

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#03 THOMSEN 1C-18HZ (472'FNL & 965'FEL, SEC.07)
Area	COLORADO	Well	THOMSEN 1C-18HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	THOMSEN 1C-18HZ AWB <62-14563>
Facility	SEC.07-T2N-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	Precain
Scale	0.999958	Report Generated	12/19/2014 at 2:38:42 PM
Convergence at slot	n/a	Database/Source file	WellArchitectDB/THOMSEN_1C-18HZ_AWB_62-14563_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	4302.32	3756.64	3223439.47	1301825.50	40°09'32.908"N	104°42'02.027"W
Facility Reference Pt			3219721.27	1297490.24	40°08'50.395"N	104°42'50.411"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 23 (16'KB) (RKB) to Facility Vertical Datum	4928.00ft
Horizontal Reference Pt	Slot	XTREME 23 (16'KB) (RKB) to Mean Sea Level	4928.00ft
Vertical Reference Pt	XTREME 23 (16'KB) (RKB)	XTREME 23 (16'KB) (RKB) to Mud Line at Slot (SLOT#03 THOMSEN 1C-18HZ (472'FNL & 965'FEL, SEC.07))	4928.00ft
MD Reference Pt	XTREME 23 (16'KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	181.84°

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WELLPATH DATA (161 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	33.300	0.00	0.00	0.00	0.00	40°09'32.908"N	104°42'02.027"W	0.00	
16.00	0.000	33.300	16.00	0.00	0.00	0.00	40°09'32.908"N	104°42'02.027"W	0.00	Tie-On
62.00	0.300	33.300	62.00	-0.10	0.10	0.07	40°09'32.909"N	104°42'02.026"W	0.65	Begin CATHEDRAL MWD Surveys
152.00	0.100	10.400	152.00	-0.38	0.37	0.21	40°09'32.912"N	104°42'02.024"W	0.23	
249.00	0.200	6.400	249.00	-0.63	0.63	0.24	40°09'32.914"N	104°42'02.024"W	0.10	
328.00	0.500	28.700	328.00	-1.08	1.07	0.42	40°09'32.919"N	104°42'02.022"W	0.41	
408.00	0.400	60.600	407.99	-1.54	1.51	0.84	40°09'32.923"N	104°42'02.016"W	0.33	
488.00	0.500	46.700	487.99	-1.93	1.89	1.33	40°09'32.927"N	104°42'02.010"W	0.18	
568.00	0.400	201.700	567.99	-1.91	1.87	1.48	40°09'32.926"N	104°42'02.008"W	1.10	
648.00	0.400	201.400	647.99	-1.39	1.35	1.28	40°09'32.921"N	104°42'02.011"W	0.00	
728.00	0.400	208.800	727.99	-0.87	0.84	1.04	40°09'32.916"N	104°42'02.014"W	0.06	
808.00	0.500	197.400	807.99	-0.29	0.26	0.80	40°09'32.911"N	104°42'02.017"W	0.17	
888.00	0.400	209.600	887.98	0.29	-0.31	0.56	40°09'32.905"N	104°42'02.020"W	0.17	
968.00	1.000	221.400	967.98	1.08	-1.08	-0.04	40°09'32.897"N	104°42'02.027"W	0.77	
1048.00	0.700	244.700	1047.97	1.84	-1.81	-0.94	40°09'32.890"N	104°42'02.039"W	0.56	
1128.00	0.600	256.700	1127.96	2.17	-2.12	-1.79	40°09'32.887"N	104°42'02.050"W	0.21	
1208.00	0.300	278.400	1207.96	2.26	-2.18	-2.41	40°09'32.886"N	104°42'02.058"W	0.42	
1313.00	0.400	254.300	1312.96	2.34	-2.24	-3.03	40°09'32.886"N	104°42'02.066"W	0.17	
1358.00	0.400	254.300	1357.96	2.43	-2.33	-3.33	40°09'32.885"N	104°42'02.070"W	0.00	Tie-Into CATHEDRAL MWD Surveys
1363.00	0.400	242.300	1362.96	2.45	-2.34	-3.37	40°09'32.885"N	104°42'02.070"W	1.67	Begin BHI MWD+IFR Surveys
1457.00	1.600	317.700	1456.94	1.67	-1.52	-4.54	40°09'32.893"N	104°42'02.085"W	1.65	
1551.00	3.000	336.500	1550.87	-1.50	1.71	-6.40	40°09'32.925"N	104°42'02.109"W	1.67	
1643.00	4.500	340.600	1642.67	-7.04	7.32	-8.56	40°09'32.980"N	104°42'02.137"W	1.66	
1735.00	6.300	348.800	1734.26	-15.32	15.67	-10.74	40°09'33.063"N	104°42'02.165"W	2.12	
1826.00	8.000	348.300	1824.55	-26.34	26.77	-13.00	40°09'33.173"N	104°42'02.194"W	1.87	
1917.00	9.500	350.400	1914.48	-39.86	40.38	-15.53	40°09'33.307"N	104°42'02.227"W	1.69	
2009.00	11.400	346.800	2004.95	-56.08	56.72	-18.88	40°09'33.469"N	104°42'02.270"W	2.18	
2103.00	13.400	346.600	2096.76	-75.57	76.36	-23.52	40°09'33.663"N	104°42'02.330"W	2.13	
2195.00	15.500	348.600	2185.84	-97.82	98.78	-28.42	40°09'33.884"N	104°42'02.393"W	2.35	
2287.00	16.700	350.900	2274.23	-122.77	123.89	-32.94	40°09'34.132"N	104°42'02.451"W	1.48	
2380.00	18.900	348.900	2362.78	-150.57	151.87	-37.96	40°09'34.409"N	104°42'02.516"W	2.45	
2473.00	21.200	346.100	2450.14	-181.44	182.98	-44.90	40°09'34.716"N	104°42'02.605"W	2.68	
2565.00	21.900	343.100	2535.71	-213.70	215.54	-53.88	40°09'35.038"N	104°42'02.721"W	1.42	
2656.00	23.000	344.800	2619.81	-246.77	248.94	-63.48	40°09'35.368"N	104°42'02.845"W	1.40	
2748.00	24.000	346.200	2704.18	-281.97	284.45	-72.65	40°09'35.719"N	104°42'02.963"W	1.24	
2840.00	25.700	345.500	2787.66	-319.13	321.94	-82.11	40°09'36.089"N	104°42'03.085"W	1.88	
2932.00	28.000	345.900	2869.74	-359.05	362.20	-92.37	40°09'36.487"N	104°42'03.217"W	2.51	
3024.00	27.600	346.300	2951.12	-400.34	403.85	-102.68	40°09'36.899"N	104°42'03.349"W	0.48	
3116.00	28.600	344.700	3032.27	-441.92	445.80	-113.53	40°09'37.313"N	104°42'03.489"W	1.36	
3207.00	27.700	344.400	3112.51	-482.91	487.18	-124.97	40°09'37.722"N	104°42'03.637"W	1.00	
3299.00	26.500	344.400	3194.41	-522.89	527.54	-136.24	40°09'38.121"N	104°42'03.782"W	1.30	
3384.00	25.800	339.500	3270.71	-558.10	563.14	-147.82	40°09'38.473"N	104°42'03.931"W	2.67	
3469.00	27.300	339.500	3346.75	-593.24	598.73	-161.12	40°09'38.825"N	104°42'04.102"W	1.76	
3556.00	26.900	337.100	3424.20	-629.57	635.54	-175.77	40°09'39.188"N	104°42'04.291"W	1.34	
3641.00	26.300	337.200	3500.20	-664.15	670.62	-190.55	40°09'39.535"N	104°42'04.481"W	0.71	

Actual Wellpath Report

THOMSEN 1C-18HZ AWP

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Area	COLORADO	Well	THOMSEN 1C-18HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	THOMSEN 1C-18HZ AWB <62-14563>
Facility	SEC.07-T2N-R65W		

WELLPATH DATA (161 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
3726.00	26.700	337.800	3576.27	-698.70	705.66	-205.06	40°09'39.881"N	104°42'04.668"W	0.57	
3813.00	28.500	340.800	3653.37	-735.93	743.36	-219.28	40°09'40.254"N	104°42'04.851"W	2.61	
3900.00	26.500	340.500	3730.54	-773.38	781.26	-232.58	40°09'40.628"N	104°42'05.023"W	2.30	
3986.00	26.400	342.600	3807.54	-809.31	817.59	-244.70	40°09'40.987"N	104°42'05.179"W	1.09	
4071.00	26.800	341.800	3883.54	-845.15	853.83	-256.34	40°09'41.346"N	104°42'05.329"W	0.63	
4156.00	27.900	339.700	3959.04	-881.57	890.69	-269.23	40°09'41.710"N	104°42'05.495"W	1.72	
4243.00	28.900	337.600	4035.57	-919.60	929.22	-284.30	40°09'42.091"N	104°42'05.689"W	1.62	
4329.00	28.800	337.100	4110.90	-957.36	967.51	-300.28	40°09'42.469"N	104°42'05.895"W	0.30	
4416.00	27.000	335.500	4187.78	-994.09	1004.79	-316.63	40°09'42.837"N	104°42'06.105"W	2.24	
4501.00	24.900	337.000	4264.21	-1027.63	1038.82	-331.62	40°09'43.174"N	104°42'06.298"W	2.59	
4588.00	24.800	336.300	4343.15	-1060.71	1072.39	-346.11	40°09'43.505"N	104°42'06.485"W	0.36	
4674.00	26.900	339.300	4420.55	-1094.96	1107.11	-360.24	40°09'43.848"N	104°42'06.667"W	2.88	
4758.00	26.500	339.700	4495.59	-1129.87	1142.46	-373.46	40°09'44.198"N	104°42'06.837"W	0.52	
4846.00	26.100	343.000	4574.48	-1166.37	1179.39	-385.93	40°09'44.563"N	104°42'06.998"W	1.72	
4933.00	27.800	345.000	4652.04	-1203.91	1217.29	-396.78	40°09'44.937"N	104°42'07.138"W	2.21	
5018.00	29.000	344.100	4726.80	-1242.50	1256.25	-407.55	40°09'45.322"N	104°42'07.276"W	1.50	
5103.00	26.800	343.400	4801.92	-1280.31	1294.44	-418.67	40°09'45.700"N	104°42'07.420"W	2.62	
5190.00	27.000	341.900	4879.51	-1317.48	1332.01	-430.41	40°09'46.071"N	104°42'07.571"W	0.81	
5275.00	28.200	342.800	4954.83	-1354.61	1369.53	-442.34	40°09'46.442"N	104°42'07.725"W	1.49	
5362.00	28.200	342.900	5031.51	-1393.48	1408.82	-454.47	40°09'46.830"N	104°42'07.881"W	0.05	
5449.00	27.100	343.700	5108.57	-1431.76	1447.48	-466.07	40°09'47.212"N	104°42'08.030"W	1.33	
5534.00	26.700	343.200	5184.37	-1468.25	1484.35	-477.03	40°09'47.576"N	104°42'08.171"W	0.54	
5621.00	24.700	342.600	5262.76	-1503.93	1520.41	-488.11	40°09'47.933"N	104°42'08.314"W	2.32	
5707.00	22.900	341.200	5341.45	-1536.56	1553.40	-498.88	40°09'48.259"N	104°42'08.453"W	2.19	
5791.00	21.800	340.700	5419.14	-1566.40	1583.59	-509.30	40°09'48.557"N	104°42'08.587"W	1.33	
5877.00	19.800	345.400	5499.53	-1595.27	1612.76	-518.25	40°09'48.845"N	104°42'08.702"W	3.03	
5964.00	15.800	348.100	5582.35	-1620.92	1638.62	-524.41	40°09'49.101"N	104°42'08.782"W	4.69	
6049.00	13.300	346.200	5664.62	-1641.58	1659.44	-529.13	40°09'49.307"N	104°42'08.842"W	2.99	
6134.00	10.200	343.400	5747.83	-1658.14	1676.16	-533.61	40°09'49.472"N	104°42'08.900"W	3.71	
6221.00	8.000	340.200	5833.73	-1671.07	1689.24	-537.87	40°09'49.601"N	104°42'08.955"W	2.59	
6306.00	6.200	337.100	5918.07	-1680.74	1699.03	-541.66	40°09'49.698"N	104°42'09.004"W	2.16	
6391.00	4.100	332.200	6002.73	-1687.55	1705.95	-544.86	40°09'49.766"N	104°42'09.045"W	2.52	
6478.00	3.100	331.700	6089.55	-1692.29	1710.77	-547.43	40°09'49.814"N	104°42'09.078"W	1.15	
6561.00	0.900	313.500	6172.50	-1694.66	1713.19	-548.96	40°09'49.838"N	104°42'09.098"W	2.73	
6908.00	0.900	56.000	6519.47	-1698.07	1716.59	-548.68	40°09'49.871"N	104°42'09.094"W	0.40	
6994.00	1.600	126.300	6605.46	-1697.79	1716.26	-547.15	40°09'49.868"N	104°42'09.075"W	1.80	
7079.00	5.500	167.500	6690.29	-1693.17	1711.58	-545.31	40°09'49.822"N	104°42'09.051"W	5.20	
7165.00	14.600	173.300	6774.88	-1678.42	1696.76	-543.15	40°09'49.675"N	104°42'09.023"W	10.63	
7250.00	22.400	181.700	6855.44	-1651.59	1669.89	-542.38	40°09'49.410"N	104°42'09.013"W	9.67	
7335.00	28.000	179.300	6932.32	-1615.43	1633.72	-542.62	40°09'49.052"N	104°42'09.016"W	6.70	
7422.00	32.200	179.100	7007.57	-1571.85	1590.10	-542.01	40°09'48.621"N	104°42'09.008"W	4.83	
7509.00	41.200	180.800	7077.26	-1519.95	1538.16	-542.04	40°09'48.108"N	104°42'09.009"W	10.41	
7595.00	48.600	180.900	7138.13	-1459.29	1477.51	-542.94	40°09'47.509"N	104°42'09.020"W	8.61	
7682.00	55.400	182.200	7191.66	-1390.78	1409.02	-544.83	40°09'46.832"N	104°42'09.045"W	7.90	
7767.00	58.500	180.900	7238.02	-1319.54	1337.81	-546.75	40°09'46.128"N	104°42'09.069"W	3.87	

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7852.00	72.100	180.100	7273.45	-1242.52	1260.77	-547.39	40°09'45.367"N	104°42'09.078"W	16.02	
7938.00	86.300	180.300	7289.53	-1158.30	1176.51	-547.69	40°09'44.534"N	104°42'09.081"W	16.51	
7973.00†	89.729	180.586	7290.74	-1123.33	1141.54	-547.96	40°09'44.189"N	104°42'09.085"W	9.83	7" Casing Point
7987.00	91.100	180.700	7290.64	-1109.34	1127.54	-548.11	40°09'44.050"N	104°42'09.087"W	9.83	
8079.00	91.400	180.600	7288.63	-1017.38	1035.57	-549.16	40°09'43.141"N	104°42'09.100"W	0.34	
8171.00	91.700	180.800	7286.14	-925.43	943.61	-550.28	40°09'42.233"N	104°42'09.115"W	0.39	
8263.00	90.900	180.300	7284.05	-833.48	851.64	-551.16	40°09'41.324"N	104°42'09.126"W	1.03	
8355.00	90.100	179.800	7283.25	-741.53	759.64	-551.24	40°09'40.415"N	104°42'09.127"W	1.03	
8446.00	89.000	181.100	7283.97	-650.56	668.65	-551.96	40°09'39.516"N	104°42'09.136"W	1.87	
8538.00	88.400	180.400	7286.05	-558.60	576.68	-553.16	40°09'38.607"N	104°42'09.152"W	1.00	
8623.00	88.900	181.100	7288.06	-473.64	491.71	-554.28	40°09'37.767"N	104°42'09.166"W	1.01	
8708.00	89.100	182.200	7289.54	-388.66	406.76	-556.72	40°09'36.928"N	104°42'09.197"W	1.32	
8795.00	90.800	182.400	7289.62	-301.67	319.84	-560.21	40°09'36.069"N	104°42'09.242"W	1.97	
8882.00	89.900	181.900	7289.08	-214.67	232.90	-563.48	40°09'35.209"N	104°42'09.284"W	1.18	
8970.00	90.000	181.800	7289.16	-126.67	144.95	-566.32	40°09'34.340"N	104°42'09.321"W	0.16	
9057.00	90.200	181.600	7289.01	-39.67	57.99	-568.90	40°09'33.481"N	104°42'09.354"W	0.33	
9143.00	89.500	181.900	7289.23	46.33	-27.97	-571.53	40°09'32.632"N	104°42'09.388"W	0.89	
9229.00	89.300	181.900	7290.14	132.32	-113.92	-574.38	40°09'31.782"N	104°42'09.425"W	0.23	
9314.00	89.400	181.900	7291.10	217.32	-198.87	-577.20	40°09'30.943"N	104°42'09.461"W	0.12	
9399.00	88.500	181.900	7292.66	302.30	-283.81	-580.01	40°09'30.103"N	104°42'09.497"W	1.06	
9484.00	88.900	182.200	7294.59	387.28	-368.73	-583.05	40°09'29.264"N	104°42'09.536"W	0.59	
9570.00	89.500	182.100	7295.79	473.27	-454.66	-586.28	40°09'28.415"N	104°42'09.578"W	0.71	
9740.00	89.100	181.800	7297.86	643.26	-624.55	-592.06	40°09'26.736"N	104°42'09.652"W	0.29	
9825.00	90.600	181.500	7298.09	728.25	-709.51	-594.51	40°09'25.897"N	104°42'09.684"W	1.80	
9999.00	89.900	181.100	7297.33	902.24	-883.46	-598.46	40°09'24.177"N	104°42'09.735"W	0.46	
10172.00	89.900	181.200	7297.63	1075.23	-1056.43	-601.93	40°09'22.468"N	104°42'09.779"W	0.06	
10345.00	89.600	180.100	7298.38	1248.19	-1229.41	-603.89	40°09'20.759"N	104°42'09.804"W	0.66	
10430.00	89.700	181.100	7298.90	1333.17	-1314.41	-604.78	40°09'19.919"N	104°42'09.816"W	1.18	
10515.00	91.200	182.200	7298.23	1418.16	-1399.36	-607.23	40°09'19.079"N	104°42'09.847"W	2.19	
10686.00	89.000	181.200	7297.94	1589.15	-1570.28	-612.30	40°09'17.390"N	104°42'09.913"W	1.41	
10773.00	89.100	182.400	7299.38	1676.13	-1657.22	-615.03	40°09'16.531"N	104°42'09.948"W	1.38	
10858.00	90.400	183.900	7299.75	1761.10	-1742.09	-619.71	40°09'15.693"N	104°42'10.008"W	2.34	
10944.00	90.000	183.700	7299.45	1847.05	-1827.90	-625.40	40°09'14.845"N	104°42'10.081"W	0.52	
11029.00	89.500	184.000	7299.82	1932.00	-1912.70	-631.11	40°09'14.006"N	104°42'10.155"W	0.69	
11114.00	90.900	183.700	7299.52	2016.95	-1997.51	-636.82	40°09'13.168"N	104°42'10.228"W	1.68	
11199.00	88.200	182.000	7300.19	2101.92	-2082.39	-641.04	40°09'12.330"N	104°42'10.283"W	3.75	
11284.00	89.400	182.100	7301.97	2186.90	-2167.31	-644.08	40°09'11.490"N	104°42'10.322"W	1.42	
11370.00	91.400	181.600	7301.37	2272.89	-2253.26	-646.86	40°09'10.641"N	104°42'10.358"W	2.40	
11455.00	91.400	182.400	7299.29	2357.86	-2338.19	-649.83	40°09'09.802"N	104°42'10.396"W	0.94	
11627.00	90.500	182.400	7296.44	2529.83	-2510.01	-657.03	40°09'08.104"N	104°42'10.488"W	0.52	
11712.00	90.200	181.800	7295.92	2614.83	-2594.95	-660.14	40°09'07.264"N	104°42'10.528"W	0.79	
11797.00	90.100	182.400	7295.70	2699.83	-2679.89	-663.26	40°09'06.425"N	104°42'10.569"W	0.72	
11967.00	91.300	184.500	7293.62	2869.73	-2849.56	-673.49	40°09'04.748"N	104°42'10.700"W	1.42	
12054.00	90.600	184.200	7292.18	2956.64	-2936.30	-680.08	40°09'03.891"N	104°42'10.785"W	0.88	
12140.00	90.300	183.800	7291.51	3042.57	-3022.08	-686.08	40°09'03.044"N	104°42'10.862"W	0.58	

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#03 THOMSEN 1C-18HZ (472'FNL & 965'FEL, SEC.07)
Area	COLORADO	Well	THOMSEN 1C-18HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	THOMSEN 1C-18HZ AWB <62-14563>
Facility	SEC.07-T2N-R65W		

WELLPATH DATA (161 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12224.00	90.200	183.600	7291.14	3126.53	-3105.91	-691.50	40°09'02.215"N	104°42'10.932"W	0.27	
12314.00	89.800	181.900	7291.14	3216.51	-3195.80	-695.82	40°09'01.327"N	104°42'10.988"W	1.94	
12400.00	89.700	183.000	7291.51	3302.51	-3281.72	-699.50	40°09'00.478"N	104°42'11.035"W	1.28	
12485.00	89.700	182.500	7291.96	3387.50	-3366.62	-703.58	40°08'59.639"N	104°42'11.088"W	0.59	
12570.00	89.600	182.500	7292.48	3472.49	-3451.54	-707.28	40°08'58.800"N	104°42'11.135"W	0.12	
12657.00	89.200	182.300	7293.39	3559.48	-3538.46	-710.93	40°08'57.941"N	104°42'11.182"W	0.51	
12742.00	90.000	180.700	7293.98	3644.47	-3623.42	-713.15	40°08'57.101"N	104°42'11.211"W	2.10	
12831.00	90.700	182.400	7293.44	3733.47	-3712.38	-715.56	40°08'56.222"N	104°42'11.242"W	2.07	
12916.00	90.700	183.800	7292.40	3818.44	-3797.25	-720.15	40°08'55.383"N	104°42'11.301"W	1.65	
13001.00	91.100	186.300	7291.07	3903.29	-3881.90	-727.63	40°08'54.547"N	104°42'11.397"W	2.98	
13088.00	89.500	187.100	7290.61	3989.97	-3968.30	-737.78	40°08'53.693"N	104°42'11.528"W	2.06	
13174.00	88.500	186.300	7292.11	4075.65	-4053.70	-747.82	40°08'52.849"N	104°42'11.657"W	1.49	
13259.00	87.600	185.600	7295.00	4160.38	-4138.19	-756.62	40°08'52.014"N	104°42'11.770"W	1.34	
13344.00	87.800	184.000	7298.42	4245.19	-4222.83	-763.73	40°08'51.178"N	104°42'11.862"W	1.90	
13429.00	90.400	183.100	7299.75	4330.14	-4307.64	-768.99	40°08'50.339"N	104°42'11.930"W	3.24	
13516.00	90.600	180.700	7298.99	4417.13	-4394.59	-771.87	40°08'49.480"N	104°42'11.967"W	2.77	
13605.00	91.800	179.700	7297.13	4506.07	-4483.56	-772.19	40°08'48.601"N	104°42'11.971"W	1.75	
13690.00	90.400	179.000	7295.50	4590.97	-4568.54	-771.22	40°08'47.761"N	104°42'11.958"W	1.84	
13779.00	90.900	178.700	7294.49	4679.84	-4657.52	-769.44	40°08'46.882"N	104°42'11.935"W	0.66	
13867.00	89.500	178.000	7294.18	4767.67	-4745.48	-766.90	40°08'46.013"N	104°42'11.902"W	1.78	
14041.00	90.200	179.000	7294.63	4941.37	-4919.41	-762.35	40°08'44.294"N	104°42'11.844"W	0.70	
14214.00	87.700	177.700	7297.80	5114.01	-5092.29	-757.37	40°08'42.586"N	104°42'11.780"W	1.63	
14299.00	89.100	178.300	7300.18	5198.78	-5177.21	-754.40	40°08'41.746"N	104°42'11.741"W	1.79	
14384.00	90.300	179.200	7300.62	5283.65	-5262.18	-752.55	40°08'40.907"N	104°42'11.717"W	1.76	
14511.00	89.400	178.500	7300.95	5410.48	-5389.15	-750.00	40°08'39.652"N	104°42'11.685"W	0.90	Last BHI MWD+IFR Surveys
14563.00	89.400	178.500	7301.50	5462.39	-5441.13	-748.64	40°08'39.138"N	104°42'11.667"W	0.00	Projection to Bit

HOLE & CASING SECTIONS - Ref Wellbore: THOMSEN 1C-18HZ AWB <62-14563> Ref Wellpath: THOMSEN 1C-18HZ AWP

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	1358.00	1342.00	16.00	1357.96	0.00	0.00	-2.33	-3.33
9.625in Casing Surface	16.00	1347.00	1331.00	16.00	1346.96	0.00	0.00	-2.31	-3.26
8.75in Open Hole	1358.00	7984.00	6626.00	1357.96	7290.69	-2.33	-3.33	1130.54	-548.08
7in Casing Intermediate	16.00	7973.00	7957.00	16.00	7290.74	0.00	0.00	1141.54	-547.96
6.125in Open Hole	7984.00	14563.00	6579.00	7290.69	7301.50	1130.54	-548.08	-5441.13	-748.64

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#03 THOMSEN 1C-18HZ (472'FNL & 965'FEL, SEC.07)
Area	COLORADO	Well	THOMSEN 1C-18HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	THOMSEN 1C-18HZ AWB <62-14563>
Facility	SEC.07-T2N-R65W		

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.07-T2N-R65W SECTION LINES		-1.00	-0.81	-29.89	3223409.59	1301824.42	40°09'32.900"N	104°42'02.412"W	polygon
SEC.18-T2N-R65W SECTION LINES		-1.00	-0.81	-29.89	3223409.59	1301824.42	40°09'32.900"N	104°42'02.412"W	polygon
THOMSEN 1C-18HZ BHL ON PLAT REV-2 (635'FNL & 1680'FEL, SEC.18)		7298.00	-5443.71	-764.90	3222723.71	1296375.36	40°08'39.113"N	104°42'11.876"W	point
THOMSEN 1C-18HZ BHL ON PLAT REV-1 (635'FNL & 1680'FEL, SEC.18)		7313.00	-5443.71	-764.90	3222723.71	1296375.36	40°08'39.113"N	104°42'11.876"W	point
THOMSEN 1C-18HZ LANDBOX		7313.00	0.00	0.00	3223439.47	1301825.50	40°09'32.908"N	104°42'02.027"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: THOMSEN 1C-18HZ AWB <62-14563> Ref Wellpath: THOMSEN 1C-18HZ AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
16.00	1358.00	ISCWSA MWD, Rev. 2 (Standard)	CATHEDRAL ENERGY MWD SURVEYS <62-1358>	THOMSEN 1C-18HZ AWB <62-14563>
1358.00	7938.00	NaviTrak (MAGCORR,IFR)	BHI MWD+IFR SURVEYS 8 3/4" HOLE <1363-7938>	THOMSEN 1C-18HZ AWB <62-14563>
7938.00	14511.00	NaviTrak (MAGCORR,IFR)	BHI MWD+IFR SURVEY 6 1/8" HOLE <7987-14511>	THOMSEN 1C-18HZ AWB <62-14563>
14511.00	14563.00	Blind Drilling (std)	Projection to bit	THOMSEN 1C-18HZ AWB <62-14563>

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#03 THOMSEN 1C-18HZ (472'FNL & 965'FEL, SEC.07)
Area	COLORADO	Well	THOMSEN 1C-18HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	THOMSEN 1C-18HZ AWB <62-14563>
Facility	SEC.07-T2N-R65W		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
16.00	0.000	33.300	16.00	Tie-On
62.00	0.300	33.300	62.00	Begin CATHEDRAL MWD Surveys
1358.00	0.400	254.300	1357.96	Tie-Into CATHEDRAL MWD Surveys
1363.00	0.400	242.300	1362.96	Begin BHI MWD+IFR Surveys
7973.00	89.729	180.586	7290.74	7" Casing Point
14511.00	89.400	178.500	7300.95	Last BHI MWD+IFR Surveys
14563.00	89.400	178.500	7301.50	Projection to Bit