CHAPTER VI

CONCLUSION

The experimental results can be concluded as follows:

1. The rate of strength gain of the vacuun-dewatered concrete is faster than that of the conventionally non-treated concrete. The compressive strength at 1-day, 3-day and 7-day age of the vacuum-dewatered concrete are in the same order of those ones of the conventionally non-treated concrete at 3-day, 7-day and 28-day age respectively
2. The mechanical properties of the vacuum-dewatered concrete are better than those of the conventionally non-treated mix. The ultimate compressive strength is greater by about 13.3 % for the mix with initial water-cement ratio of 0.48 to 63.7 % for the mix with initial water-cement ratio of 0.62 respectively. The effect of cement content is in the same order of 15.5 % to 63.7 % for the mix with the cement content of 250 to

350 kg./cu.m. of concrete respectively. The ultimate splitting tensile strength and modulus of rupture are also increased as related to the ultimate compressive strength. The most important concrete properties, the modulus of elasticity is exactly increasing in proportion to the increase in ultimate compressive strength.

Furthermore, it can be concluded from the experimental results that the vacuum-dewatered concrete can be done independently of either the initial water-cement ratio or the cement content.

Eventually, the vacuum-dewatered concrete is simply the conventional concrete but differs in their initial water-cement ratios. The vacuum-dewatered concrete mix has much more water introduced for workability, and dewaters afterwards to maintain the required water-cement ratio and the ultimate strength. Excluding this, both of them can be no longer differentiated. However, further study on the other properties must be performed to insure the utilization of the vacuum-dewatered concrete as a versatile and useful product in normal practice.