

KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#15 MELBA 2N-14HZ (1766' FEL & 618' FNL, SEC.23)
 Field: WELD COUNTY (KERR MCGEE) Well: MELBA 2N-14HZ
 Facility: SEC.23-T3N-R66W Wellbore: MELBA 2N-14HZ PWB

Plot reference wellpath is MELBA 2N-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#15 MELBA 2N-14HZ (1766' FEL & 618' FNL, SEC.23)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: precin on 15/Nov/2013

Location Information

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.23-T3N-R66W			3213104.907	1321212.880	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#15 MELBA 2N-14HZ (1766' FEL & 618' FNL, SEC.23)	1294.41	-1165.13	3211928.731	1322497.255	40°12'58.187"N	104°44'28.003"W
PERMIT (17KB) (RKB) to Mud line (At Slot: SLOT#15 MELBA 2N-14HZ (1766' FEL & 618' FNL, SEC.23))					4977ft	
Mean Sea Level to Mud line (At Slot: SLOT#15 MELBA 2N-14HZ (1766' FEL & 618' FNL, SEC.23))					0ft	
PERMIT (17KB) (RKB) to Mean Sea Level					4977ft	

Survey Program

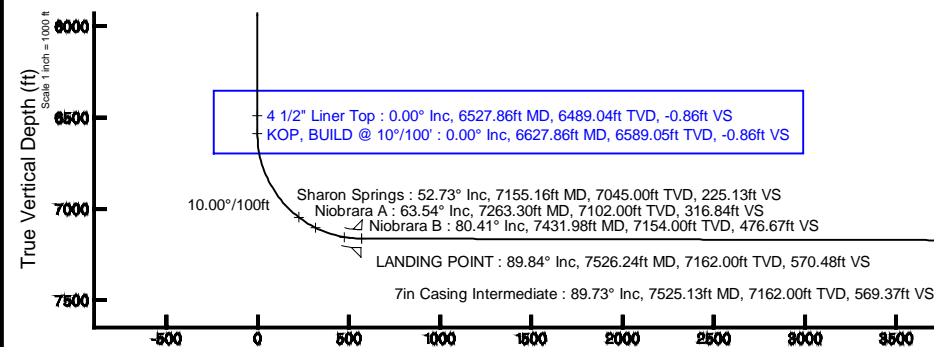
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
17.00	12824.12	NaviTrak	NaviTrak (MagCorr)		MELBA 2N-14HZ PWB

Well Profile Data

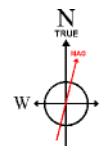
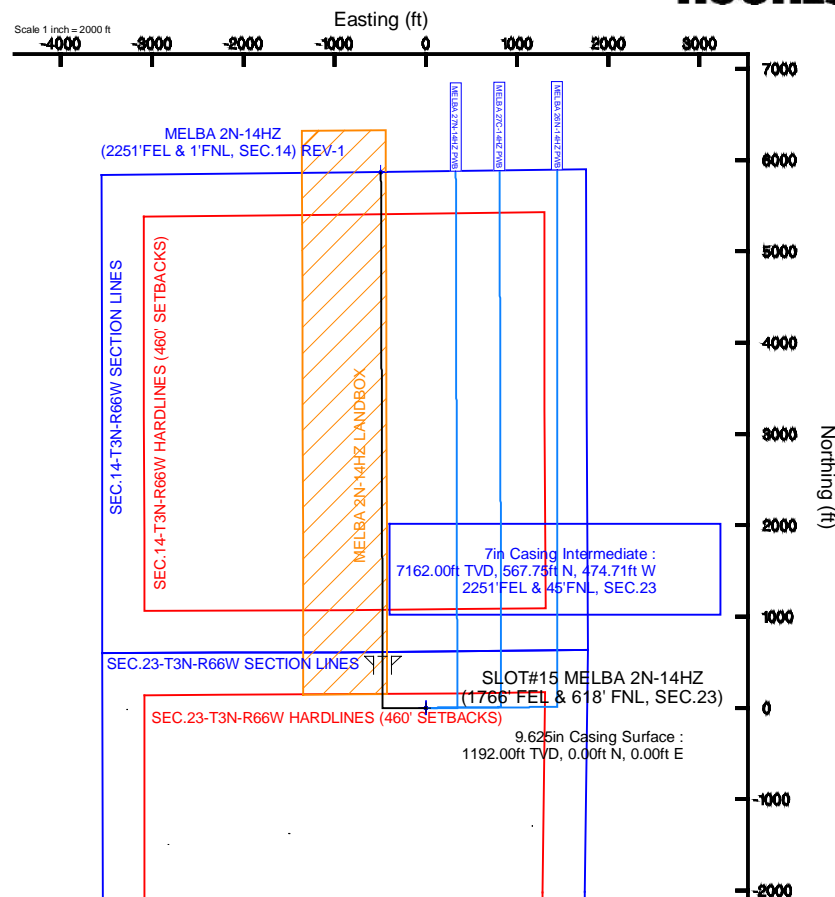
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
TIE-ON	17.00	0.000	269.700	17.00	0.00	0.00	0.00	0.00
BEGIN NUDGE	1300.00	0.000	269.700	1300.00	0.00	0.00	0.00	0.00
END NUDGE	1800.00	10.000	269.700	1797.47	-0.23	-43.52	2.00	-0.08
BEGIN DROP	4021.28	10.000	269.700	3985.00	-2.25	-429.24	0.00	-0.78
END DROP	4521.28	0.000	359.804	4482.47	-2.48	-472.76	2.00	-0.86
KOP, BUILD @ 10°/100'	6627.86	0.000	359.804	6589.05	-2.48	-472.76	0.00	-0.86
LANDING POINT	7526.24	89.838	359.804	7162.00	568.86	-474.71	10.00	570.48
TOTAL DEPTH	12824.12	89.838	359.804	7177.00	5866.69	-492.82	0.00	5868.34

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	0.00	3211928.73	1322497.26	40°12'58.187"N	104°44'28.003"W
SEC.14-T3N-R66W SECTION LINES		0.00	0.00	0.00	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	0.00	3211928.73	1322497.26	40°12'58.187"N	104°44'28.003"W
SEC.23-T3N-R66W SECTION LINES		0.00	0.00	0.00	3211928.73	1322497.26	40°12'58.187"N	104°44'28.003"W
MELBA 2N-14HZ (2251'FEL & 1'FNL, SEC.14) REV-1	12824.12	7177.00	5866.69	-492.82	3211385.74	1328359.25	40°13'56.161"N	104°44'34.357"W
MELBA 2N-14HZ LANDBOX		7177.00	0.00	0.00	3211928.73	1322497.26	40°12'58.187"N	104°44'28.003"W



Vertical Section (ft)
 Azimuth 359.80° with reference 0.00 N, 0.00 E



BGMM (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 2N-14HZ (2251'FEL & 1'FNL, SEC.14) REV-1

TOTAL DEPTH : 89.84° Inc, 12824.12ft MD, 7177.00ft TVD, 5868.34ft VS

Scale 1 inch = 1000 ft

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#15 MELBA 2N-14HZ (1766' FEL & 618' FNL, SEC.23)
Area	COLORADO	Well	MELBA 2N-14HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	MELBA 2N-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 13:35
Convergence at slot	n/a	Database/Source file	WellArchitectDB/MELBA_2N-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	-1165.13	3211928.73	1322497.26	40°12'58.187"N	104°44'28.003"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#15 MELBA 2N-14HZ (1766' 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	359.80°

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#15 MELBA 2N-14HZ (1766' FEL & 618' FNL, SEC.23)
Area	COLORADO	Well	MELBA 2N-14HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	MELBA 2N-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	269.700	0.00	0.00	0.00	0.00	40°12'58.187"N	104°44'28.003"W	0.00	
17.00	0.000	269.700	17.00	0.00	0.00	0.00	40°12'58.187"N	104°44'28.003"W	0.00	TIE-ON
117.00†	0.000	269.700	117.00	0.00	0.00	0.00	40°12'58.187"N	104°44'28.003"W	0.00	
217.00†	0.000	269.700	217.00	0.00	0.00	0.00	40°12'58.187"N	104°44'28.003"W	0.00	
317.00†	0.000	269.700	317.00	0.00	0.00	0.00	40°12'58.187"N	104°44'28.003"W	0.00	
417.00†	0.000	269.700	417.00	0.00	0.00	0.00	40°12'58.187"N	104°44'28.003"W	0.00	
517.00†	0.000	269.700	517.00	0.00	0.00	0.00	40°12'58.187"N	104°44'28.003"W	0.00	
617.00†	0.000	269.700	617.00	0.00	0.00	0.00	40°12'58.187"N	104°44'28.003"W	0.00	
717.00†	0.000	269.700	717.00	0.00	0.00	0.00	40°12'58.187"N	104°44'28.003"W	0.00	
817.00†	0.000	269.700	817.00	0.00	0.00	0.00	40°12'58.187"N	104°44'28.003"W	0.00	
917.00†	0.000	269.700	917.00	0.00	0.00	0.00	40°12'58.187"N	104°44'28.003"W	0.00	
1017.00†	0.000	269.700	1017.00	0.00	0.00	0.00	40°12'58.187"N	104°44'28.003"W	0.00	
1117.00†	0.000	269.700	1117.00	0.00	0.00	0.00	40°12'58.187"N	104°44'28.003"W	0.00	
1142.00†	0.000	269.700	1142.00	0.00	0.00	0.00	40°12'58.187"N	104°44'28.003"W	0.00	Fox Hills Marker
1217.00†	0.000	269.700	1217.00	0.00	0.00	0.00	40°12'58.187"N	104°44'28.003"W	0.00	
1300.00	0.000	269.700	1300.00	0.00	0.00	0.00	40°12'58.187"N	104°44'28.003"W	0.00	BEGIN NUDGE
1317.00†	0.340	269.700	1317.00	0.00	0.00	-0.05	40°12'58.187"N	104°44'28.004"W	2.00	
1417.00†	2.340	269.700	1416.97	0.00	-0.01	-2.39	40°12'58.187"N	104°44'28.034"W	2.00	
1517.00†	4.340	269.700	1516.79	-0.01	-0.04	-8.21	40°12'58.187"N	104°44'28.109"W	2.00	
1617.00†	6.340	269.700	1616.35	-0.03	-0.09	-17.52	40°12'58.186"N	104°44'28.229"W	2.00	
1717.00†	8.340	269.700	1715.53	-0.05	-0.16	-30.30	40°12'58.185"N	104°44'28.394"W	2.00	
1800.00	10.000	269.700	1797.47	-0.08	-0.23	-43.52	40°12'58.185"N	104°44'28.564"W	2.00	END NUDGE
1817.00†	10.000	269.700	1814.21	-0.08	-0.24	-46.47	40°12'58.185"N	104°44'28.602"W	0.00	
1917.00†	10.000	269.700	1912.69	-0.12	-0.33	-63.84	40°12'58.184"N	104°44'28.826"W	0.00	
2017.00†	10.000	269.700	2011.17	-0.15	-0.43	-81.20	40°12'58.183"N	104°44'29.050"W	0.00	
2117.00†	10.000	269.700	2109.65	-0.18	-0.52	-98.57	40°12'58.182"N	104°44'29.274"W	0.00	
2217.00†	10.000	269.700	2208.13	-0.21	-0.61	-115.93	40°12'58.181"N	104°44'29.497"W	0.00	
2317.00†	10.000	269.700	2306.61	-0.24	-0.70	-133.30	40°12'58.180"N	104°44'29.721"W	0.00	
2417.00†	10.000	269.700	2405.09	-0.27	-0.79	-150.66	40°12'58.179"N	104°44'29.945"W	0.00	
2517.00†	10.000	269.700	2503.57	-0.30	-0.88	-168.03	40°12'58.178"N	104°44'30.169"W	0.00	
2617.00†	10.000	269.700	2602.05	-0.34	-0.97	-185.39	40°12'58.177"N	104°44'30.393"W	0.00	
2717.00†	10.000	269.700	2700.53	-0.37	-1.06	-202.76	40°12'58.177"N	104°44'30.617"W	0.00	
2817.00†	10.000	269.700	2799.01	-0.40	-1.15	-220.12	40°12'58.176"N	104°44'30.840"W	0.00	
2917.00†	10.000	269.700	2897.50	-0.43	-1.24	-237.48	40°12'58.175"N	104°44'31.064"W	0.00	
3017.00†	10.000	269.700	2995.98	-0.46	-1.33	-254.85	40°12'58.174"N	104°44'31.288"W	0.00	
3117.00†	10.000	269.700	3094.46	-0.49	-1.43	-272.21	40°12'58.173"N	104°44'31.512"W	0.00	
3217.00†	10.000	269.700	3192.94	-0.53	-1.52	-289.58	40°12'58.172"N	104°44'31.736"W	0.00	
3317.00†	10.000	269.700	3291.42	-0.56	-1.61	-306.94	40°12'58.171"N	104°44'31.960"W	0.00	
3417.00†	10.000	269.700	3389.90	-0.59	-1.70	-324.31	40°12'58.170"N	104°44'32.183"W	0.00	
3517.00†	10.000	269.700	3488.38	-0.62	-1.79	-341.67	40°12'58.169"N	104°44'32.407"W	0.00	
3617.00†	10.000	269.700	3586.86	-0.65	-1.88	-359.04	40°12'58.168"N	104°44'32.631"W	0.00	
3717.00†	10.000	269.700	3685.34	-0.68	-1.97	-376.40	40°12'58.167"N	104°44'32.855"W	0.00	
3817.00†	10.000	269.700	3783.82	-0.71	-2.06	-393.77	40°12'58.167"N	104°44'33.079"W	0.00	
3917.00†	10.000	269.700	3882.30	-0.75	-2.15	-411.13	40°12'58.166"N	104°44'33.303"W	0.00	
3978.63†	10.000	269.700	3943.00	-0.77	-2.21	-421.83	40°12'58.165"N	104°44'33.441"W	0.00	Parkman

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#15 MELBA 2N-14HZ (1766' FEL & 618' FNL, SEC.23)
Area	COLORADO	Well	MELBA 2N-14HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	MELBA 2N-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
4017.00†	10.000	269.700	3980.78	-0.78	-2.24	-428.49	40°12'58.165"N	104°44'33.526"W	0.00	
4021.28	10.000	269.700	3985.00	-0.78	-2.25	-429.24	40°12'58.165"N	104°44'33.536"W	0.00	BEGIN DROP
4117.00†	8.086	269.700	4079.53	-0.81	-2.33	-444.28	40°12'58.164"N	104°44'33.730"W	2.00	
4217.00†	6.086	269.700	4178.76	-0.83	-2.39	-456.62	40°12'58.163"N	104°44'33.889"W	2.00	
4317.00†	4.086	269.700	4278.36	-0.84	-2.44	-465.48	40°12'58.163"N	104°44'34.003"W	2.00	
4413.79†	2.150	269.700	4375.00	-0.85	-2.46	-470.74	40°12'58.163"N	104°44'34.071"W	2.00	Sussex
4417.00†	2.086	269.700	4378.21	-0.85	-2.47	-470.86	40°12'58.163"N	104°44'34.073"W	2.00	
4517.00†	0.086	269.700	4478.18	-0.86	-2.48	-472.76	40°12'58.162"N	104°44'34.097"W	2.00	
4521.28	0.000	359.804	4482.47	-0.86	-2.48	-472.76	40°12'58.162"N	104°44'34.097"W	2.00	END DROP
4617.00†	0.000	359.804	4578.18	-0.86	-2.48	-472.76	40°12'58.162"N	104°44'34.097"W	0.00	
4717.00†	0.000	359.804	4678.18	-0.86	-2.48	-472.76	40°12'58.162"N	104°44'34.097"W	0.00	
4817.00†	0.000	359.804	4778.18	-0.86	-2.48	-472.76	40°12'58.162"N	104°44'34.097"W	0.00	
4917.00†	0.000	359.804	4878.18	-0.86	-2.48	-472.76	40°12'58.162"N	104°44'34.097"W	0.00	
5017.00†	0.000	359.804	4978.18	-0.86	-2.48	-472.76	40°12'58.162"N	104°44'34.097"W	0.00	
5117.00†	0.000	359.804	5078.18	-0.86	-2.48	-472.76	40°12'58.162"N	104°44'34.097"W	0.00	
5217.00†	0.000	359.804	5178.18	-0.86	-2.48	-472.76	40°12'58.162"N	104°44'34.097"W	0.00	
5317.00†	0.000	359.804	5278.18	-0.86	-2.48	-472.76	40°12'58.162"N	104°44'34.097"W	0.00	
5417.00†	0.000	359.804	5378.18	-0.86	-2.48	-472.76	40°12'58.162"N	104°44'34.097"W	0.00	
5517.00†	0.000	359.804	5478.18	-0.86	-2.48	-472.76	40°12'58.162"N	104°44'34.097"W	0.00	
5617.00†	0.000	359.804	5578.18	-0.86	-2.48	-472.76	40°12'58.162"N	104°44'34.097"W	0.00	
5717.00†	0.000	359.804	5678.18	-0.86	-2.48	-472.76	40°12'58.162"N	104°44'34.097"W	0.00	
5817.00†	0.000	359.804	5778.18	-0.86	-2.48	-472.76	40°12'58.162"N	104°44'34.097"W	0.00	
5917.00†	0.000	359.804	5878.18	-0.86	-2.48	-472.76	40°12'58.162"N	104°44'34.097"W	0.00	
6017.00†	0.000	359.804	5978.18	-0.86	-2.48	-472.76	40°12'58.162"N	104°44'34.097"W	0.00	
6117.00†	0.000	359.804	6078.18	-0.86	-2.48	-472.76	40°12'58.162"N	104°44'34.097"W	0.00	
6217.00†	0.000	359.804	6178.18	-0.86	-2.48	-472.76	40°12'58.162"N	104°44'34.097"W	0.00	
6317.00†	0.000	359.804	6278.18	-0.86	-2.48	-472.76	40°12'58.162"N	104°44'34.097"W	0.00	
6417.00†	0.000	359.804	6378.18	-0.86	-2.48	-472.76	40°12'58.162"N	104°44'34.097"W	0.00	
6517.00†	0.000	359.804	6478.18	-0.86	-2.48	-472.76	40°12'58.162"N	104°44'34.097"W	0.00	
6527.86†	0.000	359.804	6489.04	-0.86	-2.48	-472.76	40°12'58.162"N	104°44'34.097"W	0.00	4 1/2" Liner Top
6617.00†	0.000	359.804	6578.18	-0.86	-2.48	-472.76	40°12'58.162"N	104°44'34.097"W	0.00	
6627.86	0.000	359.804	6589.05	-0.86	-2.48	-472.76	40°12'58.162"N	104°44'34.097"W	0.00	KOP, BUILD @ 10°/100'
6717.00†	8.914	359.804	6677.83	6.06	4.44	-472.78	40°12'58.231"N	104°44'34.097"W	10.00	
6817.00†	18.914	359.804	6774.77	30.08	28.46	-472.87	40°12'58.468"N	104°44'34.098"W	10.00	
6917.00†	28.914	359.804	6866.07	70.56	68.95	-473.00	40°12'58.868"N	104°44'34.100"W	10.00	
7017.00†	38.914	359.804	6948.95	126.29	124.67	-473.19	40°12'59.419"N	104°44'34.103"W	10.00	
7117.00†	48.914	359.804	7020.90	195.56	193.94	-473.43	40°13'00.103"N	104°44'34.106"W	10.00	
7155.16†	52.730	359.804	7045.00	225.13	223.51	-473.53	40°13'00.396"N	104°44'34.107"W	10.00	Sharon Springs
7217.00†	58.914	359.804	7079.72	276.27	274.65	-473.71	40°13'00.901"N	104°44'34.109"W	10.00	
7263.30†	63.544	359.804	7102.00	316.84	315.22	-473.85	40°13'01.302"N	104°44'34.111"W	10.00	Niobrara A
7317.00†	68.914	359.804	7123.64	365.97	364.35	-474.01	40°13'01.787"N	104°44'34.113"W	10.00	
7417.00†	78.914	359.804	7151.31	461.93	460.31	-474.34	40°13'02.736"N	104°44'34.118"W	10.00	
7431.98†	80.412	359.804	7154.00	476.67	475.05	-474.39	40°13'02.881"N	104°44'34.118"W	10.00	Niobrara B
7517.00†	88.914	359.804	7161.90	561.24	559.62	-474.68	40°13'03.717"N	104°44'34.122"W	10.00	
7526.24	89.838	359.804	7162.00	570.48	568.86	-474.71	40°13'03.808"N	104°44'34.122"W	10.00	LANDING POINT

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#15 MELBA 2N-14HZ (1766' FEL & 618' FNL, SEC.23)
Area	COLORADO	Well	MELBA 2N-14HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	MELBA 2N-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†	89.838	359.804	7162.26	661.24	659.62	-475.02	40°13'04.705"N	104°44'34.126"W	0.00	
7717.00†	89.838	359.804	7162.54	761.24	759.62	-475.37	40°13'05.693"N	104°44'34.131"W	0.00	
7817.00†	89.838	359.804	7162.82	861.24	859.62	-475.71	40°13'06.682"N	104°44'34.135"W	0.00	
7917.00†	89.838	359.804	7163.11	961.24	959.61	-476.05	40°13'07.670"N	104°44'34.140"W	0.00	
8017.00†	89.838	359.804	7163.39	1061.24	1059.61	-476.39	40°13'08.658"N	104°44'34.144"W	0.00	
8117.00†	89.838	359.804	7163.67	1161.24	1159.61	-476.73	40°13'09.646"N	104°44'34.149"W	0.00	
8217.00†	89.838	359.804	7163.96	1261.24	1259.61	-477.07	40°13'10.634"N	104°44'34.153"W	0.00	
8317.00†	89.838	359.804	7164.24	1361.24	1359.61	-477.42	40°13'11.623"N	104°44'34.157"W	0.00	
8417.00†	89.838	359.804	7164.52	1461.24	1459.61	-477.76	40°13'12.611"N	104°44'34.162"W	0.00	
8517.00†	89.838	359.804	7164.81	1561.23	1559.61	-478.10	40°13'13.599"N	104°44'34.166"W	0.00	
8617.00†	89.838	359.804	7165.09	1661.23	1659.61	-478.44	40°13'14.587"N	104°44'34.171"W	0.00	
8717.00†	89.838	359.804	7165.37	1761.23	1759.61	-478.78	40°13'15.575"N	104°44'34.175"W	0.00	
8817.00†	89.838	359.804	7165.66	1861.23	1859.61	-479.13	40°13'16.563"N	104°44'34.180"W	0.00	
8917.00†	89.838	359.804	7165.94	1961.23	1959.60	-479.47	40°13'17.552"N	104°44'34.184"W	0.00	
9017.00†	89.838	359.804	7166.22	2061.23	2059.60	-479.81	40°13'18.540"N	104°44'34.188"W	0.00	
9117.00†	89.838	359.804	7166.50	2161.23	2159.60	-480.15	40°13'19.528"N	104°44'34.193"W	0.00	
9217.00†	89.838	359.804	7166.79	2261.23	2259.60	-480.49	40°13'20.516"N	104°44'34.197"W	0.00	
9317.00†	89.838	359.804	7167.07	2361.23	2359.60	-480.84	40°13'21.504"N	104°44'34.202"W	0.00	
9417.00†	89.838	359.804	7167.35	2461.23	2459.60	-481.18	40°13'22.493"N	104°44'34.206"W	0.00	
9517.00†	89.838	359.804	7167.64	2561.23	2559.60	-481.52	40°13'23.481"N	104°44'34.211"W	0.00	
9617.00†	89.838	359.804	7167.92	2661.23	2659.60	-481.86	40°13'24.469"N	104°44'34.215"W	0.00	
9717.00†	89.838	359.804	7168.20	2761.23	2759.60	-482.20	40°13'25.457"N	104°44'34.219"W	0.00	
9817.00†	89.838	359.804	7168.49	2861.23	2859.60	-482.54	40°13'26.445"N	104°44'34.224"W	0.00	
9917.00†	89.838	359.804	7168.77	2961.23	2959.59	-482.89	40°13'27.434"N	104°44'34.228"W	0.00	
10017.00†	89.838	359.804	7169.05	3061.23	3059.59	-483.23	40°13'28.422"N	104°44'34.233"W	0.00	
10117.00†	89.838	359.804	7169.34	3161.23	3159.59	-483.57	40°13'29.410"N	104°44'34.237"W	0.00	
10217.00†	89.838	359.804	7169.62	3261.23	3259.59	-483.91	40°13'30.398"N	104°44'34.242"W	0.00	
10317.00†	89.838	359.804	7169.90	3361.23	3359.59	-484.25	40°13'31.386"N	104°44'34.246"W	0.00	
10417.00†	89.838	359.804	7170.19	3461.23	3459.59	-484.60	40°13'32.374"N	104°44'34.250"W	0.00	
10517.00†	89.838	359.804	7170.47	3561.23	3559.59	-484.94	40°13'33.363"N	104°44'34.255"W	0.00	
10617.00†	89.838	359.804	7170.75	3661.23	3659.59	-485.28	40°13'34.351"N	104°44'34.259"W	0.00	
10717.00†	89.838	359.804	7171.03	3761.23	3759.59	-485.62	40°13'35.339"N	104°44'34.264"W	0.00	
10817.00†	89.838	359.804	7171.32	3861.23	3859.59	-485.96	40°13'36.327"N	104°44'34.268"W	0.00	
10917.00†	89.838	359.804	7171.60	3961.23	3959.58	-486.30	40°13'37.315"N	104°44'34.273"W	0.00	
11017.00†	89.838	359.804	7171.88	4061.22	4059.58	-486.65	40°13'38.304"N	104°44'34.277"W	0.00	
11117.00†	89.838	359.804	7172.17	4161.22	4159.58	-486.99	40°13'39.292"N	104°44'34.282"W	0.00	
11217.00†	89.838	359.804	7172.45	4261.22	4259.58	-487.33	40°13'40.280"N	104°44'34.286"W	0.00	
11317.00†	89.838	359.804	7172.73	4361.22	4359.58	-487.67	40°13'41.268"N	104°44'34.290"W	0.00	
11417.00†	89.838	359.804	7173.02	4461.22	4459.58	-488.01	40°13'42.256"N	104°44'34.295"W	0.00	
11517.00†	89.838	359.804	7173.30	4561.22	4559.58	-488.36	40°13'43.244"N	104°44'34.299"W	0.00	
11617.00†	89.838	359.804	7173.58	4661.22	4659.58	-488.70	40°13'44.233"N	104°44'34.304"W	0.00	
11717.00†	89.838	359.804	7173.87	4761.22	4759.58	-489.04	40°13'45.221"N	104°44'34.308"W	0.00	
11817.00†	89.838	359.804	7174.15	4861.22	4859.58	-489.38	40°13'46.209"N	104°44'34.313"W	0.00	
11917.00†	89.838	359.804	7174.43	4961.22	4959.57	-489.72	40°13'47.197"N	104°44'34.317"W	0.00	
12017.00†	89.838	359.804	7174.71	5061.22	5059.57	-490.07	40°13'48.185"N	104°44'34.321"W	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#15 MELBA 2N-14HZ (1766' FEL & 618' FNL, SEC.23)
Area	COLORADO	Well	MELBA 2N-14HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	MELBA 2N-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†	89.838	359.804	7175.00	5161.22	5159.57	-490.41	40°13'49.174"N	104°44'34.326"W	0.00	
12217.00†	89.838	359.804	7175.28	5261.22	5259.57	-490.75	40°13'50.162"N	104°44'34.330"W	0.00	
12317.00†	89.838	359.804	7175.56	5361.22	5359.57	-491.09	40°13'51.150"N	104°44'34.335"W	0.00	
12417.00†	89.838	359.804	7175.85	5461.22	5459.57	-491.43	40°13'52.138"N	104°44'34.339"W	0.00	
12517.00†	89.838	359.804	7176.13	5561.22	5559.57	-491.77	40°13'53.126"N	104°44'34.344"W	0.00	
12617.00†	89.838	359.804	7176.41	5661.22	5659.57	-492.12	40°13'54.114"N	104°44'34.348"W	0.00	
12717.00†	89.838	359.804	7176.70	5761.22	5759.57	-492.46	40°13'55.103"N	104°44'34.352"W	0.00	
12817.00†	89.838	359.804	7176.98	5861.22	5859.57	-492.80	40°13'56.091"N	104°44'34.357"W	0.00	
12824.12	89.838	359.804	7177.00 ¹	5868.34	5866.69	-492.82	40°13'56.161"N	104°44'34.357"W	0.00	TOTAL DEPTH

HOLE & CASING SECTIONS - Ref Wellbore: MELBA 2N-14HZ PWB Ref Wellpath: MELBA 2N-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	7525.13	6333.13	1192.00	7162.00	0.00	0.00	567.75	-474.71
7in Casing Intermediate	17.00	7525.13	7508.13	17.00	7162.00	0.00	0.00	567.75	-474.71
6.125in Open Hole	7525.13	12824.12	5298.99	7162.00	7177.00	567.75	-474.71	5866.69	-492.82
4.5in Open Hole	17.00	12824.12	12807.12	17.00	7177.00	0.00	0.00	5866.69	-492.82

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#15 MELBA 2N-14HZ (1766' FEL & 618' FNL, SEC.23)
Area	COLORADO	Well	MELBA 2N-14HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	MELBA 2N-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	0.00	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	0.00	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	0.00	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	0.00	3211928.73	1322497.26	40°12'58.187"N	104°44'28.003"W	polygon
1) MELBA 2N-14HZ (2251'FEL & 1'FNL, SEC.14) REV-1	12824.12	7177.00	5866.69	-492.82	3211385.74	1328359.25	40°13'56.161"N	104°44'34.357"W	point
MELBA 2N-14HZ LANDBOX		7177.00	0.00	0.00	3211928.73	1322497.26	40°12'58.187"N	104°44'28.003"W	polygon

SURVEY PROGRAM - Ref Wellbore: MELBA 2N-14HZ PWB Ref Wellpath: MELBA 2N-14HZ (PERMIT REV-1) PWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	12824.12	NaviTrak (MagCorr)		MELBA 2N-14HZ PWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#15 MELBA 2N-14HZ (1766' FEL & 618' FNL, SEC.23)
Area	COLORADO	Well	MELBA 2N-14HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	MELBA 2N-14HZ PWB
Facility	SEC.23-T3N-R66W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1142.00	0.000	269.700	1142.00	Fox Hills Marker
3978.63	10.000	269.700	3943.00	Parkman
4413.79	2.150	269.700	4375.00	Sussex
6527.86	0.000	359.804	6489.04	4 1/2" Liner Top
7155.16	52.730	359.804	7045.00	Sharon Springs
7263.30	63.544	359.804	7102.00	Niobrara A
7431.98	80.412	359.804	7154.00	Niobrara B

DESIGN COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
17.00	0.000	269.700	17.00	TIE-ON
1300.00	0.000	269.700	1300.00	BEGIN NUDGE
1800.00	10.000	269.700	1797.47	END NUDGE
4021.28	10.000	269.700	3985.00	BEGIN DROP
4521.28	0.000	359.804	4482.47	END DROP
6627.86	0.000	359.804	6589.05	KOP, BUILD @ 10°/100'
7526.24	89.838	359.804	7162.00	LANDING POINT
12824.12	89.838	359.804	7177.00	TOTAL DEPTH