

EXHIBIT 4

COMPARISON OF CLEARANCE USING VARIOUS
SIZES OF TUBING IN 5-1/2" 23#/FT CASING

FOR THE EXAMINER UTZ
CONSERVATION COMMISSION
EXHIBIT NO. 4
CASE NO. 1587

5-1/2 Inch Casing Wt/Ft	Drift ID	1. Joint OD of 1-1/2" Tbg. w/Hydril CS Couplings	2. Joint OD of 1-1/2" Non Upset Tubing	3. Joint OD of 1-1/2" EUE Tbg.	4. Joint OD of 1-3/4" Special Tubing (Camco)	5. Joint OD of 2-1/16" Tbg. w/Hydril CS Joints	Combinations of 1, 2, 3, 4, 5	Clearance - Inches
23	4.545"	2.113"	2.200"	2.500"	2.500"	2.330"	1 & 1 1 & 2 1 & 3 1 & 4 1 & 5 2 & 2 2 & 3 2 & 4 2 & 5 3 & 3 3 & 4 3 & 5 4 & 4 4 & 5 5 & 5	4.545 - (2.113 + 2.113) = 0.319 (1) 4.545 - (2.113 + 2.200) = 0.232 (2) 4.545 - (2.113 + 2.500) = -0.068 4.545 - (2.113 + 2.500) = -0.068 4.545 - (2.113 + 2.330) = 0.102 (3) 4.545 - (2.200 + 2.200) = -0.145 (4) 4.545 - (2.200 + 2.500) = -0.155 4.545 - (2.200 + 2.500) = -0.155 4.545 - (2.200 + 2.330) = -0.015 (5) 4.545 - (2.500 + 2.500) = -0.455 4.545 - (2.500 + 2.500) = -0.455 4.545 - (2.500 + 2.330) = -0.285 4.545 - (2.500 + 2.500) = -0.455 4.545 - (2.500 + 2.330) = -0.285 4.545 - (2.500 + 2.330) = -0.285 4.545 - (2.330 + 2.330) = -0.115

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