

# KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#20 WISHBONE 4N-24HZ (320'FSL & 950'FWL, SEC.24)  
 Field: WELD COUNTY (KERR MCGEE) Well: WISHBONE 4N-24HZ  
 Facility: SEC.24-T2N-R66W Wellbore: WISHBONE 4N-24HZ PWB

Plot reference wellpath is WISHBONE 4N-24HZ (PERMIT) PWP

True vertical depths are referenced to Rig on SLOT#20 WISHBONE 4N-24HZ (320'FSL & 950'FWL, SEC.24) (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to Rig on SLOT#20 WISHBONE 4N-24HZ (320'FSL & 950'FWL, SEC.24) (RKB)	North Reference: True north
Rig on SLOT#20 WISHBONE 4N-24HZ (320'FSL & 950'FWL, SEC.24) (RKB) to Mean Sea Level: 5099 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#20 WISHBONE 4N-24HZ (320'FSL & 950'FWL, SEC.24)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: wlsjef02 on 2/25/2013

## Location Information

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude		
SEC.24-T2N-R66W	3214370.720	1286534.230	40°07'02.589"N	104°44'00.532"W		
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#20 WISHBONE 4N-24HZ (320'FSL & 950'FWL, SEC.24)	2.94	532.56	3214903.214	1286541.771	40°07'02.618"N	104°43'53.677"W
Rig on SLOT#20 WISHBONE 4N-24HZ (320'FSL & 950'FWL, SEC.24) (RKB) to Mud line (At Slot: SLOT#20 WISHBONE 4N-24HZ (320'FSL & 950'FWL, SEC.24))	5099ft					
Mean Sea Level to Mud line (At Slot: SLOT#20 WISHBONE 4N-24HZ (320'FSL & 950'FWL, SEC.24))	0ft					
Rig on SLOT#20 WISHBONE 4N-24HZ (320'FSL & 950'FWL, SEC.24) (RKB) to Mean Sea Level	5099ft					

## Survey Program

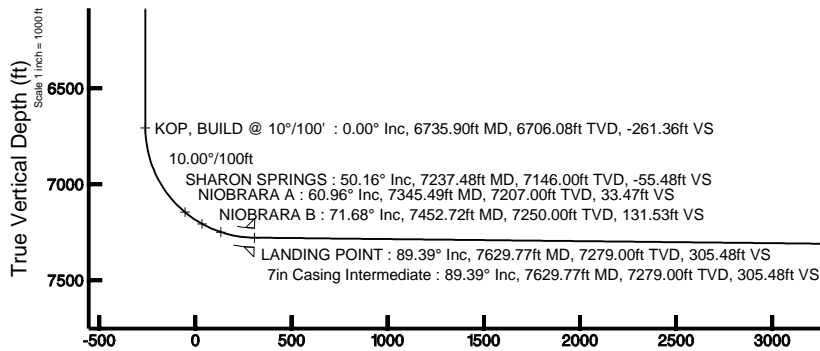
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
17.00	7629.77	Navitrak	Navitrak (MagCorr)		WISHBONE 4N-24HZ PWB
7629.77	11838.25	OnTrak	OnTrak (MagCorr)		WISHBONE 4N-24HZ PWB

## Well Profile Data

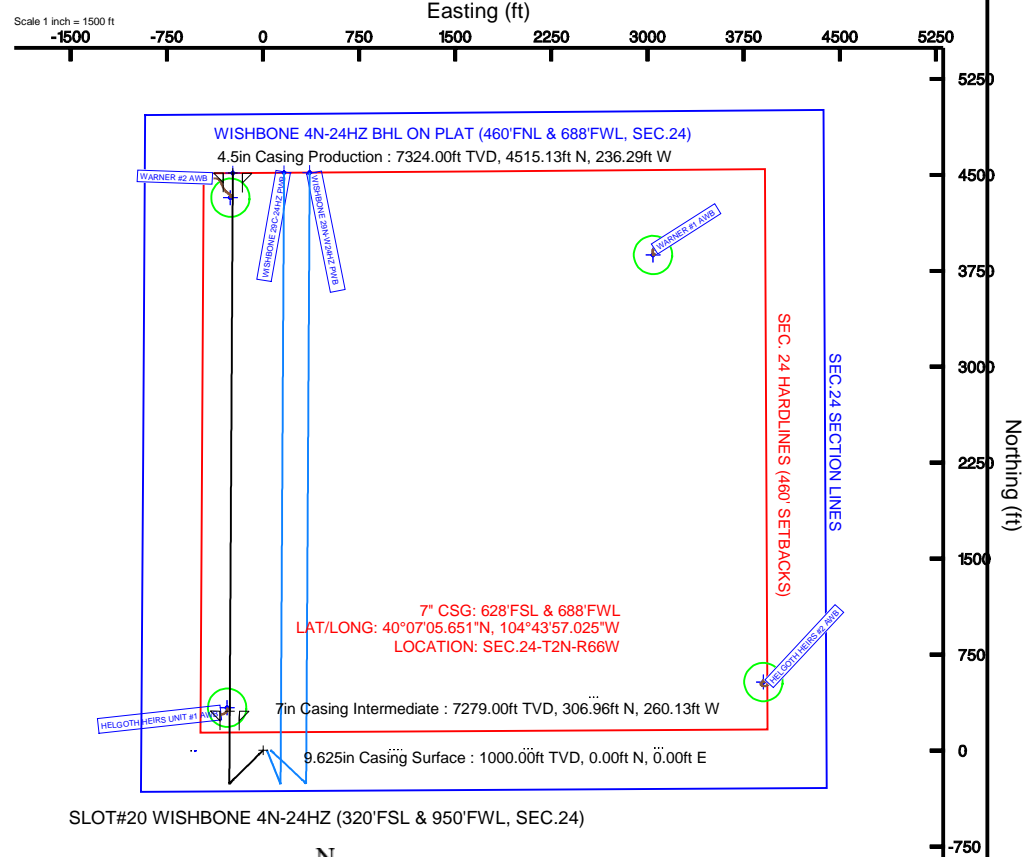
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
TIE-ON	17.00	0.000	225.380	17.00	0.00	0.00	0.00	0.00
BEGIN NUDGE	1100.00	0.000	225.380	1100.00	0.00	0.00	0.00	0.00
END NUDGE	1600.00	10.000	225.380	1597.47	-30.57	-30.98	2.00	-30.75
BEGIN DROP	3229.29	10.000	225.380	3202.00	-229.30	-232.36	0.00	-230.61
END DROP	3729.29	0.000	0.325	3699.47	-259.87	-263.34	2.00	-261.36
KOP, BUILD @ 10°/100'	6735.90	0.000	0.325	6706.08	-259.87	-263.34	0.00	-261.36
LANDING POINT	7629.77	89.387	0.325	7279.00	306.96	-260.13	10.00	305.48
TOTAL DEPTH	11838.25	89.387	0.325	7324.00	4515.13	-236.29	0.00	4513.72

## Targets

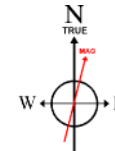
Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.24 SECTION LINES	22.00	-2.83	-532.56	3214370.72	1286534.33	40°07'02.590"N	104°44'00.532"W	
HELGOETH HEIRS #2 150' RADIUS	39.00	534.40	3906.24	3218804.51	1287109.98	40°07'07.896"N	104°43'03.395"W	
HELGOETH HEIRS UNIT #1 150' RADIUS	39.00	333.74	-280.53	3214619.81	1286873.05	40°07'05.919"N	104°43'57.288"W	
WARNER #1 150' RADIUS	39.00	3874.86	3044.42	3217913.81	1290442.71	40°07'40.908"N	104°43'14.484"W	
WARNER #2 150' RADIUS	39.00	4322.76	-255.32	3214610.45	1290961.97	40°07'45.336"N	104°43'56.964"W	
WISHBONE 4N-24HZ BHL ON PLAT (460'FNL & 688'FWL, SEC.24)	11838.25	7324.00	4515.13	-236.29	3214627.82	1291054.49	40°07'47.237"N	104°43'56.719"W
SEC. 24 HARDLINES (460' SETBACKS)	7622.00	-2.83	-532.56	3214370.72	1286534.33	40°07'02.590"N	104°44'00.532"W	



Vertical Section (ft)  
 Azimuth 0.33° with reference 0.00 N, 0.00 E



SLOT#20 WISHBONE 4N-24HZ (320'FSL & 950'FWL, SEC.24)



BGGM (1945.0 to 2014.0) Dip: 66.75° Field: 52758.5 nT  
 Magnetic North is 8.65 degrees East of True North (at 2/14/2013)

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 : 89.39° Inc, 11838.25ft MD, 7324.00ft TVD, 4513.72ft VS  
 TOTAL DEPTH : 89.39° Inc, 11838.25ft MD, 7324.00ft TVD, 4513.72ft VS  
 WISHBONE 4N-24HZ BHL ON PLAT (460'FNL & 688'FWL, SEC.24)

Scale 1 inch = 1000 ft



**Planned Wellpath Report**  
 WISHBONE 4N-24HZ( PERMIT) PWP  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#20 WISHBONE 4N-24HZ (320'FSL & 950'FWL, SEC.24)
Area	COLORADO	Well	WISHBONE 4N-24HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	WISHBONE 4N-24HZ 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 11:35:12
Convergence at slot	0.50° East	Database/Source file	WellArchitectDB/WISHBONE_4N-24HZ_PWB.xml

WELLPATH LOCATION	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	2.94	532.56	3214903.21	1286541.77	40°07'02.618"N	104°43'53.677"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#20 WISHBONE 4N-24HZ (320'FSL & 950'FWL, SEC.24) (RKB) to Facility Vertical Datum
Horizontal Reference Pt	Slot Rig on SLOT#20 WISHBONE 4N-24HZ (320'FSL & 950'FWL, SEC.24) (RKB) to Mean Sea Level
Vertical Reference Pt	Rig on SLOT#20 WISHBONE 4N-24HZ (320'FSL & 950'FWL, SEC.24) (RKB) Rig on SLOT#20 WISHBONE 4N-24HZ (320'FSL & 950'FWL, SEC.24) (RKB) to Mud Line at Slot (SLOT#20 WISHBONE 4
MD Reference Pt	Rig on SLOT#20 WISHBONE 4N-24HZ (320'FSL & 950'FWL, SEC.24) (RKB) Section Origin
Field Vertical Reference	Mean Sea Level Section Azimuth



**Planned Wellpath Report**  
 WISHBONE 4N-24HZ( PERMIT) PWP  
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**REFERENCE WELLPATH IDENTIFICATION**

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#20 WISHBONE 4N-24HZ (320'FSL & 950'FWL, SEC.24)
Area	COLORADO	Well	WISHBONE 4N-24HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	WISHBONE 4N-24HZ 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	225.380	0.00	0.00	0.00	0.00	40°07'02.618"N	104°43'53.677"W	0.00	
17.00	0.000	225.380	17.00	0.00	0.00	0.00	40°07'02.618"N	104°43'53.677"W	0.00	TIE-ON
117.00†	0.000	225.380	117.00	0.00	0.00	0.00	40°07'02.618"N	104°43'53.677"W	0.00	
217.00†	0.000	225.380	217.00	0.00	0.00	0.00	40°07'02.618"N	104°43'53.677"W	0.00	
317.00†	0.000	225.380	317.00	0.00	0.00	0.00	40°07'02.618"N	104°43'53.677"W	0.00	
417.00†	0.000	225.380	417.00	0.00	0.00	0.00	40°07'02.618"N	104°43'53.677"W	0.00	
517.00†	0.000	225.380	517.00	0.00	0.00	0.00	40°07'02.618"N	104°43'53.677"W	0.00	
617.00†	0.000	225.380	617.00	0.00	0.00	0.00	40°07'02.618"N	104°43'53.677"W	0.00	
717.00†	0.000	225.380	717.00	0.00	0.00	0.00	40°07'02.618"N	104°43'53.677"W	0.00	
817.00†	0.000	225.380	817.00	0.00	0.00	0.00	40°07'02.618"N	104°43'53.677"W	0.00	
917.00†	0.000	225.380	917.00	0.00	0.00	0.00	40°07'02.618"N	104°43'53.677"W	0.00	
919.00†	0.000	225.380	919.00	0.00	0.00	0.00	40°07'02.618"N	104°43'53.677"W	0.00	FOX HILLS
1017.00†	0.000	225.380	1017.00	0.00	0.00	0.00	40°07'02.618"N	104°43'53.677"W	0.00	
1100.00	0.000	225.380	1100.00	0.00	0.00	0.00	40°07'02.618"N	104°43'53.677"W	0.00	BEGIN NUDGE
1117.00†	0.340	225.380	1117.00	-0.04	-0.04	-0.04	40°07'02.618"N	104°43'53.677"W	2.00	
1217.00†	2.340	225.380	1216.97	-1.69	-1.68	-1.70	40°07'02.601"N	104°43'53.699"W	2.00	
1317.00†	4.340	225.380	1316.79	-5.80	-5.77	-5.85	40°07'02.561"N	104°43'53.752"W	2.00	
1417.00†	6.340	225.380	1416.35	-12.38	-12.31	-12.47	40°07'02.496"N	104°43'53.838"W	2.00	
1517.00†	8.340	225.380	1515.53	-21.40	-21.28	-21.56	40°07'02.408"N	104°43'53.955"W	2.00	
1600.00	10.000	225.380	1597.47	-30.75	-30.57	-30.98	40°07'02.316"N	104°43'54.076"W	2.00	END NUDGE
1617.00†	10.000	225.380	1614.21	-32.83	-32.64	-33.08	40°07'02.295"N	104°43'54.103"W	0.00	
1717.00†	10.000	225.380	1712.69	-45.10	-44.84	-45.44	40°07'02.175"N	104°43'54.262"W	0.00	
1817.00†	10.000	225.380	1811.17	-57.36	-57.04	-57.80	40°07'02.054"N	104°43'54.421"W	0.00	
1917.00†	10.000	225.380	1909.65	-69.63	-69.24	-70.16	40°07'01.934"N	104°43'54.580"W	0.00	
2017.00†	10.000	225.380	2008.13	-81.90	-81.43	-82.52	40°07'01.813"N	104°43'54.739"W	0.00	
2117.00†	10.000	225.380	2106.61	-94.17	-93.63	-94.88	40°07'01.693"N	104°43'54.898"W	0.00	
2217.00†	10.000	225.380	2205.09	-106.43	-105.83	-107.24	40°07'01.572"N	104°43'55.057"W	0.00	
2317.00†	10.000	225.380	2303.57	-118.70	-118.02	-119.60	40°07'01.452"N	104°43'55.216"W	0.00	
2417.00†	10.000	225.380	2402.05	-130.97	-130.22	-131.96	40°07'01.331"N	104°43'55.376"W	0.00	
2517.00†	10.000	225.380	2500.53	-143.23	-142.42	-144.32	40°07'01.211"N	104°43'55.535"W	0.00	
2617.00†	10.000	225.380	2599.01	-155.50	-154.61	-156.68	40°07'01.090"N	104°43'55.694"W	0.00	
2717.00†	10.000	225.380	2697.50	-167.77	-166.81	-169.04	40°07'00.970"N	104°43'55.853"W	0.00	
2817.00†	10.000	225.380	2795.98	-180.03	-179.01	-181.40	40°07'00.849"N	104°43'56.012"W	0.00	
2917.00†	10.000	225.380	2894.46	-192.30	-191.21	-193.76	40°07'00.728"N	104°43'56.171"W	0.00	
3017.00†	10.000	225.380	2992.94	-204.57	-203.40	-206.12	40°07'00.608"N	104°43'56.330"W	0.00	
3117.00†	10.000	225.380	3091.42	-216.84	-215.60	-218.48	40°07'00.487"N	104°43'56.489"W	0.00	
3217.00†	10.000	225.380	3189.90	-229.10	-227.80	-230.84	40°07'00.367"N	104°43'56.648"W	0.00	
3229.29	10.000	225.380	3202.00	-230.61	-229.30	-232.36	40°07'00.352"N	104°43'56.668"W	0.00	BEGIN DROP
3317.00†	8.246	225.380	3288.60	-240.43	-239.06	-242.26	40°07'00.256"N	104°43'56.795"W	2.00	
3417.00†	6.246	225.380	3387.80	-249.34	-247.92	-251.23	40°07'00.168"N	104°43'56.911"W	2.00	
3517.00†	4.246	225.380	3487.37	-255.80	-254.34	-257.74	40°07'00.105"N	104°43'56.995"W	2.00	
3617.00†	2.246	225.380	3587.21	-259.80	-258.32	-261.77	40°07'00.065"N	104°43'57.046"W	2.00	
3717.00†	0.246	225.380	3687.18	-261.34	-259.85	-263.32	40°07'00.050"N	104°43'57.066"W	2.00	
3729.29	0.000	0.325	3699.47	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	2.00	END DROP
3817.00†	0.000	0.325	3787.18	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	



**Planned Wellpath Report**  
**WISHBONE 4N-24HZ( PERMIT) PWP**  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#20 WISHBONE 4N-24HZ (320'FSL & 950'FWL, SEC.24)
Area	COLORADO	Well	WISHBONE 4N-24HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	WISHBONE 4N-24HZ 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	0.325	3887.18	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	
4017.00†	0.000	0.325	3987.18	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	
4117.00†	0.000	0.325	4087.18	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	
4177.82†	0.000	0.325	4148.00	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	PARKMAN
4217.00†	0.000	0.325	4187.18	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	
4317.00†	0.000	0.325	4287.18	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	
4417.00†	0.000	0.325	4387.18	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	
4517.00†	0.000	0.325	4487.18	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	
4571.82†	0.000	0.325	4542.00	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	SUSSEX
4617.00†	0.000	0.325	4587.18	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	
4717.00†	0.000	0.325	4687.18	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	
4817.00†	0.000	0.325	4787.18	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	
4917.00†	0.000	0.325	4887.18	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	
5017.00†	0.000	0.325	4987.18	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	
5117.00†	0.000	0.325	5087.18	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	
5217.00†	0.000	0.325	5187.18	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	
5317.00†	0.000	0.325	5287.18	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	
5417.00†	0.000	0.325	5387.18	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	
5517.00†	0.000	0.325	5487.18	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	
5617.00†	0.000	0.325	5587.18	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	
5717.00†	0.000	0.325	5687.18	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	
5817.00†	0.000	0.325	5787.18	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	
5917.00†	0.000	0.325	5887.18	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	
6017.00†	0.000	0.325	5987.18	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	
6117.00†	0.000	0.325	6087.18	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	
6217.00†	0.000	0.325	6187.18	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	
6317.00†	0.000	0.325	6287.18	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	
6417.00†	0.000	0.325	6387.18	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	
6517.00†	0.000	0.325	6487.18	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	
6617.00†	0.000	0.325	6587.18	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	
6717.00†	0.000	0.325	6687.18	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	
6735.90	0.000	0.325	6706.08	-261.36	-259.87	-263.34	40°07'00.050"N	104°43'57.067"W	0.00	KOP, BUILD @ 10°/100'
6817.00†	8.110	0.325	6786.91	-255.63	-254.14	-263.30	40°07'00.107"N	104°43'57.066"W	10.00	
6917.00†	18.110	0.325	6884.18	-232.97	-231.48	-263.18	40°07'00.330"N	104°43'57.064"W	10.00	
7017.00†	28.110	0.325	6976.04	-193.77	-192.28	-262.95	40°07'00.718"N	104°43'57.062"W	10.00	
7117.00†	38.110	0.325	7059.69	-139.21	-137.73	-262.64	40°07'01.257"N	104°43'57.058"W	10.00	
7217.00†	48.110	0.325	7132.60	-70.96	-69.47	-262.26	40°07'01.931"N	104°43'57.053"W	10.00	
7237.48†	50.158	0.325	7146.00	-55.48	-53.99	-262.17	40°07'02.084"N	104°43'57.052"W	10.00	SHARON SPRINGS
7317.00†	58.110	0.325	7192.55	8.92	10.40	-261.81	40°07'02.721"N	104°43'57.047"W	10.00	
7345.49†	60.960	0.325	7207.00	33.47	34.96	-261.67	40°07'02.963"N	104°43'57.045"W	10.00	NIOBRARA A
7417.00†	68.110	0.325	7237.72	97.99	99.48	-261.30	40°07'03.601"N	104°43'57.040"W	10.00	
7452.72†	71.682	0.325	7250.00	131.53	133.01	-261.11	40°07'03.932"N	104°43'57.038"W	10.00	NIOBRARA B
7517.00†	78.110	0.325	7266.74	193.56	195.04	-260.76	40°07'04.545"N	104°43'57.033"W	10.00	
7617.00†	88.110	0.325	7278.72	292.71	294.19	-260.20	40°07'05.525"N	104°43'57.026"W	10.00	
7629.77	89.387	0.325	7279.00	305.48	306.96	-260.13	40°07'05.651"N	104°43'57.025"W	10.00	LANDING POINT



**Planned Wellpath Report**  
**WISHBONE 4N-24HZ( PERMIT) PWP**  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#20 WISHBONE 4N-24HZ (320'FSL & 950'FWL, SEC.24)
Area	COLORADO	Well	WISHBONE 4N-24HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	WISHBONE 4N-24HZ 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†	89.387	0.325	7279.93	392.70	394.18	-259.63	40°07'06.513"N	104°43'57.019"W	0.00	
7817.00†	89.387	0.325	7281.00	492.69	494.17	-259.07	40°07'07.501"N	104°43'57.012"W	0.00	
7917.00†	89.387	0.325	7282.07	592.69	594.16	-258.50	40°07'08.490"N	104°43'57.004"W	0.00	
8017.00†	89.387	0.325	7283.14	692.68	694.16	-257.93	40°07'09.478"N	104°43'56.997"W	0.00	
8117.00†	89.387	0.325	7284.21	792.68	794.15	-257.37	40°07'10.466"N	104°43'56.990"W	0.00	
8217.00†	89.387	0.325	7285.28	892.67	894.14	-256.80	40°07'11.454"N	104°43'56.983"W	0.00	
8317.00†	89.387	0.325	7286.35	992.67	994.14	-256.23	40°07'12.442"N	104°43'56.975"W	0.00	
8417.00†	89.387	0.325	7287.42	1092.66	1094.13	-255.67	40°07'13.430"N	104°43'56.968"W	0.00	
8517.00†	89.387	0.325	7288.49	1192.65	1194.12	-255.10	40°07'14.418"N	104°43'56.961"W	0.00	
8617.00†	89.387	0.325	7289.56	1292.65	1294.11	-254.53	40°07'15.407"N	104°43'56.953"W	0.00	
8717.00†	89.387	0.325	7290.63	1392.64	1394.11	-253.97	40°07'16.395"N	104°43'56.946"W	0.00	
8817.00†	89.387	0.325	7291.69	1492.64	1494.10	-253.40	40°07'17.383"N	104°43'56.939"W	0.00	
8917.00†	89.387	0.325	7292.76	1592.63	1594.09	-252.83	40°07'18.371"N	104°43'56.932"W	0.00	
9017.00†	89.387	0.325	7293.83	1692.63	1694.08	-252.27	40°07'19.359"N	104°43'56.924"W	0.00	
9117.00†	89.387	0.325	7294.90	1792.62	1794.08	-251.70	40°07'20.347"N	104°43'56.917"W	0.00	
9217.00†	89.387	0.325	7295.97	1892.61	1894.07	-251.14	40°07'21.335"N	104°43'56.910"W	0.00	
9317.00†	89.387	0.325	7297.04	1992.61	1994.06	-250.57	40°07'22.324"N	104°43'56.903"W	0.00	
9417.00†	89.387	0.325	7298.11	2092.60	2094.05	-250.00	40°07'23.312"N	104°43'56.895"W	0.00	
9517.00†	89.387	0.325	7299.18	2192.60	2194.05	-249.44	40°07'24.300"N	104°43'56.888"W	0.00	
9617.00†	89.387	0.325	7300.25	2292.59	2294.04	-248.87	40°07'25.288"N	104°43'56.881"W	0.00	
9717.00†	89.387	0.325	7301.32	2392.59	2394.03	-248.30	40°07'26.276"N	104°43'56.873"W	0.00	
9817.00†	89.387	0.325	7302.39	2492.58	2494.03	-247.74	40°07'27.264"N	104°43'56.866"W	0.00	
9917.00†	89.387	0.325	7303.46	2592.57	2594.02	-247.17	40°07'28.252"N	104°43'56.859"W	0.00	
10017.00†	89.387	0.325	7304.53	2692.57	2694.01	-246.60	40°07'29.241"N	104°43'56.852"W	0.00	
10117.00†	89.387	0.325	7305.60	2792.56	2794.00	-246.04	40°07'30.229"N	104°43'56.844"W	0.00	
10217.00†	89.387	0.325	7306.66	2892.56	2894.00	-245.47	40°07'31.217"N	104°43'56.837"W	0.00	
10317.00†	89.387	0.325	7307.73	2992.55	2993.99	-244.91	40°07'32.205"N	104°43'56.830"W	0.00	
10417.00†	89.387	0.325	7308.80	3092.55	3093.98	-244.34	40°07'33.193"N	104°43'56.822"W	0.00	
10517.00†	89.387	0.325	7309.87	3192.54	3193.97	-243.77	40°07'34.181"N	104°43'56.815"W	0.00	
10617.00†	89.387	0.325	7310.94	3292.53	3293.97	-243.21	40°07'35.169"N	104°43'56.808"W	0.00	
10717.00†	89.387	0.325	7312.01	3392.53	3393.96	-242.64	40°07'36.157"N	104°43'56.801"W	0.00	
10817.00†	89.387	0.325	7313.08	3492.52	3493.95	-242.07	40°07'37.146"N	104°43'56.793"W	0.00	
10917.00†	89.387	0.325	7314.15	3592.52	3593.94	-241.51	40°07'38.134"N	104°43'56.786"W	0.00	
11017.00†	89.387	0.325	7315.22	3692.51	3693.94	-240.94	40°07'39.122"N	104°43'56.779"W	0.00	
11117.00†	89.387	0.325	7316.29	3792.51	3793.93	-240.37	40°07'40.110"N	104°43'56.772"W	0.00	
11217.00†	89.387	0.325	7317.36	3892.50	3893.92	-239.81	40°07'41.098"N	104°43'56.764"W	0.00	
11317.00†	89.387	0.325	7318.43	3992.49	3993.92	-239.24	40°07'42.086"N	104°43'56.757"W	0.00	
11417.00†	89.387	0.325	7319.50	4092.49	4093.91	-238.68	40°07'43.074"N	104°43'56.750"W	0.00	
11517.00†	89.387	0.325	7320.56	4192.48	4193.90	-238.11	40°07'44.063"N	104°43'56.742"W	0.00	
11617.00†	89.387	0.325	7321.63	4292.48	4293.89	-237.54	40°07'45.051"N	104°43'56.735"W	0.00	
11717.00†	89.387	0.325	7322.70	4392.47	4393.89	-236.98	40°07'46.039"N	104°43'56.728"W	0.00	
11817.00†	89.387	0.325	7323.77	4492.47	4493.88	-236.41	40°07'47.027"N	104°43'56.721"W	0.00	
11838.25	89.387	0.325	7324.00†	4513.72	4515.13	-236.29	40°07'47.237"N	104°43'56.719"W	0.00	TOTAL DEPTH



**Planned Wellpath Report**  
**WISHBONE 4N-24HZ( PERMIT) PWP**  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#20 WISHBONE 4N-24HZ (320'FSL & 950'FWL, SEC.24)
Area	COLORADO	Well	WISHBONE 4N-24HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	WISHBONE 4N-24HZ PWB
Facility	SEC.24-T2N-R66W		

HOLE & CASING SECTIONS - Ref Wellbore: WISHBONE 4N-24HZ PWB Ref Wellpath: WISHBONE 4N-24HZ( 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	7629.77	6629.77	1000.00	7279.00	0.00	0.00	306.96	-260.13
7in Casing Intermediate	17.00	7629.77	7612.77	17.00	7279.00	0.00	0.00	306.96	-260.13
6.125in Open Hole	7629.77	11838.25	4208.48	7279.00	7324.00	306.96	-260.13	4515.13	-236.29
4.5in Casing Production	17.00	11838.25	11821.25	17.00	7324.00	0.00	0.00	4515.13	-236.29

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		22.00	-2.83	-532.56	3214370.72	1286534.33	40°07'02.590"N	104°44'00.532"W	polygon
HELGOOTH HEIRS #2 150' RADIUS		39.00	534.40	3906.24	3218804.51	1287109.98	40°07'07.896"N	104°43'03.396"W	circle
HELGOOTH HEIRS UNIT #1 150' RADIUS		39.00	333.74	-280.53	3214619.81	1286873.05	40°07'05.916"N	104°43'57.288"W	circle
WARNER #1 150' RADIUS		39.00	3874.86	3044.42	3217913.81	1290442.71	40°07'40.908"N	104°43'14.484"W	circle
WARNER #2 150' RADIUS		39.00	4322.76	-255.32	3214610.45	1290861.97	40°07'45.336"N	104°43'56.964"W	circle
1) WISHBONE 4N-24HZ BHL ON PLAT (460'FNL & 688'FWL, SEC.24)	11838.25	7324.00	4515.13	-236.29	3214627.82	1291054.49	40°07'47.237"N	104°43'56.719"W	point
SEC. 24 HARDLINES (460' SETBACKS)		7622.00	-2.83	-532.56	3214370.72	1286534.33	40°07'02.590"N	104°44'00.532"W	polygon

SURVEY PROGRAM - Ref Wellbore: WISHBONE 4N-24HZ PWB Ref Wellpath: WISHBONE 4N-24HZ( PERMIT) PWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	7629.77	NaviTrak (MagCorr)		WISHBONE 4N-24HZ PWB
7629.77	11838.25	OnTrak (MagCorr)		WISHBONE 4N-24HZ PWB



**Planned Wellpath Report**  
 WISHBONE 4N-24HZ( PERMIT) PWP  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#20 WISHBONE 4N-24HZ (320'FSL & 950'FWL, SEC.24)
Area	COLORADO	Well	WISHBONE 4N-24HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	WISHBONE 4N-24HZ PWB
Facility	SEC.24-T2N-R66W		

WELLPATH COMMENTS					
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment	
919.00	0.000	225.380	919.00	FOX HILLS	
4177.82	0.000	0.325	4148.00	PARKMAN	
4571.82	0.000	0.325	4542.00	SUSSEX	
7237.48	50.158	0.325	7146.00	SHARON SPRINGS	
7345.49	60.960	0.325	7207.00	NIOBRARA A	
7452.72	71.682	0.325	7250.00	NIOBRARA B	