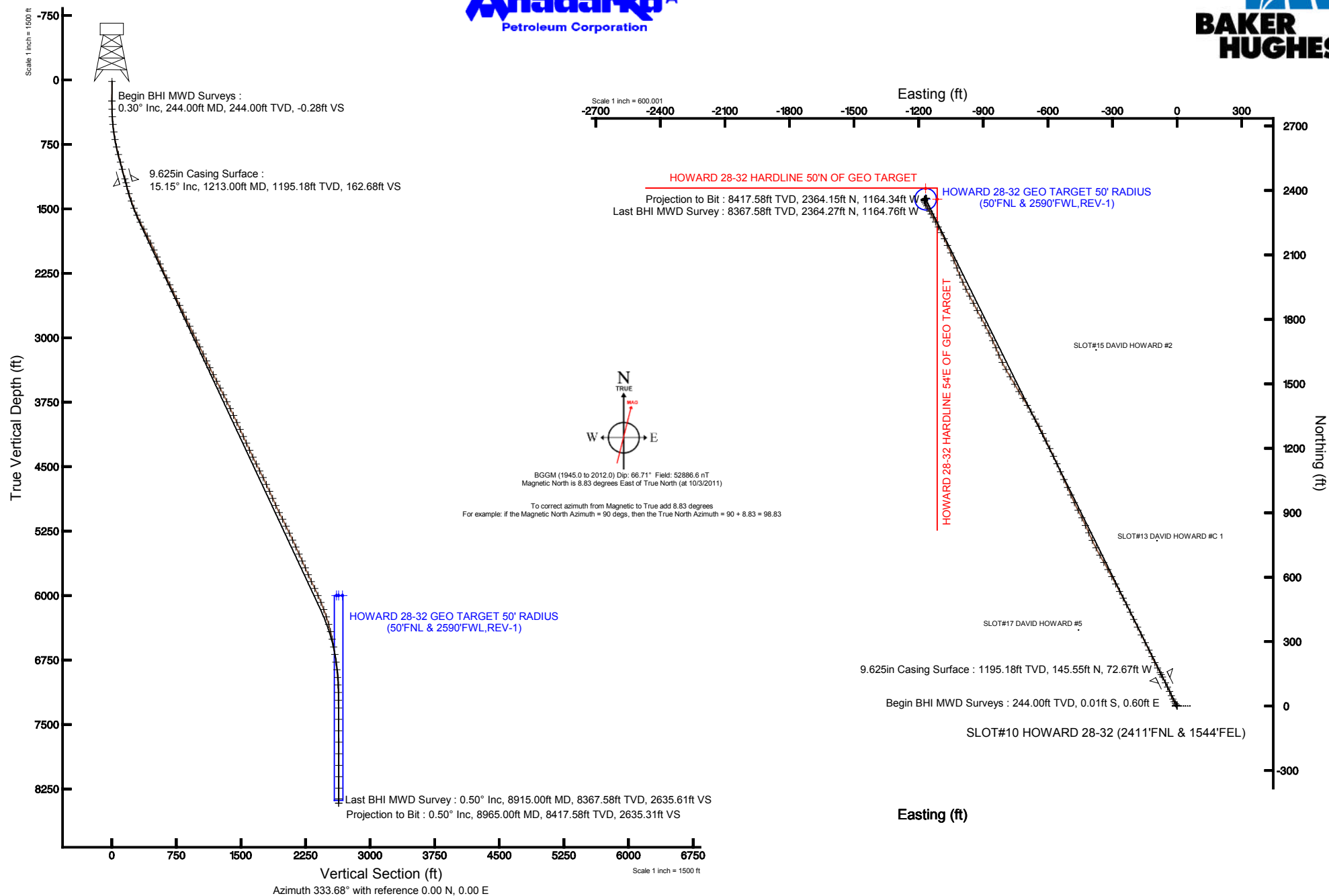


ANADARKO E&P COMPANY LP

Location: COLORADO Slot: SLOT#10 HOWARD 28-32 (2411'FNL & 1544'FEL)
Field: WELD COUNTY (KERR MCGEE) Well: HOWARD 28-32
Facility: SEC.32-T1N-R67W Wellbore: HOWARD 28-32 PWB

Plot reference wellpath is HOWARD 28-32 (REV-C.0) PWP

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#10 HOWARD 28-32 (2411'FNL & 1544'FEL)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: wlsjef02 on 1/10/2012





Actual Wellpath Report

HOWARD 28-32 AWP

Page 1 of 5



REFERENCE WELLPATH IDENTIFICATION

Operator	ANADARKO E&P COMPANY LP	Slot	SLOT#10 HOWARD 28-32 (2411'FNL & 1544'FEL)
Area	COLORADO	Well	HOWARD 28-32
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 28-32 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	1/10/2012 at 12:05:21 PM
Convergence at slot	0.38° East	Database/Source file	WA_ANADARKO/HOWARD_28-32_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	4.76	3165166.40	1246389.56	40°00'29.585"N	104°54'37.325"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#10 HOWARD 28-32 (2411'FNL & 1544'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	333.68°



Actual Wellpath Report

HOWARD 28-32 AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANADARKO E&P COMPANY LP	Slot	SLOT#10 HOWARD 28-32 (2411'FNL & 1544'FEL)
Area	COLORADO	Well	HOWARD 28-32
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 28-32 AWB
Facility	SEC.32-T1N-R67W		

WELLPATH DATA (97 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	91.100	0.00	0.00	0.00	0.00	40°00'29.585"N	104°54'37.325"W	0.00	
15.00	0.000	91.100	15.00	0.00	0.00	0.00	40°00'29.585"N	104°54'37.325"W	0.00	
244.00	0.300	91.100	244.00	-0.28	-0.01	0.60	40°00'29.585"N	104°54'37.317"W	0.13	Begin BHI MWD Surveys
337.00	1.600	320.300	336.99	0.87	0.98	0.01	40°00'29.595"N	104°54'37.325"W	1.95	
427.00	3.800	324.500	426.88	5.04	4.38	-2.52	40°00'29.628"N	104°54'37.357"W	2.45	
516.00	5.900	324.900	515.56	12.48	10.52	-6.86	40°00'29.689"N	104°54'37.413"W	2.36	
605.00	7.900	329.500	603.91	23.10	19.54	-12.60	40°00'29.778"N	104°54'37.487"W	2.33	
694.00	10.100	333.300	691.81	37.00	31.78	-19.21	40°00'29.899"N	104°54'37.572"W	2.56	
783.00	12.700	338.900	779.05	54.55	47.88	-26.24	40°00'30.058"N	104°54'37.662"W	3.17	
873.00	14.200	336.100	866.58	75.43	67.20	-34.28	40°00'30.249"N	104°54'37.765"W	1.82	
963.00	14.700	334.700	953.73	97.88	87.62	-43.63	40°00'30.451"N	104°54'37.885"W	0.68	
1051.00	15.000	334.400	1038.79	120.43	107.99	-53.32	40°00'30.652"N	104°54'38.010"W	0.35	
1165.00	15.200	331.900	1148.86	150.12	134.47	-66.73	40°00'30.914"N	104°54'38.182"W	0.60	
1255.00	15.100	331.600	1235.73	173.63	155.19	-77.87	40°00'31.118"N	104°54'38.325"W	0.14	
1345.00	17.100	331.600	1322.20	198.57	177.15	-89.74	40°00'31.335"N	104°54'38.478"W	2.22	
1433.00	19.000	333.000	1405.86	225.83	201.29	-102.39	40°00'31.574"N	104°54'38.641"W	2.21	
1524.00	21.200	336.100	1491.32	257.08	229.54	-115.79	40°00'31.853"N	104°54'38.813"W	2.69	
1612.00	24.100	333.700	1572.52	290.95	260.20	-130.20	40°00'32.156"N	104°54'38.998"W	3.46	
1702.00	26.200	333.000	1653.99	329.20	294.38	-147.36	40°00'32.494"N	104°54'39.219"W	2.36	
1792.00	27.400	334.000	1734.32	369.78	330.70	-165.46	40°00'32.853"N	104°54'39.451"W	1.42	
1882.00	26.500	334.400	1814.54	410.56	367.42	-183.21	40°00'33.216"N	104°54'39.679"W	1.02	
1973.00	25.200	334.000	1896.44	450.24	403.14	-200.48	40°00'33.569"N	104°54'39.901"W	1.44	
2061.00	25.100	334.000	1976.09	487.64	436.75	-216.87	40°00'33.901"N	104°54'40.112"W	0.11	
2152.00	24.400	333.300	2058.73	525.73	470.89	-233.78	40°00'34.238"N	104°54'40.329"W	0.83	
2240.00	22.800	331.600	2139.37	560.95	502.13	-250.06	40°00'34.547"N	104°54'40.538"W	1.98	
2328.00	24.800	332.600	2219.88	596.45	533.52	-266.66	40°00'34.857"N	104°54'40.752"W	2.32	
2419.00	25.500	332.300	2302.26	635.11	567.81	-284.55	40°00'35.196"N	104°54'40.982"W	0.78	
2508.00	25.900	331.200	2382.45	673.68	601.81	-302.82	40°00'35.532"N	104°54'41.217"W	0.70	
2596.00	25.400	332.600	2461.78	711.76	635.40	-320.77	40°00'35.864"N	104°54'41.447"W	0.89	
2686.00	24.800	329.100	2543.29	749.87	668.74	-339.34	40°00'36.193"N	104°54'41.686"W	1.78	
2775.00	26.000	331.900	2623.69	787.98	701.97	-358.12	40°00'36.522"N	104°54'41.927"W	1.91	
2863.00	25.800	332.600	2702.85	826.41	735.98	-376.02	40°00'36.858"N	104°54'42.157"W	0.42	
2953.00	25.500	334.700	2783.98	865.36	770.89	-393.31	40°00'37.203"N	104°54'42.379"W	1.06	
3043.00	25.200	336.100	2865.31	903.87	805.92	-409.35	40°00'37.549"N	104°54'42.586"W	0.74	
3132.00	25.900	335.400	2945.61	942.23	840.92	-425.12	40°00'37.895"N	104°54'42.788"W	0.86	
3221.00	25.900	334.000	3025.67	981.10	876.06	-441.73	40°00'38.242"N	104°54'43.002"W	0.69	
3311.00	25.800	332.300	3106.67	1020.33	911.07	-459.45	40°00'38.588"N	104°54'43.230"W	0.83	
3401.00	25.900	335.100	3187.67	1059.57	946.24	-476.84	40°00'38.936"N	104°54'43.453"W	1.36	
3491.00	26.200	336.800	3268.52	1099.05	982.33	-492.94	40°00'39.292"N	104°54'43.660"W	0.89	
3579.00	26.200	335.800	3347.48	1137.86	1017.90	-508.55	40°00'39.644"N	104°54'43.861"W	0.50	
3669.00	26.400	335.400	3428.17	1177.72	1054.22	-525.03	40°00'40.003"N	104°54'44.072"W	0.30	
3757.00	27.200	336.100	3506.71	1217.37	1090.39	-541.32	40°00'40.360"N	104°54'44.282"W	0.98	
3846.00	26.900	336.500	3585.98	1257.80	1127.46	-557.59	40°00'40.727"N	104°54'44.491"W	0.39	
3933.00	26.300	335.100	3663.77	1296.73	1162.99	-573.55	40°00'41.078"N	104°54'44.696"W	1.00	
4022.00	26.300	333.700	3743.56	1336.15	1198.55	-590.59	40°00'41.429"N	104°54'44.915"W	0.70	
4111.00	25.400	334.700	3823.65	1374.96	1233.48	-607.48	40°00'41.774"N	104°54'45.132"W	1.12	
4201.00	25.600	335.100	3904.88	1413.69	1268.57	-623.92	40°00'42.121"N	104°54'45.343"W	0.29	
4291.00	24.800	331.600	3986.32	1452.00	1302.81	-641.08	40°00'42.459"N	104°54'45.564"W	1.88	
4380.00	25.000	331.600	4067.05	1489.44	1335.77	-658.91	40°00'42.785"N	104°54'45.793"W	0.22	
4470.00	24.700	329.800	4148.72	1527.21	1368.75	-677.41	40°00'43.111"N	104°54'46.031"W	0.90	
4557.00	24.500	330.200	4227.82	1563.35	1400.12	-695.52	40°00'43.421"N	104°54'46.264"W	0.30	
4647.00	25.200	327.700	4309.49	1601.04	1432.51	-715.03	40°00'43.741"N	104°54'46.514"W	1.40	
4735.00	25.300	329.500	4389.08	1638.42	1464.55	-734.59	40°00'44.058"N	104°54'46.766"W	0.88	
4824.00	27.100	330.200	4468.94	1677.63	1498.52	-754.32	40°00'44.394"N	104°54'47.019"W	2.05	
4914.00	26.200	328.800	4549.37	1717.89	1533.31	-774.80	40°00'44.737"N	104°54'47.282"W	1.22	
5002.00	26.200	331.200	4628.34	1756.65	1566.95	-794.22	40°00'45.070"N	104°54'47.532"W	1.20	
5090.00	24.800	334.000	4707.76	1794.52	1600.56	-811.67	40°00'45.402"N	104°54'47.756"W	2.10	

5178.00	24.600	336.100	4787.71	1831.28	1633.90	-827.18	40°00'45.731"N	104°54'47.956"W	1.02	
5268.00	23.900	337.900	4869.77	1868.17	1667.92	-841.63	40°00'46.068"N	104°54'48.141"W	1.13	
5358.00	23.900	334.700	4952.06	1904.59	1701.29	-856.28	40°00'46.397"N	104°54'48.330"W	1.44	



Actual Wellpath Report

HOWARD 28-32 AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANADARKO E&P COMPANY LP	Slot	SLOT#10 HOWARD 28-32 (2411'FNL & 1544'FEL)
Area	COLORADO	Well	HOWARD 28-32
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 28-32 AWB
Facility	SEC.32-T1N-R67W		

WELLPATH DATA (97 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
5449.00	26.600	334.000	5034.36	1943.40	1736.28	-873.09	40°00'46.743"N	104°54'48.546"W	2.99	
5537.00	27.200	333.000	5112.84	1983.21	1771.91	-890.86	40°00'47.095"N	104°54'48.774"W	0.85	
5626.00	25.900	330.900	5192.45	2022.97	1807.02	-909.55	40°00'47.442"N	104°54'49.014"W	1.80	
5717.00	25.500	332.600	5274.45	2062.40	1841.77	-928.23	40°00'47.786"N	104°54'49.255"W	0.92	
5806.00	24.800	332.600	5355.01	2100.22	1875.35	-945.64	40°00'48.117"N	104°54'49.478"W	0.79	
5895.00	24.600	330.900	5435.87	2137.39	1908.11	-963.24	40°00'48.441"N	104°54'49.704"W	0.83	
5984.00	24.300	335.100	5516.89	2174.20	1940.91	-979.96	40°00'48.765"N	104°54'49.919"W	1.98	
6072.00	24.300	336.100	5597.10	2210.39	1973.89	-994.92	40°00'49.091"N	104°54'50.112"W	0.47	
6161.00	23.700	336.100	5678.40	2246.56	2006.98	-1009.58	40°00'49.418"N	104°54'50.300"W	0.67	
6248.00	23.900	340.400	5758.01	2281.53	2039.57	-1022.58	40°00'49.740"N	104°54'50.467"W	2.01	
6335.00	25.400	337.200	5837.08	2317.66	2073.38	-1035.72	40°00'50.074"N	104°54'50.636"W	2.31	
6426.00	26.000	336.500	5919.08	2357.06	2109.66	-1051.24	40°00'50.433"N	104°54'50.836"W	0.74	
6516.00	24.100	335.800	6000.61	2395.13	2144.52	-1066.64	40°00'50.777"N	104°54'51.034"W	2.14	
6604.00	21.600	335.100	6081.70	2429.28	2175.60	-1080.83	40°00'51.085"N	104°54'51.216"W	2.86	
6693.00	20.700	333.300	6164.71	2461.39	2204.52	-1094.79	40°00'51.370"N	104°54'51.395"W	1.25	
6782.00	18.500	331.200	6248.55	2491.23	2230.94	-1108.66	40°00'51.631"N	104°54'51.574"W	2.60	
6873.00	15.700	331.200	6335.51	2517.96	2254.39	-1121.55	40°00'51.863"N	104°54'51.739"W	3.08	
6961.00	13.700	332.300	6420.63	2540.28	2274.05	-1132.13	40°00'52.057"N	104°54'51.875"W	2.29	
7052.00	11.300	329.500	6509.47	2559.94	2291.28	-1141.67	40°00'52.228"N	104°54'51.998"W	2.72	
7142.00	9.500	328.800	6597.98	2576.14	2305.23	-1149.99	40°00'52.366"N	104°54'52.105"W	2.00	
7232.00	8.700	331.900	6686.85	2590.34	2317.59	-1157.05	40°00'52.488"N	104°54'52.196"W	1.04	
7322.00	7.400	330.200	6775.96	2602.93	2328.62	-1163.13	40°00'52.597"N	104°54'52.274"W	1.47	
7411.00	6.000	330.200	6864.35	2613.30	2337.63	-1168.29	40°00'52.686"N	104°54'52.340"W	1.57	
7501.00	4.600	338.200	6953.97	2621.59	2345.07	-1171.97	40°00'52.759"N	104°54'52.387"W	1.76	
7590.00	3.200	357.900	7042.76	2627.41	2350.86	-1173.39	40°00'52.816"N	104°54'52.406"W	2.16	
7678.00	1.200	359.300	7130.69	2630.48	2354.24	-1173.49	40°00'52.850"N	104°54'52.407"W	2.27	
7767.00	1.100	359.700	7219.68	2632.09	2356.02	-1173.50	40°00'52.867"N	104°54'52.407"W	0.11	
7856.00	0.400	327.300	7308.67	2633.17	2357.14	-1173.68	40°00'52.878"N	104°54'52.409"W	0.89	
7990.00	0.400	359.300	7442.66	2634.06	2358.00	-1173.94	40°00'52.887"N	104°54'52.413"W	0.16	
8123.00	0.500	24.700	7575.66	2634.84	2358.99	-1173.70	40°00'52.897"N	104°54'52.410"W	0.17	
8256.00	0.600	8.800	7708.65	2635.77	2360.21	-1173.35	40°00'52.909"N	104°54'52.405"W	0.14	
8389.00	1.000	66.800	7841.64	2636.28	2361.35	-1172.18	40°00'52.920"N	104°54'52.390"W	0.64	
8524.00	1.000	67.500	7976.62	2636.14	2362.27	-1170.01	40°00'52.929"N	104°54'52.362"W	0.01	
8658.00	1.000	75.600	8110.60	2635.82	2363.01	-1167.79	40°00'52.936"N	104°54'52.334"W	0.11	
8790.00	0.800	51.000	8242.59	2635.78	2363.87	-1165.96	40°00'52.945"N	104°54'52.310"W	0.33	
8915.00	0.500	106.200	8367.58	2635.61	2364.27	-1164.76	40°00'52.949"N	104°54'52.295"W	0.53	Last BHI MWD Survey
8965.00	0.500	106.200	8417.58	2635.31	2364.15	-1164.34	40°00'52.948"N	104°54'52.289"W	0.00	Projection to Bit

HOLE & CASING SECTIONS - Ref Wellbore: HOWARD 28-32 AWB Ref Wellpath: HOWARD 28-32 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	1213.00	1198.00	15.00	1195.18	0.00	0.00	145.55	-72.67
9.625in Casing Surface	15.00	1213.00	1198.00	15.00	1195.18	0.00	0.00	145.55	-72.67
-0.875in Open Hole	1213.00	8965.00	7752.00	1195.18	8417.58	145.55	-72.67	2364.15	-1164.34



Actual Wellpath Report

HOWARD 28-32 AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANADARKO E&P COMPANY LP	Slot	SLOT#10 HOWARD 28-32 (2411'FNL & 1544'FEL)
Area	COLORADO	Well	HOWARD 28-32
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 28-32 AWB
Facility	SEC.32-T1N-R67W		

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
HOWARD 28-32 GEO TARGET 50' RADIUS (50'FNL & 2590'FWL,REV-1)		6000.00	2360.23	-1167.74	3163983.04	1248741.89	40°00'52.909"N	104°54'52.333"W	circle
HOWARD 28-32 HARDLINE 50'N OF GEO TARGET		6000.00	2410.24	-1167.75	3163982.69	1248791.90	40°00'53.403"N	104°54'52.333"W	point
HOWARD 28-32 HARDLINE 54'E OF GEO TARGET		6000.00	2360.24	-1113.75	3164037.02	1248742.26	40°00'52.909"N	104°54'51.639"W	point

WELLPATH COMPOSITION - Ref Wellbore: HOWARD 28-32 AWB Ref Wellpath: HOWARD 28-32 AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
15.00	1165.00	NaviTrak (Standard)	BHI MWD SURVEYS 12 1/4" HOLE <244-1165>	HOWARD 28-32 AWB
1165.00	8915.00	NaviTrak (Standard)	BHI MWD SURVEYS 7 7/8" HOLE <1255-8915>	HOWARD 28-32 AWB
8915.00	8965.00	Blind Drilling (std)	Projection to bit	HOWARD 28-32 AWB



Actual Wellpath Report

HOWARD 28-32 AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANADARKO E&P COMPANY LP	Slot	SLOT#10 HOWARD 28-32 (2411'FNL & 1544'FEL)
Area	COLORADO	Well	HOWARD 28-32
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 28-32 AWB
Facility	SEC.32-T1N-R67W		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
244.00	0.300	91.100	244.00	Begin BHI MWD Surveys
8915.00	0.500	106.200	8367.58	Last BHI MWD Survey
8965.00	0.500	106.200	8417.58	Projection to Bit