4317.00†	10.000	89.400	4276.23	3.52	5.03	480.57	40°12'58.240"N	104°44'21.034"W	0.00	
4417.00†	10.000	89.400	4374.71	3.65	5.21	497.93	40°12'58.241"N	104°44'20.810"W	0.00	
4419.33†	10.000	89.400	4377.00	3.65	5.22	498.34	40°12'58.242"N	104°44'20.805"W	0.00	Sussex
4517.00†	10.000	89.400	4473.19	3.78	5.40	515.30	40°12'58.243"N	104°44'20.587"W	0.00	
4617.00†	10.000	89.400	4571.67	3.90	5.58	532.66	40°12'58.245"N	104°44'20.363"W	0.00	
4717.00†	10.000	89.400	4670.15	4.03	5.76	550.02	40°12'58.247"N	104°44'20.139"W	0.00	
4817.00†	10.000	89.400	4768.63	4.16	5.94	567.39	40°12'58.249"N	104°44'19.915"W	0.00	
4917.00†	10.000	89.400	4867.11	4.29	6.12	584.75	40°12'58.250"N	104°44'19.691"W	0.00	
5017.00†	10.000	89.400	4965.59	4.41	6.31	602.12	40°12'58.252"N	104°44'19.468"W	0.00	
5117.00†	10.000	89.400	5064.07	4.54	6.49	619.48	40°12'58.254"N	104°44'19.244"W	0.00	
5217.00†	10.000	89.400	5162.55	4.67	6.67	636.84	40°12'58.256"N	104°44'19.020"W	0.00	
5317.00†	10.000	89.400	5261.03	4.80	6.85	654.21	40°12'58.258"N	104°44'18.796"W	0.00	
5417.00†	10.000	89.400	5359.52	4.92	7.03	671.57	40°12'58.259"N	104°44'18.572"W	0.00	
5517.00†	10.000	89.400	5458.00	5.05	7.21	688.94	40°12'58.261"N	104°44'18.348"W	0.00	
5617.00†	10.000	89.400	5556.48	5.18	7.40	706.30	40°12'58.263"N	104°44'18.125"W	0.00	
5711.97	10.000	89.400	5650.00	5.30	7.57	722.79	40°12'58.265"N	104°44'17.912"W	0.00	BEGIN DROP
5717.00†	9.899	89.400	5654.96	5.30	7.58	723.66	40°12'58.265"N	104°44'17.901"W	2.00	
5817.00†	7.899	89.400	5753.75	5.42	7.74	739.13	40°12'58.266"N	104°44'17.701"W	2.00	
5917.00†	5.899	89.400	5853.02	5.51	7.87	751.14	40°12'58.268"N	104°44'17.547"W	2.00	
6017.00†	3.899	89.400	5952.65	5.57	7.96	759.68	40°12'58.269"N	104°44'17.436"W	2.00	
6117.00†	1.899	89.400	6052.52	5.61	8.01	764.74	40°12'58.269"N	104°44'17.371"W	2.00	
6211.97	0.000	359.821	6147.47	5.62	8.03	766.31	40°12'58.269"N	104°44'17.351"W	2.00	END DROP
6217.00†	0.000	359.821	6152.50	5.62	8.03	766.31	40°12'58.269"N	104°44'17.351"W	0.00	
6317.00†	0.000	359.821	6252.50	5.62	8.03	766.31	40°12'58.269"N	104°44'17.351"W	0.00	
6417.00†	0.000	359.821	6352.50	5.62	8.03	766.31	40°12'58.269"N	104°44'17.351"W	0.00	
6517.00†	0.000	359.821	6452.50	5.62	8.03	766.31	40°12'58.269"N	104°44'17.351"W	0.00	
6617.00†	0.000	359.821	6552.50	5.62	8.03	766.31	40°12'58.269"N	104°44'17.351"W	0.00	
6717.00†	0.000	359.821	6652.50	5.62	8.03	766.31	40°12'58.269"N	104°44'17.351"W	0.00	
6788.55†	0.000	359.821	6724.05	5.62	8.03	766.31	40°12'58.269"N	104°44'17.351"W	0.00	4 1/2" Liner Top
6817.00†	0.000	359.821	6752.50	5.62	8.03	766.31	40°12'58.269"N	104°44'17.351"W	0.00	
6888.55	0.000	359.821	6824.05	5.62	8.03	766.31	40°12'58.269"N	104°44'17.351"W	0.00	KOP, BUILD @ 10°/100'
6917.00†	2.845	359.821	6852.49	6.32	8.73	766.31	40°12'58.276"N	104°44'17.351"W	10.00	
7017.00†	12.845	359.821	6951.43	19.96	22.36	766.26	40°12'58.411"N	104°44'17.352"W	10.00	
7117.00†	22.845	359.821	7046.49	50.56	52.97	766.17	40°12'58.713"N	104°44'17.353"W	10.00	
7117.55†	22.900	359.821	7047.00	50.78	53.18	766.17	40°12'58.715"N	104°44'17.353"W	10.00	Sharon Springs
7181.04†	29.249	359.821	7104.00	78.67	81.08	766.08	40°12'58.991"N	104°44'17.354"W	10.00	Niobrara A
7217.00†	32.845	359.821	7134.80	97.21	99.62	766.02	40°12'59.174"N	104°44'17.355"W	10.00	
7242.61†	35.406	359.821	7156.00	111.58	113.98	765.98	40°12'59.316"N	104°44'17.355"W	10.00	Niobrara B
7317.00†	42.845	359.821	7213.67	158.49	160.89	765.83	40°12'59.780"N	104°44'17.357"W	10.00	
7417.00†	52.845	359.821	7280.70	232.53	234.93	765.60	40°13'00.511"N	104°44'17.360"W	10.00	
7517.00†	62.845	359.821	7333.85	317.08	319.49	765.34	40°13'01.347"N	104°44'17.363"W	10.00	
7617.00†	72.845	359.821	7371.51	409.58	411.99	765.05	40°13'02.261"N	104°44'17.367"W	10.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#17 MELBA 27C-14HZ (1706' FEL & 618' FNL, SEC.23)
Area	COLORADO	Well	MELBA 27C-14HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	MELBA 27C-14HZ PWB
Facility	SEC.23-T3N-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
7717.00†	82.845	359.821	7392.54	507.22	509.62	764.75	40°13'03.226"N	104°44'17.371"W	10.00	
7788.01	89.946	359.821	7397.00	578.04	580.44	764.52	40°13'03.926"N	104°44'17.374"W	10.00	LANDING POINT
7817.00†	89.946	359.821	7397.03	607.03	609.43	764.43	40°13'04.212"N	104°44'17.375"W	0.00	
7917.00†	89.946	359.821	7397.12	707.03	709.43	764.12	40°13'05.200"N	104°44'17.379"W	0.00	
8017.00†	89.946	359.821	7397.22	807.03	809.43	763.81	40°13'06.189"N	104°44'17.383"W	0.00	
8117.00†	89.946	359.821	7397.31	907.03	909.43	763.50	40°13'07.177"N	104°44'17.387"W	0.00	
8217.00†	89.946	359.821	7397.41	1007.03	1009.43	763.19	40°13'08.165"N	104°44'17.391"W	0.00	
8317.00†	89.946	359.821	7397.50	1107.03	1109.43	762.88	40°13'09.153"N	104°44'17.395"W	0.00	
8417.00†	89.946	359.821	7397.60	1207.03	1209.43	762.56	40°13'10.141"N	104°44'17.399"W	0.00	
8517.00†	89.946	359.821	7397.69	1307.03	1309.43	762.25	40°13'11.130"N	104°44'17.403"W	0.00	
8617.00†	89.946	359.821	7397.78	1407.03	1409.43	761.94	40°13'12.118"N	104°44'17.407"W	0.00	
8717.00†	89.946	359.821	7397.88	1507.03	1509.43	761.63	40°13'13.106"N	104°44'17.411"W	0.00	
8817.00†	89.946	359.821	7397.97	1607.03	1609.43	761.32	40°13'14.094"N	104°44'17.415"W	0.00	
8917.00†	89.946	359.821	7398.07	1707.03	1709.43	761.01	40°13'15.082"N	104°44'17.419"W	0.00	
9017.00†	89.946	359.821	7398.16	1807.03	1809.43	760.69	40°13'16.071"N	104°44'17.423"W	0.00	
9117.00†	89.946	359.821	7398.26	1907.03	1909.43	760.38	40°13'17.059"N	104°44'17.427"W	0.00	
9217.00†	89.946	359.821	7398.35	2007.03	2009.43	760.07	40°13'18.047"N	104°44'17.431"W	0.00	
9317.00†	89.946	359.821	7398.44	2107.03	2109.43	759.76	40°13'19.035"N	104°44'17.435"W	0.00	
9417.00†	89.946	359.821	7398.54	2207.03	2209.43	759.45	40°13'20.023"N	104°44'17.439"W	0.00	
9517.00†	89.946	359.821	7398.63	2307.03	2309.42	759.13	40°13'21.011"N	104°44'17.443"W	0.00	
9617.00†	89.946	359.821	7398.73	2407.03	2409.42	758.82	40°13'22.000"N	104°44'17.447"W	0.00	
9717.00†	89.946	359.821	7398.82	2507.03	2509.42	758.51	40°13'22.988"N	104°44'17.451"W	0.00	
9817.00†	89.946	359.821	7398.91	2607.03	2609.42	758.20	40°13'23.976"N	104°44'17.454"W	0.00	
9917.00†	89.946	359.821	7399.01	2707.03	2709.42	757.89	40°13'24.964"N	104°44'17.458"W	0.00	
10017.00†	89.946	359.821	7399.10	2807.03	2809.42	757.58	40°13'25.952"N	104°44'17.462"W	0.00	
10117.00†	89.946	359.821	7399.20	2907.03	2909.42	757.26	40°13'26.941"N	104°44'17.466"W	0.00	
10217.00†	89.946	359.821	7399.29	3007.03	3009.42	756.95	40°13'27.929"N	104°44'17.470"W	0.00	
10317.00†	89.946	359.821	7399.39	3107.03	3109.42	756.64	40°13'28.917"N	104°44'17.474"W	0.00	
10417.00†	89.946	359.821	7399.48	3207.03	3209.42	756.33	40°13'29.905"N	104°44'17.478"W	0.00	
10517.00†	89.946	359.821	7399.57	3307.03	3309.42	756.02	40°13'30.893"N	104°44'17.482"W	0.00	
10617.00†	89.946	359.821	7399.67	3407.03	3409.42	755.71	40°13'31.882"N	104°44'17.486"W	0.00	
10717.00†	89.946	359.821	7399.76	3507.03	3509.42	755.39	40°13'32.870"N	104°44'17.490"W	0.00	
10817.00†	89.946	359.821	7399.86	3607.03	3609.42	755.08	40°13'33.858"N	104°44'17.494"W	0.00	
10917.00†	89.946	359.821	7399.95	3707.03	3709.42	754.77	40°13'34.846"N	104°44'17.498"W	0.00	
11017.00†	89.946	359.821	7400.05	3807.03	3809.42	754.46	40°13'35.834"N	104°44'17.502"W	0.00	
11117.00†	89.946	359.821	7400.14	3907.03	3909.42	754.15	40°13'36.823"N	104°44'17.506"W	0.00	
11217.00†	89.946	359.821	7400.23	4007.03	4009.42	753.84	40°13'37.811"N	104°44'17.510"W	0.00	
11317.00†	89.946	359.821	7400.33	4107.03	4109.42	753.52	40°13'38.799"N	104°44'17.514"W	0.00	
11417.00†	89.946	359.821	7400.42	4207.03	4209.41	753.21	40°13'39.787"N	104°44'17.518"W	0.00	
11517.00†	89.946	359.821	7400.52	4307.03	4309.41	752.90	40°13'40.775"N	104°44'17.522"W	0.00	
11617.00†	89.946	359.821	7400.61	4407.03	4409.41	752.59	40°13'41.763"N	104°44'17.526"W	0.00	
11717.00†	89.946	359.821	7400.71	4507.03	4509.41	752.28	40°13'42.752"N	104°44'17.530"W	0.00	
11817.00†	89.946	359.821	7400.80	4607.03	4609.41	751.96	40°13'43.740"N	104°44'17.534"W	0.00	
11917.00†	89.946	359.821	7400.89	4707.03	4709.41	751.65	40°13'44.728"N	104°44'17.538"W	0.00	
12017.00†	89.946	359.821	7400.99	4807.03	4809.41	751.34	40°13'45.716"N	104°44'17.542"W	0.00	

## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#17 MELBA 27C-14HZ (1706' FEL & 618' FNL, SEC.23)
Area	COLORADO	Well	MELBA 27C-14HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	MELBA 27C-14HZ PWB
Facility	SEC.23-T3N-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†	89.946	359.821	7401.08	4907.03	4909.41	751.03	40°13'46.704"N	104°44'17.546"W	0.00	
12217.00†	89.946	359.821	7401.18	5007.03	5009.41	750.72	40°13'47.693"N	104°44'17.550"W	0.00	
12317.00†	89.946	359.821	7401.27	5107.03	5109.41	750.41	40°13'48.681"N	104°44'17.554"W	0.00	
12417.00†	89.946	359.821	7401.36	5207.03	5209.41	750.09	40°13'49.669"N	104°44'17.558"W	0.00	
12517.00†	89.946	359.821	7401.46	5307.03	5309.41	749.78	40°13'50.657"N	104°44'17.562"W	0.00	
12617.00†	89.946	359.821	7401.55	5407.03	5409.41	749.47	40°13'51.645"N	104°44'17.566"W	0.00	
12717.00†	89.946	359.821	7401.65	5507.03	5509.41	749.16	40°13'52.634"N	104°44'17.570"W	0.00	
12817.00†	89.946	359.821	7401.74	5607.03	5609.41	748.85	40°13'53.622"N	104°44'17.574"W	0.00	
12917.00†	89.946	359.821	7401.84	5707.03	5709.41	748.54	40°13'54.610"N	104°44'17.578"W	0.00	
13017.00†	89.946	359.821	7401.93	5807.03	5809.41	748.22	40°13'55.598"N	104°44'17.582"W	0.00	
13091.11	89.946	359.821	7402.00 <sup>1</sup>	5881.13	5883.51	747.99	40°13'56.330"N	104°44'17.585"W	0.00	TOTAL DEPTH

## HOLE & CASING SECTIONS - Ref Wellbore: MELBA 27C-14HZ PWB Ref Wellpath: MELBA 27C-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	11192.00	11175.00	17.00	7400.21	0.00	0.00	3984.42	753.91
9.625in Casing Production	17.00	1192.00	1175.00	17.00	1192.00	0.00	0.00	0.00	0.00
8.75in Open Hole	1192.00	7788.01	6596.01	1192.00	7397.00	0.00	0.00	580.44	764.52
7in Casing Intermediate	17.00	7788.01	7771.01	17.00	7397.00	0.00	0.00	580.44	764.52
6.125in Open Hole	7788.01	13091.11	5303.10	7397.00	7402.00	580.44	764.52	5883.51	747.99
4.5in Casing Production	17.00	13091.11	13074.11	17.00	7402.00	0.00	0.00	5883.51	747.99



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#17 MELBA 27C-14HZ (1706' FEL & 618' FNL, SEC.23)
Area	COLORADO	Well	MELBA 27C-14HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	MELBA 27C-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	-0.30	-60.04	3211928.73	1322497.26	40°12'58.187"N	104°44'28.003"W	polygon
SEC.14-T3N-R66W SECTION LINES		0.00	-0.30	-60.04	3211928.73	1322497.26	40°12'58.187"N	104°44'28.003"W	polygon
SEC.23-T3N-R66W HARDLINES (460' SETBACKS)		0.00	-0.30	-60.04	3211928.73	1322497.26	40°12'58.187"N	104°44'28.003"W	polygon
SEC.23-T3N-R66W SECTION LINES		0.00	-0.30	-60.04	3211928.73	1322497.26	40°12'58.187"N	104°44'28.003"W	polygon
MELBA 27C-14HZ LANDBOX		7177.00	-0.30	-60.04	3211928.73	1322497.26	40°12'58.187"N	104°44'28.003"W	polygon
1) MELBA 27C-14HZ (950'FEL & 1'FNL, SEC.14) REV-1	13091.11	7402.00	5883.51	747.99	3212686.34	1328387.51	40°13'56.330"N	104°44'17.585"W	point

SURVEY PROGRAM - Ref Wellbore: MELBA 27C-14HZ PWB Ref Wellpath: MELBA 27C-14HZ (PERMIT REV-1) PWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	13091.11	NaviTrak (MagCorr)		MELBA 27C-14HZ PWB

## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#17 MELBA 27C-14HZ (1706' FEL & 618' FNL, SEC.23)
Area	COLORADO	Well	MELBA 27C-14HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	MELBA 27C-14HZ PWB
Facility	SEC.23-T3N-R66W		

## WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1142.00	0.000	89.400	1142.00	Fox Hills Marker
3980.66	10.000	89.400	3945.00	Parkman
4419.33	10.000	89.400	4377.00	Sussex
6788.55	0.000	359.821	6724.05	4 1/2" Liner Top
7117.55	22.900	359.821	7047.00	Sharon Springs
7181.04	29.249	359.821	7104.00	Niobrara A
7242.61	35.406	359.821	7156.00	Niobrara B

## DESIGN COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
17.00	0.000	89.400	17.00	TIE-ON
1300.00	0.000	89.400	1300.00	BEGIN NUDGE
1800.00	10.000	89.400	1797.47	END NUDGE
5711.97	10.000	89.400	5650.00	BEGIN DROP
6211.97	0.000	359.821	6147.47	END DROP
6888.55	0.000	359.821	6824.05	KOP, BUILD @ 10°/100'
7788.01	89.946	359.821	7397.00	LANDING POINT
13091.11	89.946	359.821	7402.00	TOTAL DEPTH