

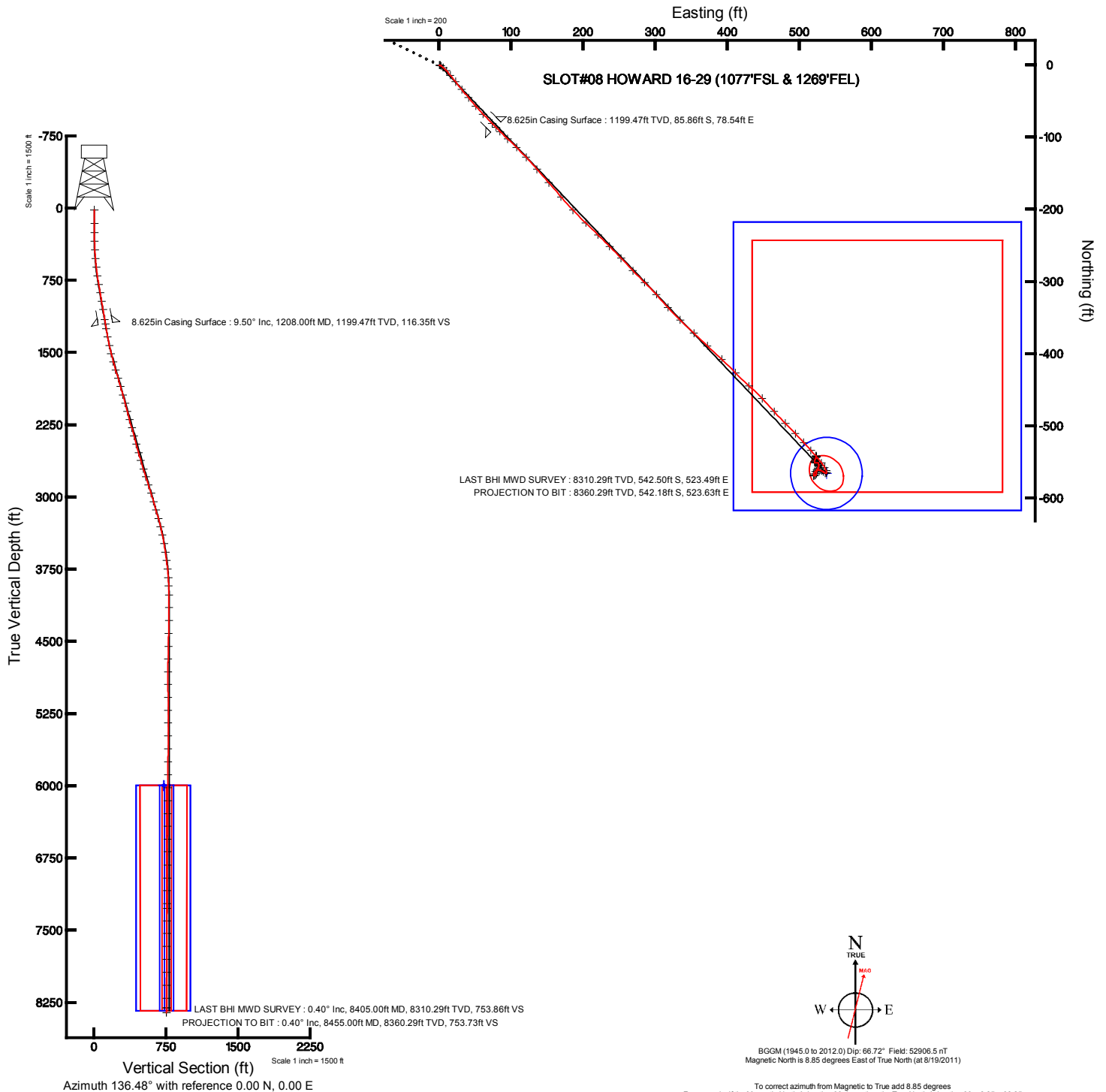


KERR MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#08 HOWARD 16-29 (1077'FSL & 1269'FEL)
Field: WELD COUNTY (KERR MCGEE) Well: HOWARD 16-29
Facility: SEC 29-T1N-R67W Wellbore: HOWARD 16-29 PWB



Plot reference wellpath is HOWARD 16-29 (REV.A.0) 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: 5538 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#08 HOWARD 16-29 (1077'FSL & 1269'FEL)): 9 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: doddanna on 10/28/2011





Actual Wellpath Report

HOWARD 16-29 AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#08 HOWARD 16-29 (1077'FSL & 1269'FEL)
Area	COLORADO	Well	HOWARD 16-29
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 16-29 AWB
Facility	SEC.29-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	Doddanna
Scale	0.999965	Report Generated	10/28/2011 at 8:01:01 PM
Convergence at slot	0.38° East	Database/Source file	WA_Denver/HOWARD_16-29_AWB.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-30.66	62.94	3165409.03	1249878.49	40°01'04.048"N	104°54'33.908"W
Facility Reference Pt			3165345.89	1249908.73	40°01'04.351"N	104°54'34.717"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	5038.00ft
Horizontal Reference Pt	Slot	XTREME 15 (RKB) to Mean Sea Level	5038.00ft
Vertical Reference Pt	XTREME 15 (RKB)	XTREME 15 (RKB) to Mud Line at Slot (SLOT#08 HOWARD 16-29 (1077'FSL & 1269'FEL))	5038.00ft
MD Reference Pt	XTREME 15 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	136.48°



Actual Wellpath Report

HOWARD 16-29 AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#08 HOWARD 16-29 (1077'FSL & 1269'FEL)
Area	COLORADO	Well	HOWARD 16-29
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 16-29 AWB
Facility	SEC.29-T1N-R67W		

WELLPATH DATA (81 stations) † = interpolated/extrapolated station								
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
0.00†	0.000	84.100	0.00	0.00	0.00	0.00	0.00	
15.00	0.000	84.100	15.00	0.00	0.00	0.00	0.00	
156.00	0.400	84.100	156.00	0.30	0.05	0.49	0.28	
249.00	0.300	109.000	249.00	0.71	0.00	1.04	0.19	
342.00	1.700	125.900	341.98	2.29	-0.88	2.39	1.52	
432.00	3.300	131.500	431.89	6.18	-3.38	5.41	1.80	
520.00	4.500	136.800	519.69	12.16	-7.58	9.67	1.42	
611.00	6.300	140.700	610.28	20.71	-14.04	15.28	2.02	
700.00	8.300	141.000	698.55	31.98	-22.82	22.42	2.25	
791.00	9.300	141.400	788.48	45.85	-33.67	31.14	1.10	
880.00	9.700	139.300	876.26	60.51	-44.97	40.51	0.59	
970.00	9.800	139.600	964.96	75.73	-56.55	50.42	0.12	
1059.00	10.100	136.100	1052.62	91.10	-67.94	60.74	0.76	
1163.00	9.600	134.400	1155.09	108.88	-80.58	73.26	0.56	
1259.00	9.400	136.800	1249.77	124.72	-91.90	84.35	0.46	
1346.00	10.200	131.900	1335.51	139.50	-102.22	94.94	1.33	
1435.00	11.800	135.400	1422.87	156.46	-113.97	107.20	1.95	
1522.00	13.700	136.100	1507.72	175.66	-127.72	120.59	2.19	
1611.00	15.600	138.900	1593.82	198.15	-144.34	135.77	2.28	
1699.00	17.000	138.900	1678.28	222.83	-162.95	152.00	1.59	
1790.00	16.300	139.300	1765.47	248.88	-182.66	169.08	0.78	
1880.00	16.000	136.100	1851.92	273.90	-201.17	185.91	1.04	
1970.00	16.200	134.000	1938.39	298.84	-218.83	203.54	0.68	
2059.00	14.600	134.700	2024.19	322.46	-235.34	220.45	1.81	
2149.00	14.600	134.700	2111.28	345.13	-251.30	236.57	0.00	
2237.00	15.600	136.800	2196.25	368.05	-267.73	252.56	1.30	
2326.00	15.600	136.100	2281.97	391.99	-285.07	269.05	0.21	
2413.00	15.000	133.700	2365.88	414.93	-301.28	285.30	1.00	
2502.00	15.600	138.600	2451.73	438.39	-318.22	301.54	1.60	
2591.00	15.800	137.200	2537.41	462.47	-336.08	317.69	0.48	
2679.00	16.500	134.000	2621.94	486.93	-353.56	334.82	1.29	
2770.00	17.100	133.300	2709.06	513.20	-371.71	353.85	0.70	
2856.00	17.700	134.000	2791.12	538.89	-389.46	372.46	0.74	
2946.00	17.800	132.200	2876.84	566.28	-408.21	392.49	0.62	
3035.00	17.100	136.800	2961.74	592.93	-426.88	411.53	1.74	
3126.00	16.500	131.200	3048.87	619.18	-445.15	430.41	1.90	
3215.00	16.100	136.100	3134.29	644.10	-462.37	448.48	1.61	
3306.00	15.500	138.200	3221.86	668.87	-480.52	465.33	0.91	
3395.00	14.000	135.100	3307.92	691.52	-497.02	480.86	1.90	
3483.00	11.900	135.800	3393.68	711.24	-511.06	494.70	2.39	
3573.00	10.200	137.900	3482.01	728.49	-523.63	506.51	1.94	
3664.00	8.400	138.600	3571.81	743.19	-534.59	516.31	1.98	
3752.00	7.400	138.200	3658.97	755.27	-543.64	524.34	1.14	
3843.00	6.200	142.800	3749.33	766.02	-551.92	531.21	1.45	
3932.00	3.600	152.300	3838.00	773.48	-558.23	535.42	3.05	



Actual Wellpath Report

HOWARD 16-29 AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#08 HOWARD 16-29 (1077'FSL & 1269'FEL)
Area	COLORADO	Well	HOWARD 16-29
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 16-29 AWB
Facility	SEC.29-T1N-R67W		

WELLPATH DATA (81 stations)								
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
4020.00	2.800	154.000	3925.86	778.19	-562.60	537.65	0.92	
4111.00	0.800	195.900	4016.81	780.63	-565.21	538.45	2.49	
4244.00	0.500	263.400	4149.81	780.76	-566.17	537.61	0.57	
4378.00	1.000	295.700	4283.79	779.31	-565.73	535.98	0.47	
4512.00	1.300	310.100	4417.77	776.71	-564.25	533.76	0.31	
4646.00	1.100	284.100	4551.74	774.11	-562.95	531.35	0.43	
4780.00	1.300	297.800	4685.71	771.58	-561.93	528.76	0.26	
4912.00	1.200	262.300	4817.68	769.36	-561.42	526.07	0.58	
5045.00	1.600	189.900	4950.65	769.65	-563.43	524.37	1.27	
5179.00	1.000	183.200	5084.61	771.56	-566.44	523.98	0.46	
5313.00	0.900	219.800	5218.60	772.49	-568.42	523.24	0.45	
5445.00	1.000	258.100	5350.58	772.01	-569.45	521.45	0.48	
5580.00	0.000	223.000	5485.57	771.39	-569.70	520.30	0.74	
5714.00	0.200	342.200	5619.57	771.18	-569.47	520.23	0.15	
5849.00	0.400	344.200	5754.57	770.55	-568.80	520.03	0.15	
5982.00	1.400	20.100	5887.55	769.41	-566.82	520.46	0.83	
6116.00	1.700	47.500	6021.51	768.72	-563.94	522.49	0.59	
6250.00	1.300	32.400	6155.46	768.39	-561.32	524.77	0.42	
6385.00	1.100	29.600	6290.43	767.64	-558.90	526.23	0.15	
6518.00	1.100	22.200	6423.41	766.74	-556.61	527.34	0.11	
6651.00	0.400	335.800	6556.40	765.78	-555.00	527.63	0.66	
6784.00	0.400	337.200	6689.39	764.91	-554.15	527.26	0.01	
6920.00	0.400	352.700	6825.39	764.08	-553.24	527.02	0.08	
7055.00	0.300	349.900	6960.39	763.41	-552.43	526.90	0.08	
7186.00	0.500	305.600	7091.38	762.56	-551.76	526.37	0.27	
7320.00	0.500	270.400	7225.38	761.58	-551.41	525.31	0.23	
7370.00	0.800	256.700	7275.38	761.25	-551.49	524.75	0.67	
7501.00	0.900	268.000	7406.36	760.11	-551.74	522.83	0.15	
7634.00	0.500	339.300	7539.35	758.88	-551.23	521.59	0.66	
7767.00	0.700	5.000	7672.35	757.81	-549.88	521.45	0.25	
7902.00	0.900	21.900	7807.33	756.82	-548.07	521.92	0.23	
8036.00	0.800	28.500	7941.32	756.10	-546.27	522.76	0.10	
8170.00	0.900	18.300	8075.30	755.31	-544.45	523.53	0.14	
8305.00	0.400	320.000	8210.30	754.34	-543.08	523.56	0.57	
8405.00	0.400	24.700	8310.29	753.86	-542.50	523.49	0.43	LAST BHI MWD SURVEY
8455.00	0.400	24.700	8360.29	753.73	-542.18	523.63	0.00	PROJECTION TO BIT



Actual Wellpath Report

HOWARD 16-29 AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#08 HOWARD 16-29 (1077'FSL & 1269'FEL)
Area	COLORADO	Well	HOWARD 16-29
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 16-29 AWB
Facility	SEC.29-T1N-R67W		

HOLE & CASING SECTIONS - Ref Wellbore: HOWARD 16-29 AWB Ref Wellpath: HOWARD 16-29 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	1218.00	1203.00	15.00	1209.33	0.00	0.00	-87.04	79.70
8.625in Casing Surface	15.00	1208.00	1193.00	15.00	1199.47	0.00	0.00	-85.86	78.54
7.875in Open Hole	1218.00	8357.00	7139.00	1209.33	8262.29	-87.04	79.70	-542.79	523.43

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
HOWARD 16-29 GEO TARGET 50' RADIUS (510'FSL & 735'FEL, REV-1)		6000.00	-566.46	538.02	3165950.79	1249315.65	40°00'58.450"N	104°54'26.993"W	circle
HOWARD 16-29 GEO TARGET 50' RADIUS (510'FSL & 804'FEL, REV-2)		6000.00	-566.50	469.04	3165881.82	1249315.15	40°00'58.450"N	104°54'27.880"W	circle
HOWARD 16-29 LEGAL BOX (51°S,349°N,129°W,271°E OF GEO TARGET)		6000.00	-417.50	609.04	3166020.82	1249465.07	40°00'59.922"N	104°54'26.080"W	square
HOWARD 16-29 LEGAL BOX (51°S,349°N,60°W,340°E OF GEO TARGET)		6000.00	-417.50	609.04	3166020.82	1249465.07	40°00'59.922"N	104°54'26.080"W	square

WELLPATH COMPOSITION - Ref Wellbore: HOWARD 16-29 AWB Ref Wellpath: HOWARD 16-29 AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
15.00	8405.00	Unknown Tool (Standard)	BHI MWD SURVEYS <156-8405>	HOWARD 16-29 AWB
8405.00	8455.00	Blind Drilling (std)	Projection to bit	HOWARD 16-29 AWB