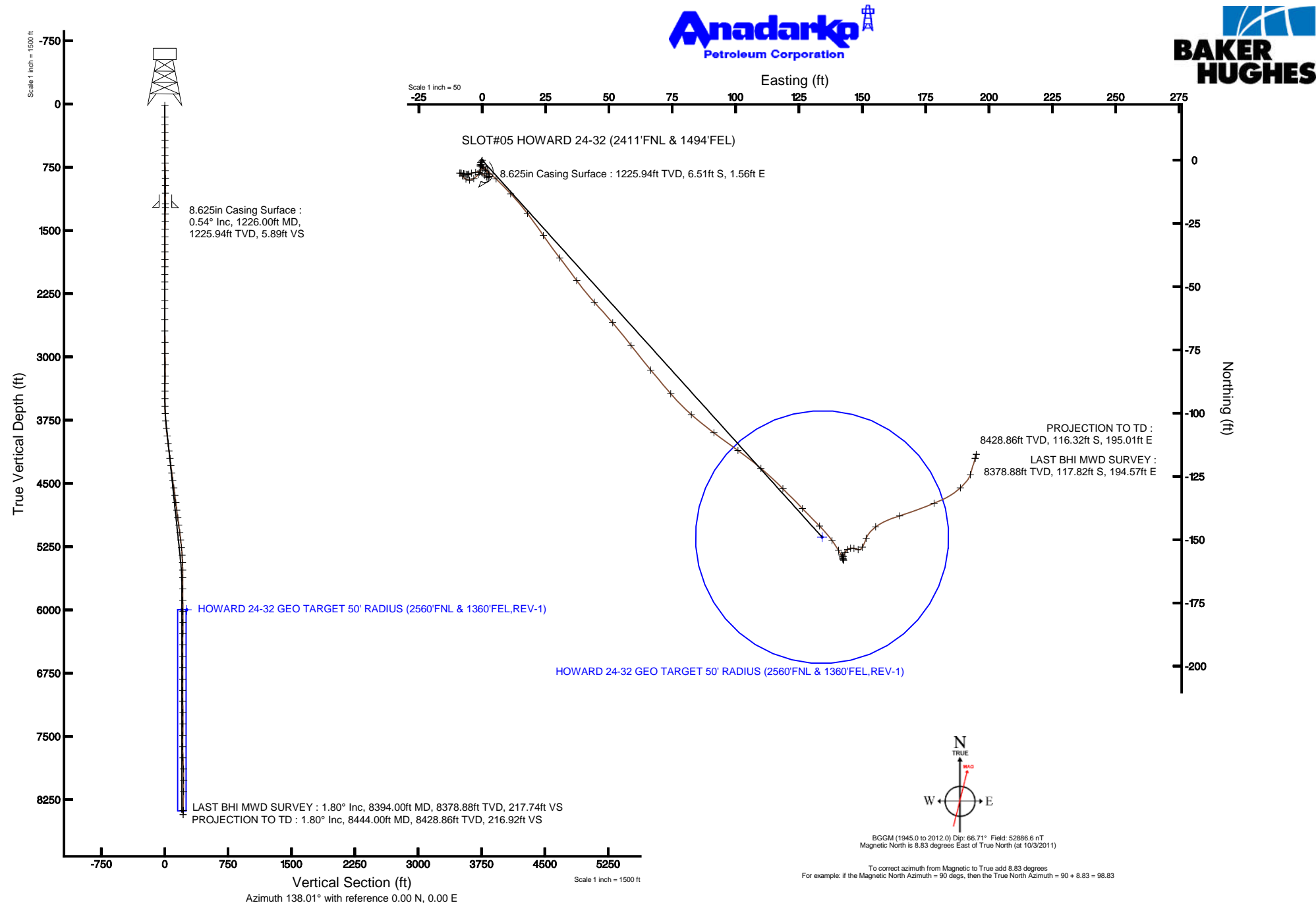


Location:	COLORADO	Slot:	SLOT#05 HOWARD 24-32 (2411'FNL & 1494'FEL)
Field:	WELD COUNTY (KERR MCGEE)	Well:	HOWARD 24-32
Facility:	SEC 32-T1N-R67W	Wellbore:	HOWARD 24-32 PWB

True vertical depths are referenced to XTREME 15 (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to XTREME 15 (RKB)	North Reference: True north
XTREME 15 (RKB) to Mean Sea Level: 5076 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#05 HOWARD 24-32 (2411'FNL & 1494'FEL): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: wilsjef02 on 12/14/2011





# Actual Wellpath Report

HOWARD 24-32 AWP

Page 1 of 4



## REFERENCE WELLPATH IDENTIFICATION

Operator	ANADARKO E&P COMPANY LP	Slot	SLOT#05 HOWARD 24-32 (2411'FNL & 1494'FEL)
Area	COLORADO	Well	HOWARD 24-32
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 24-32 AWB
Facility	SEC.32-T1N-R67W		

## REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 3.0.0
North Reference	True	User	Wilsjef02
Scale	0.999966	Report Generated	12/14/2011 at 12:10:27 PM
Convergence at slot	0.38° East	Database/Source file	WA_DENVER/HOWARD_24-32_AWB.xml

## WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	80.12	54.63	3165216.26	1246389.89	40°00'29.585"N	104°54'36.684"W
Facility Reference Pt			3165162.17	1246309.41	40°00'28.793"N	104°54'37.386"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 15 (RKB) to Facility Vertical Datum	5076.00ft
Horizontal Reference Pt	Slot	XTREME 15 (RKB) to Mean Sea Level	5076.00ft
Vertical Reference Pt	XTREME 15 (RKB)	XTREME 15 (RKB) to Mud Line at Slot (SLOT#05 HOWARD 24-32 (2411'FNL & 1494'FEL))	5076.00ft
MD Reference Pt	XTREME 15 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	138.01°



## Actual Wellpath Report

HOWARD 24-32 AWP

Page 2 of 4



## REFERENCE WELLPATH IDENTIFICATION

Operator	ANADARKO E&P COMPANY LP	Slot	SLOT#05 HOWARD 24-32 (2411'FNL & 1494'FEL)
Area	COLORADO	Well	HOWARD 24-32
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 24-32 AWB
Facility	SEC.32-T1N-R67W		

## WELLPATH DATA (81 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	231.700	0.00	0.00	0.00	0.00	40°00'29.585"N	104°54'36.684"W	0.00	
15.00	0.000	231.700	15.00	0.00	0.00	0.00	40°00'29.585"N	104°54'36.684"W	0.00	
154.00	0.400	231.700	154.00	-0.03	-0.30	-0.38	40°00'29.582"N	104°54'36.689"W	0.29	
246.00	0.400	181.400	246.00	0.18	-0.82	-0.64	40°00'29.577"N	104°54'36.692"W	0.37	
338.00	0.500	199.700	337.99	0.61	-1.52	-0.78	40°00'29.570"N	104°54'36.694"W	0.19	
430.00	0.400	150.200	429.99	1.11	-2.18	-0.76	40°00'29.563"N	104°54'36.694"W	0.42	
520.00	0.500	310.000	519.99	1.03	-2.20	-0.90	40°00'29.563"N	104°54'36.696"W	0.98	
610.00	0.700	124.500	609.99	1.17	-2.26	-0.75	40°00'29.563"N	104°54'36.694"W	1.33	
700.00	0.900	129.800	699.98	2.41	-3.02	0.24	40°00'29.555"N	104°54'36.681"W	0.24	
789.00	1.200	136.400	788.96	4.03	-4.14	1.42	40°00'29.544"N	104°54'36.666"W	0.36	
878.00	1.000	141.400	877.95	5.74	-5.42	2.55	40°00'29.531"N	104°54'36.651"W	0.25	
967.00	0.400	217.300	966.94	6.57	-6.28	2.85	40°00'29.523"N	104°54'36.647"W	1.10	
1056.00	0.300	225.400	1055.94	6.64	-6.69	2.49	40°00'29.519"N	104°54'36.652"W	0.13	
1181.00	0.400	298.200	1180.94	6.24	-6.71	1.88	40°00'29.518"N	104°54'36.660"W	0.34	
1305.00	0.800	311.500	1304.93	4.98	-5.93	0.85	40°00'29.526"N	104°54'36.673"W	0.34	
1395.00	0.700	301.700	1394.92	3.82	-5.23	-0.09	40°00'29.533"N	104°54'36.685"W	0.18	
1486.00	0.900	288.700	1485.92	2.67	-4.71	-1.24	40°00'29.538"N	104°54'36.700"W	0.30	
1576.00	1.000	253.200	1575.90	1.72	-4.71	-2.66	40°00'29.538"N	104°54'36.718"W	0.65	
1666.00	1.200	263.000	1665.89	0.84	-5.05	-4.35	40°00'29.535"N	104°54'36.740"W	0.30	
1753.00	0.300	194.500	1752.88	0.45	-5.38	-5.31	40°00'29.532"N	104°54'36.752"W	1.29	
1842.00	0.200	259.500	1841.88	0.49	-5.64	-5.52	40°00'29.529"N	104°54'36.755"W	0.32	
1931.00	0.300	276.400	1930.88	0.24	-5.64	-5.91	40°00'29.529"N	104°54'36.760"W	0.14	
2022.00	0.400	292.900	2021.88	-0.23	-5.49	-6.44	40°00'29.531"N	104°54'36.767"W	0.15	
2111.00	0.300	272.500	2110.88	-0.67	-5.36	-6.96	40°00'29.532"N	104°54'36.773"W	0.18	
2198.00	0.300	286.900	2197.87	-1.03	-5.28	-7.40	40°00'29.533"N	104°54'36.779"W	0.09	
2331.00	0.500	280.200	2330.87	-1.78	-5.08	-8.31	40°00'29.535"N	104°54'36.791"W	0.15	
2422.00	0.200	271.100	2421.87	-2.21	-5.00	-8.86	40°00'29.535"N	104°54'36.798"W	0.33	
2556.00	0.200	118.900	2555.87	-2.15	-5.11	-8.88	40°00'29.534"N	104°54'36.798"W	0.29	
2691.00	1.000	140.300	2690.86	-0.75	-6.13	-7.93	40°00'29.524"N	104°54'36.786"W	0.61	
2825.00	0.700	118.500	2824.85	1.19	-7.42	-6.46	40°00'29.511"N	104°54'36.767"W	0.33	
2959.00	0.600	92.200	2958.84	2.46	-7.84	-5.04	40°00'29.507"N	104°54'36.749"W	0.23	
3093.00	1.000	55.200	3092.83	3.09	-7.20	-3.38	40°00'29.514"N	104°54'36.727"W	0.47	
3226.00	1.100	40.100	3225.80	3.06	-5.56	-1.60	40°00'29.530"N	104°54'36.705"W	0.22	
3315.00	1.100	22.900	3314.79	2.58	-4.12	-0.72	40°00'29.544"N	104°54'36.693"W	0.37	
3404.00	1.000	20.000	3403.77	1.85	-2.60	-0.12	40°00'29.559"N	104°54'36.686"W	0.13	
3494.00	0.600	285.500	3493.77	1.09	-1.74	-0.31	40°00'29.568"N	104°54'36.688"W	1.34	
3584.00	0.400	114.300	3583.76	0.98	-1.74	-0.47	40°00'29.568"N	104°54'36.690"W	1.11	
3673.00	2.800	134.300	3672.72	3.43	-3.39	1.36	40°00'29.551"N	104°54'36.666"W	2.73	
3760.00	4.600	134.300	3759.54	9.03	-7.31	5.38	40°00'29.513"N	104°54'36.615"W	2.07	
3848.00	6.200	136.400	3847.15	17.31	-13.22	11.19	40°00'29.454"N	104°54'36.540"W	1.83	
3939.00	6.700	142.800	3937.57	27.51	-21.00	17.78	40°00'29.377"N	104°54'36.455"W	0.96	
4029.00	7.100	145.600	4026.92	38.25	-29.77	24.10	40°00'29.291"N	104°54'36.374"W	0.58	
4117.00	7.200	142.100	4114.23	49.14	-38.61	30.56	40°00'29.203"N	104°54'36.291"W	0.51	
4205.00	7.400	144.200	4201.52	60.28	-47.56	37.26	40°00'29.115"N	104°54'36.205"W	0.38	
4293.00	7.000	137.500	4288.83	71.28	-56.11	44.20	40°00'29.030"N	104°54'36.116"W	1.06	
4383.00	6.900	139.300	4378.17	82.16	-64.25	51.43	40°00'28.950"N	104°54'36.023"W	0.27	
4472.00	8.000	142.400	4466.42	93.68	-73.21	58.70	40°00'28.861"N	104°54'35.930"W	1.32	
4560.00	8.300	140.300	4553.53	106.14	-82.95	66.49	40°00'28.765"N	104°54'35.830"W	0.48	
4648.00	7.700	139.300	4640.67	118.38	-92.31	74.39	40°00'28.673"N	104°54'35.728"W	0.70	
4737.00	7.300	131.500	4728.91	129.96	-100.58	82.51	40°00'28.591"N	104°54'35.624"W	1.23	
4827.00	7.300	126.600	4818.18	141.24	-107.77	91.39	40°00'28.520"N	104°54'35.510"W	0.69	
4918.00	7.600	125.900	4908.41	152.79	-114.75	100.90	40°00'28.451"N	104°54'35.387"W	0.34	
5005.00	7.600	130.100	4994.65	164.12	-121.83	109.97	40°00'28.381"N	104°54'35.271"W	0.64	
5095.00	7.600	135.400	5083.86	175.96	-129.90	118.70	40°00'28.301"N	104°54'35.159"W	0.78	
5183.00	6.700	135.700	5171.18	186.90	-137.72	126.37	40°00'28.224"N	104°54'35.060"W	1.02	
5273.00	5.600	135.700	5260.66	196.53	-144.62	133.10	40°00'28.156"N	104°54'34.973"W	1.22	
5363.00	4.100	144.200	5350.33	204.12	-150.37	138.05	40°00'28.099"N	104°54'34.910"W	1.84	
5451.00	2.000	151.600	5438.20	208.74	-154.27	140.62	40°00'28.060"N	104°54'34.877"W	2.42	
5541.00	0.800	135.700	5528.18	210.90	-156.10	141.81	40°00'28.042"N	104°54'34.862"W	1.39	
5632.00	0.000	277.800	5619.17	211.53	-156.56	142.25	40°00'28.038"N	104°54'34.856"W	0.88	



# Actual Wellpath Report

HOWARD 24-32 AWP

Page 3 of 4



## REFERENCE WELLPATH IDENTIFICATION

Operator	ANADARKO E&P COMPANY LP	Slot	SLOT#05 HOWARD 24-32 (2411'FNL & 1494'FEL)
Area	COLORADO	Well	HOWARD 24-32
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 24-32 AWB
Facility	SEC.32-T1N-R67W		

## WELLPATH DATA (81 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
5765.00	0.300	192.300	5752.17	211.73	-156.90	142.18	40°00'28.034"N	104°54'34.857"W	0.23	
5899.00	0.400	149.100	5886.17	212.40	-157.64	142.34	40°00'28.027"N	104°54'34.855"W	0.20	
6032.00	0.100	154.000	6019.17	212.96	-158.15	142.63	40°00'28.022"N	104°54'34.851"W	0.23	
6165.00	0.100	320.300	6152.17	212.96	-158.16	142.61	40°00'28.022"N	104°54'34.851"W	0.15	
6296.00	0.200	329.800	6283.17	212.62	-157.88	142.42	40°00'28.025"N	104°54'34.854"W	0.08	
6428.00	0.200	21.100	6415.17	212.29	-157.46	142.39	40°00'28.029"N	104°54'34.854"W	0.13	
6563.00	0.500	8.100	6550.16	211.81	-156.66	142.56	40°00'28.037"N	104°54'34.852"W	0.23	
6698.00	0.900	30.300	6685.15	211.11	-155.16	143.17	40°00'28.051"N	104°54'34.844"W	0.35	
6834.00	0.500	55.200	6821.14	210.86	-153.90	144.20	40°00'28.064"N	104°54'34.831"W	0.36	
6967.00	0.600	78.100	6954.14	211.28	-153.42	145.36	40°00'28.069"N	104°54'34.816"W	0.18	
7098.00	0.600	104.800	7085.13	212.20	-153.46	146.69	40°00'28.068"N	104°54'34.799"W	0.21	
7233.00	0.900	106.900	7220.12	213.70	-153.95	148.39	40°00'28.063"N	104°54'34.777"W	0.22	
7366.00	1.200	28.200	7353.10	214.12	-153.02	150.05	40°00'28.073"N	104°54'34.756"W	1.02	
7500.00	2.100	20.400	7487.05	212.51	-149.49	151.57	40°00'28.108"N	104°54'34.736"W	0.69	
7635.00	3.100	52.400	7621.91	211.64	-144.94	155.32	40°00'28.152"N	104°54'34.688"W	1.28	
7768.00	6.000	72.100	7754.49	214.75	-140.61	164.79	40°00'28.195"N	104°54'34.566"W	2.45	
7903.00	6.300	67.900	7888.71	220.15	-135.65	178.36	40°00'28.244"N	104°54'34.392"W	0.40	
8038.00	4.100	46.400	8023.16	222.54	-129.54	188.72	40°00'28.305"N	104°54'34.259"W	2.15	
8170.00	1.700	15.900	8154.99	221.36	-124.40	192.68	40°00'28.355"N	104°54'34.208"W	2.10	
8394.00	1.800	16.200	8378.88	217.74	-117.82	194.57	40°00'28.420"N	104°54'34.184"W	0.04	LAST BHI MWD SURVEY
8444.00	1.800	16.200	8428.86	216.92	-116.32	195.01	40°00'28.435"N	104°54'34.178"W	0.00	PROJECTION TO TD

## HOLE & CASING SECTIONS - Ref Wellbore: HOWARD 24-32 AWB Ref Wellpath: HOWARD 24-32 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	15.00	1226.00	1211.00	15.00	1225.94	0.00	0.00	-6.51	1.56
8.625in Casing Surface	15.00	1226.00	1211.00	15.00	1225.94	0.00	0.00	-6.51	1.56
7.875in Open Hole	1226.00	8444.00	7218.00	1225.94	8428.86	-6.51	1.56	-116.32	195.01

## TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
HOWARD 24-32 GEO TARGET 50' RADIUS (2560'FNL & 1360'FEL,REV-1)		6000.00	-149.03	134.15	3165351.40	1246241.76	40°00'28.112"N	104°54'34.960"W	circle
HOWARD 24-32 HARDLINE 79'S OF GEO TARGET		6000.00	-227.99	134.18	3165351.95	1246162.81	40°00'27.332"N	104°54'34.960"W	point

## WELLPATH COMPOSITION - Ref Wellbore: HOWARD 24-32 AWB Ref Wellpath: HOWARD 24-32 AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
15.00	1181.00	NaviTrak (Standard)	BHI MWD SURVEYS 12 1/4" HOLE <154-1181>	HOWARD 24-32 AWB
1181.00	8394.00	NaviTrak (Standard)	BHI MWD SURVEYS 7 7/8" HOLE <1305-8394>	HOWARD 24-32 AWB
8394.00	8444.00	Blind Drilling (std)	Projection to bit	HOWARD 24-32 AWB



# Actual Wellpath Report

HOWARD 24-32 AWP

Page 4 of 4



## REFERENCE WELLPATH IDENTIFICATION

Operator	ANADARKO E&P COMPANY LP	Slot	SLOT#05 HOWARD 24-32 (2411'FNL & 1494'FEL)
Area	COLORADO	Well	HOWARD 24-32
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 24-32 AWB
Facility	SEC.32-T1N-R67W		

## WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
8394.00	1.800	16.200	8378.88	LAST BHI MWD SURVEY
8444.00	1.800	16.200	8428.86	PROJECTION TO TD