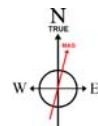
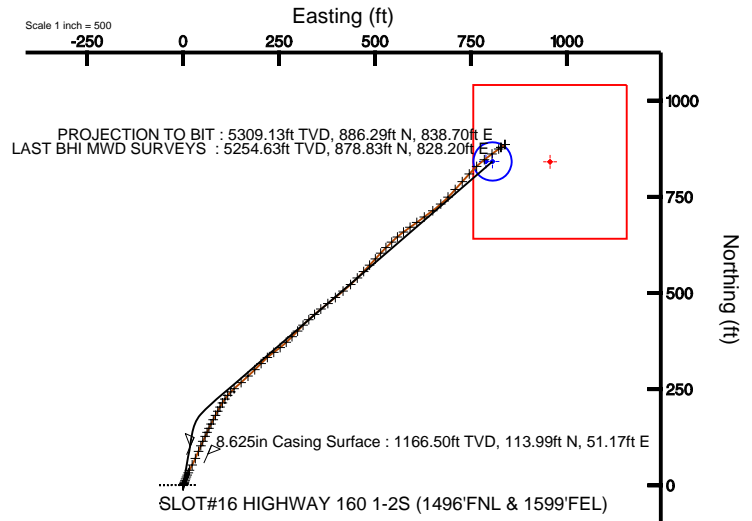
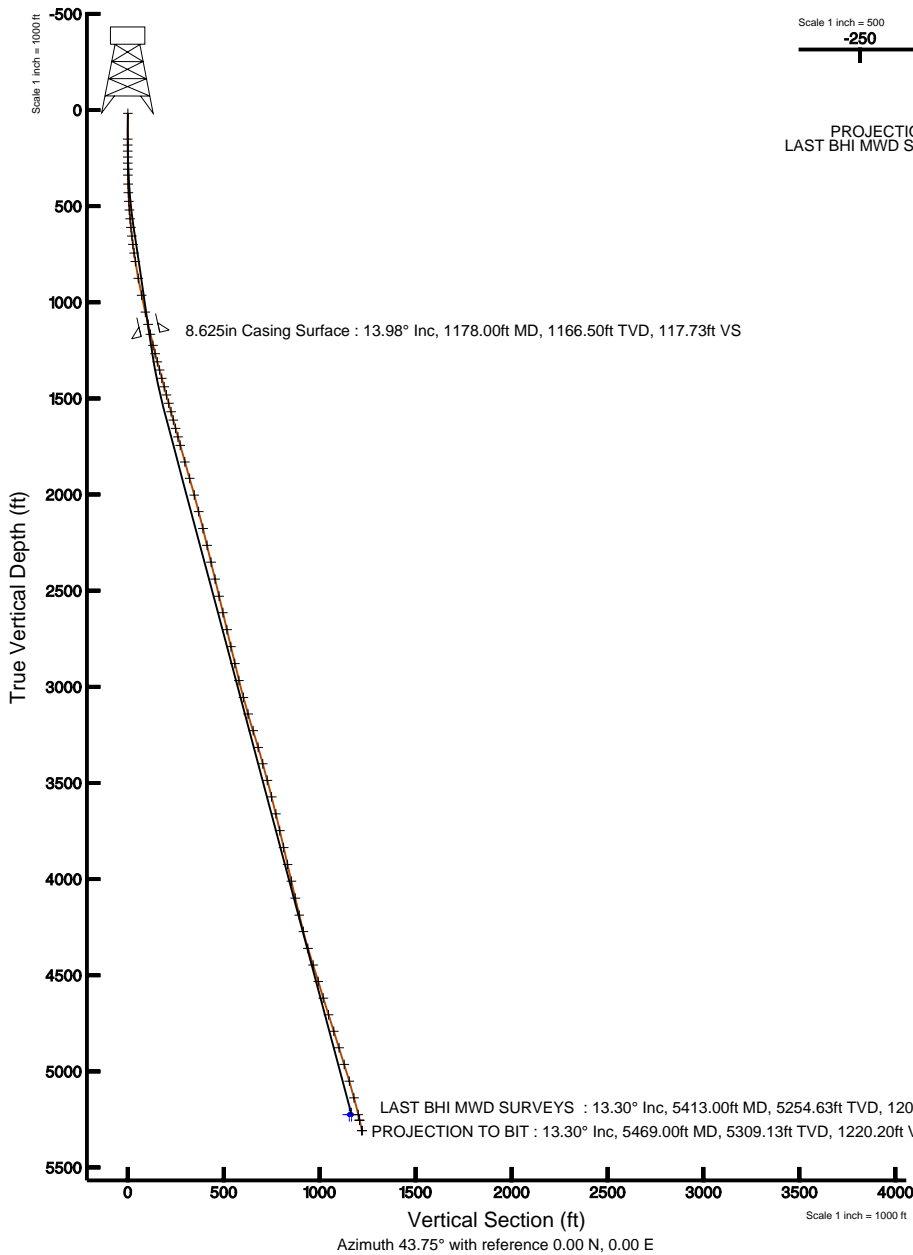


KERR MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#16 HIGHWAY 160 1-2S (1496'FNL & 1599'FEL)
 Field: WELD COUNTY (KERR MCGEE) Well: HIGHWAY 160 1-2S
 Facility: SEC.02-T1N-R66W Wellbore: HIGHWAY 160 1-2S PWB



Plot reference wellpath is HIGHWAY 160 1-2S (REV.B.0) PWP	
True vertical depths are referenced to XTREME 8 (RT)	Grid System: NAD83 / Lambert Colorado State Planes, Northern Zone (501), US feet
Measured depths are referenced to XTREME 8 (RT)	North Reference: True north
XTREME 8 (RT) to Mean Sea Level: 5121 feet	Scale: True distance
Mean Sea Level to Mud line (Facility: SEC.02-T1N-R66W): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: cookdarn on 10/26/2010



BGGM (1945.0 to 2012.0) Dip: 66.84° Field: 53065.4 nT
 Magnetic North is 8.89 degrees East of True North (at 9/26/2010)

To correct azimuth from Magnetic to True add 8.89 degrees
 For example: if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 8.89 = 98.89



Actual Wellpath Report

HIGHWAY 160 1-2S AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#16 HIGHWAY 160 1-2S (1496'FNL & 1599'FEL)
Area	COLORADO	Well	HIGHWAY 160 1-2S
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HIGHWAY 160 1-2S AWB
Facility	SEC.02-T1N-R66W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado State Planes, Northern Zone (501), US feet	Software System	WellArchitect® 2.0
North Reference	True	User	Cookdanm
Scale	0.999961	Report Generated	10/26/2010 at 1:08:42 PM
Convergence at slot	0.49° East	Database/Source file	Denver Server/HIGHWAY_160_1-2S_AWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[USft]	Northing[USft]	Latitude	Longitude
Slot Location	-298.60	2455.45	3212499.47	1274083.83	40°04'59.711"N	104°44'25.991"W
Facility Reference Pt			3210041.69	1274361.62	40°05'02.663"N	104°44'57.581"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 8 (RT) to Facility Vertical Datum	5121.00ft
Horizontal Reference Pt	Slot	XTREME 8 (RT) to Mean Sea Level	5121.00ft
Vertical Reference Pt	XTREME 8 (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00ft
MD Reference Pt	XTREME 8 (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	43.75°



Actual Wellpath Report

HIGHWAY 160 1-2S AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#16 HIGHWAY 160 1-2S (1496'FNL & 1599'FEL)
Area	COLORADO	Well	HIGHWAY 160 1-2S
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HIGHWAY 160 1-2S AWB
Facility	SEC.02-T1N-R66W		

WELLPATH DATA (78 stations) † = interpolated/extrapolated station								
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
0.00†	0.000	206.800	0.00	0.00	0.00	0.00	0.00	
17.00	0.000	206.800	17.00	0.00	0.00	0.00	0.00	
151.00	0.500	206.800	151.00	-0.56	-0.52	-0.26	0.37	
182.00	0.400	194.200	182.00	-0.78	-0.75	-0.35	0.45	
213.00	0.200	12.800	213.00	-0.83	-0.80	-0.37	1.94	
244.00	0.300	81.700	244.00	-0.72	-0.74	-0.27	0.95	
276.00	0.600	60.200	276.00	-0.49	-0.64	-0.05	1.06	
307.00	0.800	33.900	306.99	-0.12	-0.38	0.22	1.20	
338.00	1.000	28.200	337.99	0.35	0.04	0.46	0.71	
385.00	1.700	20.800	384.98	1.39	1.05	0.91	1.53	
430.00	2.500	21.900	429.95	2.91	2.59	1.51	1.78	
475.00	3.600	20.100	474.88	5.12	4.82	2.36	2.45	
520.00	4.600	20.100	519.77	8.06	7.85	3.47	2.22	
566.00	5.600	19.100	565.58	11.79	11.70	4.84	2.18	
611.00	6.400	20.100	610.34	16.09	16.13	6.42	1.79	
656.00	7.200	22.600	655.02	21.01	21.09	8.36	1.90	
700.00	7.800	23.700	698.64	26.39	26.37	10.62	1.40	
745.00	8.700	25.400	743.18	32.49	32.24	13.31	2.07	
790.00	9.100	26.500	787.63	39.12	38.50	16.36	0.97	
879.00	11.400	27.200	875.21	54.27	52.62	23.52	2.59	
969.00	12.500	25.400	963.26	72.04	69.33	31.76	1.29	
1059.00	13.700	23.000	1050.91	91.26	87.94	40.10	1.46	
1125.00	13.700	22.600	1115.04	105.85	102.35	46.16	0.14	
1237.00	14.300	25.400	1223.71	131.35	127.09	57.19	0.81	
1282.00	15.200	26.500	1267.23	142.26	137.39	62.21	2.09	
1326.00	15.800	25.400	1309.63	153.45	147.96	67.35	1.52	
1370.00	16.200	26.800	1351.92	165.01	158.85	72.69	1.26	
1415.00	16.300	26.500	1395.12	177.05	170.11	78.34	0.29	
1461.00	16.400	28.600	1439.26	189.48	181.59	84.32	1.30	
1505.00	16.000	28.600	1481.52	201.33	192.36	90.20	0.91	
1550.00	15.700	28.200	1524.81	213.18	203.17	96.05	0.71	
1596.00	15.700	31.000	1569.09	225.25	213.99	102.19	1.65	
1641.00	15.200	35.600	1612.47	237.03	224.01	108.76	2.94	
1686.00	15.500	39.800	1655.86	248.86	233.43	116.05	2.56	
1732.00	15.400	43.300	1700.20	261.10	242.59	124.17	2.04	
1777.00	15.300	48.600	1743.60	273.00	250.87	132.72	3.12	
1867.00	16.100	48.300	1830.24	297.27	267.02	150.95	0.89	
1956.00	16.100	46.500	1915.75	321.90	283.73	169.11	0.56	
2046.00	15.100	46.500	2002.43	346.07	300.39	186.67	1.11	
2135.00	14.900	44.800	2088.40	369.09	316.49	203.14	0.54	
2226.00	13.900	47.600	2176.54	391.69	332.16	219.46	1.34	
2316.00	13.400	54.900	2264.01	412.71	345.45	235.97	1.99	
2406.00	13.800	51.400	2351.48	433.58	358.14	252.89	1.02	
2497.00	13.000	46.500	2440.01	454.57	371.96	268.80	1.53	
2588.00	13.400	46.500	2528.60	475.32	386.26	283.87	0.44	



Actual Wellpath Report

HIGHWAY 160 1-2S AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#16 HIGHWAY 160 1-2S (1496'FNL & 1599'FEL)
Area	COLORADO	Well	HIGHWAY 160 1-2S
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HIGHWAY 160 1-2S AWB
Facility	SEC.02-T1N-R66W		

WELLPATH DATA (78 stations)								
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
2676.00	13.400	42.600	2614.21	495.70	400.79	298.17	1.03	
2767.00	13.400	43.700	2702.73	516.79	416.17	312.60	0.28	
2858.00	12.800	47.600	2791.37	537.39	430.59	327.32	1.17	
2948.00	13.300	47.900	2879.04	557.66	444.26	342.37	0.56	
3039.00	14.200	51.800	2967.43	579.16	458.18	358.91	1.42	
3130.00	15.600	52.100	3055.37	602.32	472.60	377.33	1.54	
3220.00	16.400	50.000	3141.89	626.92	488.20	396.62	1.10	
3310.00	17.500	50.700	3227.98	652.98	504.93	416.82	1.24	
3401.00	15.900	47.200	3315.14	679.01	522.07	436.56	2.08	
3490.00	15.800	44.800	3400.75	703.29	538.95	454.04	0.74	
3579.00	14.900	43.000	3486.58	726.85	555.92	470.38	1.14	
3668.00	14.600	43.300	3572.65	749.51	572.45	485.88	0.35	
3759.00	13.400	42.600	3660.94	771.52	588.56	500.88	1.33	
3849.00	12.900	42.600	3748.58	791.99	603.63	514.74	0.56	
3939.00	12.900	43.700	3836.31	812.08	618.29	528.48	0.27	
4030.00	13.100	50.000	3924.98	832.49	632.26	543.40	1.57	
4119.00	13.300	47.200	4011.63	852.74	645.70	558.64	0.75	
4209.00	12.800	53.900	4099.31	872.88	658.61	574.29	1.77	
4300.00	14.000	53.900	4187.83	893.64	671.04	591.33	1.32	
4388.00	14.400	54.600	4273.14	914.87	683.65	608.85	0.49	
4479.00	16.700	54.900	4360.81	938.81	697.72	628.77	2.53	
4570.00	18.100	52.100	4447.64	965.63	713.92	650.63	1.79	
4660.00	17.100	47.600	4533.43	992.67	731.44	671.43	1.88	
4750.00	16.800	44.800	4619.52	1018.87	749.59	690.37	0.97	
4841.00	18.000	42.600	4706.36	1046.08	769.27	709.15	1.50	
4931.00	17.600	41.200	4792.05	1073.58	789.74	727.53	0.65	
5021.00	17.500	43.700	4877.86	1100.70	809.76	745.84	0.84	
5112.00	17.500	45.500	4964.65	1128.06	829.25	765.05	0.59	
5203.00	16.700	52.500	5051.64	1154.66	846.80	785.18	2.42	
5293.00	15.100	53.500	5138.19	1179.00	861.64	804.87	1.80	
5383.00	13.300	53.500	5225.44	1200.75	874.78	822.61	2.00	
5413.00	13.300	54.600	5254.63	1207.54	878.83	828.20	0.84	LAST BHI MWD SURVEYS
5469.00	13.300	54.600	5309.13	1220.20	886.29	838.70	0.00	PROJECTION TO BIT



Actual Wellpath Report

HIGHWAY 160 1-2S AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#16 HIGHWAY 160 1-2S (1496'FNL & 1599'FEL)
Area	COLORADO	Well	HIGHWAY 160 1-2S
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HIGHWAY 160 1-2S AWB
Facility	SEC.02-T1N-R66W		

HOLE & CASING SECTIONS Ref Wellbore: HIGHWAY 160 1-2S AWB Ref Wellpath: HIGHWAY 160 1-2S 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]
12.25in Open Hole	17.00	1178.00	1161.00	17.00	1166.50	0.00	0.00	113.99	51.17
8.625in Casing Surface	17.00	1178.00	1161.00	17.00	1166.50	0.00	0.00	113.99	51.17
7.875in Open Hole	1178.00	5469.00	4291.00	1166.50	5309.13	113.99	51.17	886.29	838.70

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
HIGHWAY 160 1-2S BHL ON PLAT (660'FNL & 810'FEL, REV-1)		5226.00	842.26	789.35	3213281.55	1274932.78	40°05'08.034"N	104°44'15.835"W	point
HIGHWAY 160 1-2S GEO TARGET 50' RADIUS (660'FNL & 793FEL, REV-2)		5226.00	842.26	806.35	3213298.55	1274932.93	40°05'08.034"N	104°44'15.617"W	circle
HIGHWAY 160 1-2S LEGAL BOX (201'S,199'N,50'W,350'E OF GEO TARGET)		5226.00	841.26	956.35	3213448.54	1274933.21	40°05'08.024"N	104°44'13.687"W	square

WELLPATH COMPOSITION Ref Wellbore: HIGHWAY 160 1-2S AWB Ref Wellpath: HIGHWAY 160 1-2S AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	1125.00	NaviTrak (Standard)	BHI MWD SURVEY 12.25 HOLE <151-1125>	HIGHWAY 160 1-2S AWB
1125.00	5413.00	NaviTrak (Standard)	BHI MWD SURVEYS 7.875 HOLE <1237-5413>	HIGHWAY 160 1-2S AWB
5413.00	5469.00	Blind Drilling (std)	Projection to bit	HIGHWAY 160 1-2S AWB



Actual Wellpath Report

HIGHWAY 160 1-2S AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#16 HIGHWAY 160 1-2S (1496'FNL & 1599'FEL)
Area	COLORADO	Well	HIGHWAY 160 1-2S
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HIGHWAY 160 1-2S AWB
Facility	SEC.02-T1N-R66W		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
5413.00	13.300	54.600	5254.63	LAST BHI MWD SURVEYS
5469.00	13.300	54.600	5309.13	PROJECTION TO BIT