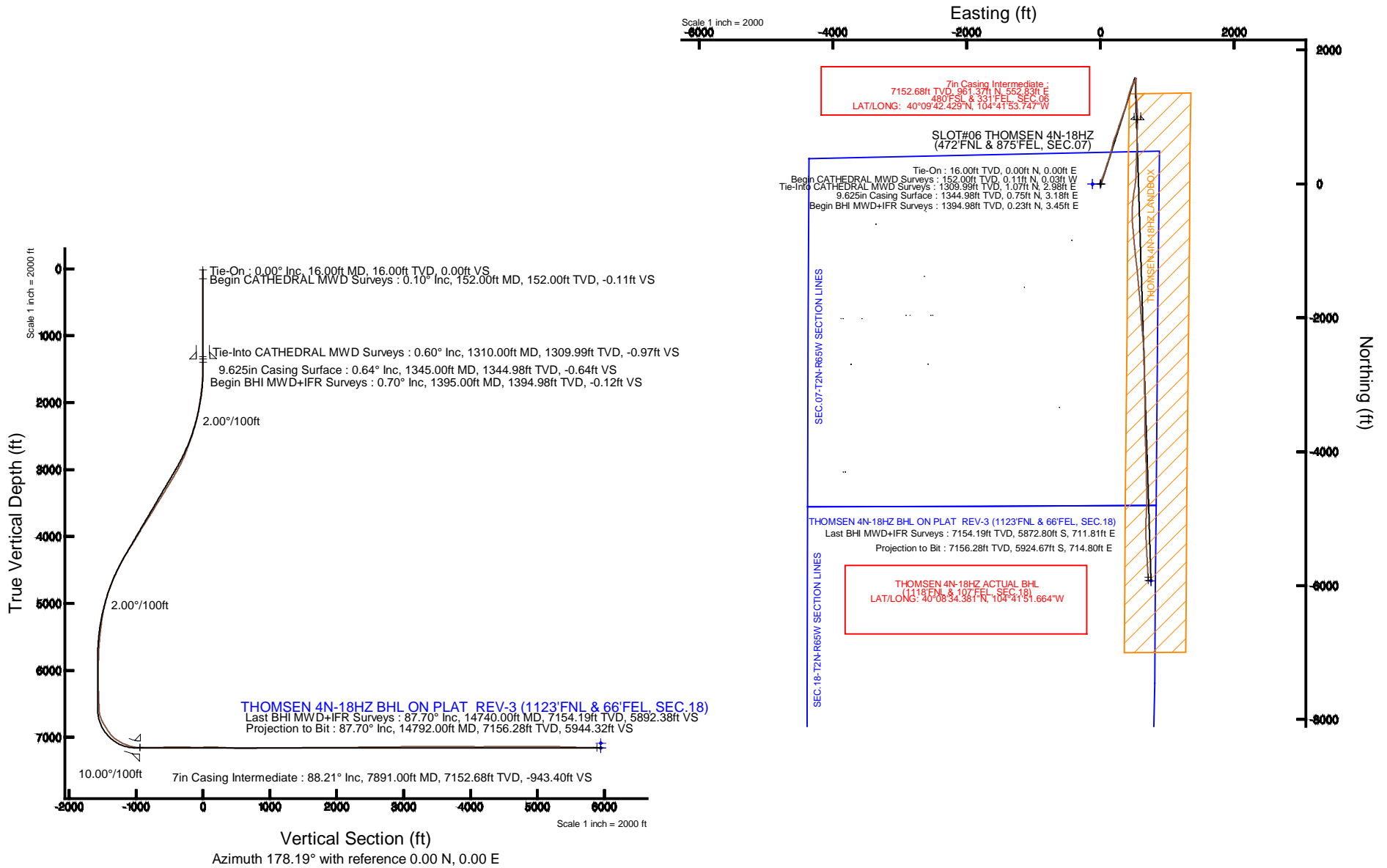


KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#06 THOMSEN 4N-18HZ (472'FNL & 875'FEL, SEC.07)
 Field: WELD COUNTY (KERR MCGEE) Well: THOMSEN 4N-18HZ
 Facility: SEC.07-T2N-R65W Wellbore: THOMSEN 4N-18HZ PWP



Plot reference wellpath is THOMSEN 4N-18HZ (REV-B.0) PWP	
True vertical depths are referenced to XTREME 23 (16KB) (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to XTREME 23 (16KB) (RKB)	North Reference: True north
XTREME 23 (16KB) (RKB) to Mean Sea Level: 4928 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#06 THOMSEN 4N-18HZ (472'FNL & 875'FEL, SEC.07)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: preacin on 1/14/2015



REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#06 THOMSEN 4N-18HZ (472'FNL & 875'FEL, SEC.07)
Area	COLORADO	Well	THOMSEN 4N-18HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	THOMSEN 4N-18HZ AWB <152-14792>
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	1/14/2015 at 8:02:40 AM
Convergence at slot	n/a	Database/Source file	WellArchitectDB/THOMSEN_4N-18HZ_AWB__152-14792_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	4304.46	3846.63	3223529.43	1301828.44	40°09'32.929"N	104°42'00.868"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#06 THOMSEN 4N-18HZ (472'FNL & 875'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	178.19°

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#06 THOMSEN 4N-18HZ (472'FNL & 875'FEL, SEC.07)
Area	COLORADO	Well	THOMSEN 4N-18HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	THOMSEN 4N-18HZ AWB <152-14792>
Facility	SEC.07-T2N-R65W		

WELLPATH DATA (162 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	343.800	0.00	0.00	0.00	0.00	40°09'32.929"N	104°42'00.868"W	0.00	
16.00	0.000	343.800	16.00	0.00	0.00	0.00	40°09'32.929"N	104°42'00.868"W	0.00	Tie-On
152.00	0.100	343.800	152.00	-0.11	0.11	-0.03	40°09'32.930"N	104°42'00.868"W	0.07	Begin CATHEDRAL MWD Surveys
249.00	0.100	98.400	249.00	-0.18	0.18	0.03	40°09'32.931"N	104°42'00.868"W	0.17	
328.00	0.200	334.400	328.00	-0.30	0.30	0.04	40°09'32.932"N	104°42'00.868"W	0.34	
408.00	0.200	300.700	408.00	-0.50	0.49	-0.14	40°09'32.934"N	104°42'00.870"W	0.14	
488.00	0.300	5.900	488.00	-0.78	0.77	-0.24	40°09'32.937"N	104°42'00.871"W	0.35	
568.00	0.400	48.100	568.00	-1.17	1.17	-0.01	40°09'32.941"N	104°42'00.868"W	0.34	
648.00	0.400	59.600	648.00	-1.48	1.50	0.43	40°09'32.944"N	104°42'00.862"W	0.10	
728.00	0.100	58.600	727.99	-1.65	1.67	0.74	40°09'32.946"N	104°42'00.859"W	0.38	
808.00	0.200	98.400	807.99	-1.66	1.69	0.93	40°09'32.946"N	104°42'00.856"W	0.17	
888.00	0.300	43.400	887.99	-1.78	1.82	1.22	40°09'32.947"N	104°42'00.852"W	0.31	
968.00	0.300	90.400	967.99	-1.92	1.97	1.57	40°09'32.948"N	104°42'00.848"W	0.30	
1048.00	0.200	98.400	1047.99	-1.89	1.95	1.92	40°09'32.948"N	104°42'00.843"W	0.13	
1128.00	0.100	98.400	1127.99	-1.85	1.92	2.12	40°09'32.948"N	104°42'00.841"W	0.13	
1208.00	0.400	128.000	1207.99	-1.66	1.74	2.41	40°09'32.946"N	104°42'00.837"W	0.40	
1310.00	0.600	147.300	1309.99	-0.97	1.07	2.98	40°09'32.940"N	104°42'00.830"W	0.25	Tie-Into CATHEDRAL MWD Surveys
1395.00	0.700	153.700	1394.98	-0.12	0.23	3.45	40°09'32.931"N	104°42'00.824"W	0.15	Begin BHI MWD+IFR Surveys
1457.00	1.400	50.400	1456.97	-0.24	0.37	4.20	40°09'32.933"N	104°42'00.814"W	2.75	
1551.00	3.100	43.800	1550.90	-2.72	2.94	6.85	40°09'32.958"N	104°42'00.780"W	1.83	
1643.00	3.900	23.200	1642.73	-7.30	7.61	9.80	40°09'33.004"N	104°42'00.742"W	1.61	
1735.00	5.800	3.600	1734.40	-14.76	15.13	11.33	40°09'33.078"N	104°42'00.722"W	2.71	
1826.00	6.900	5.900	1824.84	-24.76	25.15	12.18	40°09'33.178"N	104°42'00.711"W	1.24	
1917.00	7.800	8.300	1915.09	-36.25	36.70	13.63	40°09'33.292"N	104°42'00.692"W	1.04	
2009.00	8.900	14.700	2006.12	-49.22	49.76	16.34	40°09'33.421"N	104°42'00.658"W	1.56	
2103.00	10.400	18.100	2098.79	-64.17	64.86	20.82	40°09'33.570"N	104°42'00.600"W	1.71	
2195.00	13.000	19.400	2188.87	-81.63	82.52	26.84	40°09'33.744"N	104°42'00.522"W	2.84	
2287.00	14.700	21.400	2278.19	-102.00	103.15	34.53	40°09'33.948"N	104°42'00.423"W	1.92	
2380.00	17.200	17.300	2367.61	-125.85	127.27	42.93	40°09'34.187"N	104°42'00.315"W	2.95	
2473.00	19.200	20.600	2455.95	-152.98	154.71	52.40	40°09'34.458"N	104°42'00.193"W	2.42	
2565.00	20.500	20.200	2542.48	-181.90	183.99	63.29	40°09'34.747"N	104°42'00.053"W	1.42	
2656.00	21.600	17.100	2627.41	-212.52	214.96	73.71	40°09'35.053"N	104°41'59.919"W	1.72	
2748.00	22.000	15.900	2712.83	-244.96	247.72	83.41	40°09'35.377"N	104°41'59.794"W	0.65	
2840.00	24.200	18.500	2797.45	-279.06	282.18	94.12	40°09'35.717"N	104°41'59.656"W	2.64	
2932.00	27.700	19.800	2880.17	-316.63	320.19	107.35	40°09'36.093"N	104°41'59.485"W	3.85	
3024.00	29.600	18.000	2960.90	-357.89	361.92	121.62	40°09'36.506"N	104°41'59.302"W	2.27	
3116.00	31.000	17.600	3040.33	-401.62	406.12	135.80	40°09'36.942"N	104°41'59.119"W	1.54	
3207.00	32.600	16.300	3117.67	-447.02	451.99	149.77	40°09'37.396"N	104°41'58.939"W	1.91	
3299.00	31.500	14.000	3195.65	-493.71	499.10	162.54	40°09'37.861"N	104°41'58.774"W	1.79	
3386.00	32.500	13.000	3269.43	-538.17	543.93	173.30	40°09'38.304"N	104°41'58.636"W	1.30	
3473.00	33.000	13.700	3342.60	-583.60	589.72	184.17	40°09'38.757"N	104°41'58.496"W	0.72	
3558.00	33.400	17.200	3413.73	-628.02	634.56	196.57	40°09'39.200"N	104°41'58.336"W	2.30	
3645.00	33.000	20.200	3486.53	-672.63	679.67	211.83	40°09'39.646"N	104°41'58.140"W	1.94	
3732.00	33.200	20.100	3559.42	-716.69	724.28	228.20	40°09'40.086"N	104°41'57.929"W	0.24	
3817.00	34.400	19.800	3630.05	-760.61	768.72	244.33	40°09'40.526"N	104°41'57.721"W	1.43	

Actual Wellpath Report

THOMSEN 4N-18HZ AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#06 THOMSEN 4N-18HZ (472'FNL & 875'FEL, SEC.07)
Area	COLORADO	Well	THOMSEN 4N-18HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	THOMSEN 4N-18HZ AWB <152-14792>
Facility	SEC.07-T2N-R65W		

WELLPATH DATA (162 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
3903.00	32.400	18.600	3701.84	-804.79	813.42	259.91	40°09'40.967"N	104°41'57.520"W	2.45	
3988.00	34.100	18.500	3772.92	-848.48	857.61	274.73	40°09'41.404"N	104°41'57.329"W	2.00	
4073.00	34.600	19.400	3843.10	-893.33	902.97	290.31	40°09'41.852"N	104°41'57.129"W	0.84	
4162.00	31.800	19.300	3917.56	-938.77	948.94	306.46	40°09'42.306"N	104°41'56.921"W	3.15	
4247.00	32.600	19.000	3989.49	-981.07	991.73	321.31	40°09'42.729"N	104°41'56.729"W	0.96	
4333.00	33.700	19.000	4061.49	-1025.02	1036.19	336.63	40°09'43.169"N	104°41'56.532"W	1.28	
4420.00	34.100	19.200	4133.70	-1070.35	1082.05	352.50	40°09'43.622"N	104°41'56.328"W	0.48	
4507.00	34.000	18.900	4205.79	-1115.87	1128.09	368.40	40°09'44.077"N	104°41'56.123"W	0.22	
4592.00	31.900	17.700	4277.11	-1159.27	1171.98	382.93	40°09'44.510"N	104°41'55.936"W	2.59	
4676.00	29.600	13.900	4349.30	-1200.17	1213.27	394.67	40°09'44.919"N	104°41'55.785"W	3.58	
4762.00	28.200	14.600	4424.59	-1240.11	1253.55	404.89	40°09'45.317"N	104°41'55.653"W	1.67	
4849.00	27.000	14.800	4501.69	-1278.76	1292.54	415.12	40°09'45.702"N	104°41'55.521"W	1.38	
4934.00	26.100	14.500	4577.73	-1315.19	1329.29	424.73	40°09'46.065"N	104°41'55.397"W	1.07	
5020.00	24.900	15.600	4655.35	-1350.62	1365.05	434.33	40°09'46.418"N	104°41'55.274"W	1.50	
5106.00	22.700	20.200	4734.04	-1383.29	1398.07	444.93	40°09'46.745"N	104°41'55.137"W	3.35	
5193.00	19.200	21.000	4815.27	-1412.05	1427.19	455.86	40°09'47.032"N	104°41'54.996"W	4.04	
5278.00	17.300	20.000	4895.99	-1436.67	1452.11	465.19	40°09'47.279"N	104°41'54.876"W	2.27	
5363.00	15.900	26.900	4977.46	-1458.62	1474.38	474.78	40°09'47.499"N	104°41'54.753"W	2.84	
5451.00	14.300	28.900	5062.42	-1478.53	1494.64	485.49	40°09'47.699"N	104°41'54.615"W	1.91	
5536.00	13.100	33.700	5145.00	-1495.40	1511.85	495.91	40°09'47.869"N	104°41'54.480"W	1.94	
5621.00	10.900	34.000	5228.14	-1509.76	1526.52	505.75	40°09'48.014"N	104°41'54.354"W	2.59	
5706.00	8.700	28.600	5311.89	-1521.82	1538.83	513.32	40°09'48.136"N	104°41'54.256"W	2.80	
5791.00	7.000	17.100	5396.10	-1532.27	1549.43	517.92	40°09'48.240"N	104°41'54.197"W	2.71	
5876.00	6.400	14.200	5480.52	-1541.72	1558.97	520.61	40°09'48.335"N	104°41'54.162"W	0.81	
5963.00	4.800	16.400	5567.10	-1549.84	1567.17	522.83	40°09'48.416"N	104°41'54.134"W	1.86	
6133.00	2.800	29.800	5736.72	-1560.13	1577.59	526.90	40°09'48.519"N	104°41'54.081"W	1.28	
6303.00	1.600	15.300	5906.59	-1565.94	1583.49	529.59	40°09'48.577"N	104°41'54.047"W	0.77	
6476.00	0.300	213.600	6079.57	-1567.88	1585.44	529.97	40°09'48.596"N	104°41'54.042"W	1.09	
6821.00	2.400	188.400	6424.46	-1560.03	1577.54	528.42	40°09'48.518"N	104°41'54.062"W	0.62	
6906.00	2.300	189.600	6509.39	-1556.61	1574.10	527.87	40°09'48.484"N	104°41'54.069"W	0.13	
6991.00	3.100	179.700	6594.29	-1552.64	1570.12	527.60	40°09'48.445"N	104°41'54.072"W	1.09	
7078.00	15.000	179.000	6680.06	-1538.98	1556.46	527.81	40°09'48.310"N	104°41'54.070"W	13.68	
7165.00	27.600	179.200	6760.95	-1507.45	1524.92	528.29	40°09'47.998"N	104°41'54.063"W	14.48	
7253.00	32.100	179.600	6837.26	-1463.67	1481.14	528.74	40°09'47.566"N	104°41'54.058"W	5.12	
7338.00	34.300	177.900	6908.38	-1417.13	1434.61	529.77	40°09'47.106"N	104°41'54.044"W	2.81	
7422.00	41.800	178.500	6974.48	-1365.40	1382.90	531.38	40°09'46.595"N	104°41'54.024"W	8.94	
7509.00	56.200	175.900	7031.41	-1299.93	1317.51	534.74	40°09'45.949"N	104°41'53.980"W	16.70	
7595.00	62.700	175.400	7075.10	-1225.98	1243.70	540.36	40°09'45.219"N	104°41'53.908"W	7.57	
7680.00	68.600	176.200	7110.13	-1148.65	1166.51	546.02	40°09'44.456"N	104°41'53.835"W	6.99	
7765.00	74.900	176.600	7136.74	-1068.00	1085.98	551.08	40°09'43.661"N	104°41'53.770"W	7.43	
7850.00	86.200	180.300	7150.68	-984.31	1002.32	553.30	40°09'42.834"N	104°41'53.741"W	13.97	
7891.00†	88.208	181.012	7152.68	-943.40	961.37	552.83	40°09'42.429"N	104°41'53.747"W	5.20	7" Casing Point
7948.00	91.000	182.000	7153.07	-886.50	904.40	551.33	40°09'41.866"N	104°41'53.767"W	5.20	
8040.00	91.000	181.400	7151.46	-794.69	812.45	548.60	40°09'40.958"N	104°41'53.802"W	0.65	
8132.00	91.300	181.100	7149.62	-702.84	720.49	546.60	40°09'40.049"N	104°41'53.828"W	0.46	

Actual Wellpath Report

THOMSEN 4N-18HZ AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#06 THOMSEN 4N-18HZ (472'FNL & 875'FEL, SEC.07)
Area	COLORADO	Well	THOMSEN 4N-18HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	THOMSEN 4N-18HZ AWB <152-14792>
Facility	SEC.07-T2N-R65W		

WELLPATH DATA (162 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8318.00	90.500	181.100	7146.70	-517.10	534.55	543.03	40°09'38.211"N	104°41'53.874"W	0.43	
8501.00	89.600	182.400	7146.54	-334.46	351.64	537.44	40°09'36.404"N	104°41'53.946"W	0.86	
8685.00	89.600	181.000	7147.82	-150.82	167.73	531.98	40°09'34.586"N	104°41'54.016"W	0.76	
8869.00	90.700	187.900	7147.34	31.97	-15.60	517.71	40°09'32.775"N	104°41'54.200"W	3.80	
8961.00	90.500	189.200	7146.38	122.46	-106.57	504.04	40°09'31.876"N	104°41'54.376"W	1.43	
9052.00	88.100	187.000	7147.49	212.08	-196.64	491.22	40°09'30.986"N	104°41'54.541"W	3.58	
9144.00	86.800	185.400	7151.58	303.09	-288.01	481.29	40°09'30.083"N	104°41'54.669"W	2.24	
9229.00	86.000	183.000	7156.92	387.45	-372.61	475.08	40°09'29.247"N	104°41'54.749"W	2.97	
9314.00	87.700	179.700	7161.59	472.18	-457.44	473.08	40°09'28.409"N	104°41'54.775"W	4.36	
9399.00	89.300	176.900	7163.82	557.14	-542.36	475.60	40°09'27.569"N	104°41'54.743"W	3.79	
9485.00	89.600	175.500	7164.64	643.08	-628.17	481.30	40°09'26.721"N	104°41'54.669"W	1.66	
9572.00	91.700	174.900	7163.65	729.95	-714.85	488.58	40°09'25.865"N	104°41'54.575"W	2.51	
9657.00	91.600	174.500	7161.21	814.76	-799.45	496.43	40°09'25.029"N	104°41'54.474"W	0.48	
9744.00	91.400	174.800	7158.93	901.56	-886.04	504.54	40°09'24.173"N	104°41'54.370"W	0.41	
9831.00	89.200	173.800	7158.47	988.35	-972.61	513.18	40°09'23.318"N	104°41'54.259"W	2.78	
9916.00	89.000	174.000	7159.81	1073.11	-1057.11	522.21	40°09'22.482"N	104°41'54.142"W	0.33	
10001.00	90.000	173.800	7160.55	1157.86	-1141.63	531.24	40°09'21.647"N	104°41'54.026"W	1.20	
10102.00	90.500	173.300	7160.11	1258.53	-1241.99	542.59	40°09'20.656"N	104°41'53.880"W	0.70	
10174.00	91.400	174.200	7158.92	1330.30	-1313.55	550.42	40°09'19.948"N	104°41'53.779"W	1.77	
10261.00	91.700	174.400	7156.56	1417.07	-1400.09	559.06	40°09'19.093"N	104°41'53.668"W	0.41	
10346.00	92.100	175.200	7153.74	1501.88	-1484.69	566.76	40°09'18.257"N	104°41'53.569"W	1.05	
10431.00	91.500	175.100	7151.07	1586.71	-1569.34	573.94	40°09'17.421"N	104°41'53.476"W	0.72	
10516.00	90.600	174.500	7149.52	1671.55	-1653.98	581.65	40°09'16.584"N	104°41'53.377"W	1.27	
10602.00	90.300	175.000	7148.84	1757.39	-1739.61	589.52	40°09'15.738"N	104°41'53.276"W	0.68	
10689.00	90.300	175.900	7148.39	1844.29	-1826.34	596.42	40°09'14.881"N	104°41'53.187"W	1.03	
10774.00	89.600	176.200	7148.46	1929.23	-1911.13	602.27	40°09'14.043"N	104°41'53.112"W	0.90	
10859.00	89.800	175.800	7148.91	2014.17	-1995.93	608.20	40°09'13.205"N	104°41'53.035"W	0.53	
10946.00	89.500	175.100	7149.44	2101.07	-2082.65	615.10	40°09'12.348"N	104°41'52.946"W	0.88	
11031.00	91.100	175.400	7148.99	2185.95	-2167.35	622.14	40°09'11.511"N	104°41'52.856"W	1.92	
11115.00	90.300	174.400	7147.97	2269.80	-2251.01	629.61	40°09'10.684"N	104°41'52.760"W	1.52	
11201.00	90.800	174.700	7147.14	2355.63	-2336.62	637.78	40°09'09.838"N	104°41'52.654"W	0.68	
11289.00	90.200	175.700	7146.37	2443.50	-2424.31	645.14	40°09'08.972"N	104°41'52.560"W	1.33	
11374.00	90.200	177.000	7146.08	2528.46	-2509.13	650.55	40°09'08.134"N	104°41'52.490"W	1.53	
11459.00	89.900	177.900	7146.00	2613.45	-2594.05	654.33	40°09'07.294"N	104°41'52.441"W	1.12	
11544.00	90.200	179.500	7145.93	2698.44	-2679.02	656.26	40°09'06.455"N	104°41'52.417"W	1.92	
11631.00	90.000	179.600	7145.78	2785.42	-2766.02	656.94	40°09'05.595"N	104°41'52.408"W	0.26	
11716.00	92.400	179.700	7144.00	2870.37	-2850.99	657.46	40°09'04.755"N	104°41'52.401"W	2.83	
11828.00	92.100	179.800	7139.60	2982.24	-2962.90	657.95	40°09'03.649"N	104°41'52.395"W	0.28	
11889.00	90.300	178.900	7138.32	3043.21	-3023.88	658.64	40°09'03.047"N	104°41'52.386"W	3.30	
11973.00	90.200	179.100	7137.95	3127.20	-3107.87	660.11	40°09'02.217"N	104°41'52.367"W	0.27	
12058.00	89.200	178.900	7138.40	3212.19	-3192.86	661.59	40°09'01.377"N	104°41'52.348"W	1.20	
12143.00	90.400	179.900	7138.70	3297.17	-3277.85	662.48	40°09'00.537"N	104°41'52.337"W	1.84	
12229.00	88.900	179.900	7139.22	3383.12	-3363.84	662.63	40°08'59.687"N	104°41'52.335"W	1.74	
12314.00	89.900	179.800	7140.11	3468.08	-3448.84	662.85	40°08'58.847"N	104°41'52.332"W	1.18	
12401.00	90.100	179.300	7140.11	3555.06	-3535.83	663.54	40°08'57.988"N	104°41'52.323"W	0.62	

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#06 THOMSEN 4N-18HZ (472'FNL & 875'FEL, SEC.07)
Area	COLORADO	Well	THOMSEN 4N-18HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	THOMSEN 4N-18HZ AWB <152-14792>
Facility	SEC.07-T2N-R65W		

WELLPATH DATA (162 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12486.00	91.200	179.800	7139.15	3640.03	-3620.82	664.21	40°08'57.148"N	104°41'52.315"W	1.42	
12573.00	90.500	178.500	7137.86	3727.00	-3707.80	665.50	40°08'56.288"N	104°41'52.298"W	1.70	
12660.00	89.300	177.500	7138.01	3814.00	-3794.75	668.53	40°08'55.429"N	104°41'52.259"W	1.80	
12745.00	89.300	177.100	7139.05	3898.98	-3879.65	672.54	40°08'54.590"N	104°41'52.207"W	0.47	
12831.00	89.600	177.300	7139.87	3984.96	-3965.54	676.74	40°08'53.741"N	104°41'52.153"W	0.42	
12917.00	89.400	178.800	7140.62	4070.96	-4051.48	679.66	40°08'52.892"N	104°41'52.116"W	1.76	
13002.00	90.200	179.000	7140.92	4155.95	-4136.47	681.29	40°08'52.052"N	104°41'52.095"W	0.97	
13089.00	90.800	178.700	7140.16	4242.94	-4223.45	683.04	40°08'51.193"N	104°41'52.072"W	0.77	
13261.00	90.700	179.300	7137.91	4414.91	-4395.40	686.04	40°08'49.493"N	104°41'52.034"W	0.35	
13348.00	89.800	178.400	7137.53	4501.90	-4482.38	687.79	40°08'48.634"N	104°41'52.011"W	1.46	
13433.00	90.500	178.400	7137.31	4586.90	-4567.35	690.16	40°08'47.794"N	104°41'51.981"W	0.82	
13518.00	90.200	178.500	7136.79	4671.90	-4652.32	692.46	40°08'46.954"N	104°41'51.951"W	0.37	
13689.00	90.400	183.000	7135.89	4842.68	-4823.26	690.22	40°08'45.265"N	104°41'51.980"W	2.63	
13776.00	90.200	182.700	7135.44	4929.39	-4910.15	685.90	40°08'44.407"N	104°41'52.036"W	0.41	
13863.00	90.300	183.000	7135.06	5016.10	-4997.04	681.57	40°08'43.548"N	104°41'52.091"W	0.36	
13950.00	89.400	181.400	7135.28	5102.88	-5083.97	678.23	40°08'42.689"N	104°41'52.134"W	2.11	
14037.00	89.400	178.500	7136.20	5189.83	-5170.96	678.31	40°08'41.829"N	104°41'52.134"W	3.33	
14125.00	88.300	178.800	7137.96	5277.81	-5258.91	680.38	40°08'40.960"N	104°41'52.107"W	1.30	
14212.00	87.000	178.300	7141.53	5364.73	-5345.81	682.58	40°08'40.101"N	104°41'52.079"W	1.60	
14297.00	88.300	176.100	7145.01	5449.64	-5430.63	686.73	40°08'39.263"N	104°41'52.025"W	3.00	
14384.00	89.000	176.900	7147.06	5536.57	-5517.44	692.04	40°08'38.405"N	104°41'51.957"W	1.22	
14470.00	89.600	177.200	7148.11	5622.55	-5603.32	696.46	40°08'37.557"N	104°41'51.900"W	0.78	
14555.00	89.200	177.100	7149.00	5707.53	-5688.21	700.69	40°08'36.718"N	104°41'51.845"W	0.49	
14640.00	88.400	176.300	7150.79	5792.48	-5773.05	705.58	40°08'35.879"N	104°41'51.783"W	1.33	
14725.00	87.800	176.500	7153.60	5877.39	-5857.84	710.92	40°08'35.041"N	104°41'51.714"W	0.74	
14740.00	87.700	176.700	7154.19	5892.38	-5872.80	711.81	40°08'34.894"N	104°41'51.702"W	1.49	Last BHI MWD+IFR Surveys
14792.00	87.700	176.700	7156.28	5944.32	-5924.67	714.80	40°08'34.381"N	104°41'51.664"W	0.00	Projection to Bit

HOLE & CASING SECTIONS - Ref Wellbore: THOMSEN 4N-18HZ AWB <152-14792> Ref Wellpath: THOMSEN 4N-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	1355.00	1339.00	16.00	1354.98	0.00	0.00	0.65	3.23
9.625in Casing Surface	16.00	1345.00	1329.00	16.00	1344.98	0.00	0.00	0.75	3.18
8.75in Open Hole	1355.00	7900.00	6545.00	1354.98	7152.92	0.65	3.23	952.37	552.66
7in Casing Intermediate	16.00	7891.00	7875.00	16.00	7152.68	0.00	0.00	961.37	552.83
6.125in Open Hole	7900.00	14792.00	6892.00	7152.92	7156.28	952.37	552.66	-5924.67	714.80

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#06 THOMSEN 4N-18HZ (472'FNL & 875'FEL, SEC.07)
Area	COLORADO	Well	THOMSEN 4N-18HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	THOMSEN 4N-18HZ AWB <152-14792>
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	-2.93	-119.88	3223409.59	1301824.42	40°09'32.900"N	104°42'02.412"W	polygon
SEC.18-T2N-R65W SECTION LINES		-1.00	-2.93	-119.88	3223409.59	1301824.42	40°09'32.900"N	104°42'02.412"W	polygon
THOMSEN 4N-18HZ BHL ON PLAT REV-1 (1123'FNL & 66'FEL, SEC.18)		7087.00	-5927.44	755.17	3224338.00	1295908.31	40°08'34.354"N	104°41'51.144"W	point
THOMSEN 4N-18HZ LANDBOX		7087.00	0.00	0.00	3223529.43	1301828.44	40°09'32.929"N	104°42'00.868"W	polygon
THOMSEN 4N-18HZ BHL ON PLAT REV-3 (1123'FNL & 66'FEL, SEC.18)		7158.00	-5927.44	755.17	3224337.99	1295908.31	40°08'34.354"N	104°41'51.144"W	point
THOMSEN 4N-18HZ BHL ON PLAT REV-2 (1123'FNL & 66'FEL, SEC.18)		7158.00	-5927.44	755.17	3224338.00	1295908.31	40°08'34.354"N	104°41'51.144"W	point

WELLPATH COMPOSITION - Ref Wellbore: THOMSEN 4N-18HZ AWB <152-14792> Ref Wellpath: THOMSEN 4N-18HZ AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
16.00	1310.00	ISCWSA MWD, Rev. 2 (Standard)	CATHEDRAL ENERGY SERVICES MWD SURVEYS <152-1310>	THOMSEN 4N-18HZ AWB <152-14792>
1310.00	7850.00	NaviTrak (MAGCORR,IFR)	BHI MWD+IFR SURVEYS 8 3/4" HOLE <1395-7850>	THOMSEN 4N-18HZ AWB <152-14792>
7850.00	14740.00	NaviTrak (MAGCORR,IFR)	BHI MWD+IFR SURVEYS 6 1/8" HOLE <7948-14740>	THOMSEN 4N-18HZ AWB <152-14792>
14740.00	14792.00	Blind Drilling (std)	Projection to bit	THOMSEN 4N-18HZ AWB <152-14792>

Actual Wellpath Report

THOMSEN 4N-18HZ AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#06 THOMSEN 4N-18HZ (472'FNL & 875'FEL, SEC.07)
Area	COLORADO	Well	THOMSEN 4N-18HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	THOMSEN 4N-18HZ AWP <152-14792>
Facility	SEC.07-T2N-R65W		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
16.00	0.000	343.800	16.00	Tie-On
152.00	0.100	343.800	152.00	Begin CATHEDRAL MWD Surveys
1310.00	0.600	147.300	1309.99	Tie-Into CATHEDRAL MWD Surveys
1395.00	0.700	153.700	1394.98	Begin BHI MWD+IFR Surveys
7891.00	88.208	181.012	7152.68	7" Casing Point
14740.00	87.700	176.700	7154.19	Last BHI MWD+IFR Surveys
14792.00	87.700	176.700	7156.28	Projection to Bit