

KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#05 PETTINGER 28N-18HZ (521'FSL & 1673'FEL, SEC.18)
 Field: WELD COUNTY (KERR MCGEE) Well: PETTINGER 28N-18HZ
 Facility: SEC.18-T1N-R65W Wellbore: PETTINGER 28N-18HZ PWB

Plot reference wellpath is PETTINGER 28N-18HZ (REV-A.0) PWP

True vertical depths are referenced to XTREME 6 (RKB 16) (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to XTREME 6 (RKB 16) (RKB)	North Reference: True north
XTREME 6 (RKB 16) (RKB) to Mean Sea Level: 5013 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#05 PETTINGER 28N-18HZ (521'FSL & 1673'FEL, SEC.18)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: wiljeff02 on 1/16/2014

Location Information

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude		
SEC.18-T1N-R65W	3223115.966	1260355.537	40°02'43.124"N	104°42'10.994"W		
Slot	Local E (ft)	Local N (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#05 PETTINGER 28N-18HZ (521'FSL & 1673'FEL, SEC.18)	104.13	0.23	3223115.263	1260459.657	40°02'44.153"N	104°42'10.991"W
XTREME 6 (RKB 16) (RKB) to Mud line (At Slot: SLOT#05 PETTINGER 28N-18HZ (521'FSL & 1673'FEL, SEC.18))						5013ft
Mean Sea Level to Mud line (At Slot: SLOT#05 PETTINGER 28N-18HZ (521'FSL & 1673'FEL, SEC.18))						0ft
XTREME 6 (RKB 16) (RKB) to Mean Sea Level						5013ft

Survey Program

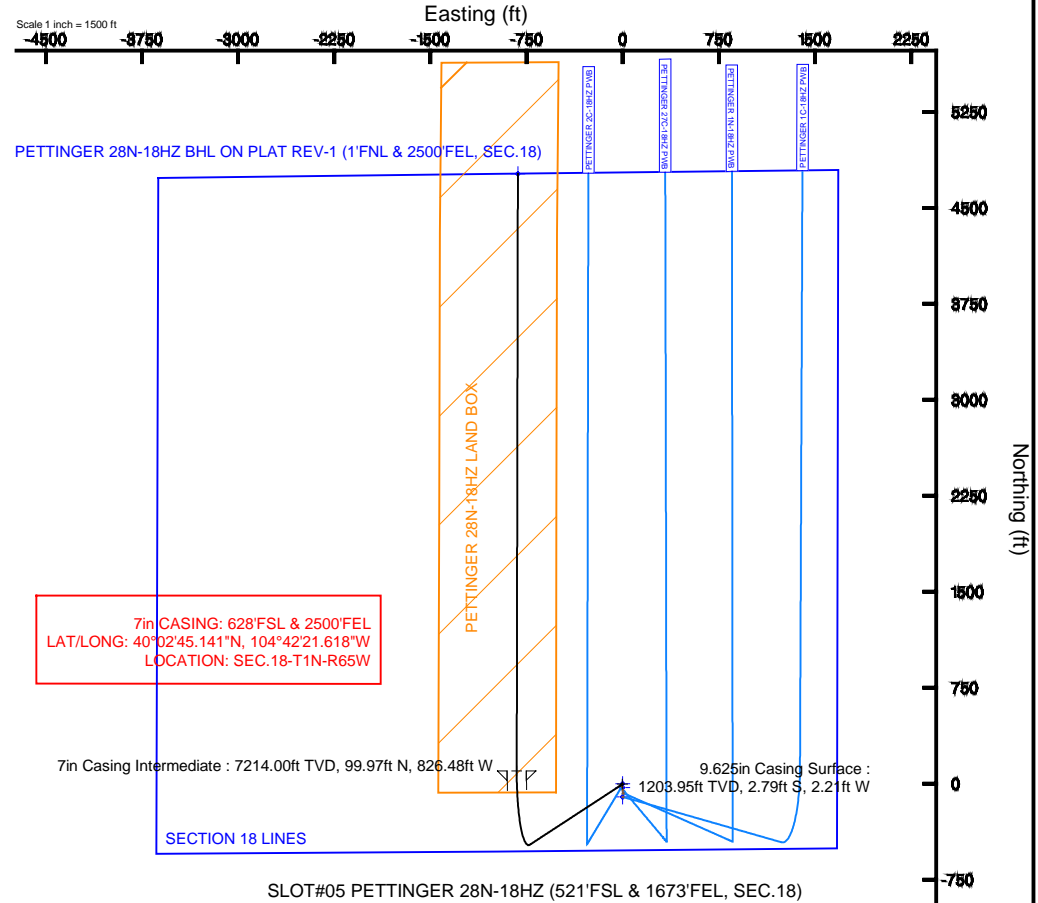
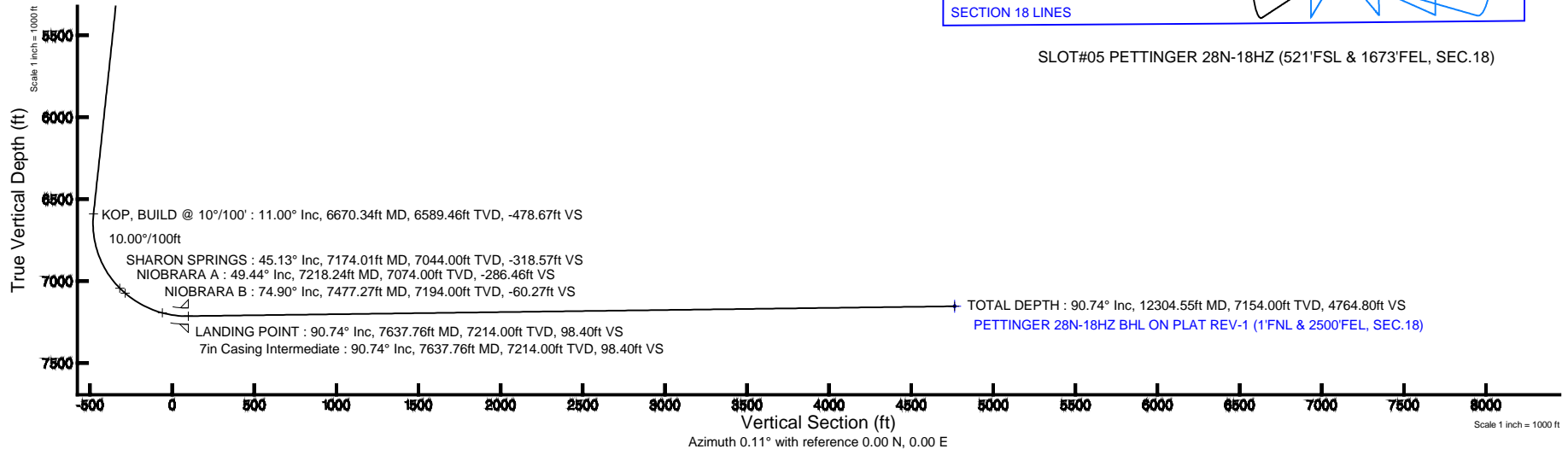
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
16.00	1130.00	Generic gyro - continuous	Generic gyro - continuous (Standard)		PETTINGER 28N-18HZ AWB
1130.00	7637.76	NavitTrak	NavitTrak (MAGCORR,IFR)		PETTINGER 28N-18HZ PWB
7637.76	12304.55	NavitTrak	NavitTrak (MAGCORR,IFR)		PETTINGER 28N-18HZ PWB

Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SECTION 18 LINES		5.00	-104.23	-0.23	3223115.97	1260355.44	40°02'43.123"N	104°42'10.994"W
PETTINGER 28N-18HZ BHL ON PLAT REV-1 (1'FNL & 2500'FEL, SEC.18)	12304.55	7154.00	4766.36	-817.64	3222254.86	1265218.29	40°03'31.255"N	104°42'21.506"W
PETTINGER 28N-18HZ LAND BOX		7250.00	0.00	0.00	3223115.26	1260459.66	40°02'44.153"N	104°42'10.991"W

Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
TIE-INTO GYROS	1130.00	0.630	229.440	1129.95	-2.26	-1.59	0.66	-2.26
BEGIN NUDDGE	1938.10	0.630	229.440	1938.00	-8.04	-8.34	0.00	-8.05
END NUDDGE	2456.87	11.000	236.800	2453.40	-37.07	-52.04	2.00	-37.17
KOP, BUILD @ 10°/100'	6670.34	11.000	236.800	6589.46	-477.29	-724.77	0.00	-478.67
LANDING POINT	7637.76	90.737	0.109	7214.00	99.97	-826.48	10.00	98.40
TOTAL DEPTH	12304.55	90.737	0.109	7154.00	4766.36	-817.64	0.00	4764.80





Planned Wellpath Report

PETTINGER 28N-18HZ (REV-A.0) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#05 PETTINGER 28N-18HZ (521'FSL & 1673'FEL, SEC.18)
Area	COLORADO	Well	PETTINGER 28N-18HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	PETTINGER 28N-18HZ PWB
Facility	SEC.18-T1N-R65W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect@ 4.0.0
North Reference	True	User	Wilsjef02
Scale	0.999963	Report Generated	1/16/2014 at 07:31:37
Convergence at slot	n/a	Database/Source file	WellArchitectDB/PETTINGER_28N-18HZ_PWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	104.13	0.23	3223115.26	1260459.66	40°02'44.153"N	104°42'10.991"W
Facility Reference Pt			3223115.97	1260355.54	40°02'43.124"N	104°42'10.994"W
Field Reference Pt			3197771.84	1268891.29	40°04'09.600"N	104°47'36.000"W

WELLPATH DATUM

Calculation method	Minimum curvature	XTREME 6 (RKB 16') (RKB) to Facility Vertical Datum	5013.00ft
Horizontal Reference Pt	Slot	XTREME 6 (RKB 16') (RKB) to Mean Sea Level	5013.00ft
Vertical Reference Pt	XTREME 6 (RKB 16') (RKB)	XTREME 6 (RKB 16') (RKB) to Mud Line at Slot (SLOT#05 PETTINGER 28N-18HZ (521'FSL & 1673'FEL, SEC.18))	5013.00ft
MD Reference Pt	XTREME 6 (RKB 16') (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	0.11°



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Field	WELD COUNTY (KERR MCGEE)	Wellbore	PETTINGER 28N-18HZ PWB
Facility	SEC.18-T1N-R65W		

WELLPATH DATA (135 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	102.320	0.00	0.00	0.00	0.00	40°02'44.153"N	104°42'10.991"W	0.00	
16.00	0.000	102.320	16.00	0.00	0.00	0.00	40°02'44.153"N	104°42'10.991"W	0.00	TIE-ON
116.00	0.540	102.320	116.00	-0.10	-0.10	0.46	40°02'44.152"N	104°42'10.985"W	0.54	BEGIN GYRO SURVEYS
216.00	0.400	97.430	216.00	-0.24	-0.25	1.27	40°02'44.151"N	104°42'10.975"W	0.15	
316.00	0.550	83.980	315.99	-0.24	-0.24	2.09	40°02'44.151"N	104°42'10.964"W	0.19	
416.00	0.410	79.630	415.99	-0.12	-0.13	2.92	40°02'44.152"N	104°42'10.953"W	0.14	
516.00	0.240	36.020	515.99	0.11	0.11	3.39	40°02'44.154"N	104°42'10.947"W	0.29	
616.00	0.050	101.470	615.99	0.27	0.27	3.56	40°02'44.156"N	104°42'10.945"W	0.22	
716.00	0.570	252.520	715.98	0.12	0.11	3.13	40°02'44.154"N	104°42'10.951"W	0.61	
816.00	0.770	254.650	815.98	-0.21	-0.22	2.01	40°02'44.151"N	104°42'10.965"W	0.20	
916.00	0.790	249.000	915.97	-0.64	-0.64	0.71	40°02'44.147"N	104°42'10.982"W	0.08	
1016.00	0.800	234.050	1015.96	-1.30	-1.30	-0.49	40°02'44.140"N	104°42'10.997"W	0.21	
1116.00	0.690	223.280	1115.95	-2.15	-2.15	-1.47	40°02'44.132"N	104°42'11.010"W	0.18	
1130.00	0.630	229.440	1129.95	-2.26	-2.26	-1.59	40°02'44.131"N	104°42'11.011"W	0.66	TIE-INTO GYROS
1230.00†	0.630	229.440	1229.94	-2.98	-2.97	-2.42	40°02'44.124"N	104°42'11.022"W	0.00	
1330.00†	0.630	229.440	1329.94	-3.69	-3.69	-3.26	40°02'44.117"N	104°42'11.033"W	0.00	
1430.00†	0.630	229.440	1429.93	-4.41	-4.40	-4.09	40°02'44.109"N	104°42'11.044"W	0.00	
1530.00†	0.630	229.440	1529.93	-5.13	-5.12	-4.93	40°02'44.102"N	104°42'11.054"W	0.00	
1630.00†	0.630	229.440	1629.92	-5.84	-5.83	-5.76	40°02'44.095"N	104°42'11.065"W	0.00	
1730.00†	0.630	229.440	1729.91	-6.56	-6.55	-6.60	40°02'44.088"N	104°42'11.076"W	0.00	
1830.00†	0.630	229.440	1829.91	-7.28	-7.26	-7.44	40°02'44.081"N	104°42'11.087"W	0.00	
1930.00†	0.630	229.440	1929.90	-7.99	-7.98	-8.27	40°02'44.074"N	104°42'11.097"W	0.00	
1938.10	0.630	229.440	1938.00	-8.05	-8.04	-8.34	40°02'44.074"N	104°42'11.098"W	0.00	BEGIN NUDGE
2030.00†	2.464	235.252	2029.86	-9.51	-9.49	-10.35	40°02'44.059"N	104°42'11.124"W	2.00	
2130.00†	4.463	236.144	2129.68	-12.91	-12.88	-15.34	40°02'44.026"N	104°42'11.188"W	2.00	
2230.00†	6.463	236.485	2229.22	-18.20	-18.16	-23.27	40°02'43.974"N	104°42'11.290"W	2.00	
2330.00†	8.463	236.665	2328.36	-25.38	-25.31	-34.11	40°02'43.903"N	104°42'11.430"W	2.00	
2430.00†	10.463	236.777	2427.00	-34.42	-34.33	-47.85	40°02'43.814"N	104°42'11.606"W	2.00	
2456.87	11.000	236.800	2453.40	-37.17	-37.07	-52.04	40°02'43.787"N	104°42'11.660"W	2.00	END NUDGE
2530.00†	11.000	236.800	2525.19	-44.83	-44.71	-63.71	40°02'43.711"N	104°42'11.810"W	0.00	
2630.00†	11.000	236.800	2623.35	-55.31	-55.16	-79.68	40°02'43.608"N	104°42'12.016"W	0.00	
2730.00†	11.000	236.800	2721.51	-65.79	-65.61	-95.65	40°02'43.505"N	104°42'12.221"W	0.00	
2830.00†	11.000	236.800	2819.67	-76.27	-76.06	-111.61	40°02'43.401"N	104°42'12.426"W	0.00	
2930.00†	11.000	236.800	2917.84	-86.75	-86.50	-127.58	40°02'43.298"N	104°42'12.631"W	0.00	
3030.00†	11.000	236.800	3016.00	-97.22	-96.95	-143.55	40°02'43.195"N	104°42'12.837"W	0.00	
3130.00†	11.000	236.800	3114.16	-107.70	-107.40	-159.51	40°02'43.092"N	104°42'13.042"W	0.00	
3230.00†	11.000	236.800	3212.32	-118.18	-117.85	-175.48	40°02'42.988"N	104°42'13.247"W	0.00	
3330.00†	11.000	236.800	3310.49	-128.66	-128.30	-191.44	40°02'42.885"N	104°42'13.453"W	0.00	
3430.00†	11.000	236.800	3408.65	-139.14	-138.74	-207.41	40°02'42.782"N	104°42'13.658"W	0.00	
3530.00†	11.000	236.800	3506.81	-149.62	-149.19	-223.38	40°02'42.679"N	104°42'13.863"W	0.00	
3630.00†	11.000	236.800	3604.98	-160.09	-159.64	-239.34	40°02'42.575"N	104°42'14.068"W	0.00	
3730.00†	11.000	236.800	3703.14	-170.57	-170.09	-255.31	40°02'42.472"N	104°42'14.274"W	0.00	
3830.00†	11.000	236.800	3801.30	-181.05	-180.54	-271.28	40°02'42.369"N	104°42'14.479"W	0.00	
3930.00†	11.000	236.800	3899.46	-191.53	-190.98	-287.24	40°02'42.266"N	104°42'14.684"W	0.00	
4030.00†	11.000	236.800	3997.63	-202.01	-201.43	-303.21	40°02'42.162"N	104°42'14.890"W	0.00	



Planned Wellpath Report

PETTINGER 28N-18HZ (REV-A.0) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#05 PETTINGER 28N-18HZ (521'FSL & 1673'FEL, SEC.18)
Area	COLORADO	Well	PETTINGER 28N-18HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	PETTINGER 28N-18HZ PWB
Facility	SEC.18-T1N-R65W		

WELLPATH DATA (135 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4130.00†	11.000	236.800	4095.79	-212.49	-211.88	-319.17	40°02'42.059"N	104°42'15.095"W	0.00	
4192.36†	11.000	236.800	4157.00	-219.02	-218.39	-329.13	40°02'41.995"N	104°42'15.223"W	0.00	PARKMAN
4230.00†	11.000	236.800	4193.95	-222.96	-222.33	-335.14	40°02'41.956"N	104°42'15.300"W	0.00	
4330.00†	11.000	236.800	4292.11	-233.44	-232.78	-351.11	40°02'41.853"N	104°42'15.506"W	0.00	
4430.00†	11.000	236.800	4390.28	-243.92	-243.22	-367.07	40°02'41.749"N	104°42'15.711"W	0.00	
4530.00†	11.000	236.800	4488.44	-254.40	-253.67	-383.04	40°02'41.646"N	104°42'15.916"W	0.00	
4577.43†	11.000	236.800	4535.00	-259.37	-258.63	-390.61	40°02'41.597"N	104°42'16.014"W	0.00	SUSSEX
4630.00†	11.000	236.800	4586.60	-264.88	-264.12	-399.00	40°02'41.543"N	104°42'16.121"W	0.00	
4730.00†	11.000	236.800	4684.77	-275.36	-274.57	-414.97	40°02'41.440"N	104°42'16.327"W	0.00	
4830.00†	11.000	236.800	4782.93	-285.83	-285.02	-430.94	40°02'41.336"N	104°42'16.532"W	0.00	
4930.00†	11.000	236.800	4881.09	-296.31	-295.46	-446.90	40°02'41.233"N	104°42'16.737"W	0.00	
5030.00†	11.000	236.800	4979.25	-306.79	-305.91	-462.87	40°02'41.130"N	104°42'16.943"W	0.00	
5130.00†	11.000	236.800	5077.42	-317.27	-316.36	-478.84	40°02'41.027"N	104°42'17.148"W	0.00	
5230.00†	11.000	236.800	5175.58	-327.75	-326.81	-494.80	40°02'40.923"N	104°42'17.353"W	0.00	
5330.00†	11.000	236.800	5273.74	-338.23	-337.26	-510.77	40°02'40.820"N	104°42'17.558"W	0.00	
5430.00†	11.000	236.800	5371.90	-348.70	-347.70	-526.73	40°02'40.717"N	104°42'17.764"W	0.00	
5530.00†	11.000	236.800	5470.07	-359.18	-358.15	-542.70	40°02'40.614"N	104°42'17.969"W	0.00	
5630.00†	11.000	236.800	5568.23	-369.66	-368.60	-558.67	40°02'40.510"N	104°42'18.174"W	0.00	
5730.00†	11.000	236.800	5666.39	-380.14	-379.05	-574.63	40°02'40.407"N	104°42'18.380"W	0.00	
5830.00†	11.000	236.800	5764.55	-390.62	-389.50	-590.60	40°02'40.304"N	104°42'18.585"W	0.00	
5930.00†	11.000	236.800	5862.72	-401.10	-399.94	-606.57	40°02'40.201"N	104°42'18.790"W	0.00	
6030.00†	11.000	236.800	5960.88	-411.57	-410.39	-622.53	40°02'40.097"N	104°42'18.996"W	0.00	
6130.00†	11.000	236.800	6059.04	-422.05	-420.84	-638.50	40°02'39.994"N	104°42'19.201"W	0.00	
6230.00†	11.000	236.800	6157.21	-432.53	-431.29	-654.46	40°02'39.891"N	104°42'19.406"W	0.00	
6330.00†	11.000	236.800	6255.37	-443.01	-441.74	-670.43	40°02'39.788"N	104°42'19.611"W	0.00	
6430.00†	11.000	236.800	6353.53	-453.49	-452.18	-686.40	40°02'39.684"N	104°42'19.817"W	0.00	
6530.00†	11.000	236.800	6451.69	-463.97	-462.63	-702.36	40°02'39.581"N	104°42'20.022"W	0.00	
6630.00†	11.000	236.800	6549.86	-474.44	-473.08	-718.33	40°02'39.478"N	104°42'20.227"W	0.00	
6670.34	11.000	236.800	6589.46	-478.67	-477.29	-724.77	40°02'39.436"N	104°42'20.310"W	0.00	KOP, BUILD @ 10°/100'
6730.00†	9.240	269.803	6648.23	-481.83	-480.43	-734.33	40°02'39.405"N	104°42'20.433"W	10.00	
6830.00†	13.561	317.581	6746.44	-473.21	-471.78	-750.31	40°02'39.491"N	104°42'20.638"W	10.00	
6930.00†	21.924	336.150	6841.67	-447.44	-445.98	-765.80	40°02'39.746"N	104°42'20.838"W	10.00	
7030.00†	31.235	344.430	6931.04	-405.31	-403.83	-780.35	40°02'40.162"N	104°42'21.025"W	10.00	
7130.00†	40.849	349.145	7011.81	-348.10	-346.59	-793.50	40°02'40.728"N	104°42'21.194"W	10.00	
7174.01†	45.126	350.668	7044.00	-318.57	-317.05	-798.74	40°02'41.020"N	104°42'21.261"W	10.00	SHARON SPRINGS
7218.24†	49.442	351.986	7074.00	-286.46	-284.93	-803.63	40°02'41.337"N	104°42'21.324"W	10.00	NIOBRARA A
7230.00†	50.592	352.308	7081.56	-277.54	-276.00	-804.86	40°02'41.425"N	104°42'21.340"W	10.00	
7330.00†	60.399	354.686	7138.14	-195.77	-194.23	-814.08	40°02'42.233"N	104°42'21.459"W	10.00	
7430.00†	70.241	356.639	7179.85	-105.29	-103.73	-820.88	40°02'43.128"N	104°42'21.546"W	10.00	
7477.27†	74.900	357.473	7194.00	-60.27	-58.71	-823.20	40°02'43.573"N	104°42'21.576"W	10.00	NIOBRARA B
7530.00†	80.102	358.362	7205.41	-8.85	-7.28	-825.06	40°02'44.081"N	104°42'21.600"W	10.00	
7630.00†	89.971	359.984	7214.05	90.64	92.21	-826.49	40°02'45.064"N	104°42'21.618"W	10.00	
7637.76	90.737	0.109	7214.00	98.40	99.97	-826.48	40°02'45.141"N	104°42'21.618"W	10.00	LANDING POINT
7730.00†	90.737	0.109	7212.82	190.63	192.20	-826.31	40°02'46.052"N	104°42'21.616"W	0.00	
7830.00†	90.737	0.109	7211.53	290.62	292.19	-826.12	40°02'47.040"N	104°42'21.613"W	0.00	



Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#05 PETTINGER 28N-18HZ (521'FSL & 1673'FEL, SEC.18)
Area	COLORADO	Well	PETTINGER 28N-18HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	PETTINGER 28N-18HZ PWB
Facility	SEC.18-T1N-R65W		

WELLPATH DATA (135 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7930.00†	90.737	0.109	7210.25	390.61	392.19	-825.93	40°02'48.029"N	104°42'21.611"W	0.00	
8030.00†	90.737	0.109	7208.96	490.61	492.18	-825.74	40°02'49.017"N	104°42'21.609"W	0.00	
8130.00†	90.737	0.109	7207.68	590.60	592.17	-825.55	40°02'50.005"N	104°42'21.606"W	0.00	
8230.00†	90.737	0.109	7206.39	690.59	692.16	-825.36	40°02'50.993"N	104°42'21.604"W	0.00	
8330.00†	90.737	0.109	7205.10	790.58	792.15	-825.17	40°02'51.981"N	104°42'21.602"W	0.00	
8430.00†	90.737	0.109	7203.82	890.57	892.14	-824.98	40°02'52.969"N	104°42'21.599"W	0.00	
8530.00†	90.737	0.109	7202.53	990.56	992.14	-824.79	40°02'53.957"N	104°42'21.597"W	0.00	
8630.00†	90.737	0.109	7201.25	1090.56	1092.13	-824.60	40°02'54.946"N	104°42'21.594"W	0.00	
8730.00†	90.737	0.109	7199.96	1190.55	1192.12	-824.41	40°02'55.934"N	104°42'21.592"W	0.00	
8830.00†	90.737	0.109	7198.67	1290.54	1292.11	-824.22	40°02'56.922"N	104°42'21.590"W	0.00	
8930.00†	90.737	0.109	7197.39	1390.53	1392.10	-824.03	40°02'57.910"N	104°42'21.587"W	0.00	
9030.00†	90.737	0.109	7196.10	1490.52	1492.09	-823.84	40°02'58.898"N	104°42'21.585"W	0.00	
9130.00†	90.737	0.109	7194.82	1590.52	1592.08	-823.65	40°02'59.886"N	104°42'21.582"W	0.00	
9230.00†	90.737	0.109	7193.53	1690.51	1692.08	-823.46	40°03'00.874"N	104°42'21.580"W	0.00	
9330.00†	90.737	0.109	7192.25	1790.50	1792.07	-823.27	40°03'01.863"N	104°42'21.578"W	0.00	
9430.00†	90.737	0.109	7190.96	1890.49	1892.06	-823.09	40°03'02.851"N	104°42'21.575"W	0.00	
9530.00†	90.737	0.109	7189.67	1990.48	1992.05	-822.90	40°03'03.839"N	104°42'21.573"W	0.00	
9630.00†	90.737	0.109	7188.39	2090.47	2092.04	-822.71	40°03'04.827"N	104°42'21.570"W	0.00	
9730.00†	90.737	0.109	7187.10	2190.47	2192.03	-822.52	40°03'05.815"N	104°42'21.568"W	0.00	
9830.00†	90.737	0.109	7185.82	2290.46	2292.03	-822.33	40°03'06.803"N	104°42'21.566"W	0.00	
9930.00†	90.737	0.109	7184.53	2390.45	2392.02	-822.14	40°03'07.791"N	104°42'21.563"W	0.00	
10030.00†	90.737	0.109	7183.25	2490.44	2492.01	-821.95	40°03'08.779"N	104°42'21.561"W	0.00	
10130.00†	90.737	0.109	7181.96	2590.43	2592.00	-821.76	40°03'09.768"N	104°42'21.558"W	0.00	
10230.00†	90.737	0.109	7180.67	2690.42	2691.99	-821.57	40°03'10.756"N	104°42'21.556"W	0.00	
10330.00†	90.737	0.109	7179.39	2790.42	2791.98	-821.38	40°03'11.744"N	104°42'21.554"W	0.00	
10430.00†	90.737	0.109	7178.10	2890.41	2891.98	-821.19	40°03'12.732"N	104°42'21.551"W	0.00	
10530.00†	90.737	0.109	7176.82	2990.40	2991.97	-821.00	40°03'13.720"N	104°42'21.549"W	0.00	
10630.00†	90.737	0.109	7175.53	3090.39	3091.96	-820.81	40°03'14.708"N	104°42'21.546"W	0.00	
10730.00†	90.737	0.109	7174.25	3190.38	3191.95	-820.62	40°03'15.696"N	104°42'21.544"W	0.00	
10830.00†	90.737	0.109	7172.96	3290.37	3291.94	-820.43	40°03'16.685"N	104°42'21.542"W	0.00	
10930.00†	90.737	0.109	7171.67	3390.37	3391.93	-820.24	40°03'17.673"N	104°42'21.539"W	0.00	
11030.00†	90.737	0.109	7170.39	3490.36	3491.92	-820.05	40°03'18.661"N	104°42'21.537"W	0.00	
11130.00†	90.737	0.109	7169.10	3590.35	3591.92	-819.87	40°03'19.649"N	104°42'21.535"W	0.00	
11230.00†	90.737	0.109	7167.82	3690.34	3691.91	-819.68	40°03'20.637"N	104°42'21.532"W	0.00	
11330.00†	90.737	0.109	7166.53	3790.33	3791.90	-819.49	40°03'21.625"N	104°42'21.530"W	0.00	
11430.00†	90.737	0.109	7165.24	3890.32	3891.89	-819.30	40°03'22.613"N	104°42'21.527"W	0.00	
11530.00†	90.737	0.109	7163.96	3990.32	3991.88	-819.11	40°03'23.602"N	104°42'21.525"W	0.00	
11630.00†	90.737	0.109	7162.67	4090.31	4091.87	-818.92	40°03'24.590"N	104°42'21.523"W	0.00	
11730.00†	90.737	0.109	7161.39	4190.30	4191.87	-818.73	40°03'25.578"N	104°42'21.520"W	0.00	
11830.00†	90.737	0.109	7160.10	4290.29	4291.86	-818.54	40°03'26.566"N	104°42'21.518"W	0.00	
11930.00†	90.737	0.109	7158.82	4390.28	4391.85	-818.35	40°03'27.554"N	104°42'21.515"W	0.00	
12030.00†	90.737	0.109	7157.53	4490.28	4491.84	-818.16	40°03'28.542"N	104°42'21.513"W	0.00	
12130.00†	90.737	0.109	7156.24	4590.27	4591.83	-817.97	40°03'29.530"N	104°42'21.511"W	0.00	
12230.00†	90.737	0.109	7154.96	4690.26	4691.82	-817.78	40°03'30.519"N	104°42'21.508"W	0.00	
12304.55	90.737	0.109	7154.00 [†]	4764.80	4766.36	-817.64	40°03'31.255"N	104°42'21.506"W	0.00	TOTAL DEPTH



Planned Wellpath Report

PETTINGER 28N-18HZ (REV-A.0) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#05 PETTINGER 28N-18HZ (521'FSL & 1673'FEL, SEC.18)
Area	COLORADO	Well	PETTINGER 28N-18HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	PETTINGER 28N-18HZ PWB
Facility	SEC.18-T1N-R65W		

HOLE & CASING SECTIONS - Ref Wellbore: PETTINGER 28N-18HZ PWB Ref Wellpath: PETTINGER 28N-18HZ (REV-A.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]
13.5in Open Hole	16.00	1130.00	1114.00	16.00	1129.95	0.00	0.00	-2.26	-1.59
9.625in Casing Surface	16.00	1204.00	1188.00	16.00	1203.95	0.00	0.00	-2.79	-2.21
8.75in Open Hole	1130.00	7637.76	6507.76	1129.95	7214.00	-2.26	-1.59	99.97	-826.48
7in Casing Intermediate	16.00	7637.76	7621.76	16.00	7214.00	0.00	0.00	99.97	-826.48
6.125in Open Hole	7637.76	12304.55	4666.79	7214.00	NA	99.97	-826.48	NA	NA
4.5in Casing Production	16.00	12304.55	12288.55	16.00	NA	0.00	0.00	NA	NA

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SECTION 18 LINES		5.00	-104.23	-0.23	3223115.97	1260355.44	40°02'43.123"N	104°42'10.994"W	polygon
1) PETTINGER 28N-18HZ BHL ON PLAT REV-1 (1'FNL & 2500'FEL, SEC.18)	12304.55	7154.00	4766.36	-817.64	3222254.85	1265218.29	40°03'31.255"N	104°42'21.506"W	point
PETTINGER 28N-18HZ LAND BOX		7250.00	0.00	0.00	3223115.26	1260459.66	40°02'44.153"N	104°42'10.991"W	polygon

SURVEY PROGRAM - Ref Wellbore: PETTINGER 28N-18HZ PWB Ref Wellpath: PETTINGER 28N-18HZ (REV-A.0) PWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
16.00	1130.00	Generic gyro - continuous (Standard)		PETTINGER 28N-18HZ AWB
1130.00	7637.76	NaviTrak (MAGCORR,IFR)		PETTINGER 28N-18HZ PWB
7637.76	12304.55	NaviTrak (MAGCORR,IFR)		PETTINGER 28N-18HZ PWB



Planned Wellpath Report

PETTINGER 28N-18HZ (REV-A.0) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#05 PETTINGER 28N-18HZ (521'FSL & 1673'FEL, SEC.18)
Area	COLORADO	Well	PETTINGER 28N-18HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	PETTINGER 28N-18HZ PWB
Facility	SEC.18-T1N-R65W		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
16.00	0.000	102.320	16.00	TIE-ON
116.00	0.540	102.320	116.00	BEGIN GYRO SURVEYS
4192.36	11.000	236.800	4157.00	PARKMAN
4577.43	11.000	236.800	4535.00	SUSSEX
7174.01	45.126	350.668	7044.00	SHARON SPRINGS
7218.24	49.442	351.986	7074.00	NIOBRARA A
7477.27	74.900	357.473	7194.00	NIOBRARA B