

KERR-MCGEE OIL & GAS ONSHORE LP (WA)



Location: COLORADO Slot: SLOT#32 PUMA FED 5S-35HZ (290'FSL & 71'FWL, SEC23)

Field: WELD COUNTY (UTM/TRUE NORTH) Well: PUMA FED 5S-35HZ

Facility: SEC.23-T1N-R67W Wellbore: PUMA FED 5S-35HZ PWB

Plot reference wellpath is PUMA FED 5S-35HZ Rev-D.0 PWP				Grid System: NAD83 / UTM Zone 13 North, US feet			
True vertical depths are referenced to NABORS X22 (RKB 32') (RKB)				* = Wellpath was transformed from a different geodetic datum			
Measured depths are referenced to NABORS X22 (RKB 32') (RKB)				North Reference: True north			
NABORS X22 (RKB 32') (RKB) to Mean Sea Level: 5023 feet				Scale: True distance			
Mean Sea Level to Mud line (At Slot: SLOT#32 PUMA FED 5S-35HZ (290'FSL & 71'FWL, SEC23)): 0 feet				Depths are in feet			
Coordinates are in feet referenced to Slot				Created by: painsrtr on 2017-02-06			
				Database: WA, DEN, Anadarko, Defn			

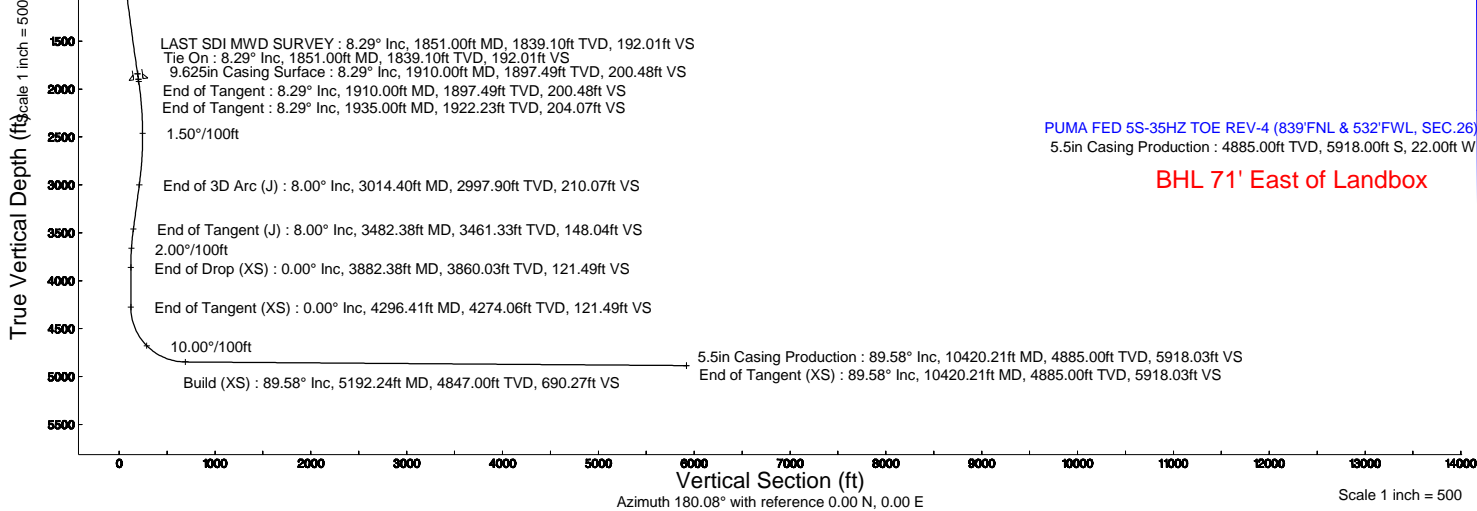
Location Information					
Facility Name		Grid East (US ft)		Grid North (US ft)	Latitude
SEC.23-T1N-R67W		1682113.860		14537751.930	40°01'48.587"N
Slot		Grid East (US ft)		Grid North (US ft)	Latitude
SLOT#32 PUMA FED 5S-35HZ (290'FSL & 71'FWL, SEC23)		1678142.530		14537743.403	40°01'48.565"N
NABORS X22 (RKB 32') (RKB) to Mud line (At Slot: SLOT#32 PUMA FED 5S-35HZ (290'FSL & 71'FWL, SEC23))				5023ft	
Mean Sea Level to Mud line (At Slot: SLOT#32 PUMA FED 5S-35HZ (290'FSL & 71'FWL, SEC23))				0ft	
NABORS X22 (RKB 32') (RKB) to Mean Sea Level				5023ft	

Survey Program					
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
32.00	1851.00	SCWSA MWD, Rev. 2	ISCWSA MWD, Rev. 2 (Standard)		PUMA FED 5S-35HZ AWB
1851.00	10420.22	SCWSA MWD, Rev. 2	Custom APC, ISCWSA REV 2 MWD+IFR1 (approximation)		PUMA FED 5S-35HZ PWB

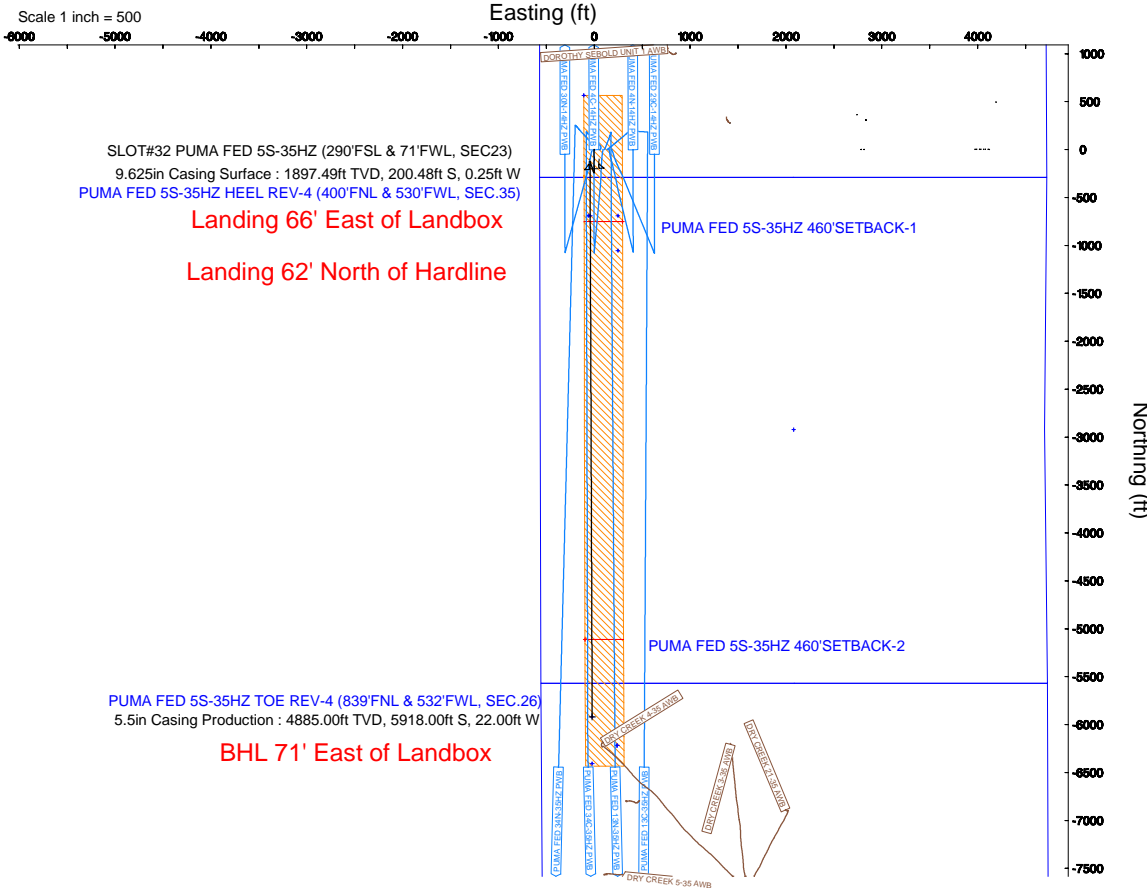
Targets								
Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
UMA FED 5S-35HZ HEEL REV-1 (1' FNL & 809' FWL SEC.35)		4847.00	-1054.20	246.37	1678390.40	14536690.00	40°01'38.147"N	104°51'51.661"W
UMA FED 5S-35HZ HEEL REV-2 (1' FNL & 809' FWL SEC.35)		4847.00	-690.21	246.37	1678389.85	14537053.84	40°01'41.744"N	104°51'51.661"W
UMA FED 5S-35HZ HEEL REV-3 (400'FNL & 49'FWL SEC.35)		4847.00	-690.21	-62.00	1678081.60	14537053.38	40°01'41.744"N	104°51'55.625"W
UMA FED 5S-35HZ HEEL REV-4 (400'FNL & 530'FWL SEC.35)	5192.24	4847.00	-690.21	-42.00	1678101.59	14537053.41	40°01'41.744"N	104°51'55.368"W
UMA FED 5S-35HZ 460'SETBACK-1		4885.00	-751.75	294.25	1678437.80	14536992.40	40°01'41.136"N	104°51'51.045"W
UMA FED 5S-35HZ 460'SETBACK-2		4885.00	-5112.21	-96.30	1678054.00	14532633.10	40°00'58.045"N	104°51'56.066"W
UMA FED 5S-35HZ LANDBOX		4885.00	565.79	-109.62	1678032.10	14538308.80	40°01'54.156"N	104°51'56.237"W
UMA FED 5S-35HZ TOE REV-1 (118' FNL & 665' FWL SEC.26)		4885.00	-6217.46	238.56	1678390.40	14531528.80	40°00'47.122"N	104°51'51.762"W
UMA FED 5S-35HZ TOE REV-2 (118' FNL & 665' FWL SEC.26)		4885.00	-6217.46	238.56	1678390.40	14531528.80	40°00'47.122"N	104°51'51.762"W
UMA FED 5S-35HZ TOE REV-3 (839'FNL & 532'FWL SEC.26)		4885.00	-6407.00	-22.00	1678130.23	14531338.94	40°00'45.249"N	104°51'55.111"W
UMA FED 5S-35HZ TOE REV-4 (839'FNL & 532'FWL SEC.26)	10420.21	4885.00	-5918.00	-22.00	1678129.49	14531827.75	40°00'50.082"N	104°51'55.111"W
SEC.23-T1N-R67W LINES		5023.00	2331.01	2064.50	1680202.68	14540076.60	40°02'11.600"N	104°51'28.286"W
SEC.26-T1N-R67W LINES		5023.00	-2922.48	2080.35	1680226.46	14534825.24	40°01'19.683"N	104°51'28.088"W
SEC.35-T1N-R67W LINES		5023.00	-8209.35	2097.17	1680251.27	14529540.52	40°00'27.437"N	104°51'27.877"W

Hole and Casing Sections										
Name	Start MD (ft)	End MD (ft)	Interval (ft)	Start TVD (ft)	End TVD (ft)	Start Local N (ft)	Start Local E (ft)	End Local N (ft)	End Local E (ft)	Wellbore
9.625in Casing Surface	32.00	1910.00	1878.00	32.00	1897.49	0.00	0.00	-200.48	-0.25	PUMA FED 5S-35HZ PWB
7.875in Open Hole	1910.00	10420.21	8510.21	1897.49	4885.00	-200.48	-0.25	-5918.00	-22.00	PUMA FED 5S-35HZ PWB
5.5in Casing Production	32.00	10420.21	10388.21	32.00	4885.00	0.00	0.00	-5918.00	-22.00	PUMA FED 5S-35HZ PWB

Bottom Hole Location										
MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
10420.21	89.58	179.781	4885.00	-2918.00	-22.00	1678129.49	14531827.75	40°00'50.082"N	104°51'55.111"W	



Well Profile Data								
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	1851.00	8.290	174.940	1839.10	-192.01	-1.01	0.58	192.01
End of Tangent	1910.00	8.290	174.940	1897.49	-200.48	-0.25	0.00	200.48
End of Tangent	1935.00	8.290	174.940	1922.23	-204.07	0.06	0.00	204.07
End of 3D Arc (J)	3014.40	8.000	342.343	2997.90	-210.05	-15.96	1.50	210.07
End of Tangent (J)	3482.38	8.000	342.343	3461.33	-147.99	-35.72	0.00	148.04
End of Drop (XS)	3882.38	0.000	179.781	3860.03	-121.42	-44.18	2.00	121.49
End of Tangent (XS)	4296.41	0.000	179.781	4274.06	-121.42	-44.18	0.00	121.49
Build (XS)	5192.24	89.584	179.781	4847.00	-690.21	-42.00	10.00	690.27
End of Tangent (XS)	10420.21	89.584	179.781	4885.00	-5918.00	-22.00	0.00	5918.03



Approval			
Baker Hughes Representative	Signature	Reviewed by	Signature
Prepared by	Position	Reviewed by	Position
Date		Date	
KERR-MCGEE OIL & GAS ONSHORE LP (WA) Representative	Signature	Reviewed by	Signature
Approved by	Position	Reviewed by	Position
Date		Date	
Comment			

# Planned Wellpath Report

PUMA FED 5S-35HZ Rev-D.0 PWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#32 PUMA FED 5S-35HZ (290'FSL & 71'FWL, SEC23)
Area	COLORADO	Well	PUMA FED 5S-35HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	PUMA FED 5S-35HZ PWB
Facility	SEC.23-T1N-R67W		

## REPORT SETUP INFORMATION

Projection System	NAD83 / UTM Zone 13 North, US feet	Software System	WellArchitect® 5.0
North Reference	True	User	Painsetr
Scale	0.999602	Report Generated	06/Feb/2017 at 16:00
Convergence at slot	0.09° East	Database/Source file	WA_DEN_Anadarko_Defn/PUMA_FED_5S-35HZ_Rev-D.0_PWP.xml

## WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-1.89	-3972.93	1678142.53	14537743.40	40°01'48.565"N	104°51'54.828"W
Facility Reference Pt			1682113.86	14537751.93	40°01'48.587"N	104°51'03.755"W
Field Reference Pt			1698235.31	14552047.82	40°04'09.600"N	104°47'36.000"W

## WELLPATH DATUM

Calculation method	Minimum curvature	NABORS X22 (RKB 32') (RKB) to Facility Vertical Datum	5023.00ft
Horizontal Reference Pt	Slot	NABORS X22 (RKB 32') (RKB) to Mean Sea Level	5023.00ft
Vertical Reference Pt	NABORS X22 (RKB 32') (RKB)	NABORS X22 (RKB 32') (RKB) to Mud Line at Slot (SLOT#32 PUMA FED 5S-35HZ (290'FSL & 71'FWL, SEC23))	5023.00ft
MD Reference Pt	NABORS X22 (RKB 32') (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	180.08°

# Planned Wellpath Report

PUMA FED 5S-35HZ Rev-D.0 PWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#32 PUMA FED 5S-35HZ (290'FSL & 71'FWL, SEC23)
Area	COLORADO	Well	PUMA FED 5S-35HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	PUMA FED 5S-35HZ PWB
Facility	SEC.23-T1N-R67W		

## WELLPATH DATA (116 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00†	0.000	218.470	0.00	0.00	0.00	0.00	1678142.53	14537743.40	40°01'48.565"N	104°51'54.828"W	0.00	
32.00	0.000	218.470	32.00	0.00	0.00	0.00	1678142.53	14537743.40	40°01'48.565"N	104°51'54.828"W	0.00	
129.00	0.740	218.470	129.00	0.49	-0.49	-0.39	1678142.14	14537742.91	40°01'48.560"N	104°51'54.833"W	0.76	FIRST SDI MWD SURVEY
211.00	1.720	200.250	210.98	2.06	-2.06	-1.15	1678141.39	14537741.34	40°01'48.545"N	104°51'54.843"W	1.27	
284.00	2.560	189.580	283.93	4.70	-4.70	-1.80	1678140.74	14537738.71	40°01'48.519"N	104°51'54.851"W	1.27	
372.00	3.290	180.170	371.81	9.16	-9.16	-2.13	1678140.41	14537734.25	40°01'48.474"N	104°51'54.855"W	0.99	
461.00	4.680	185.820	460.59	15.33	-15.32	-2.51	1678140.05	14537728.08	40°01'48.414"N	104°51'54.860"W	1.62	
550.00	5.330	181.250	549.26	23.07	-23.07	-2.96	1678139.60	14537720.34	40°01'48.337"N	104°51'54.866"W	0.86	
637.00	5.840	183.200	635.84	31.53	-31.53	-3.30	1678139.28	14537711.88	40°01'48.253"N	104°51'54.870"W	0.63	
721.00	6.280	180.730	719.37	40.39	-40.39	-3.60	1678139.00	14537703.02	40°01'48.166"N	104°51'54.874"W	0.61	
810.00	7.520	174.500	807.73	51.06	-51.05	-3.10	1678139.51	14537692.36	40°01'48.060"N	104°51'54.868"W	1.63	
897.00	7.350	176.730	894.00	62.28	-62.28	-2.24	1678140.39	14537681.15	40°01'47.950"N	104°51'54.857"W	0.38	
986.00	7.330	177.000	982.27	73.63	-73.63	-1.62	1678141.03	14537669.80	40°01'47.837"N	104°51'54.849"W	0.04	
1072.00	8.300	178.870	1067.47	85.32	-85.32	-1.21	1678141.45	14537658.12	40°01'47.722"N	104°51'54.844"W	1.17	
1161.00	7.700	179.560	1155.60	97.70	-97.70	-1.03	1678141.65	14537645.74	40°01'47.600"N	104°51'54.841"W	0.68	
1250.00	7.190	182.170	1243.85	109.23	-109.23	-1.20	1678141.50	14537634.22	40°01'47.486"N	104°51'54.843"W	0.69	
1336.00	7.790	181.440	1329.12	120.43	-120.43	-1.55	1678141.16	14537623.02	40°01'47.375"N	104°51'54.848"W	0.71	
1421.00	7.390	182.820	1413.37	131.65	-131.65	-1.96	1678140.77	14537611.80	40°01'47.264"N	104°51'54.853"W	0.52	
1510.00	7.760	179.720	1501.59	143.38	-143.38	-2.21	1678140.53	14537600.08	40°01'47.148"N	104°51'54.856"W	0.62	
1598.00	8.010	179.240	1588.76	155.45	-155.45	-2.10	1678140.66	14537588.01	40°01'47.029"N	104°51'54.855"W	0.29	
1685.00	8.500	179.490	1674.86	167.94	-167.94	-1.97	1678140.82	14537575.53	40°01'46.905"N	104°51'54.853"W	0.56	
1774.00	8.290	178.020	1762.91	180.93	-180.93	-1.69	1678141.12	14537562.54	40°01'46.777"N	104°51'54.850"W	0.34	
1851.00	8.290	174.940	1839.10	192.01	-192.01	-1.01	1678141.82	14537551.47	40°01'46.668"N	104°51'54.841"W	0.58	Tie On; LAST SDI MWD SURVEY
1910.00	8.290	174.940	1897.49	200.48	-200.48	-0.25	1678142.58	14537543.00	40°01'46.584"N	104°51'54.831"W	0.00	End of Tangent
1935.00	8.290	174.940	1922.23	204.07	-204.07	0.06	1678142.90	14537539.42	40°01'46.548"N	104°51'54.827"W	0.00	End of Tangent
1951.00†	8.051	175.127	1938.06	206.33	-206.34	0.26	1678143.10	14537537.15	40°01'46.526"N	104°51'54.825"W	1.50	
2051.00†	6.563	176.597	2037.25	219.02	-219.02	1.19	1678144.06	14537524.47	40°01'46.401"N	104°51'54.813"W	1.50	
2151.00†	5.081	178.923	2136.73	229.15	-229.15	1.62	1678144.49	14537514.35	40°01'46.300"N	104°51'54.807"W	1.50	
2251.00†	3.615	183.142	2236.44	236.73	-236.73	1.53	1678144.41	14537506.77	40°01'46.226"N	104°51'54.808"W	1.50	
2351.00†	2.194	192.942	2336.31	241.74	-241.74	0.93	1678143.82	14537501.76	40°01'46.176"N	104°51'54.816"W	1.50	

# Planned Wellpath Report

PUMA FED 5S-35HZ Rev-D.0 PWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#32 PUMA FED 5S-35HZ (290'FSL & 71'FWL, SEC23)
Area	COLORADO	Well	PUMA FED 5S-35HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	PUMA FED 5S-35HZ PWB
Facility	SEC.23-T1N-R67W		

WELLPATH DATA (116 stations) † = interpolated/extrapolated station												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
2451.00†	1.030	229.612	2436.27	244.19	-244.19	-0.19	1678142.71	14537499.31	40°01'46.152"N	104°51'54.830"W	1.50	
2551.00†	1.344	306.754	2536.25	244.07	-244.07	-1.81	1678141.09	14537499.43	40°01'46.153"N	104°51'54.851"W	1.50	
2651.00†	2.655	328.973	2636.19	241.39	-241.38	-3.95	1678138.95	14537502.11	40°01'46.180"N	104°51'54.879"W	1.50	
2751.00†	4.098	336.101	2736.02	236.14	-236.13	-6.59	1678136.30	14537507.36	40°01'46.231"N	104°51'54.913"W	1.50	
2851.00†	5.571	339.495	2835.66	228.33	-228.32	-9.74	1678133.14	14537515.16	40°01'46.309"N	104°51'54.953"W	1.50	
2951.00†	7.056	341.469	2935.05	217.97	-217.95	-13.39	1678129.48	14537525.52	40°01'46.411"N	104°51'55.000"W	1.50	
3014.40	8.000	342.343	2997.90	210.07	-210.05	-15.96	1678126.89	14537533.41	40°01'46.489"N	104°51'55.033"W	1.50	End of 3D Arc (J)
3051.00†	8.000	342.343	3034.15	205.22	-205.20	-17.51	1678125.34	14537538.26	40°01'46.537"N	104°51'55.053"W	0.00	
3151.00†	8.000	342.343	3133.17	191.97	-191.93	-21.73	1678121.10	14537551.51	40°01'46.668"N	104°51'55.107"W	0.00	
3251.00†	8.000	342.343	3232.20	178.71	-178.67	-25.95	1678116.86	14537564.76	40°01'46.799"N	104°51'55.162"W	0.00	
3351.00†	8.000	342.343	3331.23	165.46	-165.41	-30.17	1678112.62	14537578.01	40°01'46.930"N	104°51'55.216"W	0.00	
3451.00†	8.000	342.343	3430.25	152.20	-152.15	-34.39	1678108.38	14537591.26	40°01'47.061"N	104°51'55.270"W	0.00	
3482.38	8.000	342.343	3461.33	148.04	-147.99	-35.72	1678107.05	14537595.42	40°01'47.103"N	104°51'55.287"W	0.00	End of Tangent (J)
3551.00†	6.628	342.343	3529.39	139.72	-139.66	-38.37	1678104.39	14537603.74	40°01'47.185"N	104°51'55.321"W	2.00	
3651.00†	4.628	342.343	3628.90	130.38	-130.32	-41.34	1678101.40	14537613.07	40°01'47.277"N	104°51'55.359"W	2.00	
3751.00†	2.628	342.343	3728.69	124.35	-124.29	-43.26	1678099.47	14537619.10	40°01'47.337"N	104°51'55.384"W	2.00	
3851.00†	0.628	342.343	3828.65	121.65	-121.58	-44.12	1678098.61	14537621.80	40°01'47.363"N	104°51'55.395"W	2.00	
3882.38	0.000	179.781	3860.03	121.49	-121.42	-44.18	1678098.56	14537621.96	40°01'47.365"N	104°51'55.396"W	2.00	End of Drop (XS)
3951.00†	0.000	179.781	3928.65	121.49	-121.42	-44.18	1678098.56	14537621.96	40°01'47.365"N	104°51'55.396"W	0.00	
4051.00†	0.000	179.781	4028.65	121.49	-121.42	-44.18	1678098.56	14537621.96	40°01'47.365"N	104°51'55.396"W	0.00	
4151.00†	0.000	179.781	4128.65	121.49	-121.42	-44.18	1678098.56	14537621.96	40°01'47.365"N	104°51'55.396"W	0.00	
4251.00†	0.000	179.781	4228.65	121.49	-121.42	-44.18	1678098.56	14537621.96	40°01'47.365"N	104°51'55.396"W	0.00	
4296.41	0.000	179.781	4274.06	121.49	-121.42	-44.18	1678098.56	14537621.96	40°01'47.365"N	104°51'55.396"W	0.00	End of Tangent (XS)
4351.00†	5.459	179.781	4328.57	124.08	-124.02	-44.17	1678098.57	14537619.37	40°01'47.339"N	104°51'55.396"W	10.00	
4451.00†	15.459	179.781	4426.78	142.21	-142.15	-44.10	1678098.67	14537601.24	40°01'47.160"N	104°51'55.395"W	10.00	
4551.00†	25.459	179.781	4520.35	177.12	-177.06	-43.96	1678098.85	14537566.35	40°01'46.815"N	104°51'55.393"W	10.00	
4651.00†	35.459	179.781	4606.44	227.75	-227.69	-43.77	1678099.12	14537515.74	40°01'46.315"N	104°51'55.391"W	10.00	
4751.00†	45.459	179.781	4682.43	292.56	-292.49	-43.52	1678099.47	14537450.96	40°01'45.674"N	104°51'55.387"W	10.00	
4851.00†	55.459	179.781	4746.02	369.58	-369.51	-43.23	1678099.88	14537373.97	40°01'44.913"N	104°51'55.384"W	10.00	
4951.00†	65.459	179.781	4795.26	456.47	-456.40	-42.89	1678100.34	14537287.12	40°01'44.055"N	104°51'55.379"W	10.00	

# Planned Wellpath Report

PUMA FED 5S-35HZ Rev-D.0 PWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#32 PUMA FED 5S-35HZ (290'FSL & 71'FWL, SEC23)
Area	COLORADO	Well	PUMA FED 5S-35HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	PUMA FED 5S-35HZ PWB
Facility	SEC.23-T1N-R67W		

## WELLPATH DATA (116 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
5051.00†	75.459	179.781	4828.66	550.58	-550.52	-42.53	1678100.85	14537193.04	40°01'43.125"N	104°51'55.375"W	10.00	
5151.00†	85.459	179.781	4845.22	649.08	-649.01	-42.16	1678101.37	14537094.59	40°01'42.151"N	104°51'55.370"W	10.00	
5192.24	89.584	179.781	4847.00†	690.27	-690.21	-42.00	1678101.59	14537053.41	40°01'41.744"N	104°51'55.368"W	10.00	Build (XS)
5251.00†	89.584	179.781	4847.43	749.02	-748.96	-41.78	1678101.90	14536994.68	40°01'41.164"N	104°51'55.365"W	0.00	
5351.00†	89.584	179.781	4848.15	849.02	-848.96	-41.39	1678102.44	14536894.72	40°01'40.175"N	104°51'55.360"W	0.00	
5451.00†	89.584	179.781	4848.88	949.02	-948.96	-41.01	1678102.97	14536794.76	40°01'39.187"N	104°51'55.355"W	0.00	
5551.00†	89.584	179.781	4849.61	1049.01	-1048.95	-40.63	1678103.51	14536694.81	40°01'38.199"N	104°51'55.350"W	0.00	
5651.00†	89.584	179.781	4850.33	1149.01	-1148.95	-40.24	1678104.04	14536594.85	40°01'37.211"N	104°51'55.345"W	0.00	
5751.00†	89.584	179.781	4851.06	1249.00	-1248.95	-39.86	1678104.57	14536494.90	40°01'36.223"N	104°51'55.340"W	0.00	
5851.00†	89.584	179.781	4851.79	1349.00	-1348.94	-39.48	1678105.11	14536394.94	40°01'35.234"N	104°51'55.335"W	0.00	
5951.00†	89.584	179.781	4852.52	1449.00	-1448.94	-39.10	1678105.64	14536294.99	40°01'34.246"N	104°51'55.331"W	0.00	
6051.00†	89.584	179.781	4853.24	1548.99	-1548.94	-38.71	1678106.17	14536195.03	40°01'33.258"N	104°51'55.326"W	0.00	
6151.00†	89.584	179.781	4853.97	1648.99	-1648.93	-38.33	1678106.71	14536095.07	40°01'32.270"N	104°51'55.321"W	0.00	
6251.00†	89.584	179.781	4854.70	1748.98	-1748.93	-37.95	1678107.24	14535995.12	40°01'31.282"N	104°51'55.316"W	0.00	
6351.00†	89.584	179.781	4855.42	1848.98	-1848.93	-37.57	1678107.77	14535895.16	40°01'30.293"N	104°51'55.311"W	0.00	
6451.00†	89.584	179.781	4856.15	1948.98	-1948.92	-37.18	1678108.31	14535795.21	40°01'29.305"N	104°51'55.306"W	0.00	
6551.00†	89.584	179.781	4856.88	2048.97	-2048.92	-36.80	1678108.84	14535695.25	40°01'28.317"N	104°51'55.301"W	0.00	
6651.00†	89.584	179.781	4857.60	2148.97	-2148.92	-36.42	1678109.38	14535595.29	40°01'27.329"N	104°51'55.296"W	0.00	
6751.00†	89.584	179.781	4858.33	2248.96	-2248.91	-36.04	1678109.91	14535495.34	40°01'26.341"N	104°51'55.291"W	0.00	
6851.00†	89.584	179.781	4859.06	2348.96	-2348.91	-35.65	1678110.44	14535395.38	40°01'25.352"N	104°51'55.286"W	0.00	
6951.00†	89.584	179.781	4859.78	2448.96	-2448.91	-35.27	1678110.98	14535295.43	40°01'24.364"N	104°51'55.281"W	0.00	
7051.00†	89.584	179.781	4860.51	2548.95	-2548.90	-34.89	1678111.51	14535195.47	40°01'23.376"N	104°51'55.276"W	0.00	
7151.00†	89.584	179.781	4861.24	2648.95	-2648.90	-34.51	1678112.04	14535095.51	40°01'22.388"N	104°51'55.272"W	0.00	
7251.00†	89.584	179.781	4861.96	2748.94	-2748.90	-34.12	1678112.58	14534995.56	40°01'21.400"N	104°51'55.267"W	0.00	
7351.00†	89.584	179.781	4862.69	2848.94	-2848.89	-33.74	1678113.11	14534895.60	40°01'20.411"N	104°51'55.262"W	0.00	
7451.00†	89.584	179.781	4863.42	2948.94	-2948.89	-33.36	1678113.64	14534795.65	40°01'19.423"N	104°51'55.257"W	0.00	
7551.00†	89.584	179.781	4864.14	3048.93	-3048.89	-32.98	1678114.18	14534695.69	40°01'18.435"N	104°51'55.252"W	0.00	
7651.00†	89.584	179.781	4864.87	3148.93	-3148.88	-32.59	1678114.71	14534595.74	40°01'17.447"N	104°51'55.247"W	0.00	
7751.00†	89.584	179.781	4865.60	3248.92	-3248.88	-32.21	1678115.25	14534495.78	40°01'16.459"N	104°51'55.242"W	0.00	
7851.00†	89.584	179.781	4866.33	3348.92	-3348.88	-31.83	1678115.78	14534395.82	40°01'15.470"N	104°51'55.237"W	0.00	



# Planned Wellpath Report

PUMA FED 5S-35HZ Rev-D.0 PWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#32 PUMA FED 5S-35HZ (290'FSL & 71'FWL, SEC23)
Area	COLORADO	Well	PUMA FED 5S-35HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	PUMA FED 5S-35HZ PWB
Facility	SEC.23-T1N-R67W		

## WELLPATH DATA (116 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7951.00†	89.584	179.781	4867.05	3448.92	-3448.87	-31.45	1678116.31	14534295.87	40°01'14.482"N	104°51'55.232"W	0.00	
8051.00†	89.584	179.781	4867.78	3548.91	-3548.87	-31.06	1678116.85	14534195.91	40°01'13.494"N	104°51'55.227"W	0.00	
8151.00†	89.584	179.781	4868.51	3648.91	-3648.87	-30.68	1678117.38	14534095.96	40°01'12.506"N	104°51'55.222"W	0.00	
8251.00†	89.584	179.781	4869.23	3748.90	-3748.86	-30.30	1678117.91	14533996.00	40°01'11.518"N	104°51'55.217"W	0.00	
8351.00†	89.584	179.781	4869.96	3848.90	-3848.86	-29.92	1678118.45	14533896.04	40°01'10.529"N	104°51'55.213"W	0.00	
8451.00†	89.584	179.781	4870.69	3948.90	-3948.86	-29.53	1678118.98	14533796.09	40°01'09.541"N	104°51'55.208"W	0.00	
8551.00†	89.584	179.781	4871.41	4048.89	-4048.85	-29.15	1678119.51	14533696.13	40°01'08.553"N	104°51'55.203"W	0.00	
8651.00†	89.584	179.781	4872.14	4148.89	-4148.85	-28.77	1678120.05	14533596.18	40°01'07.565"N	104°51'55.198"W	0.00	
8751.00†	89.584	179.781	4872.87	4248.88	-4248.85	-28.39	1678120.58	14533496.22	40°01'06.577"N	104°51'55.193"W	0.00	
8851.00†	89.584	179.781	4873.59	4348.88	-4348.84	-28.00	1678121.12	14533396.26	40°01'05.589"N	104°51'55.188"W	0.00	
8951.00†	89.584	179.781	4874.32	4448.88	-4448.84	-27.62	1678121.65	14533296.31	40°01'04.600"N	104°51'55.183"W	0.00	
9051.00†	89.584	179.781	4875.05	4548.87	-4548.84	-27.24	1678122.18	14533196.35	40°01'03.612"N	104°51'55.178"W	0.00	
9151.00†	89.584	179.781	4875.77	4648.87	-4648.83	-26.86	1678122.72	14533096.40	40°01'02.624"N	104°51'55.173"W	0.00	
9251.00†	89.584	179.781	4876.50	4748.86	-4748.83	-26.47	1678123.25	14532996.44	40°01'01.636"N	104°51'55.168"W	0.00	
9351.00†	89.584	179.781	4877.23	4848.86	-4848.83	-26.09	1678123.78	14532896.48	40°01'00.648"N	104°51'55.163"W	0.00	
9451.00†	89.584	179.781	4877.96	4948.85	-4948.82	-25.71	1678124.32	14532796.53	40°00'59.659"N	104°51'55.158"W	0.00	
9551.00†	89.584	179.781	4878.68	5048.85	-5048.82	-25.33	1678124.85	14532696.57	40°00'58.671"N	104°51'55.153"W	0.00	
9651.00†	89.584	179.781	4879.41	5148.85	-5148.82	-24.94	1678125.38	14532596.62	40°00'57.683"N	104°51'55.149"W	0.00	
9751.00†	89.584	179.781	4880.14	5248.84	-5248.81	-24.56	1678125.92	14532496.66	40°00'56.695"N	104°51'55.144"W	0.00	
9851.00†	89.584	179.781	4880.86	5348.84	-5348.81	-24.18	1678126.45	14532396.71	40°00'55.707"N	104°51'55.139"W	0.00	
9951.00†	89.584	179.781	4881.59	5448.83	-5448.81	-23.80	1678126.99	14532296.75	40°00'54.718"N	104°51'55.134"W	0.00	
10051.00†	89.584	179.781	4882.32	5548.83	-5548.80	-23.41	1678127.52	14532196.79	40°00'53.730"N	104°51'55.129"W	0.00	
10151.00†	89.584	179.781	4883.04	5648.83	-5648.80	-23.03	1678128.05	14532096.84	40°00'52.742"N	104°51'55.124"W	0.00	
10251.00†	89.584	179.781	4883.77	5748.82	-5748.80	-22.65	1678128.59	14531996.88	40°00'51.754"N	104°51'55.119"W	0.00	
10351.00†	89.584	179.781	4884.50	5848.82	-5848.79	-22.26	1678129.12	14531896.93	40°00'50.766"N	104°51'55.114"W	0.00	
10420.21	89.584	179.781	4885.00†	5918.03	-5918.00	-22.00	1678129.49	14531827.75	40°00'50.082"N	104°51'55.111"W	0.00	End of Tangent (XS)

# Planned Wellpath Report

PUMA FED 5S-35HZ Rev-D.0 PWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#32 PUMA FED 5S-35HZ (290'FSL & 71'FWL, SEC23)
Area	COLORADO	Well	PUMA FED 5S-35HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	PUMA FED 5S-35HZ PWB
Facility	SEC.23-T1N-R67W		

## HOLE & CASING SECTIONS - Ref Wellbore: PUMA FED 5S-35HZ PWB Ref Wellpath: PUMA FED 5S-35HZ Rev-D.0 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]
9.625in Casing Surface	32.00	1910.00	1878.00	32.00	1897.49	0.00	0.00	-200.48	-0.25
7.875in Open Hole	1910.00	10420.21	8510.21	1897.49	4885.00	-200.48	-0.25	-5918.00	-22.00
5.5in Casing Production	32.00	10420.21	10388.21	32.00	4885.00	0.00	0.00	-5918.00	-22.00

## TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
PUMA FED 5S-35HZ HEEL REV-1 (1' FNL & 809' FWL, SEC.35)		4847.00	-1054.20	246.37	1678390.40	14536690.00	40°01'38.147"N	104°51'51.661"W	point
PUMA FED 5S-35HZ HEEL REV-2 (1' FNL & 809' FWL, SEC.35)		4847.00	-690.21	246.37	1678389.85	14537053.84	40°01'41.744"N	104°51'51.661"W	point
PUMA FED 5S-35HZ HEEL REV-3 (400'FNL & 49'FWL, SEC.35)		4847.00	-690.21	-62.00	1678081.60	14537053.38	40°01'41.744"N	104°51'55.625"W	point
1) PUMA FED 5S-35HZ HEEL REV-4 (400'FNL & 530'FWL, SEC.35)	5192.24	4847.00	-690.21	-42.00	1678101.59	14537053.41	40°01'41.744"N	104°51'55.368"W	point
PUMA FED 5S-35HZ 460'SETBACK-1		4885.00	-751.75	294.25	1678437.80	14536992.40	40°01'41.136"N	104°51'51.045"W	polygon
PUMA FED 5S-35HZ 460'SETBACK-2		4885.00	-5112.21	-96.30	1678054.00	14532633.10	40°00'58.045"N	104°51'56.066"W	polygon
PUMA FED 5S-35HZ LANDBOX		4885.00	565.79	-109.62	1678032.10	14538308.80	40°01'54.156"N	104°51'56.237"W	polygon
PUMA FED 5S-35HZ TOE REV-1 (118' FNL & 665' FWL, SEC.26)		4885.00	-6217.46	238.56	1678390.40	14531528.80	40°00'47.122"N	104°51'51.762"W	point
PUMA FED 5S-35HZ TOE REV-2 (118' FNL & 665' FWL, SEC.26)		4885.00	-6217.46	238.56	1678390.40	14531528.80	40°00'47.122"N	104°51'51.762"W	point
PUMA FED 5S-35HZ TOE REV-3 (839'FNL & 532'FWL, SEC.26)		4885.00	-6407.00	-22.00	1678130.23	14531338.94	40°00'45.249"N	104°51'55.111"W	point
2) PUMA FED 5S-35HZ TOE REV-4 (839'FNL & 532'FWL, SEC.26)	10420.21	4885.00	-5918.00	-22.00	1678129.49	14531827.75	40°00'50.082"N	104°51'55.111"W	point
SEC.23-T1N-R67W LINES		5023.00	2331.01	2064.50	1680202.68	14540076.60	40°02'11.600"N	104°51'28.286"W	polygon

## TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.26-T1N-R67W LINES		5023.00	-2922.48	2080.35	1680226.46	14534825.24	40°01'19.683"N	104°51'28.088"W	polygon
SEC.35-T1N-R67W LINES		5023.00	-8209.35	2097.17	1680251.27	14529540.52	40°00'27.437"N	104°51'27.877"W	polygon

## SURVEY PROGRAM - Ref Wellbore: PUMA FED 5S-35HZ PWB Ref Wellpath: PUMA FED 5S-35HZ Rev-D.0 PWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
32.00	1851.00	ISCWSA MWD, Rev. 2 (Standard)		PUMA FED 5S-35HZ AWB
1851.00	10420.22	Custom APC_ISCWSA REV 2 MWD+IFR1 (approximation)		PUMA FED 5S-35HZ PWB

# Planned Wellpath Report

PUMA FED 5S-35HZ Rev-D.0 PWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#32 PUMA FED 5S-35HZ (290'FSL & 71'FWL, SEC23)
Area	COLORADO	Well	PUMA FED 5S-35HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	PUMA FED 5S-35HZ PWB
Facility	SEC.23-T1N-R67W		

## WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
129.00	0.740	218.470	129.00	FIRST SDI MWD SURVEY
1851.00	8.290	174.940	1839.10	LAST SDI MWD SURVEY

## DESIGN COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1851.00	8.290	174.940	1839.10	Tie On
1910.00	8.290	174.940	1897.49	End of Tangent
1935.00	8.290	174.940	1922.23	End of Tangent
3014.40	8.000	342.343	2997.90	End of 3D Arc (J)
3482.38	8.000	342.343	3461.33	End of Tangent (J)
3882.38	0.000	179.781	3860.03	End of Drop (XS)
4296.41	0.000	179.781	4274.06	End of Tangent (XS)
5192.24	89.584	179.781	4847.00	Build (XS)
10420.21	89.584	179.781	4885.00	End of Tangent (XS)