



KERR MCGEE OIL & GAS ONSHORE LP



Location: COLORADO

Slot: SLOT#04 HOWARD 15-29 (1090'FSL & 1296'FEL)

Field: WELD COUNTY (KERR MCGEE)

Well: HOWARD 15-29

Facility: SEC.29-T1N-R67W

Wellbore: HOWARD 15-29 PWB

Plot reference wellpath is HOWARD 15-29 (REV-8.0) PWP

Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet

True vertical depths are referenced to XTREME 15 (RKB)

North Reference: True north

Measured depths are referenced to XTREME 15 (RKB)

Scale: True distance

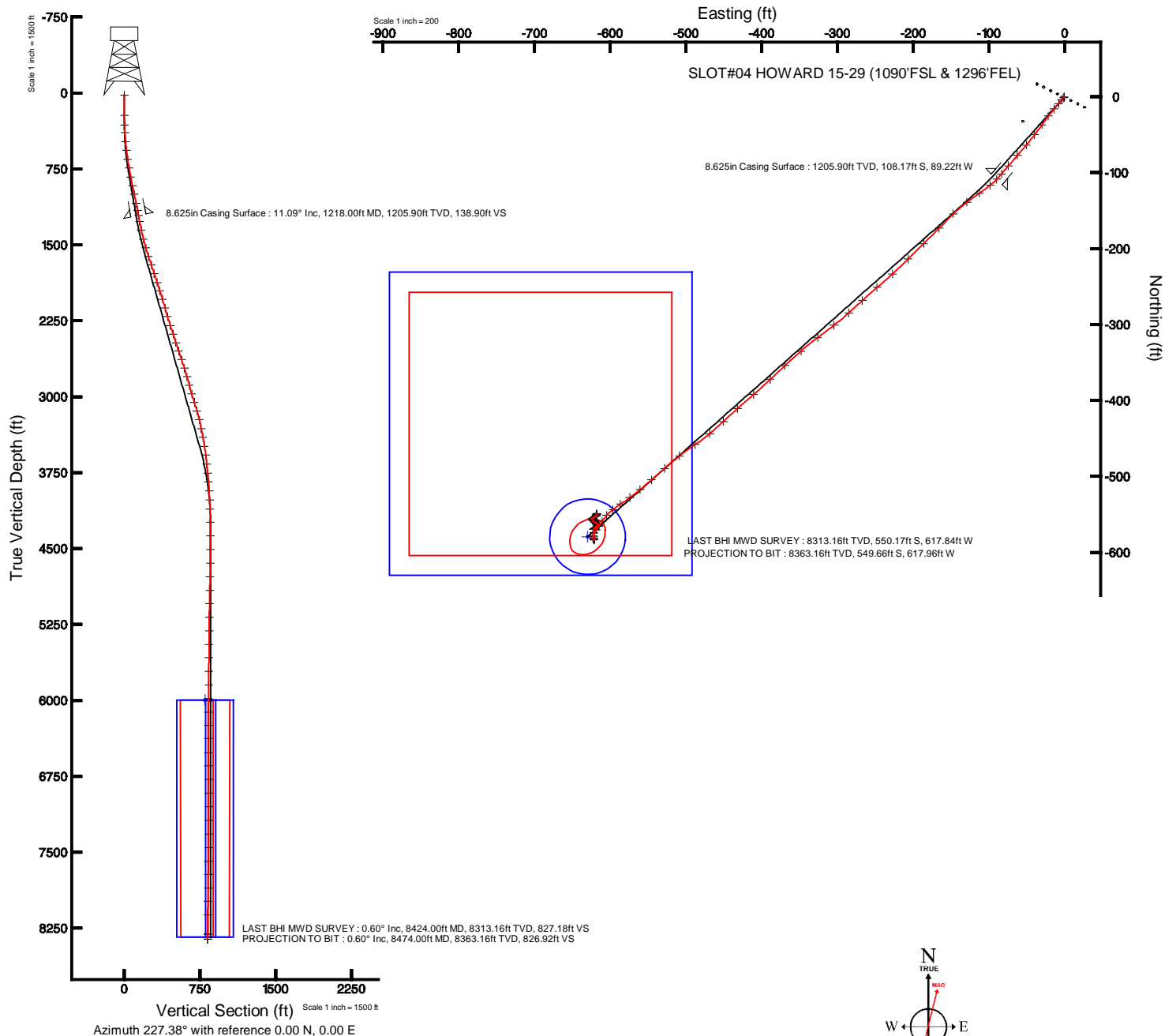
XTREME 15 (RKB) to Mean Sea Level: 5036 feet

Depths are in feet

Mean Sea Level to Mud line (At Slot: SLOTR04 HOWARD 15-29 (1090'FSL & 1296'FEL)): 0 feet

Created by: doddanna on 10/28/2011

Coordinates are in feet referenced to Slot



BGGM (1945.0 to 2012.0) Dip: 66.72° Field: 52906.5 nT
Magnetic North is 8.85 degrees East of True North (at 8/19/2011)

To correct azimuth from Magnetic to True add 8.85 degrees
For example: if the Magnetic North Azimuth = 90 degs, then the True North Azimuth = 90 + 8.85 = 98.85



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REFERENCE WELLPATH IDENTIFICATION			
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Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 15-29 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 6:42:57 PM
Convergence at slot	0.38° East	Database/Source file	WA_Denver/HOWARD_15-29_AWB.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-17.61	36.02	3165382.03	1249891.37	40°01'04.177"N	104°54'34.254"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#04 HOWARD 15-29 (1090'FSL & 1296'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	227.38°



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Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 15-29 AWB
Facility	SEC.29-T1N-R67W		

WELLPATH DATA (80 stations) † = interpolated/extrapolated station								
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
0.00†	0.000	340.400	0.00	0.00	0.00	0.00	0.00	
15.00	0.000	340.400	15.00	0.00	0.00	0.00	0.00	
218.00	0.200	340.400	218.00	-0.14	0.33	-0.12	0.10	
310.00	1.800	220.100	309.99	1.23	-0.62	-1.10	2.07	
387.00	3.400	218.400	386.90	4.69	-3.33	-3.30	2.08	
475.00	5.100	219.800	474.66	11.14	-8.39	-7.43	1.94	
565.00	6.800	219.800	564.17	20.39	-15.55	-13.40	1.89	
654.00	8.800	217.700	652.34	32.32	-24.99	-20.93	2.27	
742.00	9.900	215.600	739.17	46.37	-36.47	-29.45	1.31	
832.00	11.000	217.300	827.68	62.39	-49.59	-39.16	1.27	
920.00	11.700	220.100	913.96	79.51	-63.09	-50.00	1.01	
1007.00	12.000	221.500	999.10	97.26	-76.61	-61.67	0.48	
1098.00	11.600	220.800	1088.18	115.76	-90.62	-73.92	0.47	
1168.00	11.000	219.800	1156.82	129.37	-101.08	-82.79	0.90	
1279.00	11.300	230.300	1265.74	150.73	-116.17	-97.94	1.85	
1367.00	11.800	236.700	1351.96	168.22	-126.61	-112.09	1.56	
1457.00	14.100	232.400	1439.67	188.22	-138.36	-128.47	2.77	
1548.00	16.300	226.100	1527.48	212.04	-153.98	-146.46	3.02	
1638.00	18.200	224.400	1613.43	238.70	-172.78	-165.40	2.18	
1727.00	19.400	225.400	1697.68	267.36	-193.09	-185.65	1.40	
1817.00	18.500	225.100	1782.80	296.56	-213.66	-206.40	1.01	
1908.00	17.800	228.200	1869.28	324.90	-233.13	-227.00	1.31	
1996.00	18.000	229.300	1953.02	351.94	-250.96	-247.34	0.45	
2083.00	16.600	227.500	2036.08	377.80	-268.12	-266.69	1.72	
2172.00	15.600	227.900	2121.59	402.48	-284.73	-284.94	1.13	
2262.00	17.000	232.400	2207.97	427.69	-300.87	-304.35	2.09	
2352.00	18.200	233.500	2293.76	454.77	-317.26	-326.07	1.38	
2442.00	18.500	228.600	2379.19	483.02	-335.07	-348.08	1.75	
2532.00	17.800	227.500	2464.71	511.06	-353.80	-368.93	0.87	
2619.00	18.600	226.500	2547.36	538.23	-372.34	-388.80	0.99	
2709.00	19.800	228.600	2632.35	567.82	-392.30	-410.65	1.54	
2799.00	16.900	228.600	2717.76	596.15	-411.04	-431.90	3.22	
2888.00	15.800	227.500	2803.16	621.20	-427.78	-450.54	1.28	
2976.00	16.100	229.600	2887.78	645.37	-443.78	-468.66	0.74	
3063.00	15.900	236.700	2971.42	669.19	-458.14	-487.81	2.26	
3151.00	18.100	231.400	3055.57	694.72	-473.29	-508.57	3.06	
3239.00	15.900	228.600	3139.72	720.41	-489.79	-528.30	2.67	
3330.00	13.600	228.900	3227.72	743.57	-505.07	-545.72	2.53	
3420.00	11.700	231.000	3315.53	763.26	-517.77	-560.78	2.17	
3507.00	10.800	233.800	3400.86	780.16	-528.14	-574.22	1.21	
3596.00	8.900	236.300	3488.54	795.25	-536.88	-586.68	2.19	
3684.00	7.400	231.700	3575.65	807.63	-544.17	-596.79	1.86	
3775.00	6.600	222.200	3665.97	818.68	-551.68	-604.90	1.54	
3865.00	6.100	211.000	3755.43	828.42	-559.61	-610.84	1.48	
3952.00	4.200	216.300	3842.07	835.98	-566.14	-615.10	2.25	



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Area	COLORADO	Well	HOWARD 15-29
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 15-29 AWB
Facility	SEC.29-T1N-R67W		

WELLPATH DATA (80 stations)								
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
4042.00	3.300	218.700	3931.88	841.78	-570.82	-618.67	1.01	
4132.00	3.200	218.700	4021.73	846.82	-574.80	-621.87	0.11	
4219.00	2.400	167.100	4108.64	850.13	-578.47	-622.98	2.92	
4351.00	1.100	146.000	4240.58	851.69	-582.22	-621.65	1.08	
4486.00	0.400	215.600	4375.57	852.34	-583.67	-621.20	0.76	
4619.00	0.400	263.400	4508.56	853.17	-584.10	-621.93	0.24	
4754.00	0.900	348.100	4643.56	853.01	-583.12	-622.62	0.70	
4889.00	1.700	17.600	4778.52	850.73	-580.18	-622.23	0.75	
5024.00	3.200	353.700	4913.40	846.76	-574.52	-622.04	1.32	
5157.00	0.400	1.100	5046.32	844.24	-570.37	-622.44	2.11	
5290.00	0.600	57.000	5179.32	843.23	-569.52	-621.85	0.38	
5425.00	0.500	62.600	5314.31	841.97	-568.87	-620.73	0.08	
5559.00	0.700	41.200	5448.30	840.59	-567.98	-619.67	0.22	
5691.00	0.500	47.200	5580.29	839.21	-566.98	-618.72	0.16	
5826.00	0.400	61.900	5715.29	838.17	-566.36	-617.87	0.11	
5959.00	0.500	59.500	5848.29	837.15	-565.85	-616.96	0.08	
6094.00	0.400	43.700	5983.28	836.11	-565.21	-616.13	0.12	
6228.00	0.100	346.700	6117.28	835.58	-564.76	-615.83	0.27	
6362.00	0.200	331.900	6251.28	835.47	-564.44	-615.97	0.08	
6492.00	0.600	313.300	6381.28	835.46	-563.77	-616.57	0.32	
6628.00	0.900	308.400	6517.27	835.67	-562.62	-617.93	0.23	
6761.00	0.600	304.900	6650.25	835.99	-561.57	-619.32	0.23	
6894.00	0.600	285.500	6783.25	836.51	-560.99	-620.56	0.15	
7028.00	0.400	316.500	6917.24	836.88	-560.46	-621.56	0.25	
7163.00	0.400	319.600	7052.24	836.87	-559.76	-622.19	0.02	
7297.00	0.400	320.700	7186.24	836.83	-559.04	-622.78	0.01	
7432.00	0.600	313.300	7321.23	836.85	-558.19	-623.60	0.16	
7567.00	0.500	358.000	7456.22	836.52	-557.12	-624.13	0.32	
7702.00	0.700	34.200	7591.22	835.33	-555.85	-623.69	0.31	
7836.00	0.800	61.200	7725.21	833.63	-554.72	-622.41	0.27	
7968.00	0.900	60.200	7857.19	831.72	-553.76	-620.70	0.08	
8101.00	0.900	60.200	7990.18	829.68	-552.72	-618.89	0.00	
8233.00	0.400	19.400	8122.17	828.27	-551.77	-617.84	0.49	
8424.00	0.600	347.100	8313.16	827.18	-550.17	-617.84	0.18	LAST BHI MWD SURVEY
8474.00	0.600	347.100	8363.16	826.92	-549.66	-617.96	0.00	PROJECTION TO BIT



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Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 15-29 AWB
Facility	SEC.29-T1N-R67W		

HOLE & CASING SECTIONS - Ref Wellbore: HOWARD 15-29 AWB Ref Wellpath: HOWARD 15-29 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	1205.90	0.00	0.00	-108.17	-89.22
8.625in Casing Surface	15.00	1218.00	1203.00	15.00	1205.90	0.00	0.00	-108.17	-89.22
7.875in Open Hole	1218.00	8416.00	7198.00	1205.90	8305.16	-108.17	-89.22	-550.25	-617.82

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
HOWARD 24-29 GEO TARGET 50' RADIUS (510'FSL & 1930'FEL, REV-1)		6000.00	-579.92	-630.22	3164755.71	1249307.28	40°00'58.446"N	104°54'42.354"W	circle
HOWARD 24-29 LEGAL BOX (349'N,51'S,262'W,138'E OF GEO TARGET)		6000.00	-430.92	-692.22	3164692.72	1249455.86	40°00'59.918"N	104°54'43.151"W	square

WELLPATH COMPOSITION - Ref Wellbore: HOWARD 15-29 AWB Ref Wellpath: HOWARD 15-29 AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
15.00	8424.00	NaviTrak (Standard)	BHI MWD SURVEYS <218-8424>	HOWARD 15-29 AWB
8424.00	8474.00	Blind Drilling (std)	Projection to bit	HOWARD 15-29 AWB