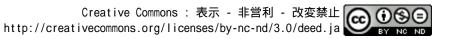
## 1**軸試験データの有効利用法-応力解放・乱れを含ん** だqu値の力学的解釈に基づく補正-

著者	太田 秀樹
著者別表示	Ohta Hideki
雑誌名	昭和63(1988)年度 科学研究費補助金 試験研究 研
	究成果報告書概要
巻	1987 1988
ページ	2p.
発行年	1990-12-18
URL	http://doi.org/10.24517/00067698



## 1988 Fiscal Year Final Research Report Summary

Utilization of unconfined compression strength --- Correction of stress reliese and disturbance in unconfined compression tests ---

**Research Project** 

Project/Area Number
62850092
Research Category
Grant-in-Aid for Developmental Scientific Research
Allocation Type
Single-year Grants
Research Field
基礎・土質工学
Research Institution
Kanazawa University
Principal Investigator
OHTA Hideki Kanazawa University Faculty of Technology, Professor, 工学部, 教授 (80026187)
Co-Investigator(Kenkyū-buntansha)
森田 悠紀雄 基礎地盤コンサルタンツ, 大阪支社, 支社長 MATSUMOTO Tatsunori Kanazawa University Faculty of Technology, Assistant Professor, 工学部, 助手 (10143877) NISHIDA Yoshichika Kanazawa University Faculty of Technology, Professor, 工学部, 教授 (60019693) MORITA Yukio Kiso-Jiban Consultants, Osaka Branch, General Manager
Project Period (FY)
1987 – 1988
Keywords
Unconfined compression strength / Undrained strength / Soft clay / Residual effective stress / Undisturbed sample / 円弧すべり法

## **Research Abstract**

Effective stress state of "undisturbed samples" collected from all over japan was investigated aiming at estimating the residual effective stress in the samples after experiencing sampling, trimming and being ready to be subjected to unconfined compression tests. The undrained strength mobilized along the slip circles was theoreticall derived. The average undrained strength along the slip circle being compared with the corrected unconfined compression strength indicated the appropriateness and the limitation of the usage of unconfined compression strength in the stability analysis of soft clay foundations. The

backanalysis of 24 case histories of actual failure of soft clay showed a reasonable agreement with the results obtained from the investigation on unconfined compression strength. the conclusions are as follows:

1. The effect of sample disturbance and stress release corresponds to within 0.1 in terms of the factor of safety.

2. The effect of loading rate in the field corresponds to about 0.2 in terms of the factor of safety. This indicates that the selection of construction method and construction sequence is more influencial to the stability of soft foundations rather than the degree of sample disturbance is.

3. The correction factor to be multiplied with the experimentally obtained unconfined compression strength in analysing the stability of soft clays is derived as a function of the plasticity index.

## Research Products (8 results)

	All Other
	All Publications (8 results)
[Publications] 松本江基: 第33回土質工学シンポジウム論文集-ウォーターフロント開発における土質工学上の諸問題 117-122 (1988)	~
[Publications] 太田秀樹: 土木学会論文集. 400/III-10. 45-54 (1988)	~
[Publications] 太田秀樹: サンプリングシンポジウム論文集. 35-40 (1989)	~
[Publications] Hideki Ohta: Proc.12th Int.Conf.on Soil Mechanics & Foundation Enarg. (1989)	~
[Publications] Koki,Matsumoto: "Analysis of behaviour of soft clay ground during excavation and embankment in a waterfront reclaimed land." Proc. 33rd Symposium on Soil Engineering Geotechnical Problems in Waterfront Development 117-122 (1988)	
[Publications] Hideki,Ohta: "Utilization of unconfined compressive strength in determing input parameters of elasto-viscoplastic fini Japan Society of Civil Engineers. No.400, III-10. 45-54 (1988)	ite element analysis" Proc. 🗸 🗸 🗸
[Publications] Hideki,Ohta: "Residual effective stress in "undisturbed" samples" Proc. Sampling Symposium. 35-40 (1989)	~
[Publications] Hideki,Ohta: "Unconfined compression strength of soft aged clays" Proc. 12th Int. Conf. on Soil Mech. and Foundation	on Engrg. (1989) 🗸 🗸

URL: https://kaken.nii.ac.jp/report/KAKENHI-PROJECT-62850092/628500921988kenkyu\_seika\_hokoku\_

Published: 1990-12-18