**ABSTRACT**

Dams are one of the important hydraulic structures which are high level constructed across a river to raise the stage of river sufficiently and to divert the flow in full, or in part, into a supplying canal or conduit for the purposes of irrigation, power generation, flood control, domestic and

industrial uses, etcThis project aims to study seepage problems and find the treatment for these problems. According to experimental results cutoff is proved to be an effective way to reduce the seepage discharge and to decrease soil permeability for cut off in u\s and d\s and in middle. when we have no treatment and analyze the dam we find same results when use Bligh and Lane theories. Moreover, the effect of the seepage control devices such as cutoff, blanket was analyzed to prevent or reduce seepage. The results show that if the sheet pile in upstream is used at depth (0.25h)m and(0.5h)m and (0.75h)m and equal to(h)m it will reduce the uplift pressure at point (C) about (14.5-40)%according to Bligh and about(32.5-66.7)%according to Lane and about (26-49)% according to Khosla and the exit gradient to ratios (50-22)%, while the downstream sheet pile at depth(0.25h)m and(0.5h)m and (0.75h)m and equal to(h) m increases the uplift pressure to ratios (7.1-20)%according to Bligh and about(16.5-33)%according to Lane and about (25.6-48.7)% according to Khosla and the exit and the exit gradient decreases to ratios of (50-22)%. And we use cut off in middle distance The upstream blanket construct at distance (0.25h) the uplift pressure at point (C) has reduced to ratios of (10) % and if distance is( 0.5h) the uplift pressure at point (C) has reduced to ratios of (14.5)%, and if distance is( 0.75h) the uplift pressure at point (C) has reduced to ratios of(13)% and if the depth of cut off is equal to( h) has reduced the uplift pressure at point (C) to ratios of (25)% according to Bligh, and according to Lane if the depth of cut off is( 0.25h) the uplift pressure has reduced to ratios of(7)%, while if the depth is(0.5h )the uplift pressure is(14.5)% and if the depth is (0.75h) the uplift pressure is(25)% while if the depth is (h) the uplift pressure is(26.5)%, while the downstream blanket at distance (0.25h) the up lift pressure increase to ratio(3.45)% and if distance is (0.5h) the up lift pressure increase to ratio (8.7)% and if distance is (0.75h) the up lift pressure increase to ratio (9.44)%, and if distance is equal to(h) the up lift pressure increase to ratio (12.5)% according to Bligh .while if the depth is(0.25h) the ratio of up lift pressure is(3.5)%, and if the depth is(0.5h) the ratio of up lift pressure is(4.9)%, and if the depth is(0.75h) the ratio of up lift pressure is(11)%, finally if the depth of cut off equal to head of water (h)the up lift pressure is(12.5)% according to Lane.However, some treatment procedures aresuggested, these treatments cover problems of seepage under hydraulic structures.