CHAPTER V

CONCLUSIONS

The following conclusions may be drawn:

1. For WIROJANAGUD method, only the cone resistance is needed in the computation of UC, FV and UU strength.

2. For SCHMERTMANN method, the cone resistance and overburden pressure are required in the computation of UC and UU strength but for FV strength, only the cone resistance is needed.

3. For the unconfined compressive strength, $UC_{(w)} > UC_{(s)} > UC$ strength and the variation of each UC strength depend on the natural water content (w) and the liquid limit (LL). The lower value of w/LL yields the higher strength.

$UC_{(aw)}$ and $UC_{(as)}$ are determined in the computation of unconfined compressive strength. They do not differ from the laboratory UC strength with the average error of 12 and 11 %, respectively (with the maximum of 20 %.

4. For field vane strength, both WIROJANAGUD and SCHMERTMANN methods give the same value of the predicted FV strength, but there is large error between the predicted and the measured FV strength.

$FV_{(a)}$ is used to determine the FV strength. It does not differ from the measured FV strength with the average error of 5 % and the maximum error of 8 %.

5. For unconsolidated undrained strength UU strength is constant with depth and closes to $UU_{(s)}$ strength but $UU_{(w)}$ increases with depth,

then, $UU_{(aw)}$ is suggested in the computation of UU strength.

$UU_{(s)}$ and $UU_{(aw)}$ strength do not differ from the laboratory UU strength with the average error of 14 and 6 % respectively (with the maximum error of 18 and 8 % respectively.

The suggested method in the computation of undrained shear strength from the cone resistance were summarized in Table 5.1.

These formulae can be applied to the soft to very soft clay layer with their index properties are within the following range;

Liquid limit	60 - 95 %
Plastic limit	20 - 35 %
Plasticity index	40 - 60 %

DESCRIPTION	TO PREDICT					REMARK
	UC Strength		FV Strength	UU Strength		
	$UC_{(aw)}$	$UC_{(as)}$	$FV_{(s)}$	$UU_{(aw)}$	$UU_{(s)}$	
Formula	$0.02 q_c \left[\frac{1}{w/LL}\right]^{2.5}$	$0.04(q_c - \gamma_t z)\left[\frac{1}{w/LL}\right]^{1.5}$	$1.5 + 0.03 q_c$	$0.83(q_c)^{0.1}$	$\frac{q_c - \gamma_t Z}{16}$	All stresses are in t/m^2
% Error From The Measured Values	Average 12 Max. 20	Average 11 Max. 20	Average 5 Max. 8	Average 6 Max. 8	Average 14 Max. 18	
Required Data	q_c, w, LL	Z, q_c, γ_t, w, LL	q_c	q_c	Z, q_c, γ_t	

TABLE 5.1 Summary Of The Suggested Methods In Computation Of Bangkok Clay Shear Strength From Cone Resistance (DONMUANG Site)