**Lost Return — Loss of Overbalance**

**Number of feet of water in annulus**

Feet = water added (bbl) + annular capacity (bbl/ft)

**Bottom hole (BHP) pressure reduction**

**Equivalent mud weight at TD**

MW (ppg) = mud wt (ppg) — [(BHP decrease (psi) ÷ 0052 ÷ TVD (ft)]

Sample Case : Mud weight = 12.5 ppg  
 Weigh of water = 8.33 ppg  
 TVD = 10,000 ft  
 Annular capacity = 0.1279 bbl/ft (12-1/4 x 5.0 inch)  
 Water added = 150 bbl required to fill annulus

**Number of feet of water in annulus**

Feet = 150 bbl ÷ 0.1279 bbl/ft

= 1173

**Bottom ho1e pressure decrease**

BHP decrease (psi) = (12.5 ppg — 833 ppg) x 0.052 x 1173 ft

= 254 psi

Equivalent mud weight at TD

EMW (ppg) = 12.5 — (254 psi ÷ 0.052 ÷ 10,000 ft)  
 = 12.0 ppg