

Location:	COLORADO	Slot:	SLOT#16 WISHBONE 29N-E24HZ (320'FSL & 1940'FWL, SEC.24)
Field:	WELD COUNTY (KERR MCGEE)	Well:	WISHBONE 29N-E24HZ
Facility:	SEC.24-T2N-R66W	Wellbore:	WISHBONE 29N-E24HZ PWB

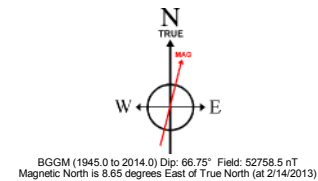
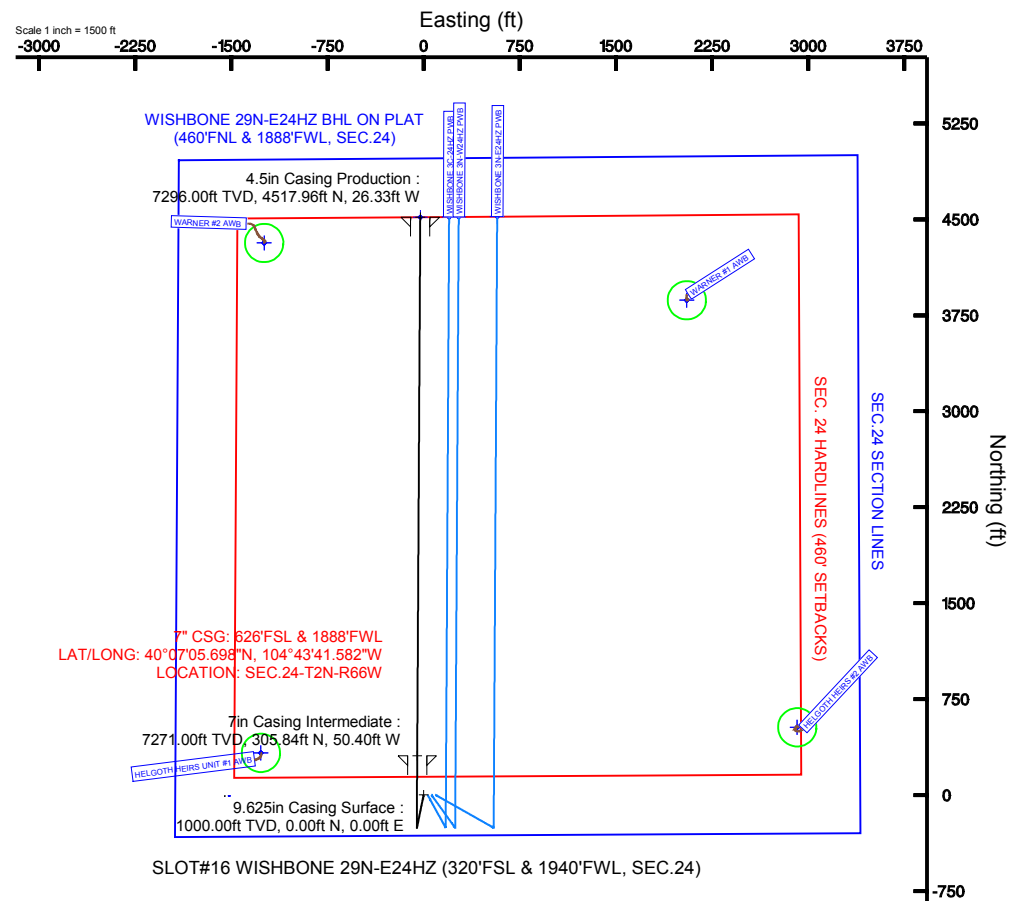
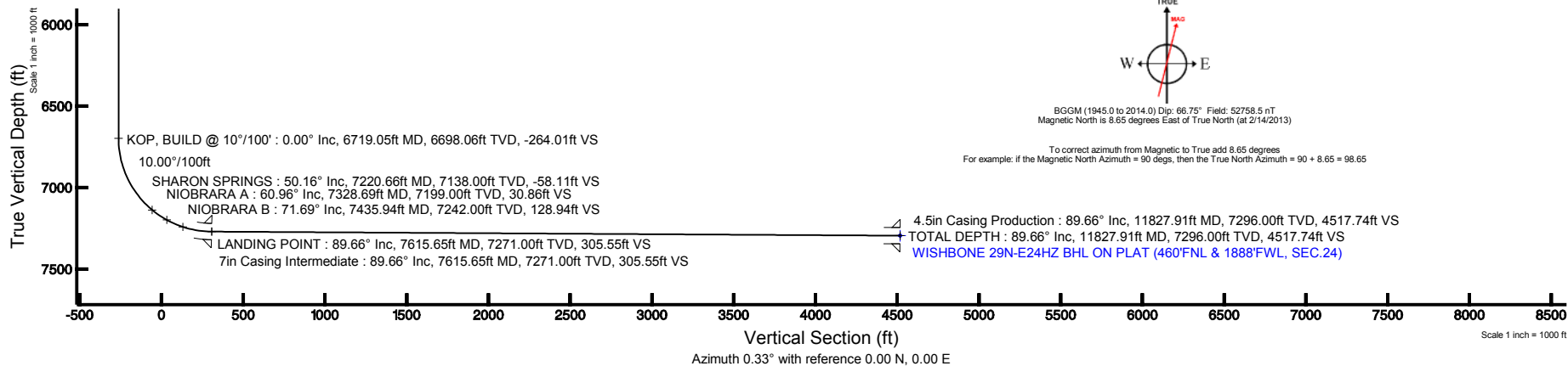
Plot reference wellpath is WISHBONE 29N-E24HZ (PERMIT) PWP	
True vertical depths are referenced to Rig on SLOTH16 WISHBONE 29N-E24HZ (320FSL & 1940FWL, SEC 24) (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to Rig on SLOTH16 WISHBONE 29N-E24HZ (320FSL & 1940FWL, SEC 24) (RKB)	North Reference: True north
Rig on SLOTH16 WISHBONE 29N-E24HZ (320FSL & 1940FWL, SEC 24) (RKB) to Mean Sea Level: 5101 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOTH16 WISHBONE 29N-E24HZ (320FSL & 1940FWL, SEC 24): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: wiljeff02 on 2/25/2013

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC-24-T2N-R66W	3214370.720	1286534.230	40°07'02.5897N	104°44'02.5327W
Site	Local N (ft)	Local E (ft) <td>Grid North (US ft)<td>Latitude</td></td>	Grid North (US ft) <td>Latitude</td>	Latitude
SLOT#16 WISHBONE 29N-E24H2 (320FTSL & 1940FTWL, SEC-24)	8.85	1522.64	1286588.230	40°07'02.6767N
Avg on SLOT#16 WISHBONE 29N-E24H2 (320FTSL & 1940FTWL, SEC-24) (R66) to Mutl line (Avg: SLOT#16 WISHBONE 29N-E24H2 (320FTSL & 1940FTWL, SEC-24))				5101ft
Mean Sea Level to Mutl line (Avg: SLOT#16 WISHBONE 29N-E24H2 (320FTSL & 1940FTWL, SEC-24))				0ft
Avg on 91 OTHERS WISHBONE 29N-E24H2 (320FTSL & 1940FTWL, SEC-24) (R66) to Mean Sea Level				5101ft

Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
17.00	7615.65	NaviTrak	NaviTrak (MagCorr)		WISHBONE 29N-E24HZ PWB
7615.65	11827.91	OnTrak	OnTrak (MagCorr)		WISHBONE 29N-E24HZ PWB

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
TIE-ON	17.00	0.000	191.500	17.00	0.00	0.00	0.00	0.00
BEGN NUDGE	1100.00	0.000	191.500	1100.00	0.00	0.00	0.00	0.00
END NUDGE	1600.00	10.000	191.500	1597.47	-42.65	-8.68	2.00	-42.70
BEGIN DROP	2648.46	10.000	191.500	2630.00	-221.06	-44.97	0.00	-221.31
END DROP	3148.46	0.000	0.327	3127.47	-263.71	-53.65	2.00	-264.01
KOP, BUILD @ 10°/100'	6719.05	0.000	0.327	6698.06	-263.71	-53.65	0.00	-264.01
LANDING POINT	7615.65	89.660	0.327	7271.00	305.84	-50.40	0.00	305.55
TOTAL DEPTH	11827.91	89.660	0.327	7296.00	4517.96	-26.33	10.00	4517.74

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC 24 SECTION LINES		24.00	-8.66	-1522.64	3214370.72	1286534.33	40°07'02.590"N	104°44'00.532"W
HELOOTH HEIRS #2 150' RADIUS		41.00	528.40	2916.18	3218804.51	1287109.98	40°07'07.896"N	104°43'03.396"W
HELOOTH HEIRS UNIT #1 150' RADIUS		41.00	327.90	-1270.60	3214619.81	1286871.05	40°07'05.167"N	104°43'57.288"W
WARNER #1 150' RADIUS		41.00	3868.89	2054.50	3217913.81	1290442.71	40°07'40.908"N	104°43'14.484"W
WARNER #2 150' RADIUS		41.00	4316.92	-1245.23	3214610.45	1290861.97	40°07'45.336"N	104°43'56.964"W
WISHBONE 20N-E24H2 B/L ON PLAT (460'FWL & 1888'FWL SEC 24)	11827.91	7206.00	-4517.96	-26.33	3215827.50	1291073.61	40°07'47.322"N	104°43'21.272"W
SEC. 24 HARDLINES (460' SETBACKS)		7624.00	-8.66	-1522.64	3214370.72	1286534.33	40°07'02.590"N	104°44'00.532"W



To correct azimuth from Magnetic to True add 8.65 degrees
For example: if the Magnetic North Azimuth = 90 degs, then the True North Azimuth = $90 + 8.65 = 98.65$

4.5in Casing Production : 89.66° Inc, 11827.91ft MD, 7296.00ft TVD, 4517.74ft VS
 TOTAL DEPTH : 89.66° Inc, 11827.91ft MD, 7296.00ft TVD, 4517.74ft VS
 WISHBONE 29N-E24HZ BHL ON PLAT (460'FNL & 1888'FWL, SEC.24)



Planned Wellpath Report

WISHBONE 29N-E24HZ (PERMIT) PWP
Page 1 of 6



REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#16 WISHBONE 29N-E24HZ (320'FSL & 1940'FWL, SEC.24)
Area	COLORADO	Well	WISHBONE 29N-E24HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	WISHBONE 29N-E24HZ PWB
Facility	SEC.24-T2N-R66W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 3.0.2
North Reference	True	User	Wilsjef02
Scale	0.99996	Report Generated	2/25/2013 at 09:53:40
Convergence at slot	0.50° East	Database/Source file	WellArchitectDB\WISHBONE_29N-E24HZ_PWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	8.85	1522.64	3215893.16	1286556.24	40°07'02.676"N	104°43'40.933"W
Facility Reference Pt			3214370.72	1286534.23	40°07'02.589"N	104°44'00.532"W
Field Reference Pt			3197771.84	1268891.29	40°04'09.600"N	104°47'36.000"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on SLOT#16 WISHBONE 29N-E24HZ (320'FSL & 1940'FWL, SEC.24) (RKB) to Facility Vertical Datum
Horizontal Reference Pt	Slot	Rig on SLOT#16 WISHBONE 29N-E24HZ (320'FSL & 1940'FWL, SEC.24) (RKB) to Mean Sea Level
Vertical Reference Pt	Rig on SLOT#16 WISHBONE 29N-E24HZ (320'FSL & 1940'FWL, SEC.24) (RKB)	Rig on SLOT#16 WISHBONE 29N-E24HZ (320'FSL & 1940'FWL, SEC.24) (RKB) to Mud Line at Slot (SLOT#16 WISHBONE 29N-E24HZ)
MD Reference Pt	Rig on SLOT#16 WISHBONE 29N-E24HZ (320'FSL & 1940'FWL, SEC.24) (RKB)	Section Origin
Field Vertical Reference	Mean Sea Level	Section Azimuth



Planned Wellpath Report

WISHBONE 29N-E24HZ (PERMIT) PWP
Page 2 of 6



REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#16 WISHBONE 29N-E24HZ (320'FSL & 1940'FWL, SEC.24)
Area	COLORADO	Well	WISHBONE 29N-E24HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	WISHBONE 29N-E24HZ PWB
Facility	SEC.24-T2N-R66W		

WELLPATH DATA (133 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	191.500	0.00	0.00	0.00	0.00	40°07'02.676"N	104°43'40.933"W	0.00	
17.00	0.000	191.500	17.00	0.00	0.00	0.00	40°07'02.676"N	104°43'40.933"W	0.00	TIE-ON
117.00†	0.000	191.500	117.00	0.00	0.00	0.00	40°07'02.676"N	104°43'40.933"W	0.00	
217.00†	0.000	191.500	217.00	0.00	0.00	0.00	40°07'02.676"N	104°43'40.933"W	0.00	
317.00†	0.000	191.500	317.00	0.00	0.00	0.00	40°07'02.676"N	104°43'40.933"W	0.00	
417.00†	0.000	191.500	417.00	0.00	0.00	0.00	40°07'02.676"N	104°43'40.933"W	0.00	
517.00†	0.000	191.500	517.00	0.00	0.00	0.00	40°07'02.676"N	104°43'40.933"W	0.00	
617.00†	0.000	191.500	617.00	0.00	0.00	0.00	40°07'02.676"N	104°43'40.933"W	0.00	
717.00†	0.000	191.500	717.00	0.00	0.00	0.00	40°07'02.676"N	104°43'40.933"W	0.00	
817.00†	0.000	191.500	817.00	0.00	0.00	0.00	40°07'02.676"N	104°43'40.933"W	0.00	
917.00†	0.000	191.500	917.00	0.00	0.00	0.00	40°07'02.676"N	104°43'40.933"W	0.00	
921.00†	0.000	191.500	921.00	0.00	0.00	0.00	40°07'02.676"N	104°43'40.933"W	0.00	FOX HILLS
1017.00†	0.000	191.500	1017.00	0.00	0.00	0.00	40°07'02.676"N	104°43'40.933"W	0.00	
1100.00	0.000	191.500	1100.00	0.00	0.00	0.00	40°07'02.676"N	104°43'40.933"W	0.00	BEGN NUDGE
1117.00†	0.340	191.500	1117.00	-0.05	-0.05	-0.01	40°07'02.676"N	104°43'40.933"W	2.00	
1217.00†	2.340	191.500	1216.97	-2.34	-2.34	-0.48	40°07'02.653"N	104°43'40.939"W	2.00	
1317.00†	4.340	191.500	1316.79	-8.06	-8.05	-1.64	40°07'02.596"N	104°43'40.954"W	2.00	
1417.00†	6.340	191.500	1416.35	-17.19	-17.17	-3.49	40°07'02.506"N	104°43'40.978"W	2.00	
1517.00†	8.340	191.500	1515.53	-29.72	-29.69	-6.04	40°07'02.383"N	104°43'41.011"W	2.00	
1600.00	10.000	191.500	1597.47	-42.70	-42.65	-8.68	40°07'02.255"N	104°43'41.045"W	2.00	END NUDGE
1617.00†	10.000	191.500	1614.21	-45.59	-45.54	-9.27	40°07'02.226"N	104°43'41.052"W	0.00	
1717.00†	10.000	191.500	1712.69	-62.63	-62.56	-12.73	40°07'02.058"N	104°43'41.097"W	0.00	
1817.00†	10.000	191.500	1811.17	-79.67	-79.57	-16.19	40°07'01.890"N	104°43'41.141"W	0.00	
1917.00†	10.000	191.500	1909.65	-96.70	-96.59	-19.65	40°07'01.721"N	104°43'41.186"W	0.00	
2017.00†	10.000	191.500	2008.13	-113.74	-113.61	-23.11	40°07'01.553"N	104°43'41.231"W	0.00	
2117.00†	10.000	191.500	2106.61	-130.77	-130.62	-26.58	40°07'01.385"N	104°43'41.275"W	0.00	
2217.00†	10.000	191.500	2205.09	-147.81	-147.64	-30.04	40°07'01.217"N	104°43'41.320"W	0.00	
2317.00†	10.000	191.500	2303.57	-164.84	-164.66	-33.50	40°07'01.049"N	104°43'41.364"W	0.00	
2417.00†	10.000	191.500	2402.05	-181.88	-181.67	-36.96	40°07'00.881"N	104°43'41.409"W	0.00	
2517.00†	10.000	191.500	2500.53	-198.92	-198.69	-40.42	40°07'00.713"N	104°43'41.453"W	0.00	
2617.00†	10.000	191.500	2599.01	-215.95	-215.70	-43.89	40°07'00.544"N	104°43'41.498"W	0.00	
2648.46	10.000	191.500	2630.00	-221.31	-221.06	-44.97	40°07'00.491"N	104°43'41.512"W	0.00	BEGIN DROP
2717.00†	8.629	191.500	2697.63	-232.19	-231.93	-47.19	40°07'00.384"N	104°43'41.540"W	2.00	
2817.00†	6.629	191.500	2796.74	-245.22	-244.94	-49.83	40°07'00.256"N	104°43'41.574"W	2.00	
2917.00†	4.629	191.500	2896.25	-254.84	-254.55	-51.79	40°07'00.161"N	104°43'41.600"W	2.00	
3017.00†	2.629	191.500	2996.05	-261.05	-260.75	-53.05	40°07'00.099"N	104°43'41.616"W	2.00	
3117.00†	0.629	191.500	3096.00	-263.84	-263.54	-53.62	40°07'00.072"N	104°43'41.623"W	2.00	
3148.46	0.000	0.327	3127.47	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	2.00	END DROP
3217.00†	0.000	0.327	3196.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
3317.00†	0.000	0.327	3296.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
3417.00†	0.000	0.327	3396.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
3517.00†	0.000	0.327	3496.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
3617.00†	0.000	0.327	3596.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
3717.00†	0.000	0.327	3696.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
3817.00†	0.000	0.327	3796.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#16 WISHBONE 29N-E24HZ (320'FSL & 1940'FWL, SEC.24)
Area	COLORADO	Well	WISHBONE 29N-E24HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	WISHBONE 29N-E24HZ PWB
Facility	SEC.24-T2N-R66W		

WELLPATH DATA (133 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	0.327	3896.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
4017.00†	0.000	0.327	3996.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
4117.00†	0.000	0.327	4096.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
4161.00†	0.000	0.327	4140.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	PARKMAN
4217.00†	0.000	0.327	4196.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
4317.00†	0.000	0.327	4296.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
4417.00†	0.000	0.327	4396.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
4517.00†	0.000	0.327	4496.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
4555.00†	0.000	0.327	4534.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	SUSSEX
4617.00†	0.000	0.327	4596.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
4717.00†	0.000	0.327	4696.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
4817.00†	0.000	0.327	4796.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
4917.00†	0.000	0.327	4896.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
5017.00†	0.000	0.327	4996.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
5117.00†	0.000	0.327	5096.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
5217.00†	0.000	0.327	5196.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
5317.00†	0.000	0.327	5296.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
5417.00†	0.000	0.327	5396.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
5517.00†	0.000	0.327	5496.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
5617.00†	0.000	0.327	5596.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
5717.00†	0.000	0.327	5696.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
5817.00†	0.000	0.327	5796.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
5917.00†	0.000	0.327	5896.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
6017.00†	0.000	0.327	5996.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
6117.00†	0.000	0.327	6096.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
6217.00†	0.000	0.327	6196.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
6317.00†	0.000	0.327	6296.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
6417.00†	0.000	0.327	6396.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
6517.00†	0.000	0.327	6496.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
6617.00†	0.000	0.327	6596.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
6717.00†	0.000	0.327	6696.00	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	
6719.05	0.000	0.327	6698.06	-264.01	-263.71	-53.65	40°07'00.070"N	104°43'41.624"W	0.00	KOP, BUILD @ 10°/100'
6817.00†	9.795	0.327	6795.53	-255.66	-255.35	-53.60	40°07'00.153"N	104°43'41.623"W	10.00	
6917.00†	19.795	0.327	6892.09	-230.15	-229.85	-53.46	40°07'00.405"N	104°43'41.621"W	10.00	
7017.00†	29.795	0.327	6982.75	-188.27	-187.97	-53.22	40°07'00.818"N	104°43'41.618"W	10.00	
7117.00†	39.795	0.327	7064.77	-131.28	-130.98	-52.89	40°07'01.382"N	104°43'41.614"W	10.00	
7217.00†	49.795	0.327	7135.64	-60.91	-60.61	-52.49	40°07'02.077"N	104°43'41.609"W	10.00	
7220.66†	50.161	0.327	7138.00	-58.11	-57.81	-52.48	40°07'02.105"N	104°43'41.608"W	10.00	SHARON SPRINGS
7317.00†	59.795	0.327	7193.22	20.69	20.99	-52.03	40°07'02.883"N	104°43'41.603"W	10.00	
7328.69†	60.964	0.327	7199.00	30.86	31.15	-51.97	40°07'02.984"N	104°43'41.602"W	10.00	NIOBRARA A
7417.00†	69.795	0.327	7235.75	111.06	111.35	-51.51	40°07'03.776"N	104°43'41.596"W	10.00	
7435.94†	71.689	0.327	7242.00	128.94	129.23	-51.41	40°07'03.953"N	104°43'41.595"W	10.00	NIOBRARA B
7517.00†	79.795	0.327	7261.95	207.44	207.73	-50.96	40°07'04.729"N	104°43'41.589"W	10.00	
7615.65	89.660	0.327	7271.00	305.55	305.84	-50.40	40°07'05.698"N	104°43'41.582"W	10.00	LANDING POINT
7617.00†	89.660	0.327	7271.01	306.90	307.19	-50.39	40°07'05.712"N	104°43'41.582"W	0.00	



Planned Wellpath Report

WISHBONE 29N-E24HZ (PERMIT) PWP
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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#16 WISHBONE 29N-E24HZ (320'FSL & 1940'FWL, SEC.24)
Area	COLORADO	Well	WISHBONE 29N-E24HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	WISHBONE 29N-E24HZ PWB
Facility	SEC.24-T2N-R66W		

WELLPATH DATA (133 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7717.00†	89.660	0.327	7271.60	406.89	407.19	-49.82	40°07'06.700"N	104°43'41.574"W	0.00	
7817.00†	89.660	0.327	7272.20	506.89	507.18	-49.25	40°07'07.688"N	104°43'41.567"W	0.00	
7917.00†	89.660	0.327	7272.79	606.89	607.18	-48.68	40°07'08.676"N	104°43'41.560"W	0.00	
8017.00†	89.660	0.327	7273.38	706.89	707.18	-48.10	40°07'09.664"N	104°43'41.552"W	0.00	
8117.00†	89.660	0.327	7273.98	806.89	807.17	-47.53	40°07'10.653"N	104°43'41.545"W	0.00	
8217.00†	89.660	0.327	7274.57	906.89	907.17	-46.96	40°07'11.641"N	104°43'41.538"W	0.00	
8317.00†	89.660	0.327	7275.17	1006.88	1007.17	-46.39	40°07'12.629"N	104°43'41.530"W	0.00	
8417.00†	89.660	0.327	7275.76	1106.88	1107.16	-45.82	40°07'13.617"N	104°43'41.523"W	0.00	
8517.00†	89.660	0.327	7276.35	1206.88	1207.16	-45.25	40°07'14.605"N	104°43'41.515"W	0.00	
8617.00†	89.660	0.327	7276.95	1306.88	1307.15	-44.68	40°07'15.593"N	104°43'41.508"W	0.00	
8717.00†	89.660	0.327	7277.54	1406.88	1407.15	-44.11	40°07'16.582"N	104°43'41.501"W	0.00	
8817.00†	89.660	0.327	7278.13	1506.88	1507.15	-43.53	40°07'17.570"N	104°43'41.493"W	0.00	
8917.00†	89.660	0.327	7278.73	1606.87	1607.14	-42.96	40°07'18.558"N	104°43'41.486"W	0.00	
9017.00†	89.660	0.327	7279.32	1706.87	1707.14	-42.39	40°07'19.546"N	104°43'41.479"W	0.00	
9117.00†	89.660	0.327	7279.91	1806.87	1807.14	-41.82	40°07'20.534"N	104°43'41.471"W	0.00	
9217.00†	89.660	0.327	7280.51	1906.87	1907.13	-41.25	40°07'21.523"N	104°43'41.464"W	0.00	
9317.00†	89.660	0.327	7281.10	2006.87	2007.13	-40.68	40°07'22.511"N	104°43'41.457"W	0.00	
9417.00†	89.660	0.327	7281.69	2106.86	2107.13	-40.11	40°07'23.499"N	104°43'41.449"W	0.00	
9517.00†	89.660	0.327	7282.29	2206.86	2207.12	-39.53	40°07'24.487"N	104°43'41.442"W	0.00	
9617.00†	89.660	0.327	7282.88	2306.86	2307.12	-38.96	40°07'25.475"N	104°43'41.435"W	0.00	
9717.00†	89.660	0.327	7283.47	2406.86	2407.12	-38.39	40°07'26.463"N	104°43'41.427"W	0.00	
9817.00†	89.660	0.327	7284.07	2506.86	2507.11	-37.82	40°07'27.452"N	104°43'41.420"W	0.00	
9917.00†	89.660	0.327	7284.66	2606.86	2607.11	-37.25	40°07'28.440"N	104°43'41.413"W	0.00	
10017.00†	89.660	0.327	7285.25	2706.85	2707.11	-36.68	40°07'29.428"N	104°43'41.405"W	0.00	
10117.00†	89.660	0.327	7285.85	2806.85	2807.10	-36.11	40°07'30.416"N	104°43'41.398"W	0.00	
10217.00†	89.660	0.327	7286.44	2906.85	2907.10	-35.54	40°07'31.404"N	104°43'41.390"W	0.00	
10317.00†	89.660	0.327	7287.03	3006.85	3007.10	-34.96	40°07'32.392"N	104°43'41.383"W	0.00	
10417.00†	89.660	0.327	7287.63	3106.85	3107.09	-34.39	40°07'33.381"N	104°43'41.376"W	0.00	
10517.00†	89.660	0.327	7288.22	3206.85	3207.09	-33.82	40°07'34.369"N	104°43'41.368"W	0.00	
10617.00†	89.660	0.327	7288.81	3306.84	3307.09	-33.25	40°07'35.357"N	104°43'41.361"W	0.00	
10717.00†	89.660	0.327	7289.41	3406.84	3407.08	-32.68	40°07'36.345"N	104°43'41.354"W	0.00	
10817.00†	89.660	0.327	7290.00	3506.84	3507.08	-32.11	40°07'37.333"N	104°43'41.346"W	0.00	
10917.00†	89.660	0.327	7290.59	3606.84	3607.08	-31.54	40°07'38.322"N	104°43'41.339"W	0.00	
11017.00†	89.660	0.327	7291.19	3706.84	3707.07	-30.96	40°07'39.310"N	104°43'41.332"W	0.00	
11117.00†	89.660	0.327	7291.78	3806.83	3807.07	-30.39	40°07'40.298"N	104°43'41.324"W	0.00	
11217.00†	89.660	0.327	7292.37	3906.83	3907.07	-29.82	40°07'41.286"N	104°43'41.317"W	0.00	
11317.00†	89.660	0.327	7292.97	4006.83	4007.06	-29.25	40°07'42.274"N	104°43'41.310"W	0.00	
11417.00†	89.660	0.327	7293.56	4106.83	4107.06	-28.68	40°07'43.262"N	104°43'41.302"W	0.00	
11517.00†	89.660	0.327	7294.15	4206.83	4207.06	-28.11	40°07'44.251"N	104°43'41.295"W	0.00	
11617.00†	89.660	0.327	7294.75	4306.83	4307.05	-27.54	40°07'45.239"N	104°43'41.288"W	0.00	
11717.00†	89.660	0.327	7295.34	4406.82	4407.05	-26.97	40°07'46.227"N	104°43'41.280"W	0.00	
11817.00†	89.660	0.327	7295.94	4506.82	4507.05	-26.39	40°07'47.215"N	104°43'41.273"W	0.00	
11827.91	89.660	0.327	7296.00 ¹	4517.74	4517.96	-26.33	40°07'47.323"N	104°43'41.272"W	0.00	TOTAL DEPTH



Planned Wellpath Report

WISHBONE 29N-E24HZ (PERMIT) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#16 WISHBONE 29N-E24HZ (320'FSL & 1940'FWL, SEC.24)
Area	COLORADO	Well	WISHBONE 29N-E24HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	WISHBONE 29N-E24HZ PWB
Facility	SEC.24-T2N-R66W		

HOLE & CASING SECTIONS - Ref Wellbore: WISHBONE 29N-E24HZ PWB Ref Wellpath: WISHBONE 29N-E24HZ (PERMIT) 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	1000.00	983.00	17.00	1000.00	0.00	0.00	0.00	0.00
9.625in Casing Surface	17.00	1000.00	983.00	17.00	1000.00	0.00	0.00	0.00	0.00
8.75in Open Hole	1000.00	7615.65	6615.65	1000.00	7271.00	0.00	0.00	305.84	-50.40
7in Casing Intermediate	17.00	7615.65	7598.65	17.00	7271.00	0.00	0.00	305.84	-50.40
6.125in Open Hole	7615.65	11827.91	4212.26	7271.00	7296.00	305.84	-50.40	4517.96	-26.33
4.5in Casing Production	17.00	11827.91	11810.91	17.00	7296.00	0.00	0.00	4517.96	-26.33

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.24 SECTION LINES		24.00	-8.66	-1522.64	3214370.72	1286534.33	40°07'02.590"N	104°44'00.532"W	polygon
HELGOOTH HEIRS #2 150' RADIUS		41.00	528.40	2916.18	3218804.51	1287109.98	40°07'07.896"N	104°43'03.396"W	circle
HELGOOTH HEIRS UNIT #1 150' RADIUS		41.00	327.90	-1270.60	3214619.81	1286873.05	40°07'05.916"N	104°43'57.288"W	circle
WARNER #1 150' RADIUS		41.00	3868.89	2054.50	3217913.81	1290442.71	40°07'40.908"N	104°43'14.484"W	circle
WARNER #2 150' RADIUS		41.00	4316.92	-1245.23	3214610.45	1290861.97	40°07'45.336"N	104°43'56.964"W	circle
1) WISHBONE 29N-E24HZ BHL ON PLAT (460'FNL & 1888'FWL, SEC.24)	11827.91	7296.00	4517.96	-26.33	3215827.50	1291073.61	40°07'47.323"N	104°43'41.272"W	point
SEC. 24 HARDLINES (460' SETBACKS)		7624.00	-8.66	-1522.64	3214370.72	1286534.33	40°07'02.590"N	104°44'00.532"W	polygon

SURVEY PROGRAM - Ref Wellbore: WISHBONE 29N-E24HZ PWB Ref Wellpath: WISHBONE 29N-E24HZ (PERMIT) PWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	7615.65	NaviTrak (MagCorr)		WISHBONE 29N-E24HZ PWB
7615.65	11827.91	OnTrak (MagCorr)		WISHBONE 29N-E24HZ PWB



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WISHBONE 29N-E24HZ (PERMIT) PWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#16 WISHBONE 29N-E24HZ (320'FSL & 1940'FWL, SEC.24)
Area	COLORADO	Well	WISHBONE 29N-E24HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	WISHBONE 29N-E24HZ PWB
Facility	SEC.24-T2N-R66W		

WELLPATH COMMENTS					
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment	
921.00	0.000	191.500	921.00	FOX HILLS	
4161.00	0.000	0.327	4140.00	PARKMAN	
4555.00	0.000	0.327	4534.00	SUSSEX	
7220.66	50.161	0.327	7138.00	SHARON SPRINGS	
7328.69	60.964	0.327	7199.00	NIOBRARA A	
7435.94	71.689	0.327	7242.00	NIOBRARA B	