IMPROVEMENT OF SECONDARY CONSOLIDATION CHARACTERISTICS OF PEATY CLAY BY PRECONSOLIDATION

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Master of Engineering (Honours)

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Thesis submitted in partial fulfilment of the requirements for the degree of Master of Engineering in Foundation Engineering and Earth Retaining Systems

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DECLARATION

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……………………………………… Date: March 16, 2017

Prof. S.A.S. Kulathilaka

(Supervisor)

ABSTRACT

Special consideration should be given to secondary consolidation settlements during service in the construction of high road embankments in lands underlain by thick layers of soft peaty clay. Usually a preload design will be done to ensure that the peaty clay will remain in an over consolidated state during the operation of the road. Peaty clays are known for high secondary consolidation settlements. As such, possible secondary consolidation settlement during service life is also a major concern. The coefficient of secondary consolidation (C_α) is expected to reduce with increasing over consolidation ratio (OCR) achieved during preloading. At the stage of surcharge removal, the settlement during operation has to be estimated. In a preload design the practically achievable over-consolidation ratios (OCRs) are in the range of 1.1 to 1.2. Effectiveness of such OCR values in keeping the long term in service secondary consolidation settlements within acceptable limits was studied in this research. Oedometer tests were carried out simulating the process of loading-unloading-reloading on remoulded samples. Effects of prolonged loading on the coefficient of secondary consolidation was also assessed. Further tests were done on undisturbed samples obtained from preloaded peaty clay layers in two different projects. Results illustrate that the level of reduction of C_α is related to the achieved OCR.

Keywords: Peaty clay, compressibility, secondary consolidation.

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Abbreviations

DS – Disturbed Sample

OCR – Over Consolidation Ratio

UDS – Undisturbed Sample

Notations

ε_v% – Vertical strain

$\Delta\sigma$ – Stress increment

$\Delta\delta$ – Variation in settlement

σ' – Effective stress

σ'_p – insitu preconsolidation presure

σ'_v – effective vertical stress

σ'_{vf} – final effective vertical stress

σ'_{vs} – maximum effective vertical stress reached before removal of surcharge

γ_w – Unit weight of water

C_α – Coefficient of secondary consolidation

C_α' – Secondary consolidation coefficient in reloading increments

C_α'/C_α – Reduction of secondary consolidation coefficient

C_α'' – Post surcharge secant secondary compression index defined from t_l

C_c – Compression index

C_v – Coefficient of consolidation

E_u – Undrained Young's modulus

e – Void ratio

H – Height of the soil layer

k – Permeability

m_v – Coefficient of volume compressibility

p_c – Pre-consolidation pressure

R'_s – Effective surcharge ratio – $(\sigma'_{vs}/\sigma'_{vf}) - 1$

T – Time for reappearance of secondary compression after the period of rebounce

t_l – Post surcharge time at which secondary compression reappears

t_p – Duration of primary consolidation

t_{pr} – Time required to complete primary rebound after removal of surcharge

Annexures

1.0 Introduction

1.1 General

All civil engineering structures sit on natural or filled ground and their performance is related to the behaviour of foundation soil due to loads applied by the structures. Therefore, it is necessary to have a good knowledge of the soil supporting the structure before you plan any construction whether a building, tunnel, road or any other civil engineering structure.

Soils are primarily formed by the decomposition of rocks. However, degradation of organic matter under anaerobic conditions also produces soil, commonly called “Peat”. In Sri Lanka, peat deposits mixed with inorganic soils are encountered in flood plains of main rivers and in water logged zones. Since they are mixed with inorganic soils organic contents are in the range 30-40% and the term peaty clay is more appropriate. In terms of engineering properties, peaty clay is very low in shear strength and highly compressible than inorganic soils. It is very important to study the behavior of peaty clay because peat deposits are quite common in many suburbs around Colombo where new development projects are proposed.

When loaded, peaty clay layers will undergo large settlements which could lead to excessive settlements beyond limits of performance of any structure. Although it is rational and economical to avoid development of land underlain by peaty soils, the increasing population of the country forces developers to use these marginal lands for development regardless of their weaknesses. Therefore, civil engineers need to bring effective solutions to overcome the adverse outcomes expected in areas underlain by peat.

Peaty clays have very low shear strength and show very high compressibility. The salient feature of compressibility when compared to inorganic clays is the very high secondary consolidation. Due to these characteristics it would be essential to do some form of ground improvement when constructions are done on sites underlain by peaty clay. Preconsolidation by preloading/surcharging is one of the most widely used ground improvement techniques. Peaty clay layers will have to be preloaded to an adequate level depending on the proposed structure. This will be done usually by an embankment fill. Due to the low shear strength, any loading on peat by embankments need to be done in stages. Thus, there is a need to accelerate the consolidation process and prefabricated vertical drains are often used in those conditions when clay thickness is significant. In order to ensure that the in service settlement of a proposed structure is maintained within acceptable limits, the preloading process has to be designed carefully.

In the preloading process the peaty clay layer will have to be consolidated at a stress level greater than the stress level that would prevail there in service. This effectively means achieving an over consolidation ratio (OCR) greater than one. However, with very thick peaty clay layers present and with high embankment heights that are to be achieved, the practically achievable OCR ratio is generally less than 1.2. The influence of this achievable OCR in reducing the secondary consolidation settlements during the design life of the structure, is a topic that has to be researched in detail.

The main objective of this research is to study the effect of OCR on the secondary consolidation of peaty clay. The coefficient of secondary consolidation (C_α) is the main parameter used in the computation of secondary consolidation settlements. As such, it is used as the main parameter to investigate.

1.2 Objectives

- To understand how the in service settlements of roads or any other structures done on sites underlain by thick layers of soft peaty clay can be maintained within acceptable limits.
- A relationship between the reductions of C_α with OCR achieved during ground improvement to be established for different types of peaty clay.

1.3 Methodology

Practically, with thick layers of peaty clay and high embankments, the OCR achievable in the field is generally less than 1.2. In order to assess the changes to C_α caused by over consolidation effect, tests were done in Oeodometer with loading, unloading and reloading increments to simulate the process of preloading.

Several series of tests were carried out on remoulded samples of peaty clay. These tests were referred to as “Simulated Tests” in this research. Loading durations of both one and three days were used. Mostly, loading increments of 3-day duration were used. Non decayed pieces of wood and other impurities such as gravel particles were removed and peaty clay was remoulded to ensure uniformity. Remoulded sample was left in a bucket for four weeks to allow for thixotropic strength gain before the testing commenced.

After loading the sample to some stress level, loading ratios of the order of 1.05 to 1.1 were maintained instead of doubling as in the conventional test. After unloading the sample to a pre-decided stress level reloading was also done along same stress values as in the loading increments. With this procedure OCR values in the range 1 to 1.2 could be achieved in the re-loading increments.

Subsequently, tests were done on undisturbed samples obtained from two projects where the peaty clay layer had been subjected to a fill load for some time. The two projects are; the Colombo Katunayake Expressway (CKE) and Colombo fish market project. In these cases the loading duration was of one day only. Stress level was doubled in each loading increment in the conventional manner.

Further, tests were done with long duration, sustained secondary consolidation.

1.4 Structure of the thesis

Chapter 1 presents the introduction of the thesis.

Chapter 2 of the thesis presents a review of current state of knowledge on the secondary consolidation; the factors affecting it and that is influenced by pre-consolidation.

Chapter 3 presents the results of the laboratory studies done to study the effect of pre-consolidation and the over consolidation ratio achieved in the process on the coefficient of secondary consolidation. There were tests done on remoulded peaty clay simulating the process with loading, unloading and reloading increments.

Chapter 4 presents the results of the tests on undisturbed samples obtained from the Colombo Katunayake expressway project where the peaty clay was improved by preloading. Tests done on samples obtained from the Colombo Fish market project are also presented in the same chapter.

Chapter 5 presents the results of the tests conducted to study the effects due to sustained secondary consolidation.

Chapter 6 concludes the findings and made recommendations for further research.

2.0 Literature Survey

2.1 Introduction

Soil is an assemblage of solid particles that are irregular in shape and there are voids between the irregular shaped particles and these voids are occupied by air or water. The volumes of these voids and the volume of occupied water or air will fluctuate when the soil experiences a fluctuation in stress. The voids of soil and the occupied water in the voids play a vital role in the compressibility of soil. The compression of soil is caused due to the following reasons.

- Deformation of solid particles under constant volume conditions
- Relocation of solid particles
- Expulsion of water or air from voids.

As a result, soil layers will be subjected to a continuous settlement over a significant period of time and the settlement caused can be divided into three broad categories.

- Immediate settlement
- Primary consolidation settlement
- Secondary consolidation settlement

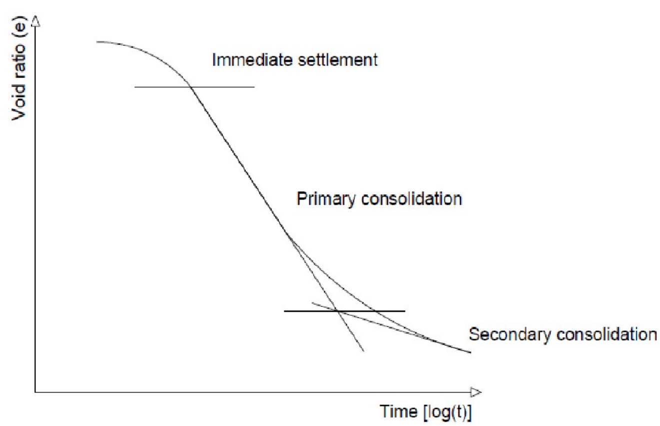


Figure 2.1 – Variation of void ratio with time

Immediate settlement takes place under undrained (constant volume) conditions and is directly connected to the E_u(Young's modulus) value and the E_u value will vary according to the type of soil. In the case of sand, however, the value of E_u varies with confining pressure and therefore will increase with depth and varies across the width of the loaded area. In clays, the value of E_u depends on how the strata have been placed and the composition. In sand, the settlement due to the pore water pressure dissipation (i.e., the primary consolidation) will happen with the immediate settlement due to its high permeability.

After the immediate settlement, consolidation settlement will take place. Consolidation settlement of the soil can be defined as the volume change in the saturated soil due to the expulsion of water occupying the void spaces.

In a case of a saturated soil layer experiences an increase in stress, the pore water pressure is suddenly increased by an equal amount soon after the stress increases. This will result in an imbalance with the existing natural condition and create a hydraulic gradient. Due to this effect, the water will try to escape from the voids through the connectivity of the pores and will reduce the pore water pressure. The process of the pore water pressure dissipation will depend on many factors such as permeability, compressibility, layer thickness, boundary conditions, etc. But the permeability has a significant influence on the dissipation of pore water pressure.

The process of consolidation is often explained with an idealized system composed of a spring, a container with a hole in its cover, and water. In this system, the spring represents the compressibility or the structure of the soil itself, and the water which fills the container represents the pore water in the soil.

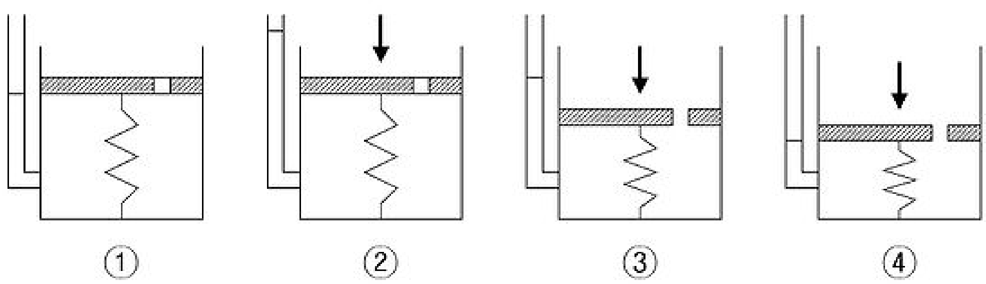


Figure 2.2 – Spring Analogy

1. The container is completely filled with water, and the hole is closed. (Fully saturated soil)
2. A load is applied onto the cover, while the hole is still unopened. At this stage, only the water resists the applied load. (Development of excess pore water pressure)
3. As soon as the hole is opened, water starts to drain out through the hole and the spring shortens. (Drainage of excess pore water pressure)
4. After some time, the drainage of water no longer occurs. Now, the spring alone resists the applied load. (Full dissipation of excess pore water pressure. End of primary consolidation)

In sandy soils which are highly permeable, water will drain out soon after the stress increase and with the dissipation of pore water pressure soil will experience a volume reduction and will settle. As this settlement happens soon after the application of the load, it is very difficult to separate it from the immediate settlement. Thus the word consolidation is not normally used with reference to sandy soils.

In clay layers which are less in permeability elastic settlement occurs soon after the load is applied and pore water pressure also will increase but it will not drain out immediately. Due to the low permeability of clay, dissipation of pore water pressure will continue with time and will take a certain period of time to achieve fully dissipation of pore water. Thus the "Consolidation settlement" of clay will take place over a significant period of time.

The rate at which consolidation takes place will decrease with time and it will continue for a long time at a slower rate. The consolidation can be categorized into two phases as "Primary Consolidation" and "Secondary consolidation".

Primary consolidation will mainly take place due to the volume reduction of soil because of the excess pore water dissipation. The slow continued compression continues after the excess pore pressure has substantially dissipated. This is called the secondary consolidation. This is also referred to as "creep". Secondary compression occurs due to readjustment of the soil matrix and without any reduction of excess pore pressure. The assumption that secondary compression occurs only after the end of primary consolidation is known as Hypotheses A (Mesri et al. 1977). However, Karunawardana (2007) states that the secondary compression behavior is a continuous process. Therefore, it follows Hypotheses B (Leroueil 1996) which assumes that secondary compression occurs even during primary consolidation. As Ladd and DeGroot (2004) state proponents of both parties present convincing data for validating one hypotheses over the other. The magnitude of secondary consolidation varies enormously. Peats and soft organic clays show large amount of secondary consolidation settlements.

<u>Different types of peat</u>

Peat is a peculiar product of waterlogged ground, and it is formed by the prolonged accumulation of plant debris which does not decompose fully under the anaerobic environment associated with a constantly very high water level. Peat lands are the accumulation places of peat, and peat deposits are the natural layers of peat, in their place of origin.

The focus of contention is using the term peat for a soil is the minimum content of organic matter in peat. Professor Konovalov points out that in Russian geotechnical engineering, the term peat is used for a soil containing more than 50% of particle weight of vegetable origin. In contrast the American society for testing and materials (1979) prefers that a soil should not be called “a peat unless its organic content exceeds 75%”. These definitions mean that all fen soils and in the American case, some transition soils are not peats.

Any system of plants, water and underlying peat, irrespective of origin nature, stage of development or size may conveniently be termed a mire, the peat itself consisting of the remains of dead vegetation in various stages of decomposition. While mires will form and peat accumulate wherever the conditions are suitable. It is important to recognize from the outset that the upland mires, called moors or bogs are very different in topography, morphology, chemistry and botany from the low level fenlands. Uplands mires exist in a maritime climate where for most of the year precipitation exceeds evaporation and lowland fens, particularly the SE fenlands, in drier continental type of climate.

Some mire, which begins with the colonizing of open water by various hydrophilous plants, will pass through three separate morphological stages, each with its peculiar plant communities producing their characteristics peat with distinctive geotechnical properties. These stages which are determined by the hydrological state of the mire are;

1. Rheotrophic stage – The landscape at the completion of this stage is marsh like and is commonly referred to as fen and peat as fen peats.
2. Transitional stage – In which the mire, process of changing from a rheotrophic to omborotrophic stage.
3. Omborotrophic stage – These mires are called raised bogs and acid in character.

The morphological differences between fen and bog peat arise from the circumstances surrounding their formation and the plant types constituting the peat. The differences extend to structure, fabric, humification and proportion of mineral, factors which have a considerable influence on the plasticity, permeability ,compressibility and strength of the peat and so on its engineering behavior.

<u>Description and classification</u>

The change in the peat as humification increases is not uniform as the fibres are reduced in size and strength irregularly as the amount of completely humified material increases, the structure gradually being eliminated. The constituents of peat apart from any mineral soil that may be present are coarse fibres from stems and roots greater than 1mm diameter, fine fibres from leaves, stems and roots smaller than 1mm diameter, and wood and amorphous matter having a granular appearance. As a general rule the fresher and more fibrous the peat, the higher the tensile and shear strength and greater the water content and void ratio.

The characteristics to be included in a full description of peat are;

- Color – the color of peat in situ can be a useful guide to its state but as the color can change rapidly on exposure to air, probably as a result of oxidation, it should be recorded in the field or from the interior of properly sealed tube samples, preferably stored under water. ‘Delicate greens, blues, browns oranges and reds freshly exhumed from anaerobic conditions often change before one’s eyes, and within an hour the peat is a uniform dark brown or black’ (Clymo 1983).
- Degree of decomposition or humification (see Table 2.1).
- Wetness– the water content is accurately determined in the laboratory, but for field purposes the following broad categories may be used; dry (friable, compressed peats), wet (fen peats), wet (fen peats), very wet (transition peats), extremely wet (bog peats).
- Main constituents, as described above – fibre, fine and coarse, amorphous-granular material, woody material and condition (see Table 2.1).
- Mineral soil – unless obvious, this is difficult to estimate even broadly in the field. Clay and silt can sometimes be seen as layers of variable thickness in fen and transition peats and even as layers in swamped bog peat.
- Smell – if detectable by sniffing may be described as slight, moderate or strong. The distribution of H_2S may be patchy vertically, horizontally and in time. The presence of methane requires a detector.
- Chemistry – if the PH is determined by a simple field test, the peat may be described as acid or alkaline
- Tensile strength – resistance to pulling apart in the horizontal and vertical directions is a useful indicator of structure
- Whether a plastic limit test is possible or not, this can be a useful field indicator of the morphology of the peat – possible on fen and some transition peats but not possible on bog peat unless almost completely humified.
- Any special characteristics, including plant types if identified.

Table 2.1 – Degrees of humification (after L von Post et al. 1922)

Degree of humification	Decomposition	Plant structure	Content of amorphous material	Material extruded on squeezing (passing between fingers	Nature of residue
H_1	None	Easily identified	None	Clear, Colorless water	
H_2	Insignificant	Easily identified	None	Yellowish water	
H_3	Very slight	Still identifiable	Slight	Brown, muddy water; no peat	Not pasty
H_4	Slight	Not easily identified	Some	Dark brown, muddy water; no peat	Somewhat pasty
H_5	Moderate	Recognisable, but vague	Considerable	Muddy water and some peat	Strongly pasty
H_6	Moderately strong	Indistinct (more distinct after squeezing)	Considerable	About one third of peat squeezed out; water dark brown	Fibres and roots more resistant to decomposition
H_7	Strong	Faintly recognizable	High	About one half of peat squeezed out; any water very dark brown	
H_8	Very strong	Very indistinct	High	About two thirds of peat squeezed out; also some pasty water	
H_9	Nearly complete	Almost unrecognizable		Nearly all the peat squeezed out as a fairly uniform paste	
H_{10}	Complete	Not discernible		All the peat passes between the fingers; no free water visible	

Note: the degree of humification is graded on a scale from 1 to 10 and designated H_1 to H_{10}.

Following an extensive study of Canadian muskeg, Radforth (1969) proposed the classification given Table 2.2. This scheme is highly specific in relation to the predominant types present and to the structural arrangement including the presence of any woody material. No mention is made of color, wetness, degree of humification and whether clay is present or not, the latter omission being remarkable in view of the fact that Canadian Muskeg is not highly organic. It is important that there is no doubt the Radforth system is suited to Canada, but has not been found to be generally applicable to other countries mires.

Table 2.2 – Classification of peat (The Canadian system after Radforth 1969)

Predominant Characteristic	Category	Name
Amorphous-granular	1	Amorphous-granular peat
	2	Non-woody, fine-fibrous peat
	3	Amorphous-granular peat containing non-woody, fine-fibres
	4	Amorphous-granular peat containing woody, fine-fibres
	5	Peat, predominantly amorphous-granular containing non-woody, fine-fibrous frame work
	6	Peat, predominantly amorphous-granular containing woody, fine-fibrous, held in a woody, coarse-fibrous frame work
	7	Alternate layering of non-woody, fine-fibrous peat and amorphous-granular peat containing, non woody, fine-fibres
Fine-fibrous	8	Non-woody, fine-fibrous peat containing a mound of coarse-fibres
	9	Woody, fine-fibrous peat held in a woody coarse-fibrous framework
	10	Woody particles held in non-woody, fine-fibrous peat
	11	Woody and non-woody particles held in fine-fibrous peat
Coarse-fibrous	12	Woody, coarse-fibrous peat
	13	Coarse fibres criss-crossing fine-fibrous peat
	14	Non-woody and woody fine-fibrous peat held in a coarse-fibrous framework
	15	Woody mesh of fibres and particles enclosing amorphous-granular peat containing fine fibres
	16	Woody, coarse-fibrous peat containing scattered woody chunks
	17	Mesh of closely applied logs and roots enclosing woody coarse-fibrous peat with woody chunks

Index properties

Nature and water Content in peat

The bulk of the water is held as intracellular and interparticle water, the proportion of each and the total quantity depending chiefly upon the structure and morphology of the various plants present and on the degree of humification. Ombrotrophic plants (bog peat) tend to have higher intracellular water contents than minerotrophic plants (pen peat) and bog peats have higher interparticle and total water contents than fen peats. Further, presence of mineral soil clearly reduces the volume of interparticle water in peats of fen morphology. Ex. fibrous peats (low humification) have higher water contents than granular amorphous peats (high humification).

It is important to point out that ombrotrophic peats (bog peat) have higher cation exchange abilities than minerotrophic peats (fen peats) (Gorham; 1966).

Bulk density

The bulk density of peat is low and variable and is related to the organic content (reflected in the specific gravity). The water content and specific gravity have little effect on the bulk density.

Organic content

Peat that is completely free of extraneous mineral matter may have ash content as low as 2% that is an organic content exceeding 98%. At the other extreme a lake mud or peaty clay may contain less than 10% organic matter. The organic content is also important geotechnically, since the water holding capacity depends greatly upon this quantity.

Specific gravity

Results reported in the literature, the specific gravity of peat to be highly variable depending upon the amount of mineral matter present. But generally, the specific gravity is in the range of 1.4 to 1.5.

pH content

Nutrient or base rich waters are characteristically non-acidic and are associated with fens, while base deficient waters are acidic and are associated with bogs.

As a rough general rule the pH of fen peat tends to be greater than 5, the higher the pH the richer the fen; acid fen peat will have a pH less than 5;bog peat has a pH in the range of 4.5 to 3.3 and transitional peats fall in the range from 6 to 4.

Shrinkage

Peat has a high shrinkage capacity and rapidly becomes harder on drying out. Generally the more highly humified peats, although having lower water contents, tend to shrink more than the less humified fibrous peats.

Liquid limit

The liquid limit of peats mainly depend on the cation exchange ability. As mentioned above as the ombrotrophic peats (bog peat) have higher cation exchange abilities than minerotrophic peats (pen peats), the bog peat will have a higher liquid limit than fen peats. In broad terms the liquid limit of fen peat ranges from about 200% to 600% and bog peat from about 800% to 1500% with an intervening and overlapping transition zone.

Plastic limit and plasticity index

Even though, the plastic limit tests are very difficult to conduct with nature of the peats, generally, the acid fen peat covers a very wide band closer to the A-line, amorphous and slightly fibrous peats, very highly humified, lie just below the A-line.

Engineering properties

Permeability

As a general rule, the surface layer of bogs is more permeable than that of fens in which the eutrophic conditions favour more rapid decomposition. The presence of mineral soil and the very flat gradients also reduces the permeability of fen peats. Accordingly, with the increase of amorphous content or with high decomposition, the permeability get reduces.

Fibrous peat – 4 x10^{-6}m/s (Hanrahan (1954)
Amorphous Peat – 4 x10^{-6}m/s (Berry and Poskitt (1972)

Primary consolidation

The primary compression of peat is very high and takes place very rapidly. The dominant factors controlling the compressibility characteristics of peat include the fibre content, naturel water content, void ratio, initial permeability, nature arrangement of soil particles, and inter-particle chemical bonding in some of the soils (Mesri and Ajlouni, 2007). For instance, the insitu void ratio of fibrous peats is very high because of the fact that very high primary compression and bendable hollow cellur fibres form an open entangled network of particles, giving a high initial water content. Further, as the result of high permeability of fine fibrous than that of an amorphous granular peat, the rate of primary consolidation of a fine fibrous peat is higher than that of an amorphous granular peat.

Secondary Consolidation

Peat has a high coefficient of secondary compression and hence peat undergoes a high secondary consolidation settlement. Amorphous granular peats exhibit considerable secondary consolidation (Wilson, 1965). As studies carried out by Berry and Postkitt (1972) for amorphous and fibrous peat, it is found to give similar non-linear rheological models but their relative creep equation were fundamentally different. That for amorphous granular peat predicts an exponential increase in strain with incremental loading whilst that for fibrous peat predicts a linear increase. Further, bog peats appear to possess lower values of secondary compression than fen peats. This probably is because of their non-plastic, highly frictional character.

2.2 The history of consolidation theories

2.2.1 Primary Consolidation

Terzaghi (1925) was the first person to propose the theory of one dimensional (1-D) consolidation for saturated clay soils. He illustrated the one dimensional consolidation by means of mathematical formulae which are based on the following assumptions.

- The clay-water system is homogeneous
- Complete saturation exists
- Compressibility of water is negligible
- Compressibility of soil grains is negligible
- The flow of water is in one direction
- Darcy's law is applicable.

The basic equation proposed by Terzaghi for the rate of pore water dissipation ($\partial u/\partial t$) is given below and still remains valid for consolidation of soils in 1-D.

$$\frac{\partial u}{\partial t} = C_v \frac{\partial^2 u}{\partial z^2}$$

Where C_v is the coefficient of consolidation and is dependent on the type of soil and the effective stress

$$C_v = \frac{k}{\gamma_w \ m_v}$$

Where

- k – Permeability
- γ_w – unit weight of water
- m_v – coefficient of volume compressibility

$$m_v = \frac{\Delta\delta}{H\ \Delta\sigma}$$

Where

- $\Delta\delta$ – Variation in settlement
- H – height of the soil layer
- $\Delta\sigma$– Stress increment

2.2.2 Secondary Consolidation

Terzaghi's fundamental concepts were sufficient to calculate the settlements in the early days because of lack of knowledge in secondary consolidation. Buisman (1936) is the first person who proposed the creep law for soft soils which can't be explained by the classical theory of consolidation. Then, Taylor and Merchant (1940) formed a theory including the creep effects at least involve in the water dissipation process. In 1942, Taylor generated a model of void ratio versus time and effective stress.

Secondary consolidation occurs due to the soil particle movement/re-orientation. Terzaghi (1941) and Taylor (1942) attributed secondary consolidation to the readjustment of grains delayed by the gradual transfer of stress from film to grain bond. The basic assumption for this mechanism is that when a soil element is loaded, the total stress is shared by pressure in the free pore water, the plastic resistance in the highly viscous absorbed water and solid to solid contacts between soil particles.

During secondary consolidation, since the excess pore water pressure remaining in the soil is negligible, the total stress is shared by the film and grain bond. The pressure from the film is gradually transferred to the grain body, and this transferring process is associated with very slow viscous flow. When the equilibrium state is reached, grain bond supports the applied load only.

For a long time, it was believed that creep and dissipation of pore water occur in two different phases which are namely discriminated as primary and secondary consolidation. But in 1957, Suklje described that creep is a continuous process that even occurs in the primary consolidation phase and presented a model including isotachs.

Bjerrum (1966) presented a model, similar to Suklje's model, assuming that primary consolidation and creep strains are not divided into separate process. The model represents the pre-consolidation pressure or over consolidation ratio of virgin clays, resulting from geological ageing. The clay, which is under same effective stress for a longer time, yields more settlement (i.e less void ratio). This shows the time dependency of the secondary consolidation and it is independent from effective stress. Bjerrum used various time lines to explain how reduce creep rates resulting from the increased duration of loading. (Figure 2.3)

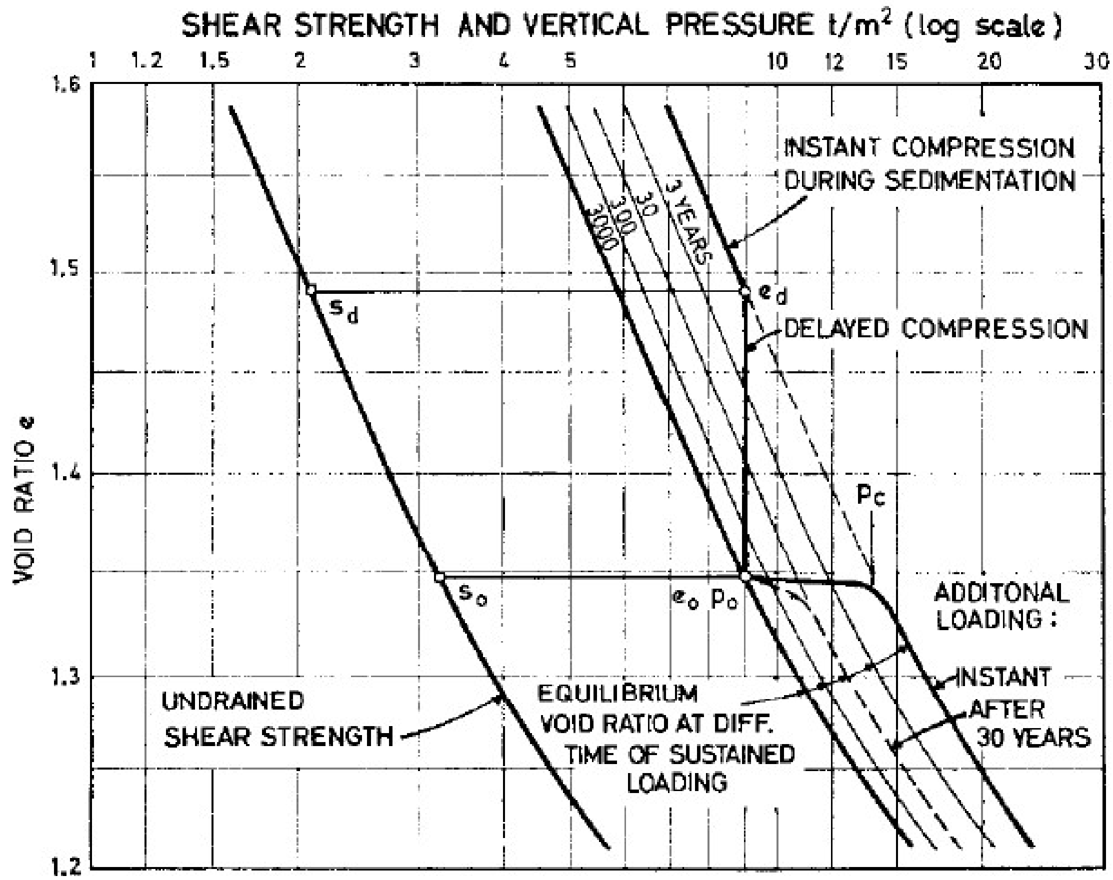


Figure 2.3 – Compressibility and shear strength of a clay exhibiting delayed consolidation (after Bjerrum et al 1967)

Also, Bjerrum has categorized the strains into “instant” and delayed in accordance to the experience effective loading (Figure 2.4). Instant strain occurs with the increase of effective stress and when the soil reached its maximum loading, under constant stress delayed strain will get initiated.

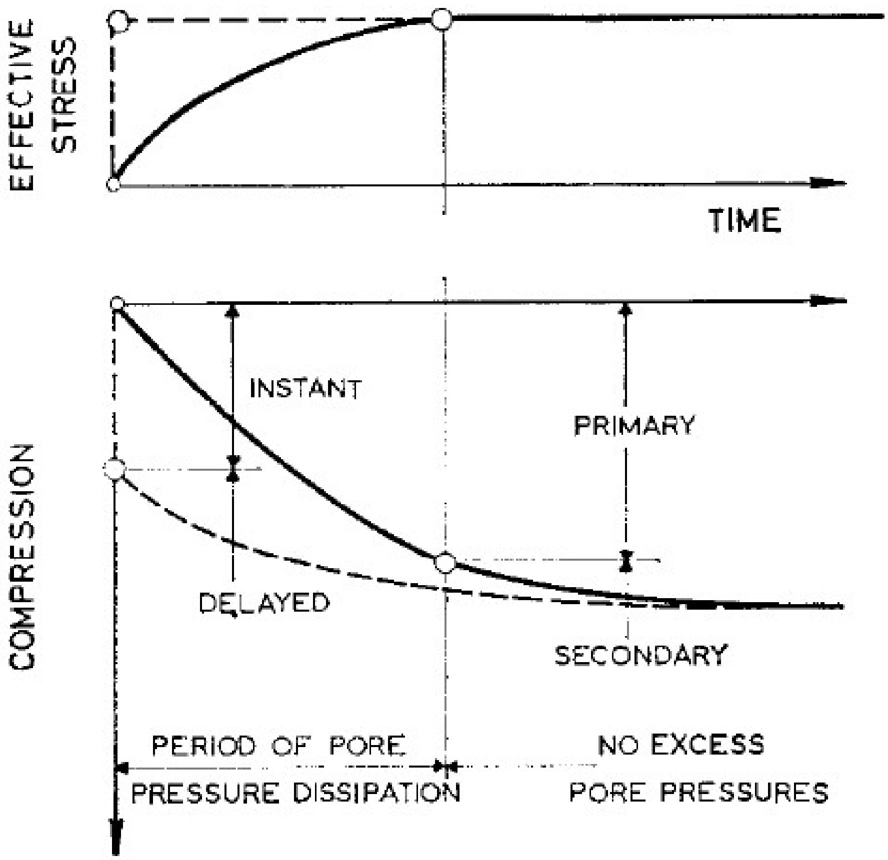


Figure 2.4 – Definition of Instant and Delayed compression compared with 'primary' and 'secondary' compression (after B'Jerrum et al 1967)

This phenomenon has further expressed using Vertical strain, ε_v% vs Vertical Stress, σ'_v, kPa as shown in Figure 2.5. From the diagram (Figure 2.5) when the load is increased from 'a' to 'c', the strain increases from 50%-58% (instant compression). But when the load is applied in steps and at each step if the load is kept for a considerable time, the strain increases during instant compression would be very low and in other words, instant settlement is very low. (Here if load is applied up to a, 'b' (b<c) and kept for a certain time and then load is applied up to a 'c' and strain increases from 56-58%). Mesri et al (1997) has suggested that the reduction of instant compression is resulting from secondary compression aging.

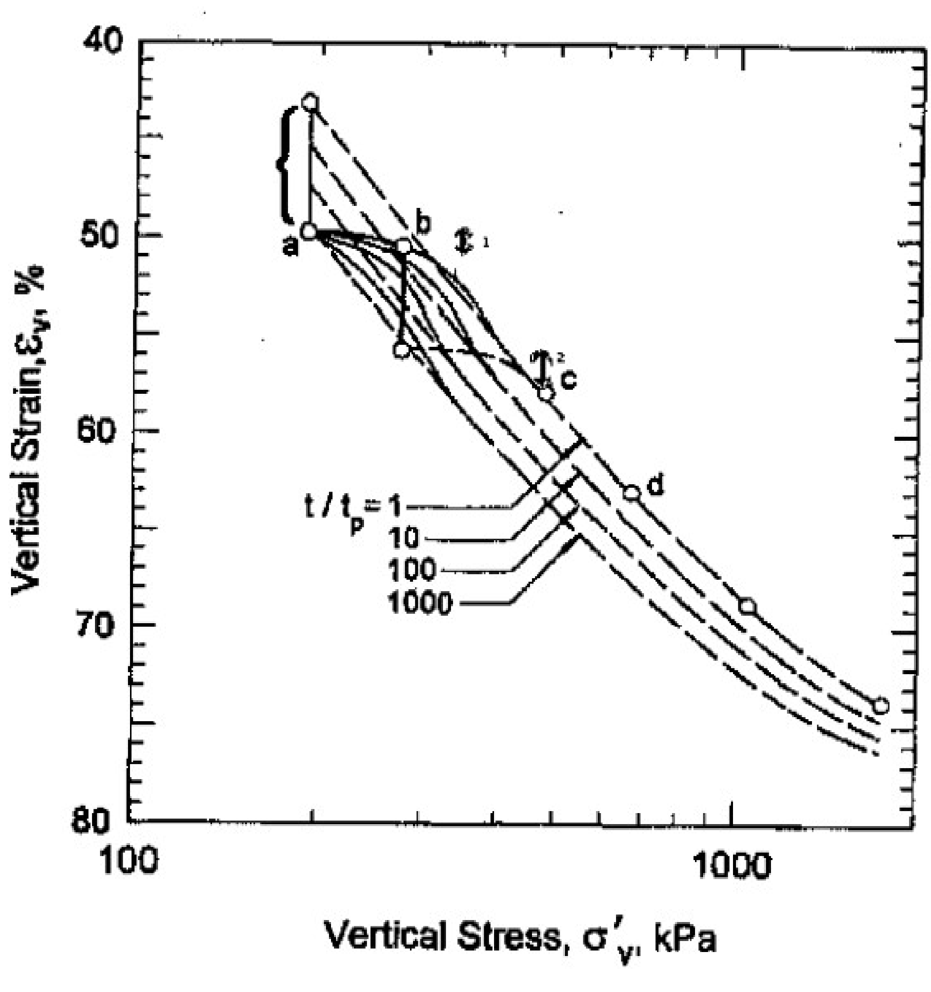


Figure 2.5 – Instant compression behavior resulting from secondary compression aging (after B'jerrum et al 1967)

Alternatively, when the load is applied and due to viscosity of the water, the effective stresses will increase gradually as the excess pore pressure and compression would occur through the fully drawn trend line. If this load is applied for a considerable time, the delayed compression would take place. The reduction in water will lead to a more stable configuration of the soil structure. The number of contact points between clay particles will increase and in plastic clay and the cohesive component of the shear strength will increase. That is, during the delayed consolidation cohesive clay will develop an increased strength in and a reserve resistance against further compression. Therefore, when additional load is applied, the instant settlement would be low.

The reserve resistance against compression developed during delayed consolidation obviously increases with the reduction in void ratio that is with time of sustained loading. This development of a reserve resistance against compression during delayed consolidation can be very easily demonstrated in the laboratory. The first tests in which this effect was observed were carried out by Moretto (1946).

2.3 Soil parameters which influence consolidation

2.3.1 Primary Consolidation

2.3.1.1 Permeability k

Primary compression is mainly occurs due to the dissipation of pore water pressure and this occurs for a long time as the result of less permeability of soil. In contrary to clay and peat, sandy soil experience very rapid consolidation as the increase in the pore water pressure will be rapidly dissipated due to its permeability. Permeability (k) depends on the texture of the soil, porosity and intermolecular attraction (cohesion). In Table 2.3, typical values for the permeability of different soil types are given.

Table 2.3 – Typical values for the permeability of different soil types (Ameratunga et al, 2016)

Soil Type	Permeability k(cm/s)
Gravels	$10^{-1} – 10^{2}$
Sand	$10^{-3} – 10^{-1}$
Clayey silt/Silt	$10^{-5} – 10^{-3}$
Silty clay	$10^{-7} – 10^{-5}$
Clay	$10^{-7} – 10^{-9}$

2.3.1.2 Coefficient of Volume Compressibility m_v

Coefficient of volume compressibility is an alternative parameter which is used to estimate the settlement. It is stress dependent and could be computed for each loading by the formula below.

$$m_v - \frac{\Delta\delta}{H\,\Delta\sigma}$$

2.3.1.3 Compression Index C_c

Compression Index of a soil is the slope of the e Vs. Log (σ) graph and it is the indication of the magnitude of primary consolidation. It is used to evaluate the primary settlement of a soil by the following formula.

$$\delta = \frac{C_c\,H}{1+e_o}\log\left(\frac{\sigma_i + \Delta\sigma}{\sigma_i}\right)$$

2.3.1.4 Coefficient of Consolidation C_v

In general terms this can be said as the vertical drainage rate for the change of volume in the soil during the primary consolidation. C_v is related to the permeability by the following equation:

$$C_v = \frac{k}{\gamma_w m_v}$$

C_v is used to determine the degree of consolidation and therefore to identify the period of consolidation. The research work has revealed that organic content of a soil greatly influences the C_v value.

2.3.2 Secondary Consolidation

2.3.2.1 Secondary Consolidation Coefficient C_α

The Coefficient of Secondary Consolidation (C_α) is the parameter which simulates the effects of the time dependent settlement of soil. This is defined as the latter slope of the e vs. log (time) graph and can be calculated by means of the following Equation.

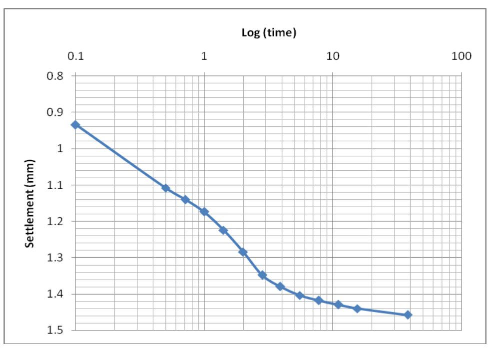
$$C\alpha = \frac{\Delta e}{\Delta \log t}$$

Many researchers have computed the value of the $C_\alpha/(1+e_0)$ known as secondary compression ratio ($C_\alpha^{/}$) for various type of soils and some typical values are as follows.

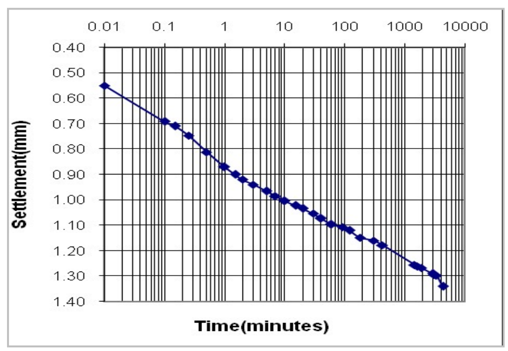
- Peats 0.05 – 0.1
- Normally Consolidated Clay 0.005 – 0.02
- Over Consolidated Clay < 0.001

Walker and Raymond (1968) found that C_α is linearly dependent on C_c of the primary consolidation over the entire pressure range. For peaty deposits, Mersi and Stark (1994) suggested a value of 0.06 ± 0.01 for C_α/C_c. Many researches have analyzed the value of the C_α/C_c for various deposits of peat and some typical values are presented in Table 2.2.

High secondary consolidation in peat can be illustrated by comparison of e Vs log (time) plots for an inorganic clay and peat. In the inorganic clay the gradient of the curve becomes much flatter in the secondary consolidation phase. With peaty clay there is no reduction in the gradient. In fact there are increases in the gradient and it is not possible to pick up the 100% consolidation as in Figure 2.6(a).



(a) Inorganic Clay

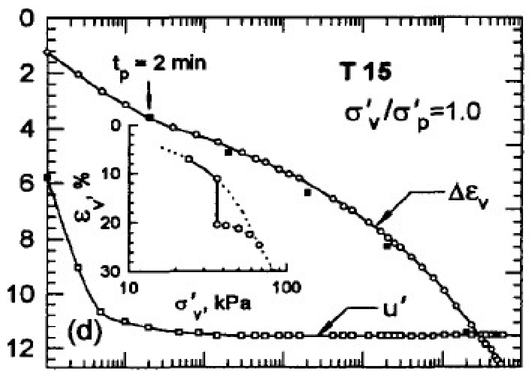


(b) Peat

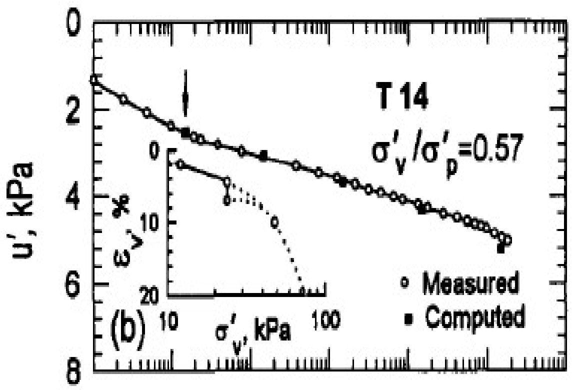
Figure 2.6 – Typical settlement Vs log (time) plots (From tests done at University of Moratuwa)

Mesri (1973) suggested that secondary compression may be defined as the continuation of the mechanism of volume change initiated during instant or primary compression. This mechanism includes deformation of individual particles (Compression of organic fiber in fibrous peat) plus the relative movements of individual particles with respect to each other. Thus the soil which has high instant compressibility will exhibit high delayed or high secondary consolidation. Mesri (1973) claimed that there is a general agreement that the coefficient of secondary consolidation is substantially influenced by the duration of the previous load. The influence of sustained loading to which all natural soil deposits had been subjected on the rate of secondary consolidation is similar to that of preloading.

Mesri et al.(1997) claimed that specifically in a realistic time range of practical interest i.e. from t_p (end of primary) to design life of a structure (100 years) C_α remains constant with time and lead to completely reasonable magnitudes of secondary consolidate settlements. The magnitude and behavior of C_α with time is directly related to the magnitude and behavior of C_c with pre-consolidation pressure p_c (σ_p). At Load increments near the pre-consolidation pressure C_c experiences a significant increase and accordingly C_α increase with time (Figure 2.7 (a)). The primary consolidation is achieved in 2 mins and C_α kept on increasing. In the pre-compression range σ_v/p_c =0.57 with OCR=1/0.57=1.754, the C_α value was constant with time (Figure 2.7 (b)).



(a) Load increment near pre consolidation



(b) Load increment in the pre-compression range

Figure 2.7 – Variation of C_α with time and influence of pre-consolidation pressure (After Mesri et al. 1997)

The value of C_α/C_c is an indication of secondary consolidation effect. If the soil type is having a high value it indicates that soil would have high settlement due to secondary consolidation. Some typical values of C_α/C_c for various types of soil deposits are presented in Table 2.4. General comparison of C_α/C_c for all soils are presented in Table 2.5.

Table 2.4 – Some typical values of C_α/C_c for different peat type (after Mesri et al. 1999)

Peat	Water content (%)	C_α / C_c	Reference
Fibrous peat	850	0.06-0.10	Hanrahan (1954)
Peat	520	0.061-0.078	Lewis (1956)
Amorphous peat	500-1500	0.035-0.083	Lea and Brawner (1963)
Canadian muskeg	200-600	0.09-0.1	Adams (1965)
Amorphous to fibrous peat	705	0.073-0.091	Keene and Zawodniak (1968)
Peat	400-750	0.075-0.085	Weber (1969)
Fibrous peat	605-1290	0.052-0.072	Samon and Larochell (1972)
Fibrous peat	613-886	0.06-0.085	Berry and Vickers (1975)
Amorphous to fibrous peat	600	0.042-0.083	Dhowian and Edil (1980)
Fibrous peat	660-1590	0.06	Lefebvre et al. (1984)
Dutch peat	370	0.06	Den Haan (1994)
Fibrous peat	610-850	0.052	Present study (1997)

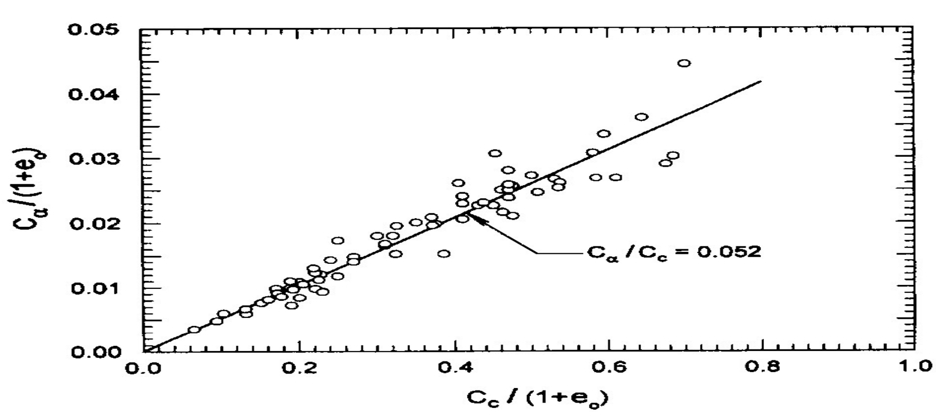


Figure 2.8 – Variation of C_α Vs C_c of a sample from Middleton peat (after Mesri et al. 1997)

Table 2.5 – Some typical values of C_α/C_c for various type of soil deposit (after Mesri et al. 1994)

Type of Soil	C_α/C_c
1. Granular soils including rock fill	0.02±0.01
2. Shale and mudstone	0.03±0.01
3. Inorganic clays and silts	0.04±0.01
4. Organic clays and silts	0.05±0.01
5. Peat and muskeg	0.06±0.01

2.4 Reduction of secondary consolidation by surcharging

Walker (1969) exposed that the C_α of a soil varies according to the ratio between the effective stress and the effective stress (σ'_v) at the end of primary consolidation (σ_p) .This was shown by experimental results conducted by him (Figure 2.9).

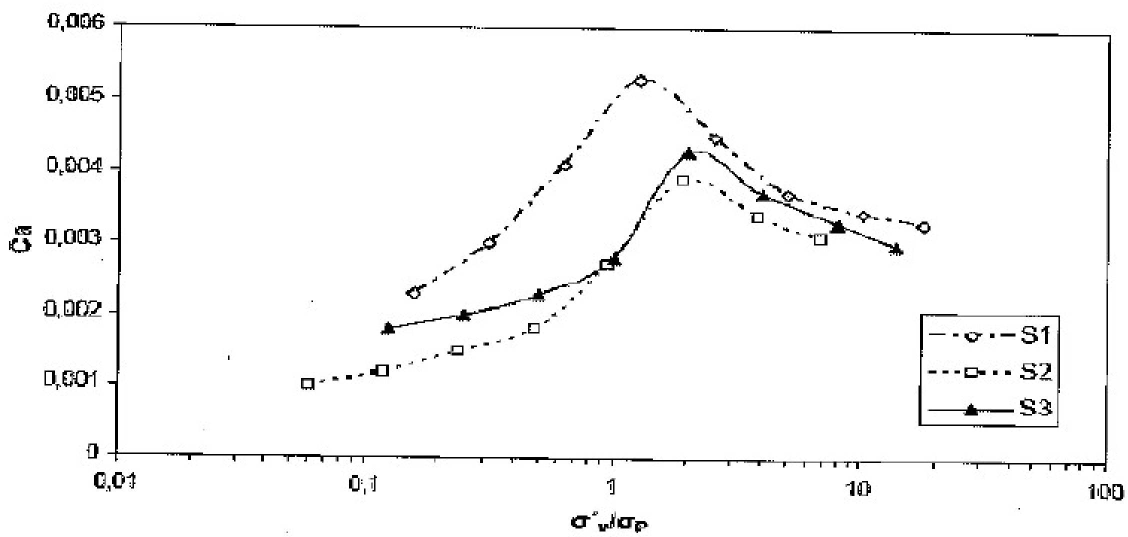


Figure 2.9 – C_α changes with OCR (after Walker et al. 1969)

Mesri and Godlewski (1977) found that C_α is not a function of effective stress, rather dependent on the over consolidated ratio that the soil experienced.

Lea and Browner (1963), Samson and La Rochelle (1972), Samson (1985) reported on the use of surcharging to reduce secondary consolidation of peat deposits.

3.0 Simulated tests on remoulded peaty clay

3.1 Background

When the expressways are constructed on sites underlain by soft ground, two types of major geotechnical challengers are encountered. They are;

- Ensure that there are no shear failures during the construction stage.
- Ensure that settlements in service are within acceptable limits so that vehicles can travel at speeds of 100km/hr comfortably.

Thick layers of soft peaty clay were encountered during the construction of Colombo-Katunayake Expressway (CKE) and Southern Highway.

Geotechnical engineers used many different techniques to overcome the mentioned challengers.

Soft peaty clays encountered in Sri Lanka are with a very high degree of humification, mostly are amorphous peat and are mixed with inorganic clays (alluvial clays). The organic contents are varying 30-40% (Annexure 1), and water contents as high as 300% are encountered. These peaty clays are with extremely low shear strength and generally as low as 6kN/m^2 (Annexure 1). As such, shear failures during the construction are very likely and it is avoided by slow construction allowing time for consolidation and strength gain.

The construction of the road embarkment is done at an appropriately slow rate, supported by monitoring data. Prefabricated Vertical Drains are used to accelerate the process. In the case of very soft peaty clays, vacuum consolidation has been used at the initial stages. When the thickness of the soft peaty clay and/or height of the embankment to be constructed in high reinforcing techniques such as stone columns were used. This technique will be helpful in preventing shear failures during construction. However, during the construction settlement could be very high. Settlement of the order of 1.5m were seen in CKE, settlement of the order of 300-500mm were quite common.

However, when the road is services, the settlement should be very minimal to ensure travelling condition. A general guideline is settlements within first three years should be less than 120mm. There are guidelines on differential settlement as well. Closer to structure such as bridges more stringent conditions are to be achieved.

These targets could be achieved by preloading. During the embankment construction stage, the subsoil should be preloaded adequately so that during the service life it will be an over consolidation stage. The preloading is usually applied by the placement of an extra height of fill. The preload fill removed at the end should be in excess of the expected load from pavement and traffic. If the preload fill removal is significantly greater than this service load an over consolidation ratio much in excess of 1.0 can be achieved. With thick layers of peaty clay encountered would be very costly to achieve high OCR values. Economically feasible values of OCR are in the range of 1.0-1.2.

When the peaty clay is preloaded and preload had been removed, with construction of pavement and application of traffic load the void ratio will move only the Pre-compression line in an e vs logσ plot. As such, primary consolidation settlements are quite low.

However, peaty clays are known for high secondary consolidation. This was illustrated by comparison of e vs log (time) curves for an inorganic clay and peaty clay (Figure 2.6). These very high secondary consolidation settlements could contribute to a high settlement during service which is not acceptable. As such, it is necessary to establish ways of reducing the in service secondary consolidation. The over consolidation achieved during the construction process would be very helpful in reducing the secondary consolidation. Researchers such as Mesri, Abdul Wahed, Mosleh A. have shown this through laboratory and field studies. This research group has worked mainly with fibrous peat.

As such, this study was directed to establish how the secondary settlement can be reduced with preloading. The coefficient of secondary consolidation C_α was used as the measure of secondary consolidation and OCR achieved during construction was used as the control parameter.

When decision is to be taken to remove the preloading, it is necessary to estimate the likely settlement in services. The coefficient of secondary consolidation C_α' of the preloaded peat is an essential parameter in this computation. With the knowledge of subsoil profile, the preloading fill height, current ground level and design level of the road, the OCR achieved with the removal can be estimated. If a relationship can be established between OCR and C_α reduction achieved, it would be of high practical benefit, as it will enable the estimation of the secondary consolidation settlement during service.

3.2 Methodology

It is proposed to conduct series of laboratory experiments to establish this relationship. Laboratory tests will be conducted on the conventional oedometer and both primary and secondary consolidation characteristics were determined.

The tests conducted can be put into two basic categories;

- Tests on remolded samples of peaty clay with loading, unloading and reloading increments. Instead of doubling the load, lower load increment ratios were used in to obtain OCR values in the range of 1 to 1.2 (small increments ratios). These test were refers to simulated tests. Doubling the load will provides OCR values of 2, 4, 8........
- Tests on UD Samples obtained from two projects where the peaty clay layer had been subjected to a load of a fill for some time. The two projects are the Colombo Katunayake Expressway (CKE) and Colombo Fish Market Project.

3.3 Simulated Tests on Remoulded Peaty Clay

- The peat materials used in the testing are from disturbed samples obtained from the Outer circular Highway Project, from Kerawelapitiya – Kadawata region and Southern Highway Transport Development Project (STDP).
- These samples were then cleaned, free of stones, pieces of undecayed timber and other large aggregates and then remoulded using a mixer in a basin. Remoulded samples were prepared in this manner to ensure uniformity.
- Then the sample was placed in a bucket in layer by layer and kept submerged in water for 28 days for stabilization.
- Two Types of tests conducted
    - One day
    - Three day

  Mostly loading increments of three day duration were used in order to capture secondary consolidation behavior than one day duration.

3.4 One day tests Conducted

There were three tests conducted with one day long loading increments. The loading Increment of the tests are outlined in Table 3.1.

Table 3.1 – Loading increments of the tests

Test	Load Increment (kN/m^2)	Remarks	Initial Moisture Content (%)
NBRO-Test A	0-7.5-15-29-54-58-66-70-78-85-93- Loading 93-54-29- Unloading 29-54-58-66-0-78-85-93-101- Reloading	Load increased from 0-7.5-15-29-54 by doubling and from there, load increment ratio of 1.06 - 1.14 were used.	194.28
NBRO-Test B	0-7.5-15-29-58-122-136-156-178-203- Loading 203-136-122- Unloading 122-137-156-178-203- Reloading	Load increased from 0-7.5-15-29-58-122 by doubling and from there, load increment ratio of 1.11 - 1.15 were used.	188.81
NBRO-Test J	0-7.5-15-30-60-120-137-156-178-203- Loading 203-136-120- Unloading 120-137-156-178-203-243.6 Reloading	Load increased from 0-7.5-15-30-60-120 by doubling and from there, load increment ratio of 1.14 were used.	216.00

NBRO-Test A

The e Vs log σ values from NBRO-Test A are presented in Table 3.2. The data are graphically presented in Figure 3.1.

Table 3.2 – Load Vs void ratio – (NBRO-Test A)

Load (kN/m^2)	Void Ratio	
0	4.070	Loading
7.5	3.977	
15	3.832	
29	3.565	
54	3.168	
58	3.116	
66	3.046	
70	2.998	
78	2.943	
85	2.884	
93	2.824	
29	2.858	Reloading
54	2.842	
58	2.837	
64	2.827	
70	2.820	
78	2.808	
85	2.794	
93	2.780	
101	2.754	

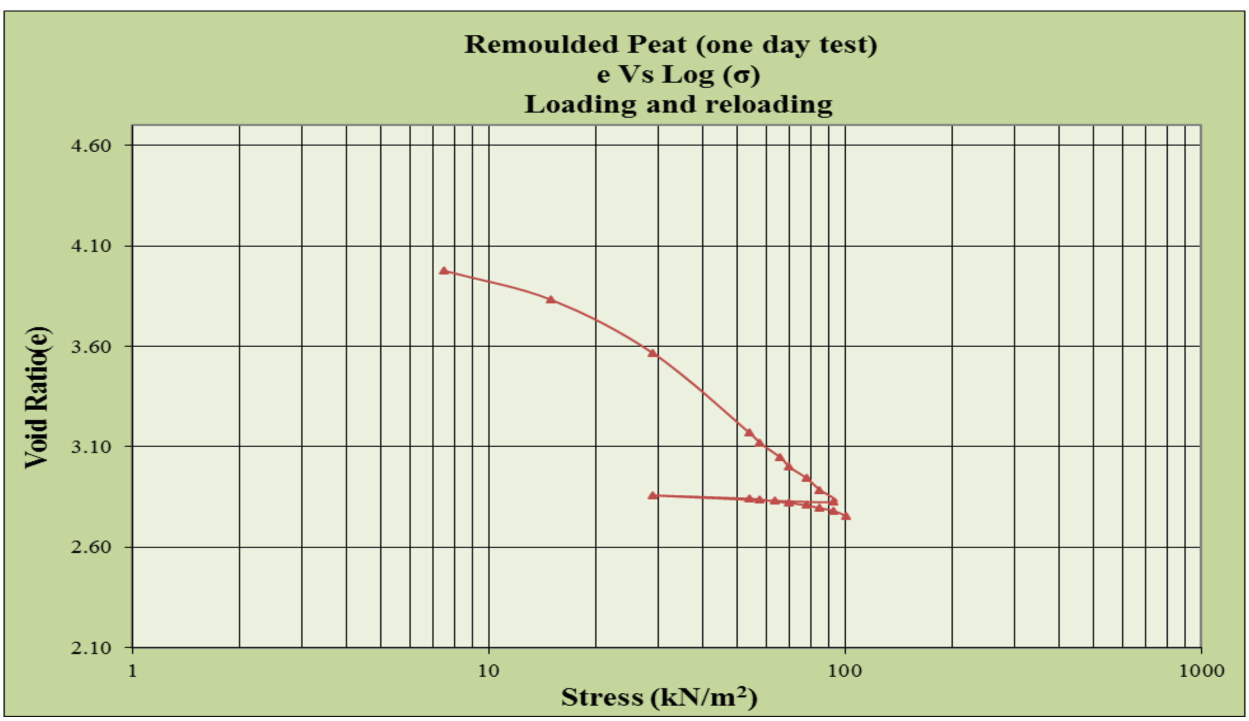


Figure 3.1– Load Vs void ratio (e) – (NBRO-Test A)

The e Vs log (time) graphs were plotted for each loading and reloading increments. These plots are presented in Annex 2. Two typical graphs corresponding to loading to reloading increments are presented in Figure 3.2 and 3.3.

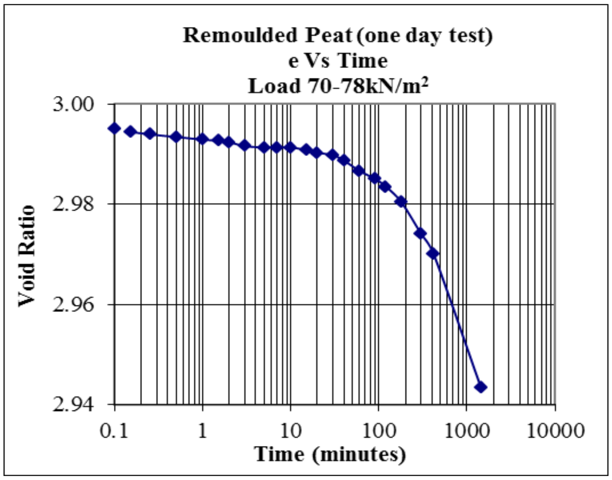


Figure 3.2 – Void ratio Vs log (time) – Loading Increment – (NBRO-Test A)

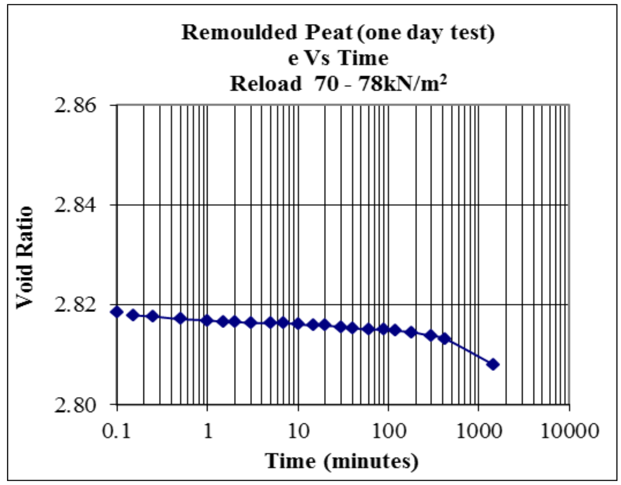


Figure 3.3 – Void ratio Vs log (time) – Reloading Increment – (NBRO-Test A)

The vertical axes of the two graphs are taken to be of same scale so that the reduced secondary consolidation of preloaded peat would be clearly demonstrated. The gradient of the void ratio Vs log (time) plot started to increase after 100min in the loading increment. In the reloading increment this increment was seen much later after about 400min.

The variation of C_α for different loading and reloading increments are presented in Table 3.3. The data are graphically presented in Figure 3.4. The C_α values in loading increment showed an increasing trend over the load increments where the stress level was doubled. Once load increment ratio is reduced (i.e. to 1.07), C_α is reduced. The C_α values in this low load increment range were generally at a constant level.

Table 3.3 – Variation of C_α loading and reloading increment – (NBRO-Test A)

Load (kN/m^2)	C_α	
7.5	0.021	Loading
15	0.044	
29	0.082	
54	0.096	
58	0.054	
66	0.066	
70	0.048	
78	0.050	
85	0.060	
93	0.056	
54	0.004	Reloading
58	0.003	
64	0.006	
70	0.008	
78	0.010	
85	0.013	
93	0.008	
101	0.027	

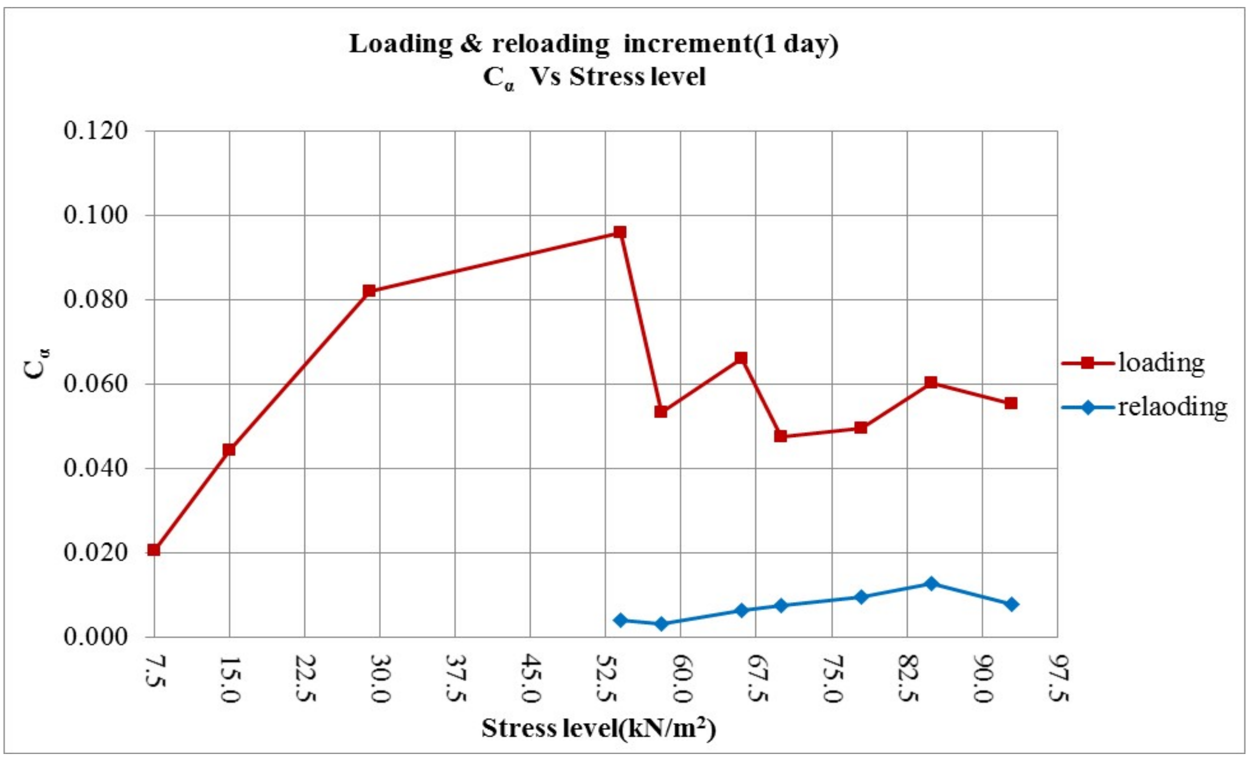


Figure 3.4 – Variation of C_α with stress level in loading and reloading increment – (NBRO-Test A)

The secondary consolidation coefficient in reloading increments are denoted $C_\alpha^/$. The Secondary Consolidation Coefficients of reloading increments are much lower than these of loading increments (Figure 3.4). For each reloading increment an OCR value can be computed. For similar loading and reloading increment (for ex. 66kN/m^2), the C_α and $C_\alpha^/$ values can be computed. Hence, the ratio $C_\alpha^/ / C_\alpha$ can be computed against each OCR. The $C_\alpha / / C_\alpha$ variation with the OCR is presented in Table 3.4 and Figure 3.5.

Table 3.4 – OCR Vs $C_\alpha^/ / C_\alpha$ – (NBRO-Test A)

Load (kN/m^2)	OCR	$C_\alpha^/$	C_α	$C_\alpha^/ / C_\alpha$
54	1.72	0.004	0.096	0.044
58	1.60	0.003	0.054	0.062
64	1.45	0.006	0.066	0.106
70	1.33	0.008	0.048	0.159
78	1.19	0.010	0.050	0.196
85	1.09	0.013	0.060	0.211
93	1.00	0.008	0.056	0.140

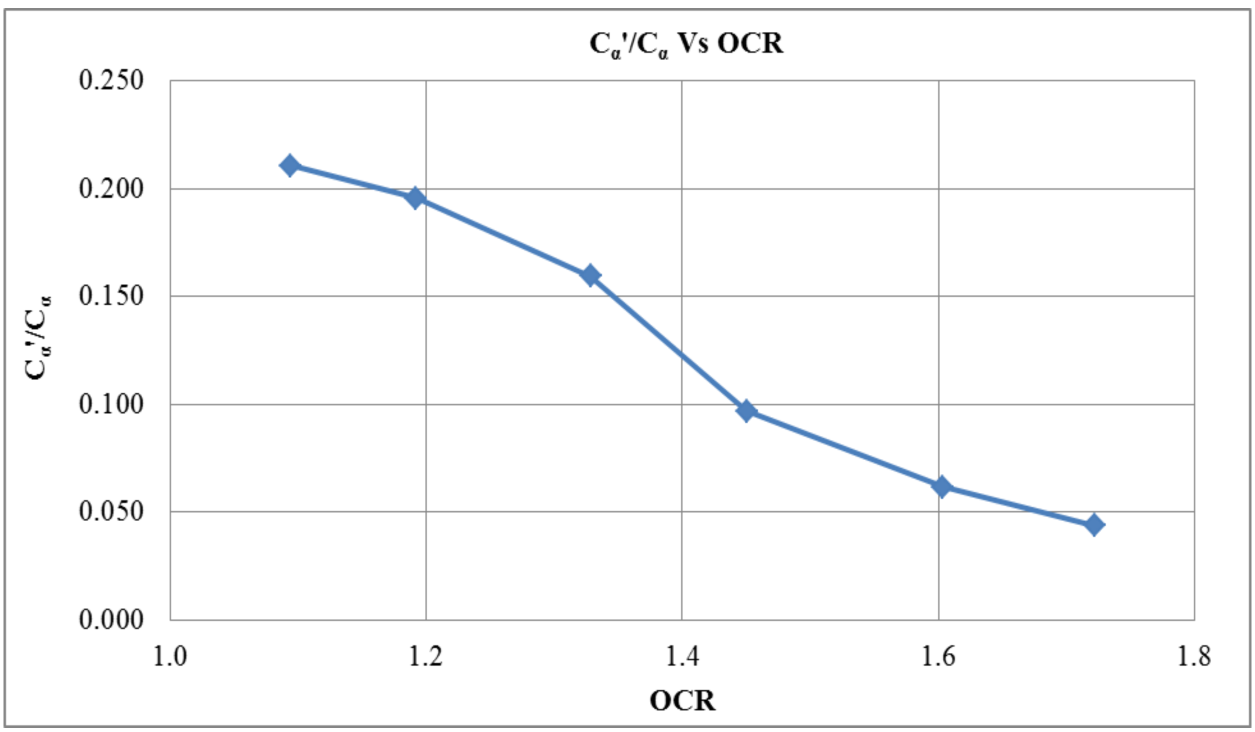


Figure 3.5 – Reduction of C_α with OCR – (NBRO-Test A)

NBRO-Test B

The e Vs log σ values from NBRO-Test B are presented in Table 3.5. The data are graphically presented in Figure 3.6.

Table 3.5 – Load Vs void ratio – (NBRO-Test B)

Load (kN/m^2)	Void Ratio	
0	4.070	Loading
7.5	3.924	
15	3.773	
29	3.511	
58	3.144	
122	2.529	
136	2.451	
156	2.374	
178	2.296	
203	2.215	
122	2.224	Reloading
137	2.224	
156	2.204	
178	2.189	
203	2.160	

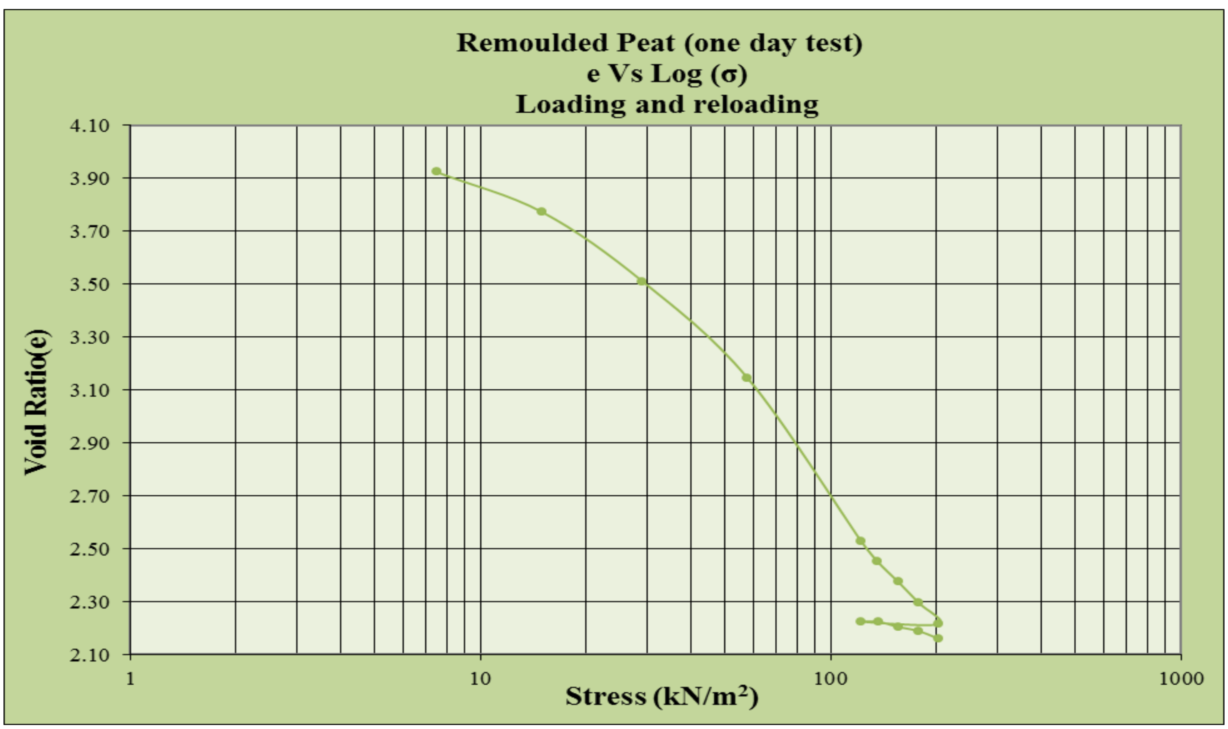


Figure 3.6 – Load Vs void ratio (e) – (NBRO-Test B)

The e Vs log (time) graphs were plotted for each loading and reloading increments. These plots are presented in Annex 2. Two typical graphs corresponding to loading to reloading increments are presented in Figure 3.7 and Figure 3.8. The reduction of C_α in preloaded peat is quite evident.

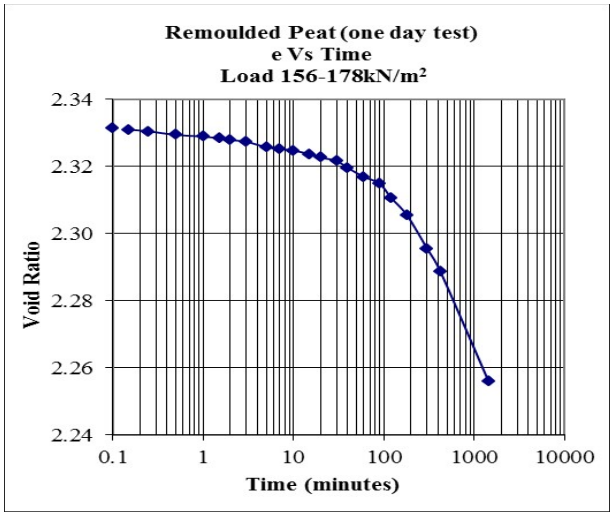


Figure 3.7 – Void ratio Vs log (time) – Loading Increment – (NBRO-Test B)

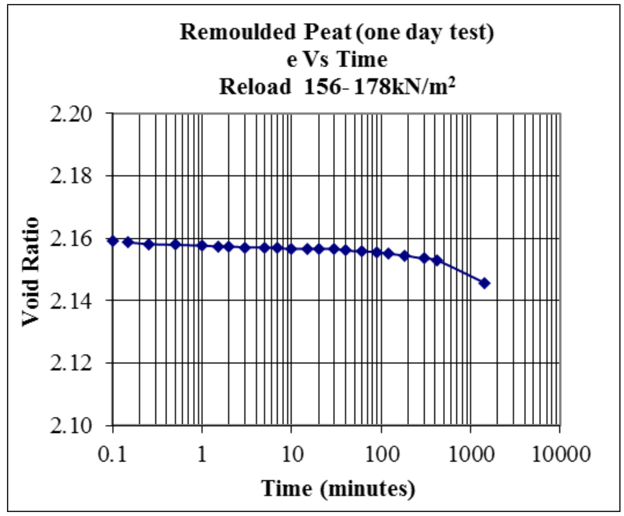


Figure 3.8 – Void ratio Vs log (time) – Reloading Increment – (NBRO-Test B)

The variation of C_α in loading and reloading increments are presented in Table 3.6. The data are graphically presented in Figure 3.9. The results indicate that the C_α initially increases with loading when the load increment ratio is 2 (i.e. doubling). The highest value of C_α is achieved at maximum stress level with doubling. Once load increment ratio is reduced (i.e. to 1.11), C_α does reduce and almost remain constant with increasing load.

Table 3.6 – Variation of C_α loading and reloading increment – (NBRO-Test B)

Load (kN/m^2)	C_α	
7.5	0.033	
15	0.041	
29	0.083	
58	0.102	
122	0.105	Loading
136	0.059	
156	0.060	
178	0.061	
203	0.064	
136	0.000	
156	0.003	Reloading
178	0.014	
203	0.030	

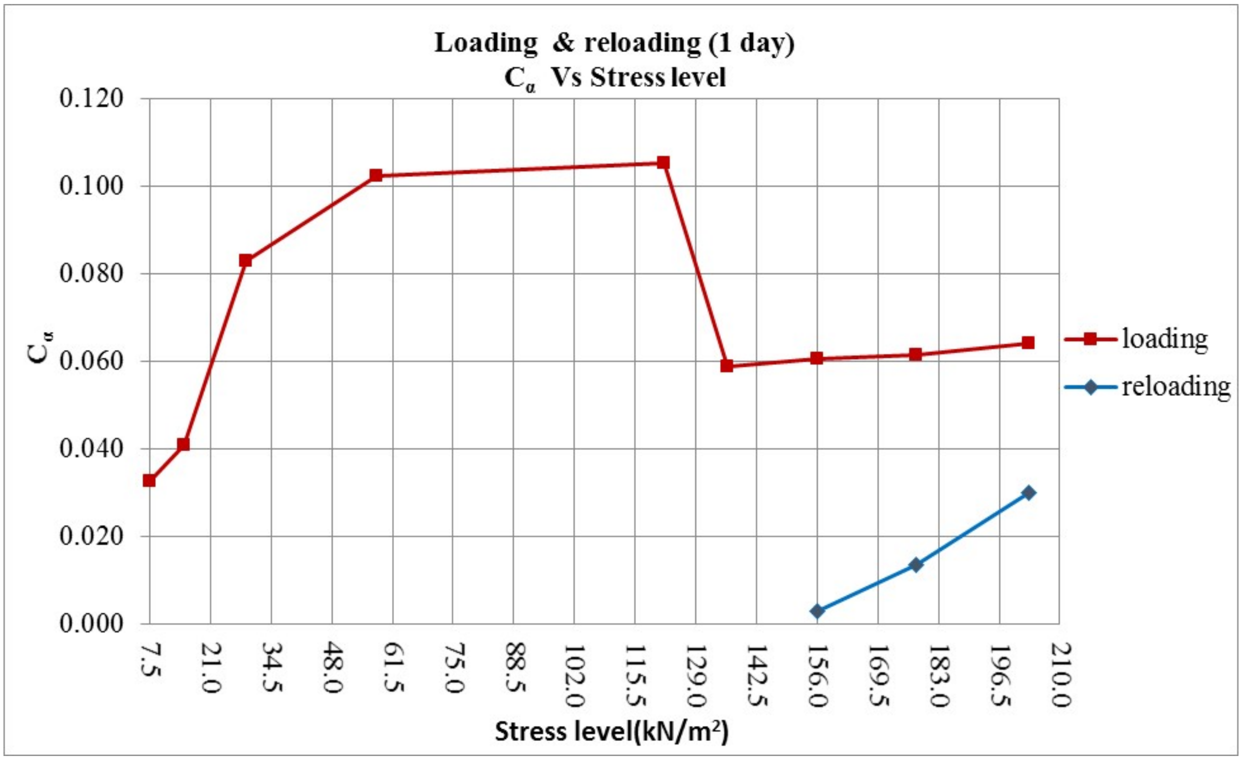


Figure 3.9 – Variation of C_α with stress level in loading and reloading increment – (NBRO-Test B)

The secondary consolidation coefficient in reloading increments are denoted $C_\alpha^{/}$. The secondary consolidation coefficients for reloading increments were much lower than for loading increments. Here, the $C_\alpha^{/}$ values were gradually increased with stress level. For each reloading increment an OCR value can be computed. For similar loading and reloading increment (for ex. 136kN/m^2), the C_α and $C_\alpha^{/}$ values can be computed. Hence, the ratio $C_\alpha^{/}/C_\alpha$ can be computed against each OCR. The $C_\alpha//C_\alpha$ variation with OCR presented in Table 3.7 and Figure 3.10.

Table 3.7 – OCR Vs $C_\alpha^{/}/C_\alpha$ – (NBRO-Test B)

Load (kN/m^2)	OCR	$C_\alpha^{/}$	C_α	$C_\alpha^{/}/C_\alpha$
156	1.30	0.025	0.060	0.419
178	1.14	0.014	0.061	0.222
203	1	0.030	0.064	0.467

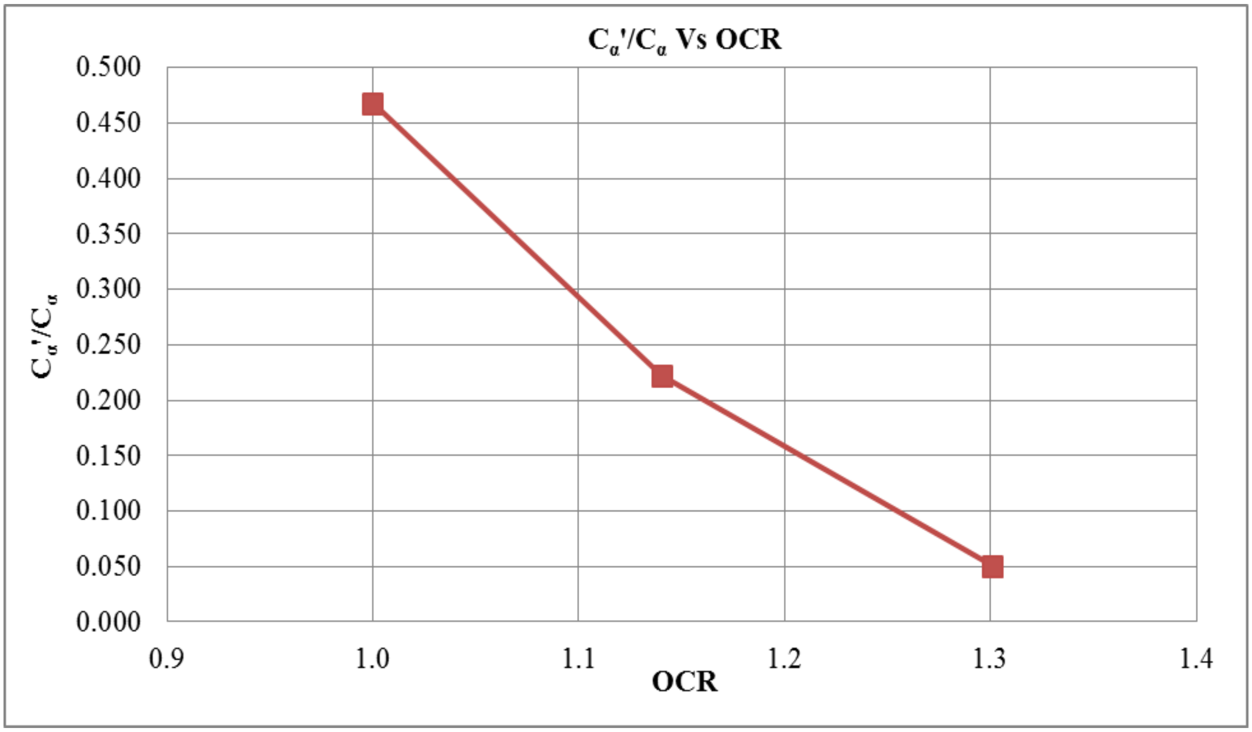


Figure 3.10 – Reduction of C_α with OCR – (NBRO-Test B)

NBRO-Test J

The e Vs log σ values from NBRO-Test J are presented in Table 3.8. The data are graphically presented in Figure 3.11.

Table 3.8 – Load Vs void ratio – (NBRO-Test J)

Load (kN/m^2)	Void Ratio	
0	4.857	Loading
7.5	4.311	
15	4.015	
30	3.676	
60	3.265	
120	2.898	
137	2.847	
156	2.756	
178	2.703	
203	2.646	
120	2.634	Reloading
137	2.633	
156	2.628	
178	2.621	
203	2.608	
243.6	2.578	

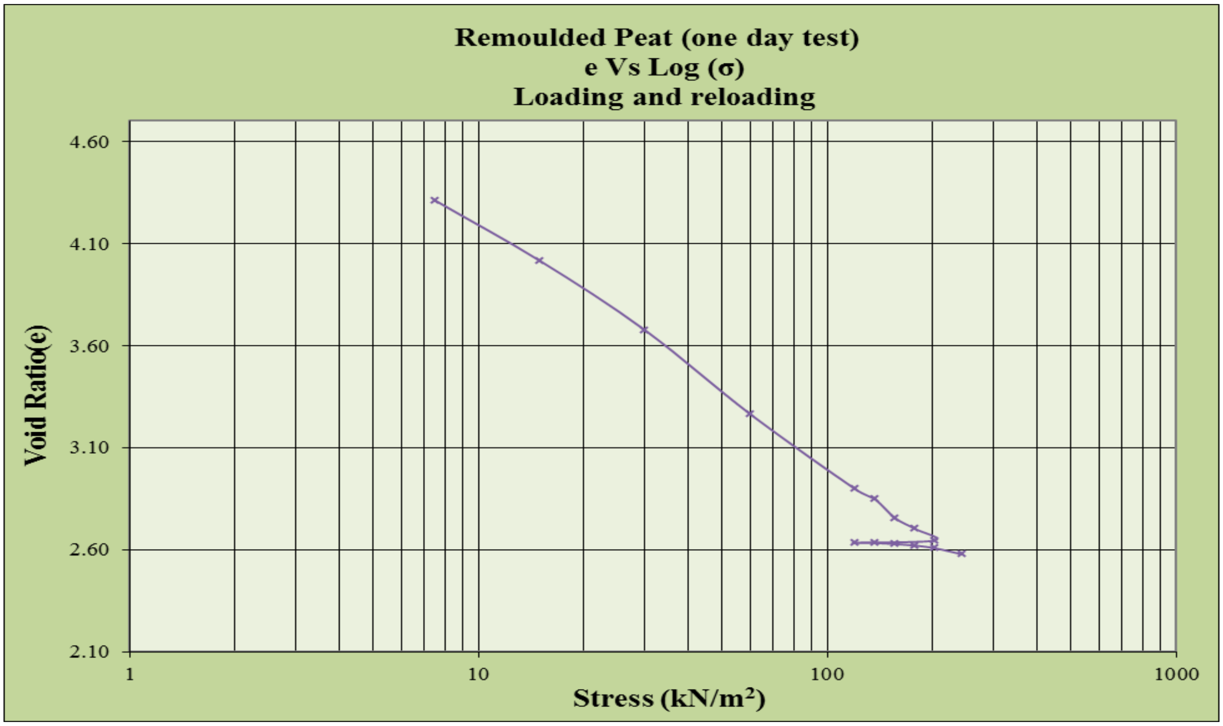


Figure 3.11 – Load Vs void ratio (e) – (NBRO-Test J)

The e Vs log (time) graphs were plotted for each loading and reloading increments. These plots are presented in Annex 2. Two typical graphs corresponding to loading to reloading increments are presented in Figure 3.12 and 3.13.

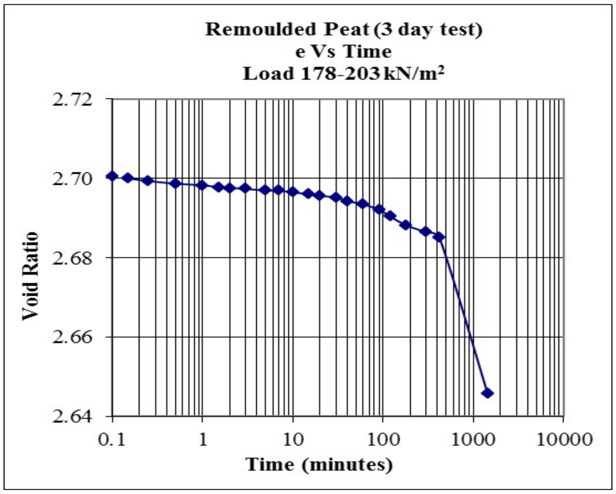


Figure 3.12 – Void ratio Vs log (time) Loading Increment – (NBRO-Test J)

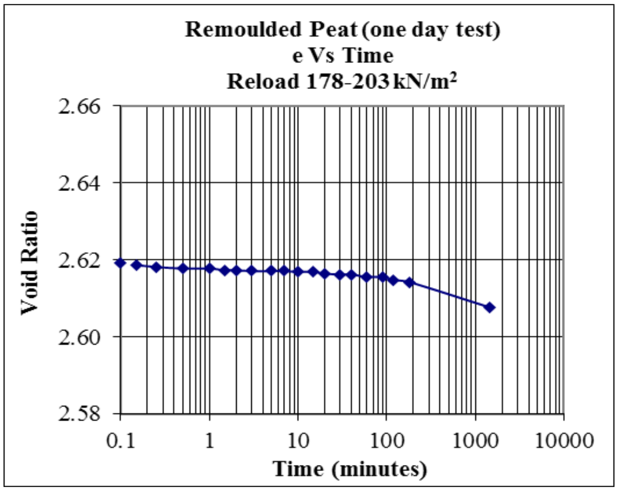


Figure 3.13 – Void ratio Vs log (time) – Reloading Increment – (NBRO-Test J)

The variation of C_α in loading and reloading increments, are presented in Table 3.9. The data are graphically presented in Figure 3.14. The C_α values in loading increment showed an increasing trend over the load increments where the stress level was doubled. However, here it is observed that the C_α was reduced at Stress level 60kN/m^2 and further was reduced at 120kN/m^2 where the stress level was doubled. Once load increment ratio is reduced (i.e. to 1.14), C_α is reduced further and then it was increased gradually, with the increase of stress levels.

Table 3.9 – Variation of C_α loading and reloading increment – (NBRO-Test J)

Load (kN/m^2)	C_α	
7.5	0.078	Loading
15	0.080	
30	0.103	
60	0.100	
120	0.072	
137	0.035	
156	0.057	
178	0.055	
203	0.074	
137	0.003	Reloading
156	0.005	
178	0.005	
203	0.007	

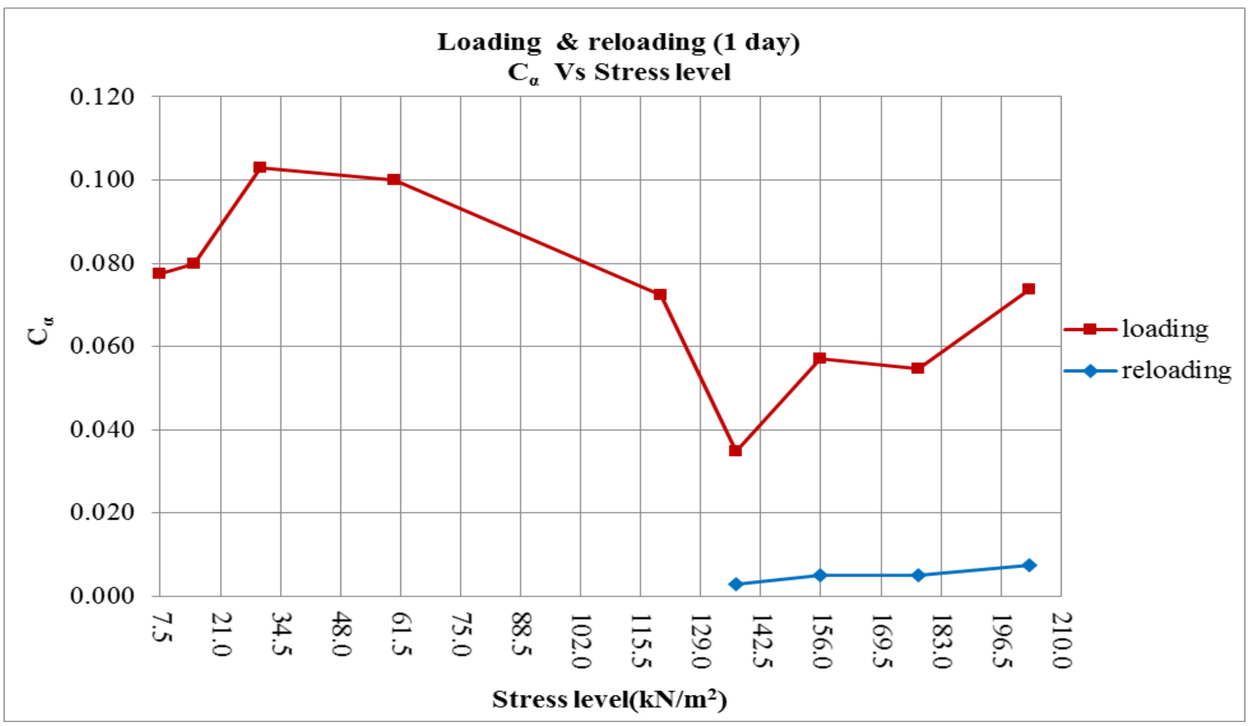


Figure 3.14 – Variation of C_α with stress level in loading and reloading increment – (NBRO-Test J)

The secondary consolidation coefficient in reloading increments are denoted $C_\alpha^/$. The secondary consolidation coefficient of reloading increment were much lower than these of loading increment. Here, the $C_\alpha^/$ values were gradually increased with stress level. For each reloading increment an OCR value can be computed. For similar loading and reloading increment (for ex. 137kN/m^2), the C_α and $C_\alpha^/$ values can be computed. Hence, the ratio $C_\alpha^/$/C_α can be computed against each OCR. The C_α//C_α variation with OCR presented in Table 3.10 and Figure 3.15.

Table 3.10 – OCR Vs $C_\alpha^/$/C_α – (NBRO-Test J)

Load (kN/m^2)	OCR	$C_\alpha^/$	C_α	$C_\alpha^/$/C_α
137	1.48	0.003	0.035	0.080
156	1.30	0.005	0.057	0.086
178	1.14	0.005	0.055	0.093
203	1	0.007	0.074	0.099

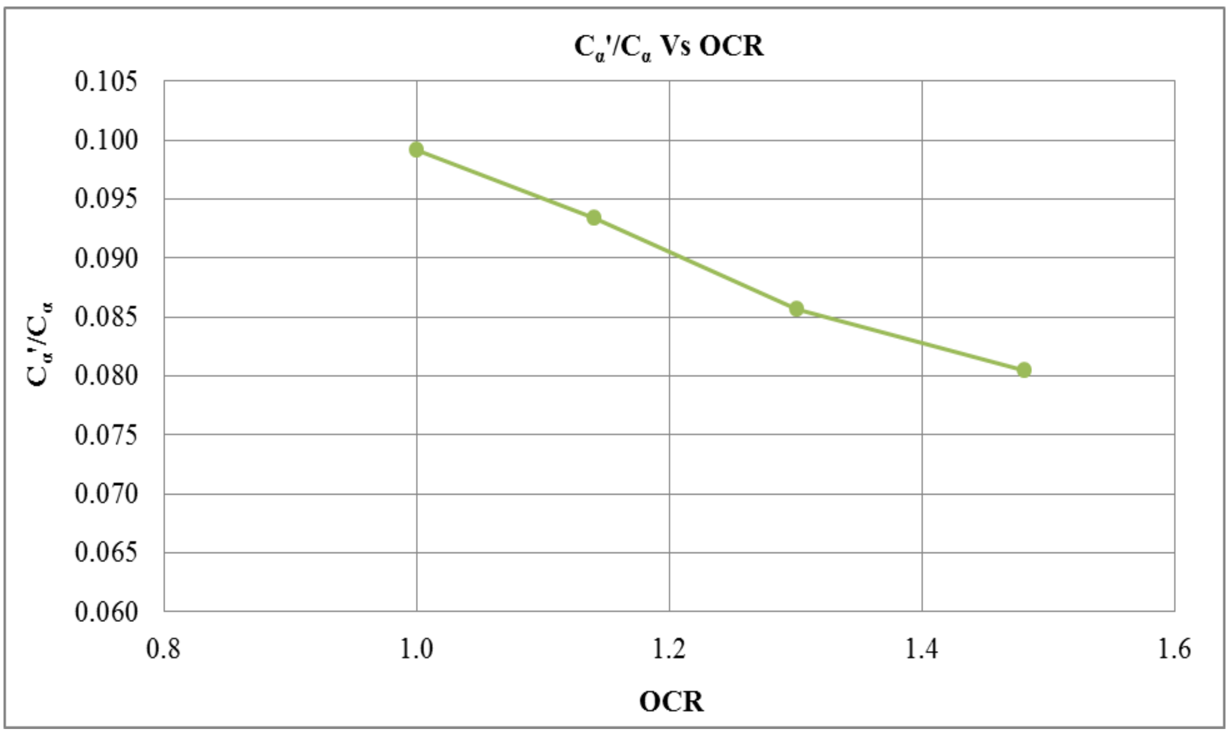


Figure 3.15 – Reduction of C_α with OCR – (NBRO-Test J)

3.4.1 Reduction of Cα with OCR for one day duration tests

The Figure 3.16 shows a reduction of C_α ($C_\alpha^{/}/C_\alpha$) Vs OCR obtained for all test in one day duration.

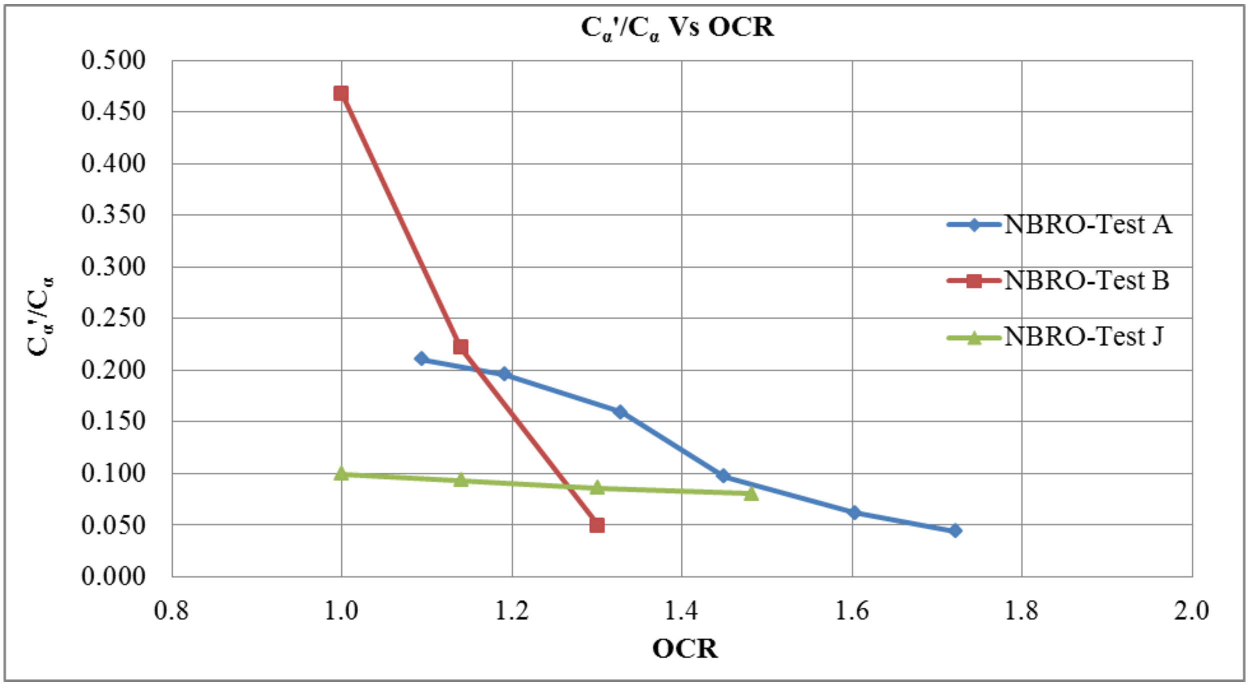


Figure 3.16 – Reduction of C_α with OCR for all one day tests

3.4.2 Conformity with the C_α/C_c Concept

Mesri et al. (1977, 1997) proposed the C_α/C_c concept. The data from the tests were C_α/C_c. In the reloading increments the ratio was computed as assembled to get this information. In loading increments the ratio was computed C_α'/C_r. The results for the three tests discussed are presented from table 3.11 to table 3.13.

NBRO-Test A

Table 3.11 – C_α/C_c and C_α'/C_r values for different loading – (NBRO-Test A)

Load increment	Void ratio	C_α and C_α'	C_c and C_r	C_α/C_c and C_α'/C_r
0	4.0700			
7.5	3.9770	0.021	0.4827	0.04
15	3.8317	0.044	0.4827	0.09
29	3.5646	0.082	0.9329	0.09
54	3.1683	0.096	1.4630	0.07
58	3.1158	0.027	1.4630	0.02
66	3.0455	0.040	1.4630	0.03
70	2.9981	0.026	1.4630	0.02
78	2.9434	0.050	1.4630	0.03
85	2.8835	0.048	1.4630	0.03
93	2.8242	0.056	1.4630	0.04
29	2.8575			
54	2.8416	0.002	0.1418	0.02
58	2.8372	0.002	0.1418	0.01
66	2.8273	0.002	0.1418	0.01
70	2.8195	0.003	0.1418	0.02
78	2.8080	0.004	0.1418	0.03
85	2.7945	0.004	0.1418	0.03
93	2.7804	0.008	0.1418	0.06

NBRO-Test B

Table 3.12 – C_α/C_c and C_α'/C_r values for different loading – (NBRO-Test B)

Load	Void ratio	C_α and C_α'	C_c and C_r	C_α/C_c and C_α'/C_r
0	4.069			
7.5	3.924	0.033	0.5016	0.07
15	3.773	0.041	0.5016	0.08
29	3.511	0.083	1.5560	0.05
58	3.144	0.102	1.5560	0.07
122	2.529	0.105	1.5560	0.07
136	2.451	0.059	1.5560	0.04
156	2.374	0.060	1.5560	0.04
178	2.296	0.061	1.5560	0.04
203	2.215	0.064	1.5560	0.04
122	2.224			
136	2.224			
156	2.204	0.025	0.3546	0.07
178	2.189	0.014	0.3546	0.04
203	2.160	0.030	0.3546	0.08

NBRO-Test J

Table 3.13 – C_α/C_c and C_α'/C_r values for different loading – (NBRO-Test J)

Load	Void Ratio	C_α and C_α'	C_c and C_r	C_α/C_c and C_α'/C_r
0	4.8571			
7.5	4.3110	0.078	0.9833	0.08
15	4.0150	0.080	0.9833	0.08
30	3.6755	0.103	1.2842	0.08
60	3.2652	0.100	1.2842	0.08
120	2.8977	0.072	1.2842	0.06
137	2.8470	0.035	1.2842	0.03
156	2.7560	0.057	1.2842	0.04
178	2.7031	0.055	1.2842	0.04
203	2.6458	0.074	1.2842	0.06
120	2.6344			
137	2.6331	0.003	0.0851	0.03
156	2.6283	0.005	0.0851	0.06
178	2.6208	0.005	0.0851	0.06
203	2.6077	0.007	0.0851	0.09

The ratio C_α/C_c was in the range of the 0.06 as prescribed by Mesri (1997) in the load increments where stress level was doubled. In the increments where ratios of 1.1 to 1.2 were used, the C_α/C_c ratio was much lower.

3.5 Three day tests Conducted

There were nine tests conducted with loading, unloading and reloading increments. The duration of any increments was 3 days. The loading Increment adapted in the tests are outlined in Table 3.14.

Table 3.14 – Loading increments of the tests

Test	Load Increment	Remarks	Initial Moisture Content (%)
NBRO-Test A-1	0-7.5-15-29-54-58-66-70-78-85-93-Loading 93-54-29- Unloading 29-54-58-66-0-78-85-93-101-Reloading	Load increased from 0-7.5-15-29-54 by doubling and from there, load increment ratio of 1.06-1.14 were used.	194.28
NBRO-Test C	0-5-10-20-40-80-Loading 80-20-10- Unloading 10-20-40-80-160- Reloading	Load increased from 0-5-10-20-40-80-160 by doubling with constant load increment ratio of 2 were used.	188.08
NBRO-Test D	0-7.5-29-58-122-136-156-178-203-Loading 203-136-122- Unloading 122-136-156-178-203-231.5-Reloading	Load increased from 0-7.5-15-29-58-122 by doubling and from there, a constant load increment ratio of 1.14 were used.	201.29
NBRO-Test E	0-5.0-10-20-40-80-160-320-Loading 320-80-10- Unloading 10-20-40-80-160-320-640-Reloading	Load increased from 0-5-10-20-40-80-160-320 by doubling with constant load increment ratio of 2 were used.	226.44
UOM-Test A	0-10-20-40-80-88-96.8-106.8-Loading 106.8-96.8-88-80 Unloading 80-88-96.8-106.8- Reloading	Load increased from 0-10-20-40-80 by doubling and from there, a constant load increment ratio of 1.1 were used.	360.16

UOM- Test B	0-10-20-40-80-120-180-270-Loading 270-180-120-80- Unloading 80-120-180-270-Reloading	Load increased from 0-10-20-40-80 by doubling and from there, a constant load increment ratio of 1.5 were used.	360.16
UOM- Test C	0-5-10-20-40-44-48.4-53.24-Loading 53.24-48.4-44-40- Unloading 40-44-48.4-53.24-Reloading	Load increased from 0-10-20-40 by doubling and from there, a constant load increment ratio of 1.1 were used.	360.16
UOM- Test D	0-5-10-20-40-60-90-135-Loading 135-90-60-40- Unloading 40-60-90-Reloading	Load increased from 0-5-10-20-40 by doubling and from there, a constant load increment ratio of 1.5 were used.	360.16
UOM- Test 02	0-7-13-27-52-104-Loading 104-52-27- Unloading 27-52-71-78.1-85.9-94.5-104-208-Reloading	Load increased from 0-7-13-27-52-104 by doubling. Then in reloading increment such ratio was varying from 1.10 to 1.92.	375.12

NBRO-Test A-1

The e Vs log σ values from NBRO-Test A-1 are presented in Table 3.15. The data are graphically presented in Figure 3.17.

Table 3.15 – Load Vs void ratio – (NBRO-Test A-1)

Load (kN/m^2)	Void Ratio	
0	4.0700	
7.5	3.8012	
15	3.6046	
29	3.2744	
54	2.9312	
58	2.8870	Loading
66	2.8293	
70	2.7814	
78	2.7284	
85	2.6702	
93	2.6234	
29	2.6587	
54	2.6452	
58	2.6405	
66	2.6353	Reloading
70	2.6291	
78	2.6184	
85	2.6044	
93	2.5911	
101	2.5685	

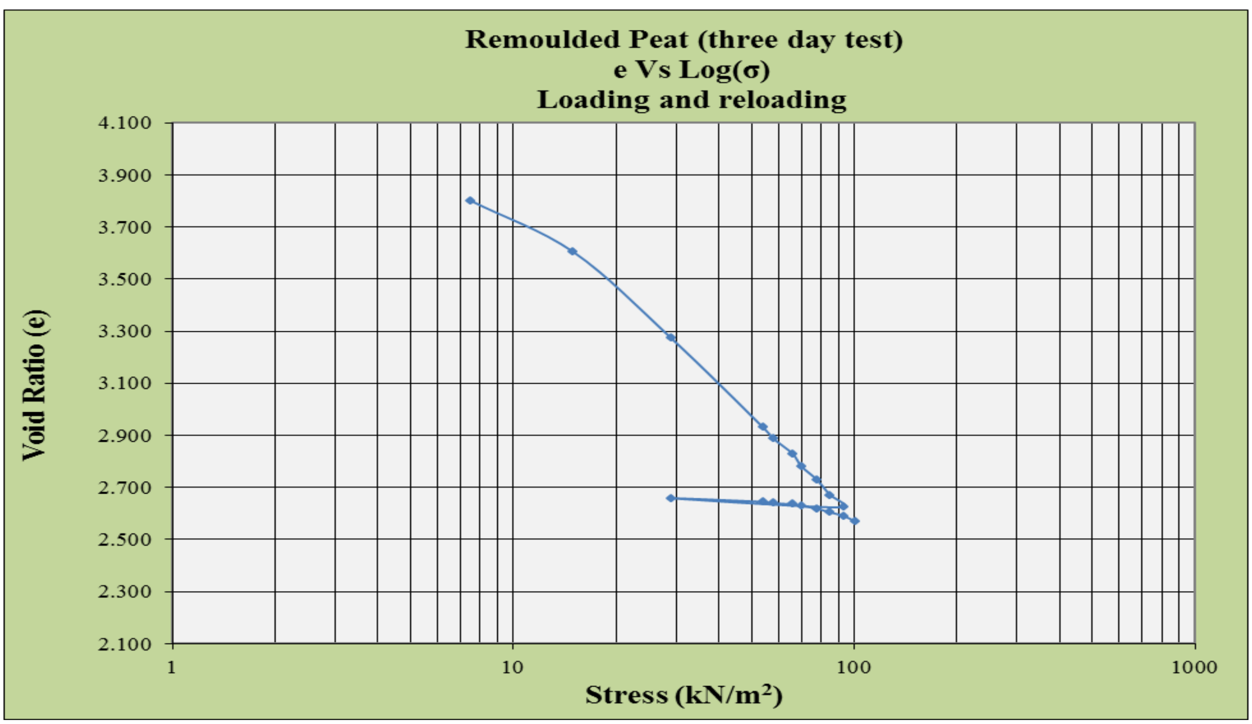


Figure 3.17 – Load Vs void ratio (e) – (NBRO-Test A-1)

The e Vs log (time) graphs were plotted for each loading and reloading increments. These plots are presented in Annex 2. Two typical graphs corresponding to loading to reloading increments are presented in Figure 3.18 and 3.19.

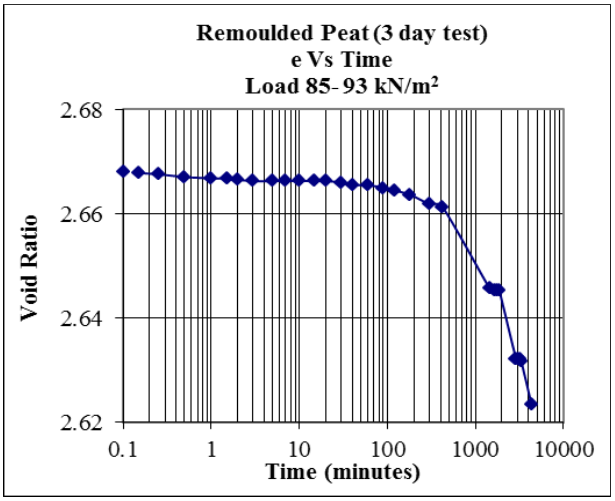


Figure 3.18 – Void ratio Vs log (time) – Loading Increment – (NBRO-Test A-1)

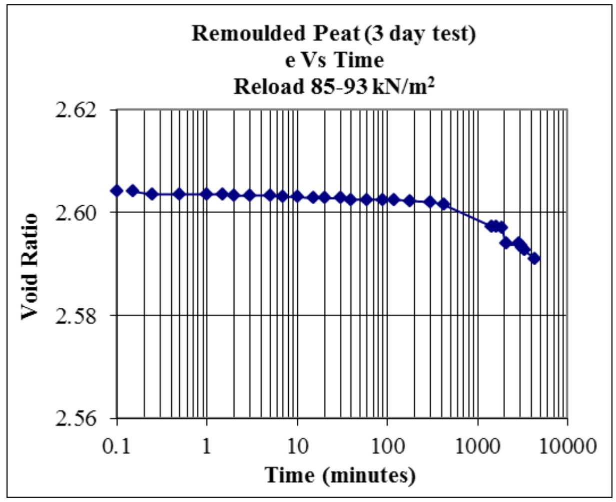


Figure 3.19 – Void ratio Vs log (time) – Reloading Increment – (NBRO-Test A-1)

The reduction of C_α in reloading increments seen in one day long increments were observed here as well. The gradient of the e Vs log (time) graph started to increase at a time of 100min in loading increments. But in reloading increment this happened much later around 400min.

The variation of C_α in loading and reloading increments are presented in Table 3.16. The data are graphically presented in Figure 3.20. The C_α values in loading increment showed an increasing trend over the load increments where the stress level was doubled. However, here it is observed that the C_α was reduced at Stress level 58kN/m^2 where the stress level was doubled. Once load increment ratio is reduced (i.e. to 1.07), C_α is reduced further and then, it was increased, and then remain generally constant with the increase of stress levels.

Table 3.16 – Variation of C_α loading and reloading increment – (NBRO-Test A-1)

Load (kN/m^2)	C_α	
7.5	0.084	Loading
15	0.095	
29	0.117	
54	0.102	
58	0.064	
66	0.082	
70	0.086	
78	0.084	
85	0.085	
93	0.071	
54	0.007	Reloading
58	0.007	
66	0.007	
70	0.006	
78	0.009	
85	0.011	
93	0.013	

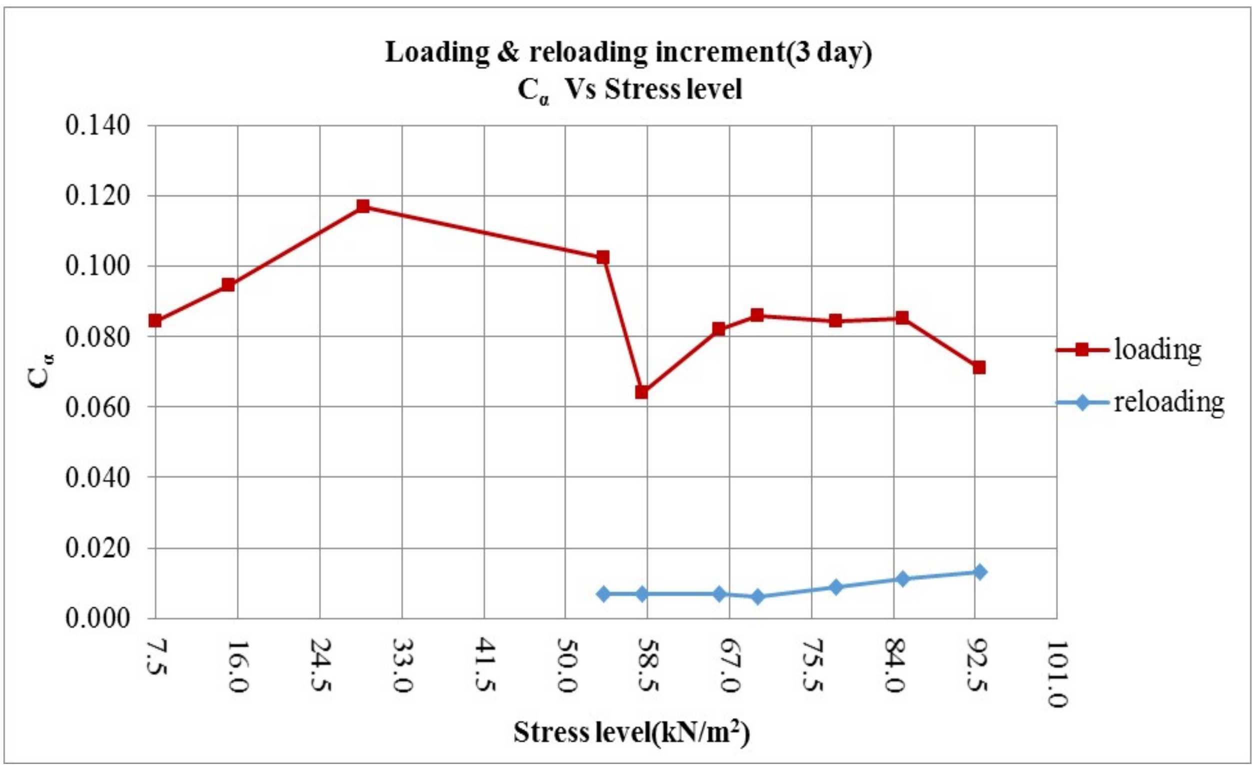


Figure 3.20 – Variation of C_α with stress level in loading and reloading increment – (NBRO-Test A-1)

The secondary consolidation coefficient in reloading increments are denoted $C_\alpha^{/}$. The secondary consolidation coefficient of reloading increment were much lower than these of loading increment. Here, the $C_\alpha^{/}$ values were gradually increased with stress level. For each reloading increment an OCR value can be computed. For similar loading and reloading increment (for ex. 70kN/m^2), the C_α and $C_\alpha^{/}$ values can be computed. Hence, the ratio $C_\alpha^{/}/C_\alpha$ can be computed against each OCR. The $C_\alpha^{/}/C_\alpha$ variation with OCR presented in Table 3.17 and Figure 3.21.

Table 3.17 – OCR Vs $C_\alpha^{/}/C_\alpha$ – (NBRO-Test A-1)

Load (kN/m^2)	OCR	$C_\alpha^{/}$	C_α	$C_\alpha^{/}/C_\alpha$
70	1.33	0.006	0.086	0.069
78	1.19	0.009	0.084	0.105
85	1.09	0.011	0.085	0.129
93	1	0.013	0.071	0.183

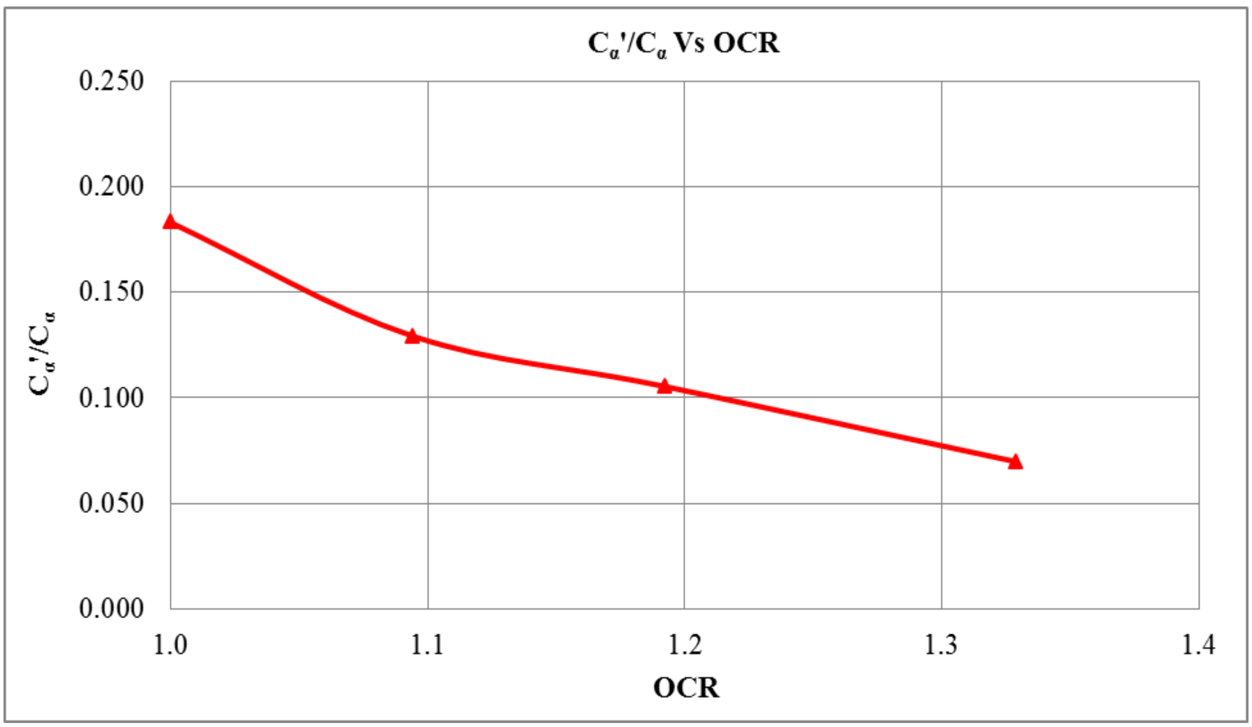


Figure 3.21 – Reduction of C_α with OCR – (NBRO-Test A-1)

<u>NBRO-Test C</u>

The e Vs log σ values from NBRO-Test C are presented in Table 3.18. The data are graphically presented in Figure 3.22.

Table 3.18 – Load Vs void ratio – (NBRO-Test C)

Load (kN/m^2)	Void Ratio	
0	4.0700	Loading
5	3.8903	
10	3.7832	
20	3.6024	
40	3.2199	
80	2.8520	
10	2.9022	Reloading
20	2.8929	
40	2.8682	
80	2.7833	
160	2.3745	

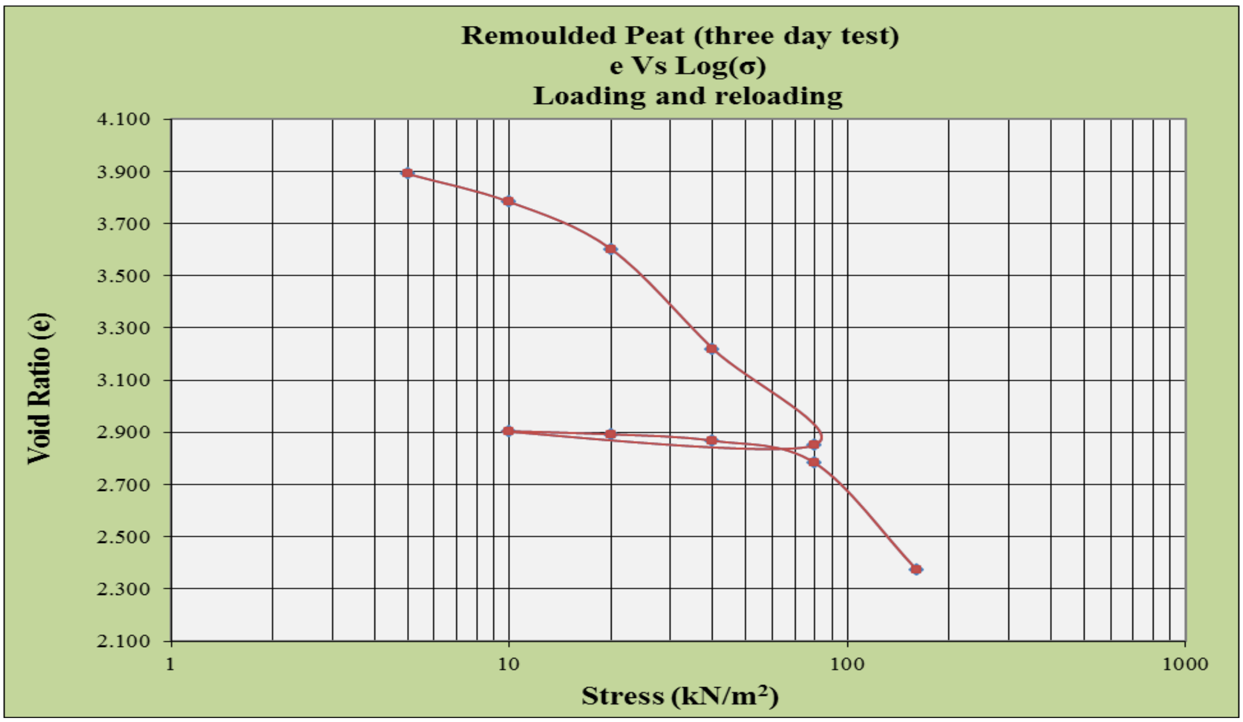


Figure 3.22 – Load Vs void ratio (e) – (NBRO-Test C)

The e Vs log (time) graphs were plotted for each loading and reloading increments. These plots are presented in Annex 2. Two typical graphs corresponding to loading to reloading increments are presented in Figure 3.23 and 3.24.

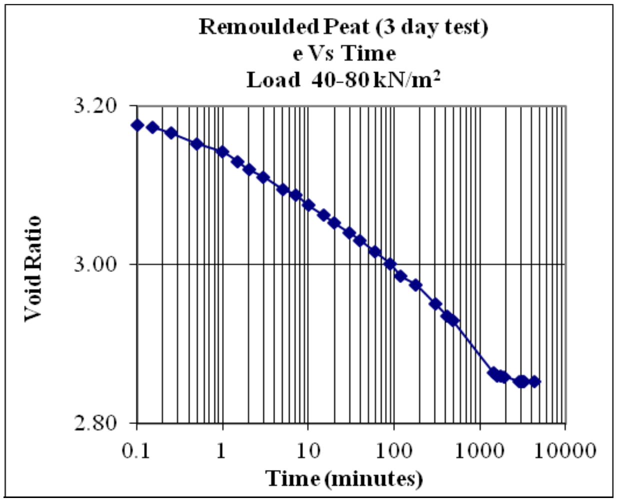


Figure 3.23 – Void ratio Vs log (time) – Loading Increment – (NBRO-Test C)

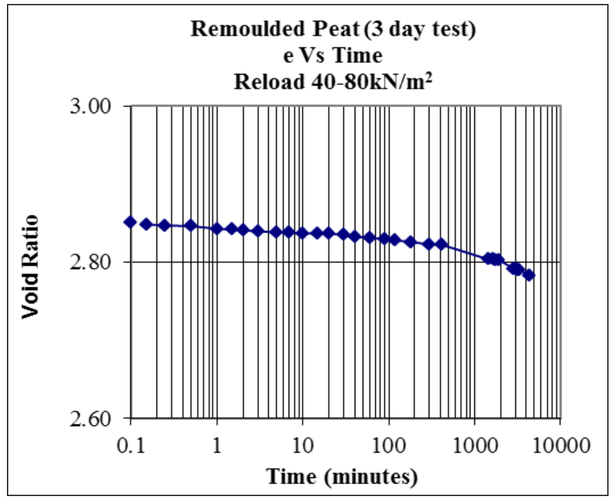


Figure 3.24 – Void ratio Vs log (time) – Reloading Increment – (NBRO-Test C)

The variation of C_α in loading and reloading increments are presented in Table 3.19. The data are graphically presented in Figure 3.25. The C_α values in loading increment showed an increasing trend over the load increments where the stress level was doubled.

Table 3.19 – Variation of C_α loading and reloading increment – (NBRO-Test C)

Load (kN/m^2)	C_α	
5	0.048	
10	0.059	
20	0.096	Loading
40	0.135	
80	0.138	
20	0.004	
40	0.010	Reloading
80	0.049	
160	0.220	

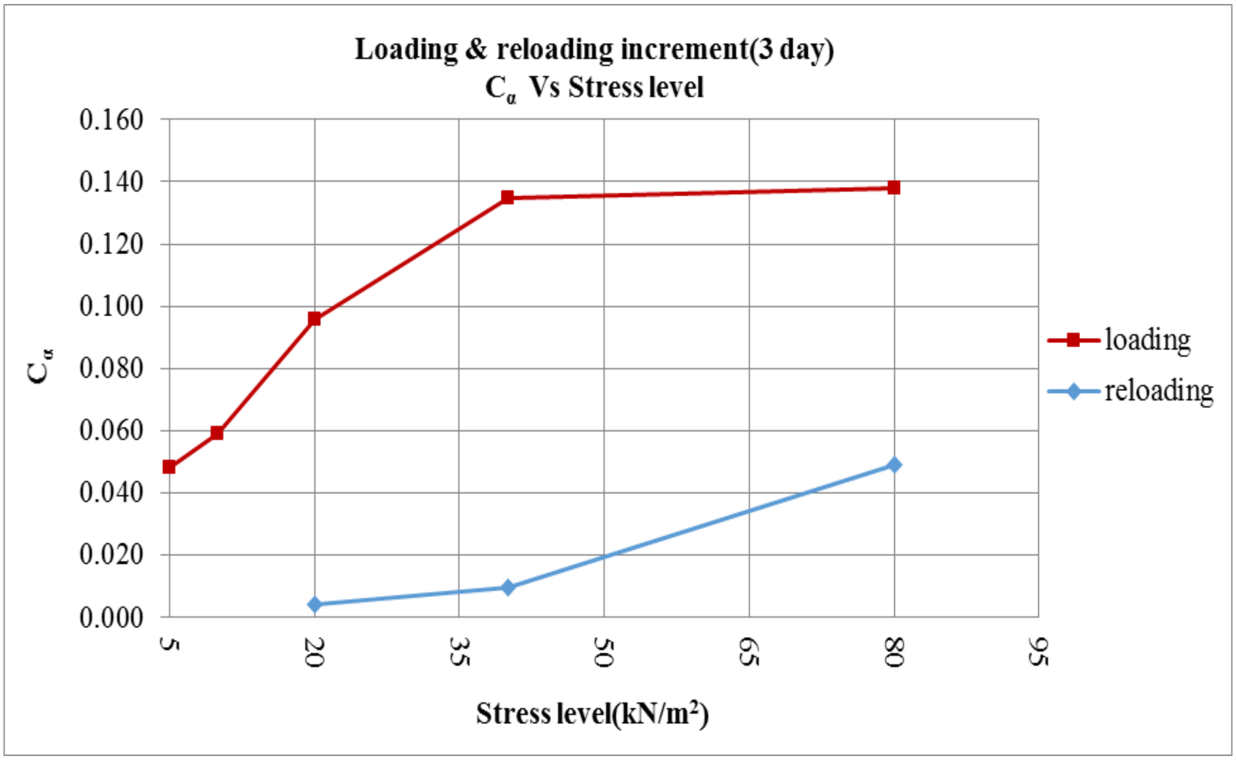


Figure 3.25 – Variation of C_α with stress level in loading and reloading increment – (NBRO-Test C)

The secondary consolidation coefficient in reloading increments are denoted C_α'. The secondary consolidation coefficient of reloading increment were much lower than these of loading increment where the OCR exist greater than one. Here, the C_α' values were gradually increased with stress level. For each reloading increment an OCR value can be computed. For similar loading and reloading increment (for ex. 20kN/m^2), the C_α and C_α' values can be computed. Hence, the ratio C_α'/C_α can be computed against each OCR. The C_α'/C_α variation with OCR presented in Table 3.20 and Figure 3.26.

Table 3.20 – OCR Vs C_α'/C_α – (NBRO-Test C)

Load (kN/m^2)	OCR	C_α'	C_α	C_α'/C_α
20	4	0.004	0.096	0.042
40	2	0.010	0.135	0.071
80	1	0.049	0.138	0.355

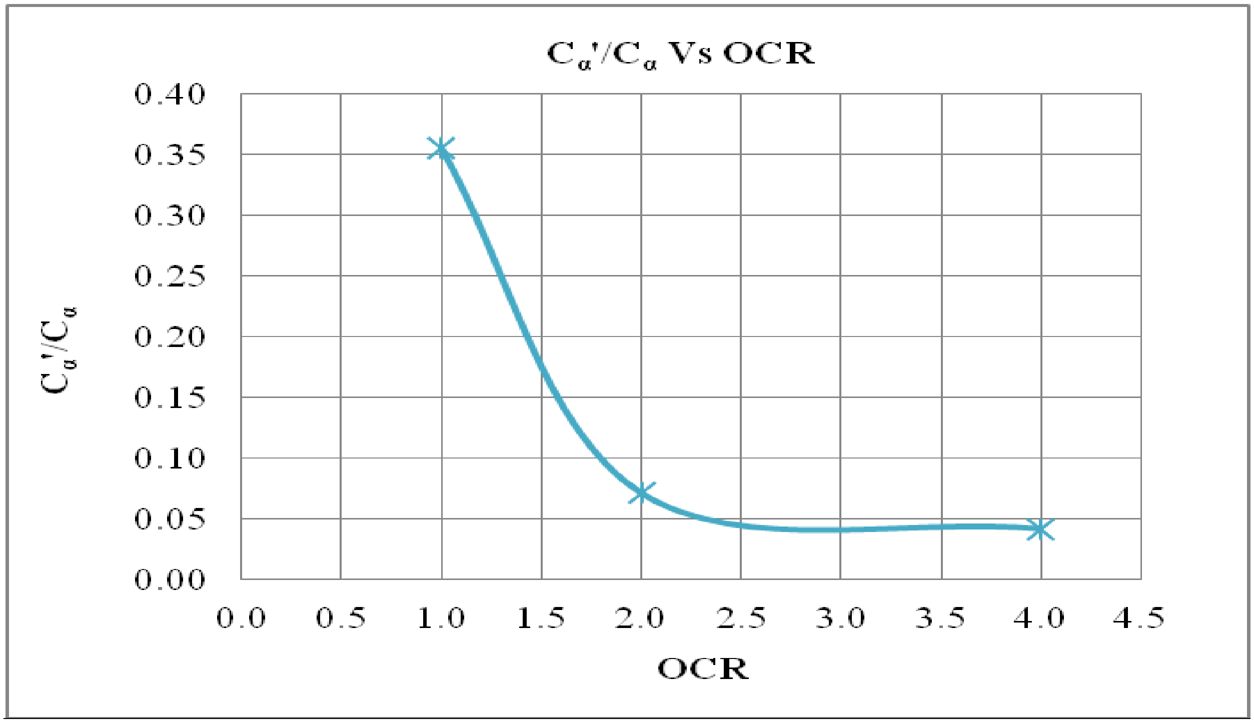


Figure 3.26 – Reduction of C_α with OCR – (NBRO-Test C)

NBRO-Test D

The e Vs log σ values from NBRO Test D are presented in Table 3.21.The data are graphically presented in Figure 3.27.

Table 3.21 – Load Vs void ratio – (NBRO-Test D)

Load (kN/m^2)	Void Ratio	
0	4.0700	
7.5	3.8916	
15	3.6290	
29	3.2125	
58	2.7357	
122	2.2505	Loading
136	2.1829	
156	2.1117	
178	2.0160	
203	1.9385	
120	1.9494	
137	1.9453	
156	1.9380	Reloading
178	1.9245	
203	1.9042	
231.5	1.8683	

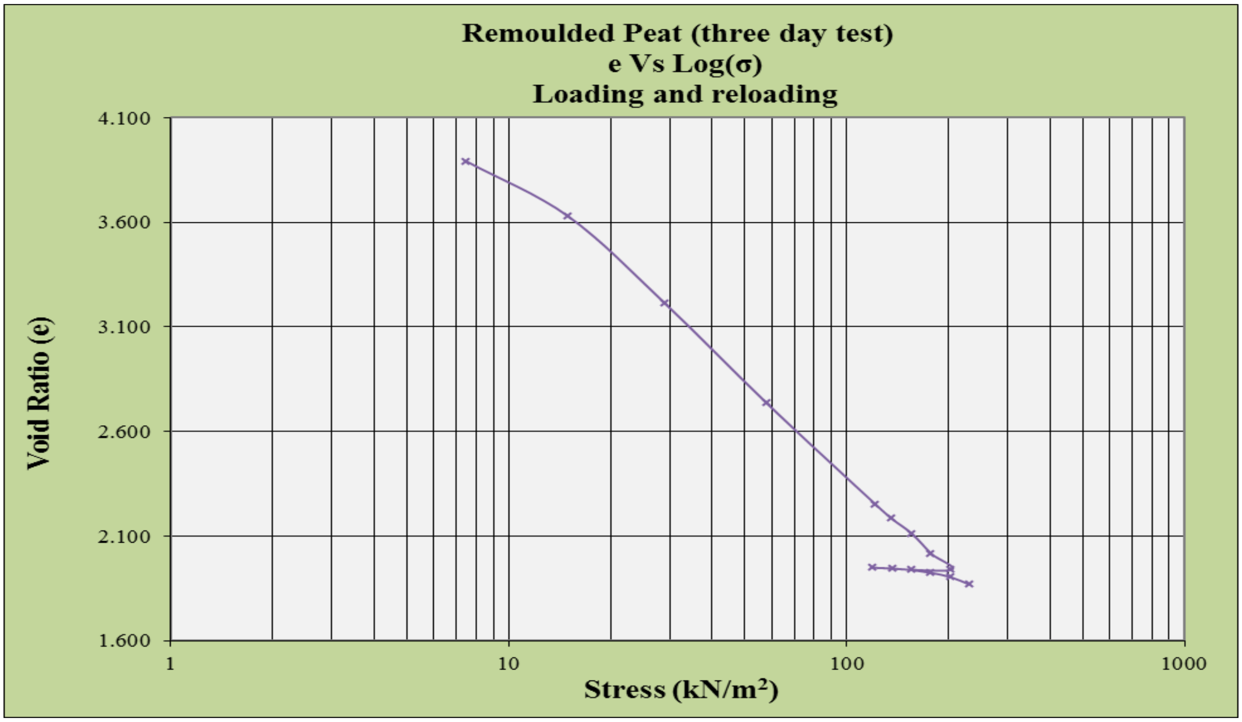


Figure 3.27 – Load Vs void ratio (e) – (NBRO-Test D)

The e Vs log (time) graphs were plotted for each loading and reloading increments. These plots are presented in Annex 2. Two typical graphs corresponding to loading to reloading increments are presented in Figure 3.28 and 3.29.

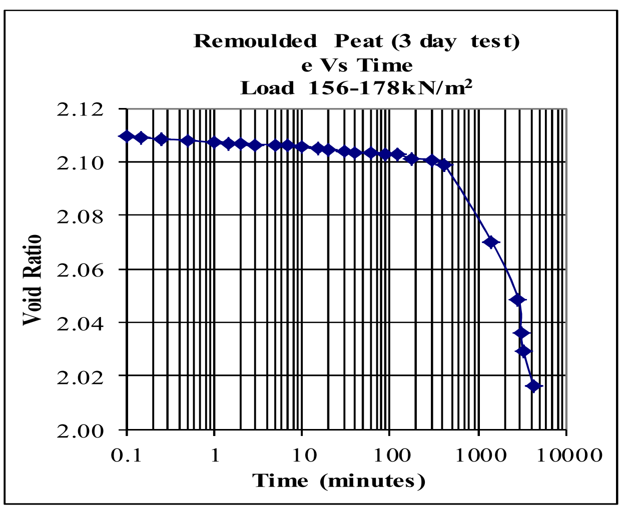


Figure 3.28 – Void ratio Vs log (time) – Loading Increment – (NBRO-Test D)

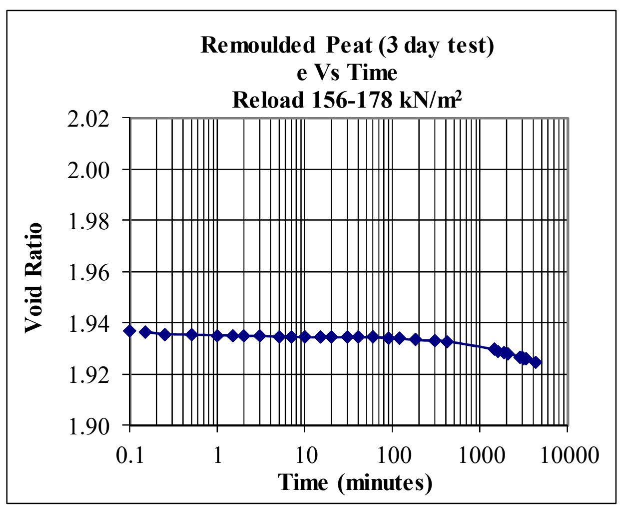


Figure 3.29 – Void ratio Vs log (time) – Reloading Increment – (NBRO-Test D)

The variation of C_α in loading and reloading increments are presented in Table 3.22. The data are graphically presented in Figure 3.30. The C_α values in loading increment showed an increasing trend over the load increments where the stress level was doubled. Once load increment ratio is reduced (i.e. to 1.11), C_α is reduced and then, generally, it was increased slightly with the increase of stress levels.

Table 3.22 – Variation of C_α loading and reloading increment – (NBRO-Test D)

Load (kN/m^2)	C_α	
7.5	0.058	Loading
15	0.110	
29	0.124	
58	0.138	
122	0.156	
136	0.080	
156	0.078	
178	0.111	
203	0.109	
136	0.003	Reloading
156	0.007	
178	0.016	
203	0.027	

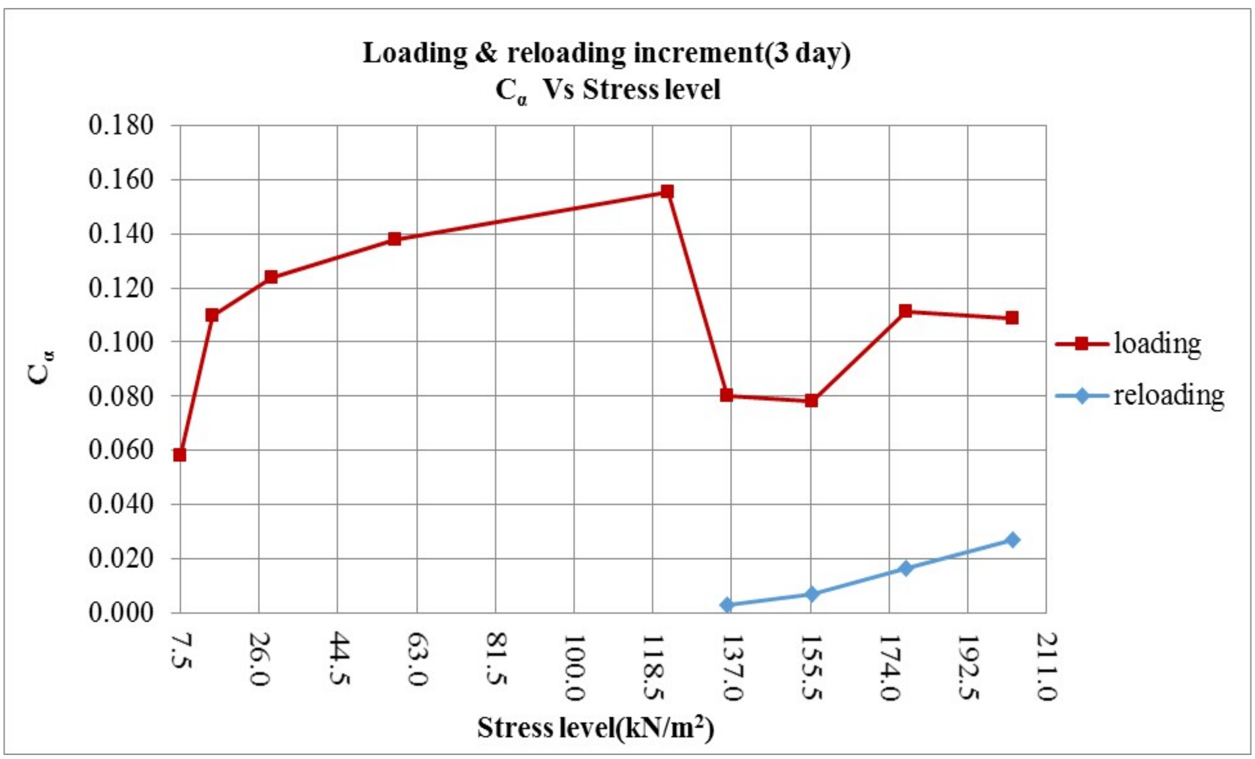


Figure 3.30 – Variation of C_α with stress level in loading and reloading increment – (NBRO-Test D)

The secondary consolidation coefficient in reloading increments are denoted $C_\alpha^{/}$. The secondary consolidation coefficient of reloading increment were much lower than these of loading increment. Here, the $C_\alpha^{/}$ values were gradually increased with stress level. For each reloading increment an OCR value can be computed. For similar loading and reloading increment (for ex. 136kN/m^2), the C_α and $C_\alpha^{/}$ values can be computed. Hence, the ratio $C_\alpha^{/}/C_\alpha$ can be computed against each OCR. The $C_\alpha/ /C_\alpha$ variation with OCR presented in Table 3.23 and Figure 3.31.

Table 3.23 – OCR Vs $C_\alpha^{/}/C_\alpha$ – (NBRO-Test D)

Load (kN/m^2)	OCR	$C_\alpha^{/}$	C_α	$C_\alpha^{/}/C_\alpha$
136	1.49	0.003	0.080	0.034
156	1.30	0.007	0.078	0.086
178	1.14	0.016	0.111	0.146
203	1	0.027	0.109	0.245

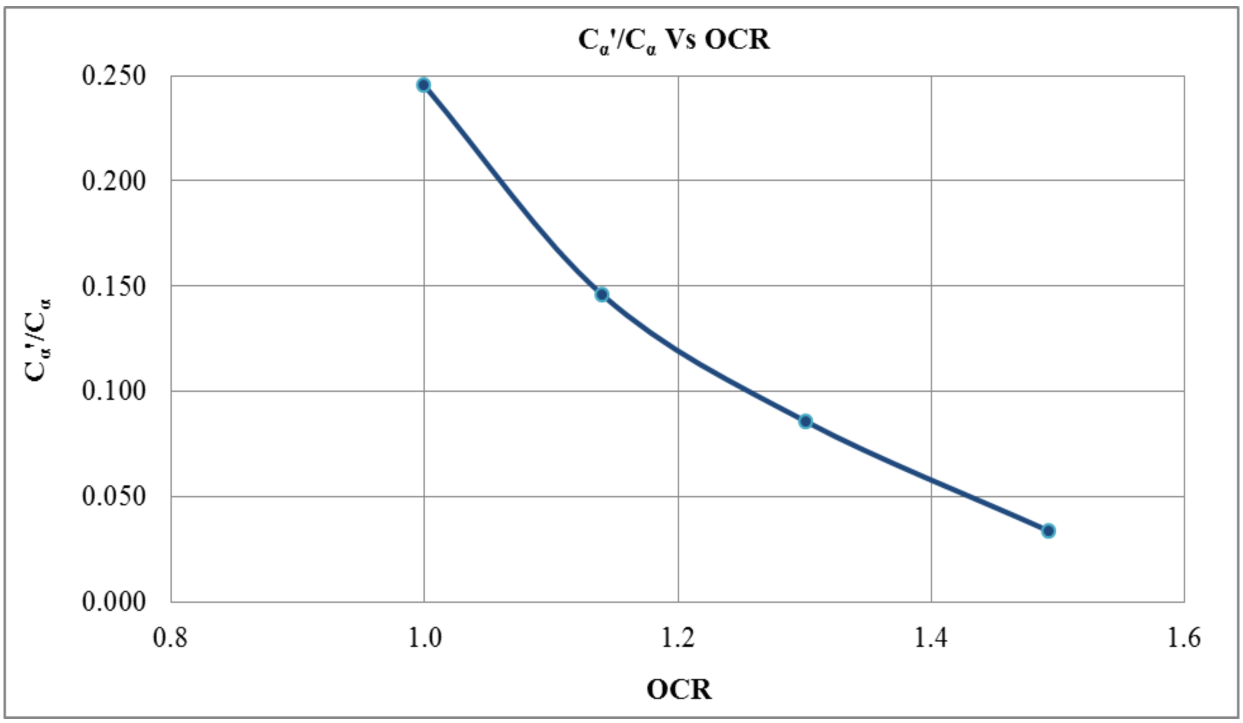


Figure 3.31 – Reduction of C_α with OCR – (NBRO-Test D)

NBRO-Test E

The e Vs log σ values from NBRO-Test E are presented in Table 3.24. The data are graphically presented in Figure 3.32.

Table 3.24 – Load Vs void ratio – (NBRO-Test E)

Load (kN/m^2)	Void Ratio	
0	4.8571	
5	4.5423	
10	4.3273	
20	3.9698	
40	3.4478	Loading
80	3.0309	
160	2.5065	
320	2.0199	
10	2.1382	
20	2.1373	
40	2.1280	Reloading
80	2.1070	
160	2.0652	
320	1.9598	
640	1.6913	

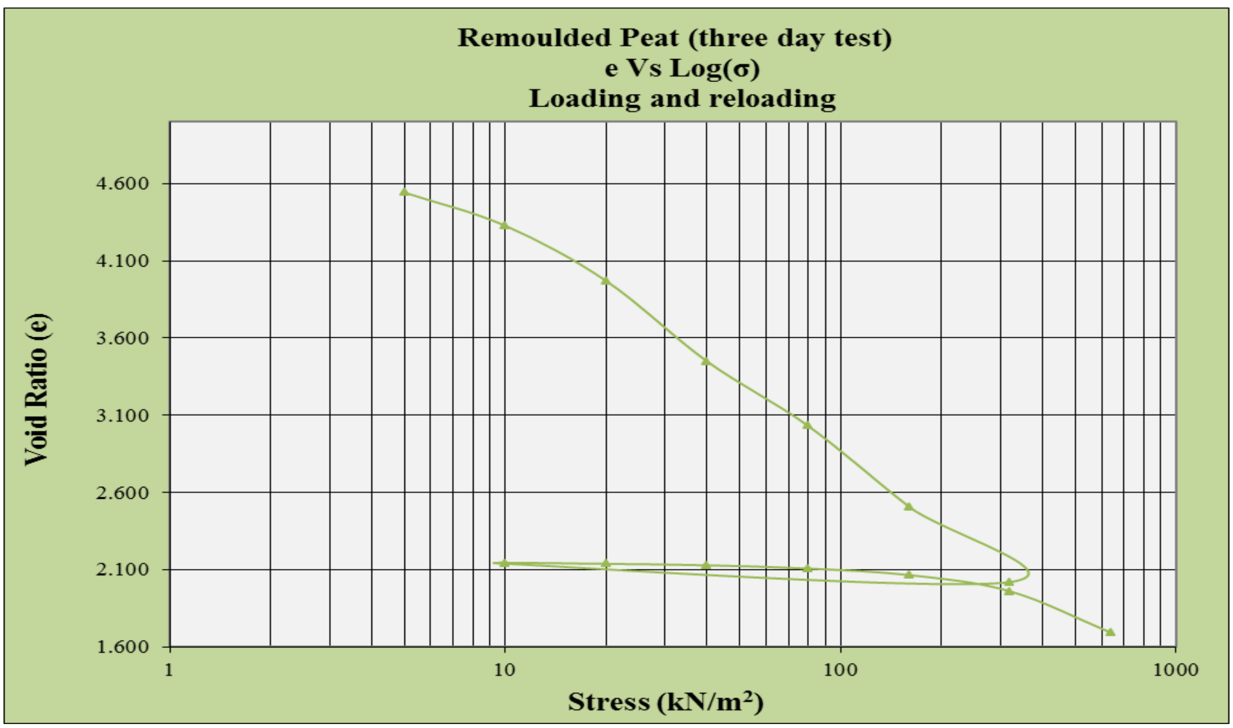


Figure 3.32 – Load Vs void ratio (e) – (NBRO-Test E)

The e Vs log (time) graphs were plotted for each loading and reloading increments. These plots are presented in Annex 2. Two typical graphs corresponding to loading to reloading increments are presented in Figure 3.33 and 3.34.

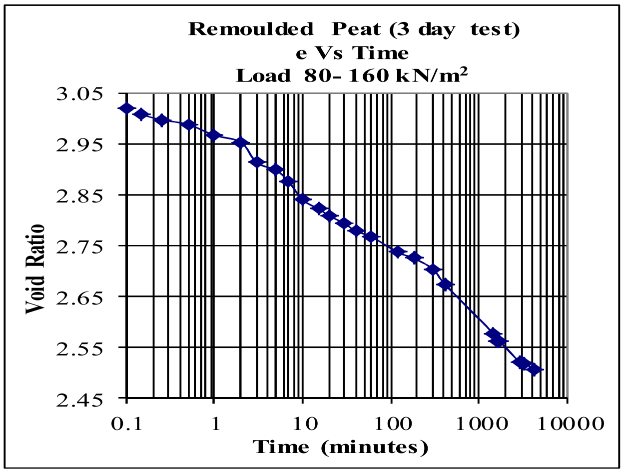


Figure 3.33 – Void ratio Vs log (time) – Loading Increment – (NBRO-Test E)

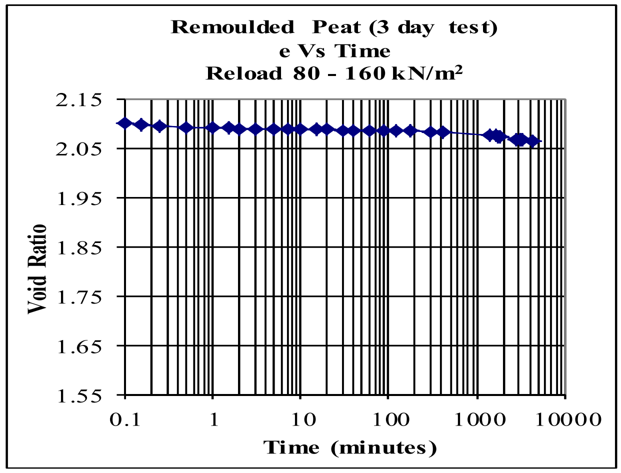


Figure 3.34 – Void ratio Vs log (time) – Reloading Increment – (NBRO-Test E)

The variation of C_α in loading and reloading increments are presented in Table 3.25. The data are graphically presented in Figure 3.35. The C_α values in loading increment showed an increasing trend over the load increments in this test the stress level was doubled in all increments.

Table 3.25 – Variation of C_α loading and reloading increment – (NBRO-Test E)

Load (kN/m²)	C_α	
5	0.038	Loading
10	0.100	
20	0.115	
40	0.173	
80	0.176	
160	0.188	
320	0.164	
40	0.003	Reloading
80	0.010	
160	0.023	
320	0.037	
640	0.075	

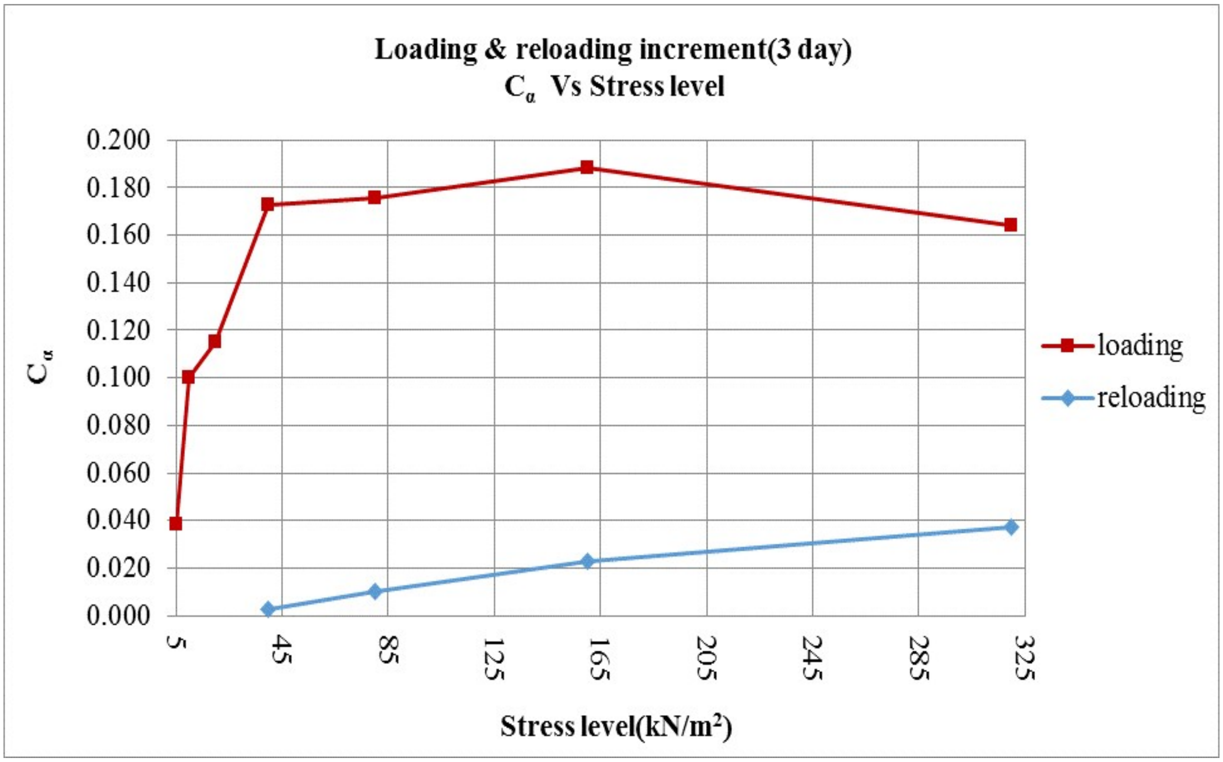


Figure 3.35 – Variation of C_α with stress level in loading and reloading increment – (NBRO-Test E)

The secondary consolidation coefficient in reloading increments are denoted $C_\alpha^{/}$. The secondary consolidation coefficient of reloading increment were much lower than these of loading increment. Here, the $C_\alpha^{/}$ values were gradually increased with stress level. For each reloading increment an OCR value can be computed. For similar loading and reloading increment (for ex. 40kN/m^2), the C_α and $C_\alpha^{/}$ values can be computed. Hence, the ratio $C_\alpha^{/}/C_\alpha$ can be computed against each OCR. The C_α//C_α variation with OCR presented in Table 3.26 and Figure 3.36.

Table 3.26 – OCR Vs $C_\alpha^{/}/C_\alpha$ – (NBRO-Test E)

Load (kN/m^2)	OCR	$C_\alpha^{/}$	C_α	$C_\alpha^{/}/C_\alpha$
40	8	0.003	0.173	0.015
80	4	0.010	0.176	0.089
160	2	0.023	0.188	0.123
320	1	0.037	0.164	0.228

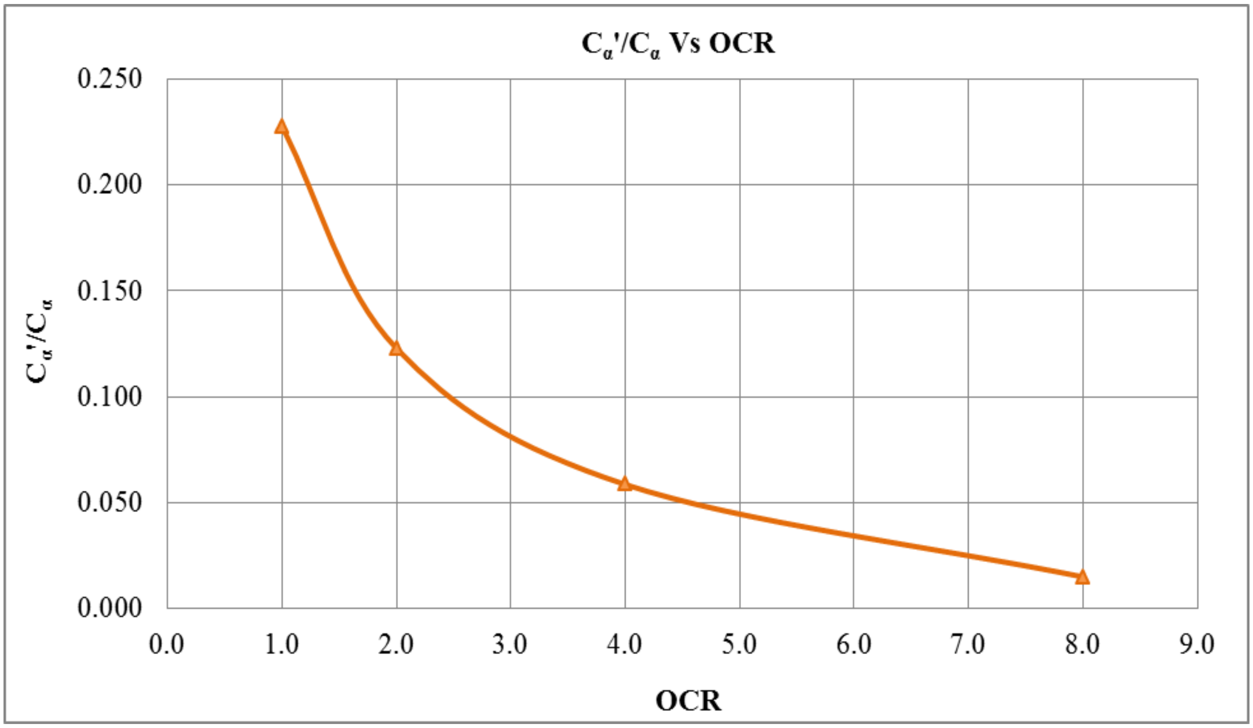


Figure 3.36 – Reduction of C_α with OCR – (NBRO-Test E)

UOM-Test A

The e Vs log σ values from UOM-Test A are presented in Table 3.27. The data are graphically presented in Figure 3.37.

Table 3.27 – Load Vs void ratio – (UOM-Test A)

Load (kN/m^2)	Void Ratio	
10	5.0193	Loading
20	4.5527	
40	3.9260	
80	3.3640	
88	3.2643	
96.8	3.2190	
106.8	3.1372	
96.8	3.1379	
88	3.1379	
80	3.1393	Reloading
88	3.1262	
96.8	3.1090	
106.8	3.0857	

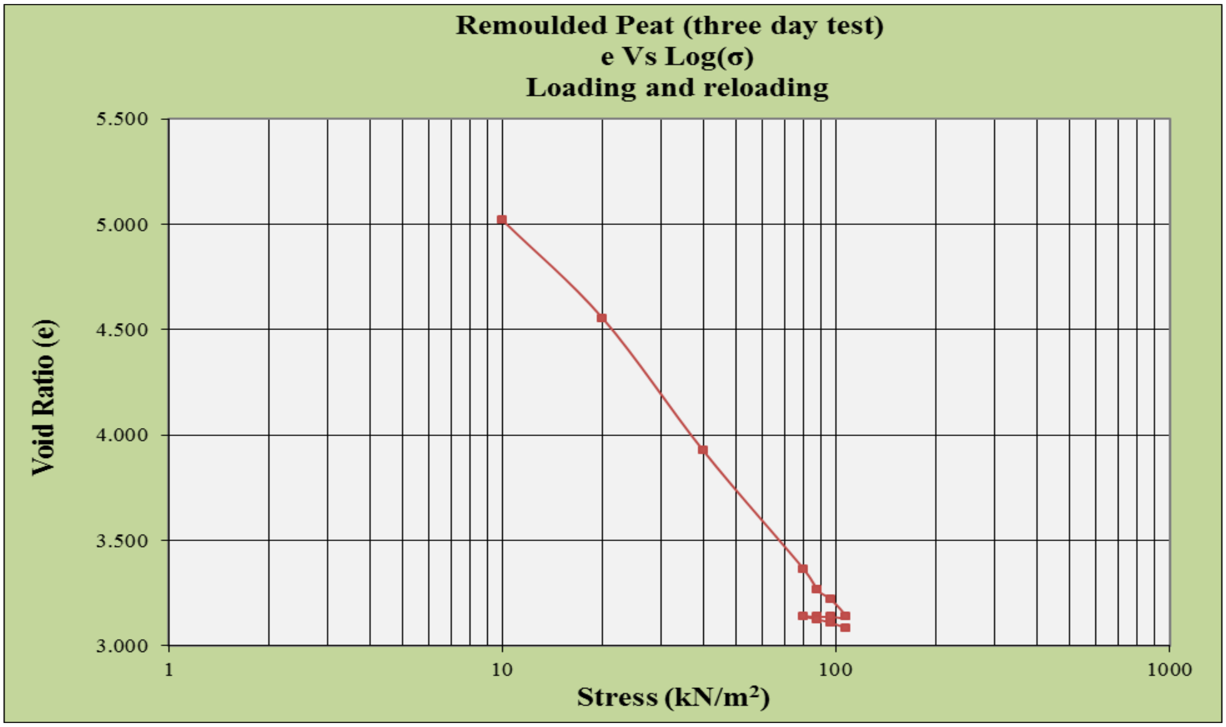


Figure 3.37 – Load Vs void ratio (e) – (UOM-Test A)

The e Vs log (time) graphs were plotted for each loading and reloading increments. These plots are presented in Annex 2. Two typical graphs corresponding to loading to reloading increments are presented in Figure 3.38 and 3.39.

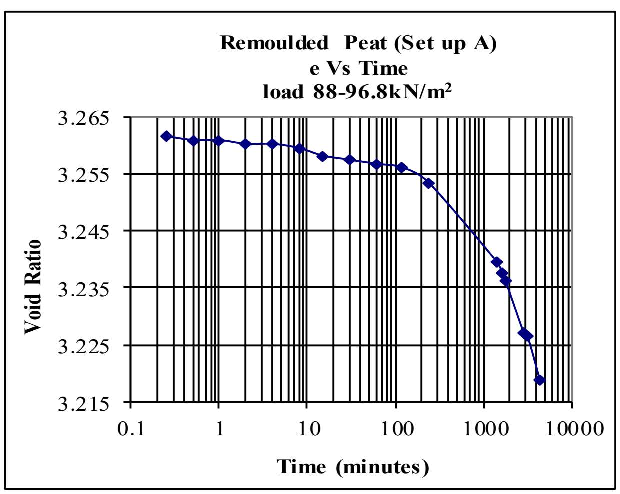


Figure 3.38 – Void ratio Vs log (time) – Loading Increment – (UOM-Test A)

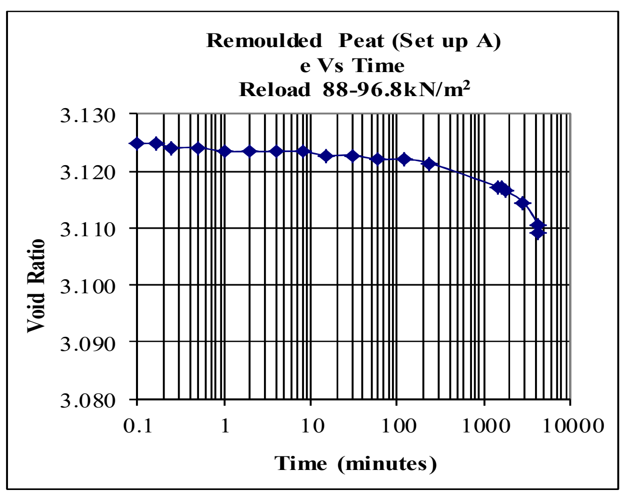


Figure 3.39 – Void ratio Vs log (time) – Reloading Increment – (UOM-Test A)

The variation of C_α in loading and reloading increments are presented in Table 3.28. The data are graphically presented in Figure 3.40. The C_α values in loading increment showed an increasing trend over the load increments where the stress level was doubled. Once, the load increment ratio is reduced (i.e. to 1.1), C_α is reduced and then, it was increased.

Table 3.28 – Variation of C_α loading and reloading increment – (UOM-Test A)

Load (kN/m^2)	C_α	
10	0.011	Loading
20	0.071	
40	0.077	
80	0.105	
88	0.101	
96.8	0.044	
106.8	0.087	
88	0.010	Reloading
96.8	0.024	
106.8	0.059	

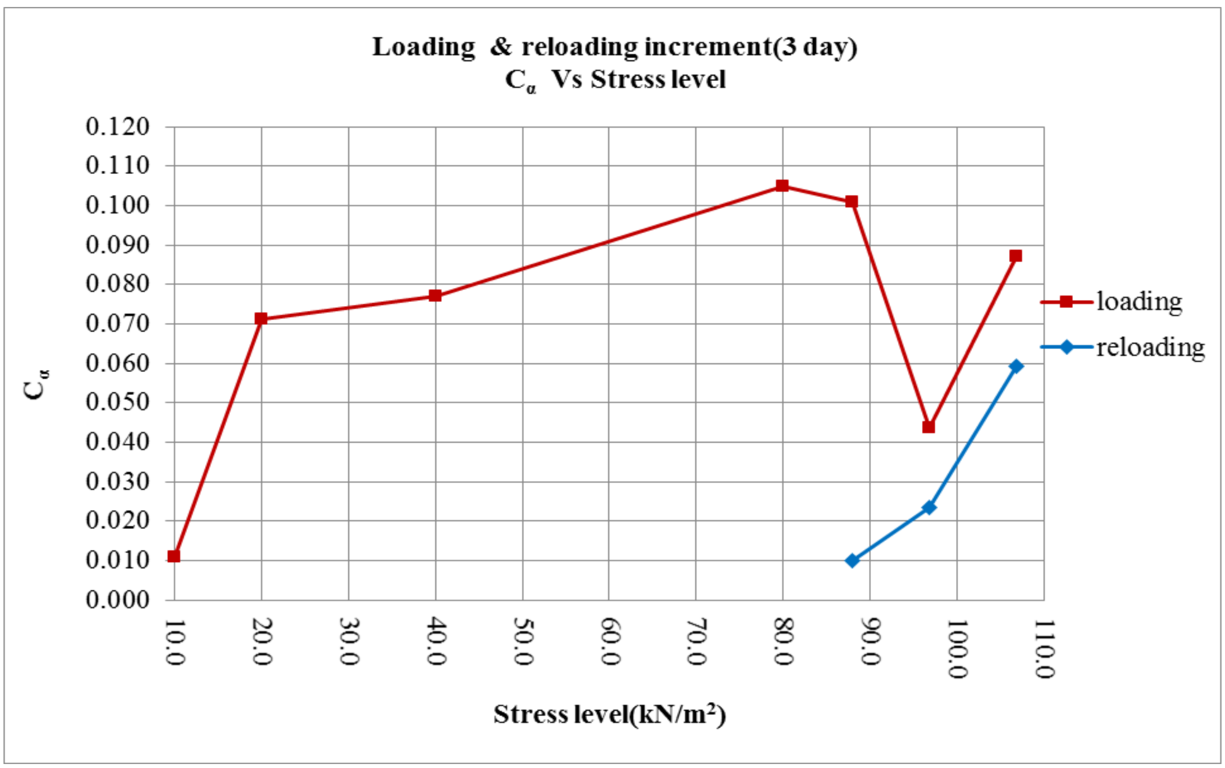


Figure 3.40 – Variation of C_α with stress level in loading and reloading increment – (UOM-Test A)

The secondary consolidation coefficient in reloading increments are denoted $C_\alpha{}^{/}$. The secondary consolidation coefficient of reloading increment were lower than these of loading increment. Here, the $C_\alpha{}^{/}$ values were gradually increased with stress level. For each reloading increment an OCR value can be computed. For similar loading and reloading increment (for ex. 88kN/m^2), the C_α and $C_\alpha{}^{/}$ values can be computed. Hence, the ratio $C_\alpha{}^{/}/C_\alpha$ can be computed against each OCR. The $C\alpha/ /C\alpha$ variation with OCR presented in Table 3.29 and Figure 3.41.

Table 3.29 – OCR Vs $C_\alpha{}^{/}/C_\alpha$ – (UOM-Test A)

Load (kN/m^2)	OCR	$C_\alpha{}^{/}$	C_α	$C_\alpha{}^{/}/C_\alpha$
88	1.21	0.010	0.101	0.099
96.8	1.10	0.024	0.044	0.540
106.8	1	0.059	0.087	0.680

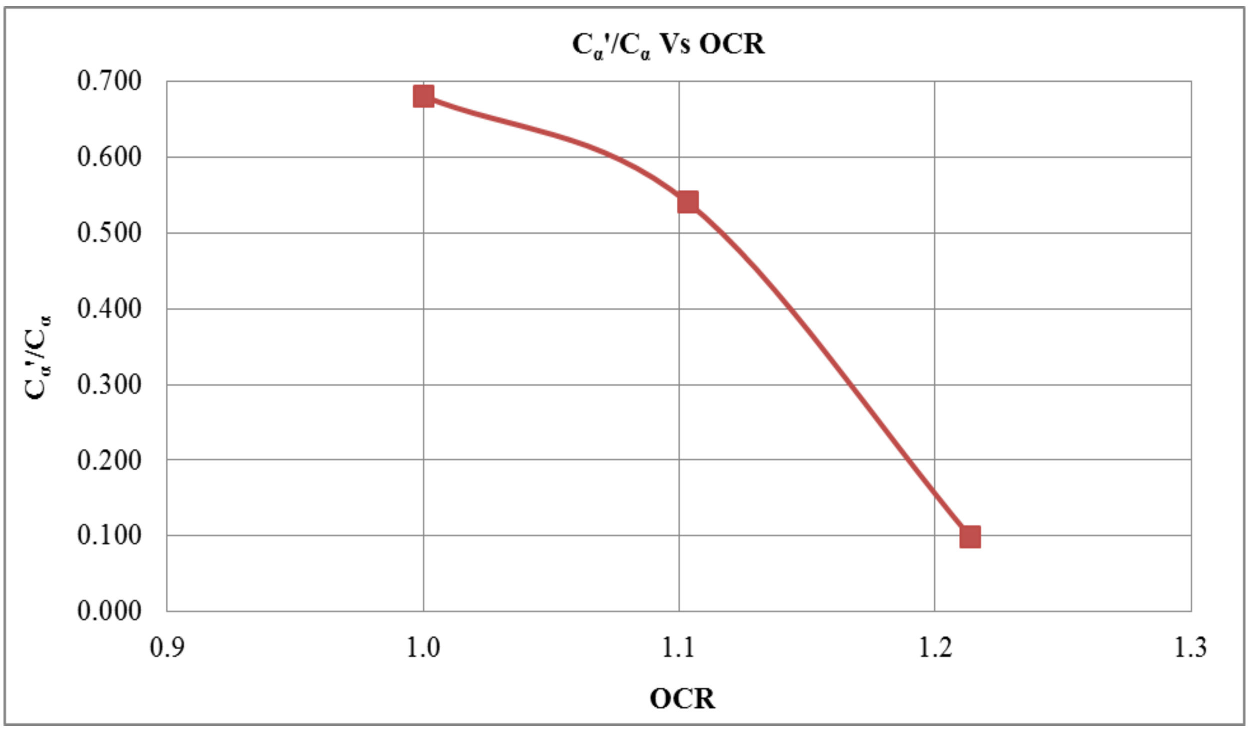


Figure 3.41 – Reduction of C_α with OCR – (UOM-Test A)

<u>UOM-Test B</u>

The e Vs log σ values from UOM-Test B are presented in Table 3.30. The data are graphically presented in Figure 3.42.

Table 3.30 – Load Vs void ratio – (UOM-Test B)

Load (kN/m²)	Void Ratio	
10	4.9389	
20	4.5060	
40	3.8463	
80	3.2849	Loading
120	2.9029	
180	2.5463	
270	2.1450	
180	2.1574	
120	2.1725	
80	2.1883	
120	2.1800	Reloading
180	2.1656	
270	2.1161	

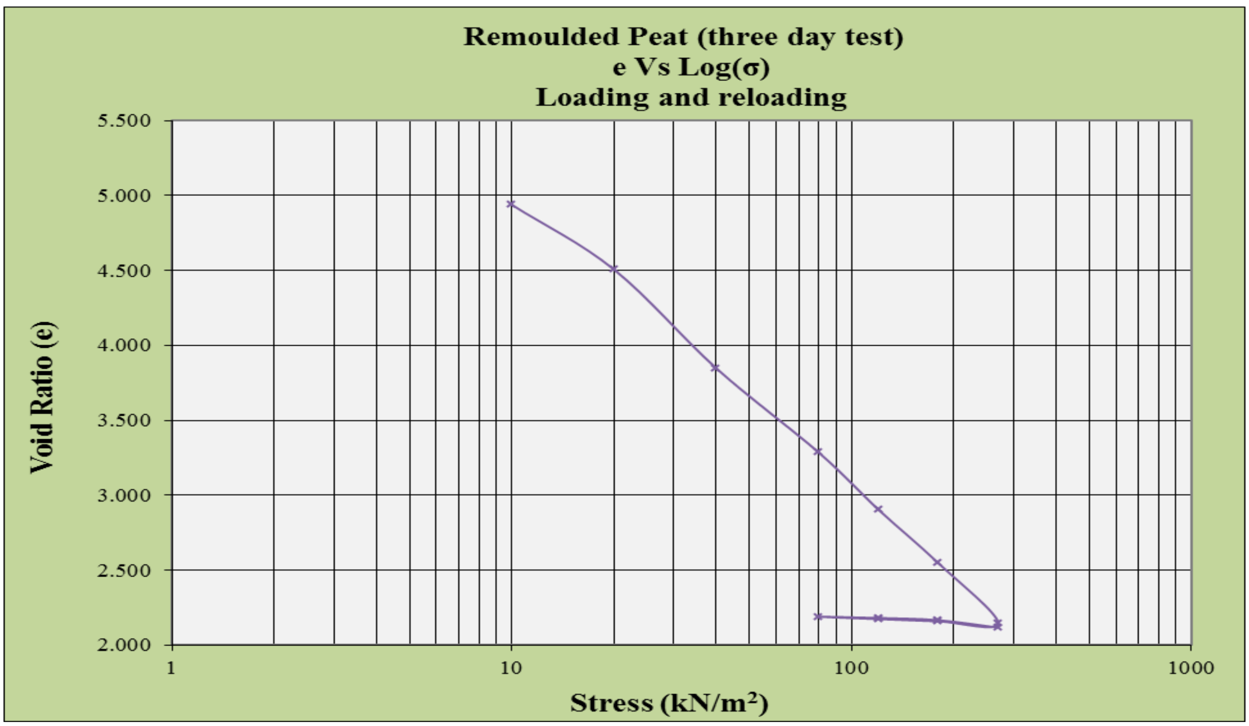


Figure 3.42 – Load Vs void ratio (e) – (UOM-Test B)

The e Vs log (time) graphs were plotted for each loading and reloading increments. These plots are presented in Annex 2. Two typical graphs corresponding to loading to reloading increments are presented in Figure 3.43 and Figure 3.44.

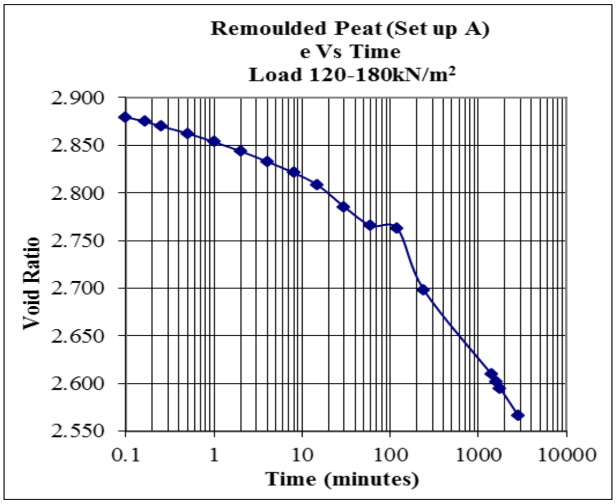


Figure 3.43 – Void ratio Vs log (time) – Loading Increment – (UOM-Test B)

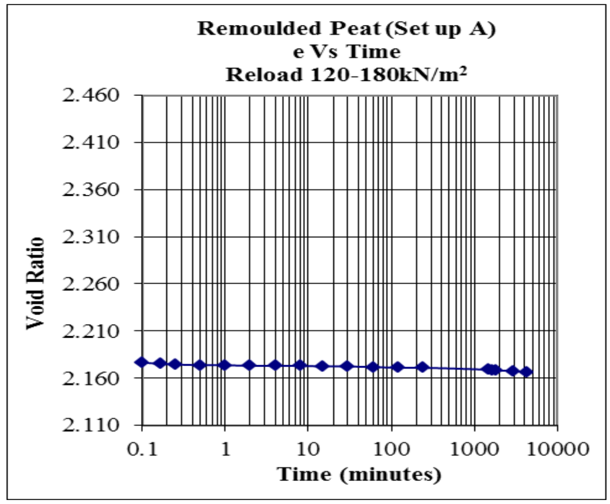


Figure 3.44 – Void ratio Vs log (time) – Reloading Increment – (UOM-Test B)

The variation of C_α in loading and reloading increments are presented in Table 3.31. The data are graphically presented in Figure 3.45. The C_α values in loading increment showed an increasing trend over the load increments where the stress level was doubled. Here, it is noted that the C_α got increased even when the load increment ratio was reduced (i.e. to 1.5). It may be due to the fact the load increment ratio was quit high at 1.5 compared to the values of the order of 1.1 used in other tests.

Table 3.31 – Variation of C_α loading and reloading increment – (UOM-Test B)

Load (kN/m^2)	C_α	
10	0.106	Loading
20	0.110	
40	0.114	
80	0.114	
120	0.130	
180	0.141	
270	0.146	
120	0.002	Reloading
180	0.006	
270	0.059	

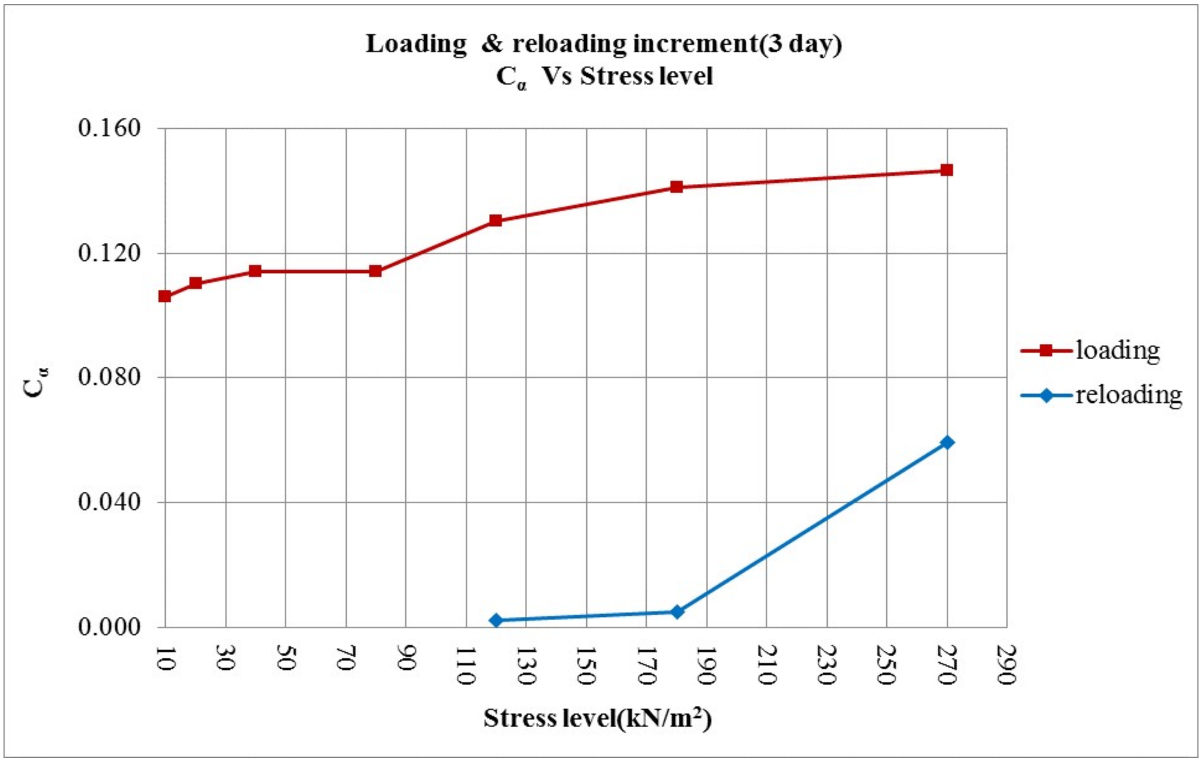


Figure 3.45 – Variation of C_α with stress level in loading and reloading increment – (UOM-Test B)

The secondary consolidation coefficient in reloading increments are denoted $C_\alpha^/$. The secondary consolidation coefficient of reloading increment were lower than these of loading increment. Here, the $C_\alpha^/$ values were gradually increased with stress level. For each reloading increment an OCR value can be computed. For similar loading and reloading increment (for ex. 120kN/m^2), the C_α and $C_\alpha^/$ values can be computed. Hence, the ratio $C_\alpha^/ / C_\alpha$ can be computed against each OCR. The $C_\alpha / / C_\alpha$ variation with OCR presented in Table 3.32 and Figure 3.46.

Table 3.32 – OCR Vs $C_\alpha^/ / C_\alpha$ – (UOM-Test B)

Load (kN/m^2)	OCR	$C_\alpha^/$	C_α	$C_\alpha^/ / C_\alpha$
120	2.25	0.002	0.130	0.018
180	1.50	0.006	0.141	0.039
270	1	0.059	0.146	0.404

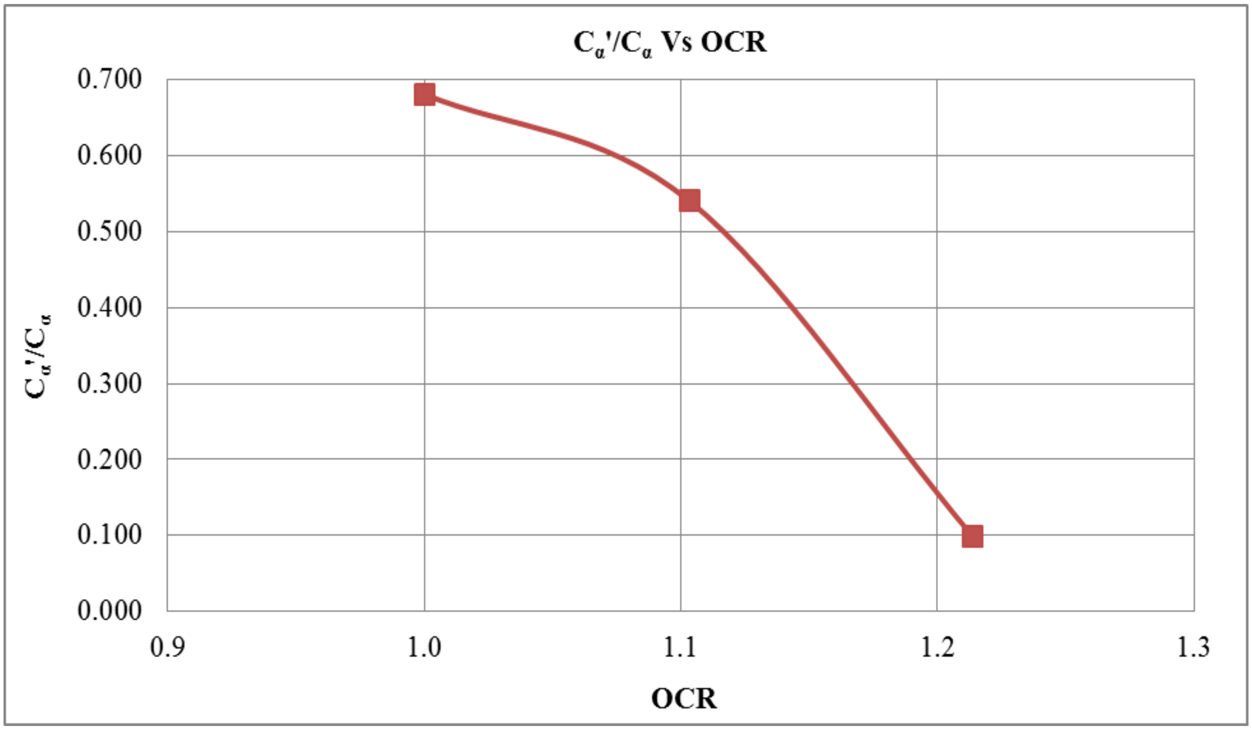


Figure 3.46 – Reduction of Cα with OCR – (UOM-Test B)

UOM-Test C

The e Vs log σ values from UOM-Test C are presented in Table 3.33. The data are graphically presented in Figure 3.47.

Table 3.33 – Load Vs void ratio – (UOM-Test C)

Load (kN/m^2)	Void Ratio	
5	5.4755	Loading
10	5.2625	
20	4.7149	
40	4.1803	
44	4.0758	
48.4	4.0257	
53.24	3.9446	
48.4	3.9467	
44	3.9515	
40	3.9645	Reloading
44	3.9521	
48.4	3.9308	
53.24	3.9040	

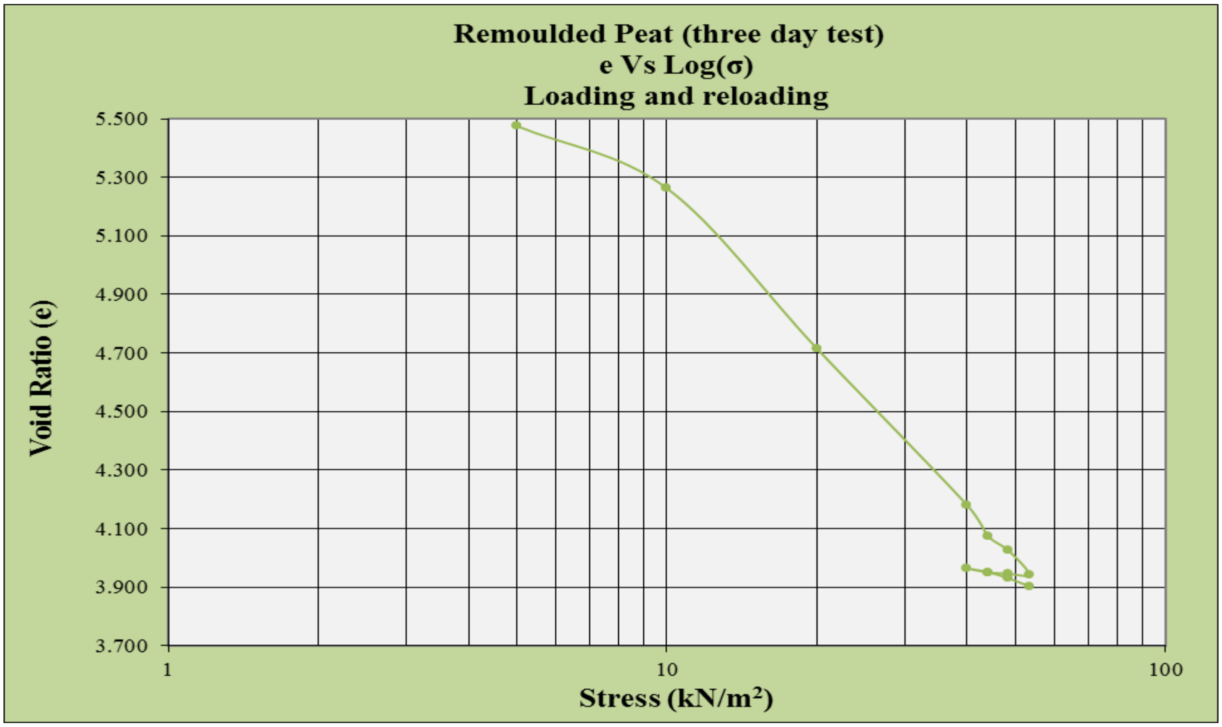


Figure 3.47 – Load Vs void ratio (e) – (UOM-Test C)

The e Vs log (time) graphs were plotted for each loading and reloading increments. These plots are presented in Annex 2. Two typical graphs corresponding to loading to reloading increments are presented in Figure 3.48 and 3.49.

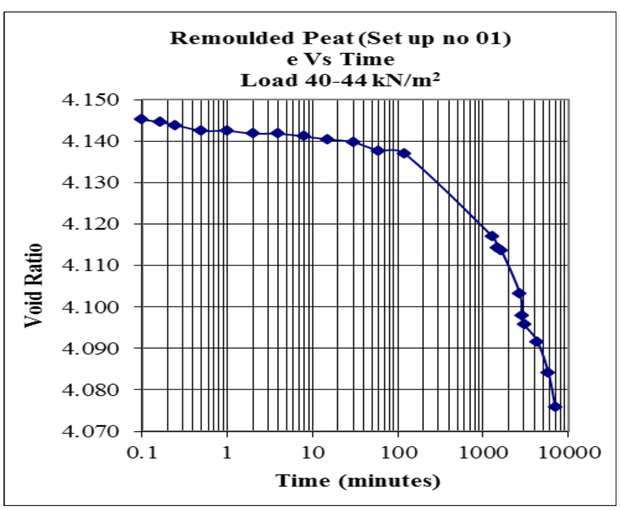


Figure 3.48 – Void ratio Vs log (time) – Loading Increment – (UOM-Test C)

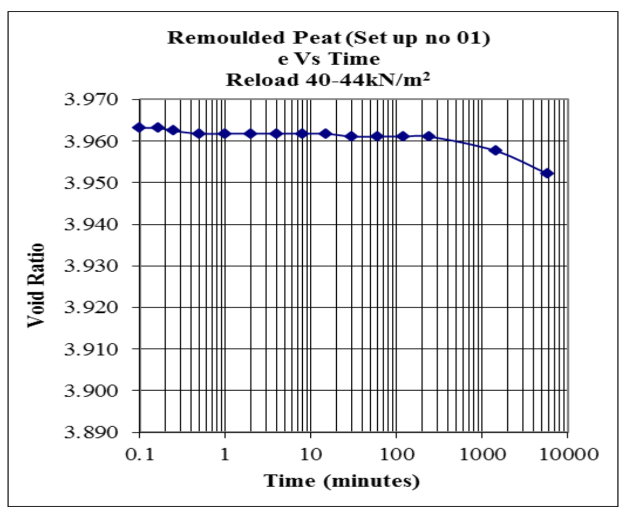


Figure 3.49 – Void ratio Vs log (time) – Reloading Increment – (UOM-Test C)

The variation of C_α in loading and reloading increments are presented in Table 3.34. The data are graphically presented in Figure 3.50. The C_α values in loading increment showed an increasing trend over the load increments where the stress level was doubled. Once, the load increment ratio is reduced (i.e. to 1.1), C_α is reduced and then, it was increased.

Table 3.34 – Variation of C_α loading and reloading increment – (UOM-Test C)

Load (kN/m^2)	C_α	
5.00	0.055	Loading
10.00	0.033	
20.00	0.095	
40.00	0.171	
44.00	0.103	
48.40	0.047	
53.24	0.125	
44.00	0.009	Reloading
48.40	0.016	
53.24	0.016	

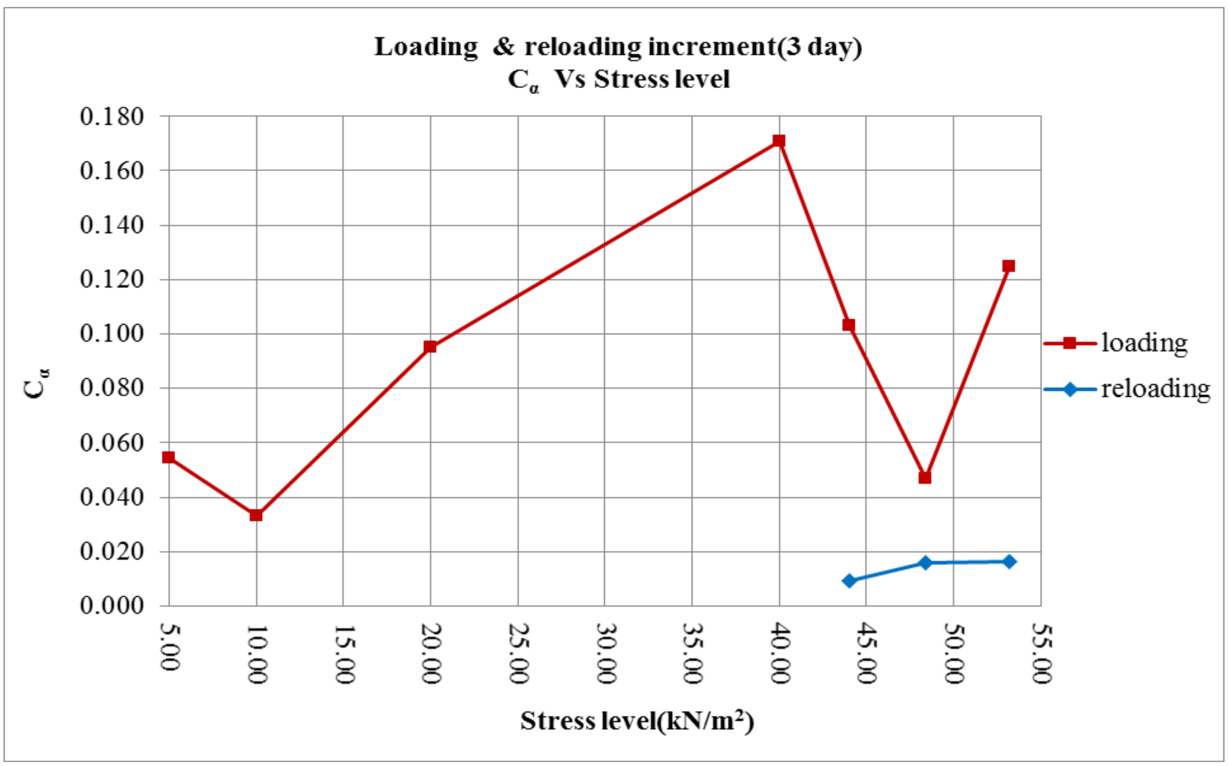


Figure 3.50 – Variation of C_α with stress level in loading and reloading increment – (UOM-Test C)

The secondary consolidation coefficient in reloading increments are denoted $C_\alpha^{/}$. The secondary consolidation coefficient of reloading increment were much lower than these of loading increment. Here, the $C_\alpha^{/}$ values were gradually increased with stress level and here the $C_\alpha^{/}$ values were similar in last stages. For each reloading increment an OCR value can be computed. For similar loading and reloading increment (for ex. 44kN/m^2), the C_α and $C_\alpha^{/}$ values can be computed. Hence, the ratio $C_\alpha^{/}/C_\alpha$ can be computed against each OCR. The $C_\alpha//C_\alpha$ variation with OCR presented in Table 3.35 and Figure 3.51.

Table 3.35 – OCR Vs $C_\alpha^{/}/C_\alpha$

Load (kN/m^2)	OCR	$C_\alpha^{/}$	C_α	$C_\alpha^{/}/C_\alpha$
44	1.21	0.009	0.103	0.08
48.4	1.10	0.016	0.0467	0.342
53.24	1	0.0164	1.249	0.013

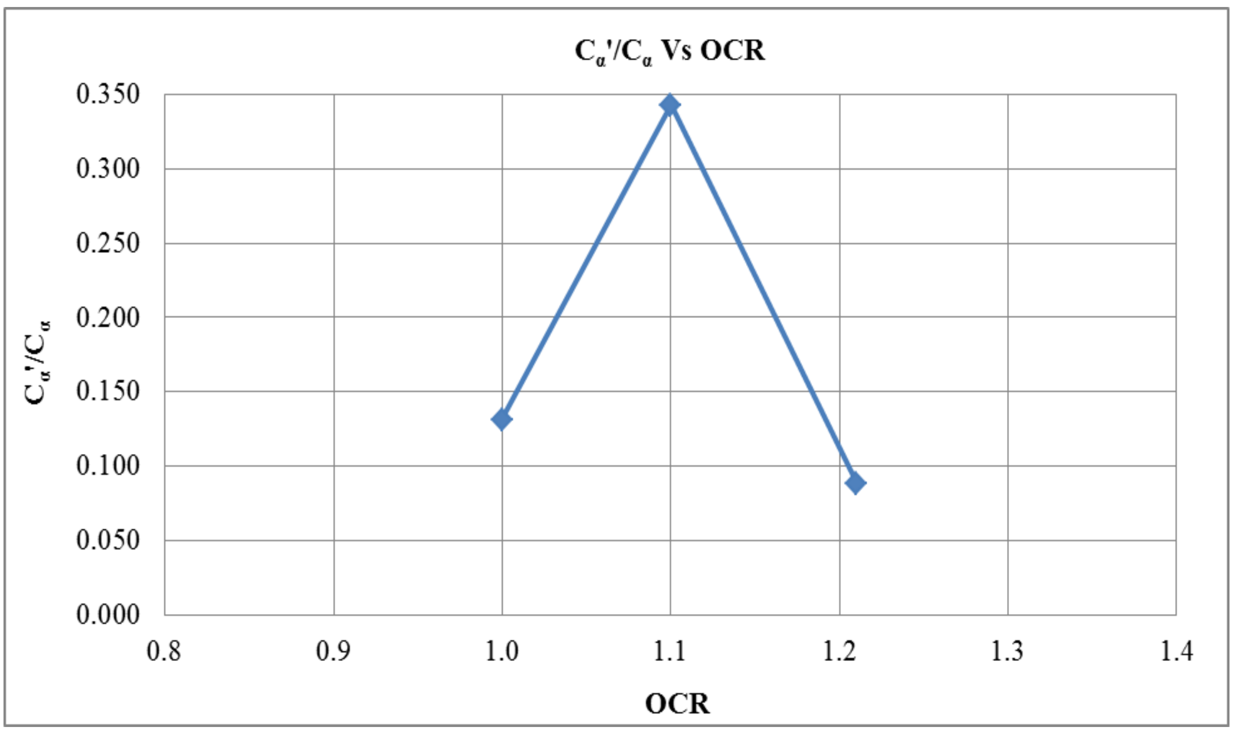


Figure 3.51 – Reduction of C_α with OCR – (UOM-Test C)

<u>UOM-Test D</u>

The e Vs log σ values from UOM-Test D are presented in Table 3.36. The data are graphically presented in Figure 3.52

Table 3.36 – Load Vs void ratio – (UOM-Test D)

Load (kN/m^2)	Void Ratio	
5	5.4824	
10	5.4453	Loading
20	5.2378	Loading
40	3.6663	Loading
60	3.3708	Loading
90	3.0541	Loading
135	2.6418	Loading
90	2.6535	
60	2.6693	
40	2.6830	Reloading
60	2.6741	Reloading
90	2.6548	Reloading

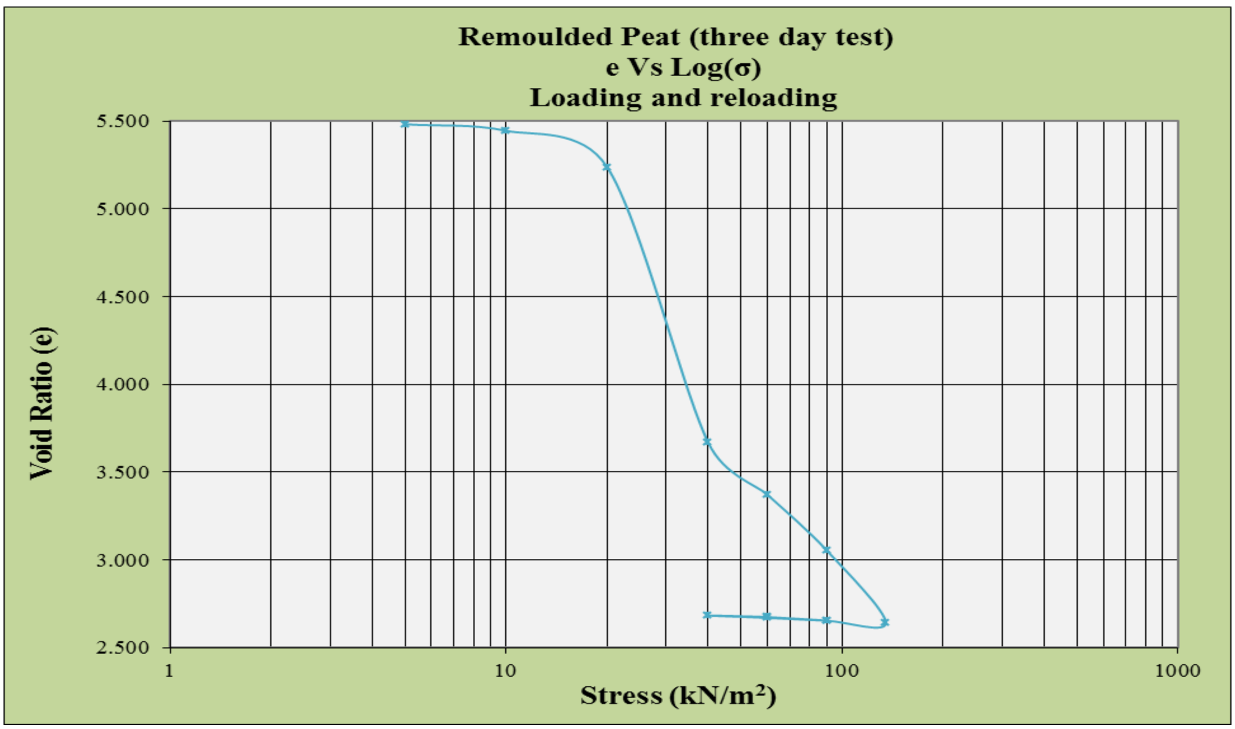


Figure 3.52 – Load Vs void ratio (e) – (UOM-Test D)

The e Vs log (time) graphs were plotted for each loading and reloading increments. These plots are presented in Annex 2. Two typical graphs corresponding to loading to reloading increments are presented in Figure 3.53 and 3.54.

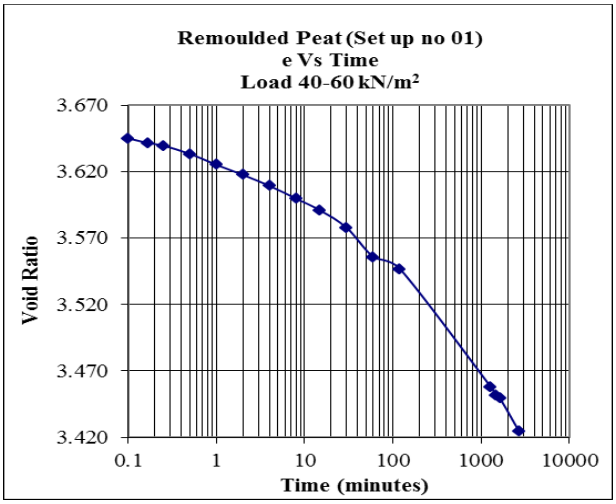


Figure 3.53 – Void ratio Vs log (time) – Loading Increment – (UOM-Test D)

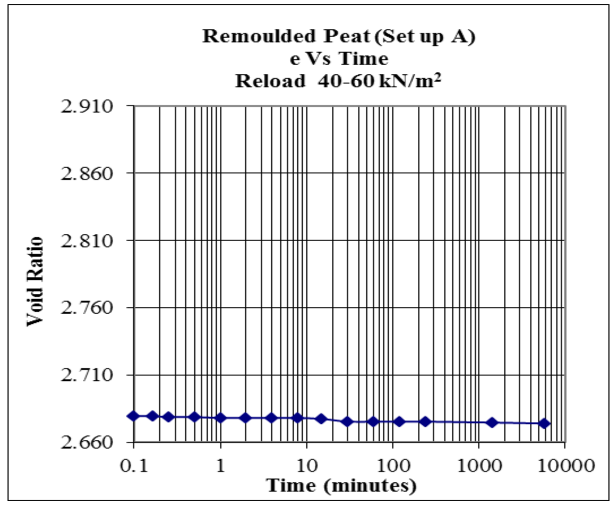


Figure 3.54 – Void ratio Vs log (time) – Reloading Increment– (UOM-Test D)

The variation of C_α in loading and reloading increments are presented in Table 3.37. The data are graphically presented in Figure 3.55. The C_α values in loading increment showed an increasing trend over the load increments where the stress level was doubled. Once, the load increment ratio is lowered to 1.5, the C_α still increased but at a reduced rate (Figure 3.55).

Table 3.37 – Variation of C_α loading and reloading increment – (UOM-Test D)

Load (kN/m²)	C_α	
5	0.033	Loading
20	0.058	
40	0.134	
60	0.115	
90	0.156	
135	0.178	
60	0.001	Reloading
90	0.005	
135	0.011	

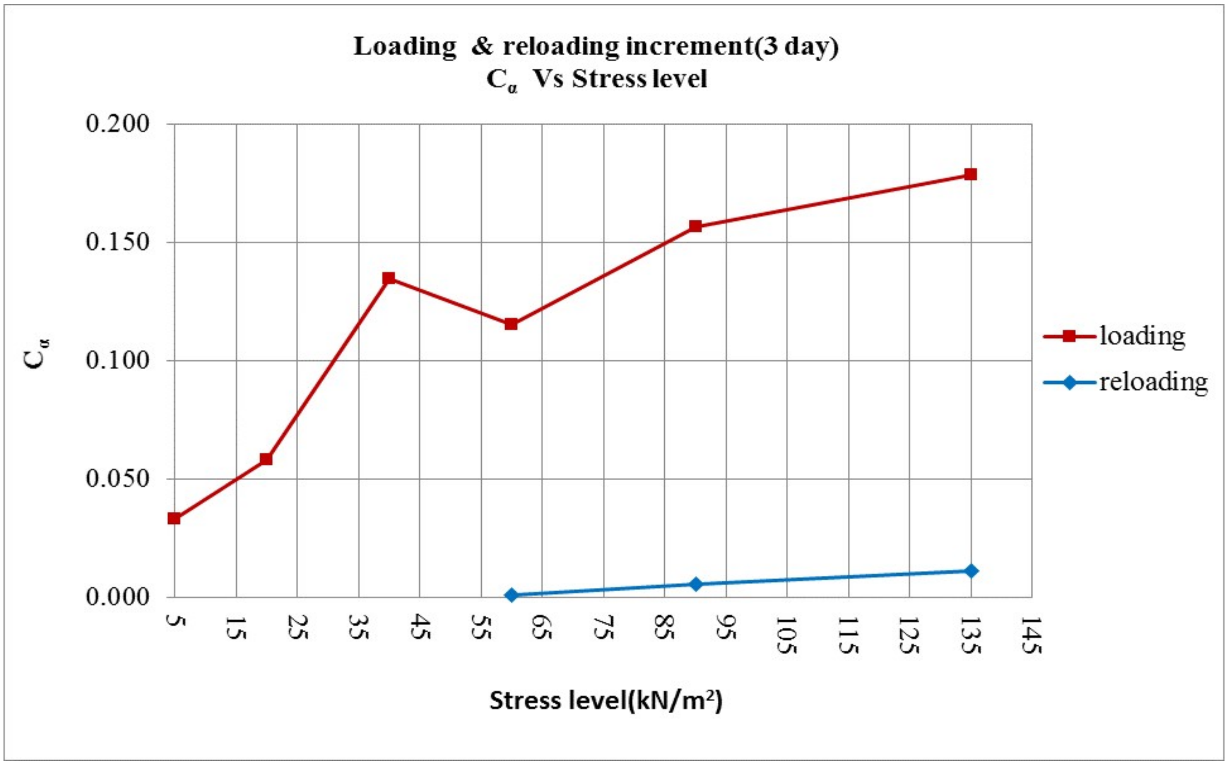


Figure 3.55 – Variation of Cα with stress level in loading and reloading increment– (UOM-Test D)

The secondary consolidation coefficient in reloading increments are denoted $C\alpha^{/}$. The secondary consolidation coefficient of reloading increment were much lower than these of loading increment. Here, the $C\alpha^{/}$ values were gradually increased with stress level. For each reloading increment an OCR value can be computed. For similar loading and reloading increment (for ex. 60kN/m^2), the $C\alpha$ and $C\alpha^{/}$ values can be computed. Hence, the ratio $C\alpha^{/}/C\alpha$ can be computed against each OCR. The $C\alpha//C\alpha$ variation with OCR presented in Table 3.38 and Figure 3.56.

Table 3.38 – OCR Vs $C\alpha^{/}/C\alpha$ – (UOM-Test D)

Load (kN/m^2)	OCR	$C\alpha^{/}$	$C\alpha$	$C\alpha^{/}/C\alpha$
60	2.25	0.001	0.115	0.010
90	1.5	0.005	0.156	0.035
135	1	0.011	0.178	0.062

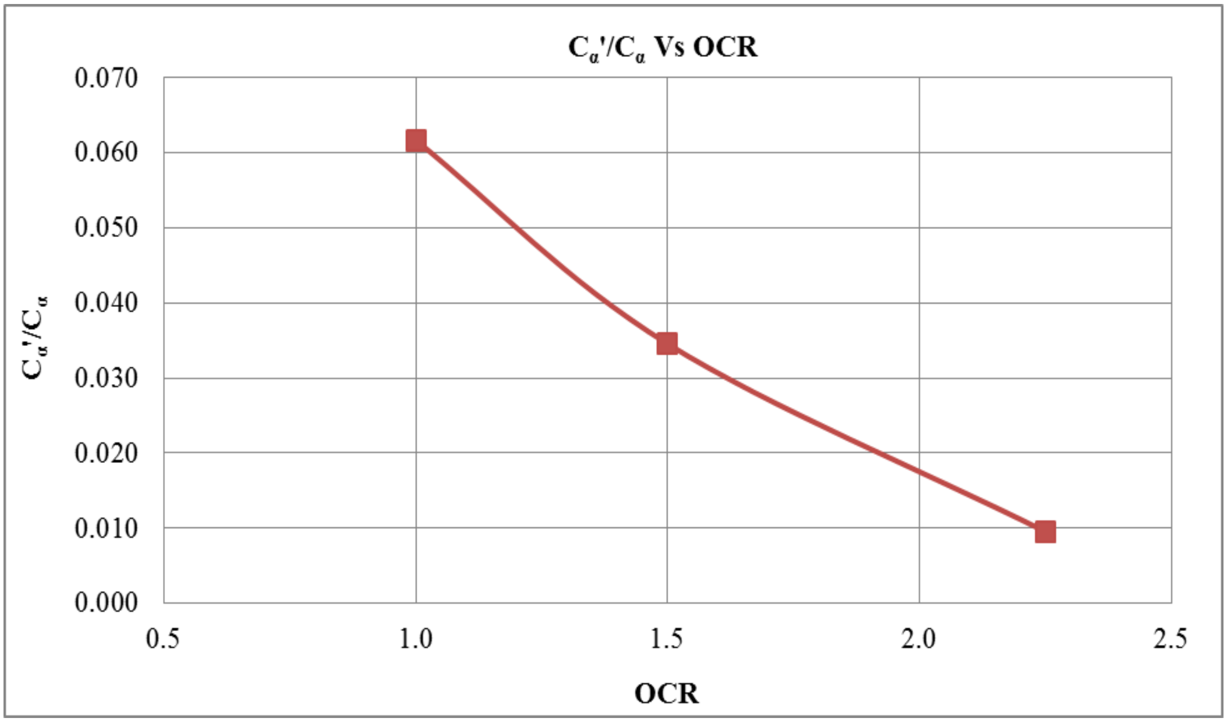


Figure 3.56 – Reduction of C_α with OCR – (UOM-Test D)

<u>UOM-Test 02</u>

The e Vs log σ values from UOM-Test 02 are presented in Table 3.39. The data are graphically presented in Figure 3.57.

Table 3.39 – Load Vs void ratio – (UOM-Test 02)

Load (kN/m^2)	Void Ratio	
0	5.4687	
7	5.2862	
13	5.0242	
27	4.7322	Loading
52	4.3116	
104	3.7868	
52	3.7891	
27	3.7955	
52	3.8183	
71	3.7988	
78.1	3.7905	
85.9	3.7775	Reloading
94.5	3.7616	
104	3.7493	

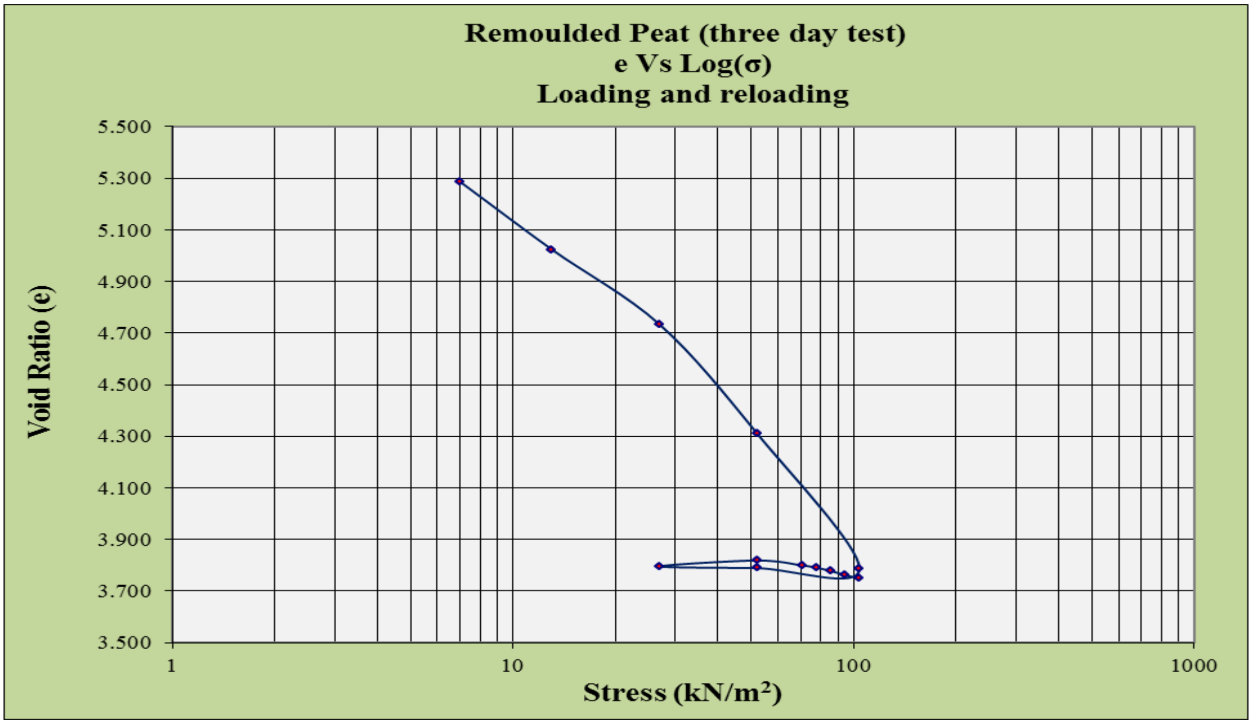


Figure 3.57 – Load Vs void ratio (e) – (UOM-Test 02)

The e Vs log (time) graphs were plotted for each loading and reloading increments. These plots are presented in Annex 2. Two typical graphs corresponding to loading to reloading increments are presented in Figure 3.58 and 3.59.

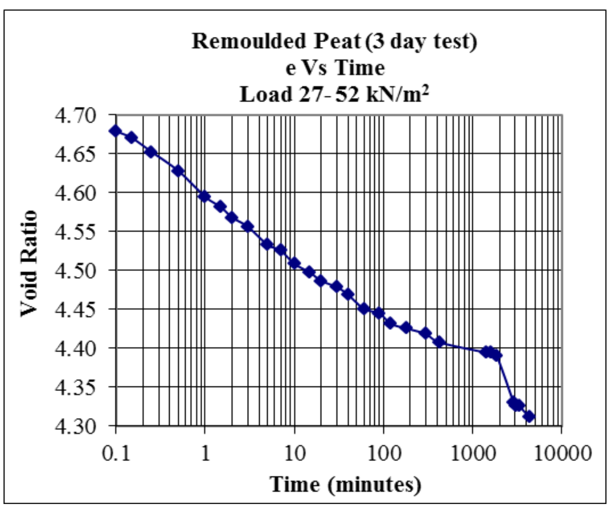


Figure 3.58 – Void ratio Vs log (time) – Loading Increment – (UOM-Test 02)

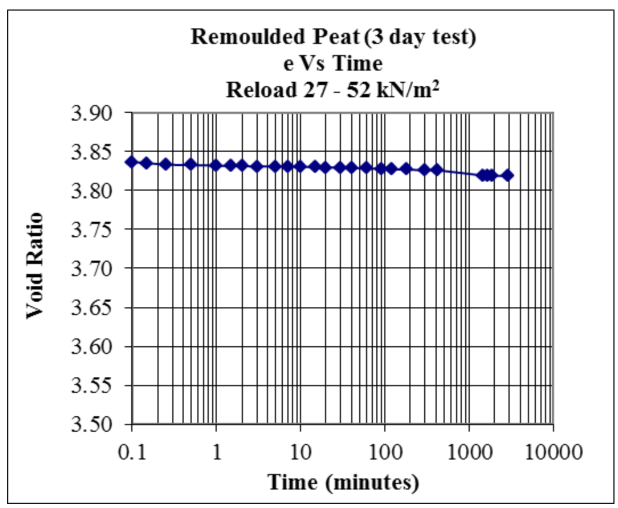


Figure 3.59 – Void ratio Vs log (time) – Reloading Increment– (UOM-Test 02)

The variation of C_α in loading and reloading increments are presented in Table 3.40. The data are graphically presented in Figure 3.60. The C_α values in loading increment showed an increasing trend over the load increments where the stress level was doubled.

Table 3.40 – Variation of C_α loading and reloading increment – (UOM-Test 02)

Load (kN/m^2)	C_α	
7.00	0.032	Loading
13.00	0.038	
27.00	0.052	
52.00	0.066	
104.00	0.071	
52.00	0.005	Reloading
71.00	0.005	
78.10	0.013	
85.90	0.016	
94.50	0.017	
104.10	0.018	

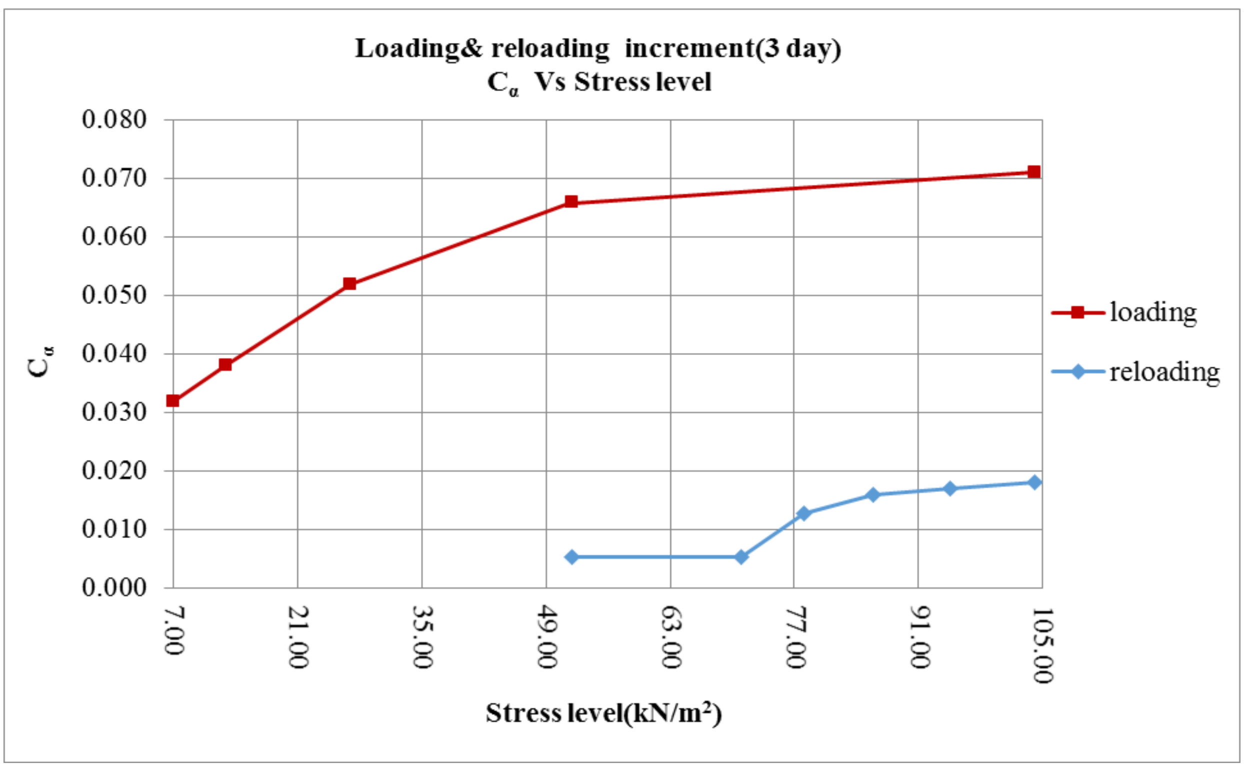


Figure 3.60 – Variation of C_α with stress level in loading and reloading increment – (UOM-Test 02)

The secondary consolidation coefficient in reloading increments are denoted $C_\alpha^/$. The secondary consolidation coefficient of reloading increment were much lower than these of loading increment. Here, the $C_\alpha^/$ values were gradually increased with stress level. For each reloading increment an OCR value can be computed. For similar loading and reloading increment (for ex. 52kN/m^2), the C_α and $C_\alpha^/$ values can be computed. Hence, the ratio $C_\alpha^/$/C_α can be computed against each OCR. The C_α//C_α variation with OCR presented in Table 3.41 and Figure 3.61.

Table 3.41 – OCR Vs $C_\alpha^/$/C_α – (UOM-Test 02)

Load (kN/m^2)	OCR	$C_\alpha^/$	C_α	$C_\alpha^/$/C_α
71	1.46	0.005	0.067	0.075
78.1	1.33	0.013	0.069	0.190
85.9	1.21	0.016	0.069	0.234
94.5	1.10	0.017	0.069	0.248
104	1.00	0.018	0.071	0.254

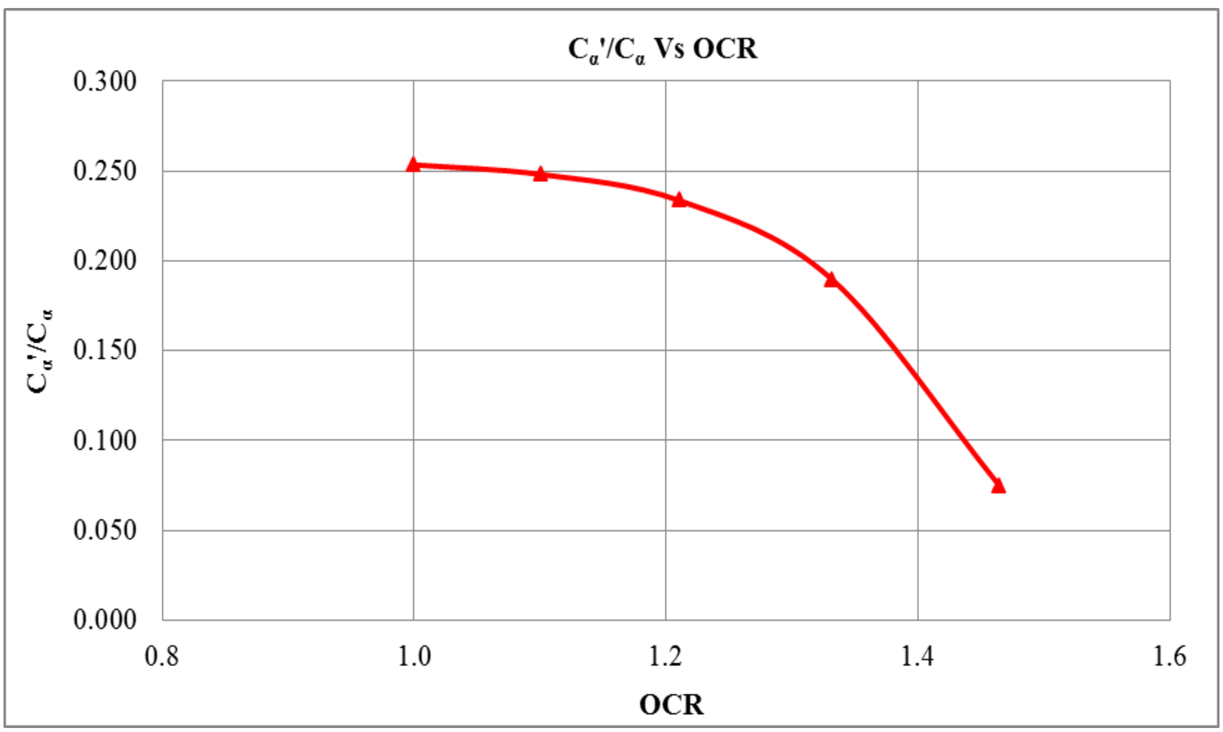


Figure 3.61 – Reduction of C_α with OCR – (UOM-Test 02)

3.5.1 Reduction of C_α with OCR for three day duration tests

The following graphs (Figure 3.62(a), 3.62(b) & 3.62(c)) shows a reduction of C_α (C_α'/C_α) Vs OCR obtained for all test in three day duration.

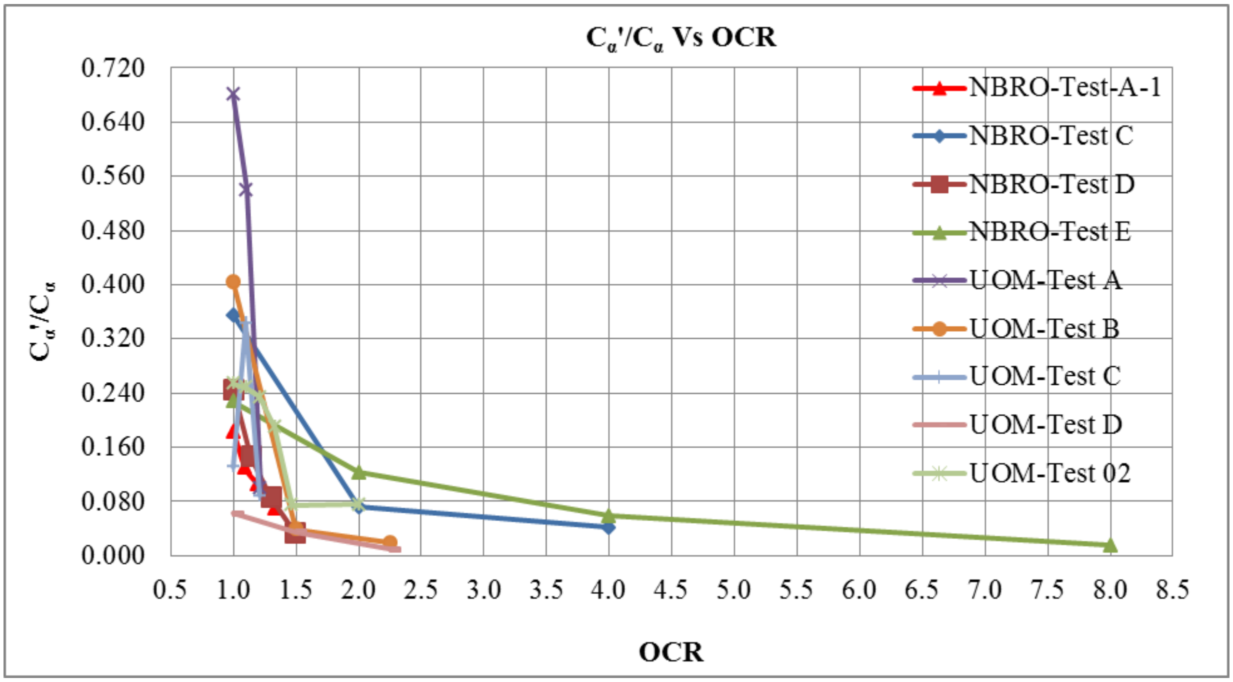


Figure 3.62(a) – Reduction of C_α with OCR for all tests

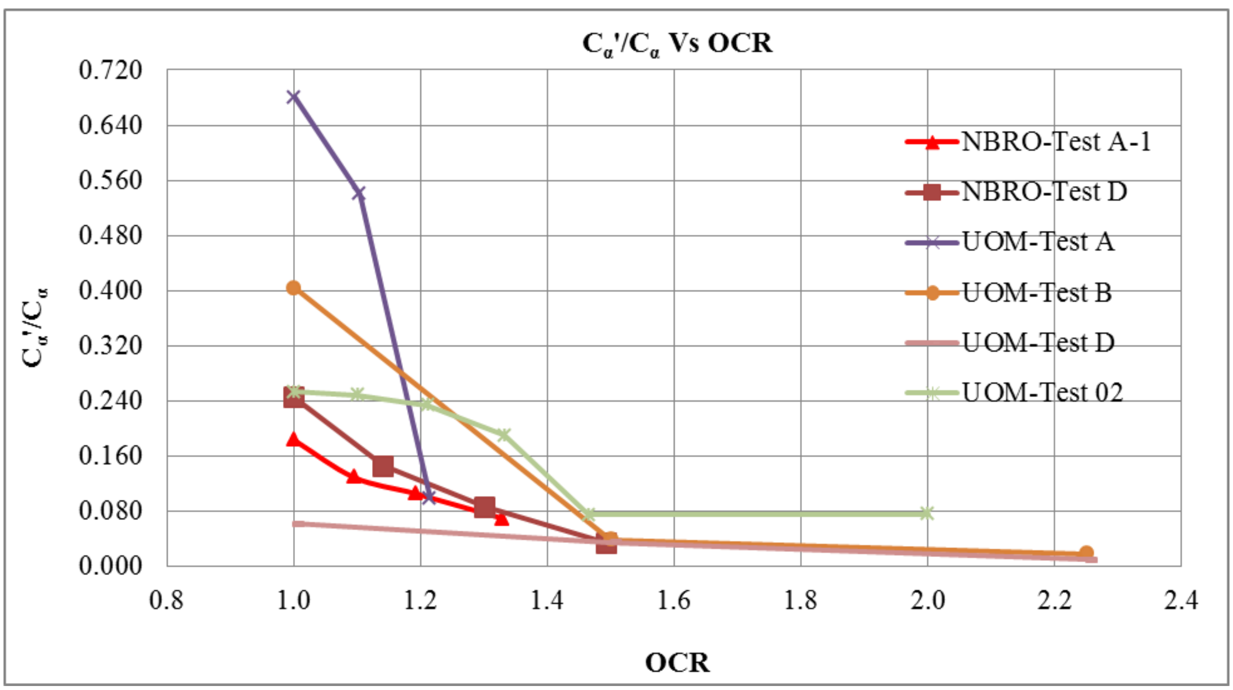


Figure 3.62(b) – Reduction of C_α with OCR for all tests (eliminating the samples with high OCR & erroneous results)

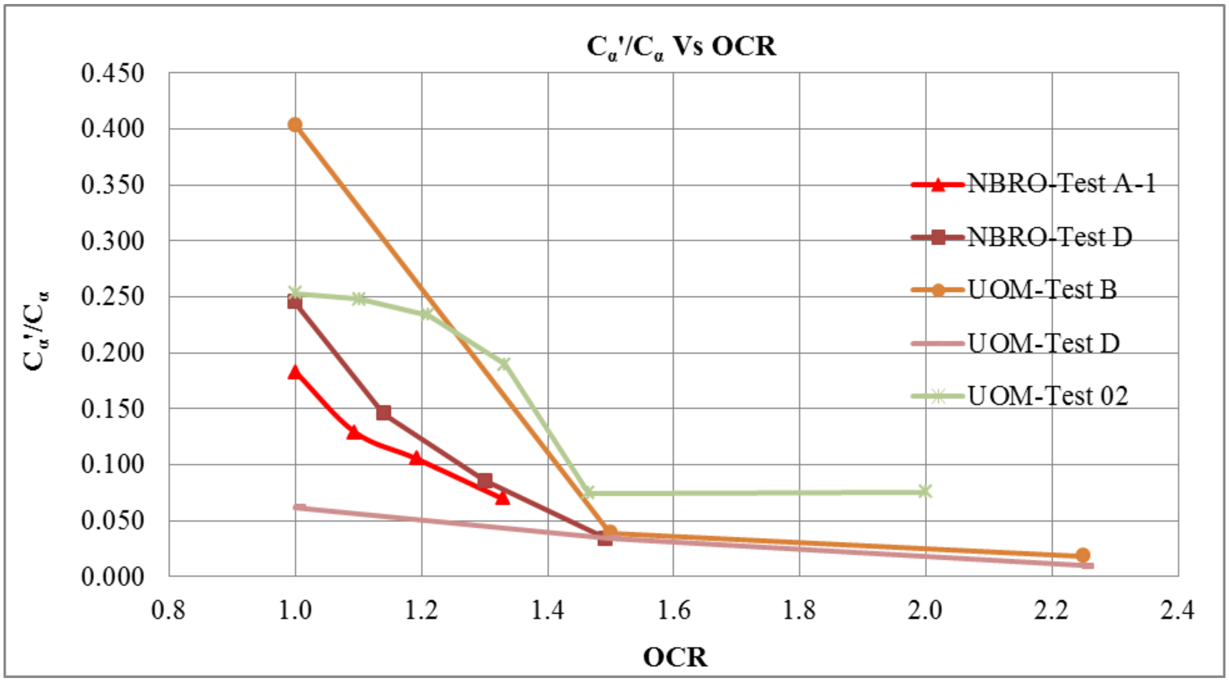


Figure 3.62(c) – Reduction of Cα with OCR for all tests (eliminating the samples with high OCR, high reduction of Cα & erroneous results)

The graphs of Cα/ /Cα vs OCR for all the tests were combined and presented in Figure 3.62. There were very high OCR value such as 8.0 to these graphs.

The data were replotted eliminating the samples with high OCR Values and samples shown obviously erroneous results. The figure demonstrate that preconsolidation by preloading reduces the secondary consolidation effect. Even at an OCR value of 1.0 a significant reduction of Cα could be achieved. The reduction achieved is quite variable.as such, it is recommended to conduct consolidation tests with loading /unloading and reloading increments to establish this relationship in a new project.

3.5.2 Conformity with the C_α/C_c Concept

The C_α/C_c concept proposed by Mesri et al. (1977, 1997) was tested with the results of the tests with 3 day long increment as well. The same procedure as adopted for 1 day test was used. The ratio was calculated by C_α/C_c or C_α'/C_r. This results are presented in Table 3.42 to Table 3.50.

NBRO-Test A-1

Table 3.42 – C_α/C_c and C_α'/C_r values for different loading – (NBRO-Test A-1)

Load	Void ratio	C_α and C_α'	C_c or C_r	C_α/C_c or C_α'/C_r
0	4.0700			
7.5	3.8012	0.085	0.6531	0.13
15	3.6046	0.095	0.6531	0.14
29	3.2744	0.117	1.2882	0.09
54	2.9312	0.102	1.2882	0.08
58	2.8870	0.064	1.2882	0.05
66	2.8293	0.082	1.2882	0.06
70	2.7814	0.086	1.2882	0.07
78	2.7284	0.085	1.2882	0.07
85	2.6702	0.085	1.2882	0.07
93	2.6234	0.071	1.2882	0.06
29	2.6587			
54	2.6452	0.007	0.1136	0.06
58	2.6405	0.007	0.1136	0.06
66	2.6353	0.007	0.1136	0.06
70	2.6291	0.006	0.1136	0.05
78	2.6184	0.009	0.1136	0.08
85	2.6044	0.011	0.1136	0.10
93	2.5911	0.013	0.1136	0.11

NBRO-Test C

Table 3.43 – C_α/C_c and C_α'/C_r values for different loading – (NBRO-Test C)

Load	Void ratio	C_α and C_α'	C_c or C_r	C_α/C_c or C_α'/C_r
0	4.0700			
5	3.8903	0.048	0.3558	0.14
10	3.7832	0.059	0.3558	0.17
20	3.6024	0.096	1.2464	0.08
40	3.2199	0.135	1.2464	0.11
80	2.8520	0.138	1.2464	0.11
10	2.9022			
20	2.8929	0.004	0.0821	0.05
40	2.8682	0.010	0.0821	0.12
80	2.7833	0.049	1.2464	0.04
160	2.3745	0.220	1.2464	0.18

NBRO-Test D

Table 3.44 – C_α/C_c and C_α'/C_r values for different loading – (NBRO-Test D)

Load	Void ratio	C_α and C_α'	C_c or C_r	C_α/C_c or C_α'/C_r
0	4.07			
7.5	3.8916	0.058	0.8723	0.07
15	3.629	0.110	0.8723	0.13
29	3.2125	0.124	1.5064	0.08
58	2.7357	0.138	1.5064	0.09
122	2.2505	0.156	1.5064	0.10
136	2.1829	0.080	1.5064	0.05
156	2.1117	0.078	1.5064	0.05
178	2.016	0.111	1.5064	0.07
203	1.9385	0.109	1.5064	0.07
120	1.9494			
137	1.9453	0.003	0.1294	0.02
156	1.938	0.007	0.1294	0.05
178	1.9245	0.016	0.1294	0.13
203	1.9042	0.027	1.5064	0.02
231.5	1.8683	0.036	1.5064	0.02

NBRO-Test E

Table 3.45 – C_α/C_c and C_α'/C_r values for different loading – (NBRO-Test E)

Load	Void ratio	C_α and C_α'	C_c or C_r	C_α/C_c or C_α'/C_r
0	4.8571			
5	4.5423	0.039	0.7142	0.05
10	4.3273	0.100	0.7142	0.14
20	3.9698	0.115	1.6203	0.07
40	3.4478	0.173	1.6203	0.11
80	3.0309	0.176	1.6203	0.11
160	2.5065	0.188	1.6203	0.12
320	2.0199	0.164	1.6203	0.10
10	2.1382			
20	2.1373			
40	2.128	0.003	0.0309	0.08
80	2.107	0.010	0.0309	0.33
160	2.0652	0.023	0.0309	0.75
320	1.9598	0.037	1.6203	0.02
640	1.6913	0.075	1.6203	0.05

UOM-Test A

Table 3.46 – C_α/C_c and C_α'/C_r values for different loading – (UOM-Test A)

Load	Void ratio	C_α and C_α'	C_c or C_r	C_α/C_c or C_α'/C_r
10	5.0193	0.011	1.9744	0.01
20	4.5527	0.071	1.9744	0.04
40	3.9260	0.077	2.0819	0.04
80	3.3640	0.105	2.0819	0.05
88	3.2643	0.101	2.0819	0.05
96.8	3.2190	0.044	2.0819	0.02
106.8	3.1372	0.087	2.0819	0.04
80	3.1393			
88	3.1262	0.010	0.3165	0.03
96.8	3.1090	0.024	0.3165	0.07
106.8	3.0857	0.059	2.0819	0.03

UOM-Test B

Table 3.47 – C_α/C_c and C_α'/C_r values for different loading – (UOM-Test B)

Load	Void ratio	C_α and C_α'	Cc or C_r	C_α/C_c or C_α'/C_r
10	4.9389	0.106	1.4381	0.07
20	4.5060	0.110	1.4381	0.08
40	3.8463	0.114	1.9773	0.06
80	3.2849	0.114	1.9773	0.06
120	2.9029	0.130	1.9773	0.07
180	2.5463	0.141	1.9773	0.07
270	2.1450	0.146	1.9773	0.07
80	2.1883			
120	2.1800	0.002	0.0818	0.03
180	2.1656	0.006	0.0818	0.07
270	2.1161	0.059	1.9773	0.03

UOM-Test C

Table 3.48 – C_α/C_c and C_α'/C_r values for different loading – (UOM-Test C)

Load	Void ratio	C_α and C_α'	C_c or C_r	C_α/C_c or C_α'/C_r
5	5.4755	0.054	0.7076	0.08
10	5.2625	0.033	0.7076	0.05
20	4.7149	0.095	1.7957	0.05
40	4.1803	0.171	1.7957	0.10
44	4.0758	0.103	1.7957	0.06
48.4	4.0257	0.047	1.7957	0.03
53.24	3.9446	0.125	1.7957	0.07
40	3.9645			
44	3.9521	0.009	0.5146	0.02
48.4	3.9308	0.016	0.5146	0.03
53.24	3.9041	0.016	0.5146	0.03

UOM-Test D

Table 3.49 – C_α/C_c and C_α'/C_r values for different loading – (UOM-Test D)

Load	Void ratio	C_α and C_α'	C_c or C_r	C_α/C_c or C_α'/C_r
5	5.4824	0.033	0.1232	0.27
10	5.4453	0.007	0.1232	0.06
20	5.2378	0.058	3.3430	0.02
40	3.6663	0.134	3.3430	0.04
60	3.3708	0.115	3.3430	0.03
90	3.0541	0.156	3.3430	0.05
135	2.6418	0.178	3.3430	0.05
90	2.6535		0.1232	
60	2.6693		0.1232	
40	2.6830	0.001		
60	2.6741	0.005	0.0505	0.11
90	2.6548	0.011	0.0505	0.22

UOM-Test 02

Table 3.50 – C_α/C_c and C_α'/C_r values for different loading – (UOM-Test 02)

Load	Void ratio	C_α and C_α'	C_c or C_r	C_α/C_c or C_α'/C_r
0	5.4687			
7	5.2862	0.032	0.9748	0.03
13	5.0242	0.038	0.9748	0.04
27	4.7322	0.052	1.4778	0.04
52	4.3116	0.126	1.4778	0.09
104	3.7868	0.071	1.4778	0.05
52	3.8183	0.005		
71	3.7988	0.005	0.1577	0.03
78.1	3.7905	0.013	0.1577	0.08
85.9	3.7775	0.016	0.1577	0.10
94.5	3.7616	0.017	0.1577	0.11

- Somewhat high ratios of the order of 0.13-0.17 were recorded in some loading increments. This could be due to local experiment errors. In general the ratios were in the range of 0.01-0.07.
- The ratio of C_α/C_c found to in the range 0.05-0.07 in loading increments where the stress level was doubled except the tests such as NBRO-Test A-1, NBRO-Test C, NBRO-Test D and NBRO-Test E. This observation made also in one day long load increments.
- It should be noted that the C_α value increased over the 3 day loading increment. The higher values towards the end of the loading increment were used in this comparison.

- The ratio was not low for load increments with ratios less than 2.0, in contrast to observation made in one day long load increments.
- In general the ratios C_α'/C_r in reloading increments were lower than C_α/C_c in the loading increments.

Concluding Comments

- Consolidation tests with loading/unloading/reloading were conduct on remoulded peaty clay samples to evaluate the effect of preconsolidation on the coefficient of secondary consolidation.
- Initially the stress level doubled but subsequently load increments ratios of 1.07-1.5 were used obtain OCR values in the range of 1.0 to 2.0.
- When considering the change in C_α, initially it increases with loading with a load increment ratio of 2 (i.e. doubling). The highest value of C_α is achieved at maximum stress level with doubling. Once load increment ratio is reduced (i.e. to 1.1), C_α is reduced and then it will gradually increase with load.
- C_α is significantly smaller in the reloading phase of each sample. Generally, the trend is a reducing line in the reloading phase.
- From the above tables, we could understand that, generally, C_α/C_c is of the order of 0.05+/-0.01 for most of test results. However, in NBRO-Test A, C_α/C_c values are less than 0.04 in general, and in NBRO-Test C and NBRO-Test E, C_α/C_c values are generally greater than 0.08.
- For all samples, the C_α' (the secondary consolidation coefficient at reloading phase) is extracted and compared with the C_α for the relevant load in the loading phase.
- In the reloading phase, as the sample experienced a stress less than the highest load that it had experienced in the loading phase, it is considered to be overconsolidated. Therefore, at each reloading, the relevant OCR (Over consolidation Ratio) is determined.
- The ratio of C_α'/C_α which indicates the change of secondary consolidation rate, is then plotted against the over consolidation ratio.
- The C_α'/C_α ratio is observed to be reducing with higher values of OCR.

4.0 Consolidation tests on undisturbed samples of preloaded Peaty Clay

4.1 Tests on Peaty clay treated by preloading from CKE Project

During the later part of the construction of CKE Project, nine boreholes were done and twenty three (23) UD Samples were obtained to assess the improvement of the soft soil layer encountered. Consolidation tests of one day long and tests are done with loading and unloading increments only. There were, no reloading increments. Details of tested samples that could be identified as peaty clay due to high moisture content (greater than 100%) and low specific gravity and high organic content are listed here In Table 4.1. All these samples had been consolidated under the embankment and surcharge load applied during the construction. As such, the initial load increments in the laboratory test samples were in an over consolidated stage. The P_c (pre consolidation pressure) obtained from the tests are also summarised in the Table 4.1.

Table 4.1 – Details of tested samples

Borehole No	Depth (m)	Moisture content%	Specific gravity	Organic content %	Pre- Consolidation Pressure (P_c) (kN/m^2)
BH 1	14.25-15.00	95.8	1.88	29.9	70
BH 2	12.00-12.75	261.7	2.10	45.4	90
	14.25-15.00	305.3	2.15	29.3	95
BH 4	12.00-12.75	119.1	1.61	19.9	120
	15.00-15.75	198.3	1.58	36.9	110
BH 5	13.50-14.25	191.3	1.98	19.2	100
	14.50-15.25	283.3	1.53	45.3	100
BH 6	9.50-10.25	119.9	1.77	26	100
BH 8	7.00-7.75	128.9	1.93	44.5	75
BH 10	12.50-13.25	216.6	1.54	44.4	105
	13.50-14.25	158.5	1.57	67.9	105

Tests were conducted with only loading and unloading increments. The e Vs log σ plots for the tests are presented in Figure 4.1 to Figure 4.11

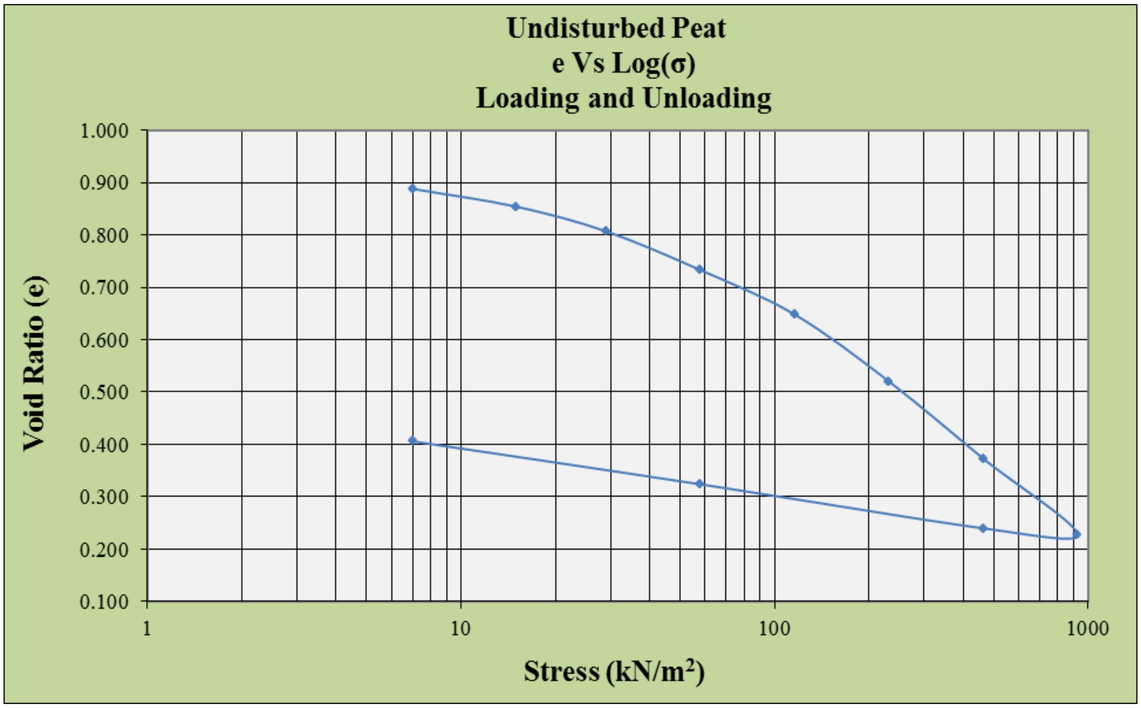


Figure 4.1 – Load Vs voids ratio (e) – BH 1 (14.25m-15.00m)

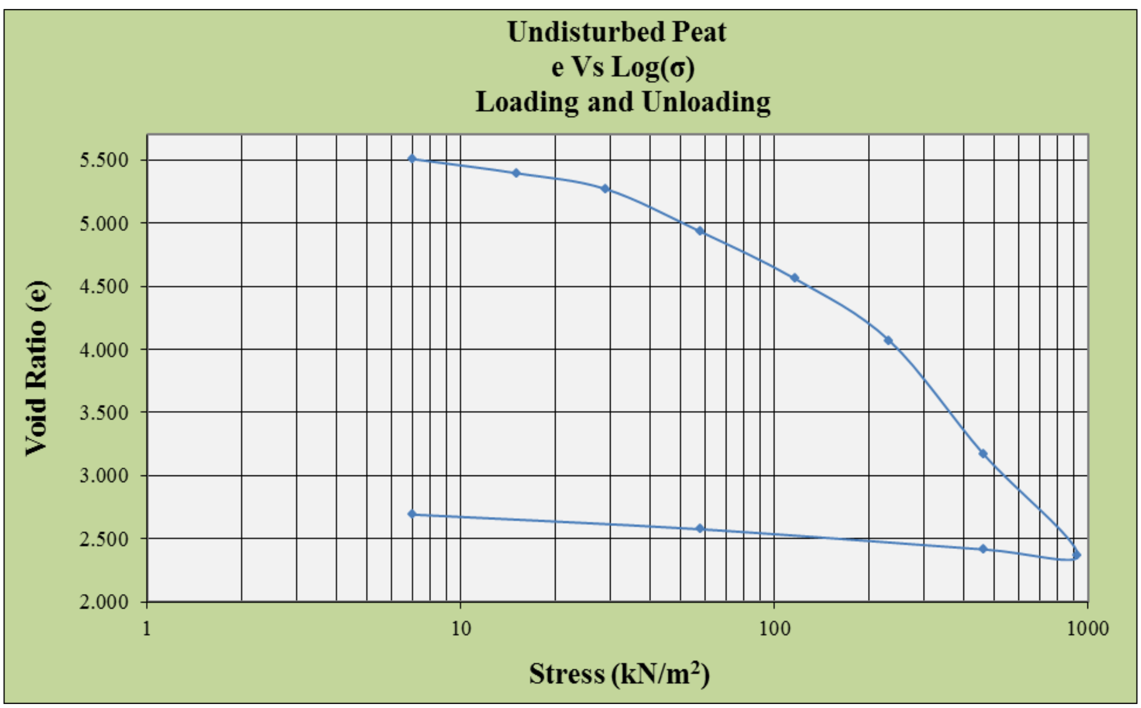


Figure 4.2 – Load Vs voids ratio (e) – BH 2 (12.00m-12.75m)

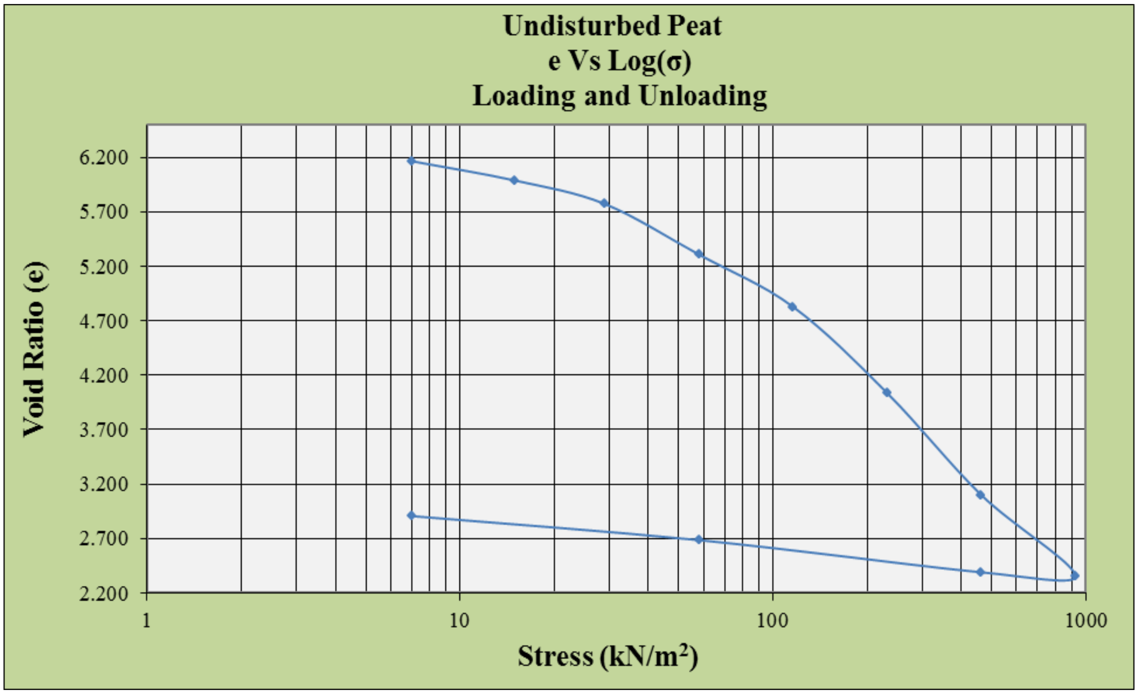


Figure 4.3 – Load Vs Voids ratio (e) – BH 2 (14.25m-15.00m)

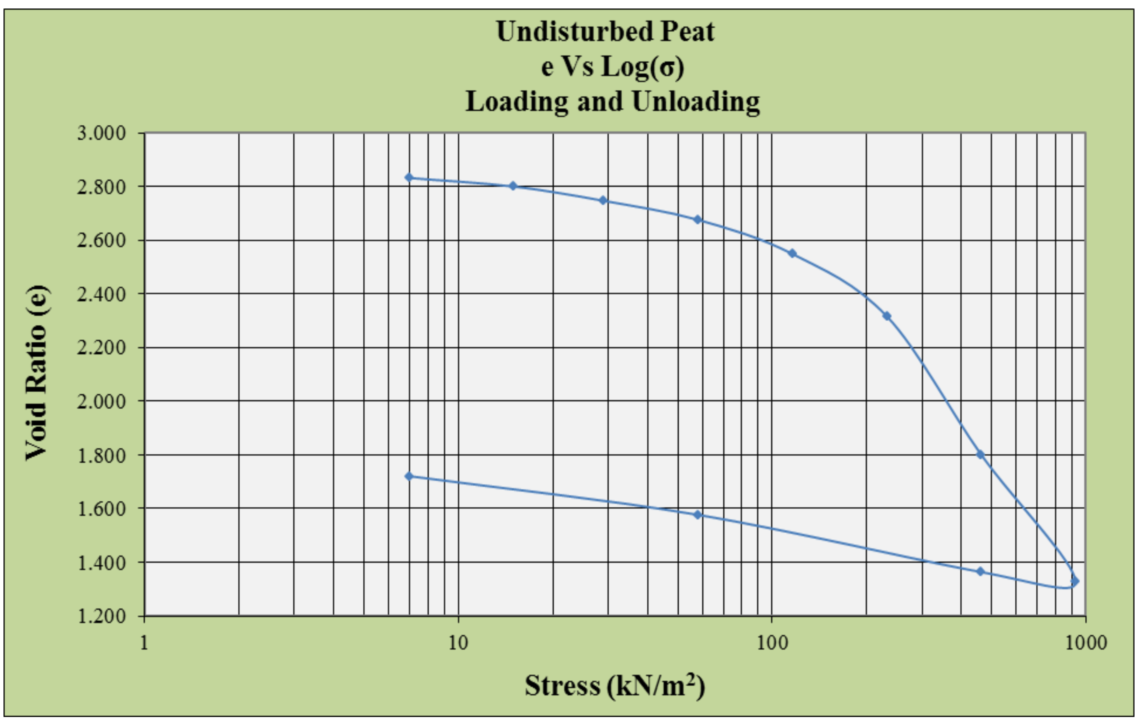


Figure 4.4 – Load Vs voids ratio (e) – BH 4 (12.00m-12.75m)

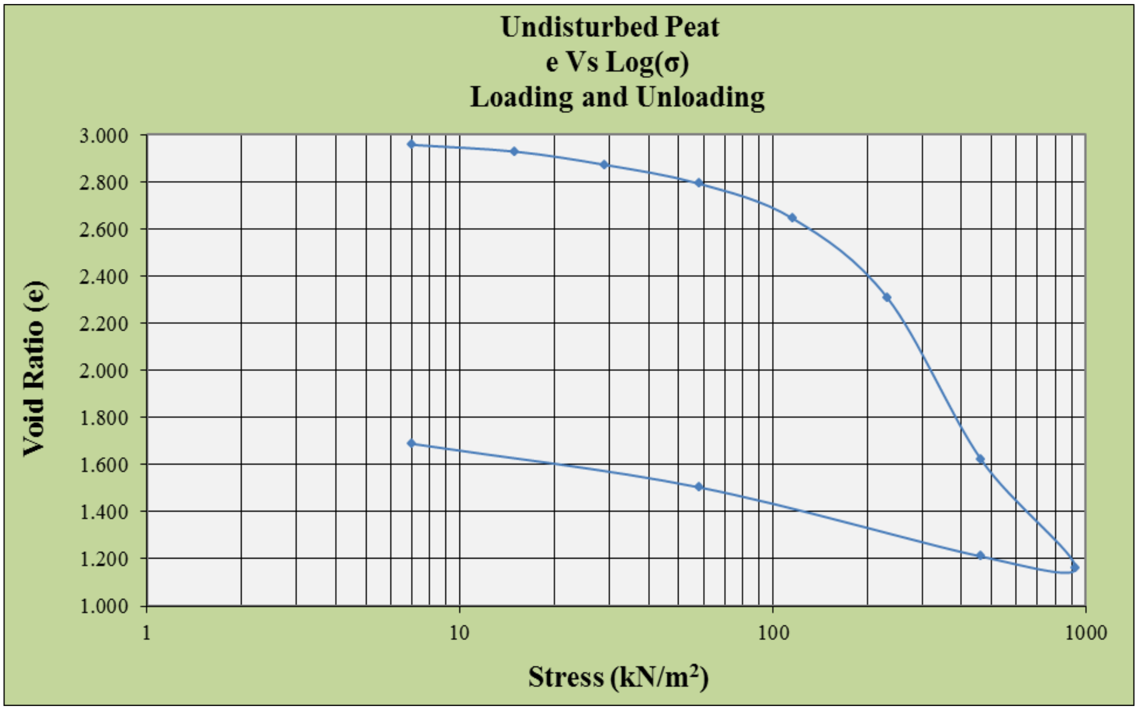


Figure 4.5 – Load Vs voids ratio (e) – BH 4 (15.00m-15.75m)

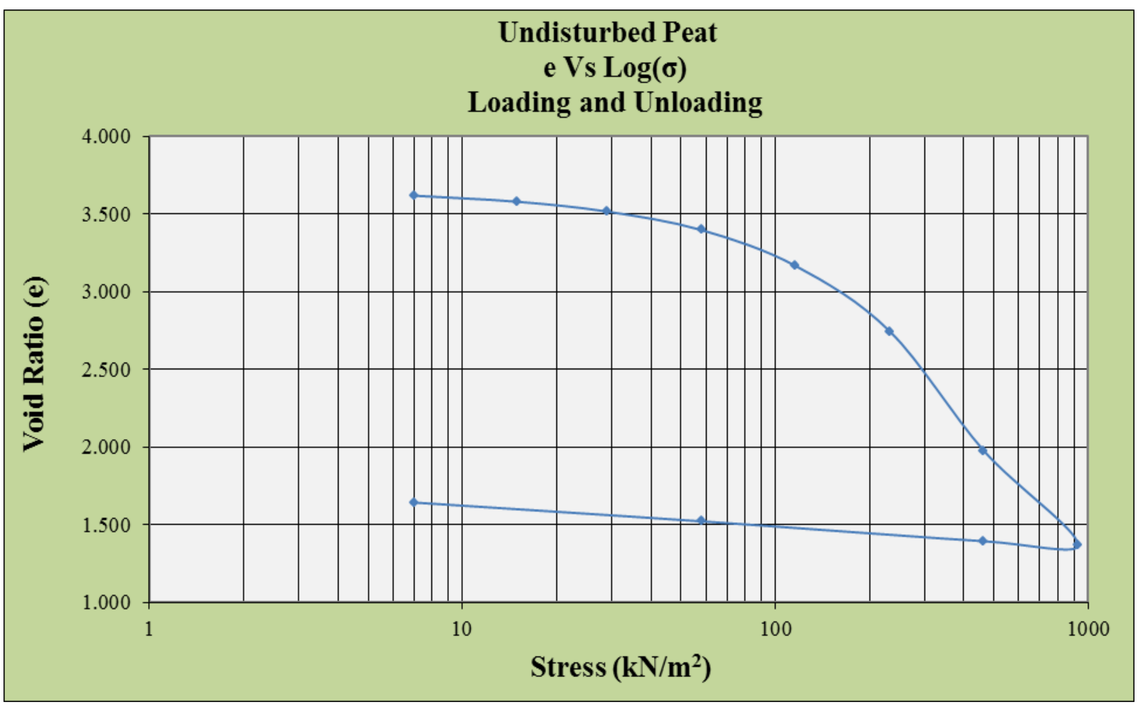


Figure 4.6 – Load Vs voids ratio (e) – BH 5 (13.50m-14.25m)

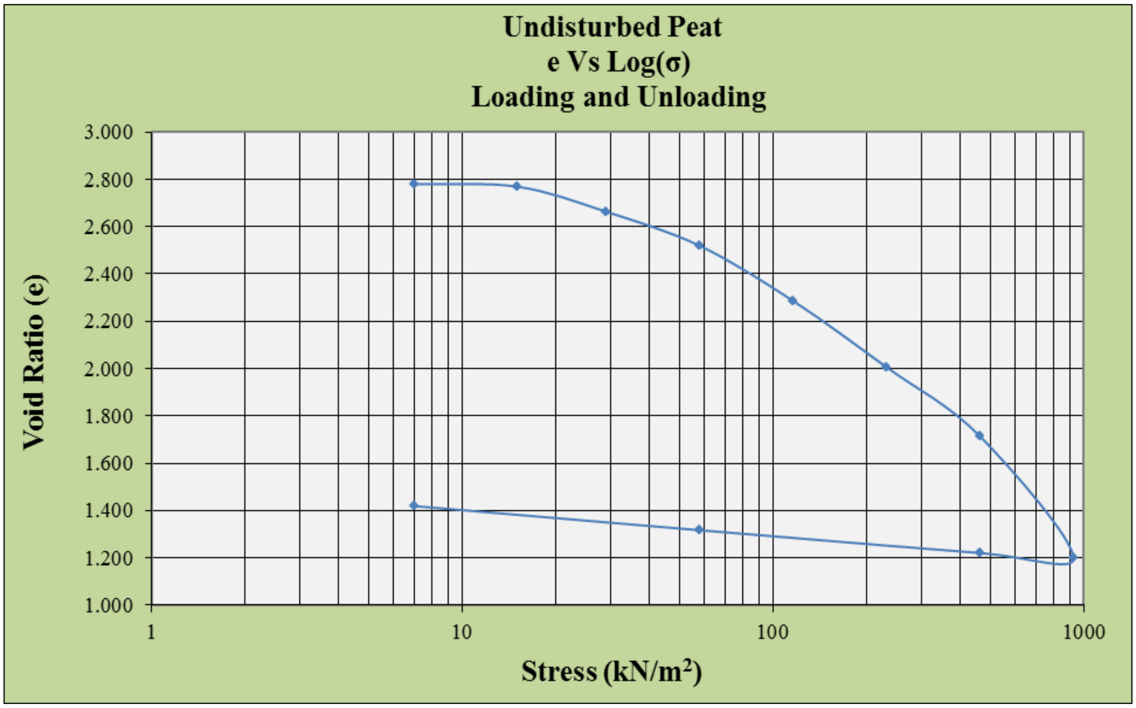


Figure 4.7 – Load Vs voids ratio (e) – BH 5 (14.50m-15.25m)

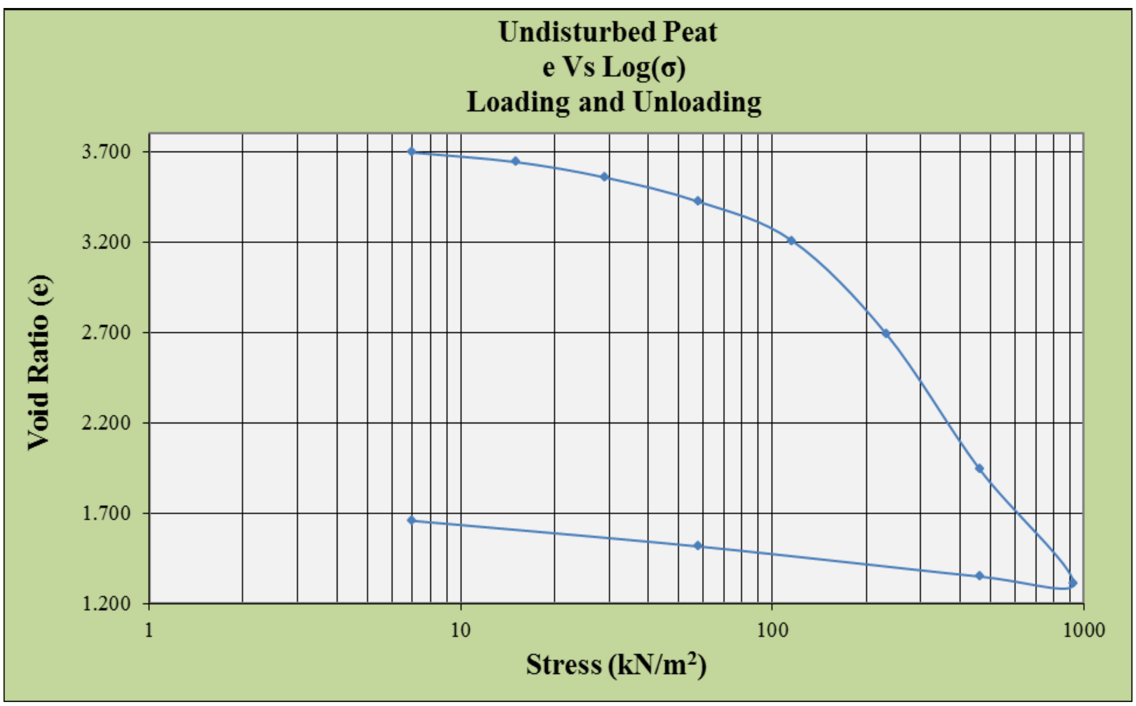


Figure 4.8 – Load Vs voids ratio (e) – BH 6 (9.50m-10.25m)

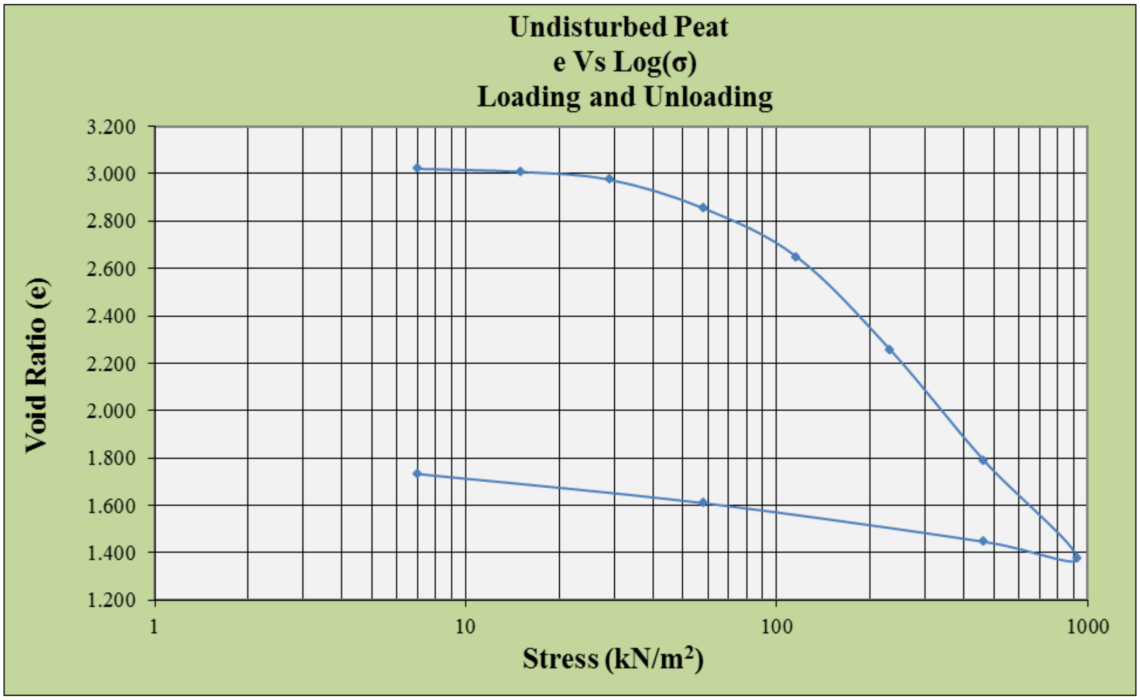


Figure 4.9 – Load Vs voids ratio (e) – BH 8 (7.00m-7.75m)

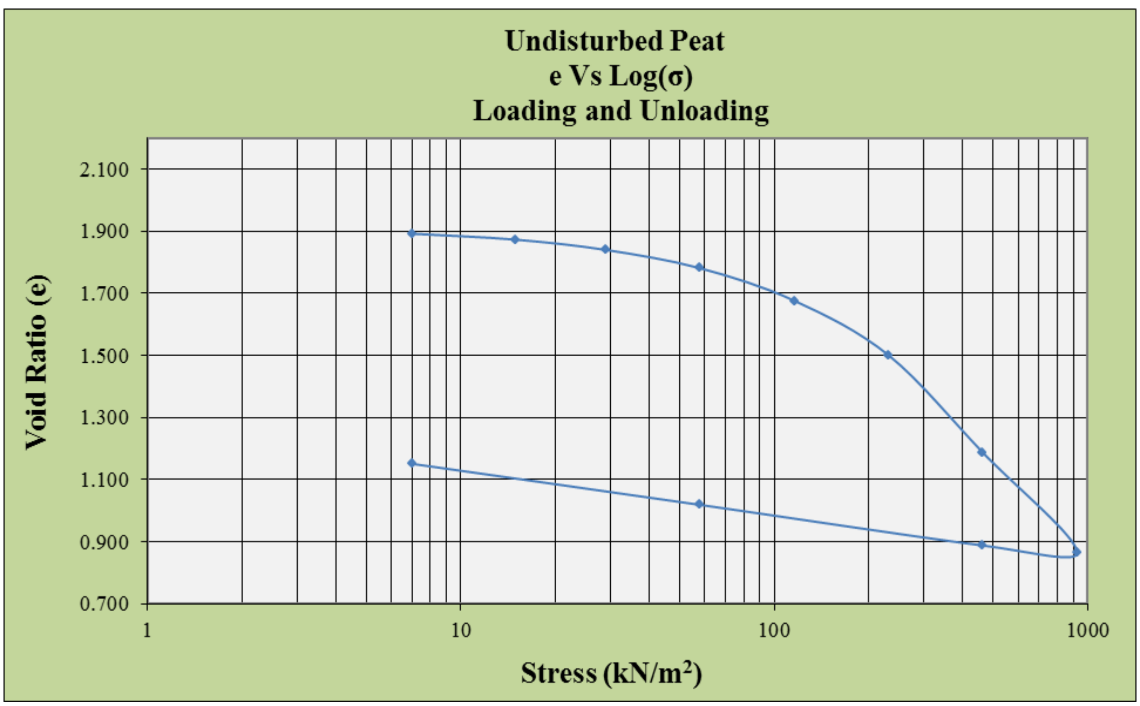


Figure 4.10 – Load Vs voids ratio (e) – BH 10 (12.50m-13.25m)

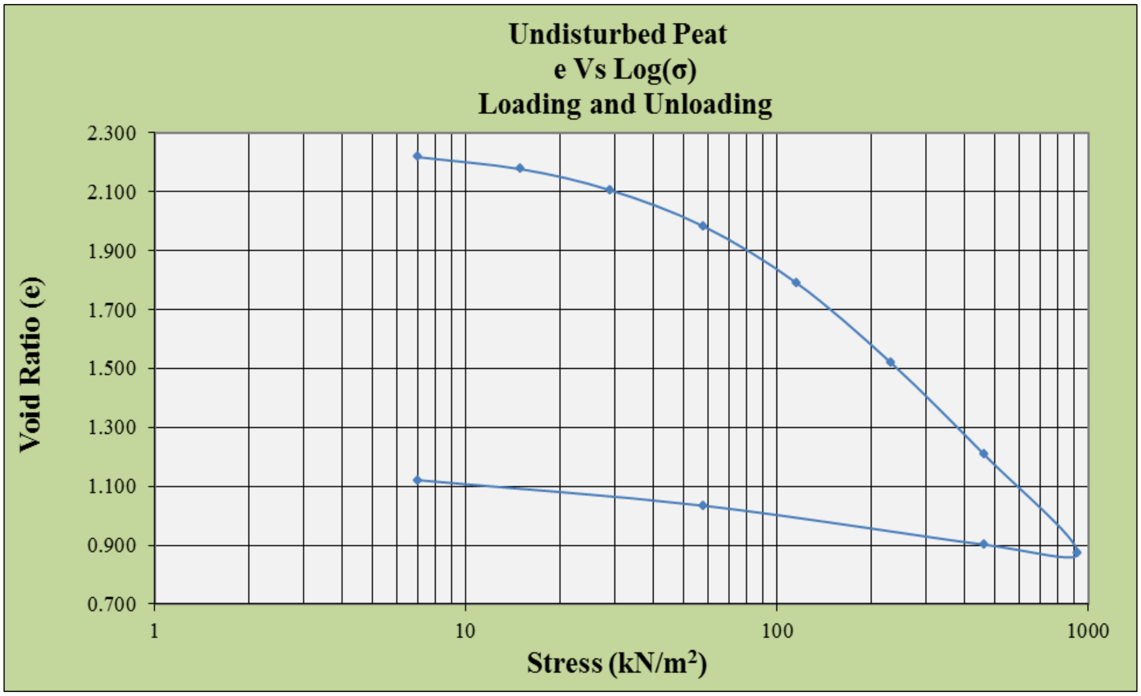


Figure 4.11 – Load Vs voids ratio (e) – BH 10 (13.50m-14.25m)

The C_α values were obtained for each loading increment and presented in Figure 4.12 to Figure 4.22. It could be seen that the samples with high initial moisture content (around or greater than 200%) have given higher coefficients of secondary consolidation.

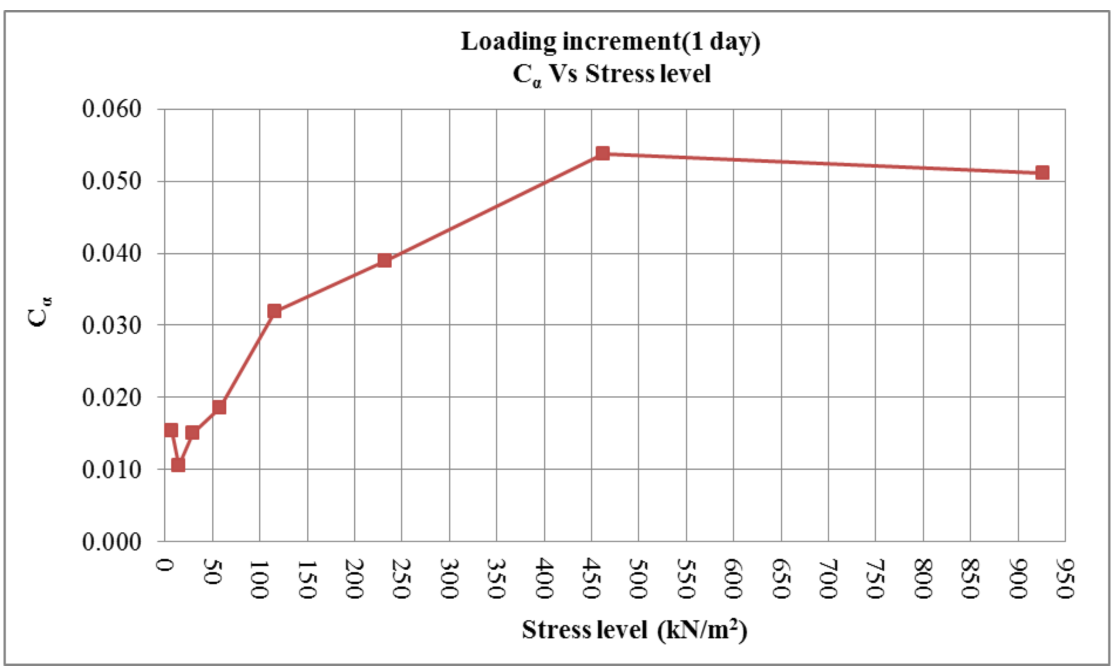


Figure 4.12 – C_α Vs Stress level – BH 1 (14.25m-15.00m)

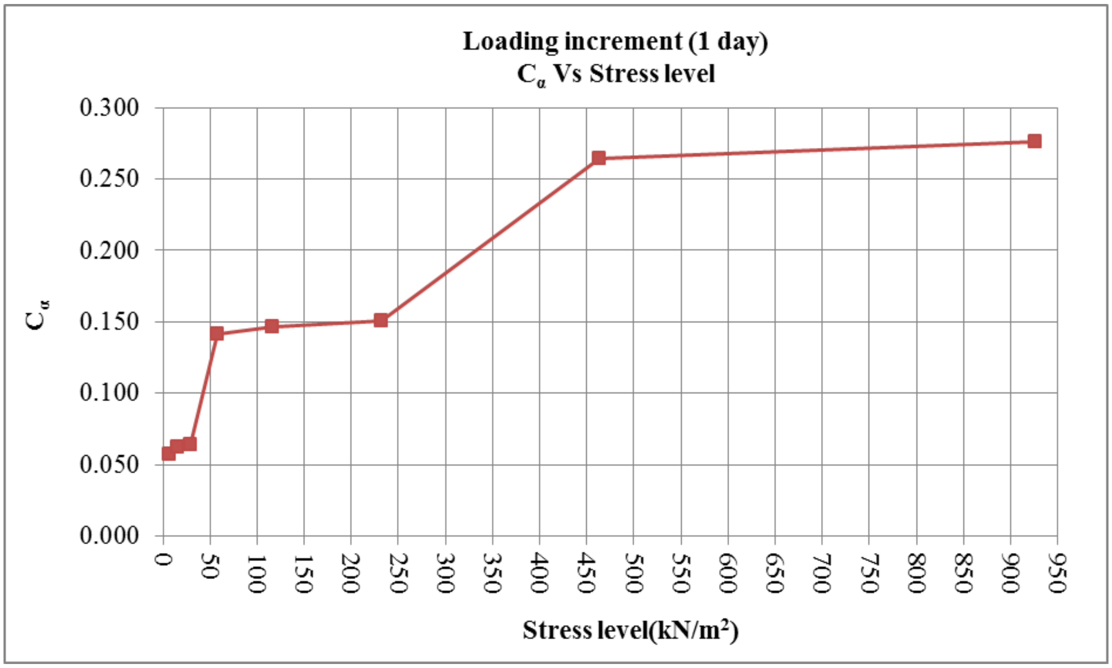


Figure 4.13 – Cα Vs Stress level – BH 2 (12.00m-12.75m)

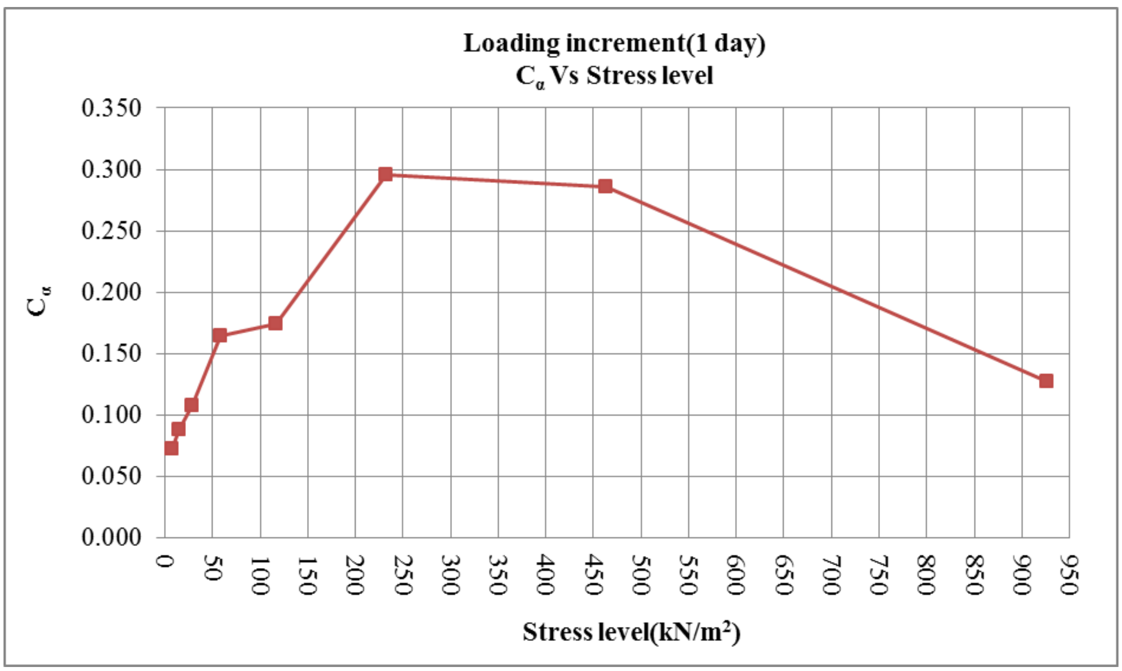


Figure 4.14 – Cα Vs Stress level – BH 2 (14.25m-15.00m)

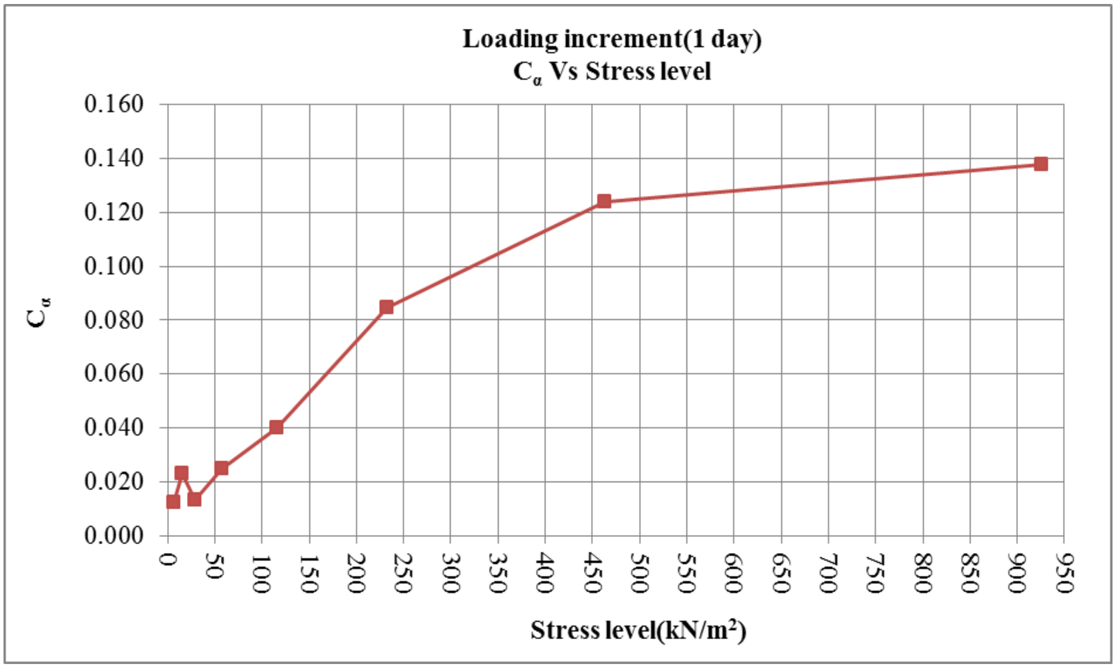


Figure 4.15 – C_α Vs Stress level – BH 4 (12.00m-12.75m)

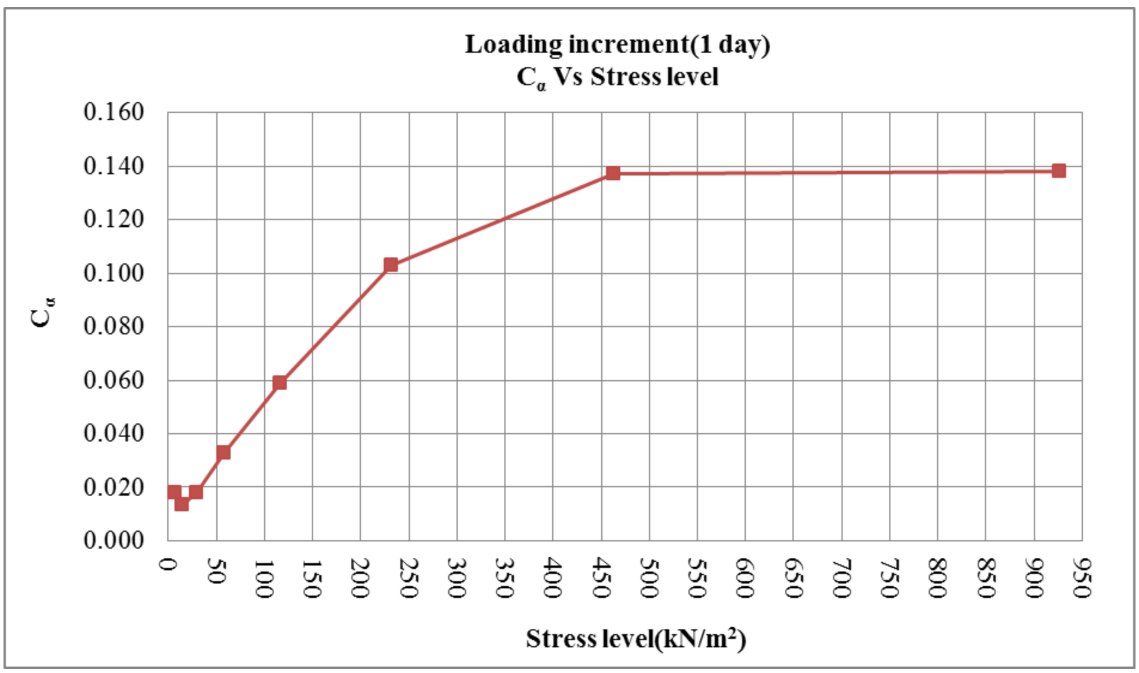


Figure 4.16 – C_α Vs Stress level – BH 4 (15.00m-15.75m)

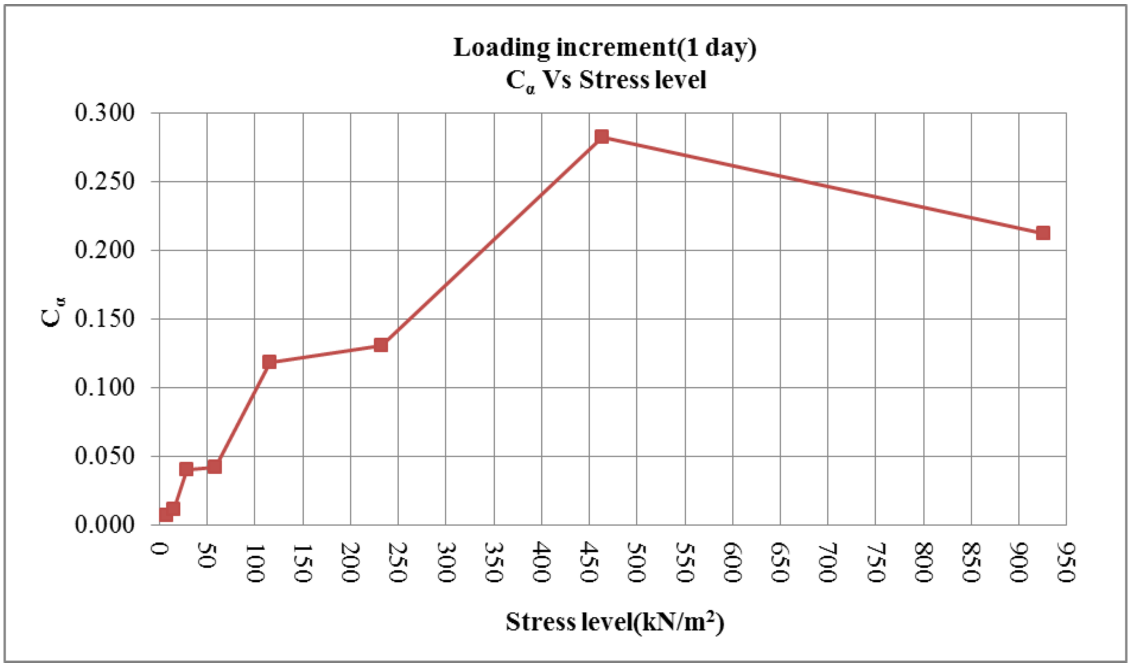


Figure 4.17 – Cα Vs Stress level – BH 5 (13.50m-14.25m)

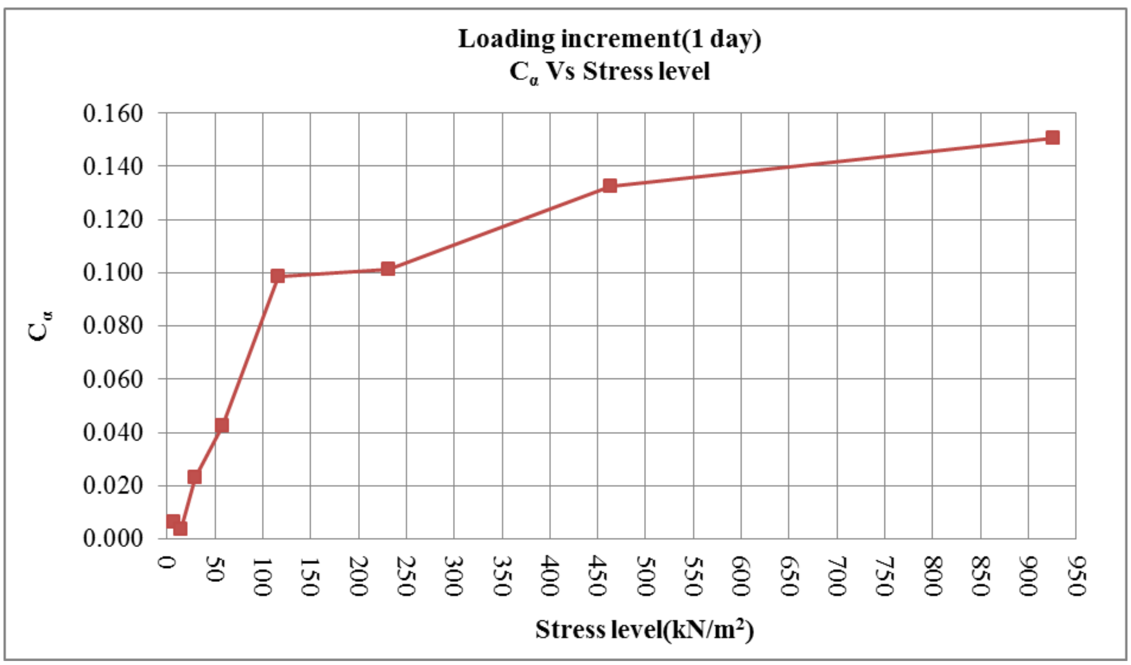


Figure 4.18 – Cα Vs Stress level – BH 5 (14.50m-15.25m)

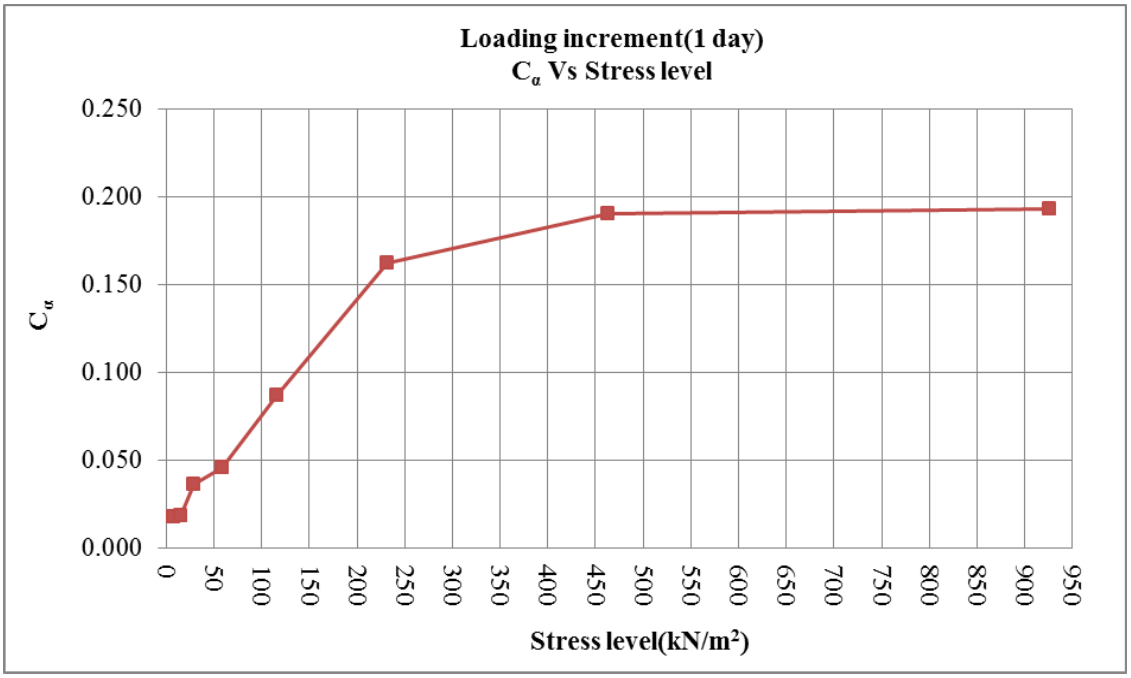


Figure 4.19 – Cα Vs Stress level – BH 6 (9.50m-10.25m)

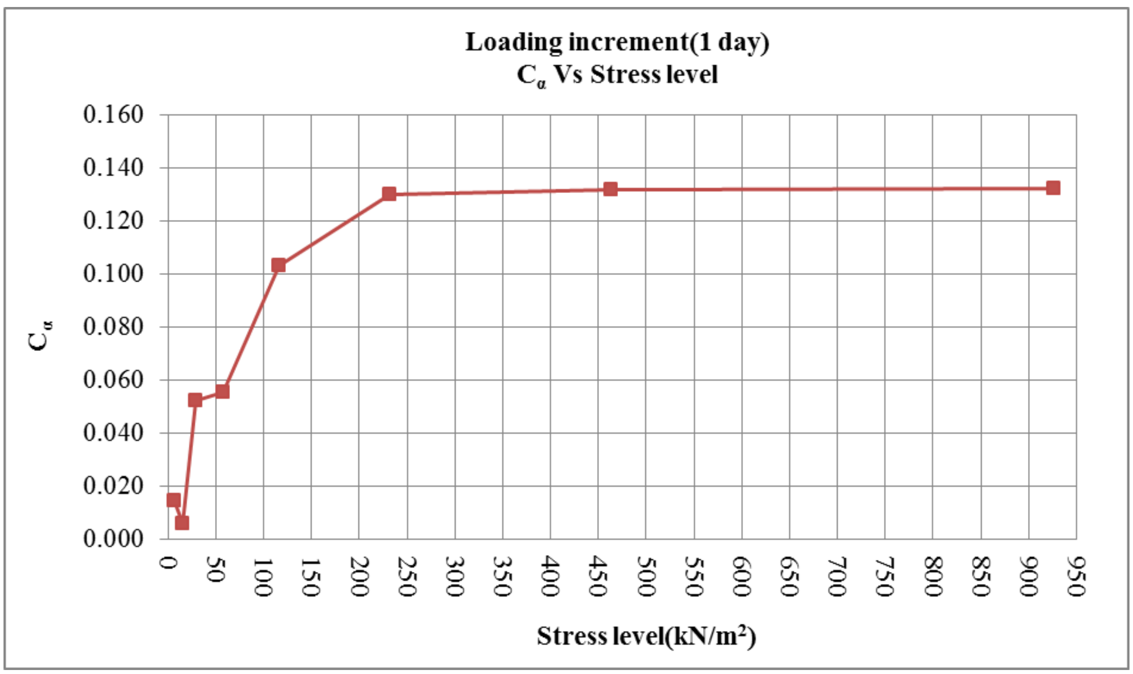


Figure 4.20 – Cα Vs Stress level – BH 8 (7.00m-7.75m)

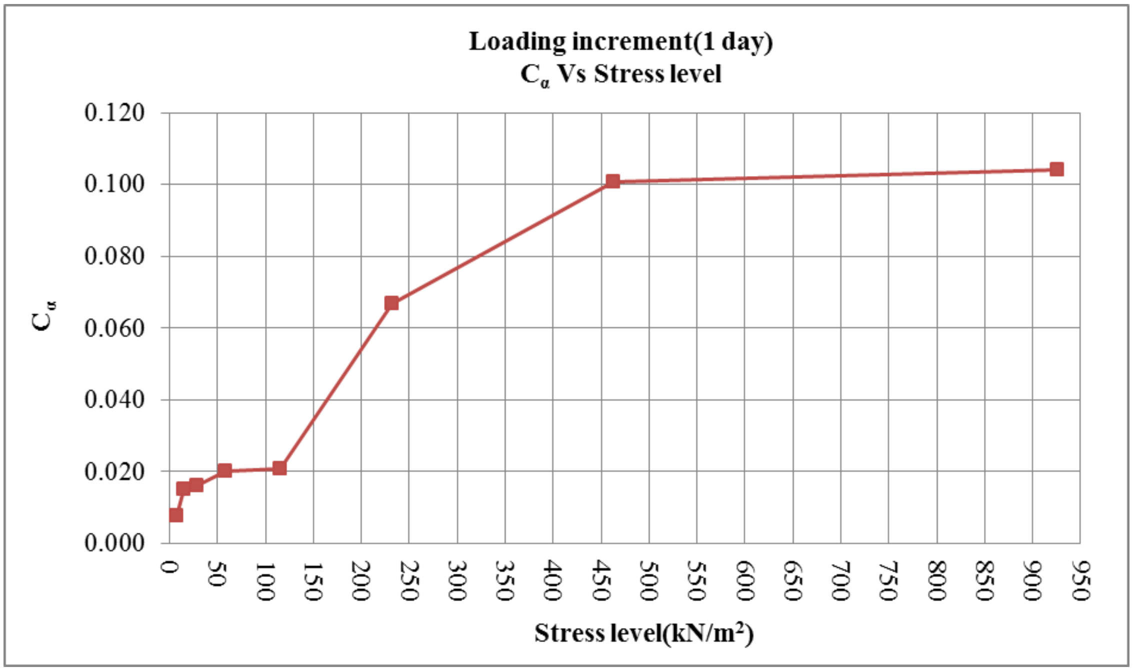


Figure 4.21 – Cα Vs Stress level – BH 10 (12.50m-13.25m)

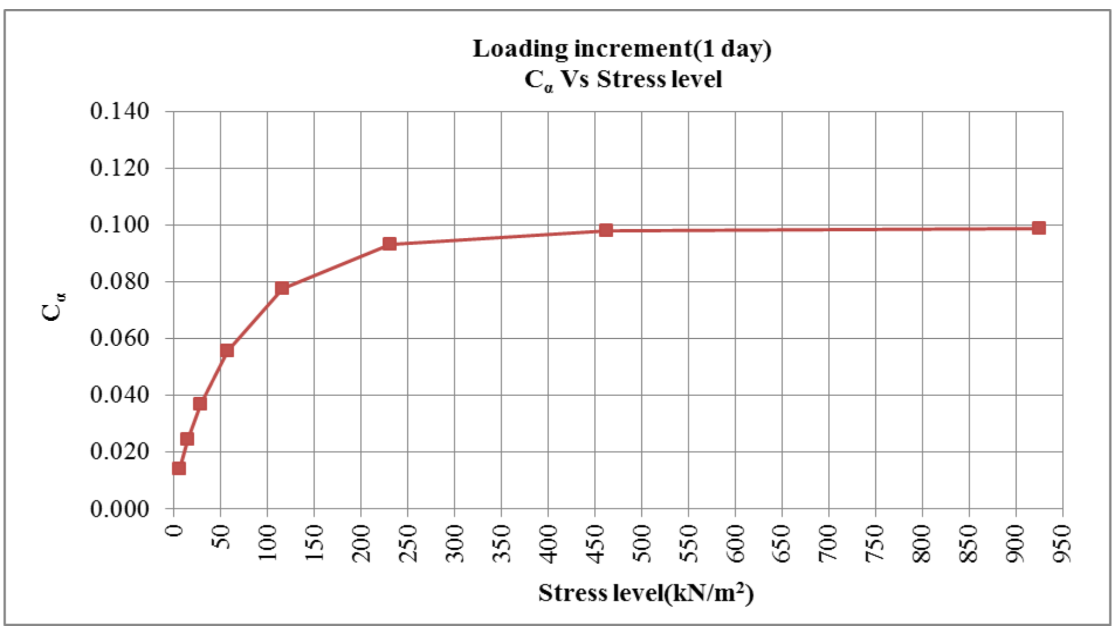


Figure 4.22 – Cα Vs Stress level – BH 10 (13.50m-14.25m)

4.1.1 Variation of Cα//Cα with OCR

As revealed by typical e Vs log (σ) plots these samples posses significantly high pre-consolidation pressures. Therefore, at initial load increments the samples are with a high OCR. Hence, using e Vs log (time) plot for a load increment closest to the pre-consolidation pressures was identified and the coefficient of secondary consolidation corresponding that increment was obtained. It was termed C_α. Thereafter, C_α values corresponding to the load increments lower than the pre-consolidation pressure are obtained and termed $C_\alpha^{/}$. The OCR value was calculated using those tested stress level and identified pre-consolidation pressure. (OCR= $P_c/\sigma^{/}$).

Following the notation adopted with simulated tests the ratio of $C_\alpha^{/}/C_\alpha$ plotted against OCR. The graph in Figure 4.23 – ($C_\alpha^{/}/C_\alpha$) Vs OCR obtained for different UD samples illustrates the reduction of C_α due to the pre-consolidation.

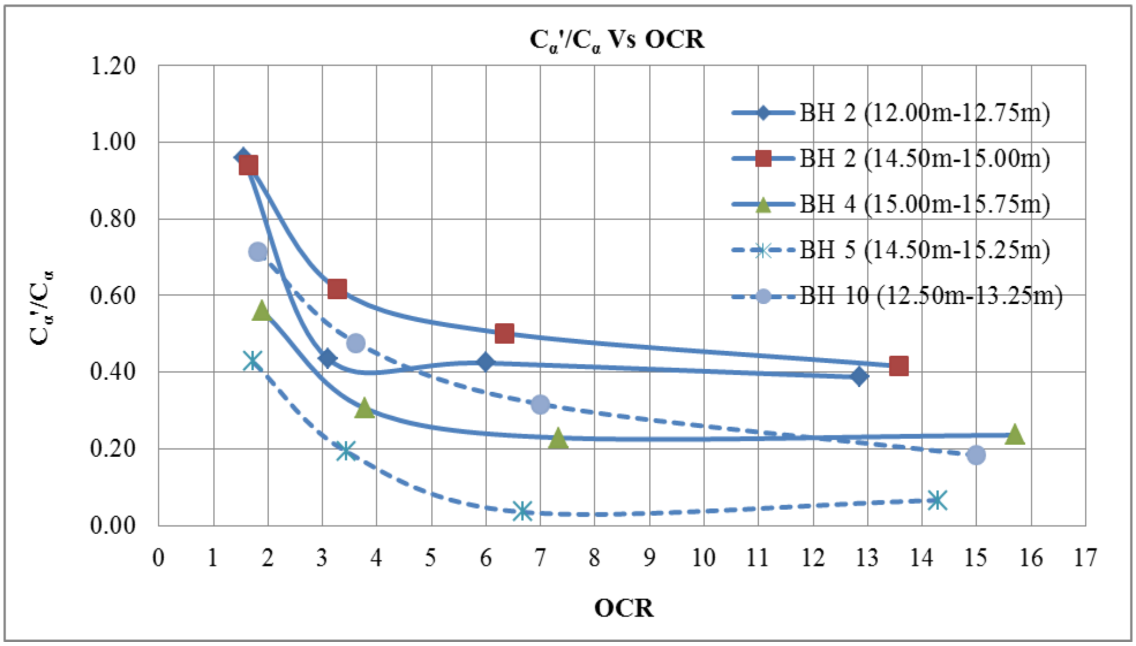


Figure 4.23 – Variation of $C_\alpha^{/}/C_\alpha$ with OCR for UD samples from CKE project

4.1.2 Conformity with C_α/C_c Concept

Attempts were made to test the C_α/C_c concept also using this data. The C_α/C_c values were obtained for each loading increment in compression stage and presented in Table 4.2 to Table 4.13. It could be seen that in initial load increments the C_α/C_c ratio was much greater than the usual range of 0.05 to 0.06. At this stage the C_c value is in transition and there is a difficulty in extracting the exact value. Mesri et al (1997) also proposed that considerable care is required in interpreting C_α Vs C_c data from the Oedometer tests in which small pressure increments are applied following sustained secondary compression.

Table 4.2 – C_α/C_c and values for different loading – BH 1 (14.25m-15.00m)

Load	Void ratio	C_α	C_c	C_α/C_c
0	0.969			
7	0.888	0.015	0.1027	0.15
15	0.854	0.011	0.1027	0.11
29	0.807	0.015	0.470	0.03
58	0.733	0.019	0.470	0.04
116	0.648	0.032	0.470	0.07
232	0.52	0.039	0.470	0.08
463	0.373	0.054	0.470	0.11
926	0.227	0.051	0.470	0.11

Table 4.3 – C_α/C_c and values for different loading – BH 2 (12.50m-12.75m)

Load	Void ratio	C_α	C_c	C_α/C_c
0	5.694			
7	5.507	0.057	0.3354	0.17
15	5.396	0.062	0.3354	0.18
29	5.269	0.064	2.60	0.02
58	4.932	0.141	2.60	0.05
116	4.56	0.147	2.60	0.06
232	4.07	0.151	2.60	0.06
463	3.172	0.264	2.60	0.10
926	2.369	0.276	2.60	0.10

Table 4.4 – C_α/C_c and values for different loading – BH 2 (14.25m-15.00m)

Load	Void ratio	C_α	C_c	C_α/C_c
0	6.492			
7	6.166	0.073	0.5378	0.14
15	5.988	0.088	0.5378	0.16
29	5.773	0.108	2.80	0.04
58	5.308	0.165	2.80	0.06
116	4.828	0.175	2.80	0.06
232	4.035	0.295	2.80	0.11
463	3.1	0.286	2.80	0.10
926	2.354	0.198	2.80	0.07

Table 4.5 – C_α/C_c and values for different loading – BH 4 (12.00m-12.75m)

Load	Void ratio	C_α	C_c	C_α/C_c
0	2.891			
7	2.832	0.013	0.0967	0.13
15	2.8	0.023	0.0967	0.24
29	2.747	0.013	1.54	0.008
58	2.676	0.025	1.54	0.02
116	2.549	0.040	1.54	0.03
232	2.316	0.085	1.54	0.06
463	1.801	0.124	1.54	0.08
926	1.326	0.138	1.54	0.09

Table 4.6 – C_α/C_c and values for different loading – BH 4 (15.00m-15.75m)

Load	Void ratio	C_α	C_c	C_α/C_c
0	2.995			
7	2.958	0.018	0.0876	0.21
15	2.929	0.014	0.0876	0.16
29	2.873	0.018	1.90	0.009
58	2.793	0.033	1.90	0.02
116	2.644	0.059	1.90	0.03
232	2.308	0.103	1.90	0.05
463	1.62	0.137	1.90	0.07
926	1.161	0.138	1.90	0.07

Table 4.7 – C_α/C_c and values for different loading – BH 5 (13.50m-14.25m)

Load	Void ratio	C_α	C_c	C_α/C_c
0	3.785			
7	3.617	0.007	0.1178	0.06
15	3.578	0.011	0.1178	0.09
29	3.515	0.040	2.05	0.02
58	3.396	0.041	2.05	0.02
116	3.165	0.118	2.05	0.06
232	2.744	0.130	2.05	0.06
463	1.976	0.282	2.05	0.14
926	1.37	0.212	2.05	0.10

Table 4.8 – C_α/C_c and values for different loading – BH 5 (14.50m-15.25m)

Load	Void ratio	C_α	C_c	C_α/C_c
0	2.889			
7	2.78	0.007	0.0332	0.21
15	2.769	0.004	0.0332	0.12
29	2.663	0.023	1.60	0.01
58	2.519	0.042	1.60	0.03
116	2.286	0.099	1.60	0.06
232	2.005	0.101	1.60	0.06
463	1.714	0.133	1.60	0.08
926	1.198	0.151	1.60	0.09

Table 4.9 – C_α/C_c and values for different loading – BH 6 (9.50m-10.25m)

Load	Void ratio	C_α	C_c	C_α/C_c
0	3.881			
7	3.694	0.018	0.1601	0.11
15	3.641	0.018	0.1601	0.11
29	3.556	0.036	2.25	0.02
58	3.422	0.046	2.25	0.02
116	3.205	0.087	2.25	0.04
232	2.691	0.162	2.25	0.07
463	1.942	0.190	2.25	0.08
926	1.312	0.193	2.25	0.08

Table 4.10 – C_α/C_c and values for different loading – BH 6 (10.25m-11.00m)

Load	Void ratio	C_α	C_c	C_α/C_c
0	1.655			
7	1.56	0.011	0.0937	0.12
15	1.529	0.018	0.0937	0.19
29	1.479	0.023	0.80	0.28
58	1.39	0.033	0.80	0.04
116	1.232	0.045	0.80	0.06
232	1.095	0.030	0.80	0.04
463	0.848	0.064	0.80	0.08
926	0.626	0.065	0.80	0.08

Table 4.11 – C_α/C_c and values for different loading – BH 8 (7.00m-7.75m)

Load	Void ratio	C_α	C_c	C_α/C_c
0	3.144			
7	3.021	0.014	0.0393	0.36
15	3.008	0.006	0.0393	0.14
29	2.975	0.052	1.40	0.04
58	2.855	0.055	1.40	0.04
116	2.649	0.103	1.40	0.07
232	2.256	0.130	1.40	0.09
463	1.79	0.132	1.40	0.09
926	1.374	0.132	1.40	0.09

Table 4.12 – C_α/C_c and values for different loading – BH 10 (12.50m-13.25m)

Load	Void ratio	C_α	C_c	C_α/C_c
0	1.969			
7	1.892	0.003	0.0574	0.06
15	1.873	0.008	0.0574	0.14
29	1.84	0.013	1.00	0.01
58	1.781	0.020	1.00	0.02
116	1.676	0.021	1.00	0.02
232	1.5	0.067	1.00	0.07
463	1.187	0.101	1.00	0.10
926	0.865	0.104	1.00	0.10

Table 4.13 – C_α/C_c and values for different loading – BH 10 (13.50m-14.25m)

Load	Void ratio	C_α	C_c	C_α/C_c
0	2.299			
7	2.217	0.014	0.1239	0.11
15	2.176	0.025	0.1239	0.20
29	2.105	0.037	1.15	0.03
58	1.982	0.056	1.15	0.05
116	1.788	0.078	1.15	0.07
232	1.519	0.093	1.15	0.08
463	1.207	0.098	1.15	0.08
926	0.873	0.099	1.15	0.09

4.2 Tests on undisturbed samples of Preloaded Peaty clay from Fish Market Project

New fish market complex at Peliyagoda was constructed on a site underlain by peaty clay layer of thickness around 5-10m. All the buildings were constructed on pile foundations but the access roads and surroundings were simply filled up. There were large settlements in the site, in access roads and underneath the building which are on piled foundation. A detailed investigation was done with several boreholes and undisturbed samples were obtained to design rectification measures for the large voids that have developed beneath the buildings. Samples were obtained from locations under the fill and from locations in the virgin ground. Consolidation tests of one day long and increments were conducted on these UD samples and details of tested samples are presented in table 4.14.

Table 4.14 – Details of tested samples

Borehole No	Depth	Moisture content%	Specific gravity	Organic content %	Pre-Consolidation Pressure(Pc) (kPa)
BH 3	7.50-8.00	184.4	1.88	-	42
BH 6	3.00-3.50	395.7	1.70	-	25

Tests were conducted with only loading increments. The e Vs log σ plots for the tests are presented in Figure 4.24 to Figure 4.25.

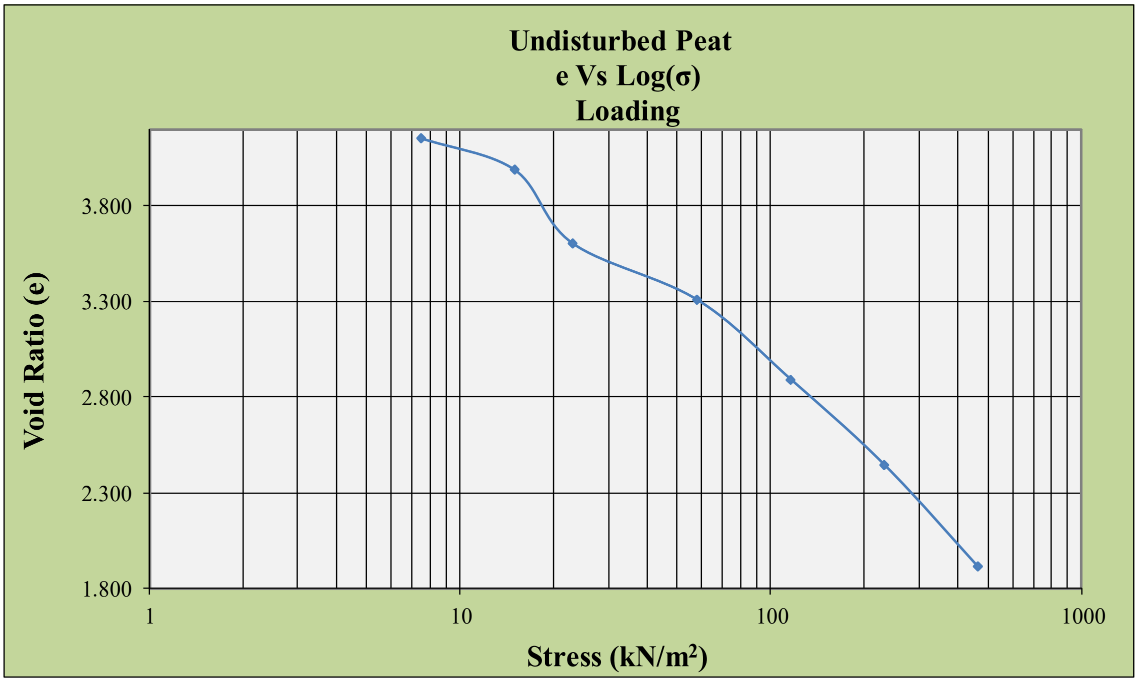


Figure 4.24 – Load Vs voids ratio (e) – BH 3 (7.50m-8.00m)

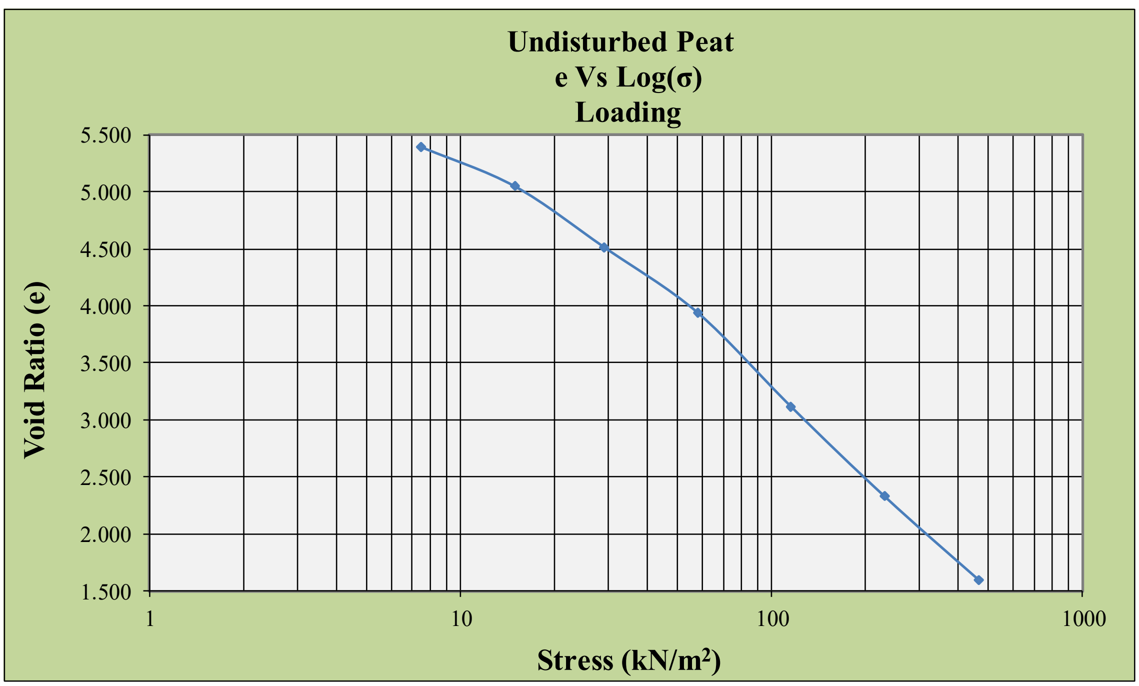


Figure 4.25 – Load Vs voids ratio (e) – BH 6 (3.00m-3.50m)

The C_α values were obtained for each loading increment in compression stage and presented in Figure 4.26 to Figure 4.27.

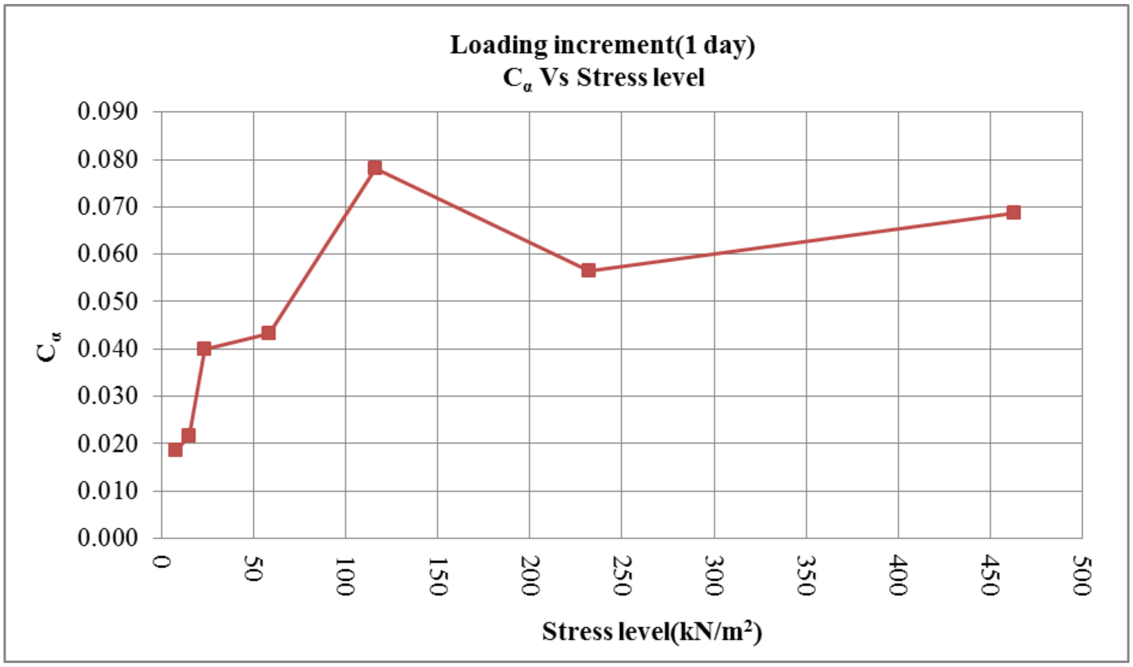


Figure 4.26 – C_α Vs Stress level – BH 3 (7.50m-8.00m)

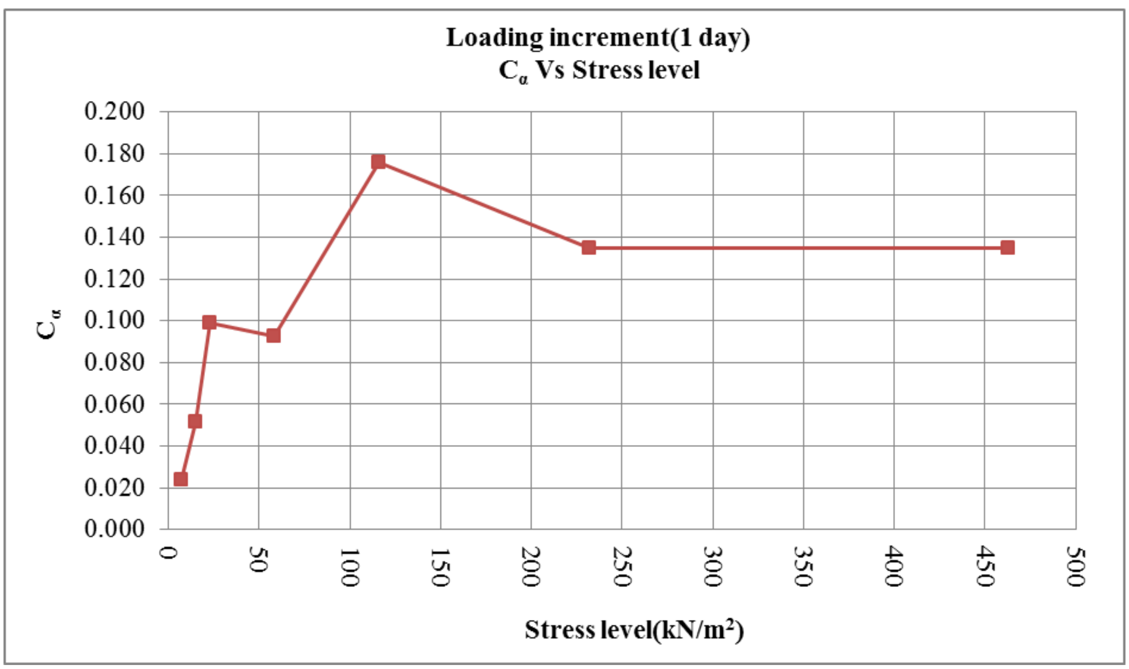


Figure 4.27 – C_α Vs Stress level – BH 6 (3.00m-3.50m)

4.2.1 Variation of $C_\alpha/ /C_\alpha$ with OCR

As mentioned before, these tests are also done with loading and un-loading increments only. Hence, using e Vs log (time) plot of the load increment closest to the pre-consolidation pressures C_α was obtained and termed C_α. Thereafter, C_α values corresponding to the load increments lower than the pre-consolidation pressure are obtained and termed $C_\alpha/$. The OCR value was calculated using the tested stress level and pre-consolidation pressure (OCR Pc/σ').

Following the notation adopted with simulated tests the ratio of $C_\alpha/ /C_\alpha$ plotted against OCR. The graph in Figure 4.28 shows a reduction of C_α ($C_\alpha/ /C_\alpha$) Vs OCR obtained for different UD samples.

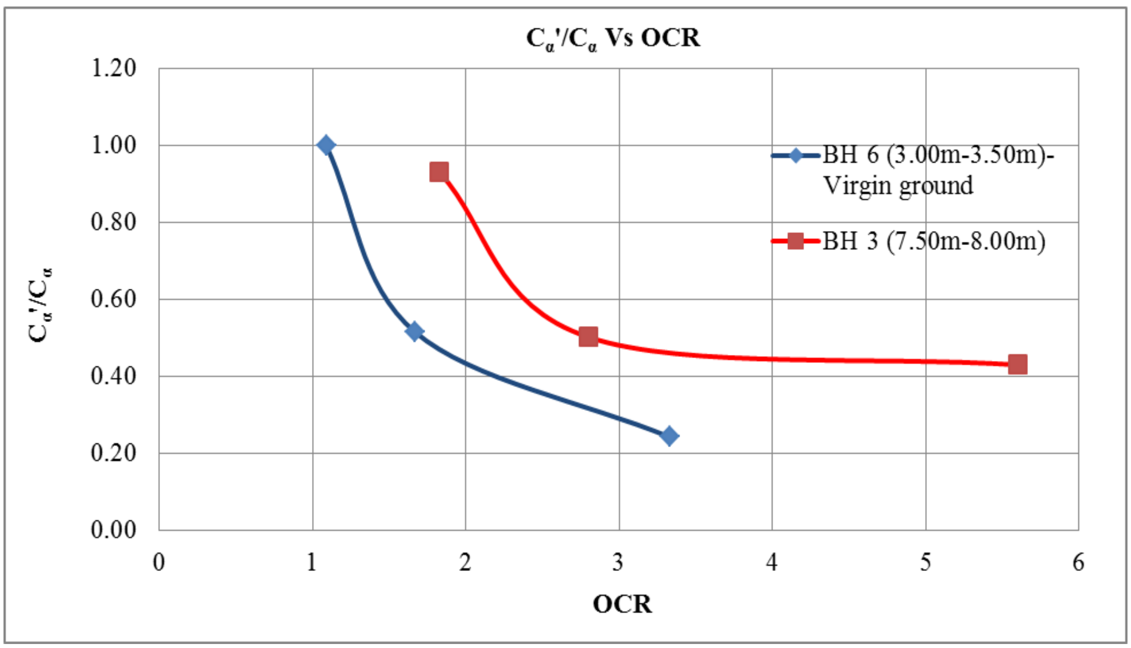


Figure 4.28 – Variation of $C_\alpha^{/}/C_\alpha$ with OCR for different peat samples

4.2.2 Conformity with C_α/C_c Concept

The C_α/C_c values were obtained for each loading increment in compression stage and presented in Table 4.15 and Table 4.16. The values are in the normal range.

Table 4.15 – C_α/C_c and values for different loading – BH 3 (7.50m-8.00m)

Load	Void ratio	C_α	C_c	C_α/C_c
0	4.25			
7.5	4.153	0.019	0.5514	0.03
15	3.987	0.022	0.5514	0.04
23	3.604	0.040	1.60	0.03
58	3.309	0.043	1.60	0.03
116	2.892	0.078	1.60	0.05
232	2.445	0.056	1.60	0.04
463	1.913	0.069	1.60	0.04

Table 4.16 - C_α/C_c and values for different loading – BH 6 (3.00m-3.50m)

Load	Void ratio	C_α	C_c	C_α/C_c
0	5.711			
7.5	5.395	0.024	1.1494	0.02
15	5.049	0.051	1.1494	0.04
29	4.517	0.099	2.6	0.04
58	3.941	0.092	2.60	0.04
116	3.115	0.176	2.60	0.07
232	2.327	0.135	2.60	0.05
463	1.599	0.135	2.60	0.05

5.0 Effects of Sustained loading

5.1 Effects of Sustained loading on secondary consolidation

Mesri et al (1997) discusses the effect of sustained secondary consolidation on the compressibility behaviour of fibrous peat. The plot in Figure 5.1 was developed with end of primary (t_p) consolidation settlement (as measured by complete dissipation of pore water pressure) and computation of secondary settlement (strain) for different times $10t_p$, $100t_p$ etc. using C_α/C_c ratio.

Figure 5.2 the effect of sustained secondary consolidation at the given load (as seen by 37 days of secondary consolidation at 192 kPa), on the subsequent loading. The peat will follow the loading path a, b, c, d upon a new load increment. Due to the sustained secondary consolidation the peat sample exhibits a higher pre-consolidation pressure. This has been attributed to trixotropic hardening or other ageing mechanisms taking place together with secondary compression (Mesri and Castro 1987, Mesri 1993)

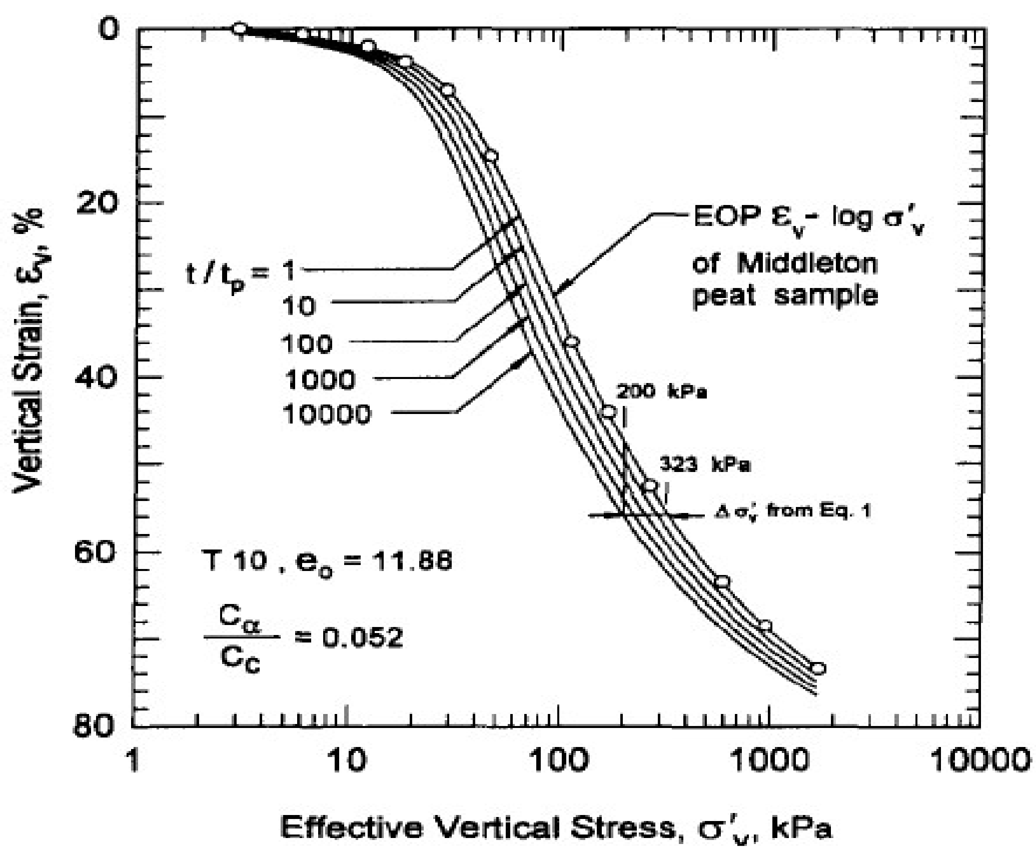


Figure 5.1 – Secondary compression of Middleton peat predicted by C_α/C_c concept of compressibility (after Mesri et al 1997)

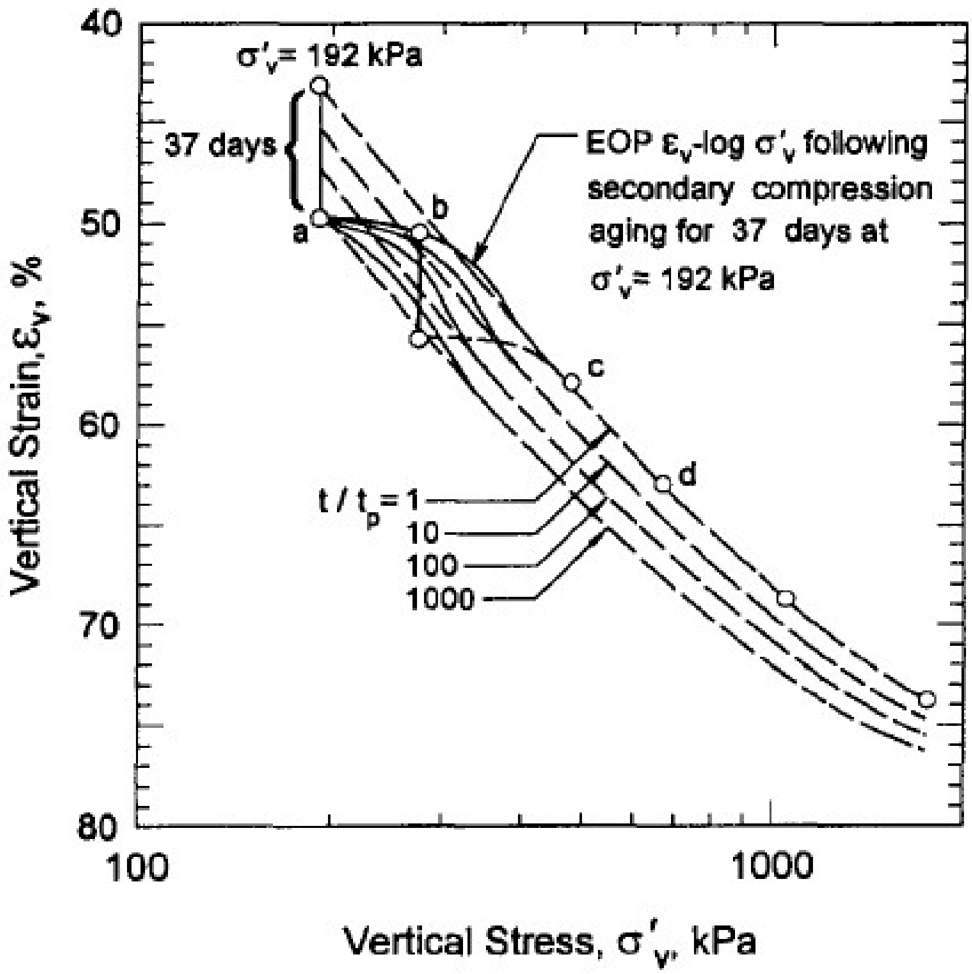


Figure 5.2 – Compression behaviour of Middleton Peat for pressure increment after secondary compression ageing (after Mesri et al 1997)

A series of further tests were conducted to obtain these characteristics for the amorphous peaty clays of Sri Lanka. Four tests were done on identically prepared (remoulded) peaty clay. An equal mass of peaty clay was placed in the oedometer rings 28 days after remoulding. Further loading arrangement is presented in table 5.1.

Table 5.1 – Loading arrangement of each test

Sample	Load increments
Sample 1(NBRO -Test F) Figure 5.3	0-5(3 days)- 10(3days)-20 (44 days) Then loaded to 40kPa (61 days)
Sample 2(NBRO-Test G) Figure 5.4	0-5(3 days)- 10(3days)-20(3 days)-40(39 days) Then loaded to 80kPa(61 days)
Sample 3(NBRO-Test H) Figure 5.5	0-5(3 days)- 10(3days)-20(3 days)-40(3 days)-80(37 days) Then loaded to 160kPa(49 days)
Sample 4 (NBRO-Test I) Figure 5.6	0-5(3 days)- 10(3days)-20(3 days)-40(3 days)-80(3 days)-160(28 days) Then loaded to 320kPa (58 days)

In each load increment readings were taken at 6s, 9s, 15s, 30s, 1min, 1.30min, 2min, 3min,5 min,7 min,10 min, 15 min, 20 min,30 min, 40 min, 1hr,1.30hr, 3 hr,5 hr,7 hr, 24hr,27 hr, 29 hr, 32hr, 48hr, 51hr, 53hr, 55hr,72hr, and one reading a day thereafter.

These plots showed that after a period of sustained secondary consolidation the C_α value reduced considerably. As in;

- Figure 5.3 (d) which is after 44 days of consolidation under previous load increment
- Figure 5.4 (e) after 37 days of consolidation under previous load increment
- Figure 5.5 (f) after 37 days of consolidation under previous load increment and
- Figure 5.6 (g) after 28 days of consolidation under previous load increment

These plots showed that after a period of sustained secondary consolidation the C_α value reduces considerably but increases gradually thereafter. However when times corresponding to this late increase of secondary consolidation are converted to field times through the ratio of test sample thickness and field layer thickness it would a very long time (in excess of 100 years) which may not be of practical interest.

Some whitish chemical compounds were formed near the loading plate in peaty clay samples during the later part of these sustained loading tests. These peaty clay naturally occur under anaerobic conditions and are with a very low PH value in the range of 3. There is a high sulphate content as well. Once there are exposed to aerobic conditions in the Oedometer different chemical reactions can take place at an accelerated rate. Mesri (1997) also has commented on accelerated degradation of peat under laboratory conditions which are aerobic.

The e Vs log(time) plots in the Sample 1 (NBRO-Test F) are presented in Figure 5.3 (a to d).

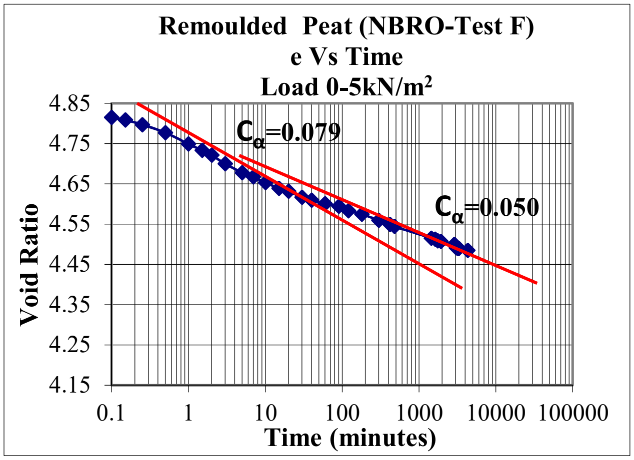


Figure 5.3(a) – Load increment ($0\text{-}5kN/m^2$)

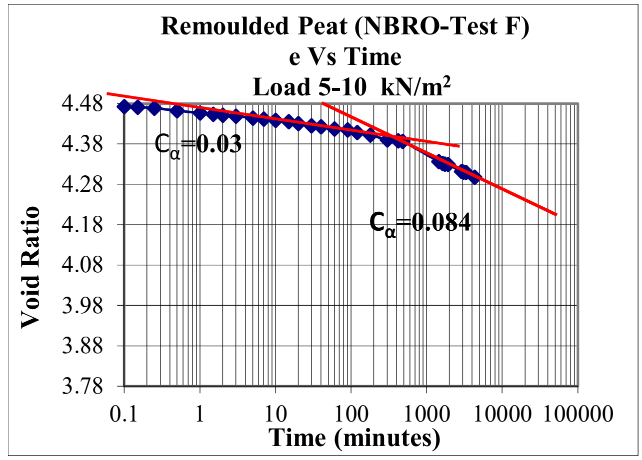


Figure 5.3(b) – Load Increment ($5\text{-}10kN/m^2$)

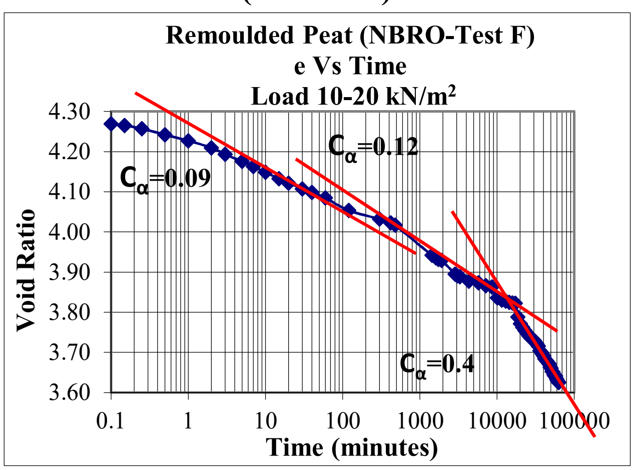


Figure 5.3(c) – Load increment ($10\text{-}20kN/m^2$)

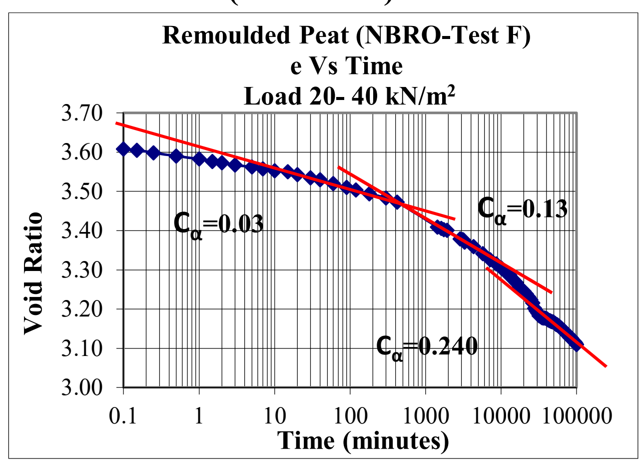


Figure 5.3(d) – Load increment ($20\text{-}40kN/m^2$)

The e Vs log(time) plots in the Sample 2 (NBRO-Test G) are presented in Figure 5.4(a to e).

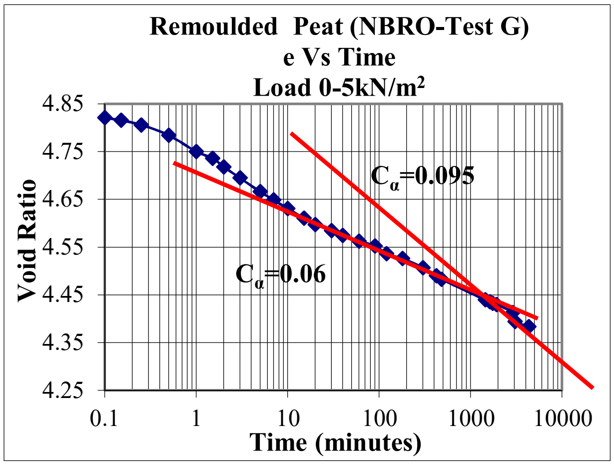


Figure 5.4(a) – Load increment (0-5kN/m^2)

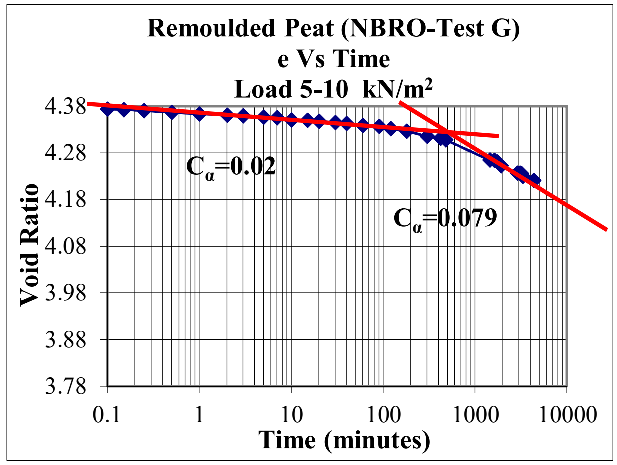


Figure 5.4(b) – Load increment (5-10kN/m^2)

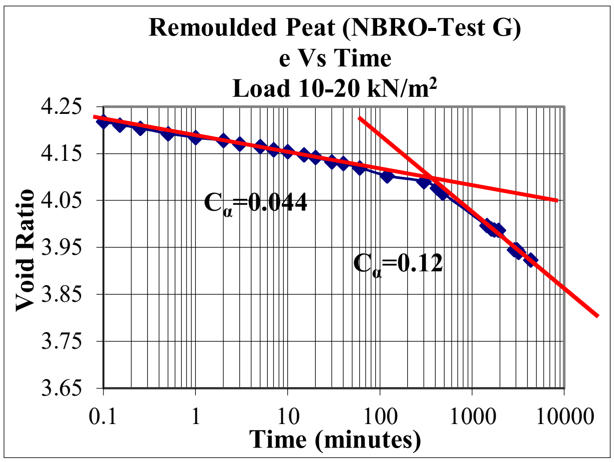


Figure 5.4(c) – Load increment (10-20kN/m^2)

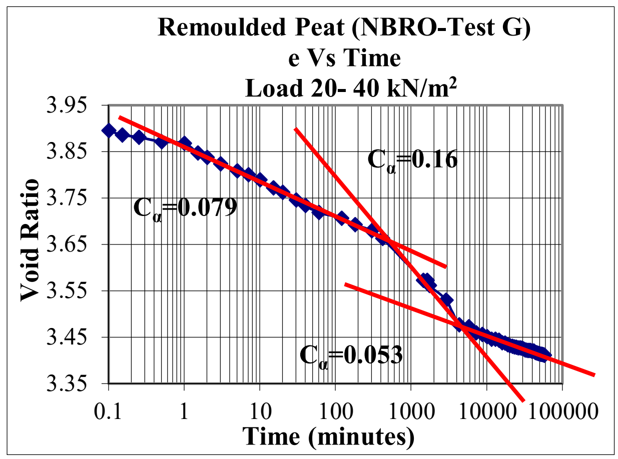


Figure 5.4(d) – Load increment (20-40kN/m^2)

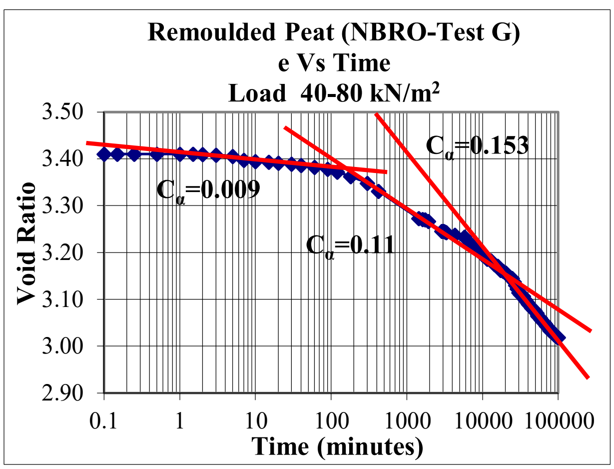


Figure 5.4(e) – Load increment (40-80kN/m^2)

The e Vs log(time) plots in the Sample 3 (NBRO-test H) are presented in Figure 5.5(a to f).

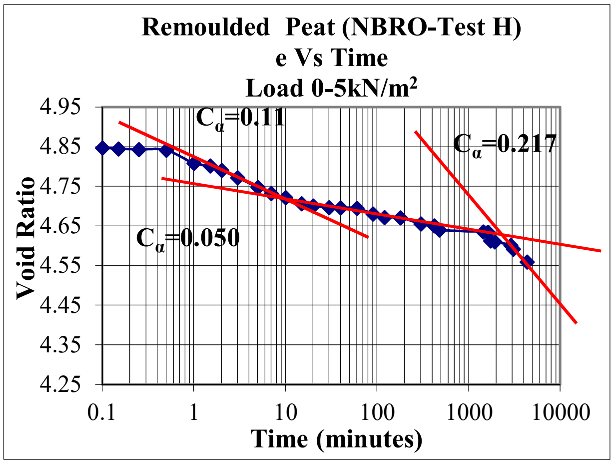


Figure 5.5(a) – Load increment (0-5kN/m^2)

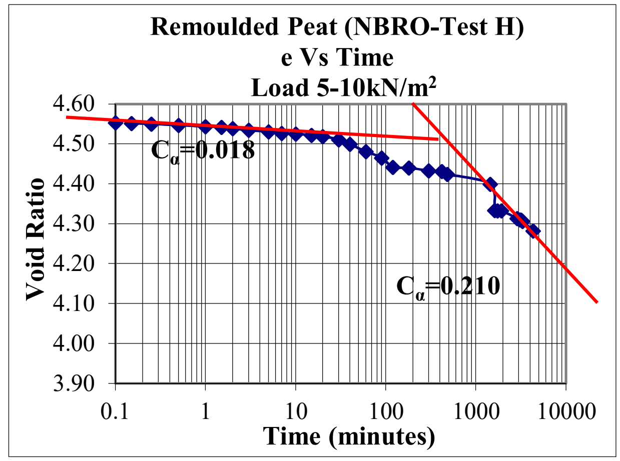


Figure 5.5(b) – Load increment (5-10kN/m^2)

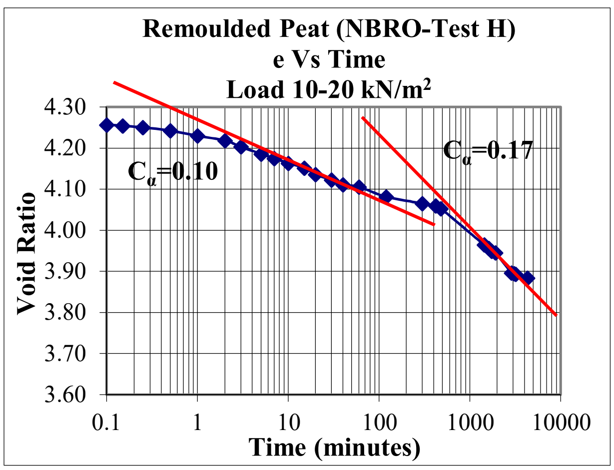


Figure 5.5(c) – Load increment (10-20kN/m^2)

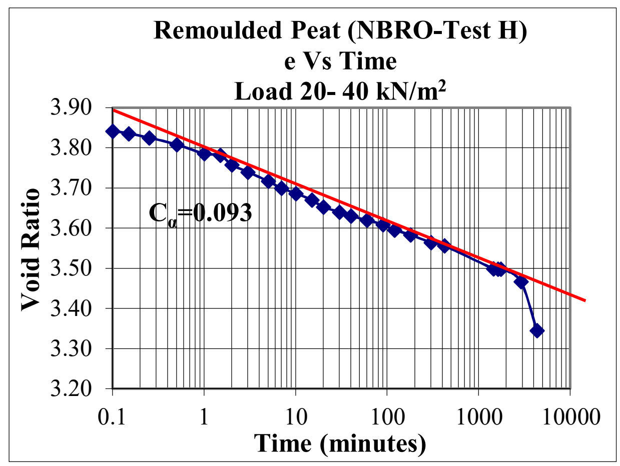


Figure 5.5(d) – Load increment (20-40kN/m^2)

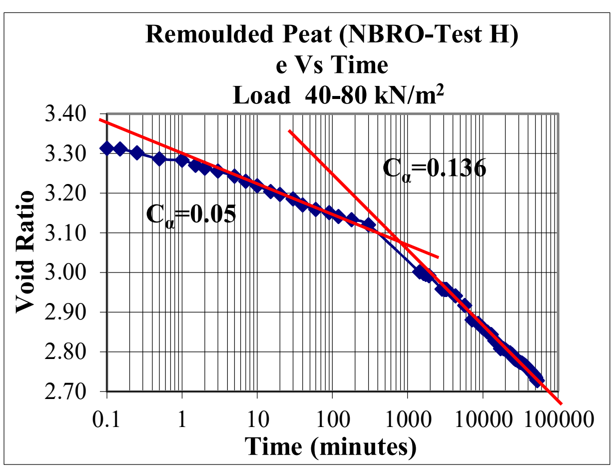


Figure 5.5(e) – Load increment (40-80kN/m^2)

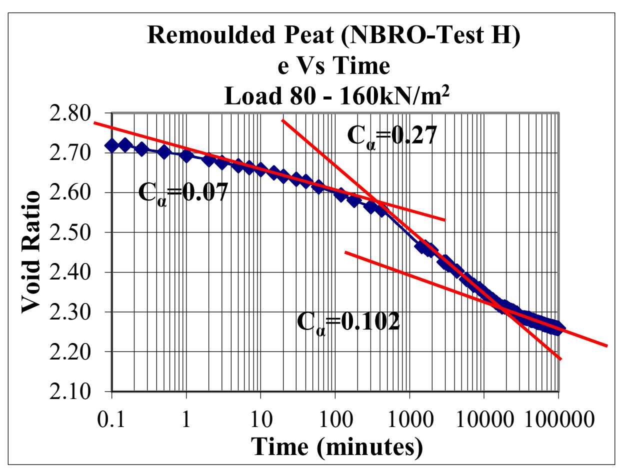


Figure 5.5(f) – Load increment (80-160kN/m^2)

The e Vs log (time) plots in the Sample 4 (NBRO-Test I) are presented in Figure 5.6 (a to g).

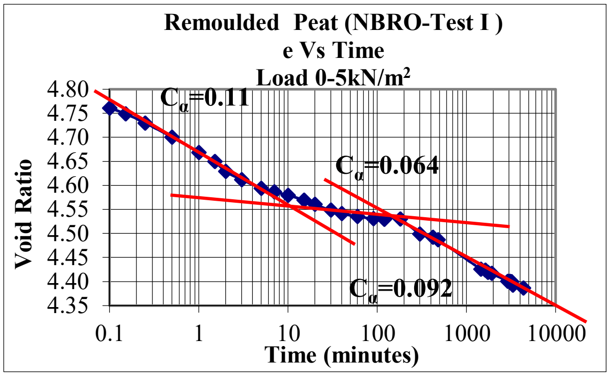


Figure 5.6(a) – Load increment (0-5kN/m^2)

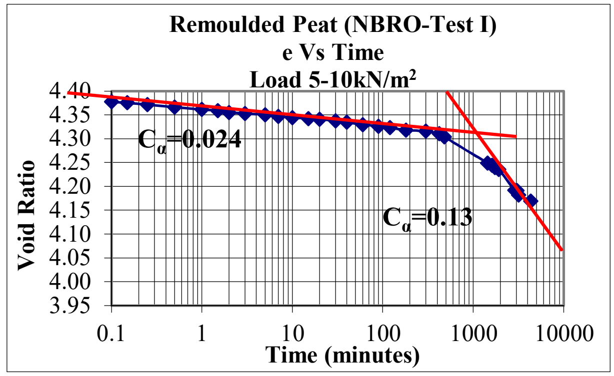


Figure 5.6(b) – Load increment (5-10kN/m^2)

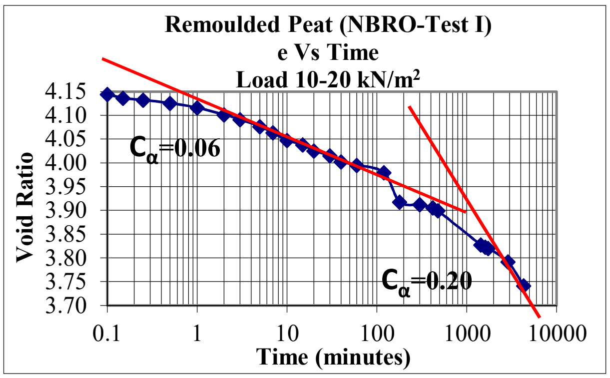


Figure 5.6(c) – Load increment (10-20kN/m^2)

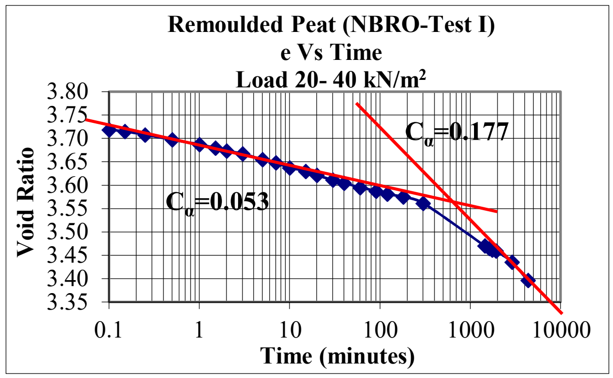


Figure 5.6(d) – Load increment (20-40kN/m^2)

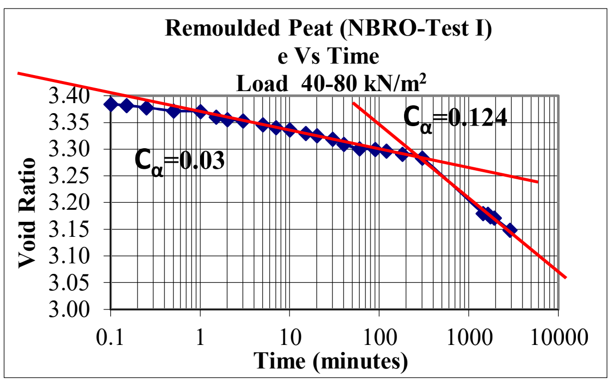


Figure 5.6(e) – Load increment (40-80kN/m^2)

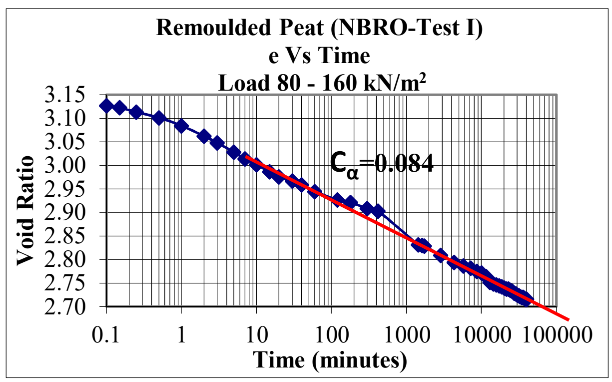


Figure 5.6(f) – Load increment (80-160kN/m^2)

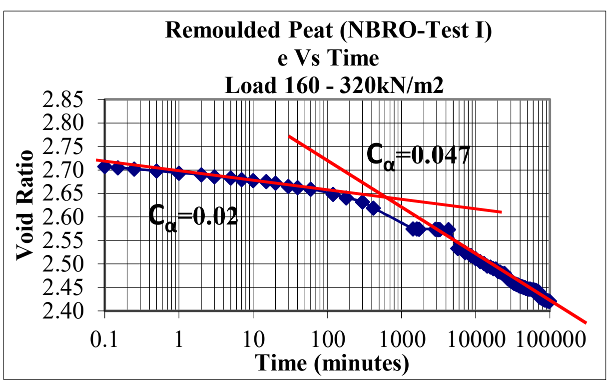


Figure 5.6(g) – Load increment (160-320kN/m^2)

The C_α variation for every load increments in each sample are presented as shown in Table 5.2.

Table 5.2 – C_α variation for each load increments

Sample	Load Increment (kPa)	C_α variation
1	0-5 (3 days)	0.050 , 0.079
	5-10 (3 days)	0.030, 0.084
	10-20 (3 day)	0.09-0.12
2	0-5 (3 days)	0.06-0.095
	5-10 (3 days)	0.02-0.079
	10-20 (3 day)	0.044-0.12
	20-40 (3 days)	0.079-0.16
3	0-5 (3 days)	0.050,0.11,0.217
	5-10 (3 days)	0.018-0.210
	10-20 (3 day)	0.10-0.17
	20-40 (3 days)	0.093
	40-80 (3 days)	0.05
4	0-5 (3 days)	0.064, 0.092, 0.11
	5-10 (3 days)	0.024, 0.13
	10-20 (3 day)	0.06, 0.20
	20-40 (3 days)	0.053-0.177
	40-80 (3 days)	0.03-0.124
	80-160(3 days)	0.084

Using these plots e vs Stress (kN/m^2) graphs were done separately of the four test specimen as presented in Figure 5.7 to 5.10 and then a combined graph was done as illustrate in Figure 5.11.

The reduction of void ratio "e" under the sustained loading at a given stress level is evident (from A to B in Figure 5.7). The flatter graph after such event with the further increase of stress is also evident (from B to C in Figure 5.7). This flatter part indicates the reduction of both primary and secondary consolidation after a period of sustained loading (Sustained secondary consolidation).This features are noted in Figure 5.8 to 5.11 as well.

These plots were then used to from a series of aging curves as constructed by Bjerrum (1967) (see Figure 5.12).

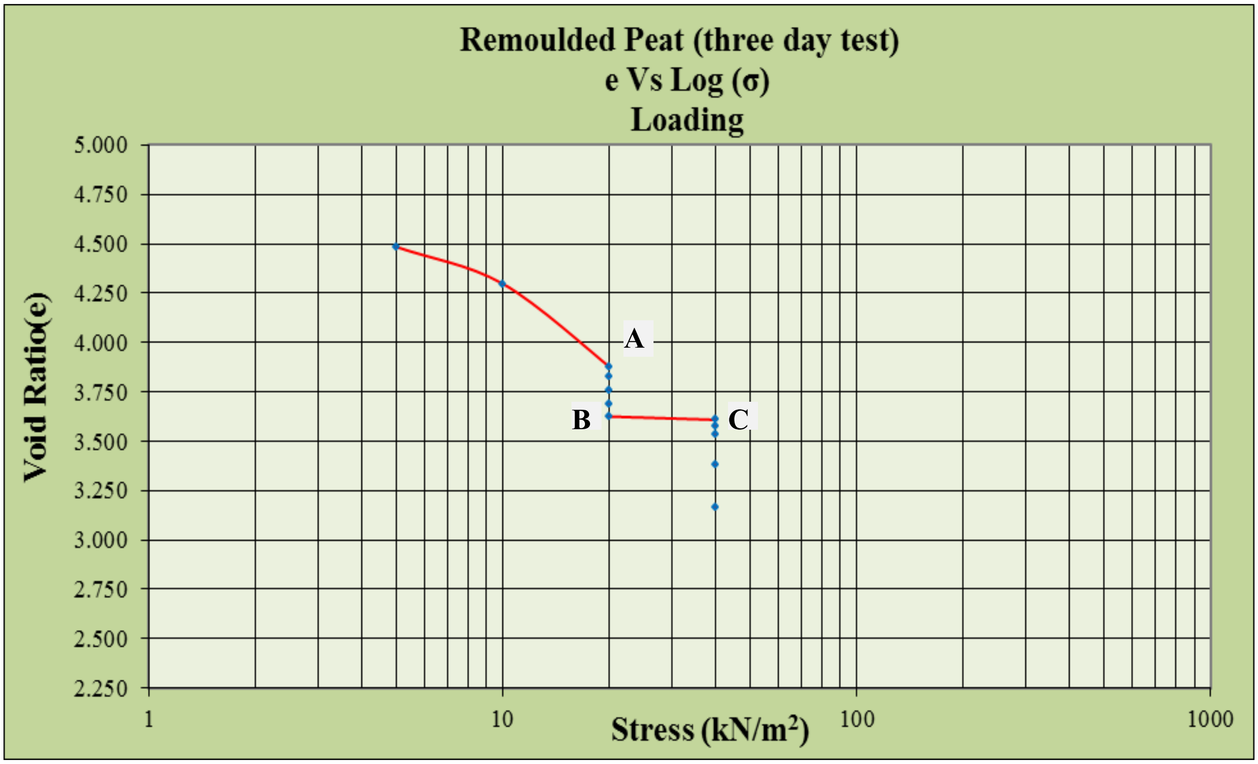


Figure 5.7 – Load Vs void ratio (e) – (NBRO-Test F)

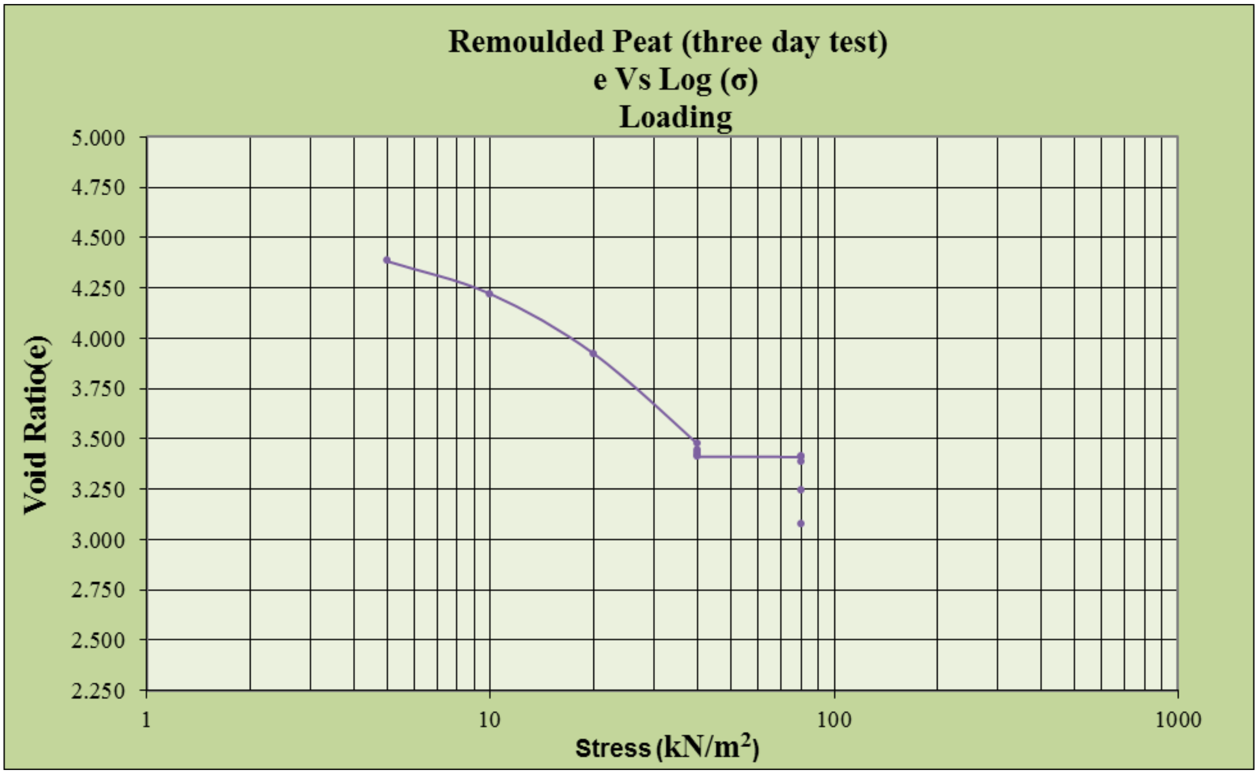


Figure 5.8 – Load Vs void ratio (e) – (NBRO-Test G)

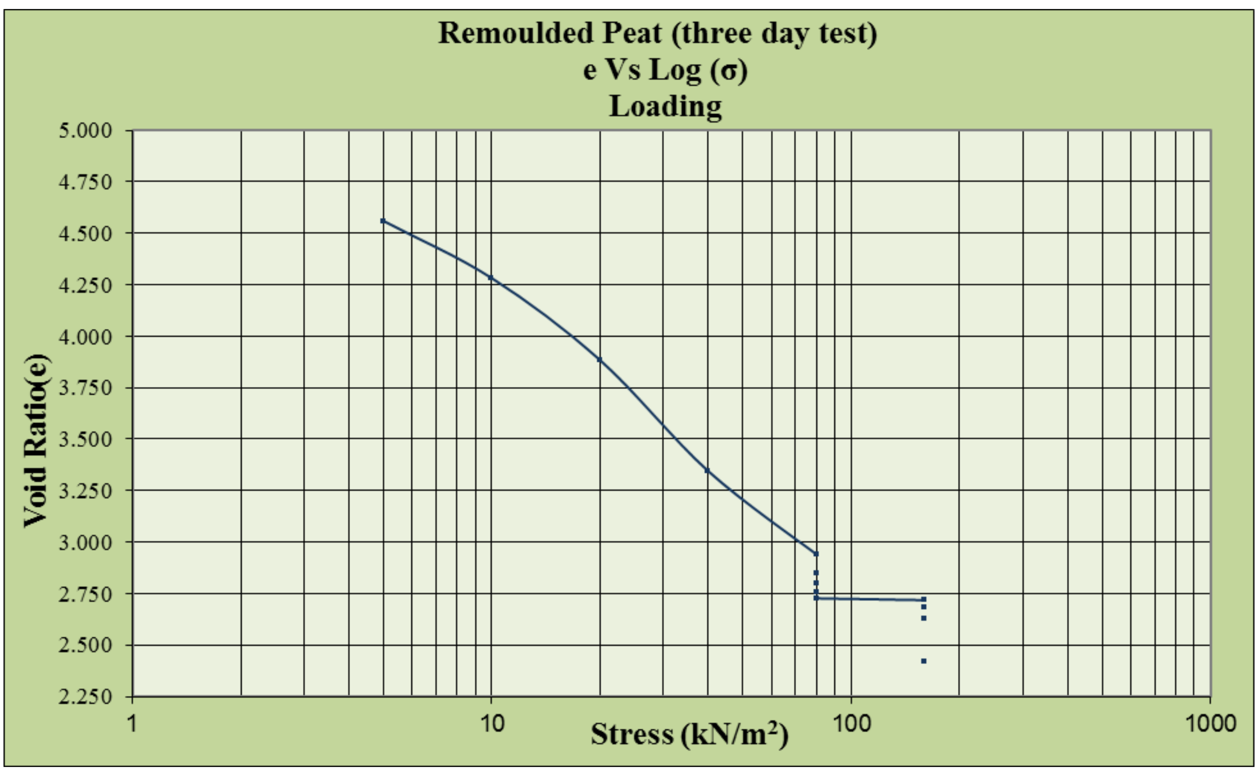


Figure 5.9 – Load Vs void ratio (e) – (NBRO-Test H)

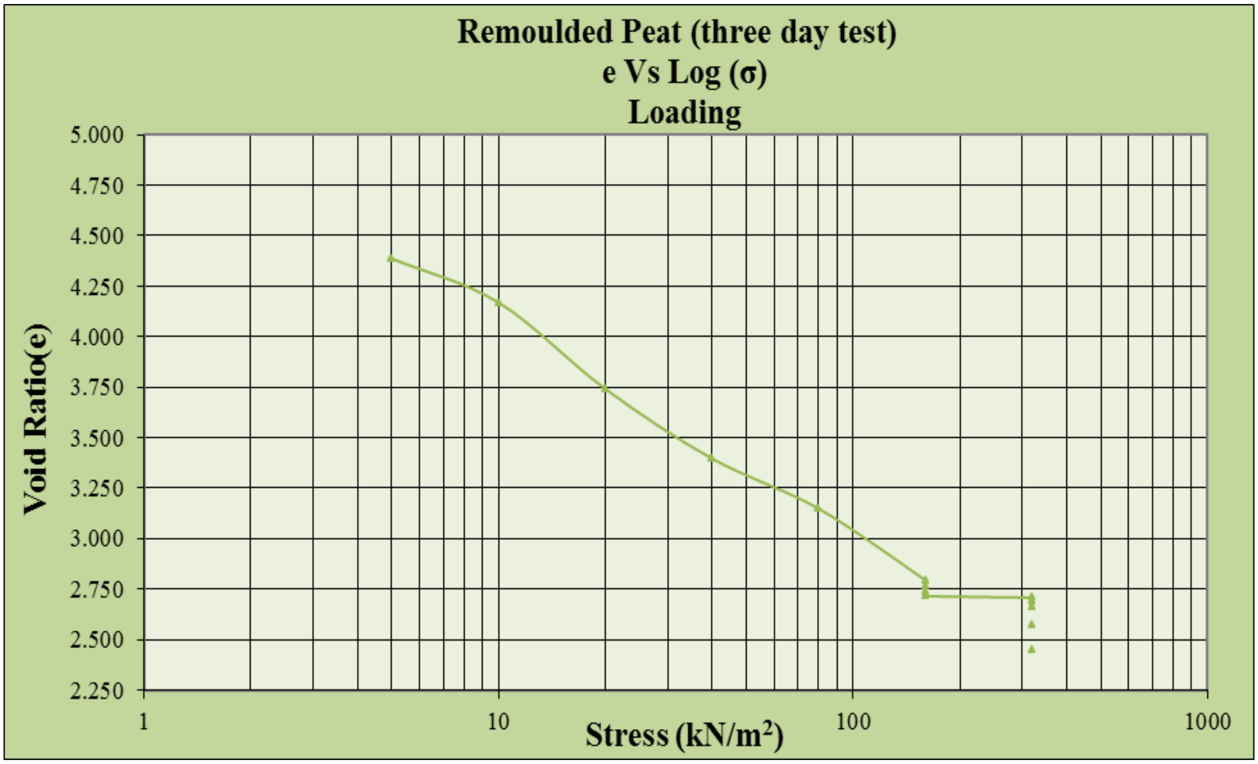


Figure 5.10 – Load Vs void ratio (e) – (NBRO-Test I)

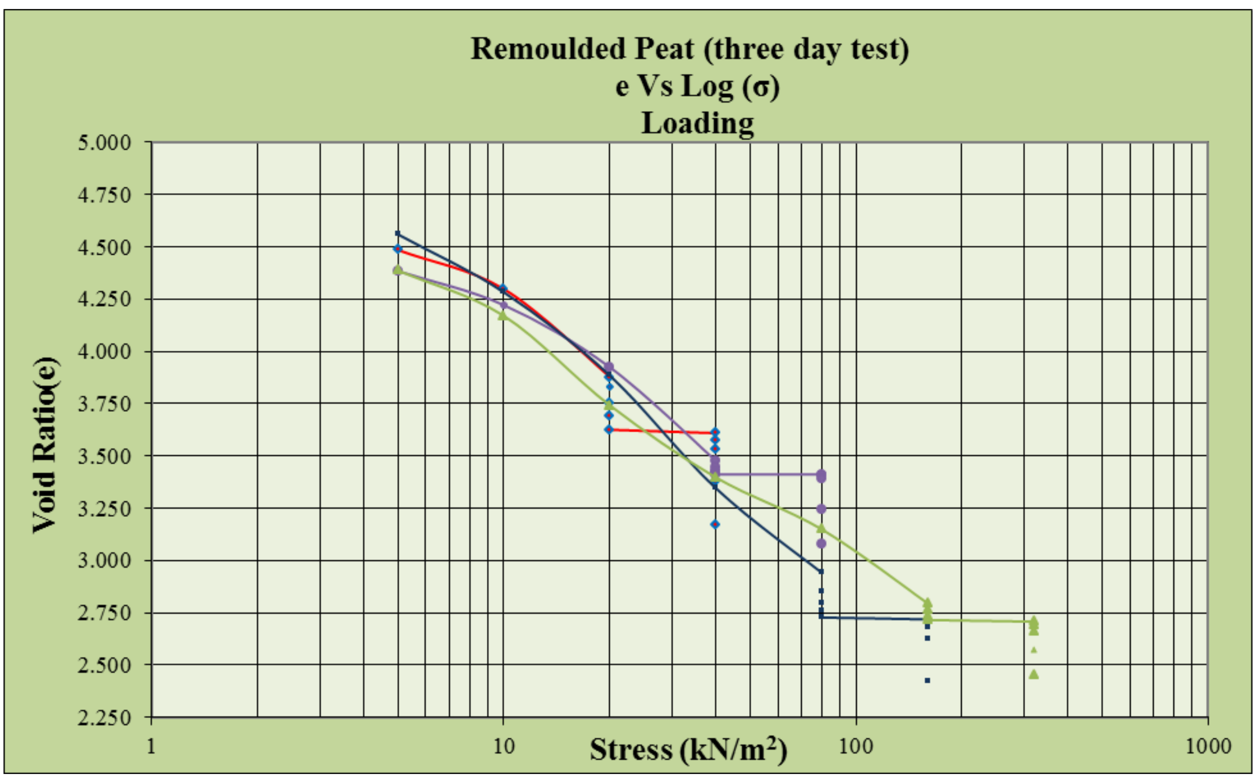


Figure 5.11 – Load Vs void ratio (e) – (combined graph)

After obtaining void ratio values for different stress levels at different time periods the data points were combined as in Figure 5.12 to provide e Vs log σ plots corresponding to different times. This would resemble the aging curves by B'jerrum (1967) or curves by Mesri et al (1997) (Figure 5.1) to some extent. However, the different curves cannot be assigned a time or multiple of t_p as the end of primary consolidation could not be identified from any of the graphs due to unavailability of pore pressure measurements.

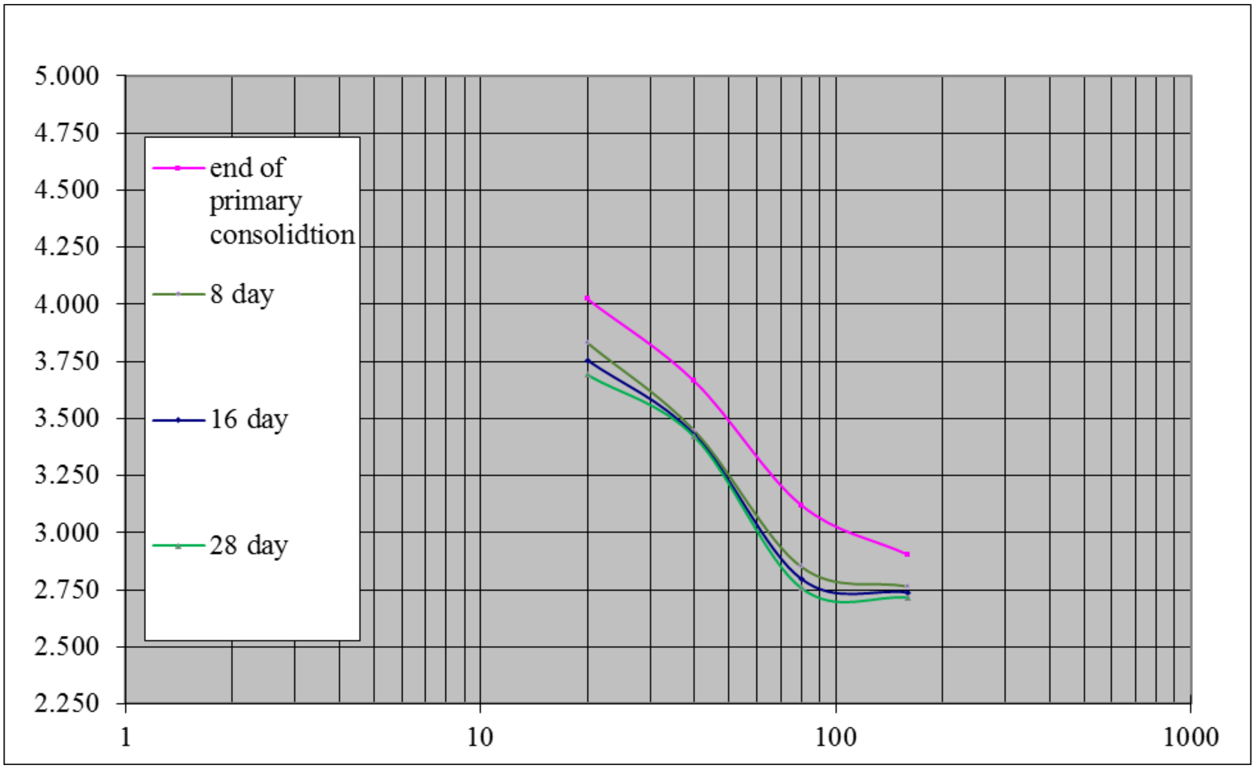


Figure 5.12 – Load Vs void ratio (e) – (Ageing Curves)

5.2 Unloading Behavior of peaty clay subjected to sustained loading

The removal of surcharge leads to a rebound including primary rebound up to t_{pr}, and secondary rebound that levels off at t_l, this is to be followed by secondary compression to according to $C_\alpha^{/}$ Figure 5.13 (Mesri et al 1997).

The coefficient of secondary consolidation at this stage is denoted by $C_\alpha^{//}$ the time at which the secondary compression restarts is t_l. The $C_\alpha^{//}$ increases with time and the ratio $C_\alpha^{//}/C_\alpha^{/}$ is a function of the degree of over consolidation that have been achieved Figure 5.14 (Mesri et al 1997).

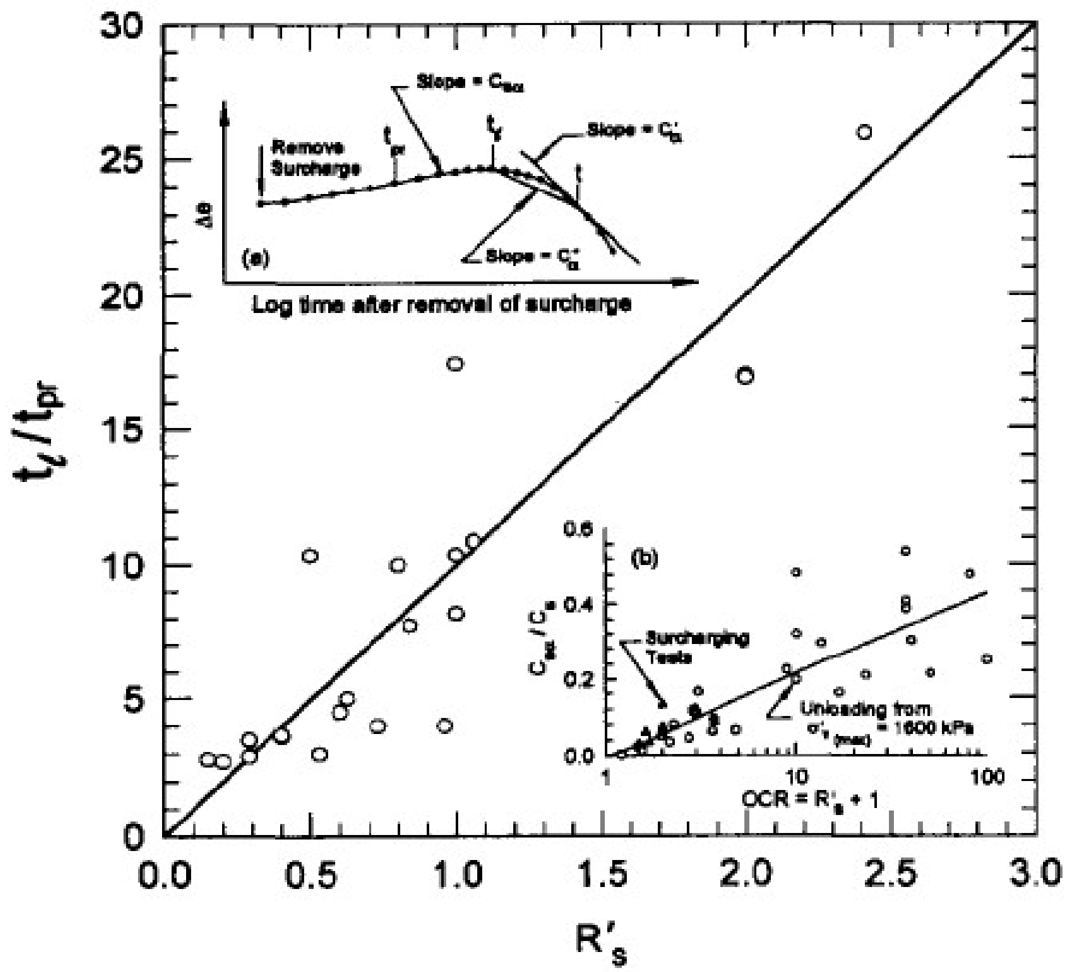


Figure 5.13 – Elapsed time for reappearance of secondary compression as function of effective surcharge ratio (After Mesri et al 1997) for Middleton peat

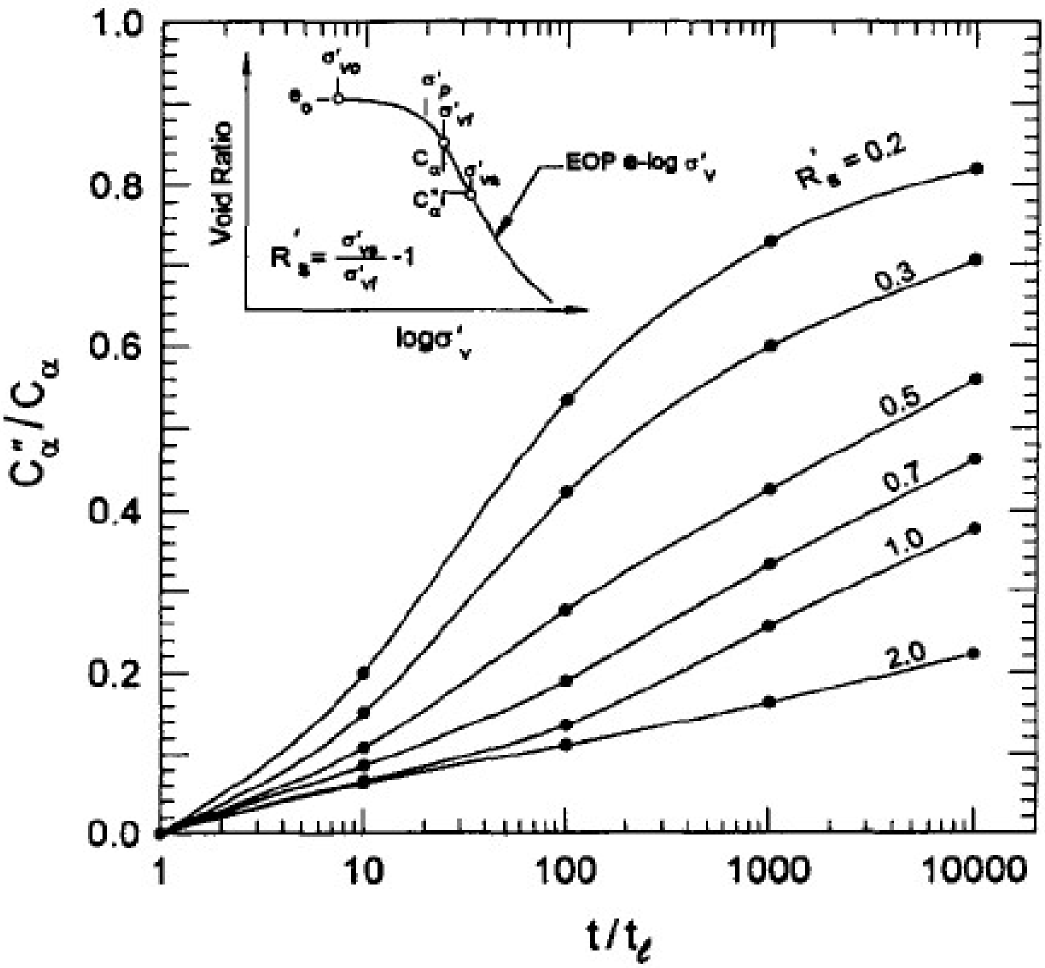


Figure 5.14 – Post surcharge secondary compression index for different surcharge (After Mesri et al 1997)

Three tests were continued to study this behaviour.

<u>Testing procedure</u>

The three samples selected were NBRO-Test A-1, NBRO-Test D and NBRO-Test K. Samples were subjected to the following loading sequences;

- NBRO Test- A-1 unloaded to 93kN/ m^2 from 101 kN/ m^2 and kept for 25 day
- NBRO Test- D unloaded to 203 kN/ m^2 from 231.5 kN/ m^2 and kept to 25 days
- NBRO Test -K unloaded to 243.6 kN/ $m^2$from 292.32 kN/ m^2 and kept to 34 days

The results are presented in Figure 5.15, Figure 5.16 and Figure 5.17. The corresponding over consolidation ratio is also given along with the figure together with the time for reappearance of secondary compression after the period of rebounce.

In Figure 5.16 some settlement data are missing in between 1000 min and 100,000 min and time for reappearance of secondary consolidation cannot be accurately determined.

NBRO-Test A-1

Void ratio Vs time plot

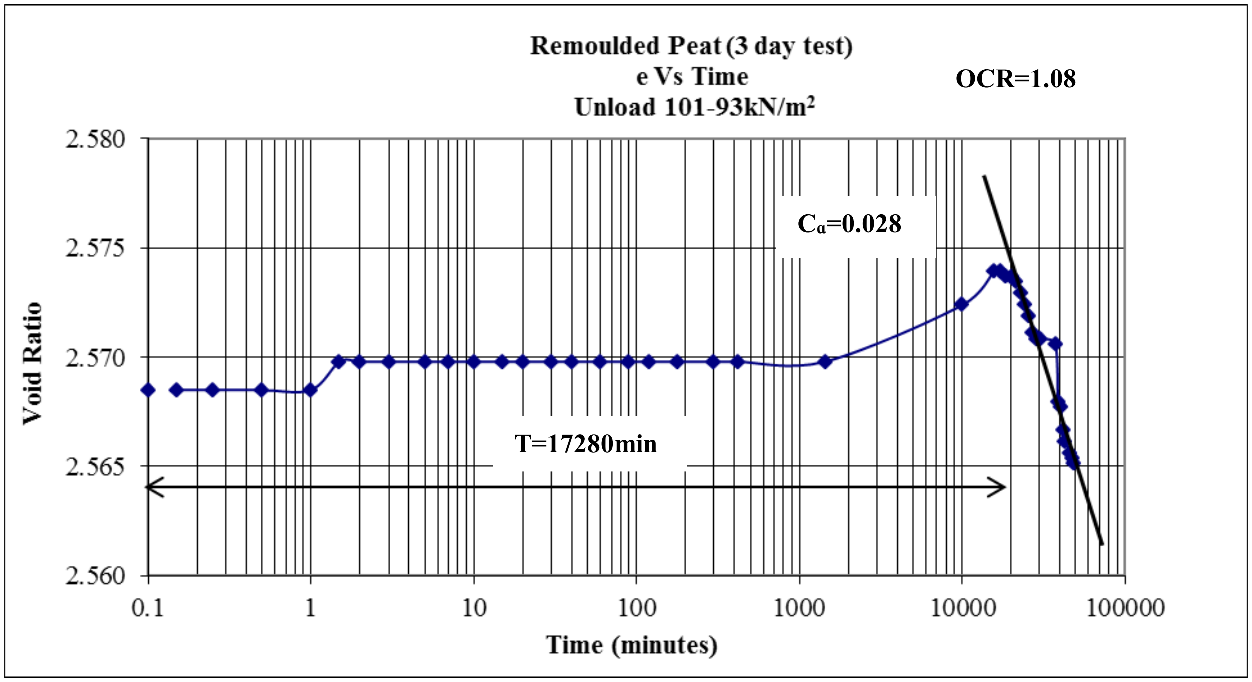


Figure 5.15 – Void ratio Vs log (time) with unloading from 101kN/m^2 to 93kN/m^2

NBRO-Test D

Void ratio Vs time plot

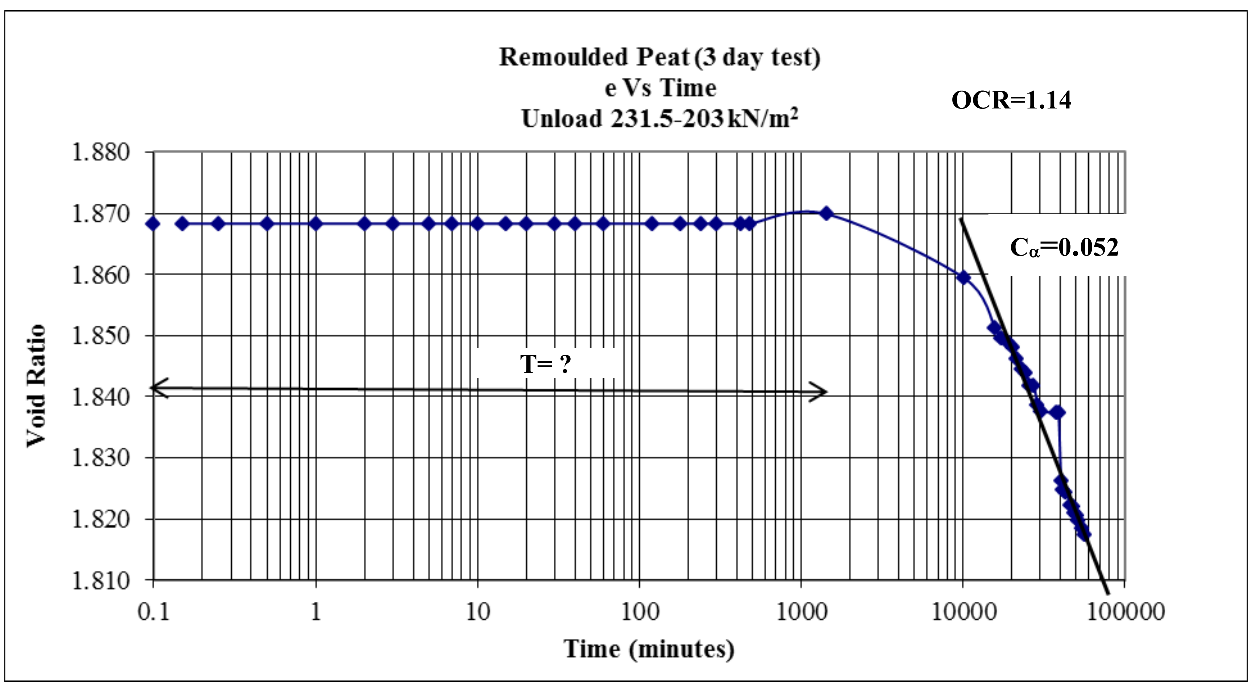


Figure 5.16 – Void ratio Vs log (time) with unloading from 231.5kN/m^2 to 203kN/m^2

NBRO Test- K

Void ratio Vs time plot

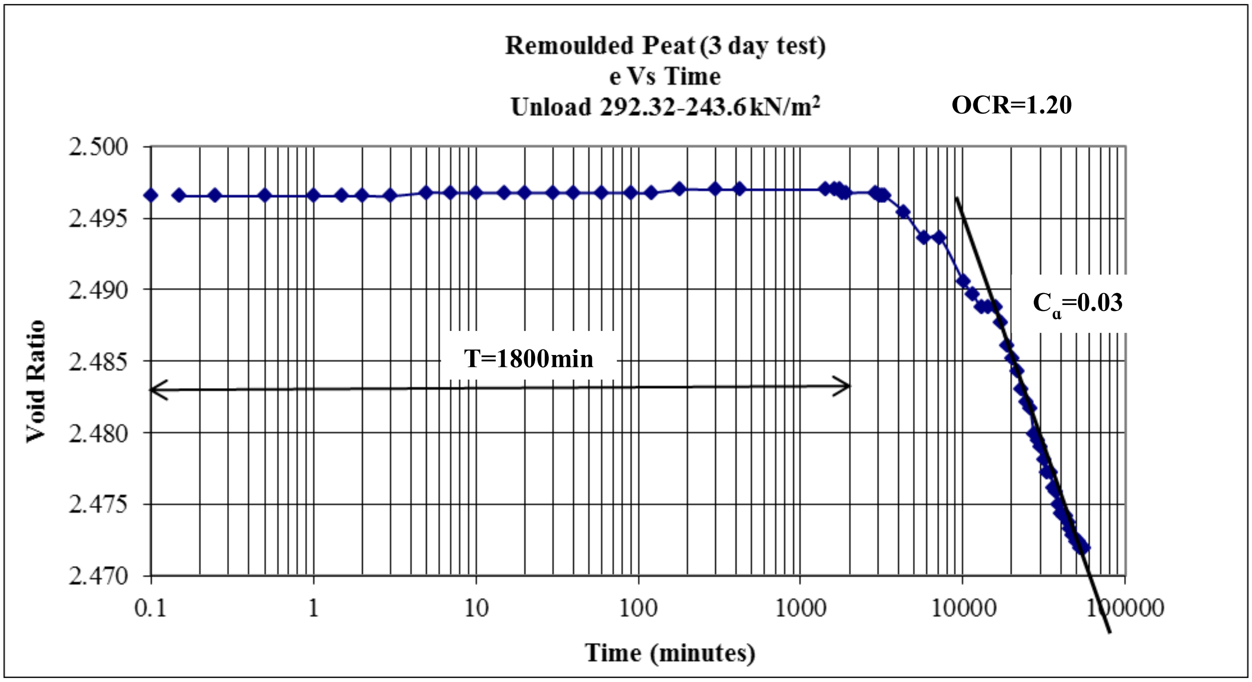


Figure 5.17 – Void ratio Vs log (time) with unloading from 292.32kN/m^2 to 243.6kN/m^2

6.0 Summary and Conclusions

Peaty clays and organic clays are known for high secondary consolidation. Thick layers of soft peaty clay were encountered in many infrastructure development projects in Sri Lanka such as Colombo Katunayake Expressway and Southern Expressway. These deposits are mixed with inorganic clays and are with organic contents around 30-40% and the term Peaty clay is more appropriate for these deposits. The natural water content is in the range 100-500%. The e vs log (time) plots of these peaty clays clearly demonstrated the high secondary consolidation. These thick peaty clay layers were improved by pre-consolidation by preloading with or without the use of prefabricated vertical drains. Preloading designs were done in these projects to ensure that there would be a sufficient over consolidation ratio in the Peaty clay layers during the service. With high thicknesses of the peaty clay layers and high embankments heights the over-consolidation ratios that could be maintained during the in service period is generally less than 1.2. When decisions are taken for the removal of surcharge in these projects there were concerns of possible secondary consolidation settlements during service. There was the need to know that to what levels the normally high secondary consolidation coefficients had been reduced as a result of pre-consolidation. This parameter was necessary in predicting the possible settlement during service. Mesri et al (1997), Lea and Brawner (1963), Samson and La Rochelle (1985), Samson (1985), Mesri (1986) has reported the use of surcharging to reduce the secondary consolidation settlements. Most of the above cases corresponded to fibrous peats. No such detailed study had been done in Sri Lanka with amorphous peaty clays.

Different types of tests were done in this study in this context. Peaty clay layers are highly variable and sometimes significant variability are seen even within one undisturbed sample tube. Such variability has to be removed in a study of this nature and the main series of tests were done on remoulded samples. Peaty clay obtained from the sites of Outer Circular Road were mixed for a uniform time after careful removal of pieces of stones, undecayed timber and other impurities. The mixed samples were left in buckets under submerged conditions for 28 days to achieve thixotropic strength gain. Specimens for testing were obtained thereafter.

The first series of tests referred to as simulated tests were done with loading unloading and reloading increments simulating the process of preloading with surcharge during the construction stage, the removal of the preloading surcharge and the construction of the road pavement and the application of the traffic load. Very few tests were done with one day long load increments but a majority of tests were done with three day long load increments to capture the important characteristics of secondary consolidation. The loading increments are used to obtain the characteristics of the natural peat and reloading increments were used to assess the characteristics of the preloaded peat. In the initial stages of a test the stress level on the Oedometer was doubled in successive load increments. But at the later stages in the stress levels corresponding to removal of surcharge and application of pavement and traffic load, load increments of ratios 1.07 to 1.5 were used. With this over-consolidation ratios in the range of 1.1 to 2.0 could be obtained during the reloading increments. If the conventional practice of doubling the stress level was adopted over consolidation ratios obtained would be 2,4, 8, which are not in the practically achievable range.

Simulated tests of one day long increments were done of three specimen and tests of three day long increments were conducted on nine specimen. In simulated tests the C_α value increased consistently with the stress level in loading increments where the stress level was doubled. When the test was changed to increments where ratios of 1.07, 1.1 the C_α value suddenly reduced. Thereafter it remained constant or showed a marginal increase. The C_α values of reloading increments are much lower and showed an increasing trend with the increase of stress level. In a e vs log(time) plot for each increment the gradient of the curve started to increase after some time; this time was around 100 min for loading increments and much greater at around 400 mins for reloading increments.

The coefficient of secondary consolidation settlements in loading increments were denoted by C_α and those in reloading increments were denoted by $C_\alpha^/$. An OCR (Over-Consolidation Ratio) could be computed for each stress level in the reloading increments. These values were in the range 1 to 1.6 in general. The ratio of $C_\alpha^/$/C_α was plotted against the computed over consolidation ratio to study the effect of pre-consolidation on secondary consolidation. All samples clearly showed a reduction in the coefficient of secondary consolidation due to the achieved OCR. The greater the OCR the reduction of the coefficient was greater. There were significant reductions even when the OCR approached unity. The curves showed a clear trend but it could not be represented by one fitted line. As such, in a new project it is advisable to conduct simulated tests covering the range of OCR values that may be achievable so that the reduction of secondary consolidation settlements could be quantified. Some of the conventional consolidation tests in a project could be extended as simulated tests.

The concept of C_α/C_c was tested with the data obtained from the simulated consolidation tests. For loading increments C_c value was used and for reloading increments the C_r value was used. Therefore the computed ratio was either C_α/C_c or $C_\alpha^{/}/C_r$. The ratio of C_α/C_c found to in the range 0.05-0.07 in loading increments where the stress level was doubled. In the increments where the stress level was increased by a lower ratio C_α/C_c decreased particularly in one day long load increments. In three day long load increments the ratio recovered to normal range. There were instances where high C_α/C_c ratios of the order of 0.15 were observed particularly at the initial increments. This could be attributed to the uncertainty in the determining of C_c value in this transition stage. Mesri et al (1997) also has commented on this difficulty.

A series of tests were done with sustained secondary consolidation in a designated increment after adopting 3 day long increments up to that level. The loading periods of the order of 30-40 day were used in these tests. In the loading increment just after the sustained loading the secondary consolidation coefficient was much lower, but as the load was sustained for a longer period in that increment the coefficient C_α gradually increased. These observations are in par with the those made by other researchers Mesri et al (1997). A series of ageing curves were developed assembling the data of these sustained loading tests. The curved were assigned only a time and it was not possible to relate to time for primary consolidation as t_p, 10 t_p, 100 t_p done by Mesri et al (1997) due to difficulty in obtaining the time for primary consolidation in the absence of any pore water pressure measurements.

Few tests were continued to an unloading phase after sustained secondary consolidation to observe the characteristics of primary rebound, secondary rebound and reappearance of secondary consolidation as given in Mesri et al (1997). These times were related to the over-consolidation caused by the removal of load in this large loading stage. Further testing is necessary in this context to establish relationships as proposed by Mesri et al (1997).

A special difficulty was encountered during these prolonged tests. Some whitish chemical components were seen to develop on top of the sample. Peaty clay are naturally present in an anaerobic condition and are with very low P_H values in the range of 3. There is a high sulphate content also. In the Oedometer cell these samples are subjected to aerobic conditions and different chemical reactions can be initiated.

A further series of tests were done with undisturbed samples of peaty clay obtained from the Colombo Katunayake Expressway and the Colombo Fish Market Site after the respective natural peat layers were preloaded and consolidated for a considerable period of time. These undisturbed samplers showed some pre-consolidation effect. By using the Settlement Vs time data in load increments in the recompression range the $C_\alpha{}^{/}$ values were computed and using a load increment at or just after pre-consolidation pressure C_α values were determined. As done with the simulated tests $C_\alpha{}^{/}/ C_\alpha$ ratio obtained was plotted against the OCR and similar trend was found. The C_α/C_c relationship was also observed except for early load increment showed higher ratios. Mesri (1997) also has commented on the difficulty of finding this ratio on initial load increments of peat subjected to prolonged loading.

All these laboratory studies confirmed that the secondary consolidation settlement can be reduced significantly by achieving over consolidation ratios in the range of 1.2. It would be advisable to conduct simulated tests on undisturbed samples obtained from site and establish the actual levels of reduction possible in a given project.

Number of highway projects such as; Colombo Katunayaka expressway and Southern expressway where thick peaty clay layers were improved by pre consolidation are now in operation. If some settlement monitoring is taking place in theses expressways it would be possible to compare those observations with predictions obtained by back calculations based on these laboratory findings. A greater understanding of this will enable efficient and economical designs to limit the secondary consolidation is expressways during the service life.

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Annexure 1

Details of Laboratory Test Results

TEST REPORT

Client's Reference	:	Chemical test for Soil samples from GED Research Project (30/14091)
Test Item	:	pH, Water soluble Chloride, water soluble Sulphate and Organic content as per Client's requisition letter dated 23.06.2015
Number of Sample	:	01
Samples collected by	:	Client
Date of Receipt to the Laboratory	:	23rd June 2015
Analysis Performed	:	From 23rd June 2015 to 30th June 2015

Table (1) :Sample Description :

Client's Sample Reference	Lab Code
Soil Sample (**Sample N0-1**)	WQ/2015-123

Table (2) :Parameter and Test method :

Parameter	Test Method
pH at 25 ^{0}C	BS 1377 : Part 3 : 1990
Water soluble Chloride content	BS 1377 : Part 3 : 1990
Water soluble Sulphate content	BS 1377 : Part 3 : 1990
Organic matter content	BS 1377 : Part 3 : 1990

BS- British Standard

Table (3) : Test Results

Lab Code	pH at 25 ^{0}C	Water soluble Chloride (as Cl^-, w/w %)	Water soluble Sulphate (as SO_3, w/w%)	Organic Matter Content (w/w %)
WQ/2015-123	2.2	<0.01	42	30

< denotes minimum detection level measured by the methodology employed

The results are valid only for the samples submitted for analysis.

Analysed............ P D C Pathiraja Technical Assistant

Checked............ S A M S Dissanyake Co-ordinator/WQ

Certified............ S V Dias Director/ Disaster Impact Studies Division

ENVIRONMENTAL DIVISION
National Building Research Organisation
99/1 Jawatta Road
Colombo 5

LABORATORY VANE SHEAR TEST (ASTM D 4648)

Project	**Research Project**				
Client	**Improvement of secondary consolidation characteristics of peaty clay by preconsolidation**			Project No	**30/14091**
Location	**Kerawelapitiya – Kadawata region**				
Borehole No	-	Sample No.	-	Depth (m)	-
Description of Sample	**Remoulded peaty clay**				
Spring No	**1**				
Depth of Penetration (mm)	**60**	Size of Vane - Blade			
		Width (mm)	**12.7**	Height (mm)	**25.4**

End of Test	**Test 1**	**Test 2**
Pointer Reading on Inner Scale (Degrees)	14	16
Torque (Nm)	0.023	0.027
Pointer Reading on Outer Scale = Vane Rotation Angle (Degrees)	-	-
Pointer Reading after Remoulding (Degrees)	-	-
Torque (Nm) (Remoulded)	-	-
Vane Shear Strength of Soil (KN/m^2)	5.36	6.29
Remoulded Strength of Soil (KN/m^2)	-	-
Vane Blade Constant (m^3)	7512.43×10^{-9}	
Moiture Content (%)	216.0	
Wet Density (g/cm^3)	1.14	
Dry Density (g/cm^3)	0.36	

T = Torque from calibration factor (Nm)

τ = Undrained Vane shear Strength (KN/m^2)

k = Vane blade constant (m^3)

D = Measured diameter of Vane (mm)

H = Measured height of Vane (mm)

$$\boxed{T = \tau k}$$

$$\boxed{k = \pi D^2 (H/2 + D/6)}$$

Date : 14/6/2015 Tested By : TAC Checked By : JU Certified By : MF

NBRO

GEOTECHNICAL ENGINEERING DIVISION

NATIONAL BUILDING RESEARCH ORGANISATION

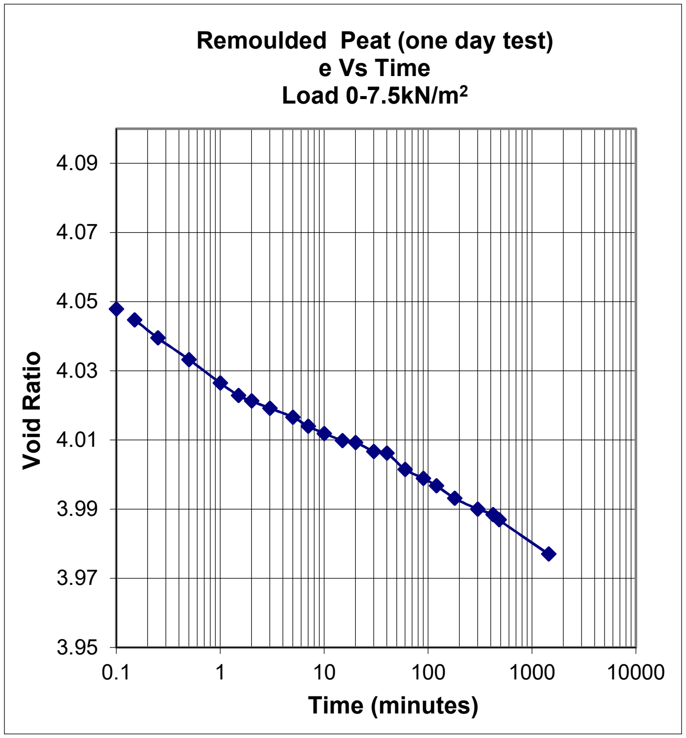
99/1, Jawatta Road, Colombo 05.

Annexure 2

e Vs log(time) graphs

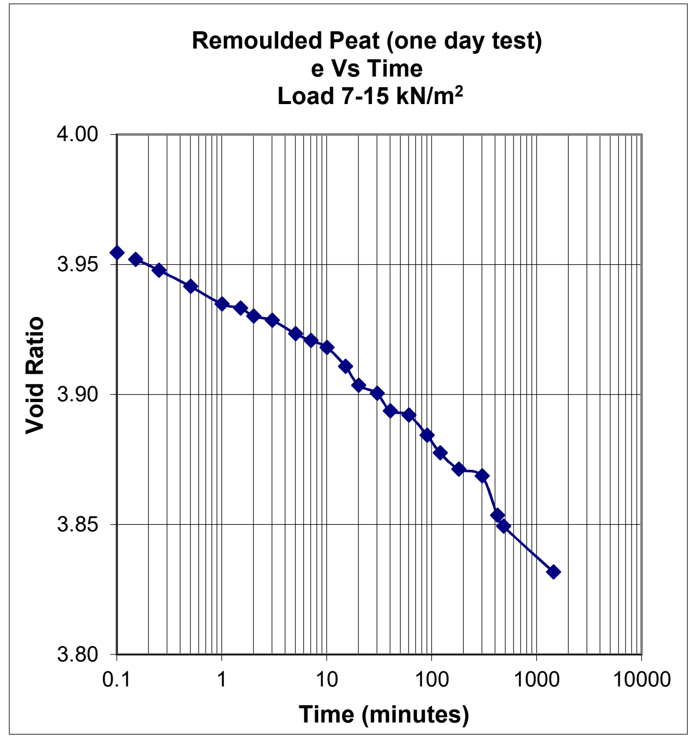
Sample – NBRO -Test A
Date-From 22/01/2015 to 15/02/2015
Conventional Consolidation
Load Increment 0kN/m² to 7.5kN/m²

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	2	0	0.4	0.0000	4.0770		
0.1	2	0.112	0.512	0.1120	4.0478		
0.15	2	0.124	0.524	0.1240	4.0447	0.0177	0.0209
0.25	2	0.144	0.544	0.1440	4.0395	0.0235	0.0219
0.5	2	0.168	0.568	0.1680	4.0333	0.0208	0.0216
1	2	0.194	0.594	0.1940	4.0265	0.0225	0.0218
1.5	3	0.008	0.608	0.2080	4.0228	0.0207	0.0173
2	3	0.014	0.614	0.2140	4.0213	0.0125	0.0121
3	3	0.022	0.622	0.2220	4.0192	0.0118	0.0118
5	3	0.032	0.632	0.2320	4.0166	0.0117	0.0142
7	3	0.042	0.642	0.2420	4.0140	0.0178	0.0156
10	3	0.05	0.65	0.2500	4.0119	0.0134	0.0126
15	3	0.058	0.658	0.2580	4.0098	0.0118	0.0086
20	3	0.06	0.66	0.2600	4.0093	0.0042	0.0104
30	3	0.07	0.67	0.2700	4.0067	0.0148	0.0104
40	3	0.072	0.672	0.2720	4.0062	0.0042	0.0173
60	3	0.09	0.69	0.2900	4.0015	0.0266	0.0207
90	3	0.1	0.7	0.3000	3.9989	0.0148	0.0156
120	3	0.108	0.708	0.3080	3.9968	0.0167	0.0190
180	3	0.122	0.722	0.3220	3.9932	0.0207	0.0170
300	3	0.134	0.734	0.3340	3.9900	0.0141	0.0127
420	3	0.14	0.74	0.3400	3.9885	0.0107	0.0153
480	3	0.146	0.746	0.3460	3.9869	0.0269	0.0214
1440	3	0.184	0.784	0.3840	3.9770	0.0207	#NUM!



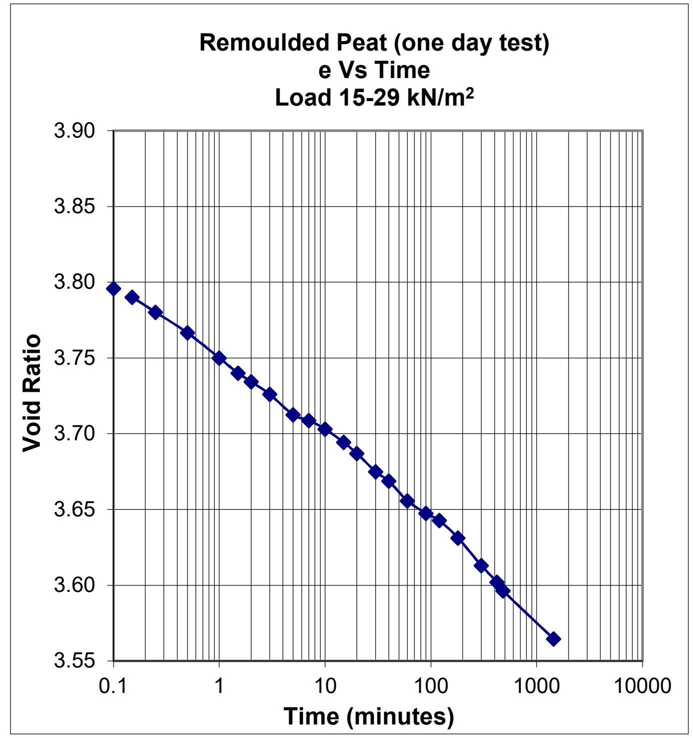
Sample – NBRO-Test A
Date-From 22/01/2015 to 15/02/2015
Conventional Consolidation
Load Increment 7.5kN/m^2 to 15kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	3	0.184	0.784	0.3840	3.9770		
0.1	4	0.07	0.87	0.4700	3.9546		
0.15	4	0.08	0.88	0.4800	3.9520	0.0148	0.0170
0.25	4	0.096	0.896	0.4960	3.9479	0.0188	0.0199
0.5	4	0.12	0.92	0.5200	3.9416	0.0208	0.0216
1	4	0.146	0.946	0.5460	3.9348	0.0225	0.0175
1.5	4	0.152	0.952	0.5520	3.9333	0.0089	0.0156
2	4	0.164	0.964	0.5640	3.9302	0.0250	0.0156
3	4	0.17	0.97	0.5700	3.9286	0.0089	0.0170
5	4	0.19	0.99	0.5900	3.9234	0.0235	0.0212
7	5	0	1	0.6000	3.9208	0.0178	0.0173
10	5	0.01	1.01	0.6100	3.9182	0.0168	0.0299
15	5	0.038	1.038	0.6380	3.9109	0.0414	0.0484
20	5	0.066	1.066	0.6660	3.9036	0.0583	0.0346
30	5	0.078	1.078	0.6780	3.9005	0.0177	0.0329
40	5	0.104	1.104	0.7040	3.8937	0.0542	0.0277
60	5	0.11	1.11	0.7100	3.8921	0.0089	0.0266
90	5	0.14	1.14	0.7400	3.8843	0.0444	0.0484
120	5	0.166	1.166	0.7660	3.8776	0.0542	0.0432
180	5	0.19	1.19	0.7900	3.8713	0.0355	0.0222
300	6	0	1.2	0.8000	3.8687	0.0117	0.0481
420	6	0.058	1.258	0.8580	3.8536	0.1033	0.0944
480	6	0.074	1.274	0.8740	3.8494	0.0718	0.0409
1440	6	0.142	1.342	0.9420	3.8317	0.0371	#NUM!



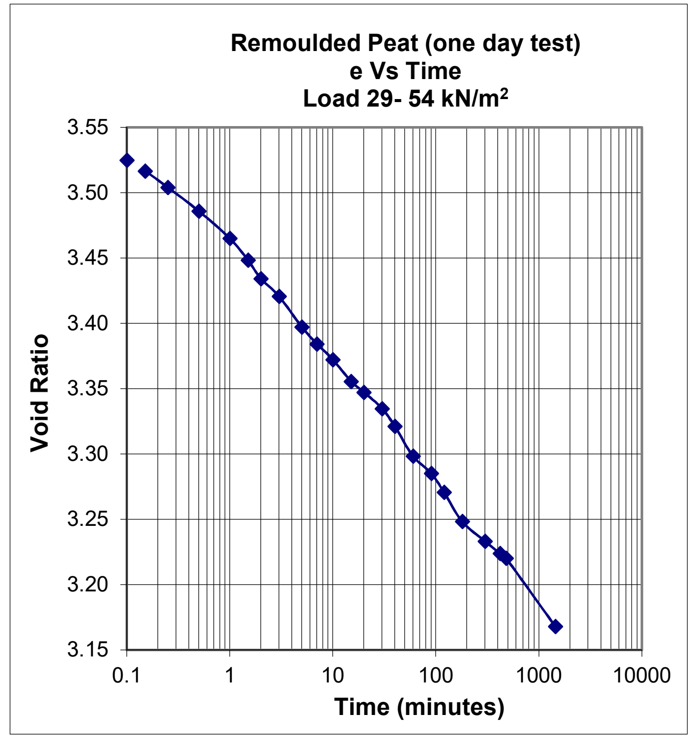
Sample – NBRO-Test A
Date-From 22/01/2015 to 15/02/2015
Conventional Consolidation
Load Increment 15kN/m^2 to 29kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	6	0.142	1.342	0.942	3.8317		
0.1	7	0.08	1.48	1.08	3.7958		
0.15	7	0.102	1.502	1.102	3.7901	0.033	0.039
0.25	7	0.14	1.54	1.14	3.7802	0.045	0.045
0.5	7	0.192	1.592	1.192	3.7667	0.045	0.050
1	8	0.056	1.656	1.256	3.7500	0.055	0.056
1.5	8	0.094	1.694	1.294	3.7401	0.056	0.052
2	8	0.116	1.716	1.316	3.7344	0.046	0.047
3	8	0.148	1.748	1.348	3.7260	0.047	0.055
5	9	0	1.8	1.4	3.7125	0.061	0.047
7	9	0.014	1.814	1.414	3.7089	0.025	0.031
10	9	0.036	1.836	1.436	3.7031	0.037	0.044
15	9	0.07	1.87	1.47	3.6943	0.050	0.054
20	9	0.098	1.898	1.498	3.6870	0.058	0.064
30	9	0.144	1.944	1.544	3.6750	0.068	0.061
40	9	0.168	1.968	1.568	3.6688	0.050	0.064
60	10	0.018	2.018	1.618	3.6557	0.074	0.061
90	10	0.05	2.05	1.65	3.6474	0.047	0.043
120	10	0.068	2.068	1.668	3.6427	0.038	0.054
180	10	0.112	2.112	1.712	3.6313	0.065	0.075
300	10	0.182	2.182	1.782	3.6130	0.082	0.079
420	11	0.024	2.224	1.824	3.6021	0.075	0.082
480	11	0.046	2.246	1.846	3.5964	0.099	0.070
1440	11	0.168	2.368	1.968	3.5646	0.067	#NUM!



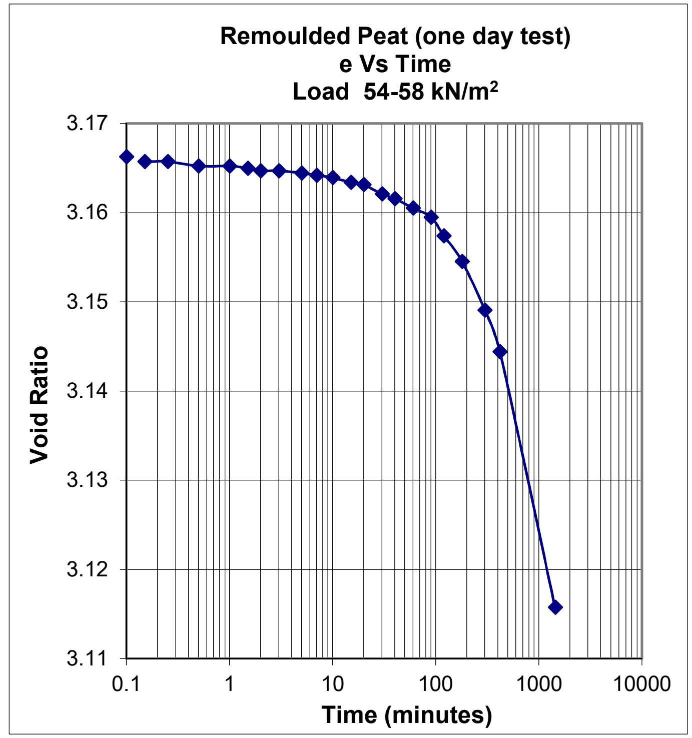
Sample – NBRO-Test A
Date-From 22/01/2015 to 15/02/2015
Conventional Consolidation
Load Increment 29kN/m^2 to 54kN/m^2

Elapsed Time /(min)	Dial Major	Dial	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	11	0.168	2.368	1.9680	3.5646		
0.1	12	0.12	2.52	2.1200	3.5250		
0.15	12	0.152	2.552	2.1520	3.5167	0.0473	0.0523
0.25	13	0	2.6	2.2000	3.5042	0.0563	0.0588
0.5	13	0.07	2.67	2.2700	3.4860	0.0605	0.0649
1	13	0.15	2.75	2.3500	3.4652	0.0692	0.0786
1.5	14	0.014	2.814	2.4140	3.4485	0.0946	0.1021
2	14	0.068	2.868	2.4680	3.4344	0.1125	0.0917
3	14	0.12	2.92	2.5200	3.4209	0.0769	0.0929
5	15	0.01	3.01	2.6100	3.3975	0.1056	0.0991
7	15	0.06	3.06	2.6600	3.3844	0.0891	0.0830
10	15	0.106	3.106	2.7060	3.3725	0.0773	0.0865
15	15	0.17	3.17	2.7700	3.3558	0.0946	0.0830
20	16	0.002	3.202	2.8020	3.3475	0.0667	0.0692
30	16	0.05	3.25	2.8500	3.3350	0.0710	0.0865
40	16	0.102	3.302	2.9020	3.3214	0.1084	0.1211
60	16	0.19	3.39	2.9900	3.2985	0.1301	0.1020
90	17	0.04	3.44	3.0400	3.2855	0.0739	0.0917
120	17	0.096	3.496	3.0960	3.2709	0.1167	0.1228
180	17	0.182	3.582	3.1820	3.2485	0.1272	0.0942
300	18	0.04	3.64	3.2400	3.2334	0.0681	0.0665
420	18	0.076	3.676	3.2760	3.2241	0.0641	0.0638
480	18	0.09	3.69	3.2900	3.2204	0.0629	0.1041
1440	19	0.09	3.89	3.4900	3.1683	0.1091	#NUM!



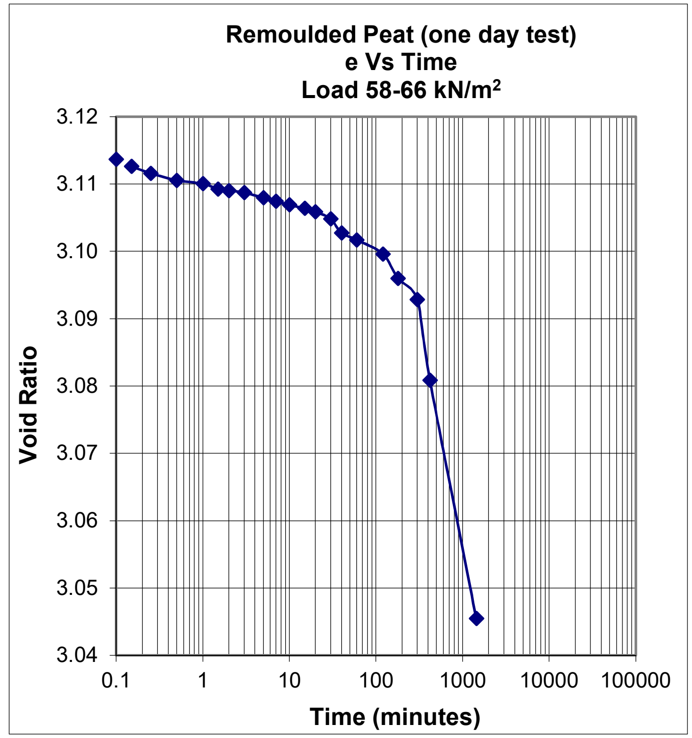
Sample – NBRO-Test A
Date-From 22/01/2015 to 15/02/2015
Conventional Consolidation
Load Increment 54kN/m^2 to 58kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	19	0.09	3.89	3.4900	3.1683		
0.1	19	0.098	3.898	3.4980	3.1663		
0.15	19	0.1	3.9	3.5000	3.1657	0.0030	0.0013
0.25	19	0.1	3.9	3.5000	3.1657	0.0000	0.0010
0.5	19	0.102	3.902	3.5020	3.1652	0.0017	0.0009
1	19	0.102	3.902	3.5020	3.1652	0.0000	0.0005
1.5	19	0.103	3.903	3.5030	3.1650	0.0015	0.0017
2	19	0.104	3.904	3.5040	3.1647	0.0021	0.0009
3	19	0.104	3.904	3.5040	3.1647	0.0000	0.0007
5	19	0.105	3.905	3.5050	3.1644	0.0012	0.0014
7	19	0.106	3.906	3.5060	3.1642	0.0018	0.0017
10	19	0.107	3.907	3.5070	3.1639	0.0017	0.0024
15	19	0.109	3.909	3.5090	3.1634	0.0030	0.0026
20	19	0.11	3.91	3.5100	3.1631	0.0021	0.0043
30	19	0.114	3.914	3.5140	3.1621	0.0059	0.0052
40	19	0.116	3.916	3.5160	3.1616	0.0042	0.0052
60	19	0.12	3.92	3.5200	3.1605	0.0059	0.0059
90	19	0.124	3.924	3.5240	3.1595	0.0059	0.0104
120	19	0.132	3.932	3.5320	3.1574	0.0167	0.0164
180	19	0.143	3.943	3.5430	3.1545	0.0163	0.0209
300	19	0.164	3.964	3.5640	3.1491	0.0246	0.0276
420	19	0.182	3.982	3.5820	3.1444	0.0321	0.0489
1440	20	0.092	4.092	3.6920	3.1158	0.0535	#NUM!



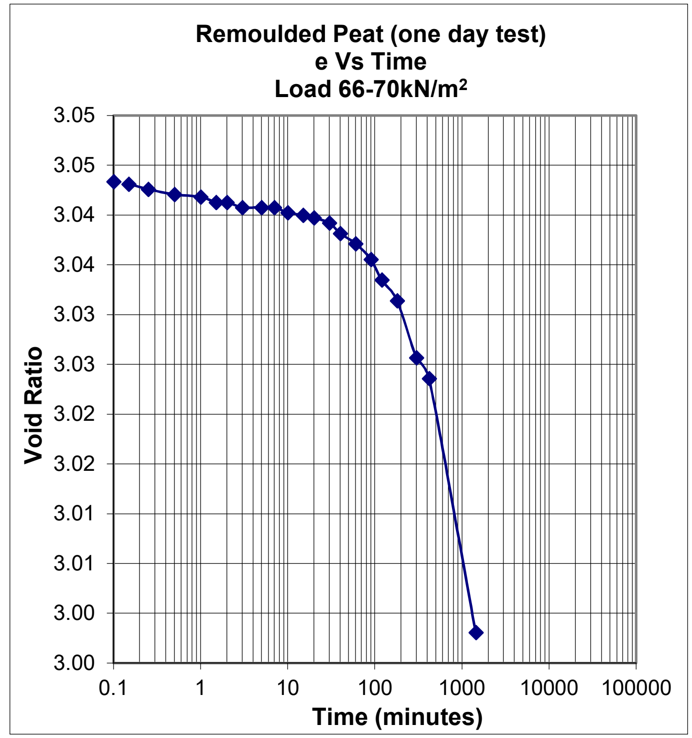
Sample – NBRO-Test A
Date-From 22/01/2015 to 15/02/2015
Conventional Consolidation
Load Increment 58kN/m^2 to 66kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	20	0.092	4.092	3.6920	3.1158		
0.1	20	0.1	4.1	3.7000	3.1137		
0.15	20	0.104	4.104	3.7040	3.1126	0.0059	0.0052
0.25	20	0.108	4.108	3.7080	3.1116	0.0047	0.0040
0.5	20	0.112	4.112	3.7120	3.1105	0.0035	0.0026
1	20	0.114	4.114	3.7140	3.1100	0.0017	0.0027
1.5	20	0.117	4.117	3.7170	3.1092	0.0044	0.0035
2	20	0.118	4.118	3.7180	3.1090	0.0021	0.0017
3	20	0.119	4.119	3.7190	3.1087	0.0015	0.0026
5	20	0.122	4.122	3.7220	3.1079	0.0035	0.0035
7	20	0.124	4.124	3.7240	3.1074	0.0036	0.0035
10	20	0.126	4.126	3.7260	3.1069	0.0034	0.0031
15	20	0.128	4.128	3.7280	3.1064	0.0030	0.0035
20	20	0.13	4.13	3.7300	3.1059	0.0042	0.0052
30	20	0.134	4.134	3.7340	3.1048	0.0059	0.0104
40	20	0.142	4.142	3.7420	3.1027	0.0167	0.0104
60	20	0.146	4.146	3.7460	3.1017	0.0059	0.0065
120	20	0.154	4.154	3.7540	3.0996	0.0069	0.0120
180	20	0.168	4.168	3.7680	3.0960	0.0207	0.0170
300	21	0.018	4.18	3.7800	3.0928	0.0141	0.0410
420	21	0.026	4.226	3.8260	3.0809	0.0820	0.0696
1440	21	0.162	4.362	3.9620	3.0455	0.0662	#NUM!



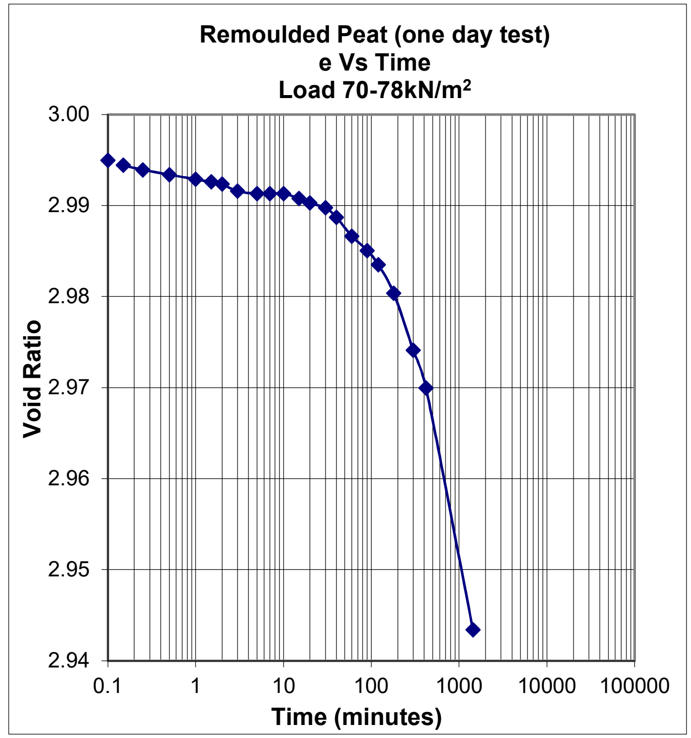
Sample – NBRO-Test A
Date-From 22/01/2015 to 15/02/2015
Conventional Consolidation
Load Increment 66kN/m² to 70kN/m²

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	21	21	4.362	3.9620	3.0455		
0.1	21	21	4.37	3.9700	3.0434		
0.15	21	21	4.371	3.9710	3.0431	0.0015	0.0020
0.25	21	21	4.373	3.9730	3.0426	0.0023	0.0020
0.5	21	21	4.375	3.9750	3.0421	0.0017	0.0013
1	21	21	4.376	3.9760	3.0418	0.0009	0.0013
1.5	21	21	4.378	3.9780	3.0413	0.0030	0.0022
2	21	21	4.378	3.9780	3.0413	0.0017	0.0022
3	21	21	4.38	3.9800	3.0408	0.0030	0.0013
5	21	21	4.38	3.9800	3.0408	0.0000	0.0000
7	21	21	4.38	3.9800	3.0408	0.0000	0.0017
10	21	21	4.382	3.9820	3.0403	0.0034	0.0024
15	21	21	4.383	3.9830	3.0400	0.0015	0.0017
20	21	21	4.384	3.9840	3.0397	0.0021	0.0026
30	21	21	4.386	3.9860	3.0392	0.0030	0.0052
40	21	21	4.39	3.9900	3.0382	0.0083	0.0069
60	21	21	4.394	3.9940	3.0371	0.0059	0.0098
90	21	21	4.4	4.0000	3.0356	0.0089	0.0120
120	21	21	4.408	4.0080	3.0335	0.0121	0.0120
180	21	21	4.416	4.0160	3.0314	0.0118	0.0196
300	21	21	4.438	4.0380	3.0257	0.0258	0.0212
420	21	21	4.446	4.0460	3.0236	0.0143	0.0405
1440	21	21	4.544	4.1440	2.9981	0.0477	#REF!



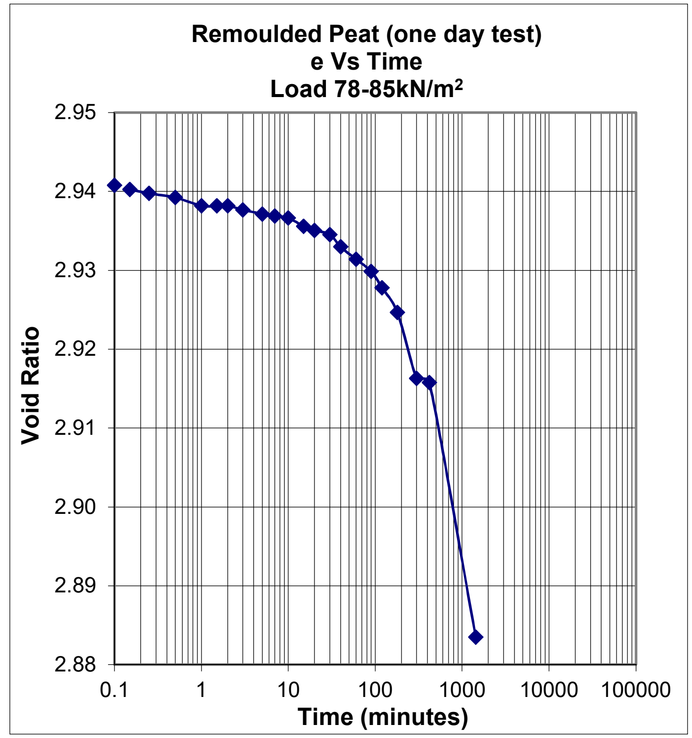
Sample – NBRO-Test A
Date-From 22/01/2015 to 15/02/2015
Conventional Consolidation
Load Increment 70kN/m^2 to 78kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	22	0.144	4.544	4.1440	2.9981		
0.1	22	0.156	4.556	4.1560	2.9949		
0.15	22	0.158	4.558	4.1580	2.9944	0.0030	0.0026
0.25	22	0.16	4.56	4.1600	2.9939	0.0023	0.0020
0.5	22	0.162	4.562	4.1620	2.9934	0.0017	0.0017
1	22	0.164	4.564	4.1640	2.9929	0.0017	0.0017
1.5	22	0.165	4.565	4.1650	2.9926	0.0015	0.0027
2	22	0.166	4.566	4.1660	2.9923	0.0017	0.0027
3	22	0.169	4.569	4.1690	2.9916	0.0044	0.0026
5	22	0.17	4.57	4.1700	2.9913	0.0012	0.0007
7	22	0.17	4.57	4.1700	2.9913	0.0000	0.0000
10	22	0.17	4.57	4.1700	2.9913	0.0000	0.0016
15	22	0.172	4.572	4.1720	2.9908	0.0030	0.0035
20	22	0.174	4.574	4.1740	2.9903	0.0042	0.0035
30	22	0.176	4.576	4.1760	2.9897	0.0030	0.0052
40	22	0.18	4.58	4.1800	2.9887	0.0083	0.0104
60	22	0.188	4.588	4.1880	2.9866	0.0118	0.0109
90	22	0.194	4.594	4.1940	2.9851	0.0089	0.0131
120	23	0	4.6	4.2000	2.9835	0.0104	0.0131
180	23	0.012	4.612	4.2120	2.9804	0.0177	0.0236
300	23	0.036	4.636	4.2360	2.9741	0.0282	0.0283
420	23	0.052	4.652	4.2520	2.9700	0.0285	0.0451
1440	23	0.154	4.754	4.3540	2.9434	0.0496	#REF!



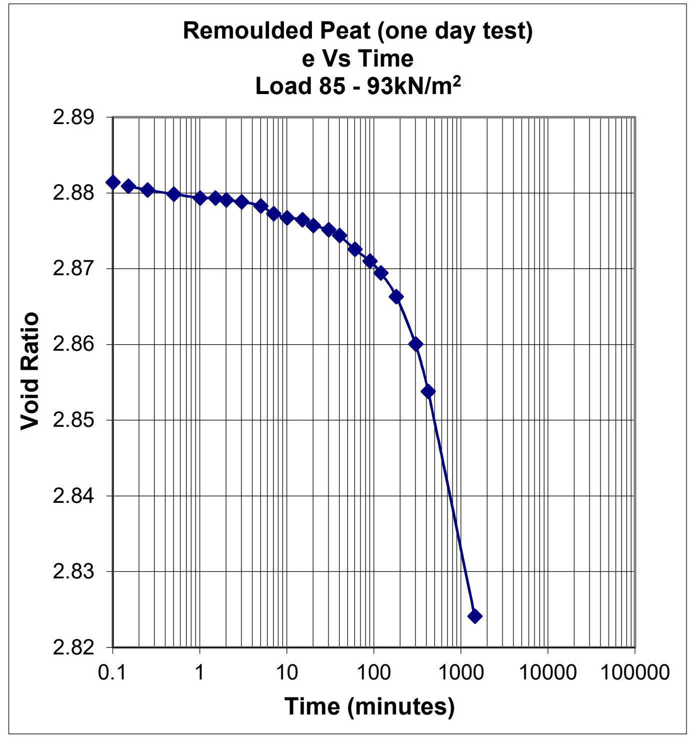
Sample – NBRO-Test A
Date-From 22/01/2015 to 15/02/2015
Conventional Consolidation
Load Increment 78kN/m^2 to 85kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	23	0.154	4.754	4.3540	2.9434		
0.1	23	0.164	4.764	4.3640	2.9408		
0.15	23	0.166	4.766	4.3660	2.9403	0.0030	0.0026
0.25	23	0.168	4.768	4.3680	2.9398	0.0023	0.0020
0.5	23	0.17	4.77	4.3700	2.9392	0.0017	0.0026
1	23	0.174	4.774	4.3740	2.9382	0.0035	0.0017
1.5	23	0.174	4.774	4.3740	2.9382	0.0000	0.0011
2	23	0.174	4.774	4.3740	2.9382	0.0000	0.0020
3	23	0.176	4.776	4.3760	2.9377	0.0030	0.0024
5	23	0.178	4.778	4.3780	2.9371	0.0023	0.0020
7	23	0.179	4.779	4.3790	2.9369	0.0018	0.0033
10	23	0.18	4.78	4.3800	2.9366	0.0017	0.0040
15	23	0.184	4.784	4.3840	2.9356	0.0059	0.0044
20	23	0.186	4.786	4.3860	2.9351	0.0042	0.0061
30	23	0.188	4.788	4.3880	2.9345	0.0030	0.0076
40	23	0.194	4.794	4.3940	2.9330	0.0125	0.0098
60	24	0	4.8	4.4000	2.9314	0.0089	0.0109
90	24	0.006	4.806	4.4060	2.9299	0.0089	0.0142
120	24	0.014	4.814	4.4140	2.9278	0.0167	0.0259
180	24	0.026	4.826	4.4260	2.9247	0.0177	0.0220
300	24	0.058	4.858	4.4580	2.9163	0.0376	0.0241
420	24	0.06	4.86	4.4600	2.9158	0.0036	0.0482
1440	24	0.184	4.984	4.5840	2.8835	0.0603	#REF!



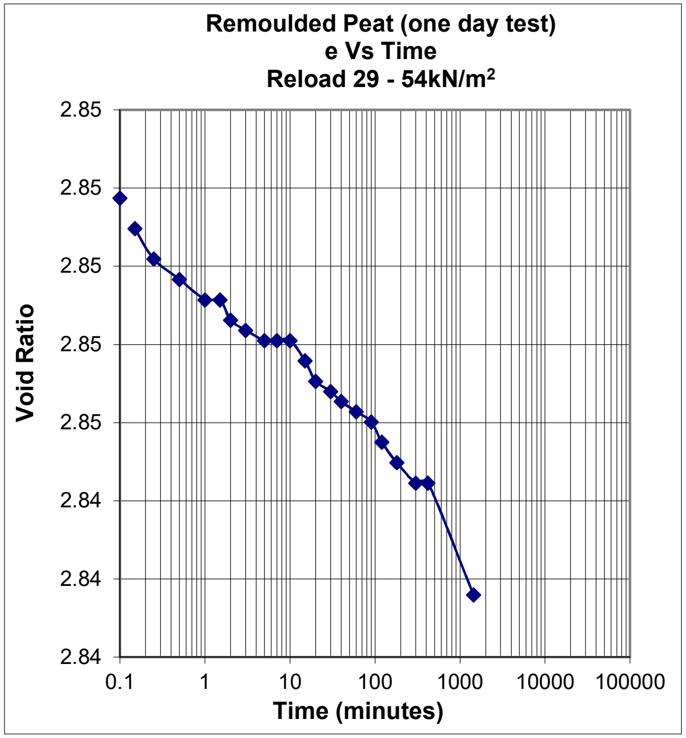
Sample – NBRO-Test A
Date-From 22/01/2015 to 15/02/2015
Conventional Consolidation
Load Increment 85kN/m² to 93kN/m²

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	24	0.184	4.984	4.5840	2.8835		
0.1	24	0.192	4.992	4.5920	2.8814		
0.15	24	0.194	4.994	4.5940	2.8809	0.0030	0.0026
0.25	24	0.196	4.996	4.5960	2.8804	0.0023	0.0020
0.5	24	0.198	4.998	4.5980	2.8799	0.0017	0.0017
1	25	0	5	4.6000	2.8793	0.0017	0.0011
1.5	25	0	5	4.6000	2.8793	0.0000	0.0009
2	25	0.001	5.001	4.6010	2.8791	0.0021	0.0017
3	25	0.002	5.002	4.6020	2.8788	0.0015	0.0020
5	25	0.004	5.004	4.6040	2.8783	0.0023	0.0042
7	25	0.008	5.008	4.6080	2.8773	0.0071	0.0052
10	25	0.01	5.01	4.6100	2.8767	0.0034	0.0024
15	25	0.011	5.011	4.6110	2.8765	0.0015	0.0035
20	25	0.014	5.014	4.6140	2.8757	0.0063	0.0043
30	25	0.016	5.016	4.6160	2.8752	0.0030	0.0043
40	25	0.019	5.019	4.6190	2.8744	0.0063	0.0086
60	25	0.026	5.026	4.6260	2.8726	0.0103	0.0096
90	25	0.032	5.032	4.6320	2.8710	0.0089	0.0104
120	25	0.038	5.038	4.6380	2.8695	0.0125	0.0156
180	25	0.05	5.05	4.6500	2.8663	0.0177	0.0236
300	25	0.074	5.074	4.6740	2.8601	0.0282	0.0340
420	25	0.098	5.098	4.6980	2.8538	0.0428	0.0527
1440	26	0.012	5.212	4.8120	2.8242	0.0555	#NUM!



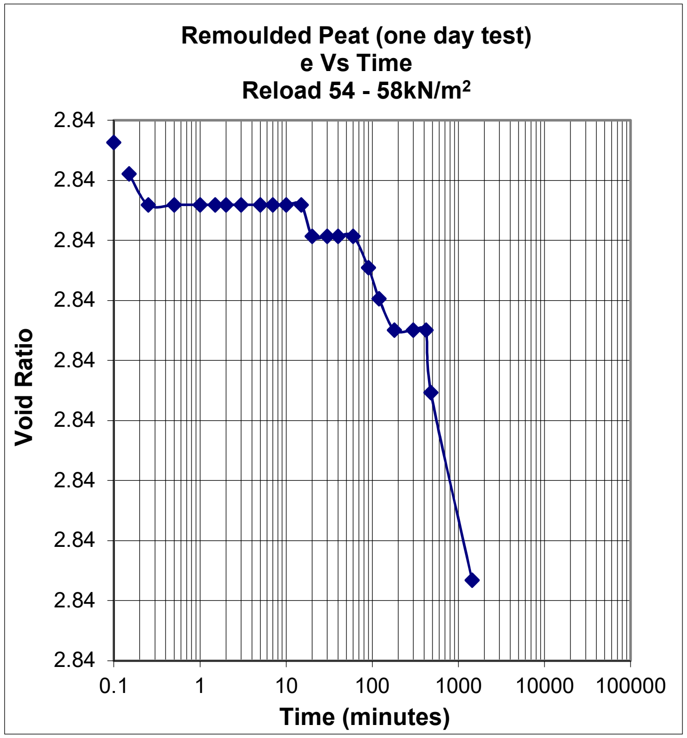
Sample – NBRO-Test A
Date-From 22/01/2015 to 15/02/2015
Conventional Consolidation
Load Increment 29kN/m^2 to 54kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	$C_{\alpha}1$	$C_{\alpha}2$
0	25	0.084	5.084	4.6840	2.8575		
0.1	25	0.106	5.106	4.7060	2.8518		
0.15	25	0.109	5.109	4.7090	2.8510	0.0044	0.0039
0.25	25	0.112	5.112	4.7120	2.8502	0.0035	0.0025
0.5	25	0.114	5.114	4.7140	2.8497	0.0017	0.0017
1	25	0.116	5.116	4.7160	2.8491	0.0017	0.0017
1.5	25	0.116	5.116	4.7160	2.8491	0.0000	0.0016
2	25	0.118	5.118	4.7180	2.8486	0.0042	0.0020
3	25	0.119	5.119	4.7190	2.8484	0.0015	0.0010
5	25	0.12	5.12	4.7200	2.8481	0.0012	0.0005
7	25	0.12	5.12	4.7200	2.8481	0.0000	0.0011
10	25	0.12	5.12	4.7200	2.8481	0.0000	0.0023
15	25	0.122	5.122	4.7220	2.8476	0.0030	0.0027
20	25	0.124	5.124	4.7240	2.8471	0.0042	0.0024
30	25	0.125	5.125	4.7250	2.8468	0.0015	0.0016
40	25	0.126	5.126	4.7260	2.8465	0.0021	0.0016
60	25	0.127	5.127	4.7270	2.8463	0.0015	0.0022
90	25	0.128	5.128	4.7280	2.8460	0.0015	0.0027
120	25	0.13	5.13	4.7300	2.8455	0.0042	0.0030
180	25	0.132	5.132	4.7320	2.8450	0.0030	0.0019
300	25	0.134	5.134	4.7340	2.8445	0.0023	0.0014
420	25	0.134	5.134	4.7340	2.8445	0.0000	0.0042
1440	25	0.145	5.145	4.7450	2.8416	0.0054	#REF!



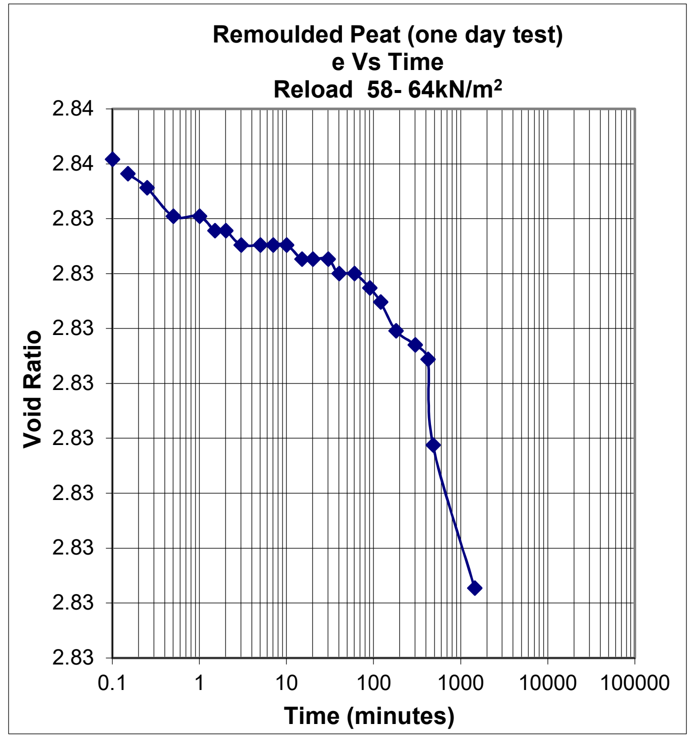
Sample – NBRO-Test A
Date-From 22/01/2015 to 15/02/2015
Conventional Consolidation
Load Increment 54kN/m^2 to 58kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	25	0.145	5.145	4.7450	2.8416		
0.1	25	0.148	5.148	4.7480	2.8408		
0.15	25	0.149	5.149	4.7490	2.8406	0.0015	0.0013
0.25	25	0.15	5.15	4.7500	2.8403	0.0012	0.0005
0.5	25	0.15	5.15	4.7500	2.8403	0.0000	0.0000
1	25	0.15	5.15	4.7500	2.8403	0.0000	0.0000
1.5	25	0.15	5.15	4.7500	2.8403	0.0000	0.0000
2	25	0.15	5.15	4.7500	2.8403	0.0000	0.0000
3	25	0.15	5.15	4.7500	2.8403	0.0000	0.0000
5	25	0.15	5.15	4.7500	2.8403	0.0000	0.0000
7	25	0.15	5.15	4.7500	2.8403	0.0000	0.0000
10	25	0.15	5.15	4.7500	2.8403	0.0000	0.0000
15	25	0.15	5.15	4.7500	2.8403	0.0000	0.0009
20	25	0.151	5.151	4.7510	2.8400	0.0021	0.0009
30	25	0.151	5.151	4.7510	2.8400	0.0000	0.0000
40	25	0.151	5.151	4.7510	2.8400	0.0000	0.0000
60	25	0.151	5.151	4.7510	2.8400	0.0000	0.0007
90	25	0.152	5.152	4.7520	2.8398	0.0015	0.0017
120	25	0.153	5.153	4.7530	2.8395	0.0021	0.0017
180	25	0.154	5.154	4.7540	2.8393	0.0015	0.0007
300	25	0.154	5.154	4.7540	2.8393	0.0000	0.0000
420	25	0.154	5.154	4.7540	2.8393	0.0000	0.0026
480	25	0.156	5.156	4.7560	2.8387	0.0090	0.0039
1440	25	0.162	5.162	4.7620	2.8372	0.0033	#NUM!



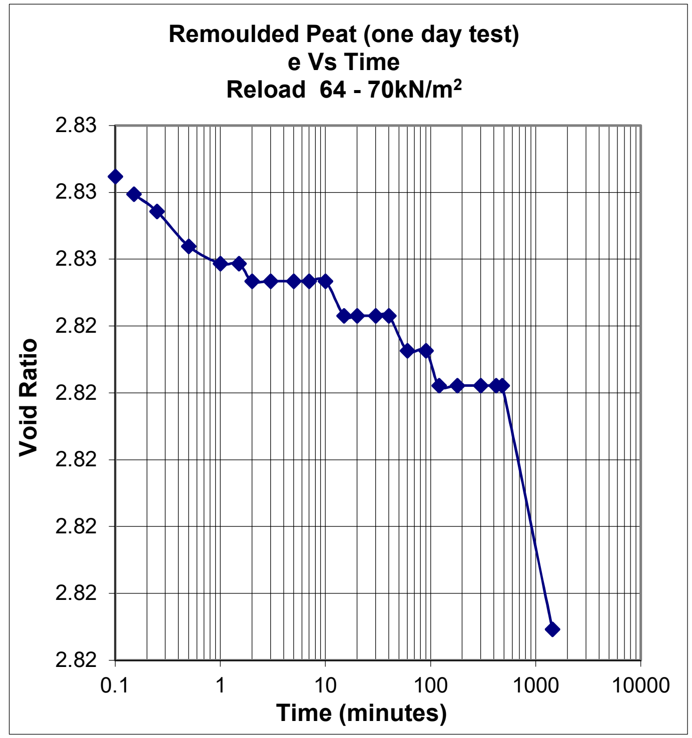
Sample – NBRO-Test A
Date-From 22/01/2015 to 15/02/2015
Conventional Consolidation
Load Increment 58kN/m^2 to 64kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	25	0.162	5.162	4.7620	2.8372		
0.1	25	0.17	5.170	4.7700	2.8351		
0.15	25	0.171	5.171	4.7710	2.8348	0.0015	0.0013
0.25	25	0.172	5.172	4.7720	2.8346	0.0012	0.0015
0.5	25	0.174	5.174	4.7740	2.8340	0.0017	0.0009
1	25	0.174	5.174	4.7740	2.8340	0.0000	0.0005
1.5	25	0.175	5.175	4.7750	2.8338	0.0015	0.0009
2	25	0.175	5.175	4.7750	2.8338	0.0000	0.0009
3	25	0.176	5.176	4.7760	2.8335	0.0015	0.0007
5	25	0.176	5.176	4.7760	2.8335	0.0000	0.0000
7	25	0.176	5.176	4.7760	2.8335	0.0000	0.0000
10	25	0.176	5.176	4.7760	2.8335	0.0000	0.0008
15	25	0.177	5.177	4.7770	2.8333	0.0015	0.0009
20	25	0.177	5.177	4.7770	2.8333	0.0000	0.0000
30	25	0.177	5.177	4.7770	2.8333	0.0000	0.0009
40	25	0.178	5.178	4.7780	2.8330	0.0021	0.0009
60	25	0.178	5.178	4.7780	2.8330	0.0000	0.0007
90	25	0.179	5.179	4.7790	2.8327	0.0015	0.0017
120	25	0.18	5.180	4.7800	2.8325	0.0021	0.0026
180	25	0.182	5.182	4.7820	2.8320	0.0030	0.0020
300	25	0.183	5.183	4.7830	2.8317	0.0012	0.0014
420	25	0.184	5.184	4.7840	2.8314	0.0018	0.0089
480	25	0.19	5.190	4.7900	2.8299	0.0269	0.0078
1440	26	0	5.200	4.8000	2.8273	0.0055	#NUM!



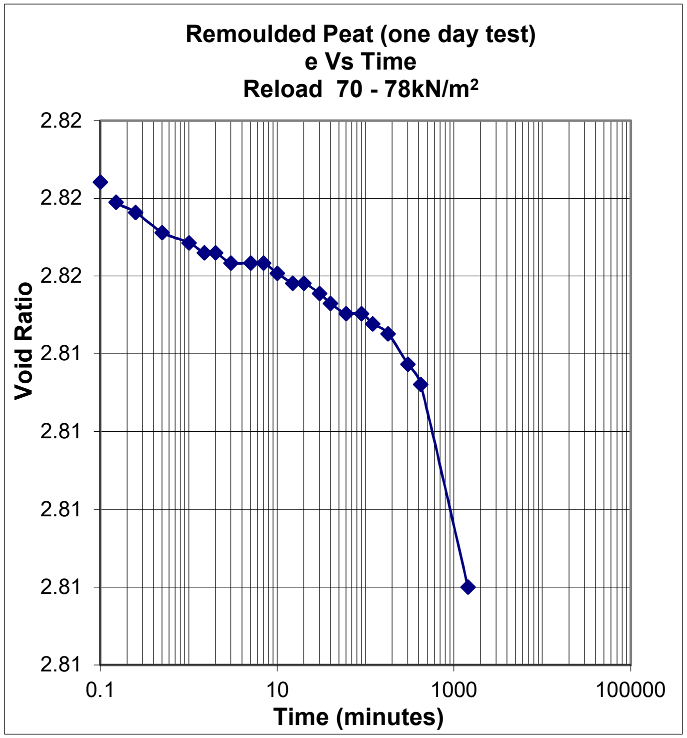
Sample – NBRO-Test A
Date-From 22/01/2015 to 15/02/2015
Conventional Consolidation
Load Increment 64kN/m² to 70kN/m²

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	26	0	5.2	4.8000	2.8273		
0.1	26	0.004	5.204	4.8040	2.8262		
0.15	26	0.005	5.205	4.8050	2.8260	0.0015	0.0013
0.25	26	0.006	5.206	4.8060	2.8257	0.0012	0.0015
0.5	26	0.008	5.208	4.8080	2.8252	0.0017	0.0013
1	26	0.009	5.209	4.8090	2.8249	0.0009	0.0005
1.5	26	0.009	5.209	4.8090	2.8249	0.0000	0.0009
2	26	0.01	5.21	4.8100	2.8247	0.0021	0.0009
3	26	0.01	5.21	4.8100	2.8247	0.0000	0.0000
5	26	0.01	5.21	4.8100	2.8247	0.0000	0.0000
7	26	0.01	5.21	4.8100	2.8247	0.0000	0.0000
10	26	0.01	5.21	4.8100	2.8247	0.0000	0.0016
15	26	0.012	5.212	4.8120	2.8242	0.0030	0.0017
20	26	0.012	5.212	4.8120	2.8242	0.0000	0.0000
30	26	0.012	5.212	4.8120	2.8242	0.0000	0.0000
40	26	0.012	5.212	4.8120	2.8242	0.0000	0.0017
60	26	0.014	5.214	4.8140	2.8236	0.0030	0.0015
90	26	0.014	5.214	4.8140	2.8236	0.0000	0.0017
120	26	0.016	5.216	4.8160	2.8231	0.0042	0.0017
180	26	0.016	5.216	4.8160	2.8231	0.0000	0.0000
300	26	0.016	5.216	4.8160	2.8231	0.0000	0.0000
420	26	0.016	5.216	4.8160	2.8231	0.0000	0.0000
480	26	0.016	5.216	4.8160	2.8231	0.0000	0.0068
1440	26	0.03	5.23	4.8300	2.8195	0.0076	#NUM!



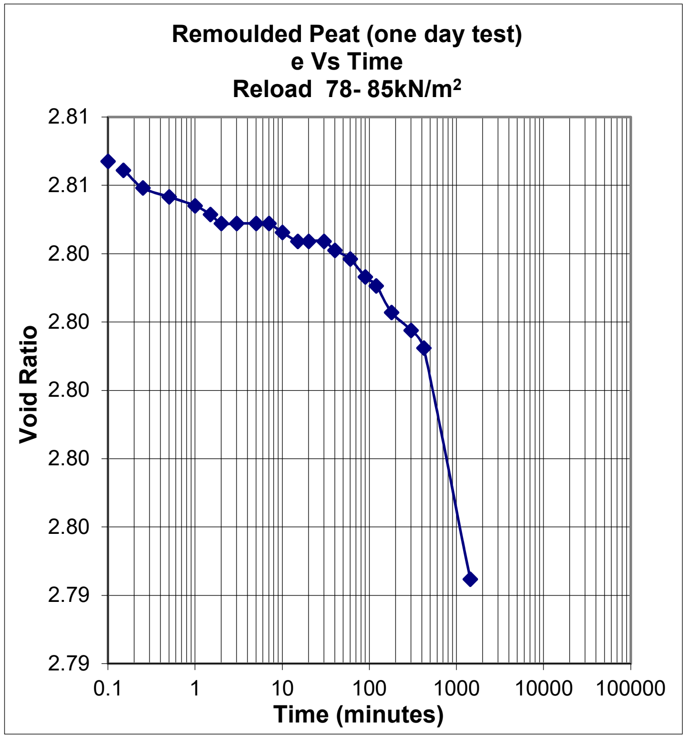
Sample – NBRO-Test A
Date-From 22/01/2015 to 15/02/2015
Conventional Consolidation
Load Increment 70kN/m^2 to 78kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	$C_{\alpha}1$	$C_{\alpha}2$
0	26	0.03	5.23	4.8300	2.8195		
0.1	26	0.034	5.234	4.8340	2.8184		
0.15	26	0.036	5.236	4.8360	2.8179	0.0030	0.0020
0.25	26	0.037	5.237	4.8370	2.8176	0.0012	0.0015
0.5	26	0.039	5.239	4.8390	2.8171	0.0017	0.0013
1	26	0.04	5.24	4.8400	2.8169	0.0009	0.0011
1.5	26	0.041	5.241	4.8410	2.8166	0.0015	0.0009
2	26	0.041	5.241	4.8410	2.8166	0.0000	0.0009
3	26	0.042	5.242	4.8420	2.8163	0.0015	0.0007
5	26	0.042	5.242	4.8420	2.8163	0.0000	0.0000
7	26	0.042	5.242	4.8420	2.8163	0.0000	0.0009
10	26	0.043	5.243	4.8430	2.8161	0.0017	0.0016
15	26	0.044	5.244	4.8440	2.8158	0.0015	0.0009
20	26	0.044	5.244	4.8440	2.8158	0.0000	0.0009
30	26	0.045	5.245	4.8450	2.8156	0.0015	0.0017
40	26	0.046	5.246	4.8460	2.8153	0.0021	0.0017
60	26	0.047	5.247	4.8470	2.8150	0.0015	0.0007
90	26	0.047	5.247	4.8470	2.8150	0.0000	0.0009
120	26	0.048	5.248	4.8480	2.8148	0.0021	0.0017
180	26	0.049	5.249	4.8490	2.8145	0.0015	0.0026
300	26	0.052	5.252	4.8520	2.8137	0.0035	0.0035
420	26	0.054	5.254	4.8540	2.8132	0.0036	0.0084
1440	26	0.074	5.274	4.8740	2.8080	0.0097	#NUM!



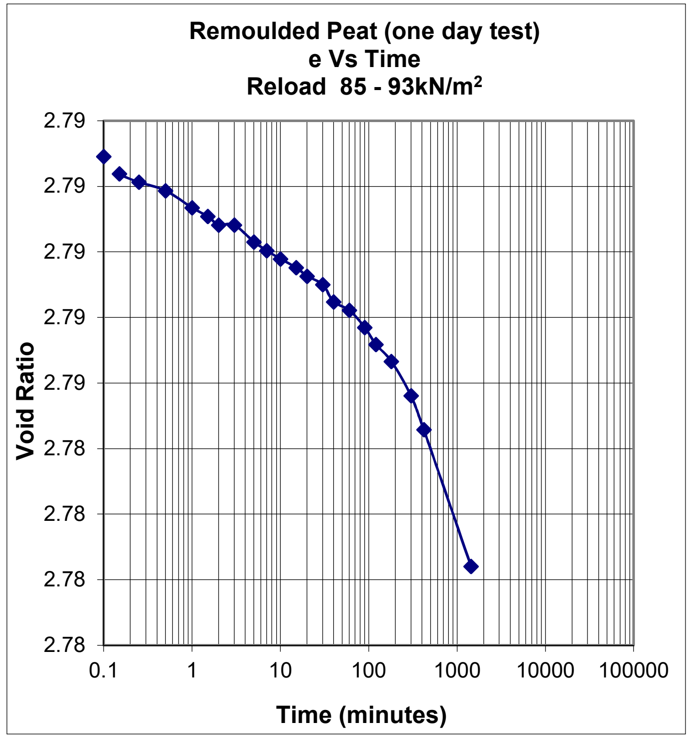
Sample – NBRO-Test A
Date-From 22/01/2015 to 15/02/2015
Conventional Consolidation
Load Increment 78kN/m² to 85kN/m²

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	26	0.074	5.274	4.8740	2.8080		
0.1	26	0.079	5.279	4.8790	2.8067		
0.15	26	0.08	5.28	4.8800	2.8064	0.0015	0.0020
0.25	26	0.082	5.282	4.8820	2.8059	0.0023	0.0015
0.5	26	0.083	5.283	4.8830	2.8057	0.0009	0.0009
1	26	0.084	5.284	4.8840	2.8054	0.0009	0.0011
1.5	26	0.085	5.285	4.8850	2.8051	0.0015	0.0017
2	26	0.086	5.286	4.8860	2.8049	0.0021	0.0009
3	26	0.086	5.286	4.8860	2.8049	0.0000	0.0000
5	26	0.086	5.286	4.8860	2.8049	0.0000	0.0000
7	26	0.086	5.286	4.8860	2.8049	0.0000	0.0009
10	26	0.087	5.287	4.8870	2.8046	0.0017	0.0016
15	26	0.088	5.288	4.8880	2.8044	0.0015	0.0009
20	26	0.088	5.288	4.8880	2.8044	0.0000	0.0000
30	26	0.088	5.288	4.8880	2.8044	0.0000	0.0009
40	26	0.089	5.289	4.8890	2.8041	0.0021	0.0017
60	26	0.09	5.29	4.8900	2.8038	0.0015	0.0022
90	26	0.092	5.292	4.8920	2.8033	0.0030	0.0026
120	26	0.093	5.293	4.8930	2.8031	0.0021	0.0035
180	26	0.096	5.296	4.8960	2.8023	0.0044	0.0033
300	26	0.098	5.298	4.8980	2.8018	0.0023	0.0028
420	26	0.1	5.3	4.9000	2.8012	0.0036	0.0107
1440	26	0.126	5.326	4.9260	2.7945	0.0127	#NUM!



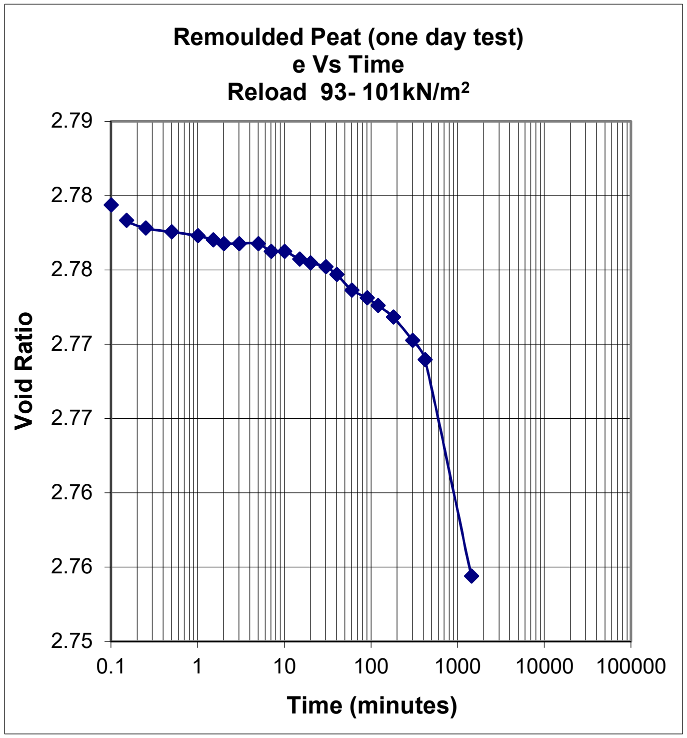
Sample – NBRO-Test A
Date-From 22/01/2015 to 15/02/2015
Conventional Consolidation
Load Increment 85kN/m^2 to 93kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	26	0.126	5.326	4.9260	2.7945		
0.1	26	0.132	5.332	4.9320	2.7929		
0.15	26	0.134	5.334	4.9340	2.7924	0.0030	0.0020
0.25	26	0.135	5.335	4.9350	2.7921	0.0012	0.0010
0.5	26	0.136	5.336	4.9360	2.7919	0.0009	0.0013
1	26	0.138	5.338	4.9380	2.7913	0.0017	0.0016
1.5	26	0.139	5.339	4.9390	2.7911	0.0015	0.0017
2	26	0.14	5.34	4.9400	2.7908	0.0021	0.0009
3	26	0.14	5.34	4.9400	2.7908	0.0000	0.0013
5	26	0.142	5.342	4.9420	2.7903	0.0023	0.0021
7	26	0.143	5.343	4.9430	2.7900	0.0018	0.0017
10	26	0.144	5.344	4.9440	2.7898	0.0017	0.0016
15	26	0.145	5.345	4.9450	2.7895	0.0015	0.0017
20	26	0.146	5.346	4.9460	2.7893	0.0021	0.0017
30	26	0.147	5.347	4.9470	2.7890	0.0015	0.0026
40	26	0.149	5.349	4.9490	2.7885	0.0042	0.0026
60	26	0.15	5.35	4.9500	2.7882	0.0015	0.0022
90	26	0.152	5.352	4.9520	2.7877	0.0030	0.0035
120	26	0.154	5.354	4.9540	2.7872	0.0042	0.0035
180	26	0.156	5.356	4.9560	2.7867	0.0030	0.0039
300	26	0.16	5.36	4.9600	2.7856	0.0047	0.0057
420	26	0.164	5.364	4.9640	2.7846	0.0071	0.0076
1440	26	0.18	5.38	4.9800	2.7804	0.0078	#REF!



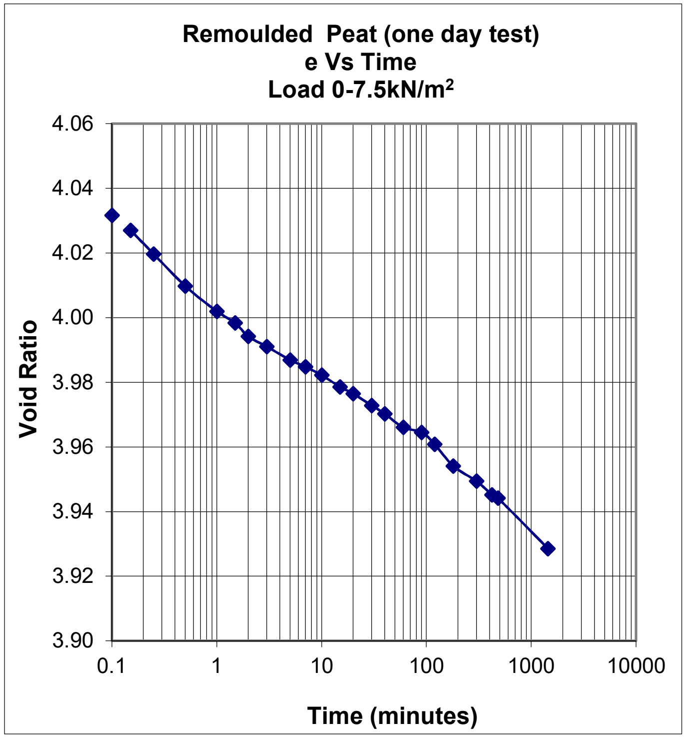
Sample – NBRO-Test A
Date-From 22/01/2015 to 15/02/2015
Conventional Consolidation
Load Increment 93kN/m² to 101kN/m²

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	26	0.18	5.38	4.9800	2.7804		
0.1	26	0.184	5.384	4.9840	2.7794		
0.15	26	0.188	5.388	4.9880	2.7783	0.0059	0.0039
0.25	26	0.19	5.39	4.9900	2.7778	0.0023	0.0015
0.5	26	0.191	5.391	4.9910	2.7775	0.0009	0.0009
1	26	0.192	5.392	4.9920	2.7773	0.0009	0.0011
1.5	26	0.193	5.393	4.9930	2.7770	0.0015	0.0017
2	26	0.194	5.394	4.9940	2.7768	0.0021	0.0009
3	26	0.194	5.394	4.9940	2.7768	0.0000	0.0000
5	26	0.194	5.394	4.9940	2.7768	0.0000	0.0014
7	26	0.196	5.396	4.9960	2.7762	0.0036	0.0017
10	26	0.196	5.396	4.9960	2.7762	0.0000	0.0016
15	26	0.198	5.398	4.9980	2.7757	0.0030	0.0026
20	26	0.199	5.399	4.9990	2.7755	0.0021	0.0017
30	26	0.2	5.4	5.0000	2.7752	0.0015	0.0026
40	26	0.202	5.402	5.0020	2.7747	0.0042	0.0052
60	26	0.206	5.406	5.0060	2.7736	0.0059	0.0044
90	26	0.208	5.408	5.0080	2.7731	0.0030	0.0035
120	26	0.21	5.41	5.0100	2.7726	0.0042	0.0043
180	26	0.213	5.413	5.0130	2.7718	0.0044	0.0059
300	26	0.219	5.419	5.0190	2.7703	0.0070	0.0078
420	26	0.224	5.424	5.0240	2.7690	0.0089	0.0233
1440	27	0.08	5.48	5.0800	2.7544	0.0272	#REF!



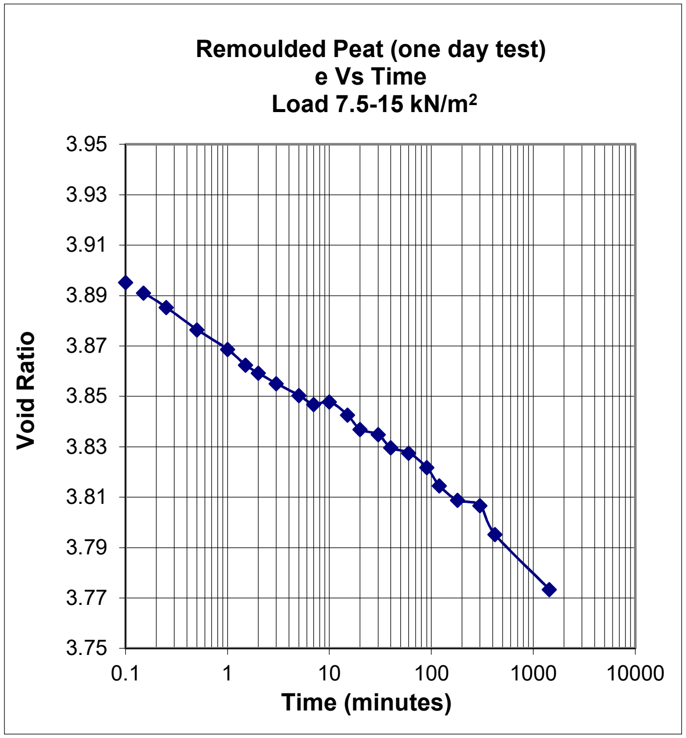
Sample – NBRO-Test B
Date-From 22/01/2015 to 08/02/2015
Conventional Consolidation
Load Increment 0kN/m^2 to 7.5kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	$C_{\alpha 1}$	$C_{\alpha 2}$
0	2	0	0.4	0.0000	4.0770		
0.1	2	0.174	0.574	0.1740	4.0317		
0.15	2	0.192	0.592	0.1920	4.0270	0.0266	0.0301
0.25	3	0.02	0.62	0.2200	4.0197	0.0329	0.0329
0.5	3	0.058	0.658	0.2580	4.0098	0.0329	0.0294
1	3	0.088	0.688	0.2880	4.0020	0.0259	0.0240
1.5	3	0.102	0.702	0.3020	3.9984	0.0207	0.0259
2	3	0.118	0.718	0.3180	3.9942	0.0333	0.0242
3	3	0.13	0.73	0.3300	3.9911	0.0177	0.0183
5	3	0.146	0.746	0.3460	3.9869	0.0188	0.0170
7	3	0.154	0.754	0.3540	3.9848	0.0143	0.0156
10	3	0.164	0.764	0.3640	3.9822	0.0168	0.0189
15	3	0.178	0.778	0.3780	3.9786	0.0207	0.0190
20	3	0.186	0.786	0.3860	3.9765	0.0167	0.0190
30	4	0	0.8	0.4000	3.9729	0.0207	0.0208
40	4	0.01	0.81	0.4100	3.9703	0.0208	0.0225
60	4	0.026	0.826	0.4260	3.9661	0.0237	0.0163
90	4	0.032	0.832	0.4320	3.9645	0.0089	0.0173
120	4	0.046	0.846	0.4460	3.9609	0.0292	0.0346
180	4	0.072	0.872	0.4720	3.9541	0.0384	0.0288
300	4	0.09	0.89	0.4900	3.9494	0.0211	0.0241
420	4	0.106	0.906	0.5060	3.9453	0.0285	0.0255
480	4	0.11	0.91	0.5100	3.9442	0.0180	0.0311
1440	4	0.17	0.97	0.5700	3.9286	0.0327	#NUM!



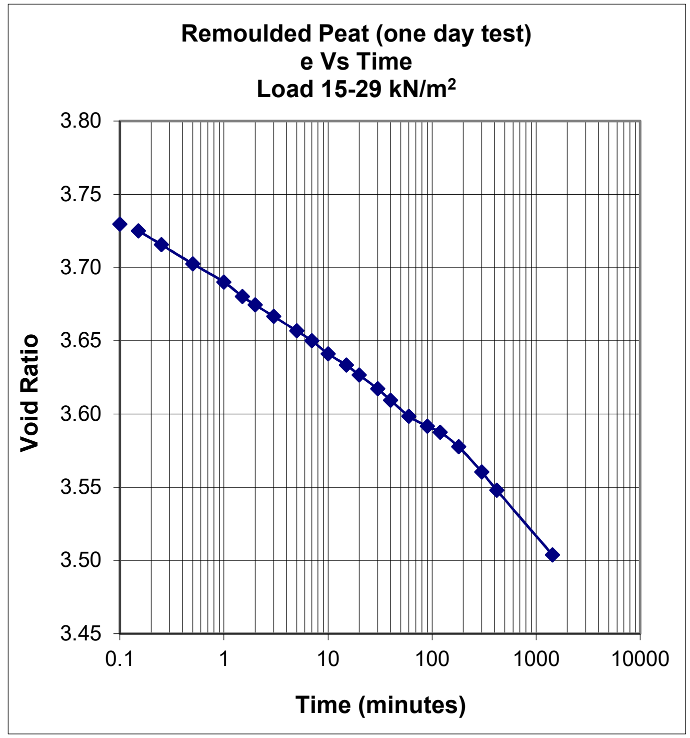
Sample – NBRO-Test B
Date-From 22/01/2015 to 08/02/2015
Conventional Consolidation
Load Increment 7.5kN/m^2 to 15kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	4	0.17	0.97	0.5700	3.9286		
0.1	5	0.098	1.098	0.6980	3.8953		
0.15	5	0.114	1.114	0.7140	3.8911	0.0237	0.0249
0.25	5	0.136	1.136	0.7360	3.8854	0.0258	0.0279
0.5	5	0.17	1.17	0.7700	3.8765	0.0294	0.0277
1	6	0	1.2	0.8000	3.8687	0.0259	0.0295
1.5	6	0.024	1.224	0.8240	3.8625	0.0355	0.0311
2	6	0.036	1.236	0.8360	3.8593	0.0250	0.0242
3	6	0.052	1.252	0.8520	3.8552	0.0237	0.0222
5	6	0.07	1.27	0.8700	3.8505	0.0211	0.0226
7	6	0.084	1.284	0.8840	3.8468	0.0249	0.0086
10	6	0.08	1.28	0.8800	3.8479	-0.0067	0.0126
15	6	0.1	1.3	0.9000	3.8427	0.0296	0.0363
20	6	0.122	1.322	0.9220	3.8369	0.0458	0.0259
30	6	0.13	1.33	0.9300	3.8349	0.0118	0.0242
40	6	0.15	1.35	0.9500	3.8297	0.0417	0.0242
60	6	0.158	1.358	0.9580	3.8276	0.0118	0.0222
90	6	0.18	1.38	0.9800	3.8218	0.0325	0.0432
120	7	0.008	1.408	1.0080	3.8146	0.0583	0.0432
180	7	0.03	1.43	1.0300	3.8088	0.0325	0.0196
300	7	0.038	1.438	1.0380	3.8067	0.0094	0.0368
420	7	0.082	1.482	1.0820	3.7953	0.0784	0.0489
1440	7	0.166	1.566	1.1660	3.7734	0.0409	#NUM!



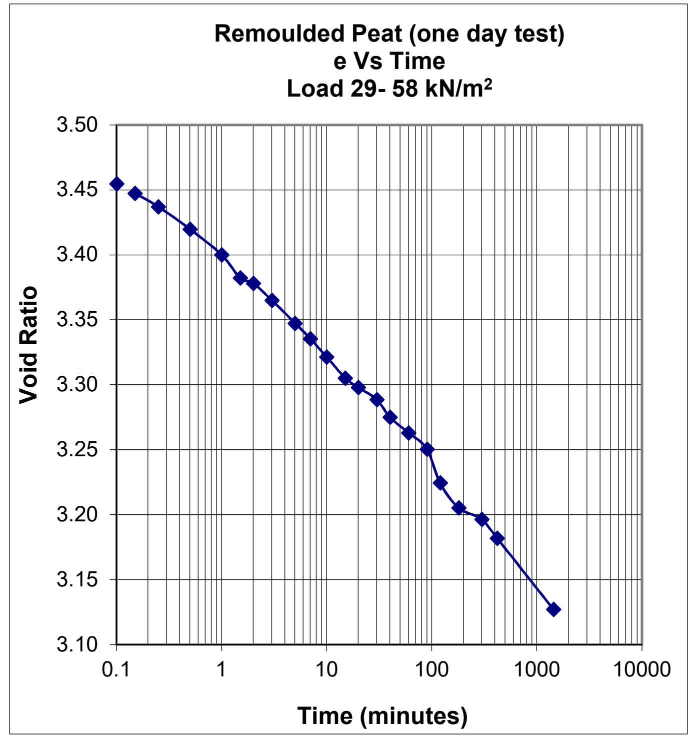
Sample – NBRO-Test B
Date-From 22/01/2015 to 08/02/2015
Conventional Consolidation
Load Increment 15kN/m² to 29kN/m²

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	7	0.166	1.566	1.166	3.7734		
0.1	8	0.134	1.734	1.334	3.7297		
0.15	8	0.152	1.752	1.352	3.7250	0.027	0.035
0.25	8	0.188	1.788	1.388	3.7156	0.042	0.043
0.5	9	0.038	1.838	1.438	3.7026	0.043	0.042
1	9	0.086	1.886	1.486	3.6901	0.042	0.047
1.5	9	0.124	1.924	1.524	3.6802	0.056	0.052
2	9	0.146	1.946	1.546	3.6745	0.046	0.045
3	9	0.176	1.976	1.576	3.6667	0.044	0.044
5	10	0.014	2.014	1.614	3.6568	0.045	0.045
7	10	0.04	2.04	1.64	3.6500	0.046	0.052
10	10	0.074	2.074	1.674	3.6412	0.057	0.050
15	10	0.104	2.104	1.704	3.6333	0.044	0.048
20	10	0.13	2.13	1.73	3.6266	0.054	0.054
30	10	0.166	2.166	1.766	3.6172	0.053	0.057
40	10	0.196	2.196	1.796	3.6094	0.063	0.062
60	11	0.038	2.238	1.838	3.5985	0.062	0.050
90	11	0.064	2.264	1.864	3.5917	0.038	0.036
120	11	0.08	2.28	1.88	3.5875	0.033	0.047
180	11	0.118	2.318	1.918	3.5776	0.056	0.068
300	11	0.184	2.384	1.984	3.5604	0.077	0.081
420	12	0.032	2.432	2.032	3.5480	0.086	0.083
1440	13	0.002	2.602	2.202	3.5037	0.083	#NUM!



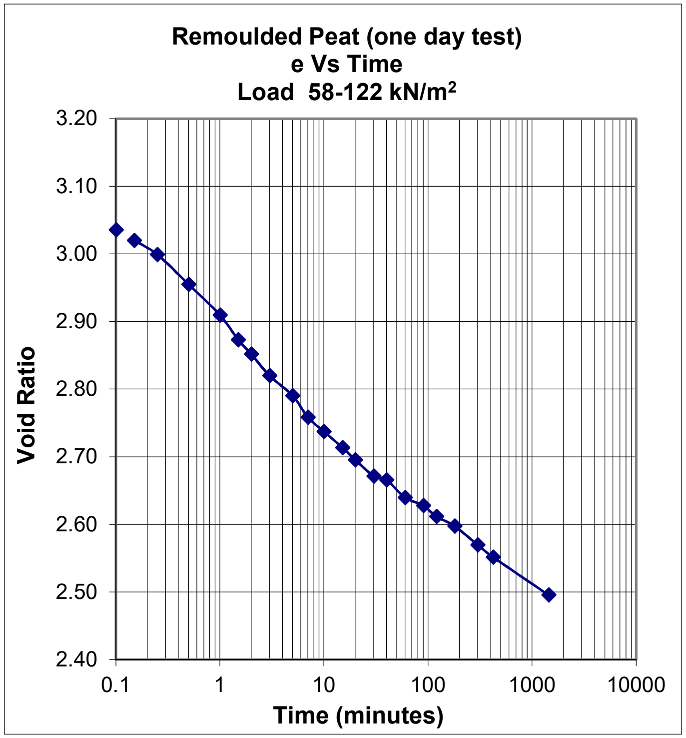
Sample – NBRO-Test B
Date-From 22/01/2015 to 08/02/2015
Conventional Consolidation
Load Increment 29kN/m^2 to 58kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	$C_{\alpha}1$	$C_{\alpha}2$
0	13	0.002	2.602	2.2020	3.5037		
0.1	13	0.19	2.79	2.3900	3.4547		
0.15	14	0.018	2.818	2.4180	3.4475	0.0414	0.0445
0.25	14	0.058	2.858	2.4580	3.4370	0.0469	0.0528
0.5	14	0.124	2.924	2.5240	3.4199	0.0571	0.0614
1	15	0	3	2.6000	3.4001	0.0657	0.0786
1.5	15	0.068	3.068	2.6680	3.3824	0.1005	0.0727
2	15	0.084	3.084	2.6840	3.3782	0.0333	0.0571
3	15	0.134	3.134	2.7340	3.3652	0.0739	0.0772
5	16	0.002	3.202	2.8020	3.3475	0.0798	0.0807
7	16	0.048	3.248	2.8480	3.3355	0.0820	0.0865
10	16	0.102	3.302	2.9020	3.3214	0.0908	0.0912
15	16	0.164	3.364	2.9640	3.3053	0.0917	0.0778
20	16	0.192	3.392	2.9920	3.2980	0.0583	0.0554
30	17	0.028	3.428	3.0280	3.2886	0.0532	0.0761
40	17	0.08	3.48	3.0800	3.2751	0.1084	0.0848
60	17	0.126	3.526	3.1260	3.2631	0.0680	0.0695
90	17	0.174	3.574	3.1740	3.2506	0.0710	0.1280
120	18	0.074	3.674	3.2740	3.2246	0.2084	0.1505
180	18	0.148	3.748	3.3480	3.2053	0.1094	0.0707
300	18	0.182	3.782	3.3820	3.1965	0.0399	0.0637
420	19	0.038	3.838	3.4380	3.1819	0.0998	0.1017
1440	20	0.048	4.048	3.6480	3.1272	0.1022	#NUM!



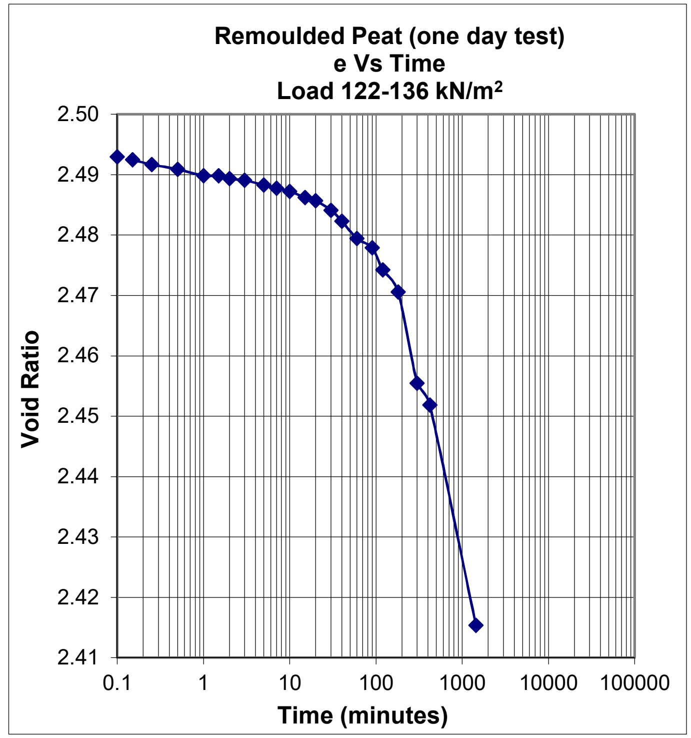
Sample – NBRO-Test B
Date-From 22/01/2015 to 08/02/2015
Conventional Consolidation
Load Increment 58kN/m^2 to 122kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	$C_{\alpha}1$	$C_{\alpha}2$
0	20	0.048	4.048	3.6480	3.1272		
0.1	22	0	4.4	4.0000	3.0356		
0.15	22	0.06	4.46	4.0600	3.0199	0.0887	0.0916
0.25	22	0.14	4.54	4.1400	2.9991	0.0939	0.1245
0.5	23	0.11	4.71	4.3100	2.9549	0.1470	0.1488
1	24	0.084	4.884	4.4840	2.9096	0.1505	0.1713
1.5	25	0.024	5.024	4.6240	2.8731	0.2070	0.1920
2	25	0.106	5.106	4.7060	2.8518	0.1709	0.1764
3	26	0.028	5.228	4.8280	2.8200	0.1804	0.1544
5	26	0.142	5.342	4.9420	2.7903	0.1338	0.1670
7	27	0.064	5.464	5.0640	2.7585	0.2174	0.1764
10	27	0.146	5.546	5.1460	2.7372	0.1378	0.1353
15	28	0.036	5.636	5.2360	2.7138	0.1331	0.1384
20	28	0.106	5.706	5.3060	2.6955	0.1459	0.1401
30	28	0.198	5.798	5.3980	2.6716	0.1360	0.0986
40	29	0.02	5.82	5.4200	2.6659	0.0458	0.1055
60	29	0.12	5.92	5.5200	2.6398	0.1479	0.1079
90	29	0.166	5.966	5.5660	2.6278	0.0680	0.0934
120	30	0.028	6.028	5.6280	2.6117	0.1292	0.1012
180	30	0.083	6.083	5.6830	2.5974	0.0813	0.1060
300	30	0.19	6.19	5.7900	2.5695	0.1256	0.1238
420	31	0.058	6.258	5.8580	2.5518	0.1212	0.1085
1440	32	0.074	6.474	6.0740	2.4956	0.1051	#NUM!



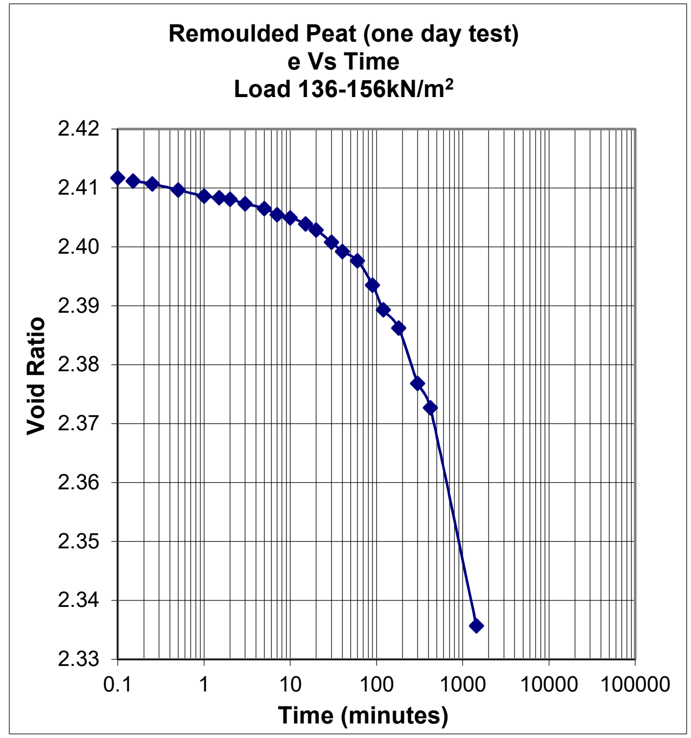
Sample – NBRO-Test B
Date-From 22/01/2015 to 08/02/2015
Conventional Consolidation
Load Increment 122kN/m^2 to 136kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	32	0.074	6.474	6.0740	2.4956		
0.1	32	0.084	6.484	6.0840	2.4930		
0.15	32	0.086	6.486	6.0860	2.4925	0.0030	0.0033
0.25	32	0.089	6.489	6.0890	2.4917	0.0035	0.0030
0.5	32	0.092	6.492	6.0920	2.4909	0.0026	0.0030
1	32	0.096	6.496	6.0960	2.4899	0.0035	0.0022
1.5	32	0.096	6.496	6.0960	2.4899	0.0000	0.0017
2	32	0.098	6.498	6.0980	2.4893	0.0042	0.0026
3	32	0.099	6.499	6.0990	2.4891	0.0015	0.0026
5	32	0.102	6.502	6.1020	2.4883	0.0035	0.0035
7	32	0.104	6.504	6.1040	2.4878	0.0036	0.0035
10	32	0.106	6.506	6.1060	2.4872	0.0034	0.0047
15	32	0.11	6.51	6.1100	2.4862	0.0059	0.0052
20	32	0.112	6.512	6.1120	2.4857	0.0042	0.0069
30	32	0.118	6.518	6.1180	2.4841	0.0089	0.0112
40	32	0.125	6.525	6.1250	2.4823	0.0146	0.0156
60	32	0.136	6.536	6.1360	2.4794	0.0163	0.0126
90	32	0.142	6.542	6.1420	2.4779	0.0089	0.0173
120	32	0.156	6.556	6.1560	2.4742	0.0292	0.0242
180	32	0.17	6.57	6.1700	2.4706	0.0207	0.0471
300	33	0.028	6.628	6.2280	2.4555	0.0681	0.0509
420	33	0.042	6.642	6.2420	2.4518	0.0249	0.0589
1440	33	0.182	6.782	6.3820	2.4154	0.0681	#NUM!



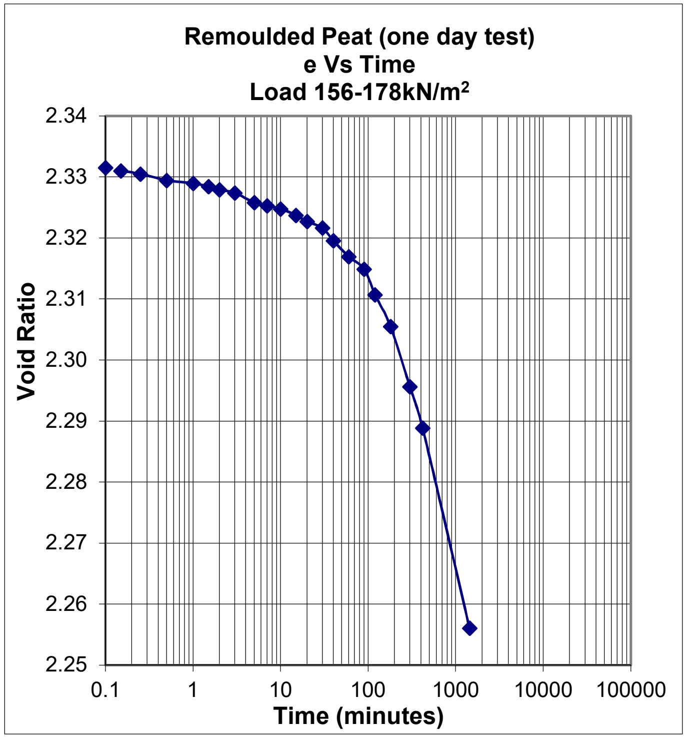
Sample – NBRO-Test B
Date-From 22/01/2015 to 08/02/2015
Conventional Consolidation
Load Increment 136kN/m^2 to 156kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	33	0.182	6.782	6.3820	2.4154		
0.1	33	0.196	6.796	6.3960	2.4117		
0.15	33	0.198	6.798	6.3980	2.4112	0.0030	0.0026
0.25	34	0	6.8	6.4000	2.4107	0.0023	0.0030
0.5	34	0.004	6.804	6.4040	2.4097	0.0035	0.0035
1	34	0.008	6.808	6.4080	2.4086	0.0035	0.0026
1.5	34	0.009	6.809	6.4090	2.4084	0.0015	0.0027
2	34	0.01	6.81	6.4100	2.4081	0.0017	0.0027
3	34	0.013	6.813	6.4130	2.4073	0.0044	0.0039
5	34	0.016	6.816	6.4160	2.4065	0.0035	0.0050
7	34	0.02	6.82	6.4200	2.4055	0.0071	0.0052
10	34	0.022	6.822	6.4220	2.4050	0.0034	0.0047
15	34	0.026	6.826	6.4260	2.4039	0.0059	0.0069
20	34	0.03	6.83	6.4300	2.4029	0.0083	0.0104
30	34	0.038	6.838	6.4380	2.4008	0.0118	0.0121
40	34	0.044	6.844	6.4440	2.3992	0.0125	0.0104
60	34	0.05	6.85	6.4500	2.3977	0.0089	0.0207
90	34	0.066	6.866	6.4660	2.3935	0.0237	0.0240
120	34	0.082	6.882	6.4820	2.3894	0.0277	0.0240
180	34	0.094	6.894	6.4940	2.3862	0.0177	0.0314
300	34	0.13	6.93	6.5300	2.3769	0.0422	0.0368
420	34	0.146	6.946	6.5460	2.3727	0.0285	0.0604
1440	35	0.088	7.088	6.6880	2.3357	0.0691	#REF!



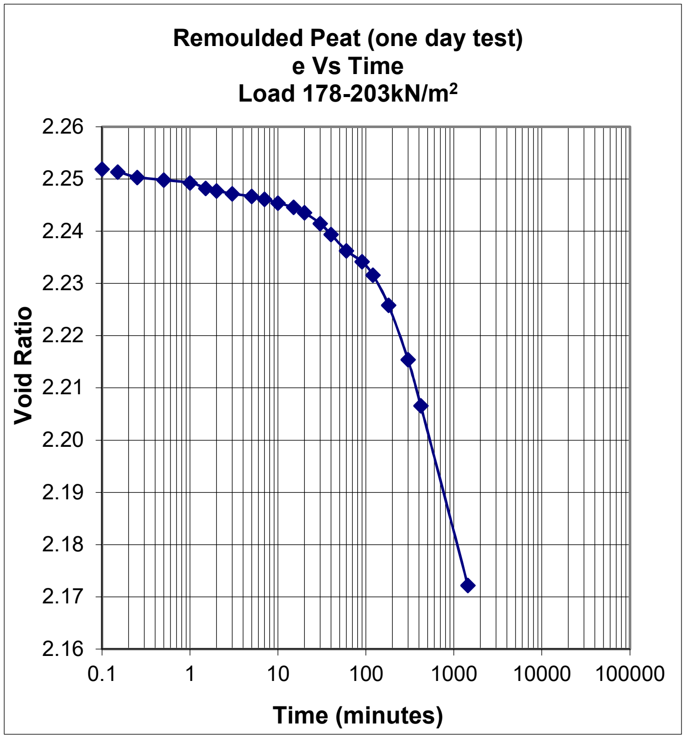
Sample – NBRO-Test B
Date-From 22/01/2015 to 08/02/2015
Conventional Consolidation
Load Increment 156kN/m^2 to 178kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	35	0.088	7.088	6.6880	2.3357		
0.1	35	0.104	7.104	6.7040	2.3316		
0.15	35	0.106	7.106	6.7060	2.3310	0.0030	0.0026
0.25	35	0.108	7.108	6.7080	2.3305	0.0023	0.0030
0.5	35	0.112	7.112	6.7120	2.3295	0.0035	0.0026
1	35	0.114	7.114	6.7140	2.3289	0.0017	0.0026
1.5	35	0.116	7.116	6.7160	2.3284	0.0030	0.0033
2	35	0.118	7.118	6.7180	2.3279	0.0035	0.0033
3	35	0.12	7.12	6.7200	2.3274	0.0030	0.0052
5	35	0.126	7.126	6.7260	2.3258	0.0070	0.0057
7	35	0.128	7.128	6.7280	2.3253	0.0036	0.0035
10	35	0.13	7.13	6.7300	2.3248	0.0034	0.0047
15	35	0.134	7.134	6.7340	2.3237	0.0059	0.0069
20	35	0.138	7.138	6.7380	2.3227	0.0083	0.0069
30	35	0.142	7.142	6.7420	2.3217	0.0059	0.0104
40	35	0.15	7.15	6.7500	2.3196	0.0167	0.0156
60	35	0.16	7.16	6.7600	2.3170	0.0148	0.0186
90	35	0.168	7.168	6.7680	2.3149	0.0118	0.0240
120	35	0.184	7.184	6.7840	2.3107	0.0208	0.0240
180	36	0.004	7.204	6.8040	2.3055	0.0296	0.0379
300	36	0.042	7.242	6.8420	2.2956	0.0446	0.0453
420	36	0.068	7.268	6.8680	2.2889	0.0463	0.0581
1440	36	0.194	7.394	6.9940	2.2560	0.0613	#REF!



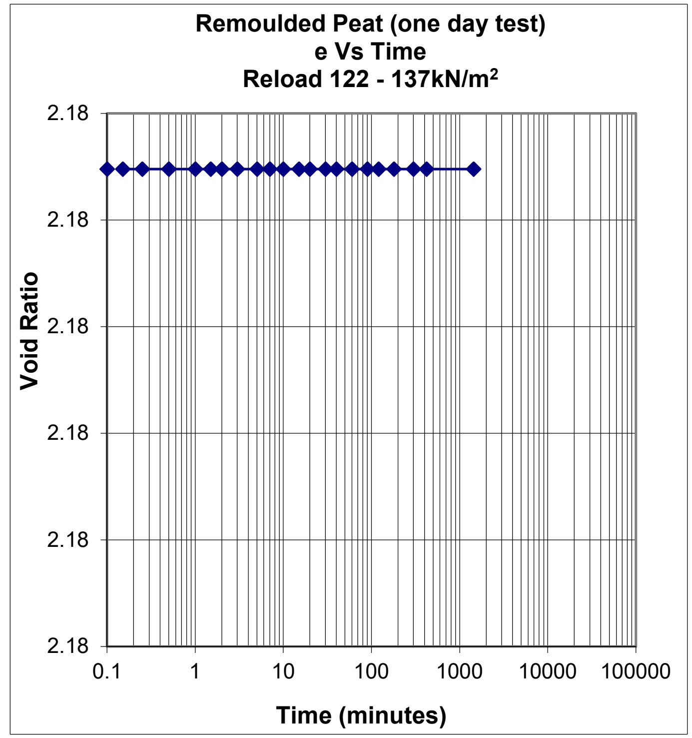
Sample – NBRO-Test B
Date-From 22/01/2015 to 08/02/2015
Conventional Consolidation
Load Increment 178kN/m^2 to 203kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	$C_{\alpha}1$	$C_{\alpha}2$
0	36	0.194	7.394	6.9940	2.2560		
0.1	37	0.01	7.41	7.0100	2.2519		
0.15	37	0.012	7.412	7.0120	2.2514	0.0030	0.0039
0.25	37	0.016	7.416	7.0160	2.2503	0.0047	0.0030
0.5	37	0.018	7.418	7.0180	2.2498	0.0017	0.0017
1	37	0.02	7.42	7.0200	2.2493	0.0017	0.0035
1.5	37	0.024	7.424	7.0240	2.2482	0.0059	0.0044
2	37	0.026	7.426	7.0260	2.2477	0.0042	0.0030
3	37	0.028	7.428	7.0280	2.2472	0.0030	0.0029
5	37	0.03	7.43	7.0300	2.2467	0.0023	0.0035
7	37	0.032	7.432	7.0320	2.2462	0.0036	0.0044
10	37	0.035	7.435	7.0350	2.2454	0.0050	0.0057
15	37	0.038	7.438	7.0380	2.2446	0.0044	0.0082
20	37	0.042	7.442	7.0420	2.2436	0.0083	0.0122
30	37	0.05	7.45	7.0500	2.2415	0.0118	0.0153
40	37	0.058	7.458	7.0580	2.2394	0.0167	0.0153
60	37	0.07	7.47	7.0700	2.2363	0.0177	0.0164
90	37	0.078	7.478	7.0780	2.2342	0.0118	0.0218
120	37	0.088	7.488	7.0880	2.2316	0.0208	0.0359
180	37	0.11	7.51	7.1100	2.2258	0.0325	0.0459
300	37	0.15	7.55	7.1500	2.2154	0.0469	0.0524
420	37	0.184	7.584	7.1840	2.2066	0.0606	0.0634
1440	38	0.116	7.716	7.3160	2.1722	0.0642	#REF!



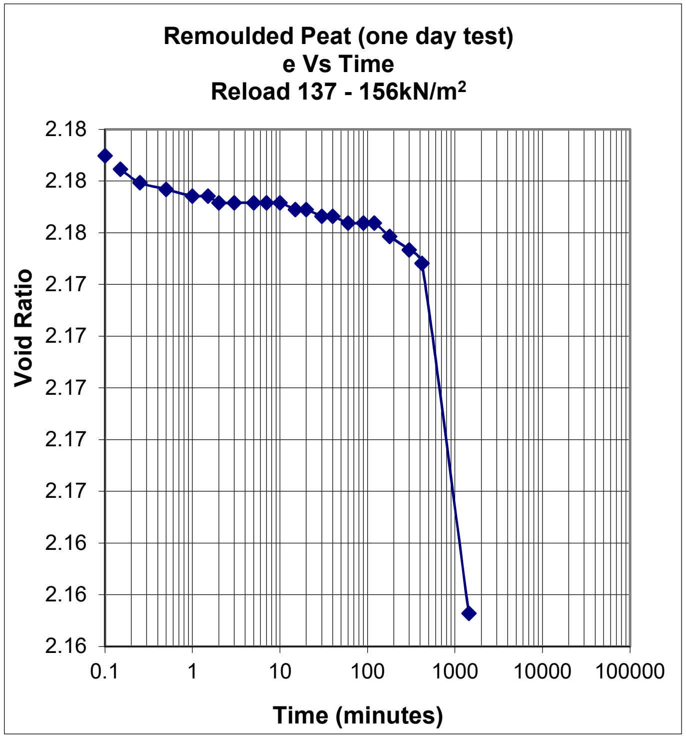
Sample – NBRO-Test B
Date-From 22/01/2015 to 08/02/2015
Conventional Consolidation
Load Increment 122kN/m^2 to 137kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	38	0.077	7.677	7.2770	2.1824		
0.1	38	0.078	7.678	7.2780	2.1821		
0.15	38	0.078	7.678	7.2780	2.1821	0.0000	0.0000
0.25	38	0.078	7.678	7.2780	2.1821	0.0000	0.0000
0.5	38	0.078	7.678	7.2780	2.1821	0.0000	0.0000
1	38	0.078	7.678	7.2780	2.1821	0.0000	0.0000
1.5	38	0.078	7.678	7.2780	2.1821	0.0000	0.0000
2	38	0.078	7.678	7.2780	2.1821	0.0000	0.0000
3	38	0.078	7.678	7.2780	2.1821	0.0000	0.0000
5	38	0.078	7.678	7.2780	2.1821	0.0000	0.0000
7	38	0.078	7.678	7.2780	2.1821	0.0000	0.0000
10	38	0.078	7.678	7.2780	2.1821	0.0000	0.0000
15	38	0.078	7.678	7.2780	2.1821	0.0000	0.0000
20	38	0.078	7.678	7.2780	2.1821	0.0000	0.0000
30	38	0.078	7.678	7.2780	2.1821	0.0000	0.0000
40	38	0.078	7.678	7.2780	2.1821	0.0000	0.0000
60	38	0.078	7.678	7.2780	2.1821	0.0000	0.0000
90	38	0.078	7.678	7.2780	2.1821	0.0000	0.0000
120	38	0.078	7.678	7.2780	2.1821	0.0000	0.0000
180	38	0.078	7.678	7.2780	2.1821	0.0000	0.0000
300	38	0.078	7.678	7.2780	2.1821	0.0000	0.0000
420	38	0.078	7.678	7.2780	2.1821	0.0000	0.0000
1440	38	0.078	7.678	7.2780	2.1821	0.0000	#REF!



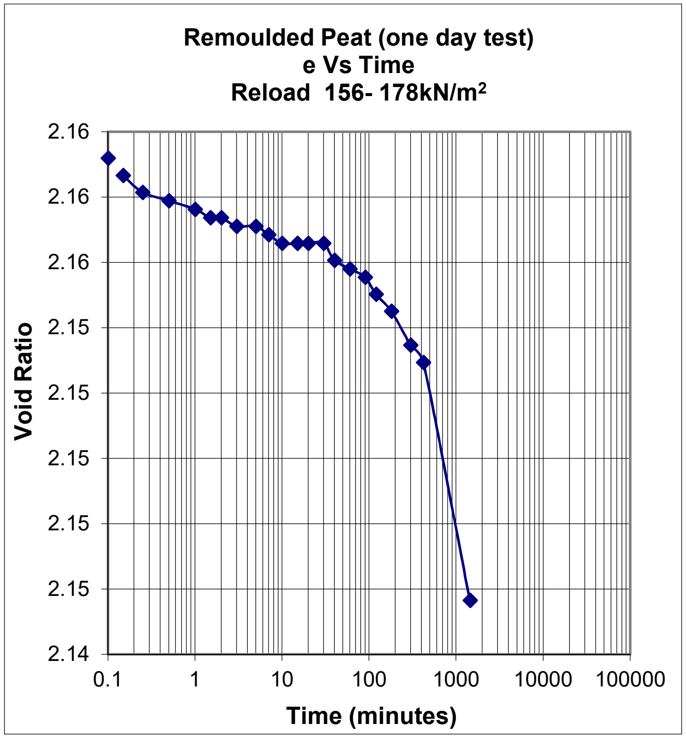
Sample – NBRO-Test B
Date-From 22/01/2015 to 08/02/2015
Conventional Consolidation
Load Increment 137kN/m² to 156kN/m²

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	38	0.078	7.678	7.2780	2.1821		
0.1	38	0.09	7.69	7.2900	2.1790		
0.15	38	0.092	7.692	7.2920	2.1785	0.0030	0.0026
0.25	38	0.094	7.694	7.2940	2.1779	0.0023	0.0015
0.5	38	0.095	7.695	7.2950	2.1777	0.0009	0.0009
1	38	0.096	7.696	7.2960	2.1774	0.0009	0.0005
1.5	38	0.096	7.696	7.2960	2.1774	0.0000	0.0009
2	38	0.097	7.697	7.2970	2.1772	0.0021	0.0009
3	38	0.097	7.697	7.2970	2.1772	0.0000	0.0000
5	38	0.097	7.697	7.2970	2.1772	0.0000	0.0000
7	38	0.097	7.697	7.2970	2.1772	0.0000	0.0000
10	38	0.097	7.697	7.2970	2.1772	0.0000	0.0008
15	38	0.098	7.698	7.2980	2.1769	0.0015	0.0009
20	38	0.098	7.698	7.2980	2.1769	0.0000	0.0009
30	38	0.099	7.699	7.2990	2.1766	0.0015	0.0009
40	38	0.099	7.699	7.2990	2.1766	0.0000	0.0009
60	38	0.1	7.7	7.3000	2.1764	0.0015	0.0007
90	38	0.1	7.7	7.3000	2.1764	0.0000	0.0000
120	38	0.1	7.7	7.3000	2.1764	0.0000	0.0017
180	38	0.102	7.702	7.3020	2.1759	0.0030	0.0026
300	38	0.104	7.704	7.3040	2.1753	0.0023	0.0028
420	38	0.106	7.706	7.3060	2.1748	0.0036	0.0206
1440	38	0.158	7.758	7.3580	2.1613	0.0253	#NUM!



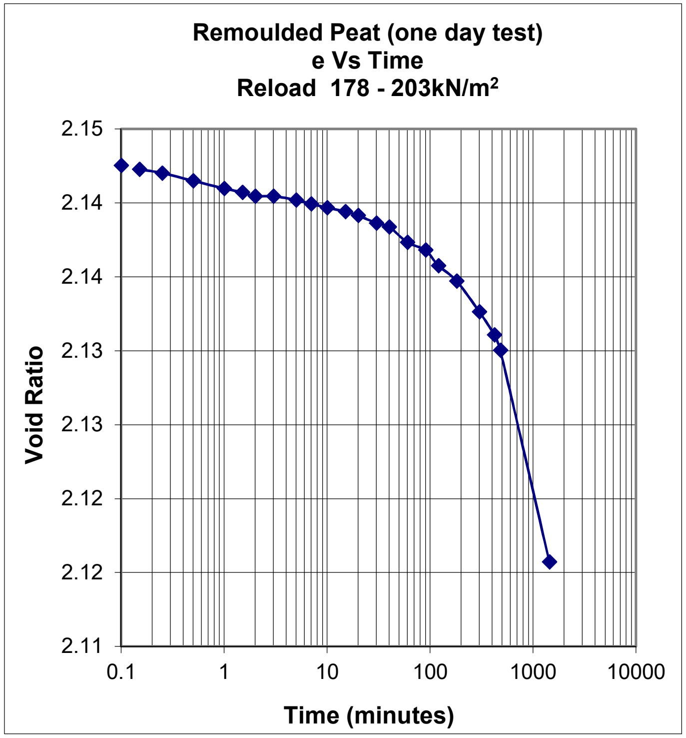
Sample – NBRO-Test B
Date-From 22/01/2015 to 08/02/2015
Conventional Consolidation
Load Increment 156kN/m^2 to 178kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	38	0.158	7.758	7.3580	2.1613		
0.1	38	0.166	7.766	7.3660	2.1592		
0.15	38	0.168	7.768	7.3680	2.1587	0.0030	0.0026
0.25	38	0.17	7.77	7.3700	2.1582	0.0023	0.0015
0.5	38	0.171	7.771	7.3710	2.1579	0.0009	0.0009
1	38	0.172	7.772	7.3720	2.1576	0.0009	0.0011
1.5	38	0.173	7.773	7.3730	2.1574	0.0015	0.0009
2	38	0.173	7.773	7.3730	2.1574	0.0000	0.0009
3	38	0.174	7.774	7.3740	2.1571	0.0015	0.0007
5	38	0.174	7.774	7.3740	2.1571	0.0000	0.0007
7	38	0.175	7.775	7.3750	2.1569	0.0018	0.0017
10	38	0.176	7.776	7.3760	2.1566	0.0017	0.0008
15	38	0.176	7.776	7.3760	2.1566	0.0000	0.0000
20	38	0.176	7.776	7.3760	2.1566	0.0000	0.0000
30	38	0.176	7.776	7.3760	2.1566	0.0000	0.0017
40	38	0.178	7.778	7.3780	2.1561	0.0042	0.0026
60	38	0.179	7.779	7.3790	2.1558	0.0015	0.0015
90	38	0.18	7.78	7.3800	2.1556	0.0015	0.0026
120	38	0.182	7.782	7.3820	2.1550	0.0042	0.0035
180	38	0.184	7.784	7.3840	2.1545	0.0030	0.0039
300	38	0.188	7.788	7.3880	2.1535	0.0047	0.0042
420	38	0.19	7.79	7.3900	2.1529	0.0036	0.0115
1440	39	0.018	7.818	7.4180	2.1457	0.0136	#REF!



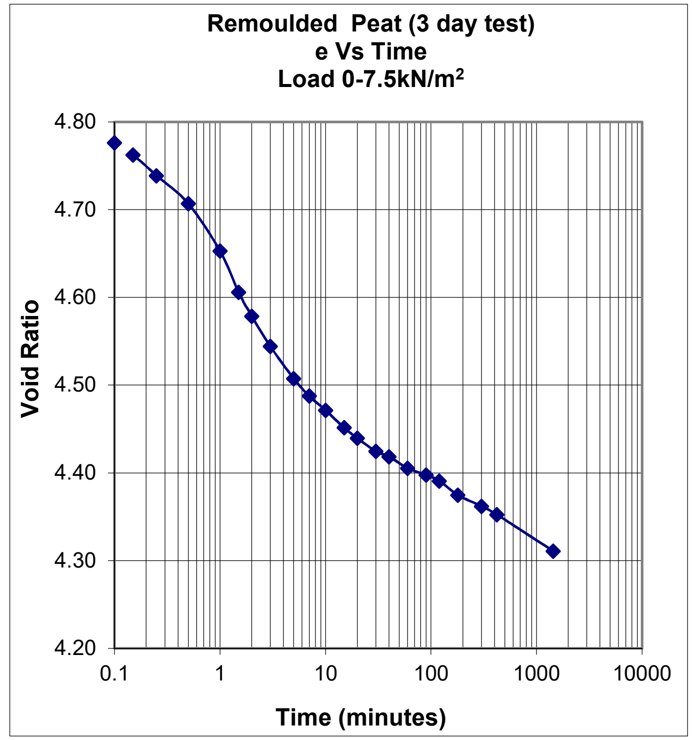
Sample – NBRO-Test B
Date-From 22/01/2015 to 08/02/2015
Conventional Consolidation
Load Increment 178kN/m² to 203kN/m²

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	39	0.018	7.818	7.4180	2.1457		
0.1	39	0.03	7.83	7.4300	2.1425		
0.15	39	0.031	7.831	7.4310	2.1423	0.0015	0.0013
0.25	39	0.032	7.832	7.4320	2.1420	0.0012	0.0015
0.5	39	0.034	7.834	7.4340	2.1415	0.0017	0.0017
1	39	0.036	7.836	7.4360	2.1410	0.0017	0.0016
1.5	39	0.037	7.837	7.4370	2.1407	0.0015	0.0017
2	39	0.038	7.838	7.4380	2.1404	0.0021	0.0009
3	39	0.038	7.838	7.4380	2.1404	0.0000	0.0007
5	39	0.039	7.839	7.4390	2.1402	0.0012	0.0014
7	39	0.04	7.84	7.4400	2.1399	0.0018	0.0017
10	39	0.041	7.841	7.4410	2.1397	0.0017	0.0016
15	39	0.042	7.842	7.4420	2.1394	0.0015	0.0017
20	39	0.043	7.843	7.4430	2.1391	0.0021	0.0026
30	39	0.045	7.845	7.4450	2.1386	0.0030	0.0026
40	39	0.046	7.846	7.4460	2.1384	0.0021	0.0043
60	39	0.05	7.85	7.4500	2.1373	0.0059	0.0044
90	39	0.052	7.852	7.4520	2.1368	0.0030	0.0052
120	39	0.056	7.856	7.4560	2.1358	0.0083	0.0069
180	39	0.06	7.86	7.4600	2.1347	0.0059	0.0079
300	39	0.068	7.868	7.4680	2.1326	0.0094	0.0099
420	39	0.074	7.874	7.4740	2.1311	0.0107	0.0128
480	39	0.078	7.878	7.4780	2.1300	0.0180	0.0287
1440	39	0.133	7.933	7.5330	2.1157	0.0300	#NUM!



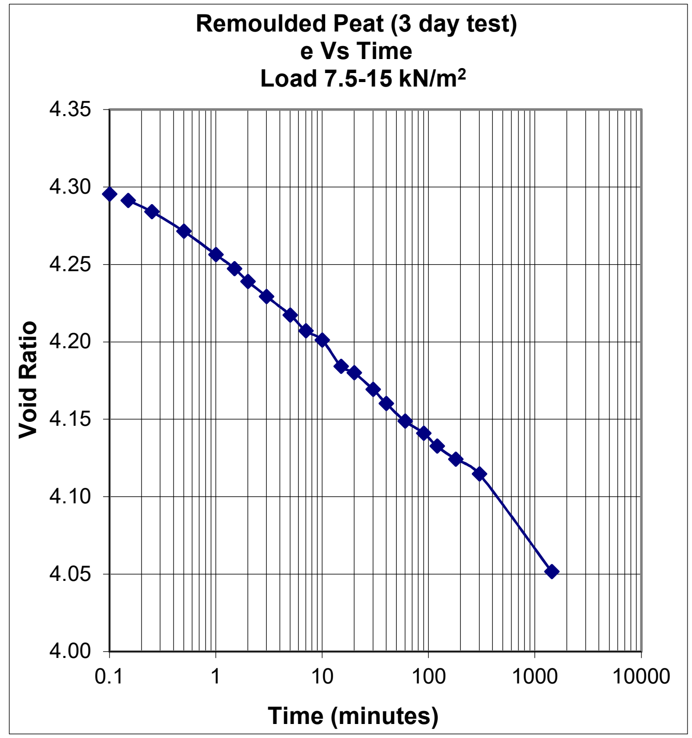
Sample – NBRO-Test J
Date-From 31/05/2015 to 29/07/2015
Conventional Consolidation
Load Increment 0kN/m^2 to 7.5kN/m^2

Elapsed Time /(min)	Dial Gauge Reading	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	$C_{\alpha}1$	$C_{\alpha}2$
0	3400	6.8	0.0000	4.8571		
0.1	3265	6.53	0.2700	4.7760		
0.15	3242	6.484	0.3160	4.7622	0.0785	0.0936
0.25	3203	6.406	0.3940	4.7388	0.1056	0.1057
0.5	3150	6.3	0.5000	4.7069	0.1058	0.1427
1	3060	6.12	0.6800	4.6529	0.1796	0.2115
1.5	2982	5.964	0.8360	4.6060	0.2661	0.2475
2	2936	5.872	0.9280	4.5784	0.2212	0.2055
3	2879	5.758	1.0420	4.5441	0.1945	0.1781
5	2818	5.636	1.1640	4.5075	0.1652	0.1535
7	2785	5.57	1.2300	4.4877	0.1357	0.1197
10	2758	5.516	1.2840	4.4714	0.1047	0.1089
15	2725	5.45	1.3500	4.4516	0.1126	0.1058
20	2705	5.41	1.3900	4.4396	0.0962	0.0898
30	2680	5.36	1.4400	4.4246	0.0853	0.0698
40	2670	5.34	1.4600	4.4186	0.0481	0.0639
60	2648	5.296	1.5040	4.4054	0.0751	0.0597
90	2635	5.27	1.5300	4.3975	0.0443	0.0479
120	2624	5.248	1.5520	4.3909	0.0529	0.0758
180	2597	5.194	1.6060	4.3747	0.0921	0.0725
300	2576	5.152	1.6480	4.3621	0.0569	0.0604
420	2560	5.12	1.6800	4.3525	0.0658	0.0750
1440	2491	4.982	1.8180	4.3110	0.0775	#NUM!



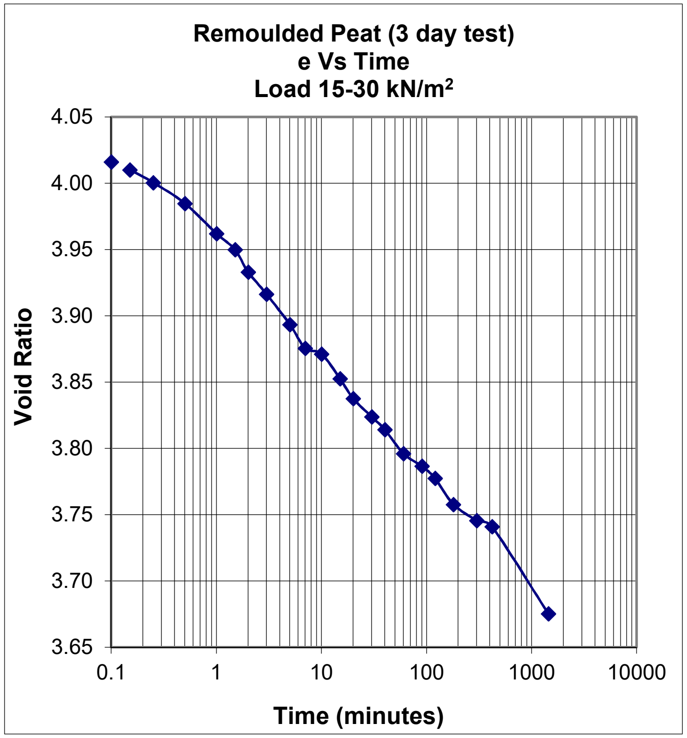
Sample – NBRO-Test J
Date-From 31/05/2015 to 29/07/2015
Conventional Consolidation
Load Increment 7.5kN/m^2 to 15kN/m^2

Elapsed Time /(min)	Dial Gauge Reading	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	2491	4.982	1.8180	4.3110		
0.1	2465	4.93	1.8700	4.2954		
0.15	2458	4.916	1.8840	4.2912	0.0239	0.0287
0.25	2446	4.892	1.9080	4.2840	0.0325	0.0379
0.5	2425	4.85	1.9500	4.2714	0.0419	0.0459
1	2400	4.8	2.0000	4.2564	0.0499	0.0504
1.5	2385	4.77	2.0300	4.2474	0.0512	0.0579
2	2371	4.742	2.0580	4.2390	0.0673	0.0599
3	2355	4.71	2.0900	4.2293	0.0546	0.0543
5	2335	4.67	2.1300	4.2173	0.0542	0.0604
7	2318	4.636	2.1640	4.2071	0.0699	0.0539
10	2308	4.616	2.1840	4.2011	0.0388	0.0690
15	2280	4.56	2.2400	4.1843	0.0955	0.0698
20	2273	4.546	2.2540	4.1801	0.0337	0.0499
30	2255	4.51	2.2900	4.1693	0.0614	0.0659
40	2240	4.48	2.3200	4.1603	0.0721	0.0678
60	2221	4.442	2.3580	4.1488	0.0648	0.0546
90	2208	4.416	2.3840	4.1410	0.0443	0.0539
120	2194	4.388	2.4120	4.1326	0.0673	0.0559
180	2180	4.36	2.4400	4.1242	0.0478	0.0453
300	2164	4.328	2.4720	4.1146	0.0433	0.0805
1440	2059	4.118	2.6820	4.0515	0.0926	#NUM!



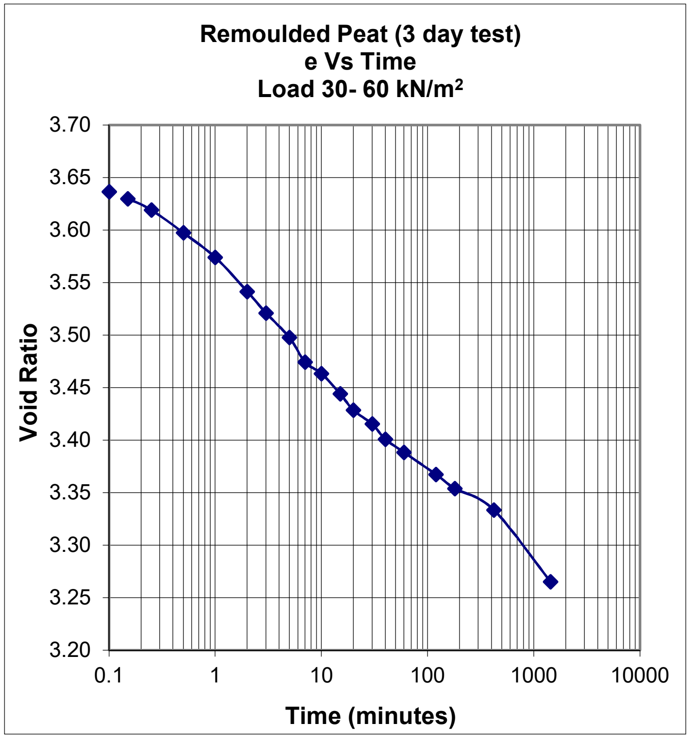
Sample – NBRO-Test J
Date-From 31/05/2015 to 29/07/2015
Conventional Consolidation
Load Increment 15kN/m^2 to 30kN/m^2

Elapsed Time /(min)	Dial Gauge Reading	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	2059	4.118	2.682	4.0515		
0.1	2000	4	2.8	4.0161		
0.15	1990	3.98	2.82	4.0101	0.034	0.039
0.25	1974	3.948	2.852	4.0005	0.043	0.048
0.5	1948	3.896	2.904	3.9848	0.052	0.064
1	1910	3.82	2.98	3.9620	0.076	0.073
1.5	1890	3.78	3.02	3.9500	0.068	0.096
2	1862	3.724	3.076	3.9332	0.135	0.112
3	1834	3.668	3.132	3.9164	0.096	0.100
5	1796	3.592	3.208	3.8935	0.103	0.111
7	1766	3.532	3.268	3.8755	0.123	0.074
10	1759	3.518	3.282	3.8713	0.027	0.069
15	1728	3.456	3.344	3.8527	0.106	0.112
20	1703	3.406	3.394	3.8377	0.120	0.096
30	1680	3.36	3.44	3.8238	0.078	0.078
40	1664	3.328	3.472	3.8142	0.077	0.092
60	1634	3.268	3.532	3.7962	0.102	0.078
90	1618	3.236	3.564	3.7866	0.055	0.062
120	1603	3.206	3.594	3.7776	0.072	0.096
180	1570	3.14	3.66	3.7578	0.113	0.080
300	1550	3.1	3.7	3.7458	0.054	0.046
420	1542	3.084	3.716	3.7409	0.033	0.103
1440	1433	2.866	3.934	3.6755	0.122	#NUM!



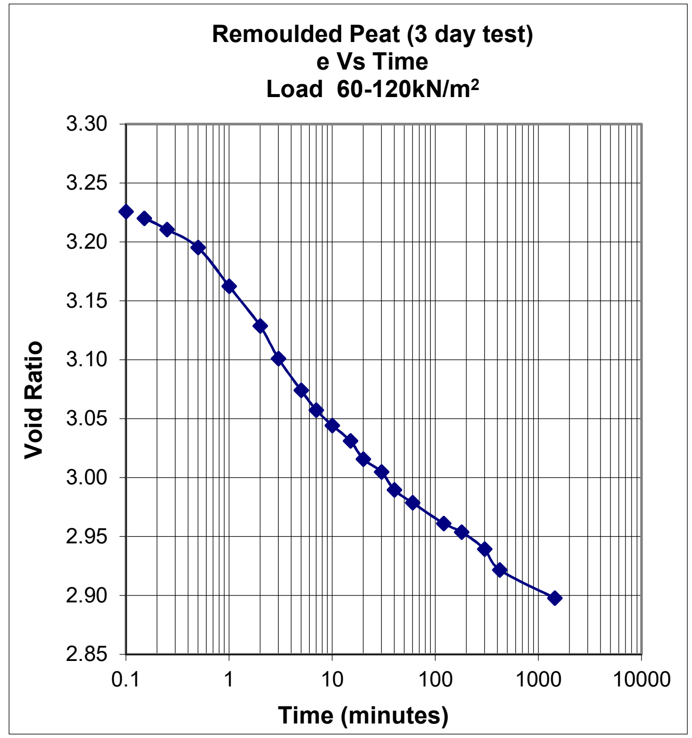
Sample – NBRO-Test J
Date-From 31/05/2015 to 29/07/2015
Conventional Consolidation
Load Increment 30kN/m^2 to 60kN/m^2

Elapsed Time /(min)	Dial Gauge Reading	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	1433	2.866	3.9340	3.6755		
0.1	1368	2.736	4.0640	3.6364		
0.15	1357	2.714	4.0860	3.6298	0.0375	0.0438
0.25	1339	2.678	4.1220	3.6190	0.0487	0.0620
0.5	1303	2.606	4.1940	3.5974	0.0718	0.0748
1	1264	2.528	4.2720	3.5739	0.0778	0.0928
2	1210	2.42	4.3800	3.5415	0.1078	0.1108
3	1176	2.352	4.4480	3.5211	0.1160	0.1102
5	1137	2.274	4.5260	3.4977	0.1056	0.1273
7	1098	2.196	4.6040	3.4742	0.1603	0.1137
10	1080	2.16	4.6400	3.4634	0.0698	0.0907
15	1048	2.096	4.7040	3.4442	0.1092	0.1157
20	1022	2.044	4.7560	3.4286	0.1250	0.0958
30	1000	2	4.8000	3.4154	0.0751	0.0918
40	976	1.952	4.8480	3.4009	0.1154	0.0898
60	955	1.91	4.8900	3.3883	0.0716	0.0705
120	920	1.84	4.9600	3.3673	0.0698	0.0718
180	898	1.796	5.0040	3.3541	0.0751	0.0618
420	864	1.728	5.0720	3.3337	0.0555	0.0984
1440	750	1.5	5.3000	3.2652	0.1280	#NUM!



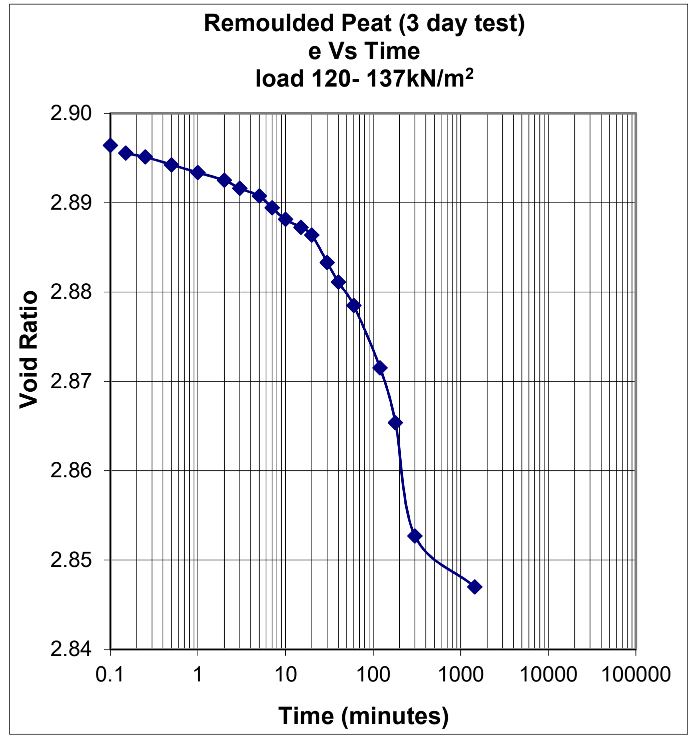
Sample – NBRO-Test J
Date-From 31/05/2015 to 29/07/2015
Conventional Consolidation
Load Increment 60kN/m^2 to 120kN/m^2

Elapsed Time /(min)	Dial Gauge Reading	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	3250	6.5	0.0000	3.2652		
0.1	3160	6.32	0.1800	3.2258		
0.15	3147	6.294	0.2060	3.2201	0.0323	0.0385
0.25	3125	6.25	0.2500	3.2105	0.0434	0.0477
0.5	3090	6.18	0.3200	3.1952	0.0509	0.0799
1	3015	6.03	0.4700	3.1624	0.1090	0.1104
2	2938	5.876	0.6240	3.1287	0.1119	0.1284
3	2875	5.75	0.7500	3.1012	0.1565	0.1374
5	2813	5.626	0.8740	3.0740	0.1223	0.1189
7	2775	5.55	0.9500	3.0574	0.1138	0.0988
10	2745	5.49	1.0100	3.0443	0.0847	0.0793
15	2715	5.43	1.0700	3.0312	0.0745	0.0945
20	2680	5.36	1.1400	3.0158	0.1225	0.0872
30	2655	5.31	1.1900	3.0049	0.0621	0.0872
40	2620	5.24	1.2600	2.9896	0.1225	0.0872
60	2595	5.19	1.3100	2.9787	0.0621	0.0596
120	2555	5.11	1.3900	2.9612	0.0581	0.0523
180	2538	5.076	1.4240	2.9537	0.0422	0.0550
300	2505	5.01	1.4900	2.9393	0.0651	0.0868
420	2465	4.93	1.5700	2.9218	0.1197	0.0610
1440	2410	4.82	1.6800	2.8977	0.0450	#NUM!



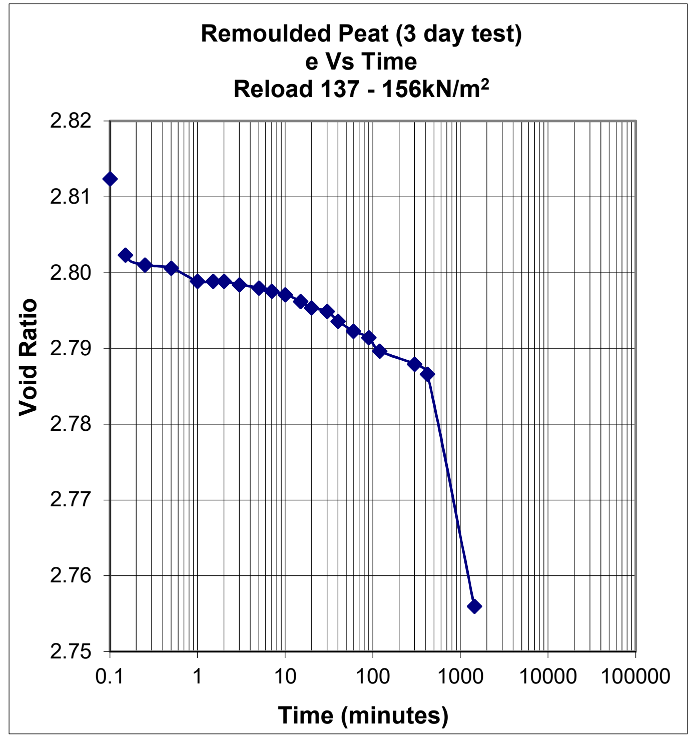
Sample – NBRO-Test J
Date-From 31/05/2015 to 29/07/2015
Conventional Consolidation
Load Increment 120kN/m^2 to 137kN/m^2

Elapsed Time /(min)	Dial Gauge Reading	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	2410	4.82	1.6800	2.8977		
0.1	2407	4.814	1.6860	2.8964		
0.15	2405	4.81	1.6900	2.8955	0.0050	0.0033
0.25	2404	4.808	1.6920	2.8951	0.0020	0.0025
0.5	2402	4.804	1.6960	2.8942	0.0029	0.0029
1	2400	4.8	1.7000	2.8934	0.0029	0.0029
2	2398	4.796	1.7040	2.8925	0.0029	0.0037
3	2396	4.792	1.7080	2.8916	0.0050	0.0044
5	2394	4.788	1.7120	2.8907	0.0039	0.0059
7	2391	4.782	1.7180	2.8894	0.0090	0.0087
10	2388	4.776	1.7240	2.8881	0.0085	0.0066
15	2386	4.772	1.7280	2.8872	0.0050	0.0058
20	2384	4.768	1.7320	2.8864	0.0070	0.0131
30	2377	4.754	1.7460	2.8833	0.0174	0.0174
40	2372	4.744	1.7560	2.8811	0.0175	0.0160
60	2366	4.732	1.7680	2.8785	0.0149	0.0202
120	2350	4.7	1.8000	2.8715	0.0233	0.0275
180	2336	4.672	1.8280	2.8654	0.0348	0.0473
300	2307	4.614	1.8860	2.8527	0.0572	0.0203
1440	2294	4.588	1.9120	2.8470	0.0083	#NUM!



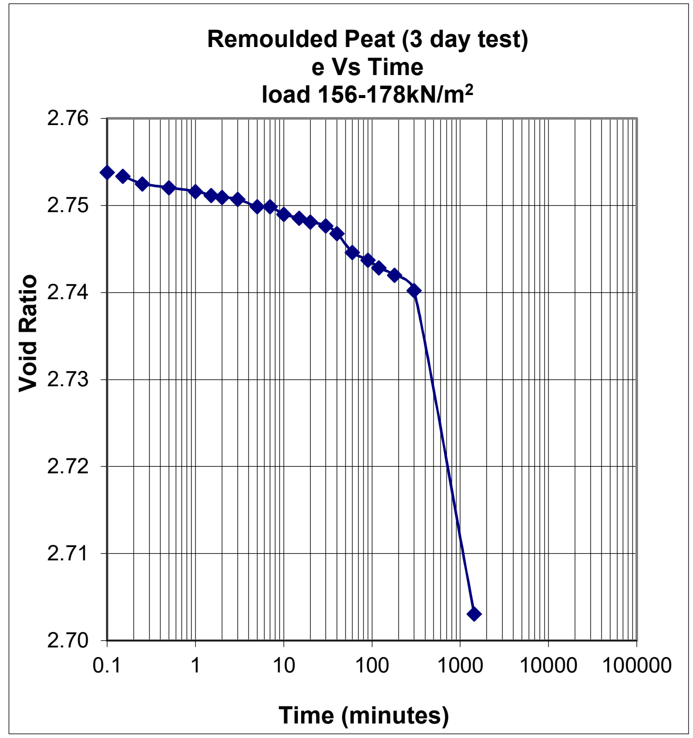
Sample – NBRO-Test J
Date-From 31/05/2015 to 29/07/2015
Conventional Consolidation
Load Increment 137kN/m^2 to 156kN/m^2

Elapsed Time /(min)	Dial Gauge Reading	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	2294	4.588	1.9120	2.8470		
0.1	2215	4.43	2.0700	2.8124		
0.15	2192	4.384	2.1160	2.8024	0.0571	0.0286
0.25	2189	4.378	2.1220	2.8011	0.0059	0.0033
0.5	2188	4.376	2.1240	2.8006	0.0015	0.0036
1	2184	4.368	2.1320	2.7989	0.0058	0.0029
1.5	2184	4.368	2.1320	2.7989	0.0000	0.0009
2	2184	4.368	2.1320	2.7989	0.0000	0.0009
3	2183	4.366	2.1340	2.7984	0.0025	0.0022
5	2182	4.364	2.1360	2.7980	0.0020	0.0024
7	2181	4.362	2.1380	2.7976	0.0030	0.0029
10	2180	4.36	2.1400	2.7971	0.0028	0.0040
15	2178	4.356	2.1440	2.7962	0.0050	0.0058
20	2176	4.352	2.1480	2.7954	0.0070	0.0044
30	2175	4.35	2.1500	2.7949	0.0025	0.0058
40	2172	4.344	2.1560	2.7936	0.0105	0.0087
60	2169	4.338	2.1620	2.7923	0.0075	0.0083
90	2167	4.334	2.1660	2.7914	0.0050	0.0063
120	2163	4.326	2.1740	2.7897	0.0087	0.0063
300	2159	4.318	2.1820	2.7879	0.0044	0.0056
420	2156	4.312	2.1880	2.7866	0.0090	0.0469
1440	2086	4.172	2.3280	2.7560	0.0572	#REF!



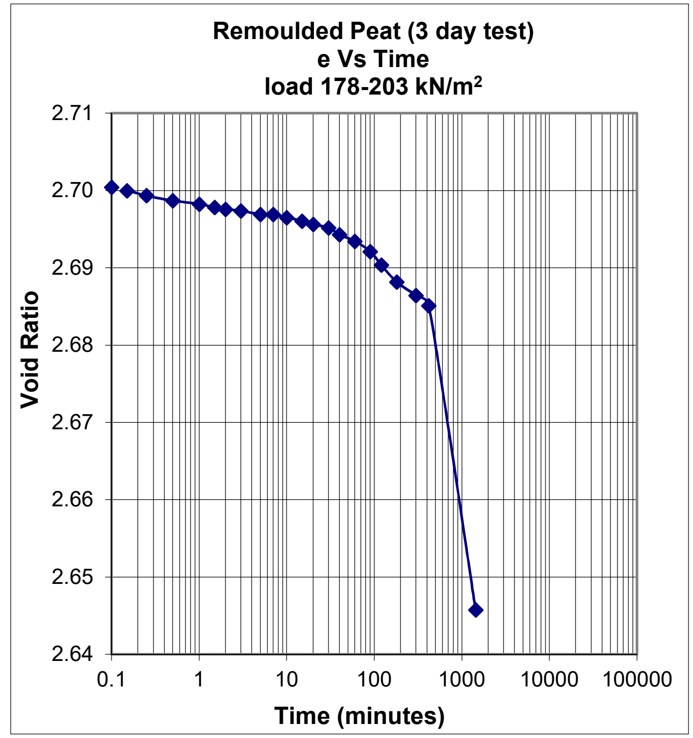
Sample – NBRO-Test J
Date-From 31/05/2015 to 29/07/2015
Conventional Consolidation
Load Increment 156kN/m² to 178kN/m²

Elapsed Time /(min))	Dial Gauge Reading	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	2086	4.172	2.3280	2.7560		
0.1	2081	4.162	2.3380	2.7538		
0.15	2080	4.16	2.3400	2.7534	0.0025	0.0033
0.25	2078	4.156	2.3440	2.7525	0.0039	0.0025
0.5	2077	4.154	2.3460	2.7521	0.0015	0.0015
1	2076	4.152	2.3480	2.7516	0.0015	0.0018
1.5	2075	4.15	2.3500	2.7512	0.0025	0.0018
2	2074.5	4.149	2.3510	2.7510	0.0022	0.0018
3	2074	4.148	2.3520	2.7508	0.0012	0.0027
5	2072	4.144	2.3560	2.7499	0.0039	0.0024
7	2072	4.144	2.3560	2.7499	0.0000	0.0029
10	2070	4.14	2.3600	2.7490	0.0056	0.0040
15	2069	4.138	2.3620	2.7486	0.0025	0.0029
20	2068	4.136	2.3640	2.7481	0.0035	0.0029
30	2067	4.134	2.3660	2.7477	0.0025	0.0044
40	2065	4.13	2.3700	2.7468	0.0070	0.0102
60	2060	4.12	2.3800	2.7446	0.0124	0.0083
90	2058	4.116	2.3840	2.7438	0.0050	0.0055
120	2056	4.112	2.3880	2.7429	0.0058	0.0055
180	2054	4.108	2.3920	2.7420	0.0050	0.0066
300	2050	4.1	2.4000	2.7403	0.0079	0.0431
1440	1965	3.93	2.5700	2.7031	0.0546	#NUM!



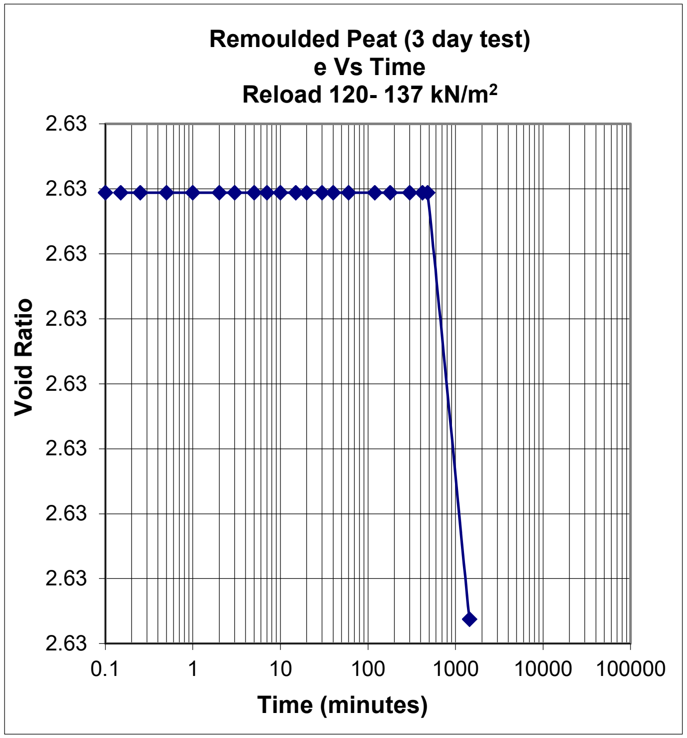
Sample – NBRO-Test J
Date-From 31/05/2015 to 29/07/2015
Conventional Consolidation
Load Increment 178kN/m^2 to 203kN/m^2

Elapsed Time /(min)	Dial Gauge Reading	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	1965	3.93	2.5700	2.7031		
0.1	1959	3.918	2.5820	2.7004		
0.15	1958	3.916	2.5840	2.7000	0.0025	0.0027
0.25	1956.5	3.913	2.5870	2.6994	0.0030	0.0025
0.5	1955	3.91	2.5900	2.6987	0.0022	0.0018
1	1954	3.908	2.5920	2.6983	0.0015	0.0018
1.5	1953	3.906	2.5940	2.6978	0.0025	0.0018
2	1952.5	3.905	2.5950	2.6976	0.0022	0.0018
3	1952	3.904	2.5960	2.6974	0.0012	0.0016
5	1951	3.902	2.5980	2.6969	0.0020	0.0012
7	1951	3.902	2.5980	2.6969	0.0000	0.0015
10	1950	3.9	2.6000	2.6965	0.0028	0.0026
15	1949	3.898	2.6020	2.6961	0.0025	0.0029
20	1948	3.896	2.6040	2.6956	0.0035	0.0029
30	1947	3.894	2.6060	2.6952	0.0025	0.0044
40	1945	3.89	2.6100	2.6943	0.0070	0.0058
60	1943	3.886	2.6140	2.6934	0.0050	0.0083
90	1940	3.88	2.6200	2.6921	0.0075	0.0110
120	1936	3.872	2.6280	2.6904	0.0102	0.0110
180	1931	3.862	2.6380	2.6882	0.0124	0.0099
300	1927	3.854	2.6460	2.6864	0.0079	0.0083
420	1924	3.848	2.6520	2.6851	0.0090	0.0597
1440	1834	3.668	2.8320	2.6458	0.0736	#NUM!



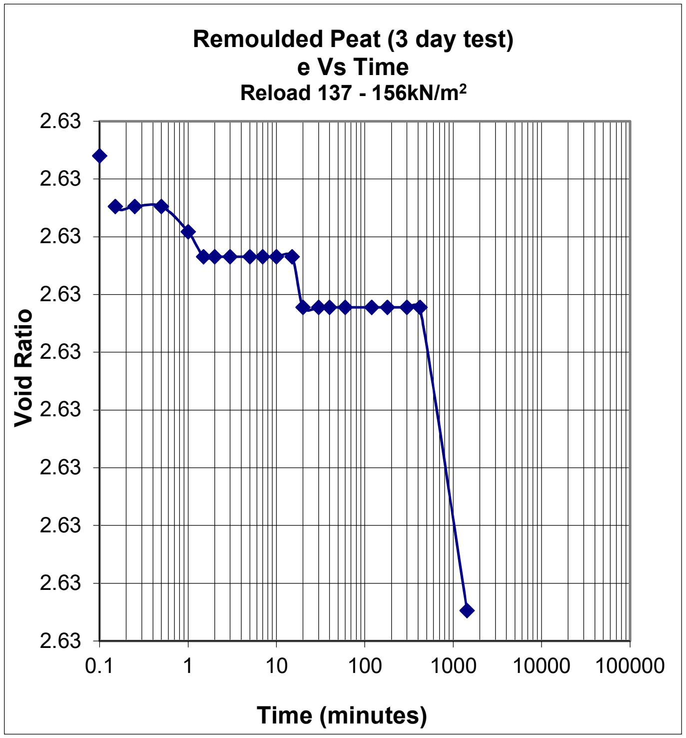
Sample – NBRO-Test J
Date-From 31/05/2015 to 29/07/2015
Conventional Consolidation
Load Increment 120kN/m^2 to 137kN/m^2

Elapsed Time /(min)	Dial Gauge Reading	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	1808	3.616	2.8840	2.6344		
0.1	1808	3.616	2.8840	2.6344		
0.15	1808	3.616	2.8840	2.6344	0.0000	0.0000
0.25	1808	3.616	2.8840	2.6344	0.0000	0.0000
0.5	1808	3.616	2.8840	2.6344	0.0000	0.0000
1	1808	3.616	2.8840	2.6344	0.0000	0.0000
2	1808	3.616	2.8840	2.6344	0.0000	0.0000
3	1808	3.616	2.8840	2.6344	0.0000	0.0000
5	1808	3.616	2.8840	2.6344	0.0000	0.0000
7	1808	3.616	2.8840	2.6344	0.0000	0.0000
10	1808	3.616	2.8840	2.6344	0.0000	0.0000
15	1808	3.616	2.8840	2.6344	0.0000	0.0000
20	1808	3.616	2.8840	2.6344	0.0000	0.0000
30	1808	3.616	2.8840	2.6344	0.0000	0.0000
40	1808	3.616	2.8840	2.6344	0.0000	0.0000
60	1808	3.616	2.8840	2.6344	0.0000	0.0000
120	1808	3.616	2.8840	2.6344	0.0000	0.0000
180	1808	3.616	2.8840	2.6344	0.0000	0.0000
300	1808	3.616	2.8840	2.6344	0.0000	0.0000
420	1808	3.616	2.8840	2.6344	0.0000	0.0000
480	1808	3.616	2.8840	2.6344	0.0000	0.0025
1440	1805	3.61	2.8900	2.6331	0.0028	#NUM!



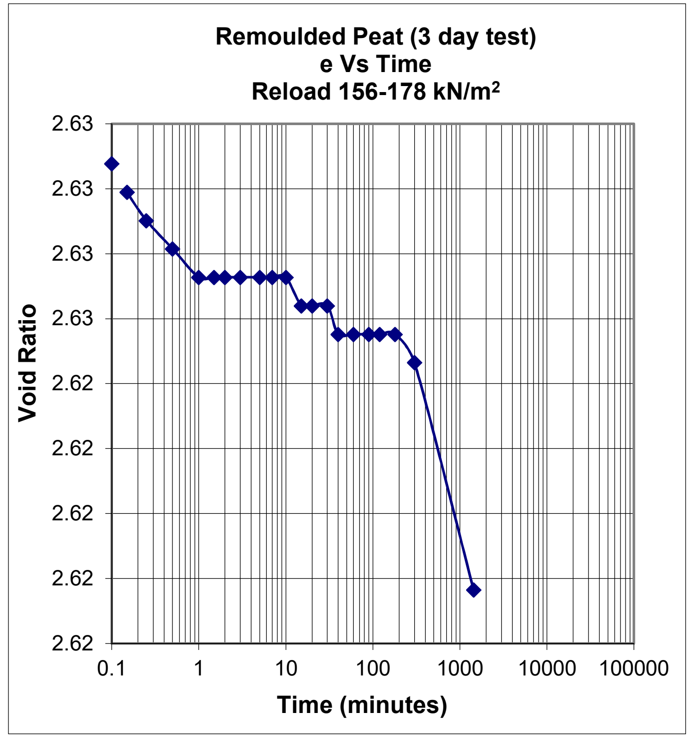
Sample – NBRO-Test J
Date-From 31/05/2015 to 29/07/2015
Conventional Consolidation
Load Increment 137kN/m^2 to 156kN/m^2

Elapsed Time /(min)	Dial Gauge Reading	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	1805	3.61	2.8900	2.6331		
0.1	1803	3.606	2.8940	2.6322		
0.15	1802	3.604	2.8960	2.6318	0.0025	0.0011
0.25	1802	3.604	2.8960	2.6318	0.0000	0.0000
0.5	1802	3.604	2.8960	2.6318	0.0000	0.0004
1	1801.5	3.603	2.8970	2.6315	0.0007	0.0007
1.5	1801	3.602	2.8980	2.6313	0.0012	0.0005
2	1801	3.602	2.8980	2.6313	0.0007	0.0005
3	1801	3.602	2.8980	2.6313	0.0000	0.0000
5	1801	3.602	2.8980	2.6313	0.0000	0.0000
7	1801	3.602	2.8980	2.6313	0.0000	0.0000
10	1801	3.602	2.8980	2.6313	0.0000	0.0000
15	1801	3.602	2.8980	2.6313	0.0000	0.0015
20	1800	3.6	2.9000	2.6309	0.0035	0.0015
30	1800	3.6	2.9000	2.6309	0.0000	0.0000
40	1800	3.6	2.9000	2.6309	0.0000	0.0000
60	1800	3.6	2.9000	2.6309	0.0000	0.0000
120	1800	3.6	2.9000	2.6309	0.0000	0.0000
180	1800	3.6	2.9000	2.6309	0.0000	0.0000
300	1800	3.6	2.9000	2.6309	0.0000	0.0000
420	1800	3.6	2.9000	2.6309	0.0000	0.0039
1440	1794	3.588	2.9120	2.6283	0.0049	#NUM!



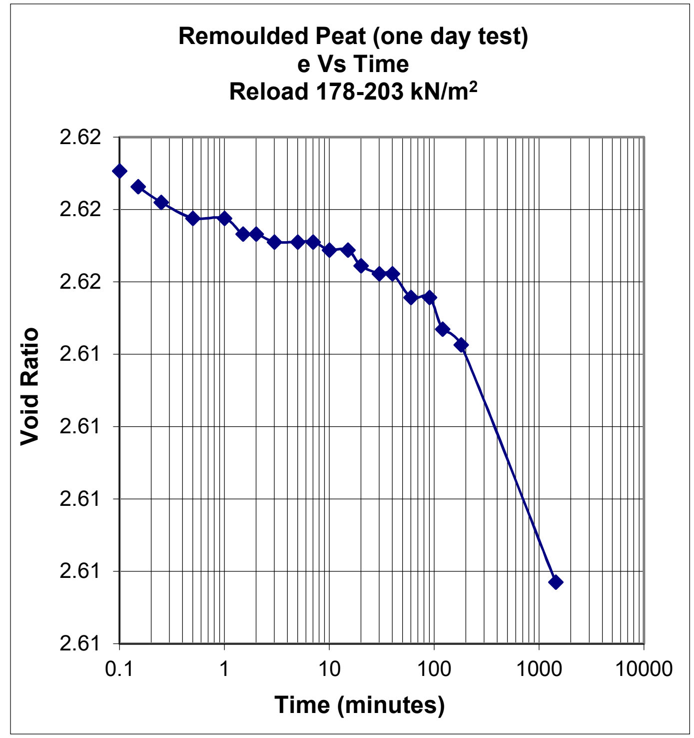
Sample – NBRO-Test J
Date-From 31/05/2015 to 29/07/2015
Conventional Consolidation
Load Increment 156kN/m^2 to 178kN/m^2

Elapsed Time /(min)	Dial Gauge Reading	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	1794	3.588	2.9120	2.6283		
0.1	1792	3.584	2.9160	2.6274		
0.15	1791	3.582	2.9180	2.6270	0.0025	0.0022
0.25	1790	3.58	2.9200	2.6265	0.0020	0.0017
0.5	1789	3.578	2.9220	2.6261	0.0015	0.0015
1	1788	3.576	2.9240	2.6256	0.0015	0.0007
1.5	1788	3.576	2.9240	2.6256	0.0000	0.0000
2	1788	3.576	2.9240	2.6256	0.0000	0.0000
3	1788	3.576	2.9240	2.6256	0.0000	0.0000
5	1788	3.576	2.9240	2.6256	0.0000	0.0000
7	1788	3.576	2.9240	2.6256	0.0000	0.0000
10	1788	3.576	2.9240	2.6256	0.0000	0.0013
15	1787	3.574	2.9260	2.6252	0.0025	0.0015
20	1787	3.574	2.9260	2.6252	0.0000	0.0000
30	1787	3.574	2.9260	2.6252	0.0000	0.0015
40	1786	3.572	2.9280	2.6248	0.0035	0.0015
60	1786	3.572	2.9280	2.6248	0.0000	0.0000
90	1786	3.572	2.9280	2.6248	0.0000	0.0000
120	1786	3.572	2.9280	2.6248	0.0000	0.0000
180	1786	3.572	2.9280	2.6248	0.0000	0.0011
300	1785	3.57	2.9300	2.6243	0.0020	0.0044
1440	1777	3.554	2.9460	2.6208	0.0051	#NUM!



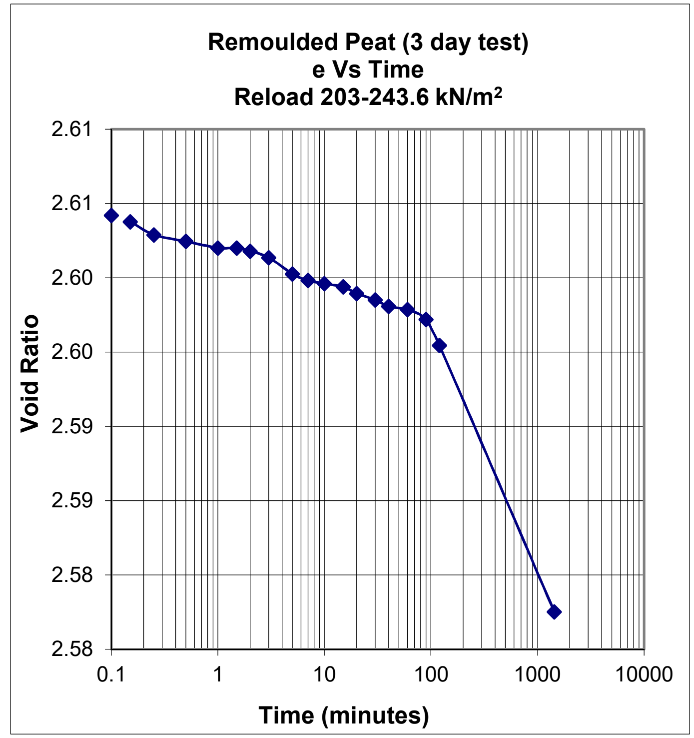
Sample – NBRO-Test J
Date-From 31/05/2015 to 29/07/2015
Conventional Consolidation
Load Increment 178kN/m² to 203kN/m²

Elapsed Time /(min)	Dial Gauge Reading	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	1777	3.554	2.9460	2.6208		
0.1	1773	3.546	2.9540	2.6191		
0.15	1772	3.544	2.9560	2.6186	0.0025	0.0022
0.25	1771	3.542	2.9580	2.6182	0.0020	0.0017
0.5	1770	3.54	2.9600	2.6178	0.0015	0.0007
1	1770	3.54	2.9600	2.6178	0.0000	0.0007
1.5	1769	3.538	2.9620	2.6173	0.0025	0.0014
2	1769	3.538	2.9620	2.6173	0.0015	0.0014
3	1768.5	3.537	2.9630	2.6171	0.0012	0.0005
5	1768.5	3.537	2.9630	2.6171	0.0000	0.0000
7	1768.5	3.537	2.9630	2.6171	0.0000	0.0007
10	1768	3.536	2.9640	2.6169	0.0014	0.0007
15	1768	3.536	2.9640	2.6169	0.0000	0.0015
20	1767	3.534	2.9660	2.6165	0.0035	0.0022
30	1766.5	3.533	2.9670	2.6162	0.0012	0.0007
40	1766.5	3.533	2.9670	2.6162	0.0000	0.0022
60	1765	3.53	2.9700	2.6156	0.0037	0.0032
90	1765	3.53	2.9700	2.6156	0.0000	0.0028
120	1763	3.526	2.9740	2.6147	0.0029	0.0028
180	1762	3.524	2.9760	2.6143	0.0025	0.0065
1440	1747	3.494	3.0060	2.6077	0.0073	#NUM!



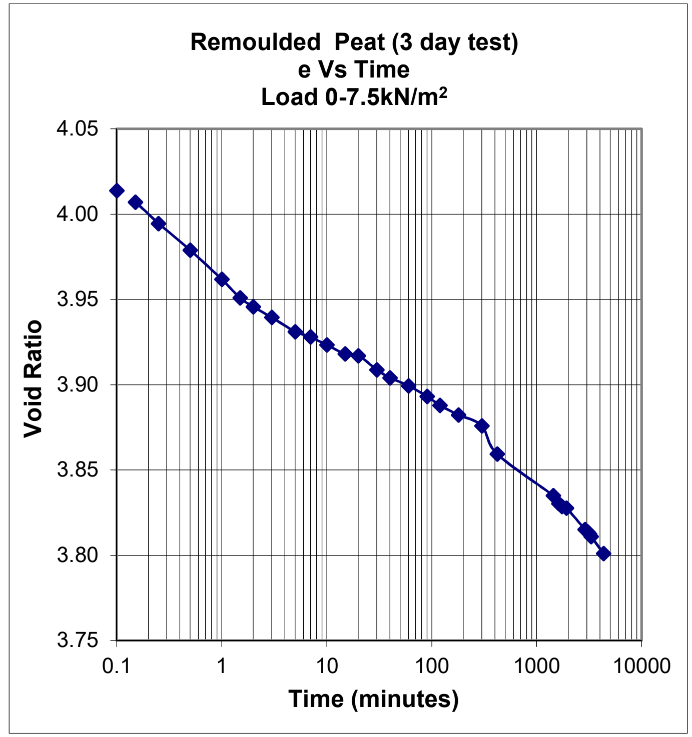
Sample – NBRO-Test J
Date-From 31/05/2015 to 29/07/2015
Conventional Consolidation
Load Increment 203kN/m^2 to 243.6kN/m^2

Elapsed Time /(min)	Dial Gauge Reading	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	1747	3.494	3.0060	2.6077		
0.1	1739	3.478	3.0220	2.6042		
0.15	1738	3.476	3.0240	2.6038	0.0025	0.0033
0.25	1736	3.472	3.0280	2.6029	0.0039	0.0025
0.5	1735	3.47	3.0300	2.6025	0.0015	0.0015
1	1734	3.468	3.0320	2.6020	0.0015	0.0011
1.5	1734	3.468	3.0320	2.6020	0.0000	0.0014
2	1733.5	3.467	3.0330	2.6018	0.0007	0.0014
3	1732.5	3.465	3.0350	2.6014	0.0025	0.0038
5	1730	3.46	3.0400	2.6003	0.0049	0.0042
7	1729	3.458	3.0420	2.5998	0.0030	0.0022
10	1728.5	3.457	3.0430	2.5996	0.0014	0.0013
15	1728	3.456	3.0440	2.5994	0.0012	0.0022
20	1727	3.454	3.0460	2.5990	0.0035	0.0029
30	1726	3.452	3.0480	2.5985	0.0025	0.0029
40	1725	3.45	3.0500	2.5981	0.0035	0.0022
60	1724.5	3.449	3.0510	2.5979	0.0012	0.0055
90	1723	3.446	3.0540	2.5972	0.0037	0.0147
120	1719	3.438	3.0620	2.5955	0.0080	0.0147
1440	1678	3.356	3.1440	2.5775	0.0166	#NUM!



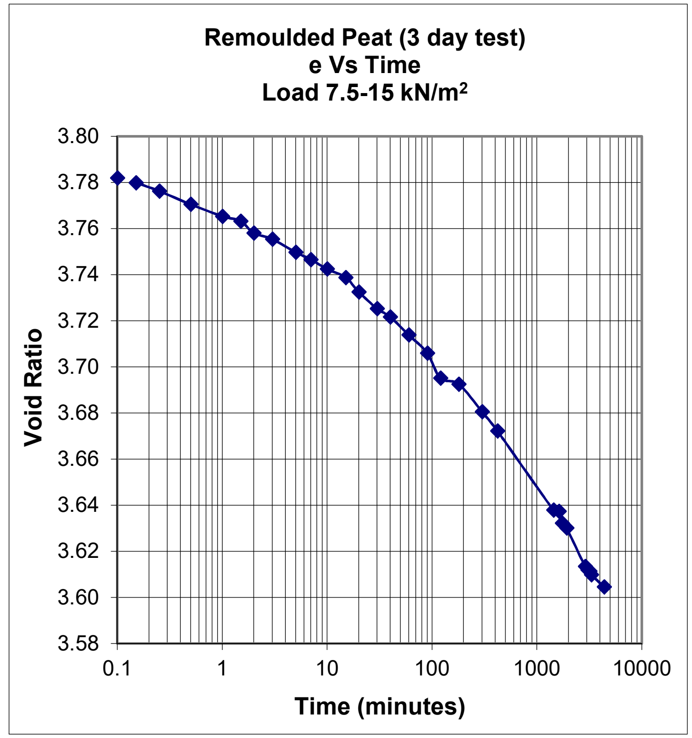
Sample – NBRO-Test A-1
Date-From 05/01/2015 to 05/04/2015
Conventional Consolidation
Load Increment 0kN/m^2 to 7.5kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	2	0	0.4	0.0000	4.0700		
0.1	3	0.016	0.616	0.2160	4.0138		
0.15	3	0.042	0.642	0.2420	4.0071	0.0384	0.0483
0.25	3	0.09	0.69	0.2900	3.9946	0.0563	0.0537
0.5	3	0.15	0.75	0.3500	3.9790	0.0518	0.0544
1	4	0.016	0.816	0.4160	3.9618	0.0570	0.0589
1.5	4	0.058	0.858	0.4580	3.9509	0.0620	0.0535
2	4	0.078	0.878	0.4780	3.9457	0.0416	0.0380
3	4	0.102	0.902	0.5020	3.9395	0.0354	0.0366
5	4	0.134	0.934	0.5340	3.9312	0.0375	0.0311
7	4	0.146	0.946	0.5460	3.9280	0.0214	0.0259
10	4	0.164	0.964	0.5640	3.9234	0.0302	0.0298
15	4	0.184	0.984	0.5840	3.9182	0.0295	0.0207
20	4	0.188	0.988	0.5880	3.9171	0.0083	0.0311
30	5	0.02	1.02	0.6200	3.9088	0.0472	0.0432
40	5	0.038	1.038	0.6380	3.9041	0.0375	0.0311
60	5	0.056	1.056	0.6560	3.8994	0.0266	0.0310
90	5	0.08	1.08	0.6800	3.8932	0.0354	0.0380
120	5	0.1	1.1	0.7000	3.8880	0.0416	0.0363
180	5	0.122	1.122	0.7220	3.8823	0.0325	0.0301
300	5	0.146	1.146	0.7460	3.8760	0.0281	0.0622
420	6	0.01	1.21	0.8100	3.8594	0.1139	0.0603
1440	6	0.104	1.304	0.9040	3.8350	0.0457	0.0497
1620	6	0.122	1.322	0.9220	3.8303	0.0915	0.0759
1740	6	0.128	1.328	0.9280	3.8287	0.0503	0.0352
1920	6	0.132	1.332	0.9320	3.8277	0.0243	0.0618
2880	6	0.18	1.38	0.9800	3.8152	0.0709	0.0694
3060	6	0.186	1.386	0.9860	3.8136	0.0593	0.0604
3180	6	0.19	1.39	0.9900	3.8126	0.0623	0.0793
3300	6	0.196	1.396	0.9960	3.8110	0.0970	0.0860
4320	7	0.034	1.434	1.0340	3.8012	0.0845	#NUM!



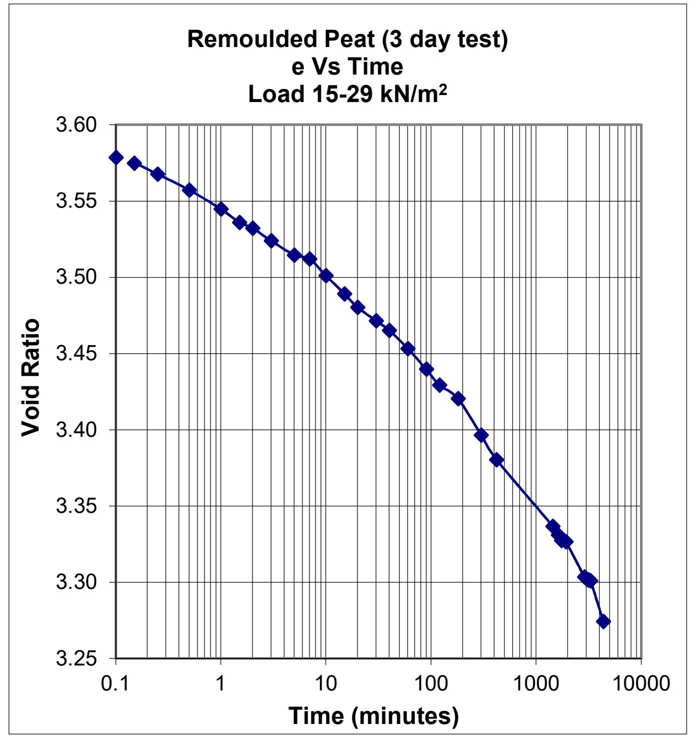
Sample – NBRO-Test A-1
Date-From 05/01/2015 to 05/04/2015
Conventional Consolidation
Load Increment 7.5kN/m^2 to 15kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	7	0.034	1.434	1.0340	3.8012		
0.1	7	0.108	1.508	1.1080	3.7819		
0.15	7	0.116	1.516	1.1160	3.7798	0.0118	0.0144
0.25	7	0.13	1.53	1.1300	3.7762	0.0164	0.0179
0.5	7	0.152	1.552	1.1520	3.7705	0.0190	0.0181
1	7	0.172	1.572	1.1720	3.7653	0.0173	0.0153
1.5	7	0.18	1.58	1.1800	3.7632	0.0118	0.0242
2	8	0	1.6	1.2000	3.7580	0.0416	0.0259
3	8	0.01	1.61	1.2100	3.7554	0.0148	0.0209
5	8	0.032	1.632	1.2320	3.7497	0.0258	0.0240
7	8	0.044	1.644	1.2440	3.7466	0.0214	0.0242
10	8	0.06	1.66	1.2600	3.7424	0.0269	0.0236
15	8	0.074	1.674	1.2740	3.7388	0.0207	0.0328
20	8	0.096	1.698	1.2980	3.7325	0.0499	0.0449
30	8	0.126	1.726	1.3260	3.7252	0.0413	0.0363
40	8	0.14	1.74	1.3400	3.7216	0.0291	0.0380
60	8	0.17	1.77	1.3700	3.7138	0.0443	0.0443
90	9	0	1.8	1.4000	3.7060	0.0443	0.0622
120	9	0.042	1.842	1.4420	3.6951	0.0874	0.0449
180	9	0.052	1.852	1.4520	3.6925	0.0148	0.0366
300	9	0.098	1.898	1.4980	3.6805	0.0539	0.0551
420	9	0.13	1.93	1.5300	3.6722	0.0569	0.0626
1440	10	0.062	2.062	1.6620	3.6379	0.0641	0.0594
1620	10	0.064	2.064	1.6640	3.6374	0.0102	0.0696
1740	10	0.084	2.084	1.6840	3.6322	0.1676	0.0987
1920	10	0.092	2.092	1.6920	3.6301	0.0487	0.0855
2880	10	0.156	2.156	1.7560	3.6134	0.0945	0.0899
3060	10	0.162	2.162	1.7620	3.6119	0.0593	0.0483
3180	10	0.164	2.164	1.7640	3.6114	0.0311	0.0634
3300	10	0.17	2.17	1.7700	3.6098	0.0970	0.0490
4370	10	0.19	2.19	1.7900	3.6046	0.0426	#NUM!



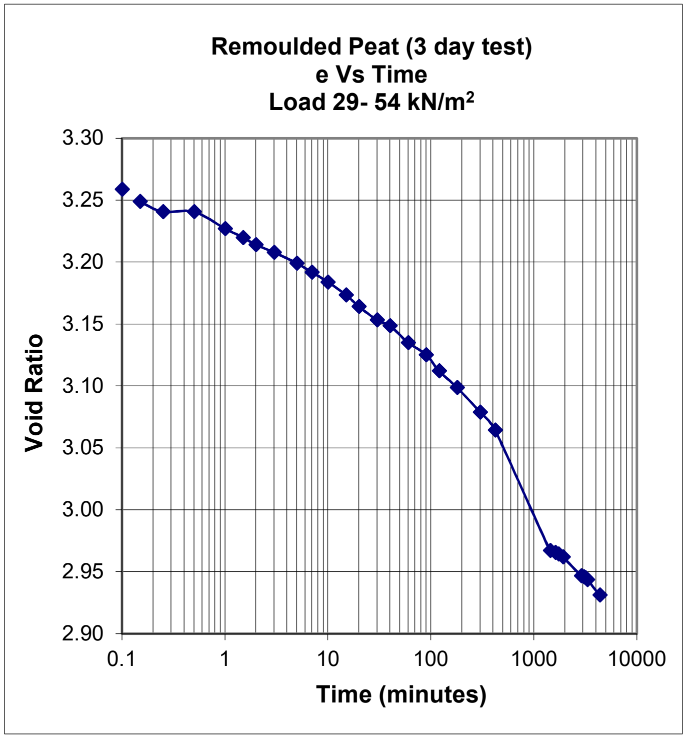
Sample – NBRO-Test A-1
Date-From 05/01/2015 to 05/04/2015
Conventional Consolidation
Load Increment 15kN/m^2 to 29kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	10	0.19	2.19	1.79	3.6046		
0.1	11	0.09	2.29	1.89	3.5786		
0.15	11	0.104	2.304	1.904	3.5750	0.021	0.027
0.25	11	0.132	2.332	1.932	3.5677	0.033	0.034
0.5	11	0.172	2.372	1.972	3.5573	0.035	0.038
1	12	0.02	2.42	2.02	3.5448	0.041	0.045
1.5	12	0.054	2.454	2.054	3.5360	0.050	0.041
2	12	0.068	2.468	2.068	3.5323	0.029	0.040
3	12	0.1	2.5	2.1	3.5240	0.047	0.044
5	12	0.136	2.536	2.136	3.5146	0.042	0.033
7	12	0.146	2.546	2.146	3.5120	0.018	0.045
10	12	0.188	2.588	2.188	3.5011	0.070	0.069
15	13	0.034	2.634	2.234	3.4892	0.068	0.069
20	13	0.068	2.668	2.268	3.4803	0.071	0.059
30	13	0.102	2.702	2.302	3.4715	0.050	0.050
40	13	0.126	2.726	2.326	3.4652	0.050	0.060
60	13	0.172	2.772	2.372	3.4533	0.068	0.072
90	14	0.024	2.824	2.424	3.4398	0.077	0.079
120	14	0.064	2.864	2.464	3.4294	0.083	0.064
180	14	0.098	2.898	2.498	3.4205	0.050	0.082
300	14	0.19	2.99	2.59	3.3966	0.108	0.109
420	15	0.052	3.052	2.652	3.3805	0.110	0.088
1440	16	0.02	3.22	2.82	3.3368	0.082	0.084
1620	16	0.042	3.242	2.842	3.3311	0.112	0.114
1740	16	0.056	3.256	2.856	3.3274	0.117	0.060
1920	16	0.059	3.259	2.859	3.3267	0.018	0.109
2880	16	0.148	3.348	2.948	3.3035	0.131	0.122
3060	16	0.154	3.354	2.954	3.3020	0.059	0.048
3180	16	0.156	3.356	2.956	3.3014	0.031	0.032
3300	16	0.158	3.358	2.958	3.3009	0.032	0.196
4370	17	0.06	3.46	3.06	3.2744	0.217	#NUM!



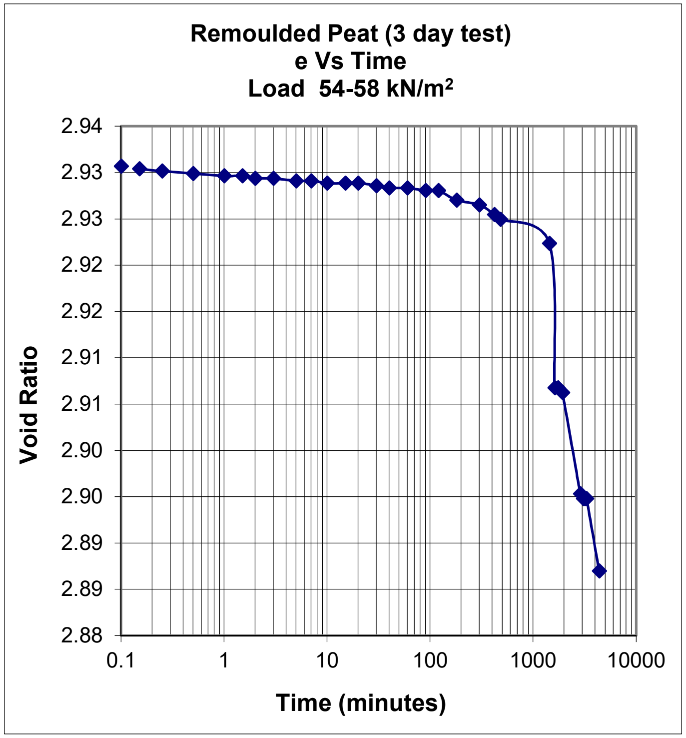
Sample – NBRO-Test A-1
Date-From 05/01/2015 to 05/04/2015
Conventional Consolidation
Load Increment 29kN/m² to 54kN/m²

Elapsed Time /(min)	Dial Major	Dial	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	17	0.006	3.406	3.0060	3.2884		
0.1	17	0.12	3.52	3.1200	3.2588		
0.15	17	0.158	3.558	3.1580	3.2489	0.0561	0.0457
0.25	17	0.19	3.59	3.1900	3.2406	0.0375	0.0159
0.5	17	0.19	3.59	3.1900	3.2406	0.0000	0.0225
1	18	0.042	3.642	3.2420	3.2271	0.0449	0.0436
1.5	18	0.07	3.67	3.2700	3.2198	0.0413	0.0432
2	18	0.092	3.692	3.2920	3.2141	0.0458	0.0397
3	18	0.116	3.716	3.3160	3.2078	0.0354	0.0379
5	18	0.15	3.75	3.3500	3.1990	0.0398	0.0438
7	18	0.178	3.778	3.3780	3.1917	0.0498	0.0501
10	19	0.008	3.808	3.4080	3.1839	0.0504	0.0550
15	19	0.048	3.848	3.4480	3.1735	0.0591	0.0656
20	19	0.084	3.884	3.4840	3.1642	0.0749	0.0674
30	19	0.126	3.926	3.5260	3.1532	0.0620	0.0518
40	19	0.144	3.944	3.5440	3.1486	0.0375	0.0605
60	19	0.196	3.996	3.5960	3.1350	0.0768	0.0664
90	20	0.034	4.034	3.6340	3.1252	0.0561	0.0760
120	20	0.084	4.084	3.6840	3.1122	0.1041	0.0881
180	20	0.136	4.136	3.7360	3.0986	0.0768	0.0836
300	21	0.012	4.212	3.8120	3.0789	0.0891	0.0933
420	21	0.068	4.268	3.8680	3.0643	0.0996	0.1641
1440	23	0.042	4.642	4.2420	2.9671	0.1817	0.1685
1620	23	0.048	4.648	4.2480	2.9655	0.0305	0.0348
1740	23	0.053	4.653	4.2530	2.9642	0.0419	0.0493
1920	23	0.062	4.662	4.2620	2.9619	0.0547	0.0796
2880	23	0.12	4.72	4.3200	2.9468	0.0856	0.0784
3060	23	0.123	4.723	4.3230	2.9460	0.0296	0.0362
3180	23	0.126	4.726	4.3260	2.9452	0.0467	0.0714
3300	23	0.132	4.732	4.3320	2.9437	0.0970	0.1017
4370	23	0.18	4.78	4.3800	2.9312	0.1023	#NUM!



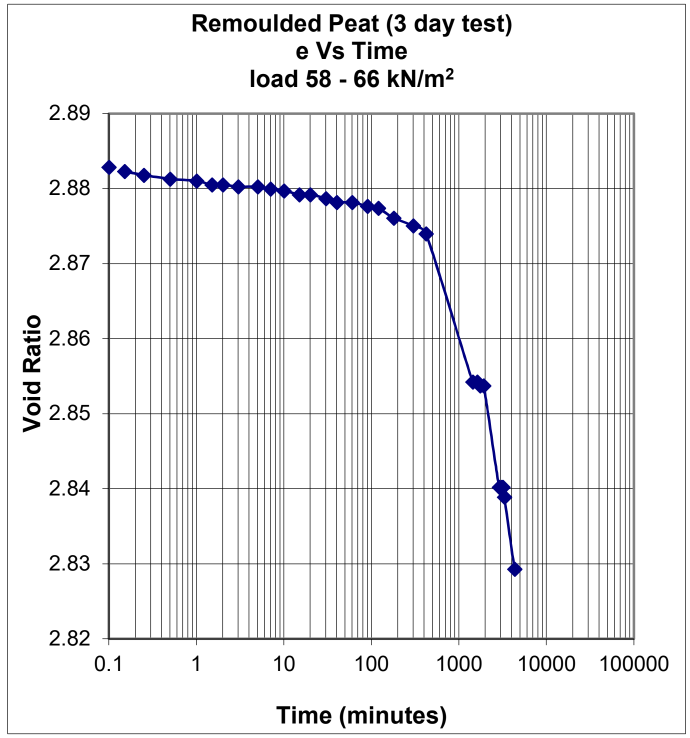
Sample – NBRO-Test A-1
Date-From 05/01/2015 to 05/04/2015
Conventional Consolidation
Load Increment 54kN/m² to 58kN/m²

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	23	0.18	4.78	4.3800	2.9312		
0.1	23	0.182	4.782	4.3820	2.9307		
0.15	23	0.183	4.783	4.3830	2.9304	0.0015	0.0013
0.25	23	0.184	4.784	4.3840	2.9302	0.0012	0.0010
0.5	23	0.185	4.785	4.3850	2.9299	0.0009	0.0009
1	23	0.186	4.786	4.3860	2.9296	0.0009	0.0005
1.5	23	0.186	4.786	4.3860	2.9296	0.0000	0.0009
2	23	0.187	4.787	4.3870	2.9294	0.0021	0.0009
3	23	0.187	4.787	4.3870	2.9294	0.0000	0.0007
5	23	0.188	4.788	4.3880	2.9291	0.0012	0.0007
7	23	0.188	4.788	4.3880	2.9291	0.0000	0.0009
10	23	0.189	4.789	4.3890	2.9289	0.0017	0.0008
15	23	0.189	4.789	4.3890	2.9289	0.0000	0.0000
20	23	0.189	4.789	4.3890	2.9289	0.0000	0.0009
30	23	0.19	4.79	4.3900	2.9286	0.0015	0.0017
40	23	0.191	4.791	4.3910	2.9283	0.0021	0.0009
60	23	0.191	4.791	4.3910	2.9283	0.0000	0.0007
90	23	0.192	4.792	4.3920	2.9281	0.0015	0.0009
120	23	0.192	4.792	4.3920	2.9281	0.0000	0.0035
180	23	0.196	4.796	4.3960	2.9270	0.0059	0.0039
300	23	0.198	4.798	4.3980	2.9265	0.0023	0.0042
420	24	0.002	4.802	4.4020	2.9255	0.0071	0.0076
480	24	0.004	4.804	4.4040	2.9250	0.0090	0.0058
1440	24	0.014	4.814	4.4140	2.9224	0.0054	0.0345
1620	24	0.074	4.874	4.4740	2.9068	0.3050	0.1898
1740	24	0.074	4.874	4.4740	2.9068	0.0000	0.0070
1920	24	0.076	4.876	4.4760	2.9062	0.0122	0.0523
2880	24	0.118	4.918	4.5180	2.8953	0.0620	0.0565
3060	24	0.12	4.92	4.5200	2.8948	0.0198	0.0121
3180	24	0.12	4.92	4.5200	2.8948	0.0000	0.0000
3300	24	0.12	4.92	4.5200	2.8948	0.0000	0.0565
4370	24	0.15	4.95	4.5500	2.8870	0.0640	#NUM!



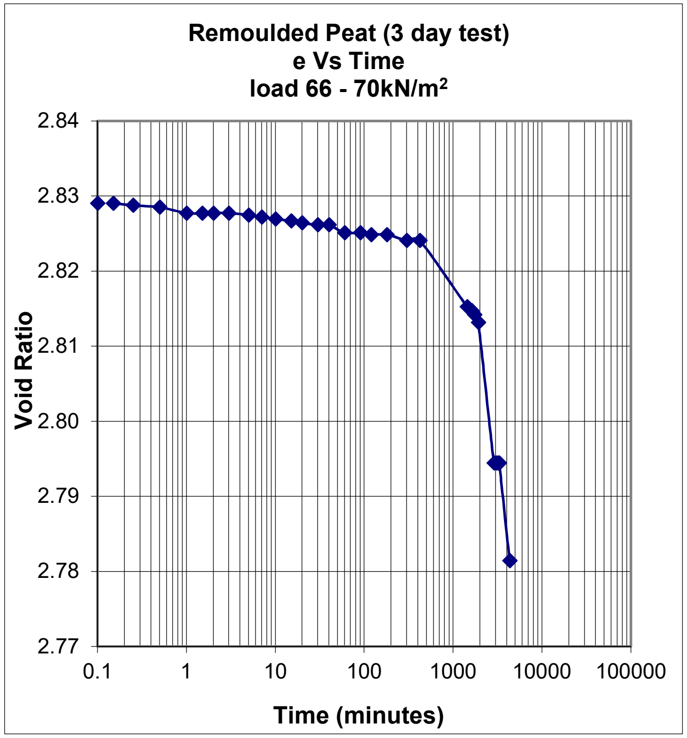
Sample – NBRO-Test A-1
Date-From 05/01/2015 to 05/04/2015
Conventional Consolidation
Load Increment 58kN/m^2 to 66kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	24	0.156	4.956	4.5560	2.8854		
0.1	24	0.166	4.966	4.5660	2.8828		
0.15	24	0.168	4.968	4.5680	2.8823	0.0030	0.0026
0.25	24	0.17	4.97	4.5700	2.8818	0.0023	0.0020
0.5	24	0.172	4.972	4.5720	2.8813	0.0017	0.0013
1	24	0.173	4.973	4.5730	2.8810	0.0009	0.0016
1.5	24	0.175	4.975	4.5750	2.8805	0.0030	0.0017
2	24	0.175	4.975	4.5750	2.8805	0.0000	0.0009
3	24	0.176	4.976	4.5760	2.8802	0.0015	0.0007
5	24	0.176	4.976	4.5760	2.8802	0.0000	0.0007
7	24	0.177	4.977	4.5770	2.8800	0.0018	0.0017
10	24	0.178	4.978	4.5780	2.8797	0.0017	0.0024
15	24	0.18	4.98	4.5800	2.8792	0.0030	0.0017
20	24	0.18	4.98	4.5800	2.8792	0.0000	0.0017
30	24	0.182	4.982	4.5820	2.8787	0.0030	0.0035
40	24	0.184	4.984	4.5840	2.8782	0.0042	0.0017
60	24	0.184	4.984	4.5840	2.8782	0.0000	0.0015
90	24	0.186	4.986	4.5860	2.8776	0.0030	0.0026
120	24	0.187	4.987	4.5870	2.8774	0.0021	0.0052
180	24	0.192	4.992	4.5920	2.8761	0.0074	0.0059
300	24	0.196	4.996	4.5960	2.8750	0.0047	0.0057
420	25	0	5	4.6000	2.8740	0.0071	0.0305
1440	25	0.076	5.076	4.6760	2.8542	0.0369	0.0337
1620	25	0.076	5.076	4.6760	2.8542	0.0000	0.0063
1740	25	0.078	5.078	4.6780	2.8537	0.0168	0.0070
1920	25	0.078	5.078	4.6780	2.8537	0.0000	0.0618
2880	25	0.13	5.13	4.7300	2.8402	0.0768	0.0668
3060	25	0.13	5.13	4.7300	2.8402	0.0000	0.0000
3180	25	0.13	5.13	4.7300	2.8402	0.0000	0.0396
3300	25	0.135	5.135	4.7350	2.8389	0.0808	0.0821
4320	25	0.172	5.172	4.7720	2.8293	0.0822	#NUM!



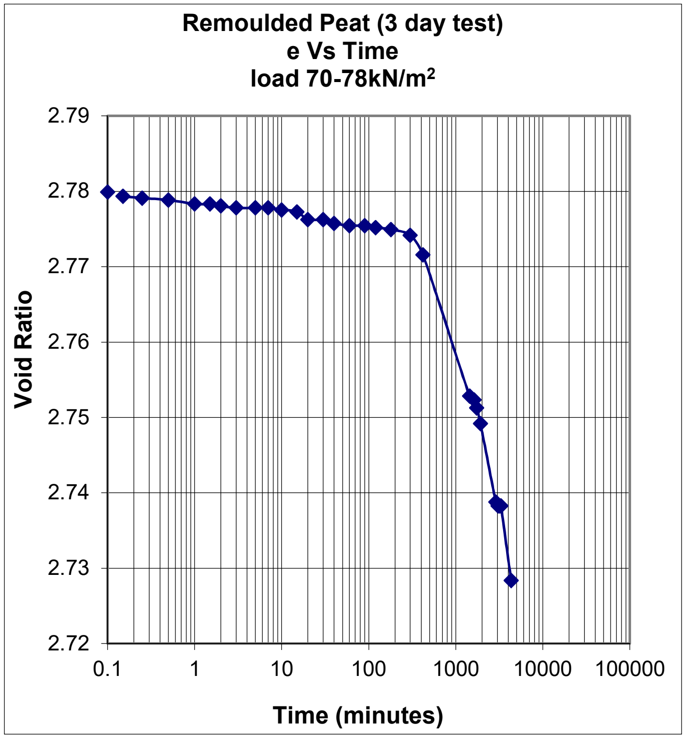
Sample – NBRO-Test A-1
Date-From 05/01/2015 to 05/04/2015
Conventional Consolidation
Load Increment 66kN/m² to 70kN/m²

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	24	0.156	5.173	4.7730	2.8290		
0.1	24	0.166	5.173	4.7730	2.8290		
0.15	24	0.168	5.173	4.7730	2.8290	0.0000	0.0007
0.25	24	0.17	5.174	4.7740	2.8288	0.0012	0.0010
0.5	24	0.172	5.175	4.7750	2.8285	0.0009	0.0017
1	24	0.173	5.178	4.7780	2.8277	0.0026	0.0013
1.5	24	0.175	5.178	4.7780	2.8277	0.0000	0.0000
2	24	0.175	5.178	4.7780	2.8277	0.0000	0.0000
3	24	0.176	5.178	4.7780	2.8277	0.0000	0.0007
5	24	0.176	5.179	4.7790	2.8275	0.0012	0.0014
7	24	0.177	5.18	4.7800	2.8272	0.0018	0.0017
10	24	0.178	5.181	4.7810	2.8269	0.0017	0.0016
15	24	0.18	5.182	4.7820	2.8267	0.0015	0.0017
20	24	0.18	5.183	4.7830	2.8264	0.0021	0.0017
30	24	0.182	5.184	4.7840	2.8262	0.0015	0.0009
40	24	0.184	5.184	4.7840	2.8262	0.0000	0.0035
60	24	0.184	5.188	4.7880	2.8251	0.0059	0.0027
90	24	0.186	5.188	4.7880	2.8251	0.0000	0.0005
120	24	0.187	5.189	4.7890	2.8249	0.0009	0.0005
180	24	0.192	5.189	4.7890	2.8249	0.0000	0.0020
300	24	0.196	5.192	4.7920	2.8241	0.0035	0.0021
420	25	0	5.192	4.7920	2.8241	0.0000	0.0130
1440	25	0.076	5.226	4.8260	2.8152	0.0165	0.0160
1620	25	0.076	5.228	4.8280	2.8147	0.0102	0.0127
1740	25	0.078	5.23	4.8300	2.8142	0.0168	0.0211
1920	25	0.078	5.234	4.8340	2.8132	0.0243	0.0903
2880	25	0.13	5.306	4.9060	2.7944	0.1063	0.0925
3060	25	0.13	5.306	4.9060	2.7944	0.0000	0.0000
3180	25	0.13	5.306	4.9060	2.7944	0.0000	0.0000
3300	25	0.135	5.306	4.9060	2.7944	0.0000	0.0977
4320	25	0.172	5.356	4.9560	2.7814	0.1111	#NUM!



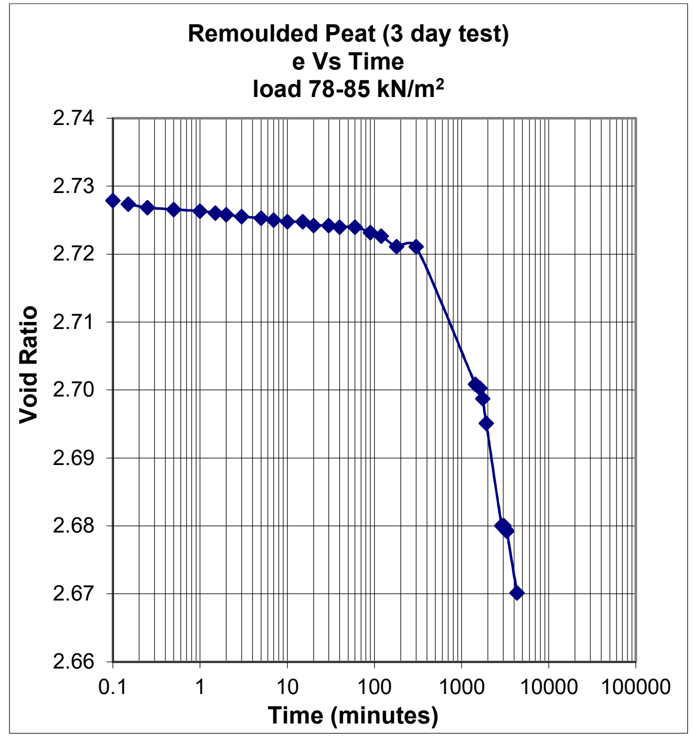
Sample – NBRO-Test A-1
Date-From 05/01/2015 to 05/04/2015
Conventional Consolidation
Load Increment 70kN/m^2 to 78kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	26	0.156	5.356	4.9560	2.7814		
0.1	26	0.162	5.362	4.9620	2.7799		
0.15	26	0.164	5.364	4.9640	2.7794	0.0030	0.0020
0.25	26	0.165	5.365	4.9650	2.7791	0.0012	0.0010
0.5	26	0.166	5.366	4.9660	2.7788	0.0009	0.0013
1	26	0.168	5.368	4.9680	2.7783	0.0017	0.0013
1.5	26	0.168	5.368	4.9680	2.7783	0.0000	0.0011
2	26	0.169	5.369	4.9690	2.7781	0.0009	0.0011
3	26	0.17	5.37	4.9700	2.7778	0.0015	0.0007
5	26	0.17	5.37	4.9700	2.7778	0.0000	0.0000
7	26	0.17	5.37	4.9700	2.7778	0.0000	0.0009
10	26	0.171	5.371	4.9710	2.7775	0.0017	0.0016
15	26	0.172	5.372	4.9720	2.7773	0.0015	0.0043
20	26	0.176	5.376	4.9760	2.7762	0.0083	0.0035
30	26	0.176	5.376	4.9760	2.7762	0.0000	0.0017
40	26	0.178	5.378	4.9780	2.7757	0.0042	0.0026
60	26	0.179	5.379	4.9790	2.7755	0.0015	0.0011
90	26	0.179	5.379	4.9790	2.7755	0.0000	0.0011
120	26	0.18	5.38	4.9800	2.7752	0.0009	0.0011
180	26	0.181	5.381	4.9810	2.7749	0.0015	0.0026
300	26	0.184	5.384	4.9840	2.7742	0.0035	0.0092
420	26	0.194	5.394	4.9940	2.7716	0.0178	0.0313
1440	27	0.066	5.466	5.0660	2.7528	0.0350	0.0328
1620	27	0.068	5.468	5.0680	2.7523	0.0102	0.0190
1740	27	0.072	5.472	5.0720	2.7513	0.0335	0.0423
1920	27	0.08	5.48	5.0800	2.7492	0.0487	0.0570
2880	27	0.12	5.52	5.1200	2.7388	0.0591	0.0539
3060	27	0.122	5.522	5.1220	2.7383	0.0198	0.0121
3180	27	0.122	5.522	5.1220	2.7383	0.0000	0.0000
3300	27	0.122	5.522	5.1220	2.7383	0.0000	0.0743
4320	27	0.16	5.56	5.1600	2.7284	0.0845	#NUM!



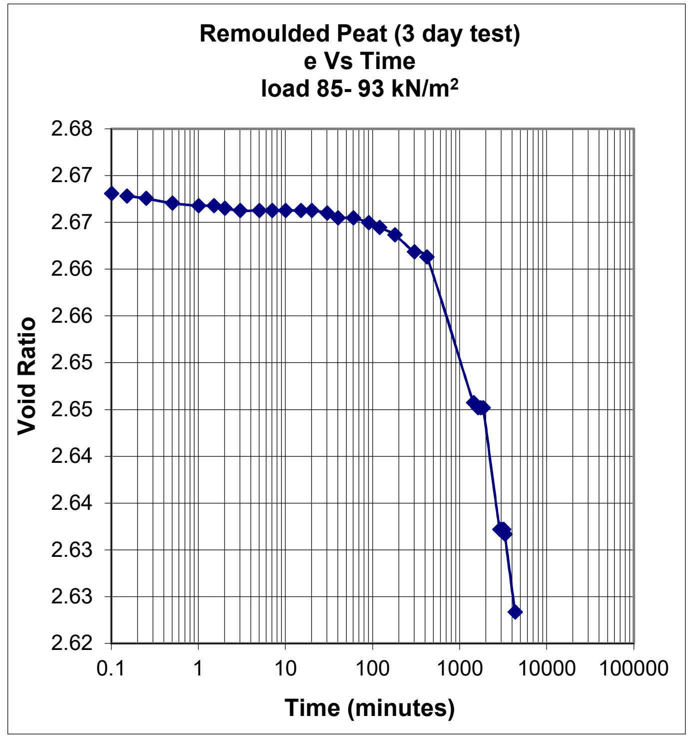
Sample – NBRO-Test A-1
Date-From 05/01/2015 to 05/04/2015
Conventional Consolidation
Load Increment 78kN/m^2 to 85kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	27	0.16	5.56	5.1600	2.7284		
0.1	27	0.162	5.562	5.1620	2.7279		
0.15	27	0.164	5.564	5.1640	2.7274	0.0030	0.0026
0.25	27	0.166	5.566	5.1660	2.7268	0.0023	0.0015
0.5	27	0.167	5.567	5.1670	2.7266	0.0009	0.0009
1	27	0.168	5.568	5.1680	2.7263	0.0009	0.0013
1.5	27	0.169	5.569	5.1690	2.7261	0.0015	0.0016
2	27	0.17	5.57	5.1700	2.7258	0.0017	0.0016
3	27	0.171	5.571	5.1710	2.7255	0.0015	0.0013
5	27	0.172	5.572	5.1720	2.7253	0.0012	0.0014
7	27	0.173	5.573	5.1730	2.7250	0.0018	0.0017
10	27	0.174	5.574	5.1740	2.7248	0.0017	0.0008
15	27	0.174	5.574	5.1740	2.7248	0.0000	0.0017
20	27	0.176	5.576	5.1760	2.7242	0.0042	0.0017
30	27	0.176	5.576	5.1760	2.7242	0.0000	0.0009
40	27	0.177	5.577	5.1770	2.7240	0.0021	0.0009
60	27	0.177	5.577	5.1770	2.7240	0.0000	0.0027
90	27	0.18	5.58	5.1800	2.7232	0.0044	0.0060
120	27	0.182	5.582	5.1820	2.7227	0.0043	0.0060
180	27	0.188	5.588	5.1880	2.7211	0.0089	0.0039
300	27	0.188	5.588	5.1880	2.7211	0.0000	0.0225
1440	28	0.066	5.666	5.2660	2.7008	0.0298	0.0284
1620	28	0.068	5.668	5.2680	2.7003	0.0102	0.0253
1740	28	0.074	5.674	5.2740	2.6988	0.0503	0.0705
1920	28	0.088	5.688	5.2880	2.6951	0.0851	0.0855
2880	28	0.146	5.746	5.3460	2.6800	0.0856	0.0745
3060	28	0.146	5.746	5.3460	2.6800	0.0000	0.0121
3180	28	0.148	5.748	5.3480	2.6795	0.0311	0.0238
3300	28	0.149	5.749	5.3490	2.6793	0.0162	0.0703
4320	28	0.184	5.784	5.3840	2.6702	0.0778	#NUM!



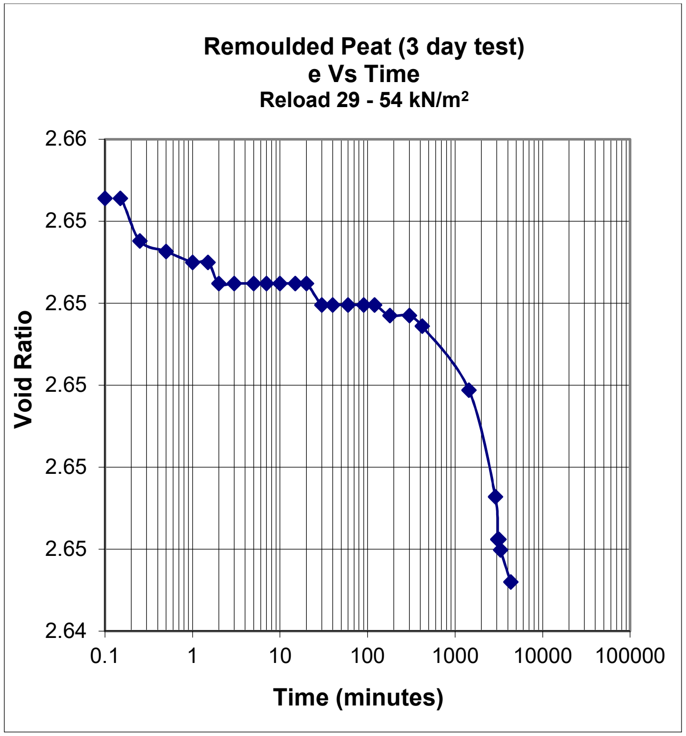
Sample – NBRO-Test A-1
Date-From 05/01/2015 to 05/04/2015
Conventional Consolidation
Load Increment 85kN/m² to 93kN/m²

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	28	0.184	5.784	5.3840	2.6702		
0.1	28	0.192	5.792	5.3920	2.6681		
0.15	28	0.193	5.793	5.3930	2.6678	0.0015	0.0013
0.25	28	0.194	5.794	5.3940	2.6676	0.0012	0.0015
0.5	28	0.196	5.796	5.3960	2.6670	0.0017	0.0013
1	28	0.197	5.797	5.3970	2.6668	0.0009	0.0009
1.5	28	0.197	5.797	5.3970	2.6668	0.0000	0.0011
2	28	0.198	5.798	5.3980	2.6665	0.0009	0.0011
3	28	0.199	5.799	5.3990	2.6663	0.0015	0.0007
5	28	0.199	5.799	5.3990	2.6663	0.0000	0.0000
7	28	0.199	5.799	5.3990	2.6663	0.0000	0.0000
10	28	0.199	5.799	5.3990	2.6663	0.0000	0.0000
15	28	0.199	5.799	5.3990	2.6663	0.0000	0.0000
20	28	0.199	5.799	5.3990	2.6663	0.0000	0.0009
30	29	0	5.8	5.4000	2.6660	0.0015	0.0026
40	29	0.002	5.802	5.4020	2.6655	0.0042	0.0017
60	29	0.002	5.802	5.4020	2.6655	0.0000	0.0022
90	29	0.004	5.804	5.4040	2.6650	0.0030	0.0038
120	29	0.006	5.806	5.4060	2.6644	0.0035	0.0038
180	29	0.009	5.809	5.4090	2.6637	0.0044	0.0065
300	29	0.016	5.816	5.4160	2.6618	0.0082	0.0064
420	29	0.018	5.818	5.4180	2.6613	0.0036	0.0237
1440	29	0.078	5.878	5.4780	2.6457	0.0292	0.0275
1620	29	0.08	5.88	5.4800	2.6452	0.0102	0.0063
1740	29	0.08	5.88	5.4800	2.6452	0.0000	0.0000
1860	29	0.08	5.88	5.4800	2.6452	0.0000	0.0594
2880	29	0.13	5.93	5.5300	2.6322	0.0685	0.0601
3060	29	0.13	5.93	5.5300	2.6322	0.0000	0.0000
3180	29	0.13	5.93	5.5300	2.6322	0.0000	0.0159
3300	29	0.132	5.932	5.5320	2.6317	0.0323	0.0664
4320	29	0.164	5.964	5.5640	2.6234	0.0711	#NUM!



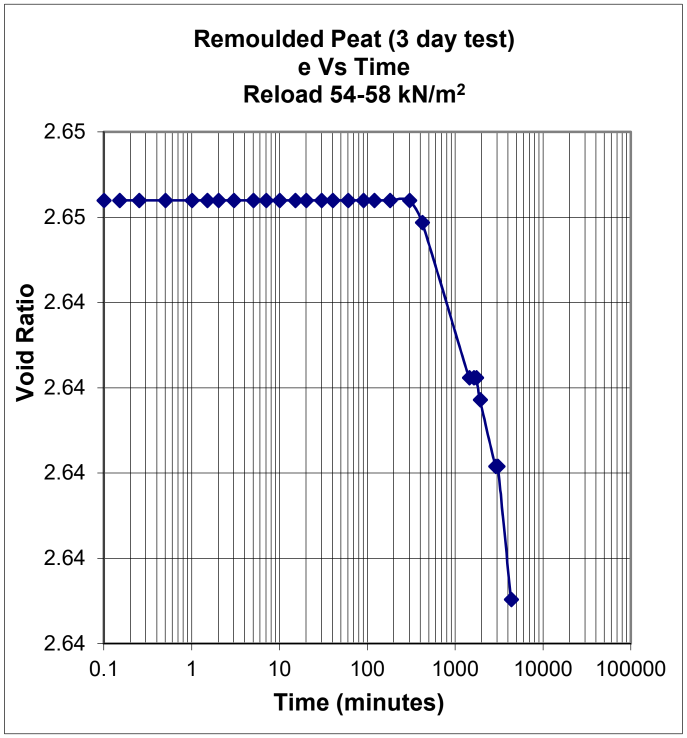
Sample – NBRO-Test A-1
Date-From 05/01/2015 to 05/04/2015
Conventional Consolidation
Load Increment 29kN/m² to 54kN/m²

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	29	0.028	5.828	5.4280	2.6587		
0.1	29	0.044	5.844	5.4440	2.6546		
0.15	29	0.046	5.844	5.4440	2.6546	0.0000	0.0026
0.25	29	0.048	5.848	5.4480	2.6535	0.0047	0.0025
0.5	29	0.049	5.849	5.4490	2.6533	0.0009	0.0009
1	29	0.05	5.85	5.4500	2.6530	0.0009	0.0013
1.5	29	0.05	5.85	5.4500	2.6530	0.0000	0.0011
2	29	0.052	5.852	5.4520	2.6525	0.0017	0.0011
3	29	0.052	5.852	5.4520	2.6525	0.0000	0.0000
5	29	0.052	5.852	5.4520	2.6525	0.0000	0.0000
7	29	0.052	5.852	5.4520	2.6525	0.0000	0.0000
10	29	0.052	5.852	5.4520	2.6525	0.0000	0.0000
15	29	0.052	5.852	5.4520	2.6525	0.0000	0.0000
20	29	0.052	5.852	5.4520	2.6525	0.0000	0.0017
30	29	0.054	5.854	5.4540	2.6520	0.0030	0.0017
40	29	0.054	5.854	5.4540	2.6520	0.0000	0.0000
60	29	0.054	5.854	5.4540	2.6520	0.0000	0.0000
90	29	0.054	5.854	5.4540	2.6520	0.0000	0.0005
120	29	0.054	5.854	5.4540	2.6520	0.0000	0.0005
180	29	0.055	5.855	5.4550	2.6517	0.0015	0.0007
300	29	0.055	5.855	5.4550	2.6517	0.0000	0.0007
420	29	0.056	5.856	5.4560	2.6514	0.0018	0.0027
1440	29	0.062	5.862	5.4620	2.6499	0.0029	0.0050
2880	29	0.072	5.872	5.4720	2.6473	0.0086	0.0111
3060	29	0.076	5.876	5.4760	2.6462	0.0395	0.0242
3180	29	0.076	5.876	5.4760	2.6462	0.0000	0.0079
3300	29	0.077	5.877	5.4770	2.6460	0.0162	0.0078
4320	29	0.08	5.88	5.4800	2.6452	0.0067	#NUM!



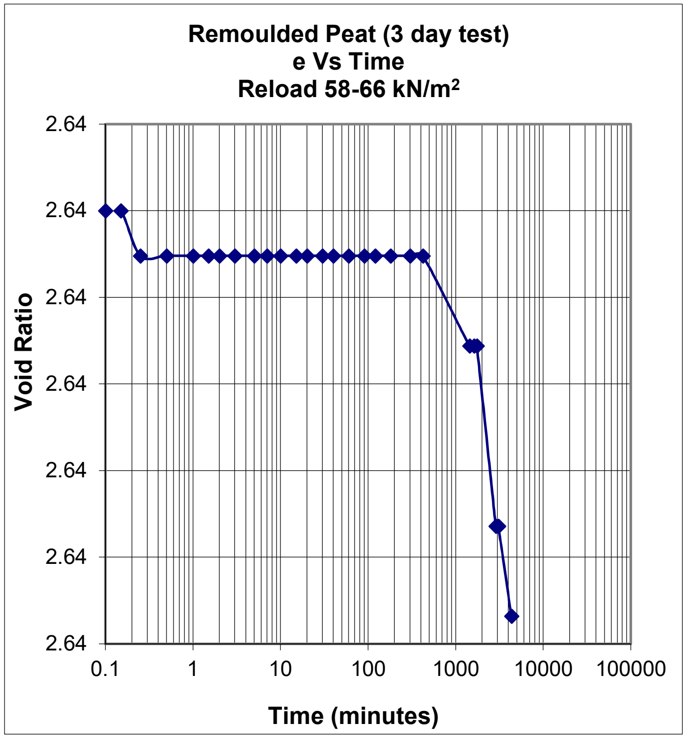
Sample – NBRO-Test A-1
Date-From 05/01/2015 to 05/04/2015
Conventional Consolidation
Load Increment 54kN/m² to 58kN/m²

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	29	0.08	5.88	5.4800	2.6452		
0.1	29	0.08	5.88	5.4800	2.6452		
0.15	29	0.08	5.88	5.4800	2.6452	0.0000	0.0000
0.25	29	0.08	5.88	5.4800	2.6452	0.0000	0.0000
0.5	29	0.08	5.88	5.4800	2.6452	0.0000	0.0000
1	29	0.08	5.88	5.4800	2.6452	0.0000	0.0000
1.5	29	0.08	5.88	5.4800	2.6452	0.0000	0.0000
2	29	0.08	5.88	5.4800	2.6452	0.0000	0.0000
3	29	0.08	5.88	5.4800	2.6452	0.0000	0.0000
5	29	0.08	5.88	5.4800	2.6452	0.0000	0.0000
7	29	0.08	5.88	5.4800	2.6452	0.0000	0.0000
10	29	0.08	5.88	5.4800	2.6452	0.0000	0.0000
15	29	0.08	5.88	5.4800	2.6452	0.0000	0.0000
20	29	0.08	5.88	5.4800	2.6452	0.0000	0.0000
30	29	0.08	5.88	5.4800	2.6452	0.0000	0.0000
40	29	0.08	5.88	5.4800	2.6452	0.0000	0.0000
60	29	0.08	5.88	5.4800	2.6452	0.0000	0.0000
90	29	0.08	5.88	5.4800	2.6452	0.0000	0.0000
120	29	0.08	5.88	5.4800	2.6452	0.0000	0.0000
180	29	0.08	5.88	5.4800	2.6452	0.0000	0.0000
300	29	0.08	5.88	5.4800	2.6452	0.0000	0.0007
420	29	0.081	5.881	5.4810	2.6449	0.0018	0.0031
1440	29	0.088	5.888	5.4880	2.6431	0.0034	0.0031
1620	29	0.088	5.888	5.4880	2.6431	0.0000	0.0000
1740	29	0.088	5.888	5.4880	2.6431	0.0000	0.0035
1920	29	0.089	5.889	5.4890	2.6429	0.0061	0.0048
2880	29	0.092	5.892	5.4920	2.6421	0.0044	0.0039
3060	29	0.092	5.892	5.4920	2.6421	0.0000	0.0089
4320	29	0.098	5.898	5.4980	2.6405	0.0104	#NUM!



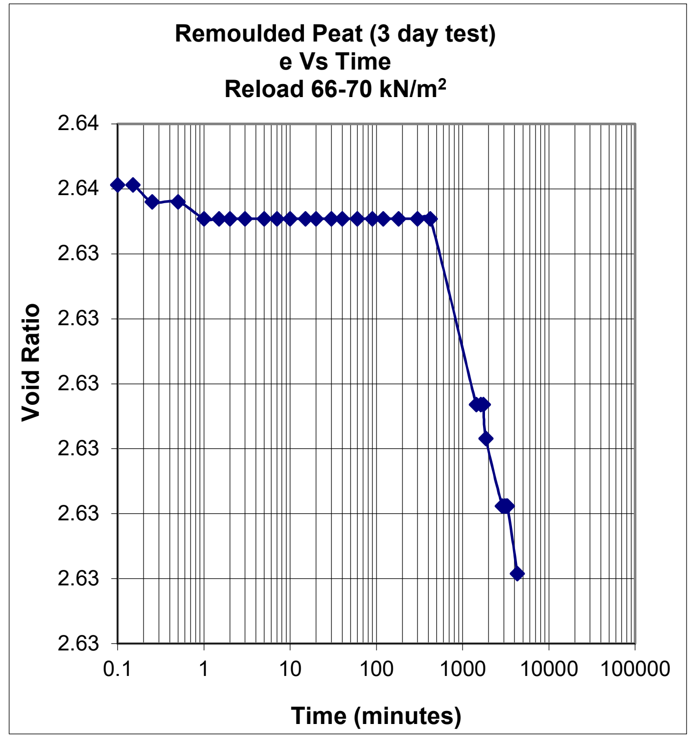
Sample – NBRO-Test A-1
Date-From 05/01/2015 to 05/04/2015
Conventional Consolidation
Load Increment 58kN/m² to 66kN/m²

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	29	0.098	5.898	5.4980	2.6405		
0.1	29	0.1	5.9	5.5000	2.6400		
0.15	29	0.1	5.9	5.5000	2.6400	0.0000	0.0013
0.25	29	0.102	5.902	5.5020	2.6395	0.0023	0.0010
0.5	29	0.102	5.902	5.5020	2.6395	0.0000	0.0000
1	29	0.102	5.902	5.5020	2.6395	0.0000	0.0000
1.5	29	0.102	5.902	5.5020	2.6395	0.0000	0.0000
2	29	0.102	5.902	5.5020	2.6395	0.0000	0.0000
3	29	0.102	5.902	5.5020	2.6395	0.0000	0.0000
5	29	0.102	5.902	5.5020	2.6395	0.0000	0.0000
7	29	0.102	5.902	5.5020	2.6395	0.0000	0.0000
10	29	0.102	5.902	5.5020	2.6395	0.0000	0.0000
15	29	0.102	5.902	5.5020	2.6395	0.0000	0.0000
20	29	0.102	5.902	5.5020	2.6395	0.0000	0.0000
30	29	0.102	5.902	5.5020	2.6395	0.0000	0.0000
40	29	0.102	5.902	5.5020	2.6395	0.0000	0.0000
60	29	0.102	5.902	5.5020	2.6395	0.0000	0.0000
90	29	0.102	5.902	5.5020	2.6395	0.0000	0.0000
120	29	0.102	5.902	5.5020	2.6395	0.0000	0.0000
180	29	0.102	5.902	5.5020	2.6395	0.0000	0.0000
300	29	0.102	5.902	5.5020	2.6395	0.0000	0.0000
420	29	0.102	5.902	5.5020	2.6395	0.0000	0.0015
1440	29	0.106	5.906	5.5060	2.6384	0.0019	0.0018
1620	29	0.106	5.906	5.5060	2.6384	0.0000	0.0000
1740	29	0.106	5.906	5.5060	2.6384	0.0000	0.0083
2880	29	0.114	5.914	5.5140	2.6364	0.0095	0.0085
3060	29	0.114	5.914	5.5140	2.6364	0.0000	0.0059
4320	29	0.118	5.918	5.5180	2.6353	0.0069	#NUM!



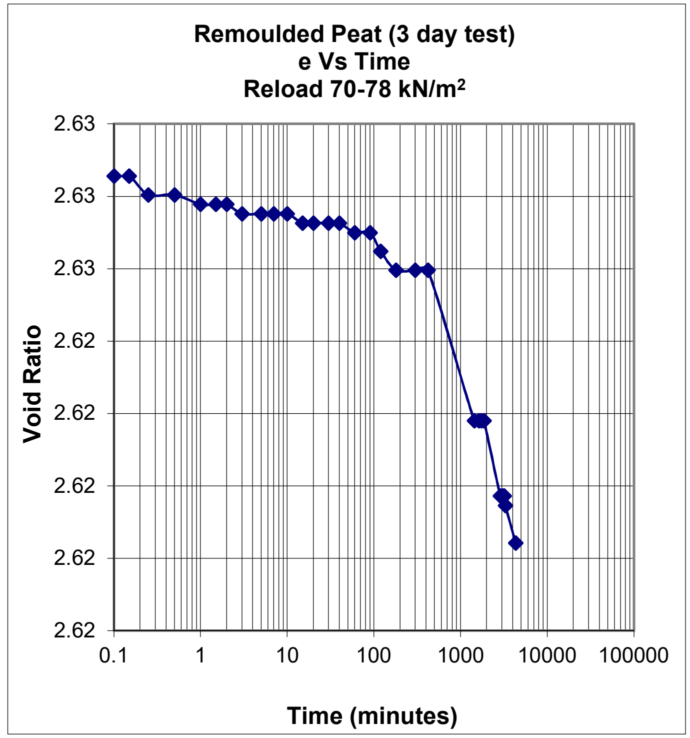
Sample – NBRO-Test A-1
Date-From 05/01/2015 to 05/04/2015
Conventional Consolidation
Load Increment 66kN/m^2 to 70kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	29	0.118	5.918	5.5180	2.6353		
0.1	29	0.119	5.919	5.5190	2.6351		
0.15	29	0.119	5.919	5.5190	2.6351	0.0000	0.0007
0.25	29	0.12	5.92	5.5200	2.6348	0.0012	0.0005
0.5	29	0.12	5.92	5.5200	2.6348	0.0000	0.0004
1	29	0.121	5.921	5.5210	2.6345	0.0009	0.0005
1.5	29	0.121	5.921	5.5210	2.6345	0.0000	0.0000
2	29	0.121	5.921	5.5210	2.6345	0.0000	0.0000
3	29	0.121	5.921	5.5210	2.6345	0.0000	0.0000
5	29	0.121	5.921	5.5210	2.6345	0.0000	0.0000
7	29	0.121	5.921	5.5210	2.6345	0.0000	0.0000
10	29	0.121	5.921	5.5210	2.6345	0.0000	0.0000
15	29	0.121	5.921	5.5210	2.6345	0.0000	0.0000
20	29	0.121	5.921	5.5210	2.6345	0.0000	0.0000
30	29	0.121	5.921	5.5210	2.6345	0.0000	0.0000
40	29	0.121	5.921	5.5210	2.6345	0.0000	0.0000
60	29	0.121	5.921	5.5210	2.6345	0.0000	0.0000
90	29	0.121	5.921	5.5210	2.6345	0.0000	0.0000
120	29	0.121	5.921	5.5210	2.6345	0.0000	0.0000
180	29	0.121	5.921	5.5210	2.6345	0.0000	0.0000
300	29	0.121	5.921	5.5210	2.6345	0.0000	0.0000
420	29	0.121	5.921	5.5210	2.6345	0.0000	0.0042
1440	29	0.132	5.932	5.5320	2.6317	0.0053	0.0049
1620	29	0.132	5.932	5.5320	2.6317	0.0000	0.0000
1740	29	0.132	5.932	5.5320	2.6317	0.0000	0.0087
1860	29	0.134	5.934	5.5340	2.6312	0.0180	0.0071
2880	29	0.138	5.938	5.5380	2.6301	0.0055	0.0048
3060	29	0.138	5.938	5.5380	2.6301	0.0000	0.0000
3180	29	0.138	5.938	5.5380	2.6301	0.0000	0.0000
3300	29	0.138	5.938	5.5380	2.6301	0.0000	0.0078
4320	29	0.142	5.942	5.5420	2.6291	0.0089	#NUM!



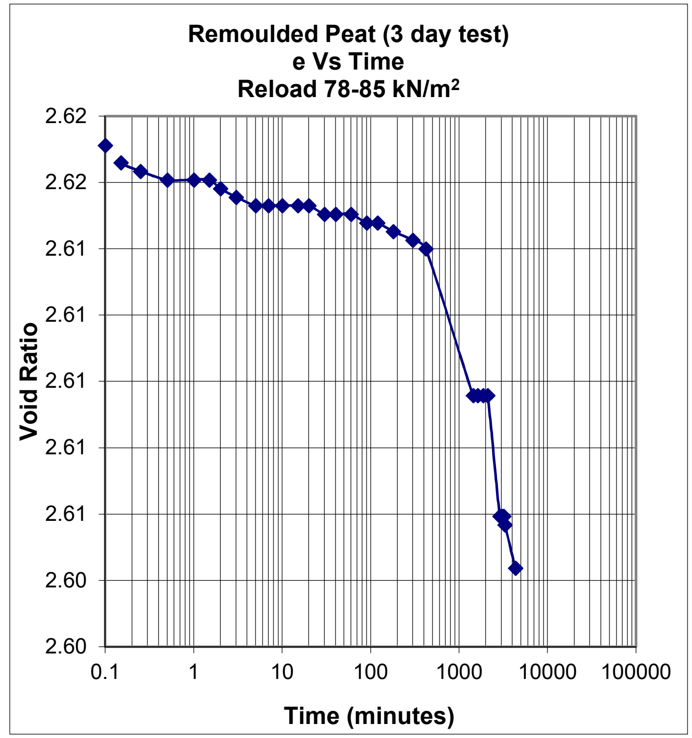
Sample – NBRO-Test A-1
Date-From 05/01/2015 to 05/04/2015
Conventional Consolidation
Load Increment 70kN/m^2 to 78kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	29	0.142	5.942	5.5420	2.6291		
0.1	29	0.144	5.944	5.5440	2.6286		
0.15	29	0.144	5.944	5.5440	2.6286	0.0000	0.0013
0.25	29	0.146	5.946	5.5460	2.6280	0.0023	0.0010
0.5	29	0.146	5.946	5.5460	2.6280	0.0000	0.0004
1	29	0.147	5.947	5.5470	2.6278	0.0009	0.0004
1.5	29	0.147	5.947	5.5470	2.6278	0.0000	0.0005
2	29	0.147	5.947	5.5470	2.6278	0.0000	0.0005
3	29	0.148	5.948	5.5480	2.6275	0.0015	0.0007
5	29	0.148	5.948	5.5480	2.6275	0.0000	0.0000
7	29	0.148	5.948	5.5480	2.6275	0.0000	0.0000
10	29	0.148	5.948	5.5480	2.6275	0.0000	0.0008
15	29	0.149	5.949	5.5490	2.6273	0.0015	0.0009
20	29	0.149	5.949	5.5490	2.6273	0.0000	0.0000
30	29	0.149	5.949	5.5490	2.6273	0.0000	0.0000
40	29	0.149	5.949	5.5490	2.6273	0.0000	0.0009
60	29	0.15	5.95	5.5500	2.6270	0.0015	0.0016
90	29	0.15	5.95	5.5500	2.6270	0.0000	0.0022
120	29	0.152	5.952	5.5520	2.6265	0.0017	0.0022
180	29	0.154	5.954	5.5540	2.6260	0.0030	0.0013
300	29	0.154	5.954	5.5540	2.6260	0.0000	0.0000
420	29	0.154	5.954	5.5540	2.6260	0.0000	0.0061
1440	29	0.17	5.97	5.5700	2.6218	0.0078	0.0071
1620	29	0.17	5.97	5.5700	2.6218	0.0000	0.0000
1740	29	0.17	5.97	5.5700	2.6218	0.0000	0.0000
1860	29	0.17	5.97	5.5700	2.6218	0.0000	0.0095
2880	29	0.178	5.978	5.5780	2.6197	0.0110	0.0096
3060	29	0.178	5.978	5.5780	2.6197	0.0000	0.0000
3180	29	0.178	5.978	5.5780	2.6197	0.0000	0.0079
3300	29	0.179	5.979	5.5790	2.6195	0.0162	0.0098
4320	29	0.183	5.983	5.5830	2.6184	0.0089	#NUM!



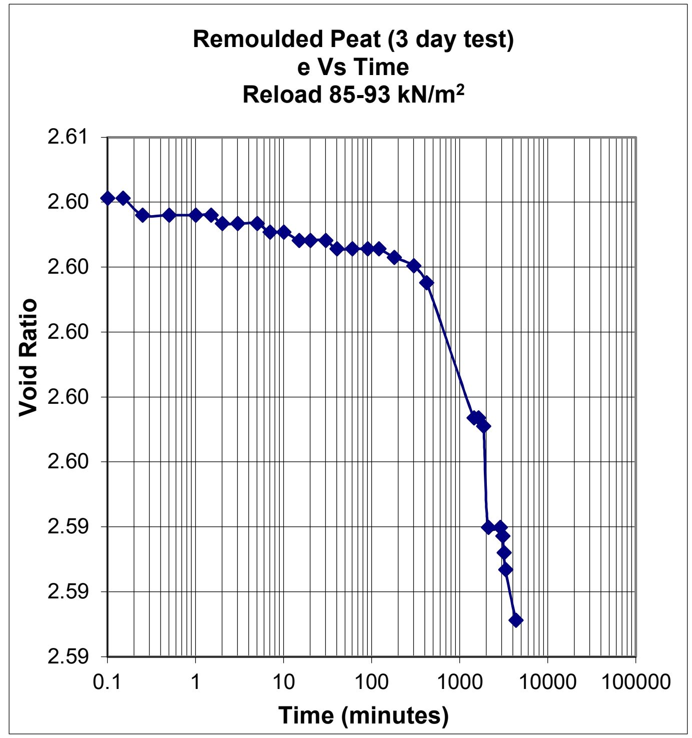
Sample – NBRO-Test A-1
Date-From 05/01/2015 to 05/04/2015
Conventional Consolidation
Load Increment 78kN/m^2 to 85kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	29	0.183	5.983	5.5830	2.6184		
0.1	29	0.188	5.988	5.5880	2.6171		
0.15	29	0.19	5.99	5.5900	2.6166	0.0030	0.0020
0.25	29	0.191	5.991	5.5910	2.6163	0.0012	0.0010
0.5	29	0.192	5.992	5.5920	2.6161	0.0009	0.0004
1	29	0.192	5.992	5.5920	2.6161	0.0000	0.0004
1.5	29	0.192	5.992	5.5920	2.6161	0.0000	0.0011
2	29	0.193	5.993	5.5930	2.6158	0.0009	0.0011
3	29	0.194	5.994	5.5940	2.6156	0.0015	0.0013
5	29	0.195	5.995	5.5950	2.6153	0.0012	0.0007
7	29	0.195	5.995	5.5950	2.6153	0.0000	0.0000
10	29	0.195	5.995	5.5950	2.6153	0.0000	0.0000
15	29	0.195	5.995	5.5950	2.6153	0.0000	0.0000
20	29	0.195	5.995	5.5950	2.6153	0.0000	0.0009
30	29	0.196	5.996	5.5960	2.6150	0.0015	0.0009
40	29	0.196	5.996	5.5960	2.6150	0.0000	0.0000
60	29	0.196	5.996	5.5960	2.6150	0.0000	0.0005
90	29	0.197	5.997	5.5970	2.6148	0.0015	0.0011
120	29	0.197	5.997	5.5970	2.6148	0.0009	0.0011
180	29	0.198	5.998	5.5980	2.6145	0.0015	0.0013
300	29	0.199	5.999	5.5990	2.6143	0.0012	0.0014
420	30	0	6	5.6000	2.6140	0.0018	0.0069
1440	30	0.017	6.017	5.6170	2.6096	0.0083	0.0075
1620	30	0.017	6.017	5.6170	2.6096	0.0000	0.0000
1860	30	0.017	6.017	5.6170	2.6096	0.0000	0.0000
2100	30	0.017	6.017	5.6170	2.6096	0.0000	0.0192
2880	30	0.031	6.031	5.6310	2.6059	0.0265	0.0223
3060	30	0.031	6.031	5.6310	2.6059	0.0000	0.0000
3180	30	0.031	6.031	5.6310	2.6059	0.0000	0.0079
3300	30	0.032	6.032	5.6320	2.6057	0.0162	0.0117
4320	30	0.037	6.037	5.6370	2.6044	0.0111	#NUM!



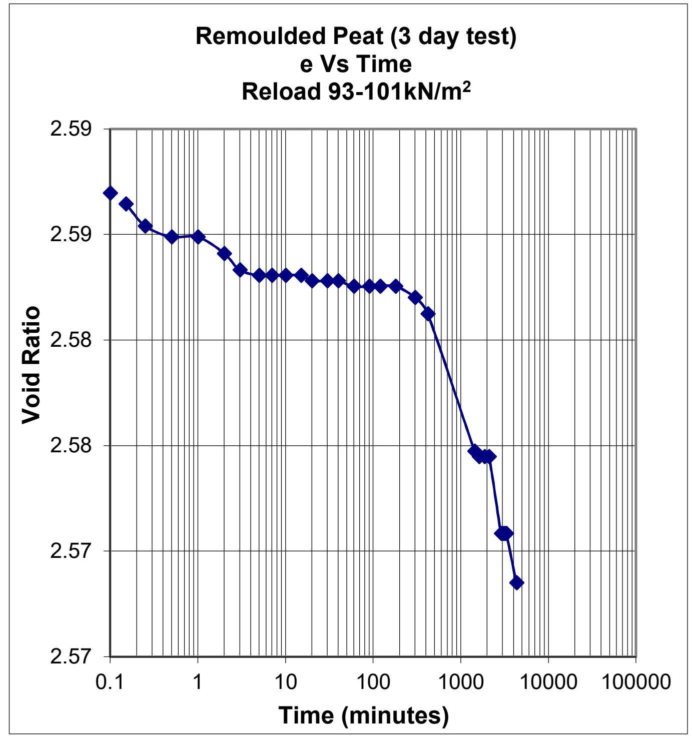
Sample – NBRO-Test A-1
Date-From 05/01/2015 to 05/04/2015
Conventional Consolidation
Load Increment 85kN/m^2 to 93kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	30	0.037	6.037	5.6370	2.6044		
0.1	30	0.038	6.038	5.6380	2.6041		
0.15	30	0.038	6.038	5.6380	2.6041	0.0000	0.0013
0.25	30	0.04	6.04	5.6400	2.6036	0.0023	0.0010
0.5	30	0.04	6.04	5.6400	2.6036	0.0000	0.0000
1	30	0.04	6.04	5.6400	2.6036	0.0000	0.0004
1.5	30	0.04	6.04	5.6400	2.6036	0.0000	0.0005
2	30	0.041	6.041	5.6410	2.6033	0.0009	0.0005
3	30	0.041	6.041	5.6410	2.6033	0.0000	0.0000
5	30	0.041	6.041	5.6410	2.6033	0.0000	0.0007
7	30	0.042	6.042	5.6420	2.6031	0.0018	0.0009
10	30	0.042	6.042	5.6420	2.6031	0.0000	0.0008
15	30	0.043	6.043	5.6430	2.6028	0.0015	0.0009
20	30	0.043	6.043	5.6430	2.6028	0.0000	0.0000
30	30	0.043	6.043	5.6430	2.6028	0.0000	0.0009
40	30	0.044	6.044	5.6440	2.6026	0.0021	0.0009
60	30	0.044	6.044	5.6440	2.6026	0.0000	0.0000
90	30	0.044	6.044	5.6440	2.6026	0.0000	0.0005
120	30	0.044	6.044	5.6440	2.6026	0.0000	0.0005
180	30	0.045	6.045	5.6450	2.6023	0.0015	0.0013
300	30	0.046	6.046	5.6460	2.6020	0.0012	0.0021
420	30	0.048	6.048	5.6480	2.6015	0.0036	0.0069
1440	30	0.064	6.064	5.6640	2.5974	0.0078	0.0071
1620	30	0.064	6.064	5.6640	2.5974	0.0000	0.0023
1860	30	0.065	6.065	5.6650	2.5971	0.0043	0.0300
2100	30	0.066	6.077	5.6770	2.5940	0.0592	0.0164
2880	30	0.077	6.077	5.6770	2.5940	0.0000	0.0016
3060	30	0.078	6.078	5.6780	2.5937	0.0099	0.0181
3180	30	0.08	6.08	5.6800	2.5932	0.0311	0.0317
3300	30	0.082	6.082	5.6820	2.5927	0.0323	0.0156
4320	30	0.088	6.088	5.6880	2.5911	0.0133	#NUM!



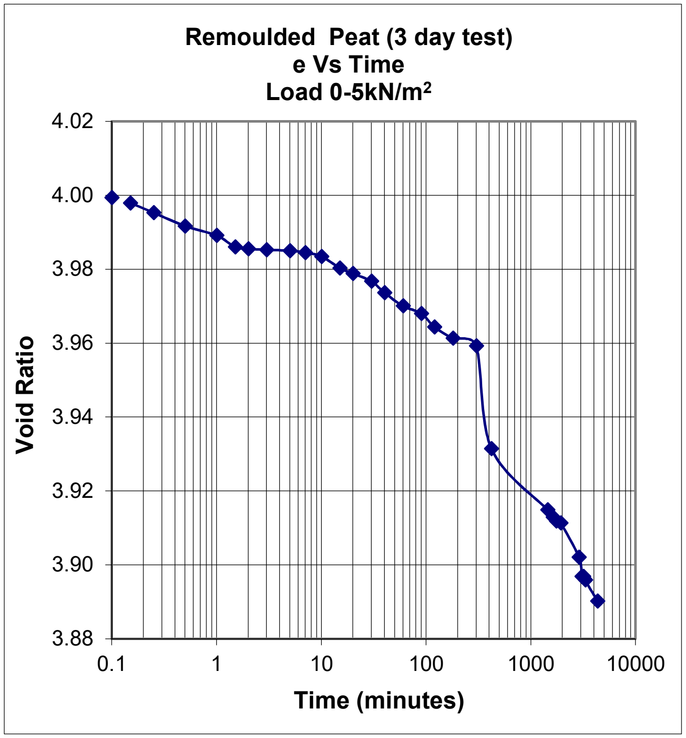
Sample – NBRO-Test A-1
Date-From 05/01/2015 to 05/04/2015
Conventional Consolidation
Load Increment 93kN/m^2 to 101kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	30	0.088	6.088	5.6880	2.5911		
0.1	30	0.104	6.104	5.7040	2.5870		
0.15	30	0.106	6.106	5.7060	2.5864	0.0030	0.0039
0.25	30	0.11	6.11	5.7100	2.5854	0.0047	0.0030
0.5	30	0.112	6.112	5.7120	2.5849	0.0017	0.0009
1	30	0.112	6.112	5.7120	2.5849	0.0000	0.0020
2	30	0.115	6.115	5.7150	2.5841	0.0026	0.0026
3	30	0.118	6.118	5.7180	2.5833	0.0033	0.0026
5	30	0.119	6.119	5.7190	2.5831	0.0012	0.0007
7	30	0.119	6.119	5.7190	2.5831	0.0000	0.0000
10	30	0.119	6.119	5.7190	2.5831	0.0000	0.0000
15	30	0.119	6.119	5.7190	2.5831	0.0000	0.0009
20	30	0.12	6.12	5.7200	2.5828	0.0021	0.0009
30	30	0.12	6.12	5.7200	2.5828	0.0000	0.0000
40	30	0.12	6.12	5.7200	2.5828	0.0000	0.0009
60	30	0.121	6.121	5.7210	2.5825	0.0015	0.0007
90	30	0.121	6.121	5.7210	2.5825	0.0000	0.0000
120	30	0.121	6.121	5.7210	2.5825	0.0000	0.0010
180	30	0.121	6.121	5.7210	2.5825	0.0000	0.0010
300	30	0.123	6.123	5.7230	2.5820	0.0023	0.0035
420	30	0.126	6.126	5.7260	2.5812	0.0053	0.0107
1440	30	0.151	6.151	5.7510	2.5747	0.0121	0.0115
1620	30	0.152	6.152	5.7520	2.5745	0.0051	0.0023
1860	30	0.152	6.152	5.7520	2.5745	0.0000	0.0000
2100	30	0.152	6.152	5.7520	2.5745	0.0000	0.0192
2880	30	0.166	6.166	5.7660	2.5708	0.0265	0.0223
3060	30	0.166	6.166	5.7660	2.5708	0.0000	0.0000
3180	30	0.166	6.166	5.7660	2.5708	0.0000	0.0000
3300	30	0.166	6.166	5.7660	2.5708	0.0000	0.0176
4320	30	0.175	6.175	5.7750	2.5685	0.0200	#NUM!



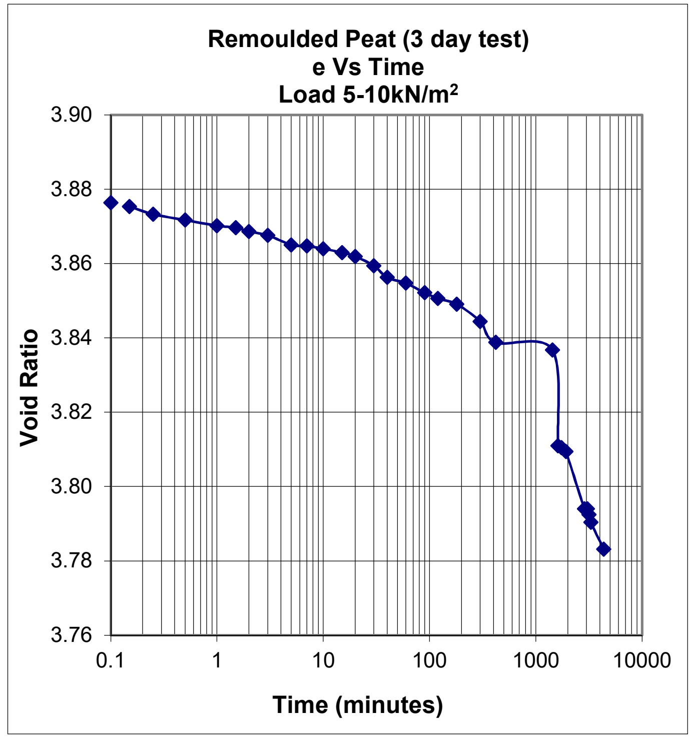
Sample – NBRO-Test C
Date-From 22/01/2015 to 01/03/2015
Conventional Consolidation
Load Increment 0kN/m^2 to 5kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	2	0	0.4	0.0000	4.0200		
0.1	2	0.08	0.48	0.0800	3.9994		
0.15	2	0.086	0.486	0.0860	3.9979	0.0088	0.0104
0.25	2	0.096	0.496	0.0960	3.9953	0.0116	0.0118
0.5	2	0.11	0.51	0.1100	3.9917	0.0120	0.0103
1	2	0.12	0.52	0.1200	3.9891	0.0086	0.0119
1.5	2	0.132	0.532	0.1320	3.9860	0.0175	0.0120
2	2	0.134	0.534	0.1340	3.9855	0.0041	0.0026
3	2	0.135	0.535	0.1350	3.9852	0.0015	0.0013
5	2	0.136	0.536	0.1360	3.9850	0.0012	0.0021
7	2	0.138	0.538	0.1380	3.9845	0.0035	0.0051
10	2	0.142	0.542	0.1420	3.9834	0.0066	0.0124
15	2	0.154	0.554	0.1540	3.9804	0.0175	0.0154
20	2	0.16	0.56	0.1600	3.9788	0.0124	0.0120
30	2	0.168	0.568	0.1680	3.9768	0.0117	0.0171
40	2	0.18	0.58	0.1800	3.9737	0.0247	0.0222
60	2	0.194	0.594	0.1940	3.9701	0.0205	0.0161
90	3	0.002	0.602	0.2020	3.9680	0.0117	0.0188
120	3	0.016	0.616	0.2160	3.9644	0.0288	0.0222
180	3	0.028	0.628	0.2280	3.9613	0.0175	0.0129
300	3	0.036	0.636	0.2360	3.9592	0.0093	0.0812
420	3	0.144	0.744	0.3440	3.9314	0.1903	0.0650
1440	4	0.008	0.808	0.4080	3.9150	0.0308	0.0316
1620	4	0.016	0.816	0.4160	3.9129	0.0403	0.0376
1740	4	0.02	0.82	0.4200	3.9119	0.0332	0.0209
1920	4	0.022	0.822	0.4220	3.9114	0.0120	0.0447
2880	4	0.058	0.858	0.4580	3.9021	0.0526	0.0712
3060	4	0.078	0.878	0.4780	3.8969	0.1956	0.1196
3180	4	0.078	0.878	0.4780	3.8969	0.0000	0.0314
3300	4	0.082	0.882	0.4820	3.8959	0.0640	0.0503
4320	4	0.104	0.904	0.5040	3.8903	0.0484	#NUM!



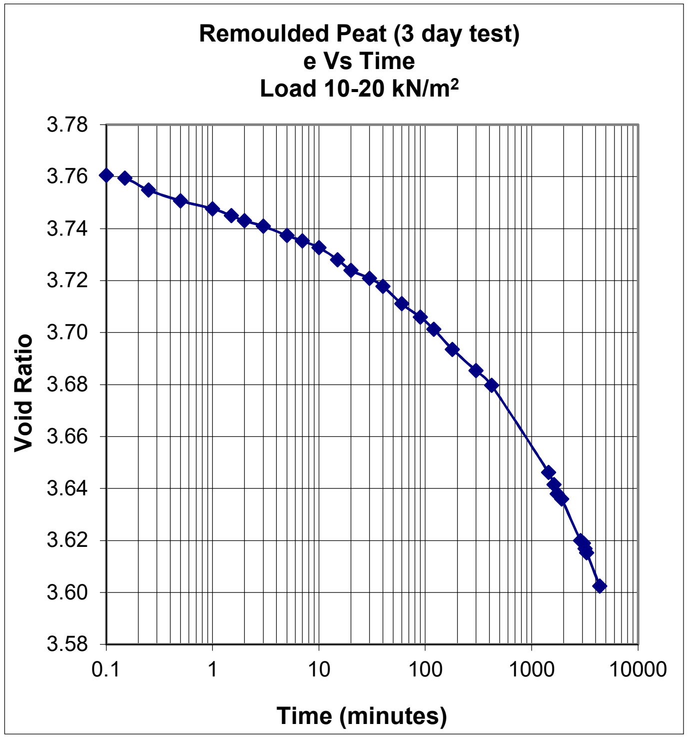
Sample – NBRO-Test C
Date-From 22/01/2015 to 01/03/2015
Conventional Consolidation
Load Increment 5kN/m^2 to 10kN/m^2

Elapsed Time /(min	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	4	0.104	0.904	0.5040	3.8903		
0.1	4	0.158	0.958	0.5580	3.8764		
0.15	4	0.162	0.962	0.5620	3.8753	0.0058	0.0078
0.25	4	0.17	0.97	0.5700	3.8733	0.0093	0.0069
0.5	4	0.176	0.976	0.5760	3.8717	0.0051	0.0051
1	4	0.182	0.982	0.5820	3.8702	0.0051	0.0043
1.5	4	0.184	0.984	0.5840	3.8697	0.0029	0.0051
2	4	0.188	0.988	0.5880	3.8686	0.0082	0.0068
3	4	0.192	0.992	0.5920	3.8676	0.0058	0.0091
5	5	0.002	1.002	0.6020	3.8650	0.0116	0.0077
7	5	0.003	1.003	0.6030	3.8648	0.0018	0.0034
10	5	0.006	1.006	0.6060	3.8640	0.0050	0.0054
15	5	0.01	1.01	0.6100	3.8630	0.0058	0.0068
20	5	0.014	1.014	0.6140	3.8619	0.0082	0.0120
30	5	0.024	1.024	0.6240	3.8594	0.0146	0.0188
40	5	0.036	1.036	0.6360	3.8563	0.0247	0.0154
60	5	0.042	1.042	0.6420	3.8547	0.0088	0.0117
90	5	0.052	1.052	0.6520	3.8522	0.0146	0.0137
120	5	0.058	1.058	0.6580	3.8506	0.0124	0.0103
180	5	0.064	1.064	0.6640	3.8491	0.0088	0.0155
300	5	0.082	1.082	0.6820	3.8444	0.0209	0.0280
420	5	0.104	1.104	0.7040	3.8388	0.0388	0.0113
1440	5	0.112	1.112	0.7120	3.8367	0.0038	0.0474
1620	6	0.012	1.212	0.8120	3.8110	0.5033	0.3195
1740	6	0.014	1.214	0.8140	3.8104	0.0166	0.0209
1920	6	0.018	1.218	0.8180	3.8094	0.0241	0.0753
2880	6	0.078	1.278	0.8780	3.7940	0.0877	0.0763
3060	6	0.078	1.278	0.8780	3.7940	0.0000	0.0359
3180	6	0.084	1.284	0.8840	3.7924	0.0925	0.1099
3300	6	0.092	1.292	0.8920	3.7904	0.1280	0.0671
4370	6	0.12	1.32	0.9200	3.7832	0.0591	#NUM!



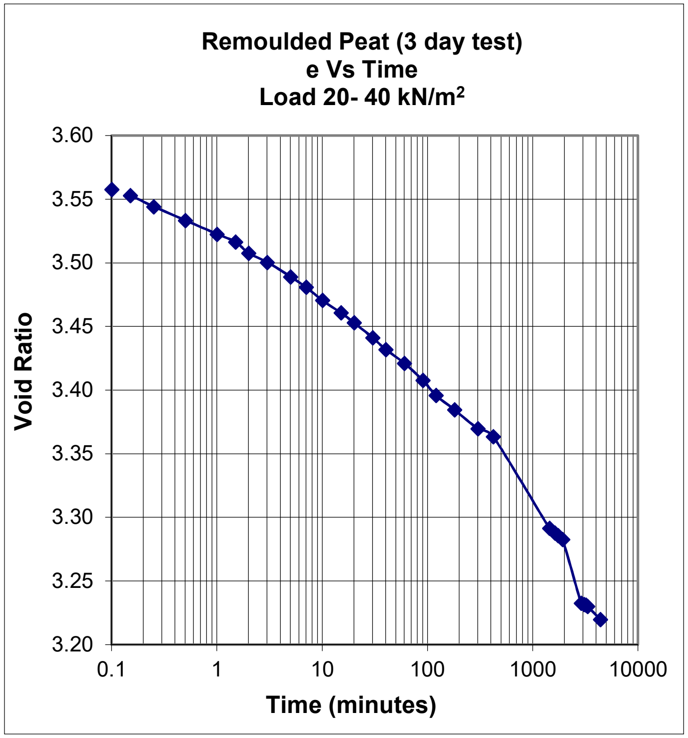
Sample – NBRO-Test C
Date-From 22/01/2015 to 01/03/2015
Conventional Consolidation
Load Increment 10kN/m² to 20kN/m²

Elapsed Time /(min	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	6	0.12	1.32	0.92	3.7832		
0.1	7	0.008	1.408	1.008	3.7605		
0.15	7	0.012	1.412	1.012	3.7595	0.006	0.014
0.25	7	0.03	1.43	1.03	3.7548	0.021	0.017
0.5	7	0.046	1.446	1.046	3.7507	0.014	0.012
1	7	0.058	1.458	1.058	3.7476	0.010	0.012
1.5	7	0.068	1.468	1.068	3.7451	0.015	0.015
2	7	0.076	1.476	1.076	3.7430	0.016	0.014
3	7	0.084	1.484	1.084	3.7409	0.012	0.014
5	7	0.098	1.498	1.098	3.7373	0.016	0.015
7	7	0.106	1.506	1.106	3.7353	0.014	0.015
10	7	0.116	1.516	1.116	3.7327	0.017	0.022
15	7	0.134	1.534	1.134	3.7281	0.026	0.029
20	7	0.15	1.55	1.15	3.7239	0.033	0.024
30	7	0.162	1.562	1.162	3.7209	0.018	0.021
40	7	0.174	1.574	1.174	3.7178	0.025	0.032
60	8	0	1.6	1.2	3.7111	0.038	0.034
90	8	0.02	1.62	1.22	3.7059	0.029	0.032
120	8	0.038	1.638	1.238	3.7013	0.037	0.041
180	8	0.068	1.668	1.268	3.6936	0.044	0.040
300	8	0.1	1.7	1.3	3.6853	0.037	0.038
420	8	0.122	1.722	1.322	3.6797	0.039	0.057
1440	9	0.052	1.852	1.452	3.6462	0.063	0.065
1620	9	0.07	1.87	1.47	3.6416	0.091	0.100
1740	9	0.084	1.884	1.484	3.6380	0.116	0.077
1920	9	0.092	1.892	1.492	3.6359	0.048	0.082
2880	9	0.154	1.954	1.554	3.6199	0.091	0.084
3060	9	0.158	1.958	1.558	3.6189	0.039	0.072
3180	9	0.166	1.966	1.566	3.6169	0.123	0.110
3300	9	0.172	1.972	1.572	3.6153	0.096	0.104
4370	10	0.022	2.022	1.622	3.6024	0.106	#NUM!



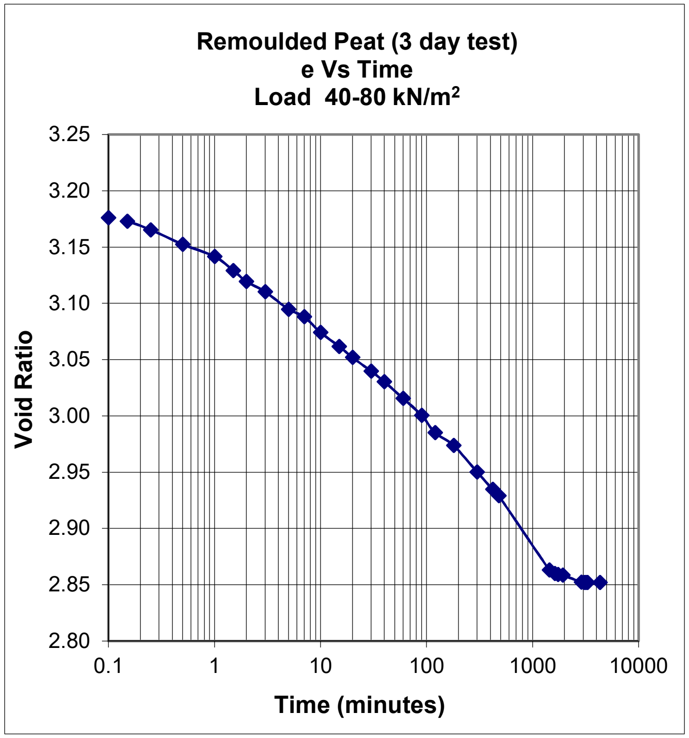
Sample – NBRO-Test C
Date-From 22/01/2015 to 01/03/2015
Conventional Consolidation
Load Increment 20kN/m^2 to 40kN/m^2

Elapsed Time /(min	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	10	0.022	2.022	1.6220	3.6024		
0.1	10	0.196	2.196	1.7960	3.5576		
0.15	11	0.014	2.214	1.8140	3.5530	0.0263	0.0336
0.25	11	0.048	2.248	1.8480	3.5443	0.0395	0.0374
0.5	11	0.09	2.29	1.8900	3.5334	0.0359	0.0359
1	11	0.132	2.332	1.9320	3.5226	0.0359	0.0356
1.5	11	0.156	2.356	1.9560	3.5165	0.0351	0.0496
2	11	0.19	2.39	1.9900	3.5077	0.0701	0.0530
3	12	0.018	2.418	2.0180	3.5005	0.0409	0.0466
5	12	0.062	2.462	2.0620	3.4892	0.0511	0.0532
7	12	0.094	2.494	2.0940	3.4809	0.0564	0.0616
10	12	0.134	2.534	2.1340	3.4706	0.0665	0.0607
15	12	0.172	2.572	2.1720	3.4608	0.0556	0.0582
20	13	0.002	2.602	2.2020	3.4531	0.0618	0.0650
30	13	0.048	2.648	2.2480	3.4413	0.0672	0.0701
40	13	0.084	2.684	2.2840	3.4320	0.0742	0.0667
60	13	0.126	2.726	2.3260	3.4212	0.0614	0.0687
90	13	0.178	2.778	2.3780	3.4078	0.0760	0.0838
120	14	0.024	2.824	2.4240	3.3960	0.0948	0.0770
180	14	0.068	2.868	2.4680	3.3846	0.0643	0.0660
300	14	0.126	2.926	2.5260	3.3697	0.0673	0.0574
420	14	0.15	2.95	2.5500	3.3635	0.0423	0.1149
1440	16	0.03	3.23	2.8300	3.2915	0.1347	0.1291
1620	16	0.044	3.244	2.8440	3.2879	0.0705	0.0689
1740	16	0.052	3.252	2.8520	3.2858	0.0664	0.0698
1920	16	0.064	3.264	2.8640	3.2827	0.0723	0.2423
2880	17	0.058	3.458	3.0580	3.2328	0.2836	0.2518
3060	17	0.062	3.462	3.0620	3.2317	0.0391	0.0359
3180	17	0.064	3.464	3.0640	3.2312	0.0308	0.0471
3300	17	0.068	3.468	3.0680	3.2302	0.0640	0.0820
4370	17	0.108	3.508	3.1080	3.2199	0.0844	#NUM!



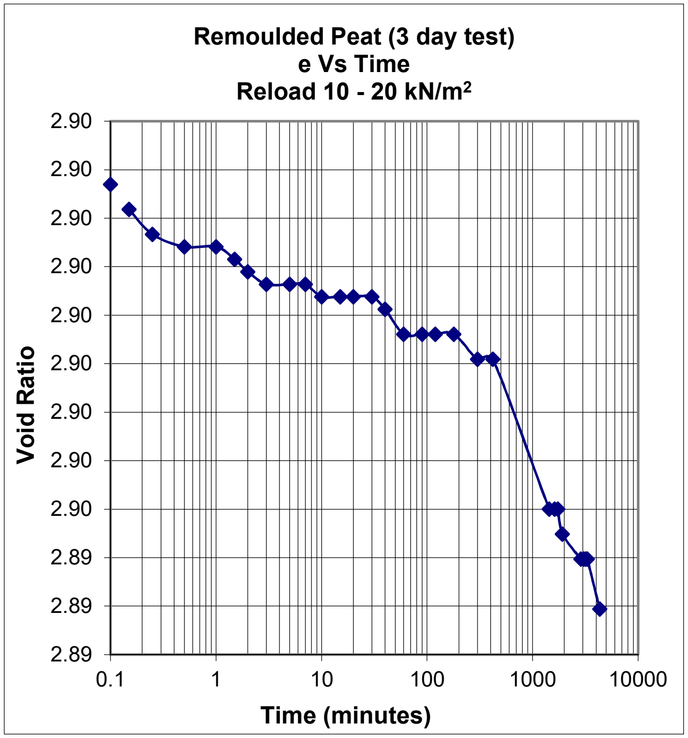
Sample – NBRO-Test C
Date-From 22/01/2015 to 01/03/2015
Conventional Consolidation
Load Increment 40kN/m^2 to 80kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	17	0.108	3.508	3.1080	3.2199		
0.1	18	0.078	3.678	3.2780	3.1761		
0.15	18	0.09	3.69	3.2900	3.1730	0.0175	0.0272
0.25	18	0.12	3.72	3.3200	3.1653	0.0348	0.0394
0.5	18	0.17	3.77	3.3700	3.1524	0.0428	0.0393
1	19	0.012	3.812	3.4120	3.1416	0.0359	0.0486
1.5	19	0.06	3.86	3.4600	3.1293	0.0702	0.0735
2	19	0.098	3.898	3.4980	3.1195	0.0783	0.0633
3	19	0.134	3.934	3.5340	3.1102	0.0526	0.0621
5	19	0.194	3.994	3.5940	3.0948	0.0696	0.0602
7	20	0.02	4.02	3.6200	3.0881	0.0458	0.0684
10	20	0.074	4.074	3.6740	3.0742	0.0897	0.0793
15	20	0.122	4.122	3.7220	3.0618	0.0702	0.0735
20	20	0.16	4.16	3.7600	3.0520	0.0783	0.0735
30	21	0.008	4.208	3.8080	3.0397	0.0702	0.0718
40	21	0.044	4.244	3.8440	3.0304	0.0742	0.0804
60	21	0.102	4.302	3.9020	3.0155	0.0848	0.0848
90	21	0.16	4.36	3.9600	3.0006	0.0848	0.1009
120	22	0.02	4.42	4.0200	2.9851	0.1236	0.0889
180	22	0.064	4.464	4.0640	2.9738	0.0643	0.0880
300	22	0.156	4.556	4.1560	2.9501	0.1068	0.1063
420	23	0.016	4.616	4.2160	2.9347	0.1057	0.1034
480	23	0.038	4.638	4.2380	2.9290	0.0977	0.1337
1440	24	0.094	4.894	4.4940	2.8631	0.1381	0.1306
1620	24	0.106	4.906	4.5060	2.8600	0.0604	0.0501
1740	24	0.11	4.91	4.5100	2.8590	0.0332	0.0209
1920	24	0.112	4.912	4.5120	2.8584	0.0120	0.0306
2880	24	0.136	4.936	4.5360	2.8523	0.0351	0.0318
3060	24	0.137	4.937	4.5370	2.8520	0.0098	0.0060
3180	24	0.137	4.937	4.5370	2.8520	0.0000	0.0000
3300	24	0.137	4.937	4.5370	2.8520	0.0000	0.0000
4320	24	0.137	4.937	4.5370	2.8520	0.0000	#NUM!



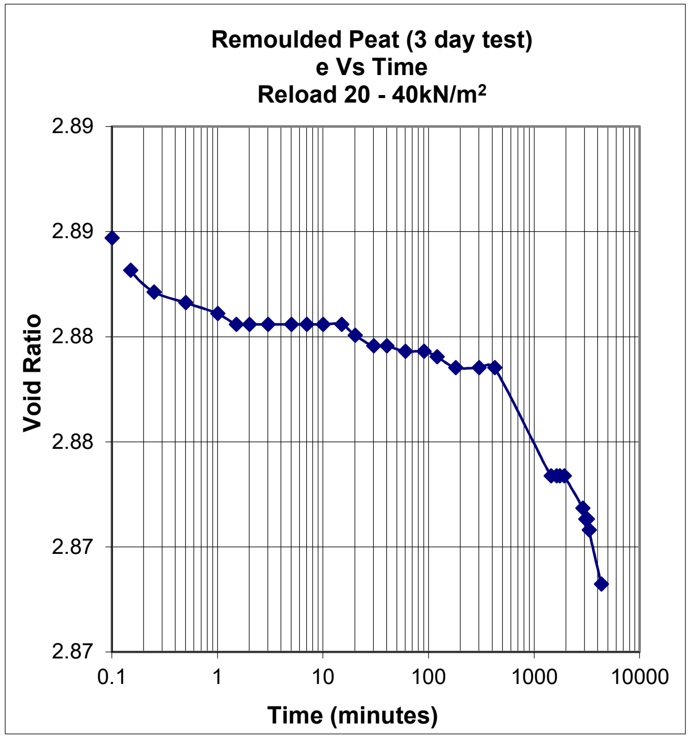
Sample – NBRO-Test C
Date-From 22/01/2015 to 01/03/2015
Conventional Consolidation
Load Increment 10kN/m² to 20kN/m²

Elapsed Time /(min	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	23	0.142	4.742	4.3420	2.9022		
0.1	23	0.144	4.744	4.3440	2.9017		
0.15	23	0.146	4.746	4.3460	2.9012	0.0029	0.0026
0.25	23	0.148	4.748	4.3480	2.9007	0.0023	0.0015
0.5	23	0.149	4.749	4.3490	2.9004	0.0009	0.0004
1	23	0.149	4.749	4.3490	2.9004	0.0000	0.0005
1.5	23	0.15	4.75	4.3500	2.9002	0.0015	0.0017
2	23	0.151	4.751	4.3510	2.8999	0.0021	0.0017
3	23	0.152	4.752	4.3520	2.8996	0.0015	0.0006
5	23	0.152	4.752	4.3520	2.8996	0.0000	0.0000
7	23	0.152	4.752	4.3520	2.8996	0.0000	0.0009
10	23	0.153	4.753	4.3530	2.8994	0.0017	0.0008
15	23	0.153	4.753	4.3530	2.8994	0.0000	0.0000
20	23	0.153	4.753	4.3530	2.8994	0.0000	0.0000
30	23	0.153	4.753	4.3530	2.8994	0.0000	0.0009
40	23	0.154	4.754	4.3540	2.8991	0.0021	0.0026
60	23	0.156	4.756	4.3560	2.8986	0.0029	0.0015
90	23	0.156	4.756	4.3560	2.8986	0.0000	0.0000
120	23	0.156	4.756	4.3560	2.8986	0.0000	0.0000
180	23	0.156	4.756	4.3560	2.8986	0.0000	0.0013
300	23	0.158	4.758	4.3580	2.8981	0.0023	0.0014
420	23	0.158	4.758	4.3580	2.8981	0.0000	0.0045
1440	23	0.17	4.77	4.3700	2.8950	0.0058	0.0053
1620	23	0.17	4.77	4.3700	2.8950	0.0000	0.0000
1740	23	0.17	4.77	4.3700	2.8950	0.0000	0.0070
1920	23	0.172	4.772	4.3720	2.8945	0.0120	0.0047
2880	23	0.174	4.774	4.3740	2.8940	0.0029	0.0025
3060	23	0.174	4.774	4.3740	2.8940	0.0000	0.0000
3180	23	0.174	4.774	4.3740	2.8940	0.0000	0.0000
3300	23	0.174	4.774	4.3740	2.8940	0.0000	0.0077
4320	23	0.178	4.778	4.3780	2.8929	0.0088	#NUM!



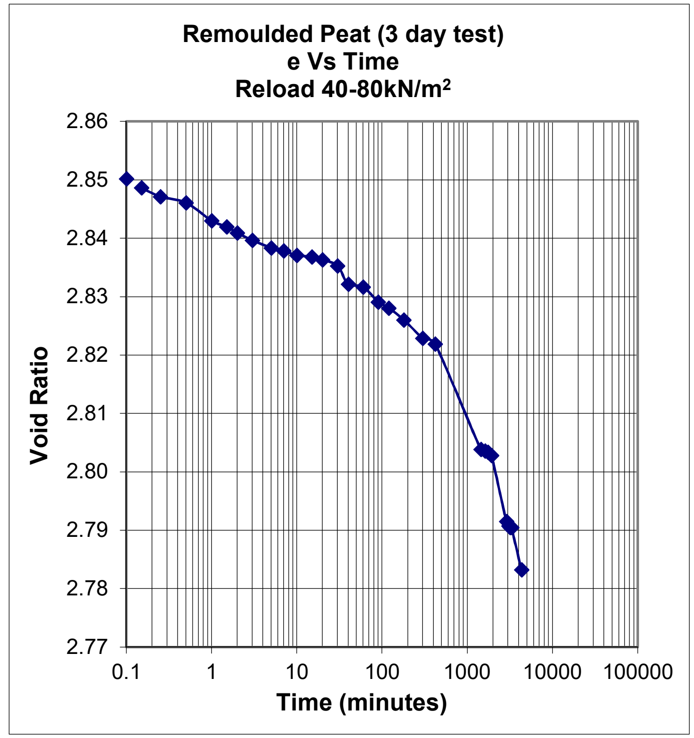
Sample – NBRO-Test C
Date-From 22/01/2015 to 01/03/2015
Conventional Consolidation
Load Increment 20kN/m^2 to 40kN/m^2

Elapsed Time /(min	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	24	0.178	4.978	4.5780	2.8415		
0.1	24	0.01	4.81	4.4100	2.8847		
0.15	24	0.016	4.816	4.4160	2.8832	0.0088	0.0065
0.25	24	0.02	4.82	4.4200	2.8821	0.0046	0.0030
0.5	24	0.022	4.822	4.4220	2.8816	0.0017	0.0017
1	24	0.024	4.824	4.4240	2.8811	0.0017	0.0022
1.5	24	0.026	4.826	4.4260	2.8806	0.0029	0.0017
2	24	0.026	4.826	4.4260	2.8806	0.0017	0.0000
3	24	0.026	4.826	4.4260	2.8806	0.0000	0.0000
5	24	0.026	4.826	4.4260	2.8806	0.0000	0.0000
7	24	0.026	4.826	4.4260	2.8806	0.0000	0.0000
10	24	0.026	4.826	4.4260	2.8806	0.0000	0.0000
15	24	0.026	4.826	4.4260	2.8806	0.0000	0.0017
20	24	0.028	4.828	4.4280	2.8801	0.0041	0.0034
30	24	0.03	4.83	4.4300	2.8796	0.0029	0.0017
40	24	0.03	4.83	4.4300	2.8796	0.0000	0.0009
60	24	0.031	4.831	4.4310	2.8793	0.0015	0.0009
90	24	0.031	4.831	4.4310	2.8793	0.0000	0.0009
120	24	0.032	4.832	4.4320	2.8790	0.0009	0.0026
180	24	0.034	4.834	4.4340	2.8785	0.0029	0.0013
300	24	0.034	4.834	4.4340	2.8785	0.0000	0.0000
420	24	0.034	4.834	4.4340	2.8785	0.0000	0.0076
1440	24	0.054	4.854	4.4540	2.8734	0.0096	0.0088
1620	24	0.054	4.854	4.4540	2.8734	0.0000	0.0000
1740	24	0.054	4.854	4.4540	2.8734	0.0000	0.0000
1920	24	0.054	4.854	4.4540	2.8734	0.0000	0.0071
2880	24	0.06	4.86	4.4600	2.8718	0.0088	0.0102
3060	24	0.062	4.862	4.4620	2.8713	0.0196	0.0120
3180	24	0.062	4.862	4.4620	2.8713	0.0000	0.0157
3300	24	0.064	4.864	4.4640	2.8708	0.0320	0.0232
4320	24	0.074	4.874	4.4740	2.8682	0.0220	#NUM!



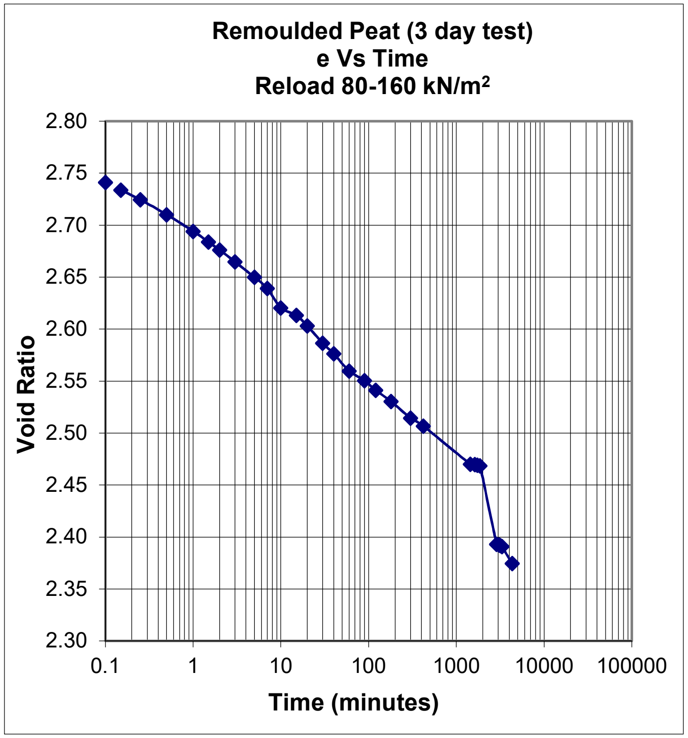
Sample – NBRO-Test C
Date-From 22/01/2015 to 01/03/2015
Conventional Consolidation
Load Increment 40kN/m^2 to 80kN/m^2

Elapsed Time /(min	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	24	0.074	4.874	4.4740	2.8682		
0.1	24	0.144	4.944	4.5440	2.8502		
0.15	24	0.15	4.95	4.5500	2.8487	0.0088	0.0078
0.25	24	0.156	4.956	4.5560	2.8471	0.0070	0.0049
0.5	24	0.16	4.96	4.5600	2.8461	0.0034	0.0068
1	24	0.172	4.972	4.5720	2.8430	0.0103	0.0086
1.5	24	0.176	4.976	4.5760	2.8420	0.0058	0.0070
2	24	0.18	4.98	4.5800	2.8409	0.0068	0.0070
3	24	0.185	4.985	4.5850	2.8397	0.0073	0.0065
5	24	0.19	4.99	4.5900	2.8384	0.0058	0.0049
7	24	0.192	4.992	4.5920	2.8379	0.0035	0.0043
10	24	0.195	4.995	4.5950	2.8371	0.0050	0.0031
15	24	0.196	4.996	4.5960	2.8368	0.0015	0.0026
20	24	0.198	4.998	4.5980	2.8363	0.0041	0.0051
30	25	0.002	5.002	4.6020	2.8353	0.0058	0.0137
40	25	0.014	5.014	4.6140	2.8322	0.0247	0.0120
60	25	0.016	5.016	4.6160	2.8317	0.0029	0.0086
90	25	0.026	5.026	4.6260	2.8291	0.0146	0.0119
120	25	0.03	5.03	4.6300	2.8281	0.0120	0.0119
180	25	0.038	5.038	4.6380	2.8260	0.0117	0.0129
300	25	0.05	5.05	4.6500	2.8229	0.0139	0.0112
420	25	0.054	5.054	4.6540	2.8219	0.0070	0.0280
1440	25	0.124	5.124	4.7240	2.8039	0.0337	0.0312
1620	25	0.125	5.125	4.7250	2.8036	0.0050	0.0063
1740	25	0.126	5.126	4.7260	2.8034	0.0083	0.0105
1920	25	0.128	5.128	4.7280	2.8028	0.0120	0.0541
2880	25	0.172	5.172	4.7720	2.7915	0.0643	0.0598
3060	25	0.175	5.175	4.7750	2.7907	0.0293	0.0239
3180	25	0.176	5.176	4.7760	2.7905	0.0154	0.0079
3300	25	0.176	5.176	4.7760	2.7905	0.0000	0.0542
4320	26	0.004	5.204	4.8040	2.7833	0.0616	#NUM!



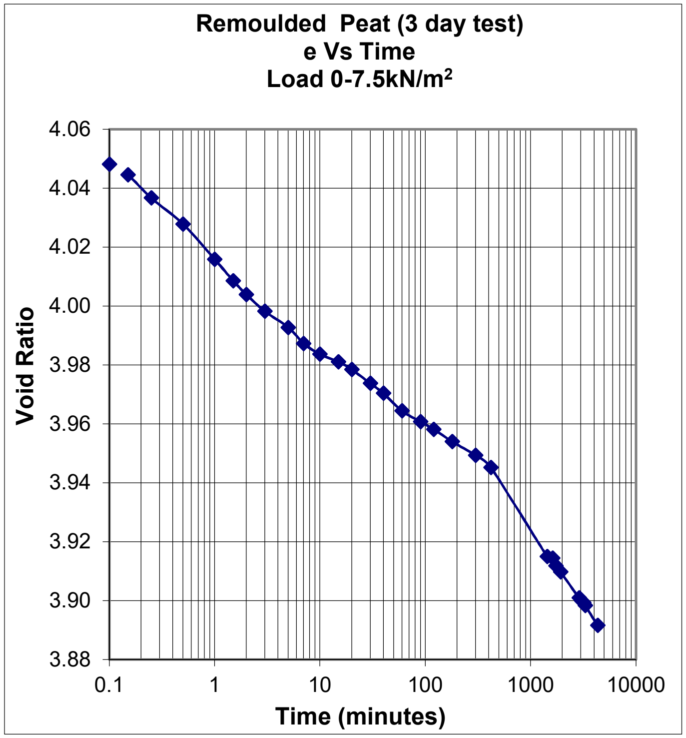
Sample – NBRO-Test C
Date-From 22/01/2015 to 01/03/2015
Conventional Consolidation
Load Increment 80kN/m² to 160kN/m²

Elapsed Time /(min	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	26	0.004	5.204	4.8040	2.7833		
0.1	26	0.168	5.368	4.9680	2.7411		
0.15	26	0.196	5.396	4.9960	2.7339	0.0409	0.0414
0.25	27	0.032	5.432	5.0320	2.7246	0.0418	0.0453
0.5	27	0.088	5.488	5.0880	2.7102	0.0479	0.0505
1	27	0.15	5.55	5.1500	2.6942	0.0530	0.0564
1.5	27	0.19	5.59	5.1900	2.6839	0.0585	0.0615
2	28	0.02	5.62	5.2200	2.6762	0.0599	0.0615
3	28	0.064	5.664	5.2640	2.6649	0.0643	0.0660
5	28	0.122	5.722	5.3220	2.6499	0.0673	0.0700
7	28	0.164	5.764	5.3640	2.6391	0.0740	0.0975
10	29	0.036	5.836	5.4360	2.6206	0.1197	0.0778
15	29	0.064	5.864	5.4640	2.6134	0.0409	0.0582
20	29	0.108	5.904	5.5040	2.6031	0.0824	0.0889
30	29	0.168	5.968	5.5680	2.5866	0.0936	0.0889
40	30	0.008	6.008	5.6080	2.5763	0.0824	0.0889
60	30	0.072	6.072	5.6720	2.5598	0.0936	0.0734
90	30	0.108	6.108	5.7080	2.5506	0.0526	0.0615
120	30	0.144	6.144	5.7440	2.5413	0.0616	0.0615
180	30	0.186	6.186	5.7860	2.5305	0.0614	0.0673
300	31	0.048	6.248	5.8480	2.5145	0.0719	0.0644
420	31	0.078	6.278	5.8780	2.5068	0.0529	0.0650
1440	32	0.02	6.42	6.0200	2.4702	0.0683	0.0632
1620	32	0.022	6.422	6.0220	2.4697	0.0101	0.0125
1740	32	0.024	6.424	6.0240	2.4692	0.0166	0.0172
1860	32	0.026	6.426	6.0260	2.4687	0.0178	0.3482
2880	33	0.12	6.72	6.3200	2.3930	0.3986	0.3524
3060	33	0.122	6.722	6.3220	2.3925	0.0196	0.0239
3180	33	0.124	6.724	6.3240	2.3920	0.0308	0.0471
3300	33	0.128	6.728	6.3280	2.3909	0.0640	0.1316
4320	33	0.192	6.792	6.3920	2.3745	0.1409	#NUM!



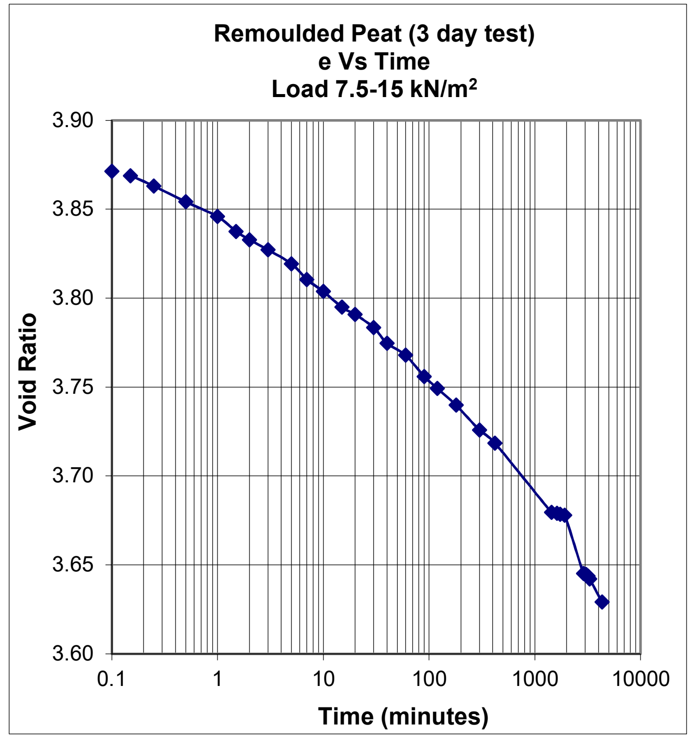
Sample – NBRO-Test D
Date-From 11/02/2015 to 04/05/2015
Conventional Consolidation
Load Increment 0kN/m² to 7.5kN/m²

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	2	0	0.4	0.0000	4.0700		
0.1	2	0.084	0.484	0.0840	4.0482		
0.15	2	0.098	0.498	0.0980	4.0445	0.0207	0.0287
0.25	2	0.128	0.528	0.1280	4.0367	0.0352	0.0318
0.5	2	0.162	0.562	0.1620	4.0279	0.0294	0.0345
1	3	0.008	0.608	0.2080	4.0159	0.0397	0.0403
1.5	3	0.036	0.636	0.2360	4.0086	0.0413	0.0397
2	3	0.054	0.654	0.2540	4.0040	0.0375	0.0345
3	3	0.076	0.676	0.2760	3.9982	0.0325	0.0281
5	3	0.097	0.697	0.2970	3.9928	0.0246	0.0297
7	3	0.118	0.718	0.3180	3.9873	0.0374	0.0302
10	3	0.132	0.732	0.3320	3.9837	0.0235	0.0189
15	3	0.142	0.742	0.3420	3.9811	0.0148	0.0173
20	3	0.152	0.752	0.3520	3.9785	0.0208	0.0242
30	3	0.17	0.77	0.3700	3.9738	0.0266	0.0268
40	3	0.183	0.783	0.3830	3.9704	0.0271	0.0311
60	4	0.006	0.806	0.4060	3.9644	0.0340	0.0273
90	4	0.02	0.82	0.4200	3.9608	0.0207	0.0207
120	4	0.03	0.83	0.4300	3.9582	0.0208	0.0225
180	4	0.046	0.846	0.4460	3.9540	0.0236	0.0222
300	4	0.064	0.864	0.4640	3.9494	0.0211	0.0240
420	4	0.08	0.88	0.4800	3.9452	0.0285	0.0504
1440	4	0.196	0.996	0.5960	3.9150	0.0564	0.0523
1620	4	0.198	0.998	0.5980	3.9145	0.0102	0.0380
1740	5	0.008	1.008	0.6080	3.9119	0.0838	0.0634
1920	5	0.016	1.016	0.6160	3.9098	0.0487	0.0499
2880	5	0.05	1.05	0.6500	3.9010	0.0502	0.0488
3060	5	0.054	1.054	0.6540	3.9000	0.0395	0.0362
3180	5	0.056	1.056	0.6560	3.8994	0.0311	0.0476
3300	5	0.06	1.06	0.6600	3.8984	0.0646	0.0586
4320	5	0.086	1.086	0.6860	3.8916	0.0578	#NUM!



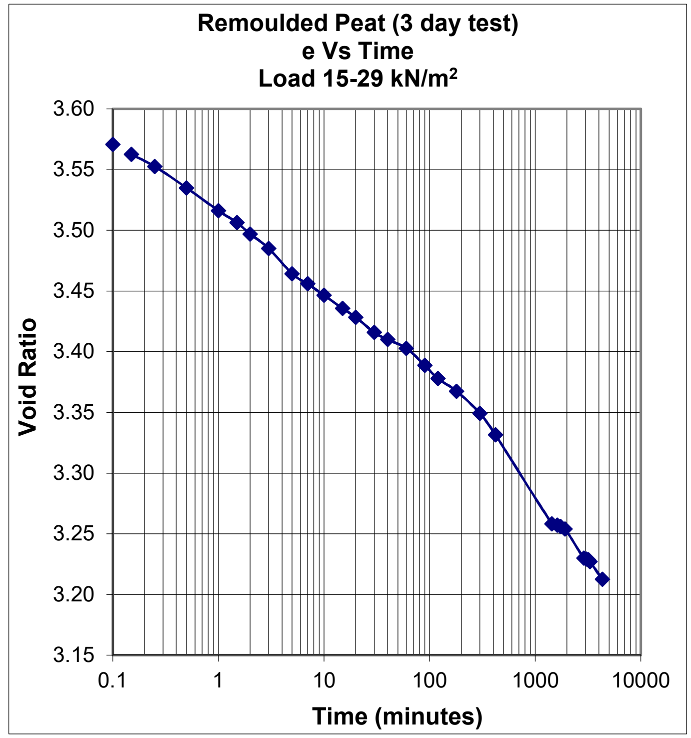
Sample – NBRO-Test D
Date-From 11/02/2015 to 04/05/2015
Conventional Consolidation
Load Increment 7.5kN/m² to 15kN/m²

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	5	0.086	1.086	0.6860	3.8916		
0.1	5	0.164	1.164	0.7640	3.8714		
0.15	5	0.174	1.174	0.7740	3.8688	0.0148	0.0209
0.25	5	0.196	1.196	0.7960	3.8630	0.0258	0.0278
0.5	6	0.03	1.23	0.8300	3.8542	0.0294	0.0285
1	6	0.062	1.262	0.8620	3.8459	0.0276	0.0349
1.5	6	0.094	1.294	0.8940	3.8376	0.0472	0.0432
2	6	0.112	1.312	0.9120	3.8329	0.0375	0.0345
3	6	0.134	1.334	0.9340	3.8272	0.0325	0.0340
5	6	0.164	1.364	0.9640	3.8194	0.0352	0.0452
7	6	0.198	1.398	0.9980	3.8105	0.0605	0.0518
10	7	0.024	1.424	1.0240	3.8038	0.0436	0.0471
15	7	0.058	1.458	1.0580	3.7949	0.0502	0.0432
20	7	0.074	1.474	1.0740	3.7908	0.0333	0.0380
30	7	0.102	1.502	1.1020	3.7835	0.0413	0.0535
40	7	0.136	1.536	1.1360	3.7746	0.0708	0.0518
60	7	0.162	1.562	1.1620	3.7679	0.0384	0.0532
90	8	0.008	1.608	1.2080	3.7559	0.0679	0.0622
120	8	0.034	1.634	1.2340	3.7492	0.0541	0.0535
180	8	0.07	1.67	1.2700	3.7398	0.0532	0.0588
300	8	0.124	1.724	1.3240	3.7258	0.0633	0.0579
420	8	0.152	1.752	1.3520	3.7185	0.0498	0.0679
1440	9	0.102	1.902	1.5020	3.6795	0.0729	0.0674
1620	9	0.104	1.904	1.5040	3.6790	0.0102	0.0127
1740	9	0.106	1.906	1.5060	3.6784	0.0168	0.0141
1920	9	0.108	1.908	1.5080	3.6779	0.0122	0.1521
2880	10	0.034	2.034	1.6340	3.6452	0.1860	0.1644
3060	10	0.036	2.036	1.6360	3.6446	0.0198	0.0362
3180	10	0.04	2.04	1.6400	3.6436	0.0623	0.0793
3300	10	0.046	2.046	1.6460	3.6420	0.0970	0.1094
4320	10	0.096	2.096	1.6960	3.6290	0.1111	#NUM!



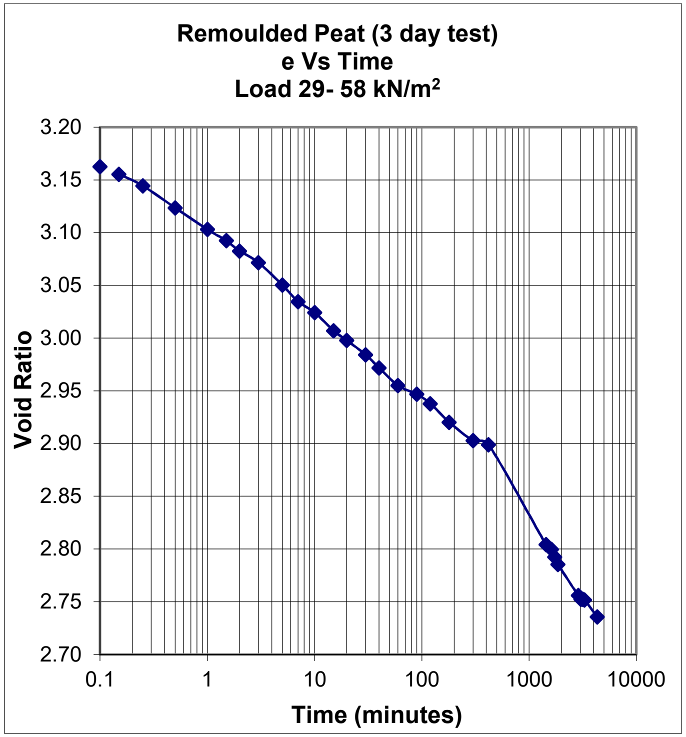
Sample – NBRO-Test D
Date-From 11/02/2015 to 04/05/2015
Conventional Consolidation
Load Increment 15kN/m^2 to 29kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	10	0.096	2.096	1.696	3.6290		
0.1	11	0.12	2.32	1.92	3.5708		
0.15	11	0.152	2.352	1.952	3.5625	0.047	0.046
0.25	11	0.19	2.39	1.99	3.5526	0.045	0.053
0.5	12	0.058	2.458	2.058	3.5349	0.059	0.060
1	12	0.13	2.53	2.13	3.5162	0.062	0.060
1.5	12	0.168	2.568	2.168	3.5063	0.056	0.064
2	13	0.004	2.604	2.204	3.4970	0.075	0.071
3	13	0.05	2.65	2.25	3.4850	0.068	0.082
5	13	0.13	2.73	2.33	3.4642	0.094	0.079
7	13	0.162	2.762	2.362	3.4559	0.057	0.059
10	13	0.198	2.798	2.398	3.4465	0.060	0.061
15	14	0.04	2.84	2.44	3.4356	0.062	0.060
20	14	0.068	2.868	2.468	3.4283	0.058	0.066
30	14	0.116	2.916	2.516	3.4158	0.071	0.060
40	14	0.138	2.938	2.538	3.4101	0.046	0.043
60	14	0.166	2.966	2.566	3.4028	0.041	0.061
90	15	0.02	3.02	2.62	3.3888	0.080	0.083
120	15	0.062	3.062	2.662	3.3779	0.087	0.071
180	15	0.102	3.102	2.702	3.3675	0.059	0.072
300	15	0.172	3.172	2.772	3.3493	0.082	0.098
420	16	0.04	3.24	2.84	3.3316	0.121	0.134
1440	17	0.122	3.522	3.122	3.2583	0.137	0.127
1620	17	0.126	3.526	3.126	3.2572	0.020	0.025
1740	17	0.13	3.53	3.13	3.2562	0.034	0.042
1920	17	0.138	3.538	3.138	3.2541	0.049	0.120
2880	18	0.031	3.631	3.231	3.2299	0.137	0.123
3060	18	0.034	3.634	3.234	3.2292	0.030	0.030
3180	18	0.036	3.636	3.236	3.2286	0.031	0.063
3300	18	0.042	3.642	3.242	3.2271	0.097	0.121
4320	18	0.098	3.698	3.298	3.2125	0.124	#NUM!



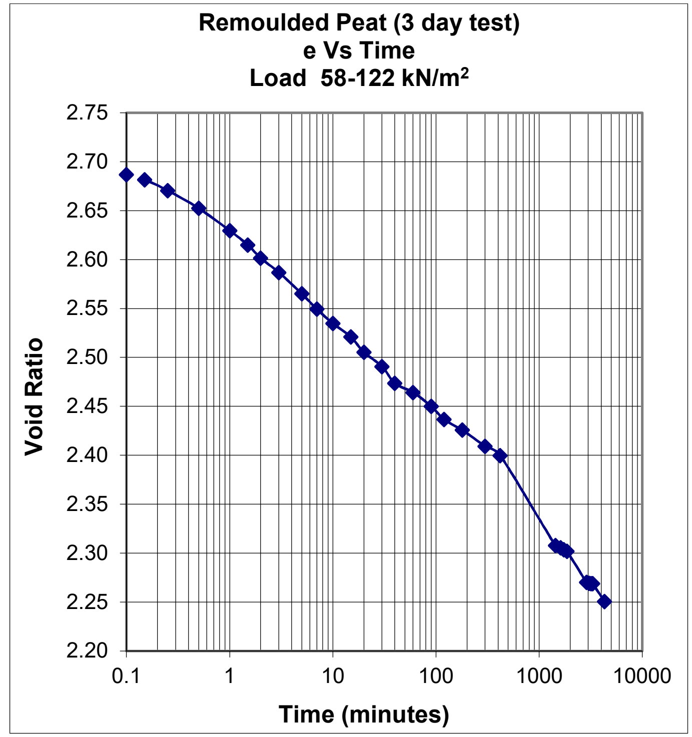
Sample – NBRO-Test D
Date-From 11/02/2015 to 04/05/2015
Conventional Consolidation
Load Increment 29kN/m^2 to 58kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	18	0.098	3.698	3.2980	3.2125		
0.1	19	0.09	3.89	3.4900	3.1626		
0.15	19	0.118	3.918	3.5180	3.1553	0.0413	0.0457
0.25	19	0.16	3.96	3.5600	3.1444	0.0492	0.0607
0.5	20	0.04	4.04	3.6400	3.1236	0.0691	0.0687
1	20	0.119	4.119	3.7190	3.1031	0.0682	0.0654
1.5	20	0.16	4.16	3.7600	3.0924	0.0605	0.0682
2	20	0.198	4.198	3.7980	3.0825	0.0791	0.0691
3	21	0.04	4.24	3.8400	3.0716	0.0620	0.0810
5	21	0.122	4.322	3.9220	3.0503	0.0961	0.1003
7	21	0.182	4.382	3.9820	3.0347	0.1068	0.0864
10	22	0.022	4.422	4.0220	3.0243	0.0671	0.0833
15	22	0.088	4.488	4.0880	3.0071	0.0974	0.0881
20	22	0.124	4.524	4.1240	2.9978	0.0749	0.0760
30	22	0.176	4.576	4.1760	2.9842	0.0768	0.0864
40	23	0.024	4.624	4.2240	2.9718	0.0999	0.0967
60	23	0.088	4.688	4.2880	2.9551	0.0945	0.0709
90	23	0.12	4.72	4.3200	2.9468	0.0472	0.0570
120	23	0.154	4.754	4.3540	2.9380	0.0708	0.0881
180	24	0.022	4.822	4.4220	2.9203	0.1004	0.0882
300	24	0.089	4.889	4.4890	2.9029	0.0785	0.0579
420	24	0.104	4.904	4.5040	2.8990	0.0267	0.1446
1440	26	0.068	5.268	4.8680	2.8043	0.1769	0.1694
1620	26	0.086	5.286	4.8860	2.7996	0.0915	0.1455
1740	26	0.114	5.314	4.9140	2.7924	0.2346	0.2340
1860	26	0.14	5.34	4.9400	2.7856	0.2334	0.1663
2880	27	0.054	5.454	5.0540	2.7560	0.1561	0.1527
3060	27	0.067	5.467	5.0670	2.7526	0.1284	0.0846
3180	27	0.068	5.468	5.0680	2.7523	0.0156	0.0238
3300	27	0.07	5.47	5.0700	2.7518	0.0323	0.1251
4320	27	0.132	5.532	5.1320	2.7357	0.1378	#NUM!



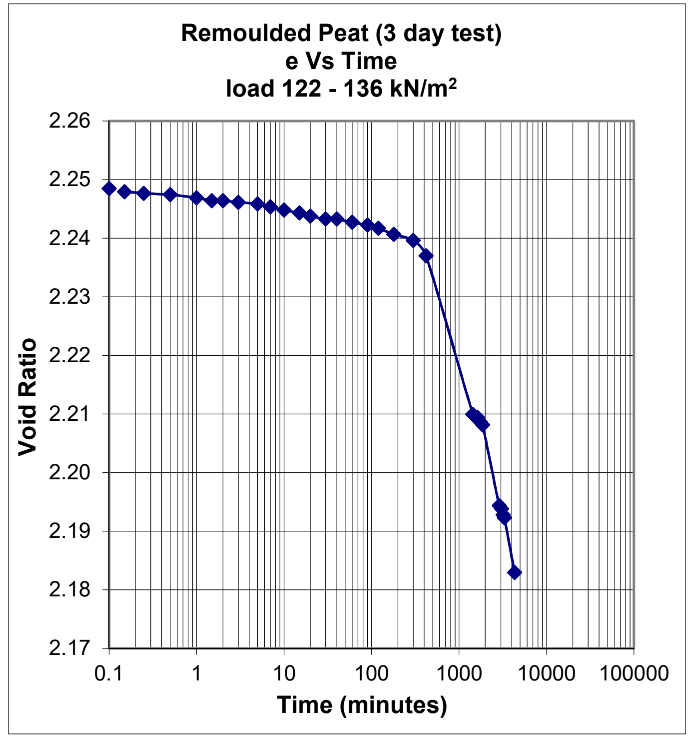
Sample – NBRO-Test D
Date-From 11/02/2015 to 04/05/2015
Conventional Consolidation
Load Increment 58kN/m^2 to 122kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	27	0.132	5.532	5.1320	2.7357		
0.1	28	0.12	5.72	5.3200	2.6868		
0.15	28	0.14	5.74	5.3400	2.6816	0.0295	0.0405
0.25	28	0.182	5.782	5.3820	2.6707	0.0492	0.0557
0.5	29	0.052	5.852	5.4520	2.6525	0.0605	0.0682
1	29	0.14	5.94	5.5400	2.6296	0.0760	0.0785
1.5	29	0.196	5.996	5.5960	2.6150	0.0827	0.0933
2	30	0.048	6.048	5.6480	2.6015	0.1082	0.0933
3	30	0.104	6.104	5.7040	2.5870	0.0827	0.0915
5	30	0.188	6.188	5.7880	2.5651	0.0984	0.1017
7	31	0.048	6.248	5.8480	2.5495	0.1068	0.1002
10	31	0.104	6.304	5.9040	2.5350	0.0940	0.0864
15	31	0.158	6.358	5.9580	2.5209	0.0797	0.0985
20	32	0.018	6.418	6.0180	2.5053	0.1249	0.1002
30	32	0.074	6.474	6.0740	2.4908	0.0827	0.1054
40	32	0.14	6.54	6.1400	2.4736	0.1373	0.0881
60	32	0.176	6.576	6.1760	2.4642	0.0532	0.0664
90	33	0.03	6.63	6.2300	2.4502	0.0797	0.0916
120	33	0.082	6.682	6.2820	2.4367	0.1082	0.0812
180	33	0.124	6.724	6.3240	2.4258	0.0620	0.0693
300	33	0.188	6.788	6.3880	2.4091	0.0750	0.0707
420	34	0.024	6.824	6.4240	2.3998	0.0641	0.1488
1440	35	0.178	7.178	6.7780	2.3077	0.1720	0.1605
1620	35	0.186	7.186	6.7860	2.3056	0.0407	0.0506
1740	35	0.194	7.194	6.7940	2.3036	0.0670	0.0607
1860	35	0.2	7.2	6.8000	2.3020	0.0539	0.1521
2880	36	0.122	7.322	6.9220	2.2703	0.1671	0.1515
3060	36	0.126	7.326	6.9260	2.2692	0.0395	0.0362
3180	36	0.128	7.328	6.9280	2.2687	0.0311	0.0159
3300	36	0.128	7.328	6.9280	2.2687	0.0000	0.1368
4320	36	0.198	7.398	6.9980	2.2505	0.1556	#NUM!



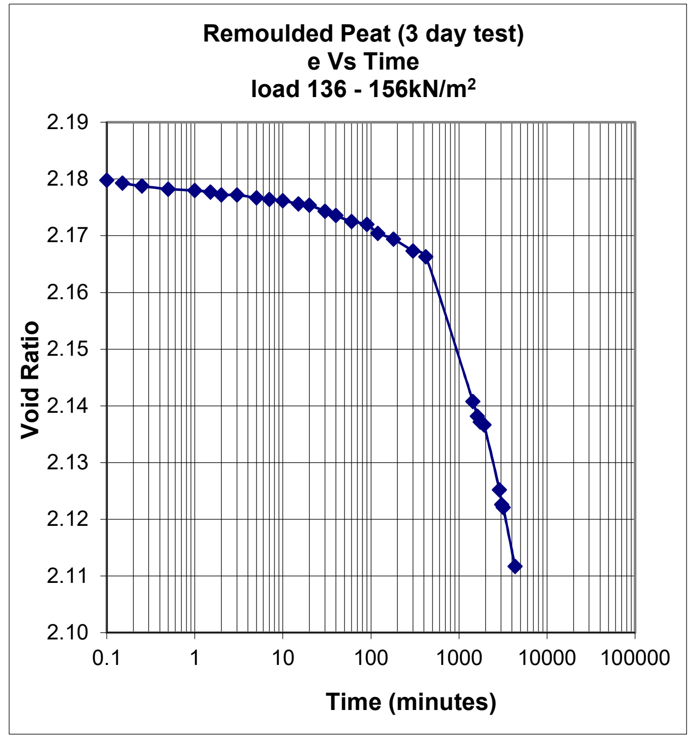
Sample – NBRO-Test D
Date-From 11/02/2015 to 04/05/2015
Conventional Consolidation
Load Increment 122kN/m^2 to 136kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	36	0.198	7.398	6.9980	2.2505		
0.1	37	0.006	7.406	7.0060	2.2484		
0.15	37	0.008	7.408	7.0080	2.2479	0.0030	0.0020
0.25	37	0.009	7.409	7.0090	2.2477	0.0012	0.0010
0.5	37	0.01	7.41	7.0100	2.2474	0.0009	0.0013
1	37	0.012	7.412	7.0120	2.2469	0.0017	0.0022
1.5	37	0.014	7.414	7.0140	2.2464	0.0030	0.0017
2	37	0.014	7.414	7.0140	2.2464	0.0000	0.0009
3	37	0.015	7.415	7.0150	2.2461	0.0015	0.0013
5	37	0.016	7.416	7.0160	2.2458	0.0012	0.0021
7	37	0.018	7.418	7.0180	2.2453	0.0036	0.0035
10	37	0.02	7.42	7.0200	2.2448	0.0034	0.0031
15	37	0.022	7.422	7.0220	2.2443	0.0030	0.0035
20	37	0.024	7.424	7.0240	2.2438	0.0042	0.0035
30	37	0.026	7.426	7.0260	2.2432	0.0030	0.0017
40	37	0.026	7.426	7.0260	2.2432	0.0000	0.0017
60	37	0.028	7.428	7.0280	2.2427	0.0030	0.0030
90	37	0.03	7.43	7.0300	2.2422	0.0030	0.0035
120	37	0.032	7.432	7.0320	2.2417	0.0042	0.0052
180	37	0.036	7.436	7.0360	2.2406	0.0059	0.0052
300	37	0.04	7.44	7.0400	2.2396	0.0047	0.0099
420	37	0.05	7.45	7.0500	2.2370	0.0178	0.0435
1440	37	0.154	7.554	7.1540	2.2100	0.0505	0.0470
1620	37	0.156	7.556	7.1560	2.2094	0.0102	0.0158
1740	37	0.159	7.559	7.1590	2.2087	0.0251	0.0217
1860	37	0.161	7.561	7.1610	2.2081	0.0180	0.0653
2880	38	0.014	7.614	7.2140	2.1944	0.0726	0.0661
3060	38	0.016	7.616	7.2160	2.1938	0.0198	0.0362
3180	38	0.02	7.62	7.2200	2.1928	0.0623	0.0476
3300	38	0.022	7.622	7.2220	2.1923	0.0323	0.0743
4320	38	0.058	7.658	7.2580	2.1829	0.0800	#NUM!



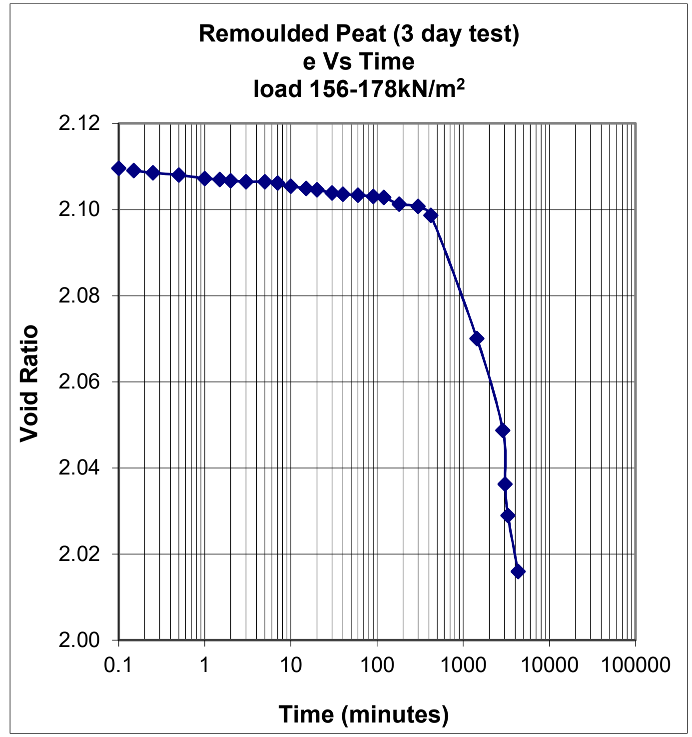
Sample – NBRO-Test D
Date-From 11/02/2015 to 04/05/2015
Conventional Consolidation
Load Increment 136kN/m^2 to 156kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	38	0.058	7.658	7.2580	2.1829		
0.1	38	0.07	7.67	7.2700	2.1798		
0.15	38	0.072	7.672	7.2720	2.1793	0.0030	0.0026
0.25	38	0.074	7.674	7.2740	2.1788	0.0023	0.0020
0.5	38	0.076	7.676	7.2760	2.1782	0.0017	0.0013
1	38	0.077	7.677	7.2770	2.1780	0.0009	0.0017
1.5	38	0.078	7.678	7.2780	2.1777	0.0015	0.0016
2	38	0.08	7.68	7.2800	2.1772	0.0042	0.0016
3	38	0.08	7.68	7.2800	2.1772	0.0000	0.0013
5	38	0.082	7.682	7.2820	2.1767	0.0023	0.0021
7	38	0.083	7.683	7.2830	2.1764	0.0018	0.0017
10	38	0.084	7.684	7.2840	2.1762	0.0017	0.0024
15	38	0.086	7.686	7.2860	2.1756	0.0030	0.0026
20	38	0.087	7.687	7.2870	2.1754	0.0021	0.0043
30	38	0.091	7.691	7.2910	2.1743	0.0059	0.0060
40	38	0.094	7.694	7.2940	2.1736	0.0062	0.0060
60	38	0.098	7.698	7.2980	2.1725	0.0059	0.0044
90	38	0.1	7.7	7.3000	2.1720	0.0030	0.0069
120	38	0.106	7.706	7.3060	2.1704	0.0069	0.0086
180	38	0.11	7.71	7.3100	2.1694	0.0059	0.0078
300	38	0.118	7.718	7.3180	2.1673	0.0094	0.0085
420	38	0.122	7.722	7.3220	2.1663	0.0071	0.0389
1440	39	0.02	7.82	7.4200	2.1408	0.0476	0.0479
1620	39	0.03	7.83	7.4300	2.1382	0.0508	0.0443
1740	39	0.034	7.834	7.4340	2.1372	0.0335	0.0211
1920	39	0.036	7.836	7.4360	2.1366	0.0122	0.0547
2880	39	0.088	7.88	7.4800	2.1252	0.0650	0.0694
3060	39	0.09	7.89	7.4900	2.1226	0.0988	0.0725
3180	39	0.092	7.892	7.4920	2.1221	0.0311	0.0729
4320	39	0.132	7.932	7.5320	2.1117	0.0782	#NUM!



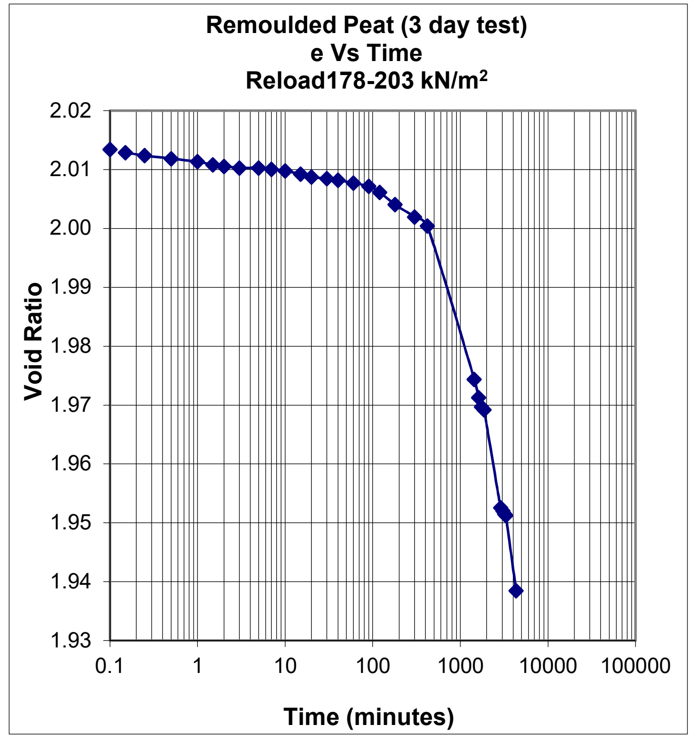
Sample – NBRO-Test D
Date-From 11/02/2015 to 04/05/2015
Conventional Consolidation
Load Increment 156kN/m^2 to 178kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	39	0.122	7.932	7.5320	2.1117		
0.1	39	0.14	7.94	7.5400	2.1096		
0.15	39	0.142	7.942	7.5420	2.1091	0.0030	0.0026
0.25	39	0.144	7.944	7.5440	2.1086	0.0023	0.0020
0.5	39	0.146	7.946	7.5460	2.1080	0.0017	0.0022
1	39	0.149	7.949	7.5490	2.1073	0.0026	0.0022
1.5	39	0.15	7.95	7.5500	2.1070	0.0015	0.0016
2	39	0.151	7.951	7.5510	2.1067	0.0017	0.0016
3	39	0.152	7.952	7.5520	2.1065	0.0015	0.0007
5	39	0.152	7.952	7.5520	2.1065	0.0000	0.0007
7	39	0.153	7.953	7.5530	2.1062	0.0018	0.0035
10	39	0.156	7.956	7.5560	2.1054	0.0050	0.0039
15	39	0.158	7.958	7.5580	2.1049	0.0030	0.0026
20	39	0.159	7.959	7.5590	2.1047	0.0021	0.0035
30	39	0.162	7.962	7.5620	2.1039	0.0044	0.0035
40	39	0.163	7.963	7.5630	2.1036	0.0021	0.0017
60	39	0.164	7.964	7.5640	2.1034	0.0015	0.0016
90	39	0.165	7.965	7.5650	2.1031	0.0015	0.0044
120	39	0.166	7.966	7.5660	2.1028	0.0017	0.0044
180	39	0.172	7.972	7.5720	2.1013	0.0089	0.0052
300	39	0.174	7.974	7.5740	2.1008	0.0023	0.0071
420	39	0.182	7.982	7.5820	2.0987	0.0142	0.0450
1440	40	0.092	8.092	7.6920	2.0701	0.0534	0.0597
2880	40	0.174	8.174	7.7740	2.0488	0.0708	0.1033
3060	41	0.022	8.222	7.8220	2.0363	0.4740	0.3342
3300	41	0.05	8.25	7.8500	2.0290	0.2220	0.1354
4320	41	0.1	8.3	7.9000	2.0160	0.1111	#NUM!



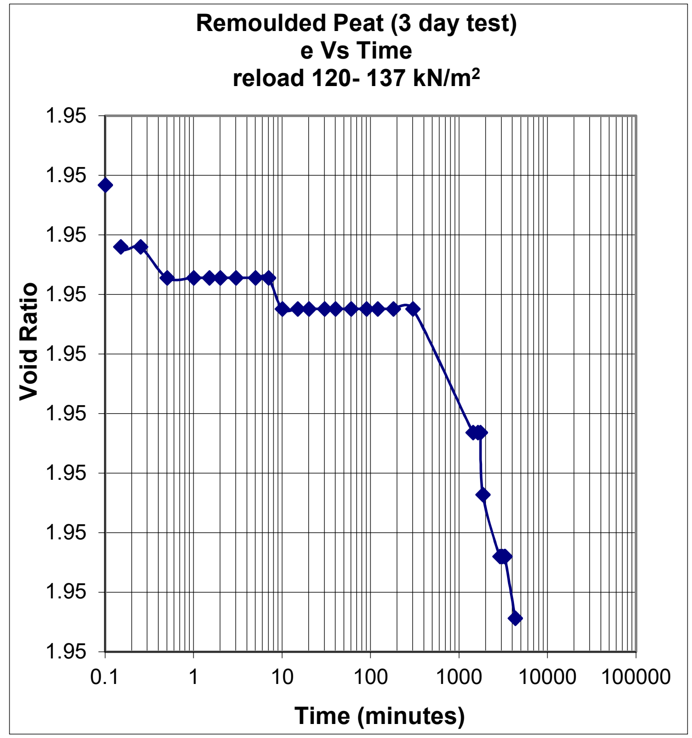
Sample – NBRO-Test D
Date-From 11/02/2015 to 04/05/2015
Conventional Consolidation
Load Increment 178kN/m^2 to 203kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	41	0.1	8.3	7.9000	2.0160		
0.1	41	0.11	8.31	7.9100	2.0134		
0.15	41	0.112	8.312	7.9120	2.0129	0.0030	0.0026
0.25	41	0.114	8.314	7.9140	2.0124	0.0023	0.0020
0.5	41	0.116	8.316	7.9160	2.0118	0.0017	0.0017
1	41	0.118	8.318	7.9180	2.0113	0.0017	0.0022
1.5	41	0.12	8.32	7.9200	2.0108	0.0030	0.0022
2	41	0.121	8.321	7.9210	2.0105	0.0026	0.0022
3	41	0.122	8.322	7.9220	2.0103	0.0015	0.0007
5	41	0.122	8.322	7.9220	2.0103	0.0000	0.0007
7	41	0.123	8.323	7.9230	2.0100	0.0018	0.0017
10	41	0.124	8.324	7.9240	2.0098	0.0017	0.0024
15	41	0.126	8.326	7.9260	2.0092	0.0030	0.0035
20	41	0.128	8.328	7.9280	2.0087	0.0042	0.0026
30	41	0.129	8.329	7.9290	2.0085	0.0015	0.0017
40	41	0.13	8.33	7.9300	2.0082	0.0021	0.0026
60	41	0.132	8.332	7.9320	2.0077	0.0030	0.0044
90	41	0.134	8.334	7.9340	2.0072	0.0030	0.0076
120	41	0.138	8.338	7.9380	2.0061	0.0052	0.0076
180	41	0.146	8.346	7.9460	2.0040	0.0118	0.0105
300	41	0.154	8.354	7.9540	2.0020	0.0094	0.0099
420	41	0.16	8.36	7.9600	2.0004	0.0107	0.0405
1440	42	0.06	8.46	8.0600	1.9744	0.0486	0.0497
1620	42	0.072	8.472	8.0720	1.9713	0.0610	0.0569
1740	42	0.078	8.478	8.0780	1.9697	0.0503	0.0347
1860	42	0.08	8.48	8.0800	1.9692	0.0180	0.0784
2880	42	0.144	8.544	8.1440	1.9526	0.0876	0.0794
3060	42	0.146	8.546	8.1460	1.9520	0.0198	0.0242
3180	42	0.148	8.548	8.1480	1.9515	0.0311	0.0238
3300	42	0.149	8.549	8.1490	1.9513	0.0162	0.0977
4320	42	0.198	8.598	8.1980	1.9385	0.1089	#NUM!



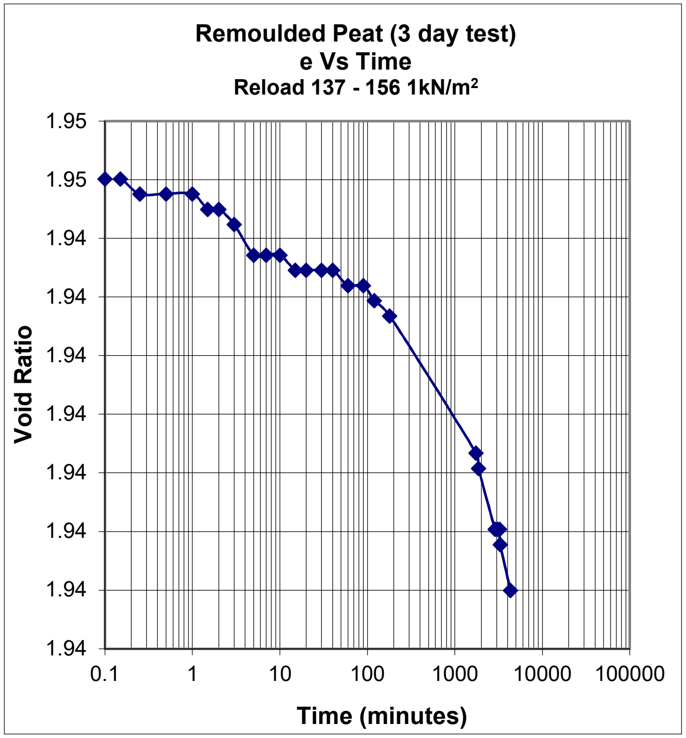
Sample – NBRO-Test D
Date-From 11/02/2015 to 04/05/2015
Conventional Consolidation
Load Increment 120kN/m^2 to 137kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	42	0.156	8.556	8.1560	1.9494		
0.1	42	0.158	8.558	8.1580	1.9489		
0.15	42	0.16	8.56	8.1600	1.9484	0.0030	0.0013
0.25	42	0.16	8.56	8.1600	1.9484	0.0000	0.0005
0.5	42	0.161	8.561	8.1610	1.9481	0.0009	0.0004
1	42	0.161	8.561	8.1610	1.9481	0.0000	0.0000
1.5	42	0.161	8.561	8.1610	1.9481	0.0000	0.0000
2	42	0.161	8.561	8.1610	1.9481	0.0000	0.0000
3	42	0.161	8.561	8.1610	1.9481	0.0000	0.0000
5	42	0.161	8.561	8.1610	1.9481	0.0000	0.0000
7	42	0.161	8.561	8.1610	1.9481	0.0000	0.0009
10	42	0.162	8.562	8.1620	1.9479	0.0017	0.0008
15	42	0.162	8.562	8.1620	1.9479	0.0000	0.0000
20	42	0.162	8.562	8.1620	1.9479	0.0000	0.0000
30	42	0.162	8.562	8.1620	1.9479	0.0000	0.0000
40	42	0.162	8.562	8.1620	1.9479	0.0000	0.0000
60	42	0.162	8.562	8.1620	1.9479	0.0000	0.0000
90	42	0.162	8.562	8.1620	1.9479	0.0000	0.0000
120	42	0.162	8.562	8.1620	1.9479	0.0000	0.0000
180	42	0.162	8.562	8.1620	1.9479	0.0000	0.0000
300	42	0.162	8.562	8.1620	1.9479	0.0000	0.0012
1440	42	0.166	8.566	8.1660	1.9468	0.0015	0.0014
1620	42	0.166	8.566	8.1660	1.9468	0.0000	0.0000
1740	42	0.166	8.566	8.1660	1.9468	0.0000	0.0087
1860	42	0.168	8.568	8.1680	1.9463	0.0180	0.0048
2880	42	0.17	8.57	8.1700	1.9458	0.0027	0.0024
3060	42	0.17	8.57	8.1700	1.9458	0.0000	0.0000
3240	42	0.17	8.57	8.1700	1.9458	0.0000	0.0000
3300	42	0.17	8.57	8.1700	1.9458	0.0000	0.0042
4320	42	0.172	8.572	8.1720	1.9453	0.0044	#NUM!



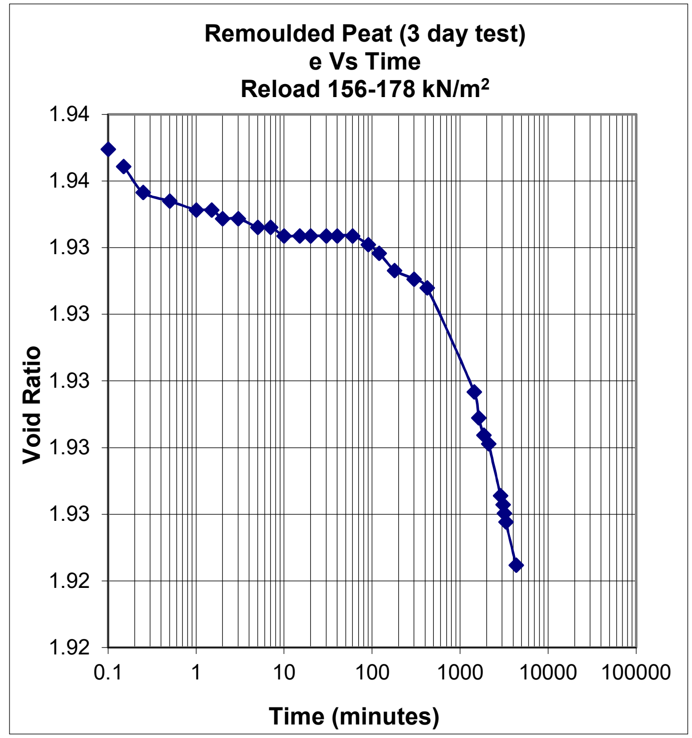
Sample – NBRO-Test D
Date-From 11/02/2015 to 04/05/2015
Conventional Consolidation
Load Increment 137kN/m² to 156kN/m²

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	42	0.172	8.572	8.1720	1.9453		
0.1	42	0.173	8.573	8.1730	1.9450		
0.15	42	0.173	8.573	8.1730	1.9450	0.0000	0.0007
0.25	42	0.174	8.574	8.1740	1.9448	0.0012	0.0005
0.5	42	0.174	8.574	8.1740	1.9448	0.0000	0.0000
1	42	0.174	8.574	8.1740	1.9448	0.0000	0.0004
1.5	42	0.175	8.575	8.1750	1.9445	0.0015	0.0011
2	42	0.175	8.575	8.1750	1.9445	0.0009	0.0011
3	42	0.176	8.576	8.1760	1.9442	0.0015	0.0020
5	42	0.178	8.578	8.1780	1.9437	0.0023	0.0014
7	42	0.178	8.578	8.1780	1.9437	0.0000	0.0000
10	42	0.178	8.578	8.1780	1.9437	0.0000	0.0008
15	42	0.179	8.579	8.1790	1.9435	0.0015	0.0009
20	42	0.179	8.579	8.1790	1.9435	0.0000	0.0000
30	42	0.179	8.579	8.1790	1.9435	0.0000	0.0000
40	42	0.179	8.579	8.1790	1.9435	0.0000	0.0009
60	42	0.18	8.58	8.1800	1.9432	0.0015	0.0011
90	42	0.18	8.58	8.1800	1.9432	0.0000	0.0011
120	42	0.181	8.581	8.1810	1.9429	0.0009	0.0011
180	42	0.182	8.582	8.1820	1.9427	0.0015	0.0022
1740	42	0.191	8.591	8.1910	1.9403	0.0024	0.0026
1860	42	0.192	8.592	8.1920	1.9401	0.0090	0.0059
2880	42	0.196	8.596	8.1960	1.9390	0.0055	0.0048
3060	42	0.196	8.596	8.1960	1.9390	0.0000	0.0000
3240	42	0.196	8.596	8.1960	1.9390	0.0000	0.0079
3300	42	0.197	8.597	8.1970	1.9388	0.0326	0.0083
4320	43	0	8.6	8.2000	1.9380	0.0067	#NUM!



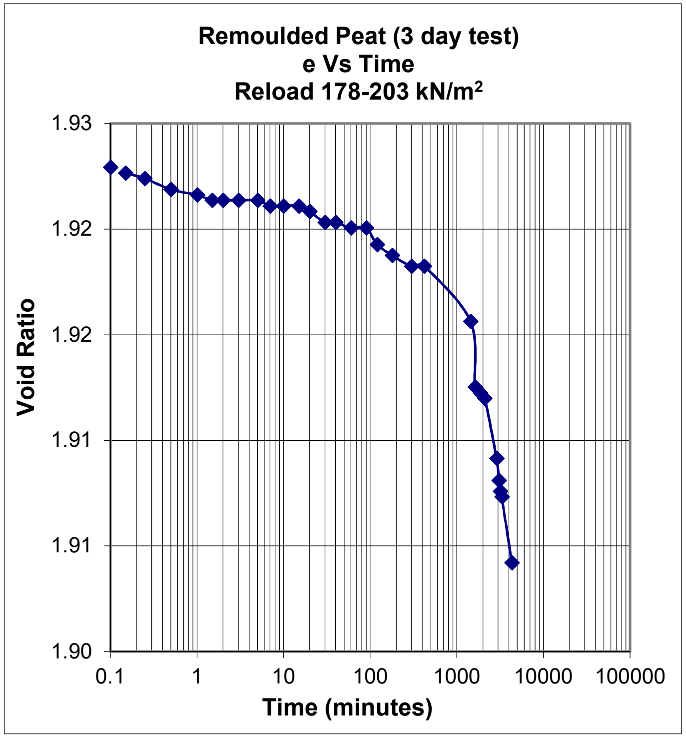
Sample – NBRO-Test D
Date-From 11/02/2015 to 04/05/2015
Conventional Consolidation
Load Increment 156kN/m^2 to 178kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	43	0	8.6	8.2000	1.9380		
0.1	43	0.004	8.604	8.2040	1.9370		
0.15	43	0.006	8.606	8.2060	1.9364	0.0030	0.0033
0.25	43	0.009	8.609	8.2090	1.9357	0.0035	0.0020
0.5	43	0.01	8.61	8.2100	1.9354	0.0009	0.0009
1	43	0.011	8.611	8.2110	1.9351	0.0009	0.0009
1.5	43	0.011	8.611	8.2110	1.9351	0.0000	0.0005
2	43	0.012	8.612	8.2120	1.9349	0.0009	0.0005
3	43	0.012	8.612	8.2120	1.9349	0.0000	0.0007
5	43	0.013	8.613	8.2130	1.9346	0.0012	0.0007
7	43	0.013	8.613	8.2130	1.9346	0.0000	0.0009
10	43	0.014	8.614	8.2140	1.9344	0.0017	0.0008
15	43	0.014	8.614	8.2140	1.9344	0.0000	0.0000
20	43	0.014	8.614	8.2140	1.9344	0.0000	0.0000
30	43	0.014	8.614	8.2140	1.9344	0.0000	0.0000
40	43	0.014	8.614	8.2140	1.9344	0.0000	0.0000
60	43	0.014	8.614	8.2140	1.9344	0.0000	0.0011
90	43	0.015	8.615	8.2150	1.9341	0.0015	0.0022
120	43	0.016	8.616	8.2160	1.9338	0.0017	0.0022
180	43	0.018	8.618	8.2180	1.9333	0.0030	0.0020
300	43	0.019	8.619	8.2190	1.9331	0.0012	0.0014
420	43	0.02	8.62	8.2200	1.9328	0.0018	0.0050
1440	43	0.032	8.632	8.2320	1.9297	0.0058	0.0067
1620	43	0.035	8.635	8.2350	1.9289	0.0152	0.0117
1860	43	0.037	8.637	8.2370	1.9284	0.0087	0.0069
2100	43	0.038	8.638	8.2380	1.9281	0.0049	0.0096
2880	43	0.044	8.644	8.2440	1.9266	0.0114	0.0111
3060	43	0.045	8.645	8.2450	1.9263	0.0099	0.0121
3180	43	0.046	8.646	8.2460	1.9260	0.0156	0.0159
3300	43	0.047	8.647	8.2470	1.9258	0.0162	0.0117
4320	43	0.052	8.652	8.2520	1.9245	0.0111	#NUM!



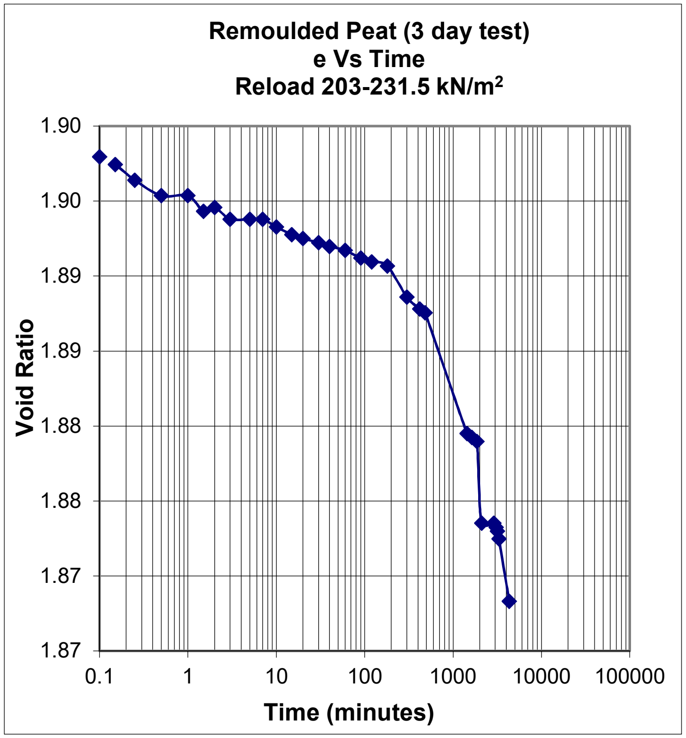
Sample – NBRO-Test D
Date-From 11/02/2015 to 04/05/2015
Conventional Consolidation
Load Increment 178kN/m² to 203kN/m²

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	43	0.052	8.652	8.2520	1.9245		
0.1	43	0.058	8.658	8.2580	1.9229		
0.15	43	0.059	8.659	8.2590	1.9227	0.0015	0.0013
0.25	43	0.06	8.66	8.2600	1.9224	0.0012	0.0015
0.5	43	0.062	8.662	8.2620	1.9219	0.0017	0.0013
1	43	0.063	8.663	8.2630	1.9216	0.0009	0.0009
1.5	43	0.064	8.664	8.2640	1.9214	0.0015	0.0005
2	43	0.064	8.664	8.2640	1.9214	0.0009	0.0005
3	43	0.064	8.664	8.2640	1.9214	0.0000	0.0000
5	43	0.064	8.664	8.2640	1.9214	0.0000	0.0007
7	43	0.064	8.665	8.2650	1.9211	0.0018	0.0009
10	43	0.065	8.665	8.2650	1.9211	0.0000	0.0000
15	43	0.065	8.665	8.2650	1.9211	0.0000	0.0009
20	43	0.065	8.666	8.2660	1.9208	0.0021	0.0026
30	43	0.066	8.668	8.2680	1.9203	0.0030	0.0017
40	43	0.068	8.668	8.2680	1.9203	0.0000	0.0009
60	43	0.068	8.669	8.2690	1.9201	0.0015	0.0022
90	43	0.069	8.669	8.2690	1.9201	0.0000	0.0027
120	43	0.069	8.672	8.2720	1.9193	0.0026	0.0027
180	43	0.072	8.674	8.2740	1.9188	0.0030	0.0026
300	43	0.074	8.676	8.2760	1.9182	0.0023	0.0014
420	43	0.076	8.676	8.2760	1.9182	0.0000	0.0038
1440	43	0.086	8.686	8.2860	1.9156	0.0049	0.0098
1620	43	0.098	8.698	8.2980	1.9125	0.0610	0.0304
1860	43	0.099	8.699	8.2990	1.9123	0.0043	0.0046
2100	43	0.1	8.7	8.3000	1.9120	0.0049	0.0164
2880	43	0.111	8.711	8.3110	1.9091	0.0208	0.0239
3060	43	0.115	8.715	8.3150	1.9081	0.0395	0.0362
3180	43	0.117	8.717	8.3170	1.9076	0.0311	0.0238
3300	43	0.118	8.718	8.3180	1.9073	0.0162	0.0254
4320	43	0.13	8.73	8.3300	1.9042	0.0267	#NUM!



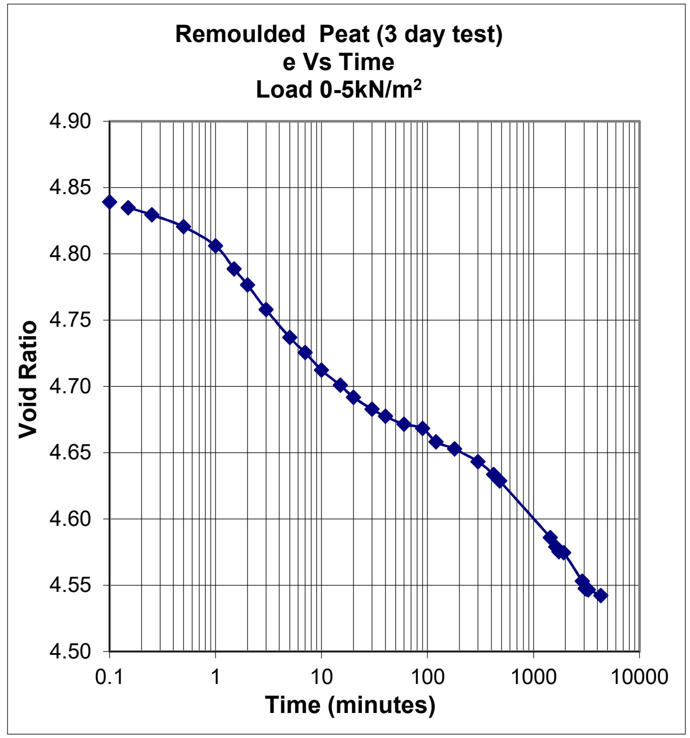
Sample – NBRO-Test D
Date-From 11/02/2015 to 04/05/2015
Conventional Consolidation
Load Increment 203kN/m² to 231.5kN/m²

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	43	0.132	8.732	8.3320	1.9042		
0.1	43	0.154	8.754	8.3540	1.8980		
0.15	43	0.156	8.756	8.3560	1.8974	0.0030	0.0039
0.25	43	0.16	8.76	8.3600	1.8964	0.0047	0.0040
0.5	43	0.164	8.764	8.3640	1.8954	0.0035	0.0017
1	43	0.164	8.764	8.3640	1.8954	0.0000	0.0013
1.5	43	0.166	8.768	8.3680	1.8943	0.0059	0.0033
2	43	0.167	8.767	8.3670	1.8946	0.0026	0.0033
3	43	0.17	8.77	8.3700	1.8938	0.0044	0.0020
5	43	0.17	8.77	8.3700	1.8938	0.0000	0.0000
7	43	0.17	8.77	8.3700	1.8938	0.0000	0.0017
10	43	0.172	8.772	8.3720	1.8933	0.0034	0.0031
15	43	0.174	8.774	8.3740	1.8928	0.0030	0.0026
20	43	0.175	8.775	8.3750	1.8925	0.0021	0.0017
30	43	0.176	8.776	8.3760	1.8922	0.0015	0.0017
40	43	0.177	8.777	8.3770	1.8920	0.0021	0.0017
60	43	0.178	8.778	8.3780	1.8917	0.0015	0.0022
90	43	0.18	8.78	8.3800	1.8912	0.0030	0.0022
120	43	0.181	8.781	8.3810	1.8909	0.0026	0.0022
180	43	0.182	8.782	8.3820	1.8907	0.0015	0.0059
300	43	0.19	8.79	8.3900	1.8886	0.0094	0.0078
420	43	0.193	8.793	8.3930	1.8878	0.0053	0.0051
480	43	0.194	8.794	8.3940	1.8876	0.0045	0.0155
1440	44	0.025	8.825	8.4250	1.8795	0.0169	0.0157
1620	44	0.026	8.826	8.4260	1.8792	0.0051	0.0047
1860	44	0.027	8.827	8.4270	1.8790	0.0043	0.0508
2100	44	0.027	8.848	8.4480	1.8735	0.1036	0.0288
2880	44	0.048	8.848	8.4480	1.8735	0.0000	0.0016
3060	44	0.049	8.849	8.4490	1.8733	0.0099	0.0121
3180	44	0.05	8.85	8.4500	1.8730	0.0156	0.0238
3300	44	0.052	8.852	8.4520	1.8725	0.0323	0.0352
4320	44	0.068	8.868	8.4680	1.8683	0.0356	#NUM!



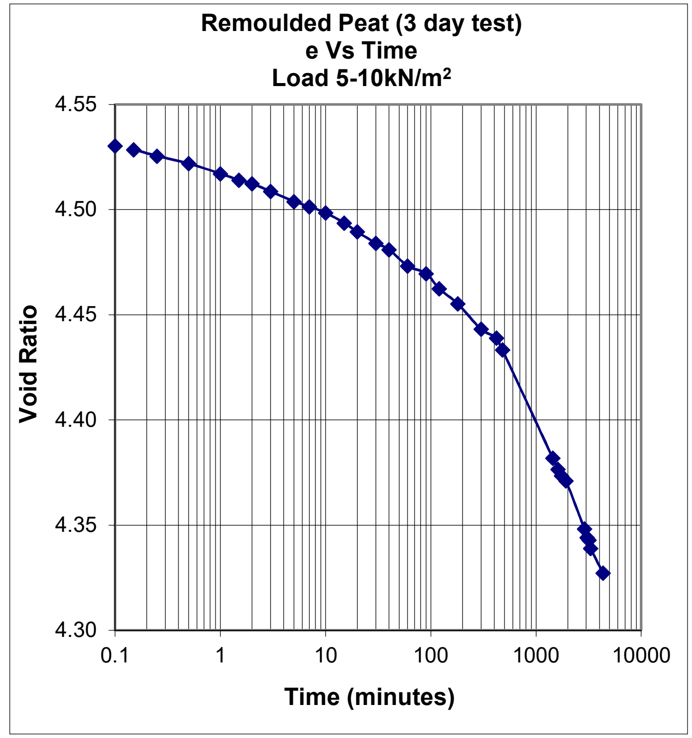
Sample – NBRO-Test E
Date-From 21/05/2015 to 25/07/2015
Conventional Consolidation
Load Increment 0kN/m^2 to 5kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	2	0	0.4	0.0000	4.8571		
0.1	2	0.06	0.46	0.0600	4.8391		
0.15	2	0.074	0.474	0.0740	4.8349	0.0239	0.0242
0.25	2	0.092	0.492	0.0920	4.8295	0.0244	0.0276
0.5	2	0.122	0.522	0.1220	4.8205	0.0299	0.0389
1	2	0.17	0.57	0.1700	4.8060	0.0479	0.0667
1.5	3	0.028	0.628	0.2280	4.7886	0.0989	0.0978
2	3	0.068	0.668	0.2680	4.7766	0.0962	0.1018
3	3	0.13	0.73	0.3300	4.7580	0.1058	0.0996
5	4	0	0.8	0.4000	4.7370	0.0948	0.0882
7	4	0.038	0.838	0.4380	4.7255	0.0781	0.0818
10	4	0.082	0.882	0.4820	4.7123	0.0853	0.0744
15	4	0.12	0.92	0.5200	4.7009	0.0648	0.0678
20	4	0.15	0.95	0.5500	4.6919	0.0721	0.0599
30	4	0.18	0.98	0.5800	4.6829	0.0512	0.0479
40	4	0.198	0.998	0.5980	4.6775	0.0433	0.0379
60	5	0.018	1.018	0.6180	4.6715	0.0341	0.0256
90	5	0.028	1.028	0.6280	4.6685	0.0171	0.0439
120	5	0.062	1.062	0.6620	4.6583	0.0817	0.0519
180	5	0.08	1.08	0.6800	4.6529	0.0307	0.0377
300	5	0.124	1.112	0.7120	4.6432	0.0433	0.0522
420	5	0.144	1.144	0.7440	4.6336	0.0658	0.0706
480	5	0.16	1.16	0.7600	4.6288	0.0829	0.0887
1440	6	0.102	1.302	0.9020	4.5862	0.0894	0.0944
1620	6	0.126	1.326	0.9260	4.5790	0.1409	0.1316
1740	6	0.138	1.338	0.9380	4.5754	0.1161	0.0570
1920	6	0.14	1.34	0.9400	4.5748	0.0141	0.1016
2880	7	0.012	1.412	1.0120	4.5531	0.1228	0.1335
3060	7	0.03	1.43	1.0300	4.5477	0.2053	0.1396
3180	7	0.032	1.432	1.0320	4.5471	0.0360	0.0275
3300	7	0.033	1.433	1.0330	4.5468	0.0187	0.0361
4320	7	0.048	1.448	1.0480	4.5423	0.0385	#NUM!



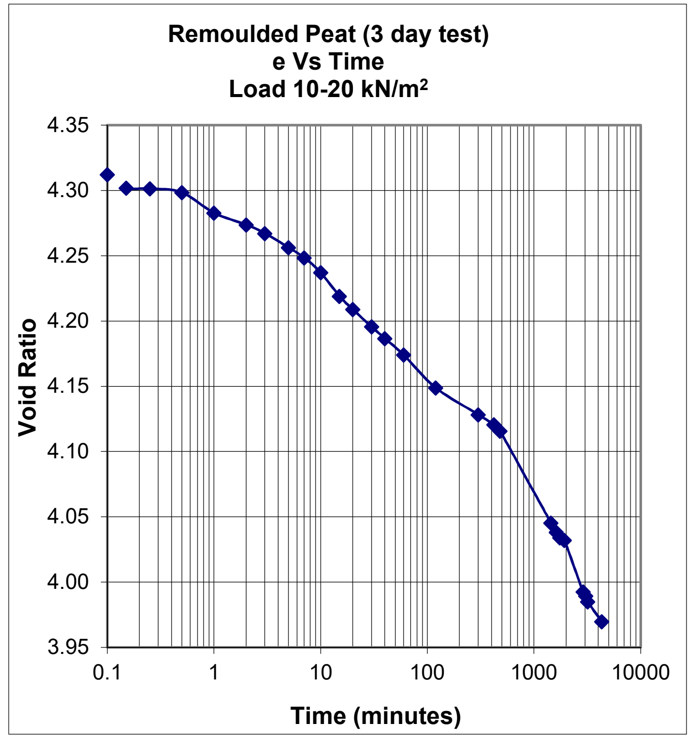
Sample – NBRO-Test E
Date-From 21/05/2015 to 25/07/2015
Conventional Consolidation
Load Increment 5kN/m^2 to 10kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	7	0.048	1.448	1.0480	4.5423		
0.1	7	0.088	1.488	1.0880	4.5303		
0.15	7	0.094	1.494	1.0940	4.5285	0.0102	0.0121
0.25	7	0.104	1.504	1.1040	4.5255	0.0135	0.0126
0.5	7	0.116	1.516	1.1160	4.5219	0.0120	0.0140
1	7	0.132	1.532	1.1320	4.5171	0.0160	0.0164
1.5	7	0.142	1.542	1.1420	4.5141	0.0171	0.0160
2	7	0.148	1.548	1.1480	4.5123	0.0144	0.0180
3	7	0.16	1.56	1.1600	4.5087	0.0205	0.0211
5	7	0.176	1.576	1.1760	4.5039	0.0217	0.0196
7	7	0.184	1.584	1.1840	4.5015	0.0164	0.0180
10	7	0.194	1.594	1.1940	4.4985	0.0194	0.0236
15	8	0.01	1.61	1.2100	4.4937	0.0273	0.0299
20	8	0.024	1.624	1.2240	4.4895	0.0337	0.0319
30	8	0.042	1.642	1.2420	4.4840	0.0307	0.0279
40	8	0.052	1.652	1.2520	4.4810	0.0240	0.0359
60	8	0.078	1.678	1.2780	4.4732	0.0443	0.0324
90	8	0.09	1.69	1.2900	4.4696	0.0205	0.0359
120	8	0.114	1.714	1.3140	4.4624	0.0577	0.0479
180	8	0.138	1.738	1.3380	4.4552	0.0409	0.0483
300	8	0.178	1.778	1.3780	4.4432	0.0542	0.0441
420	8	0.192	1.792	1.3920	4.4390	0.0288	0.0486
480	9	0.011	1.811	1.4110	4.4333	0.0984	0.1066
1440	9	0.182	1.982	1.5820	4.3819	0.1077	0.1075
1620	10	0	2	1.6000	4.3765	0.1057	0.1023
1740	10	0.01	2.01	1.6100	4.3735	0.0968	0.0733
1920	10	0.018	2.018	1.6180	4.3711	0.0562	0.1153
2880	10	0.094	2.094	1.6940	4.3483	0.1296	0.1335
3060	10	0.108	2.108	1.7080	4.3441	0.1597	0.1256
3180	10	0.112	2.112	1.7120	4.3429	0.0719	0.1557
3300	10	0.125	2.125	1.7250	4.3390	0.2427	0.1174
4320	10	0.164	2.164	1.7640	4.3273	0.1001	#NUM!



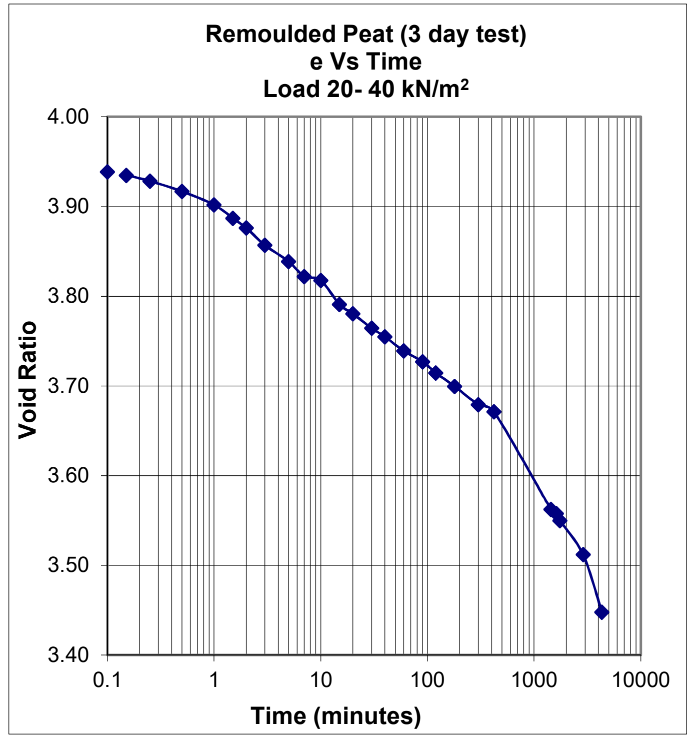
Sample – NBRO-Test E
Date-From 21/05/2015 to 25/07/2015
Conventional Consolidation
Load Increment 10kN/m² to 20kN/m²

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	10	0.164	2.164	1.764	4.3273		
0.1	11	0.014	2.214	1.814	4.3122		
0.15	11	0.048	2.248	1.848	4.3020	0.058	0.027
0.25	11	0.05	2.25	1.85	4.3014	0.003	0.007
0.5	11	0.06	2.26	1.86	4.2984	0.010	0.031
1	11	0.112	2.312	1.912	4.2828	0.052	0.041
2	11	0.142	2.342	1.942	4.2738	0.030	0.033
3	11	0.164	2.364	1.964	4.2672	0.038	0.044
5	12	0	2.4	2	4.2564	0.049	0.051
7	12	0.026	2.426	2.026	4.2486	0.053	0.064
10	12	0.064	2.464	2.064	4.2371	0.074	0.089
15	12	0.124	2.524	2.124	4.2191	0.102	0.094
20	12	0.158	2.558	2.158	4.2089	0.082	0.078
30	13	0.002	2.602	2.202	4.1957	0.075	0.074
40	13	0.032	2.632	2.232	4.1867	0.072	0.072
60	13	0.074	2.674	2.274	4.1741	0.072	0.079
120	13	0.158	2.758	2.358	4.1488	0.084	0.065
300	14	0.026	2.826	2.426	4.1284	0.051	0.052
420	14	0.052	2.852	2.452	4.1206	0.053	0.062
480	14	0.068	2.868	2.468	4.1158	0.083	0.140
1440	15	0.102	3.102	2.702	4.0455	0.147	0.147
1620	15	0.126	3.126	2.726	4.0383	0.141	0.139
1740	15	0.14	3.14	2.74	4.0341	0.135	0.081
1920	15	0.146	3.146	2.746	4.0323	0.042	0.189
2880	16	0.078	3.278	2.878	3.9927	0.225	0.211
3060	16	0.088	3.288	2.888	3.9896	0.114	0.174
3180	16	0.103	3.303	2.903	3.9851	0.270	0.132
4320	16	0.154	3.354	2.954	3.9698	0.115	#NUM!



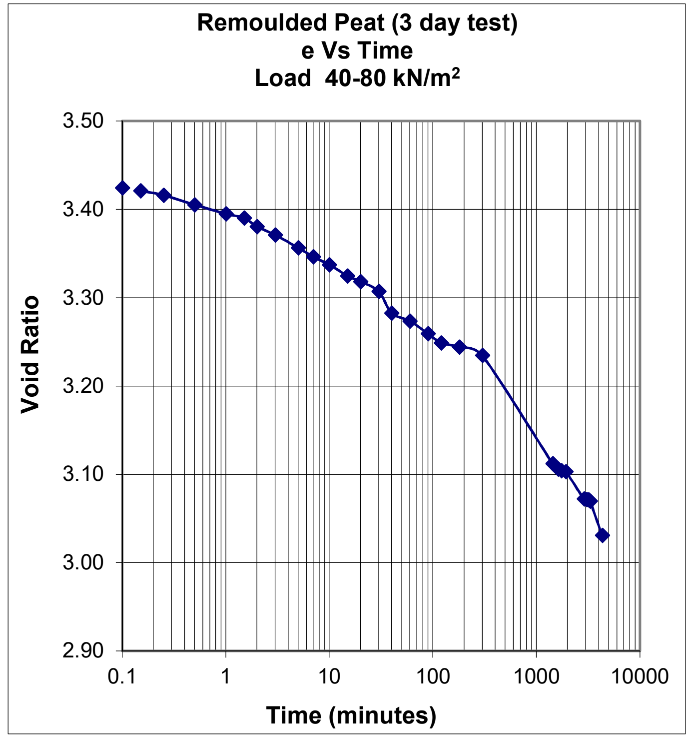
Sample – NBRO-Test E
Date-From 21/05/2015 to 25/07/2015
Conventional Consolidation
Load Increment 20kN/m² to 40kN/m²

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	16	0.154	3.354	2.9540	3.9698		
0.1	17	0.058	3.458	3.0580	3.9386		
0.15	17	0.07	3.47	3.0700	3.9350	0.0205	0.0257
0.25	17	0.092	3.492	3.0920	3.9284	0.0298	0.0345
0.5	17	0.13	3.53	3.1300	3.9170	0.0379	0.0439
1	17	0.18	3.58	3.1800	3.9019	0.0499	0.0630
1.5	18	0.036	3.63	3.2300	3.8869	0.0853	0.0858
2	18	0.066	3.666	3.2660	3.8761	0.0865	0.0998
3	18	0.13	3.73	3.3300	3.8569	0.1092	0.0936
5	18	0.19	3.79	3.3900	3.8389	0.0812	0.0947
7	19	0.046	3.846	3.4460	3.8220	0.1151	0.0698
10	19	0.06	3.86	3.4600	3.8178	0.0271	0.0944
15	19	0.15	3.95	3.5500	3.7908	0.1535	0.1237
20	19	0.184	3.984	3.5840	3.7806	0.0817	0.0878
30	20	0.038	4.038	3.6380	3.7644	0.0921	0.0858
40	20	0.07	4.07	3.6700	3.7548	0.0769	0.0838
60	20	0.122	4.122	3.7220	3.7391	0.0887	0.0785
90	20	0.162	4.162	3.7620	3.7271	0.0682	0.0818
120	21	0.004	4.204	3.8040	3.7145	0.1010	0.0918
180	21	0.054	4.254	3.8540	3.6995	0.0853	0.0891
300	21	0.122	4.322	3.9220	3.6791	0.0921	0.0767
420	21	0.148	4.348	3.9480	3.6713	0.0534	0.1711
1440	23	0.11	4.71	4.3100	3.5625	0.2032	0.1937
1620	23	0.126	4.726	4.3260	3.5577	0.0940	0.1535
1740	23	0.152	4.752	4.3520	3.5499	0.2516	0.1827
2880	24	0.078	4.878	4.4780	3.5121	0.1729	0.2586
4320	25	0.092	5.092	4.6920	3.4478	0.3650	#NUM!



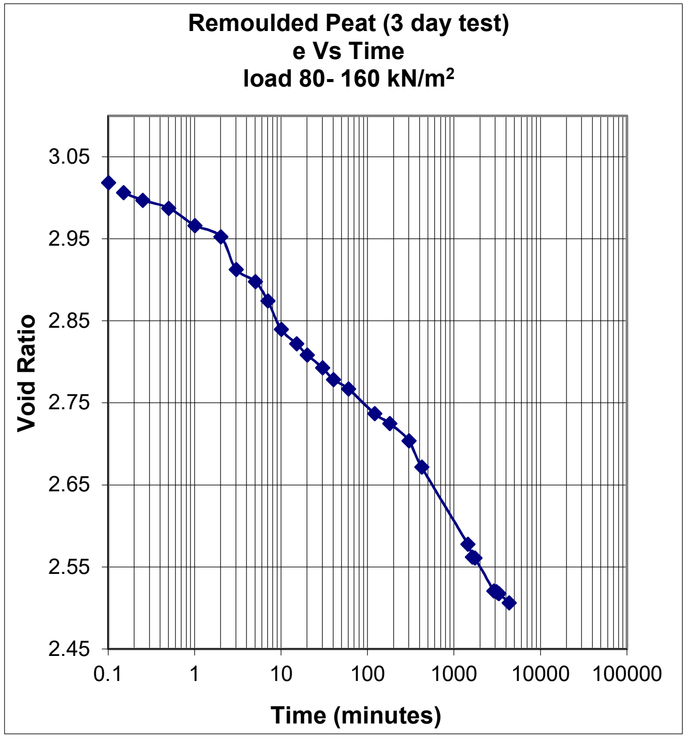
Sample – NBRO-Test E
Date-From 21/05/2015 to 25/07/2015
Conventional Consolidation
Load Increment 40kN/m² to 80kN/m²

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	25	0.092	5.092	4.6920	3.4478		
0.1	25	0.17	5.17	4.7700	3.4244		
0.15	25	0.182	5.182	4.7820	3.4208	0.0205	0.0211
0.25	25	0.198	5.198	4.7980	3.4160	0.0217	0.0299
0.5	26	0.034	5.234	4.8340	3.4051	0.0359	0.0349
1	26	0.068	5.268	4.8680	3.3949	0.0339	0.0315
1.5	26	0.084	5.284	4.8840	3.3901	0.0273	0.0479
2	26	0.116	5.316	4.9160	3.3805	0.0769	0.0639
3	26	0.148	5.348	4.9480	3.3709	0.0546	0.0604
5	26	0.196	5.396	4.9960	3.3565	0.0650	0.0669
7	27	0.03	5.43	5.0300	3.3463	0.0699	0.0639
10	27	0.06	5.46	5.0600	3.3373	0.0582	0.0653
15	27	0.102	5.502	5.1020	3.3246	0.0716	0.0639
20	27	0.124	5.524	5.1240	3.3180	0.0529	0.0579
30	27	0.16	5.56	5.1600	3.3072	0.0614	0.1177
40	28	0.042	5.642	5.2420	3.2826	0.1971	0.1118
60	28	0.072	5.672	5.2720	3.2736	0.0512	0.0665
90	28	0.12	5.72	5.3200	3.2592	0.0819	0.0818
120	28	0.154	5.754	5.3540	3.2490	0.0817	0.0499
180	28	0.17	5.77	5.3700	3.2441	0.0273	0.0362
300	29	0.002	5.802	5.4020	3.2345	0.0433	0.1463
1440	31	0.01	6.21	5.8100	3.1120	0.1799	0.1755
1620	31	0.03	6.23	5.8300	3.1060	0.1174	0.0950
1740	31	0.036	6.236	5.8360	3.1042	0.0581	0.0366
1920	31	0.039	6.239	5.8390	3.1033	0.0211	0.1455
2880	31	0.142	6.342	5.9420	3.0723	0.1757	0.1558
3060	31	0.144	6.344	5.9440	3.0717	0.0228	0.0279
3180	31	0.146	6.346	5.9460	3.0711	0.0360	0.0550
3300	31	0.15	6.35	5.9500	3.0699	0.0747	0.3025
4320	32	0.08	6.48	6.0800	3.0309	0.3338	#NUM!



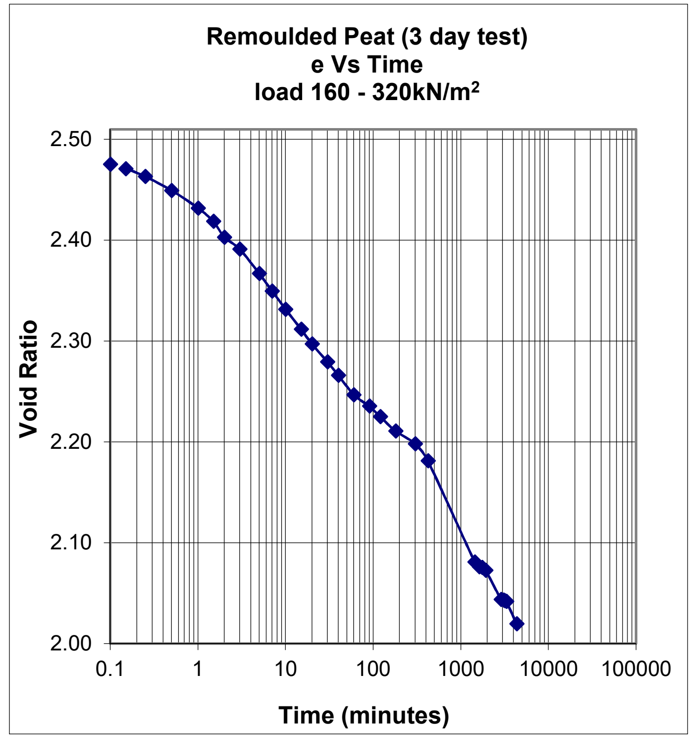
Sample – NBRO-Test E
Date-From 21/05/2015 to 25/07/2015
Conventional Consolidation
Load Increment 80kN/m^2 to 160kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	32	0.08	6.48	6.0800	3.0309		
0.1	32	0.12	6.52	6.1200	3.0189		
0.15	32	0.16	6.56	6.1600	3.0069	0.0682	0.0543
0.25	32	0.192	6.592	6.1920	2.9972	0.0433	0.0368
0.5	33	0.024	6.624	6.2240	2.9876	0.0319	0.0509
1	33	0.094	6.694	6.2940	2.9666	0.0698	0.0579
2	33	0.14	6.74	6.3400	2.9528	0.0459	0.1121
3	34	0.072	6.872	6.4720	2.9131	0.2252	0.1374
5	34	0.122	6.922	6.5220	2.8981	0.0677	0.1045
7	35	0	7	6.6000	2.8747	0.1603	0.1936
10	35	0.116	7.116	6.7160	2.8399	0.2249	0.1579
15	35	0.174	7.174	6.7740	2.8224	0.0989	0.1038
20	36	0.02	7.22	6.8200	2.8086	0.1106	0.0978
30	36	0.072	7.272	6.8720	2.7930	0.0887	0.0998
40	36	0.12	7.32	6.9200	2.7786	0.1154	0.0858
60	36	0.158	7.358	6.9580	2.7672	0.0648	0.0869
120	37	0.058	7.458	7.0580	2.7371	0.0998	0.0881
180	37	0.098	7.498	7.0980	2.7251	0.0682	0.0830
300	37	0.168	7.568	7.1680	2.7041	0.0948	0.1437
420	38	0.074	7.674	7.2740	2.6723	0.2179	0.1852
1440	39	0.188	7.988	7.5880	2.5779	0.1763	0.1875
1620	40	0.04	8.04	7.6400	2.5623	0.3053	0.2047
1740	40	0.044	8.044	7.6440	2.5611	0.0387	0.1647
2880	40	0.177	8.177	7.7770	2.5212	0.1825	0.1666
3060	40	0.18	8.18	7.7800	2.5203	0.0342	0.0628
3180	40	0.186	8.186	7.7860	2.5185	0.1079	0.0733
3300	40	0.188	8.188	7.7880	2.5179	0.0373	0.0903
4320	41	0.026	8.226	7.8260	2.5065	0.0976	#NUM!



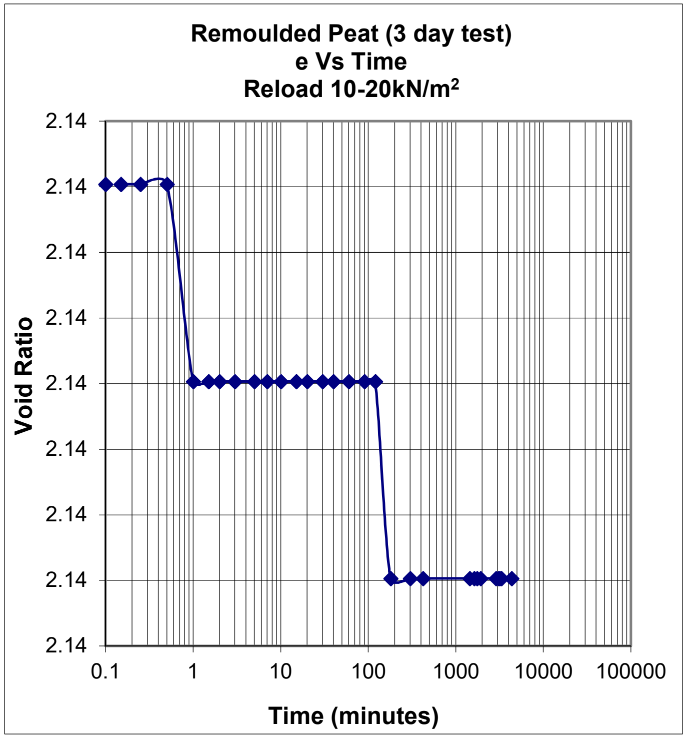
Sample – NBRO-Test E
Date-From 21/05/2015 to 25/07/2015
Conventional Consolidation
Load Increment 160kN/m^2 to 320kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	41	0.026	8.226	7.8260	2.5065		
0.1	41	0.13	8.33	7.9300	2.4752		
0.15	41	0.144	8.344	7.9440	2.4710	0.0239	0.0302
0.25	41	0.17	8.37	7.9700	2.4632	0.0352	0.0414
0.5	42	0.016	8.416	8.0160	2.4494	0.0459	0.0519
1	42	0.074	8.474	8.0740	2.4320	0.0579	0.0642
1.5	42	0.118	8.518	8.1180	2.4187	0.0751	0.0958
2	42	0.17	8.57	8.1700	2.4031	0.0958	0.0918
3	43	0.01	8.61	8.2100	2.3911	0.0682	0.0906
5	43	0.09	8.69	8.2900	2.3671	0.1083	0.1126
7	43	0.148	8.748	8.3480	2.3497	0.1192	0.1177
10	44	0.008	8.808	8.4080	2.3316	0.1163	0.1143
15	44	0.074	8.874	8.4740	2.3118	0.1126	0.1137
20	44	0.122	8.922	8.5220	2.2974	0.1154	0.1078
30	44	0.182	8.982	8.5820	2.2794	0.1023	0.1038
40	45	0.026	9.026	8.6260	2.2662	0.1058	0.1078
60	45	0.09	9.09	8.6900	2.2469	0.1092	0.0870
90	45	0.128	9.128	8.7280	2.2355	0.0648	0.0718
120	45	0.162	9.162	8.7620	2.2253	0.0718	0.0818
180	46	0.01	9.21	8.8100	2.2109	0.0819	0.0679
300	46	0.052	9.252	8.8520	2.1983	0.0569	0.0800
420	46	0.108	9.308	8.9080	2.1815	0.1151	0.1720
1440	48	0.042	9.642	9.2420	2.0811	0.1875	0.1793
1620	48	0.058	9.658	9.2580	2.0763	0.0940	0.0658
1740	48	0.06	9.66	9.2600	2.0757	0.0194	0.0488
1920	48	0.07	9.67	9.2700	2.0727	0.0703	0.1455
2880	48	0.166	9.766	9.3660	2.0439	0.1638	0.1454
3060	48	0.168	9.768	9.3680	2.0433	0.0228	0.0279
3180	48	0.17	9.77	9.3700	2.0427	0.0360	0.0366
3300	48	0.172	9.772	9.3720	2.0421	0.0373	0.1716
4320	49	0.046	9.846	9.4460	2.0199	0.1900	#NUM!



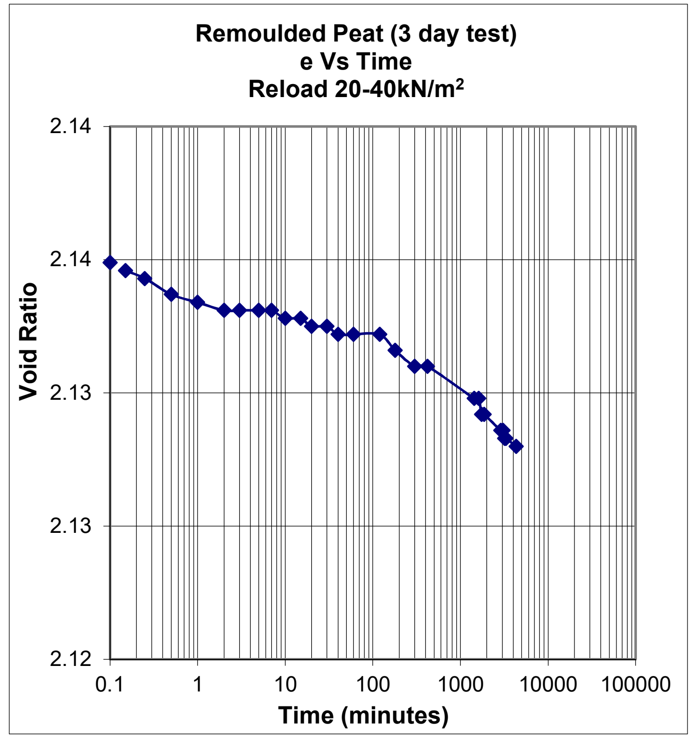
Sample – NBRO-Test E
Date-From 21/05/2015 to 25/07/2015
Conventional Consolidation
Load Increment 10kN/m^2 to 20kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	47	0.052	9.452	9.0520	2.1382		
0.1	47	0.053	9.453	9.0530	2.1379		
0.15	47	0.053	9.453	9.0530	2.1379	0.0000	0.0000
0.25	47	0.053	9.453	9.0530	2.1379	0.0000	0.0000
0.5	47	0.053	9.453	9.0530	2.1379	0.0000	0.0005
1	47	0.054	9.454	9.0540	2.1376	0.0010	0.0005
1.5	47	0.054	9.454	9.0540	2.1376	0.0000	0.0000
2	47	0.054	9.454	9.0540	2.1376	0.0000	0.0000
3	47	0.054	9.454	9.0540	2.1376	0.0000	0.0000
5	47	0.054	9.454	9.0540	2.1376	0.0000	0.0000
7	47	0.054	9.454	9.0540	2.1376	0.0000	0.0000
10	47	0.054	9.454	9.0540	2.1376	0.0000	0.0000
15	47	0.054	9.454	9.0540	2.1376	0.0000	0.0000
20	47	0.054	9.454	9.0540	2.1376	0.0000	0.0000
30	47	0.054	9.454	9.0540	2.1376	0.0000	0.0000
40	47	0.054	9.454	9.0540	2.1376	0.0000	0.0000
60	47	0.054	9.454	9.0540	2.1376	0.0000	0.0000
90	47	0.054	9.454	9.0540	2.1376	0.0000	0.0006
120	47	0.054	9.454	9.0540	2.1376	0.0000	0.0006
180	47	0.055	9.455	9.0550	2.1373	0.0017	0.0008
300	47	0.055	9.455	9.0550	2.1373	0.0000	0.0000
420	47	0.055	9.455	9.0550	2.1373	0.0000	0.0000
1440	47	0.055	9.455	9.0550	2.1373	0.0000	0.0000
1620	47	0.055	9.455	9.0550	2.1373	0.0000	0.0000
1740	47	0.055	9.455	9.0550	2.1373	0.0000	0.0000
1920	47	0.055	9.455	9.0550	2.1373	0.0000	0.0000
2880	47	0.055	9.455	9.0550	2.1373	0.0000	0.0000
3060	47	0.055	9.455	9.0550	2.1373	0.0000	0.0000
3180	47	0.055	9.455	9.0550	2.1373	0.0000	0.0000
3300	47	0.055	9.455	9.0550	2.1373	0.0000	0.0000
4320	47	0.055	9.455	9.0550	2.1373	0.0000	#NUM!



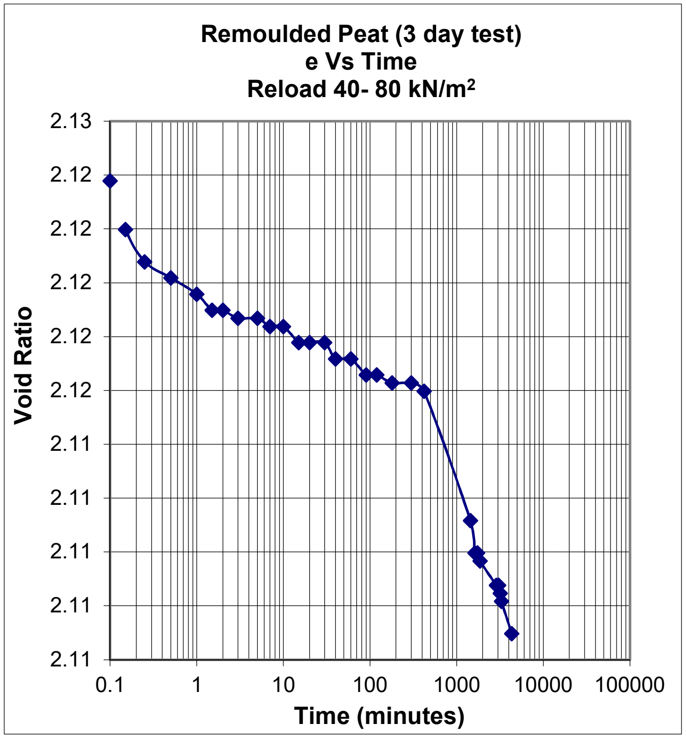
Sample – NBRO-Test E
Date-From 21/05/2015 to 25/07/2015
Conventional Consolidation
Load Increment 20kN/m² to 40kN/m²

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	47	0.055	9.455	9.0550	2.1373		
0.1	47	0.063	9.463	9.0630	2.1349		
0.15	47	0.064	9.464	9.0640	2.1346	0.0017	0.0015
0.25	47	0.065	9.465	9.0650	2.1343	0.0014	0.0017
0.5	47	0.067	9.467	9.0670	2.1337	0.0020	0.0015
1	47	0.068	9.468	9.0680	2.1334	0.0010	0.0008
2	47	0.069	9.469	9.0690	2.1331	0.0010	0.0004
3	47	0.069	9.469	9.0690	2.1331	0.0006	0.0004
5	47	0.069	9.469	9.0690	2.1331	0.0000	0.0000
7	47	0.069	9.469	9.0690	2.1331	0.0000	0.0010
10	47	0.07	9.47	9.0700	2.1328	0.0019	0.0009
15	47	0.07	9.47	9.0700	2.1328	0.0000	0.0010
20	47	0.071	9.471	9.0710	2.1325	0.0024	0.0010
30	47	0.071	9.471	9.0710	2.1325	0.0000	0.0010
40	47	0.072	9.472	9.0720	2.1322	0.0024	0.0010
60	47	0.072	9.472	9.0720	2.1322	0.0000	0.0000
120	47	0.072	9.472	9.0720	2.1322	0.0000	0.0017
180	47	0.074	9.474	9.0740	2.1316	0.0034	0.0022
300	47	0.076	9.476	9.0760	2.1310	0.0030	0.0022
420	47	0.076	9.476	9.0760	2.1310	0.0000	0.0018
1440	47	0.08	9.48	9.0800	2.1298	0.0022	0.0020
1620	47	0.08	9.48	9.0800	2.1298	0.0000	0.0073
1740	47	0.082	9.482	9.0820	2.1292	0.0194	0.0100
1860	47	0.082	9.482	9.0820	2.1292	0.0000	0.0027
2880	47	0.084	9.484	9.0840	2.1286	0.0032	0.0028
3060	47	0.084	9.484	9.0840	2.1286	0.0000	0.0070
3180	47	0.085	9.485	9.0850	2.1283	0.0180	0.0092
3300	47	0.085	9.485	9.0850	2.1283	0.0000	0.0023
4320	47	0.086	9.486	9.0860	2.1280	0.0026	#NUM!



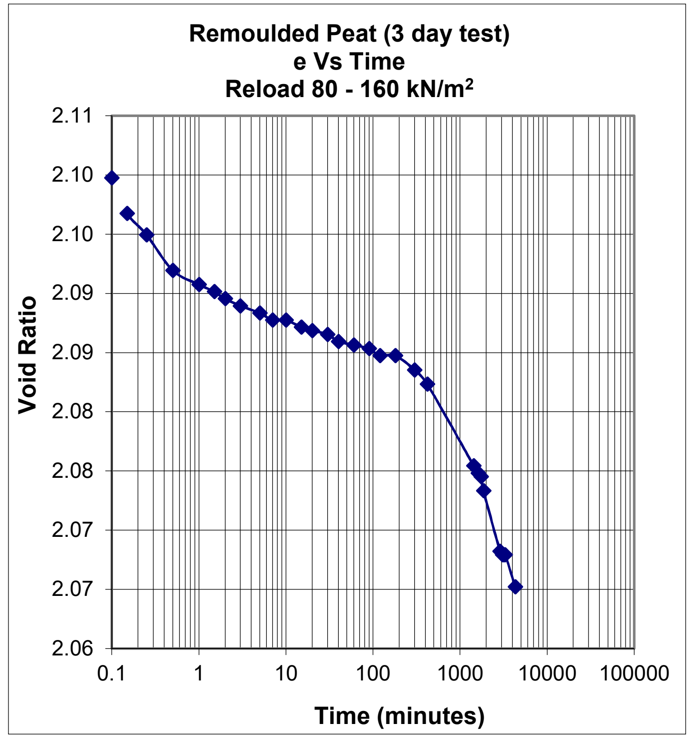
Sample – NBRO-Test E
Date-From 21/05/2015 to 25/07/2015
Conventional Consolidation
Load Increment 40kN/m^2 to 80kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	47	0.086	9.486	9.0860	2.1280		
0.1	47	0.1	9.5	9.1000	2.1238		
0.15	47	0.106	9.506	9.1060	2.1220	0.0102	0.0075
0.25	47	0.11	9.51	9.1100	2.1208	0.0054	0.0034
0.5	47	0.112	9.512	9.1120	2.1202	0.0020	0.0020
1	47	0.114	9.514	9.1140	2.1196	0.0020	0.0020
1.5	47	0.116	9.516	9.1160	2.1190	0.0034	0.0019
2	47	0.116	9.516	9.1160	2.1190	0.0020	0.0019
3	47	0.117	9.517	9.1170	2.1187	0.0017	0.0008
5	47	0.117	9.517	9.1170	2.1187	0.0000	0.0008
7	47	0.118	9.518	9.1180	2.1184	0.0021	0.0010
10	47	0.118	9.518	9.1180	2.1184	0.0000	0.0018
15	47	0.12	9.52	9.1200	2.1178	0.0034	0.0020
20	47	0.12	9.52	9.1200	2.1178	0.0000	0.0000
30	47	0.12	9.52	9.1200	2.1178	0.0000	0.0020
40	47	0.122	9.522	9.1220	2.1172	0.0048	0.0020
60	47	0.122	9.522	9.1220	2.1172	0.0000	0.0013
90	47	0.124	9.524	9.1240	2.1166	0.0034	0.0019
120	47	0.124	9.524	9.1240	2.1166	0.0020	0.0019
180	47	0.125	9.525	9.1250	2.1163	0.0017	0.0008
300	47	0.125	9.525	9.1250	2.1163	0.0000	0.0008
420	47	0.126	9.526	9.1260	2.1160	0.0021	0.0075
1440	47	0.142	9.542	9.1420	2.1112	0.0090	0.0102
1620	47	0.146	9.546	9.1460	2.1100	0.0235	0.0146
1740	47	0.146	9.546	9.1460	2.1100	0.0000	0.0050
1860	47	0.147	9.547	9.1470	2.1097	0.0104	0.0055
2880	47	0.15	9.55	9.1500	2.1088	0.0047	0.0042
3060	47	0.15	9.55	9.1500	2.1088	0.0000	0.0070
3180	47	0.151	9.551	9.1510	2.1085	0.0180	0.0183
3300	47	0.152	9.552	9.1520	2.1082	0.0187	0.0113
4320	47	0.156	9.556	9.1560	2.1070	0.0103	#NUM!



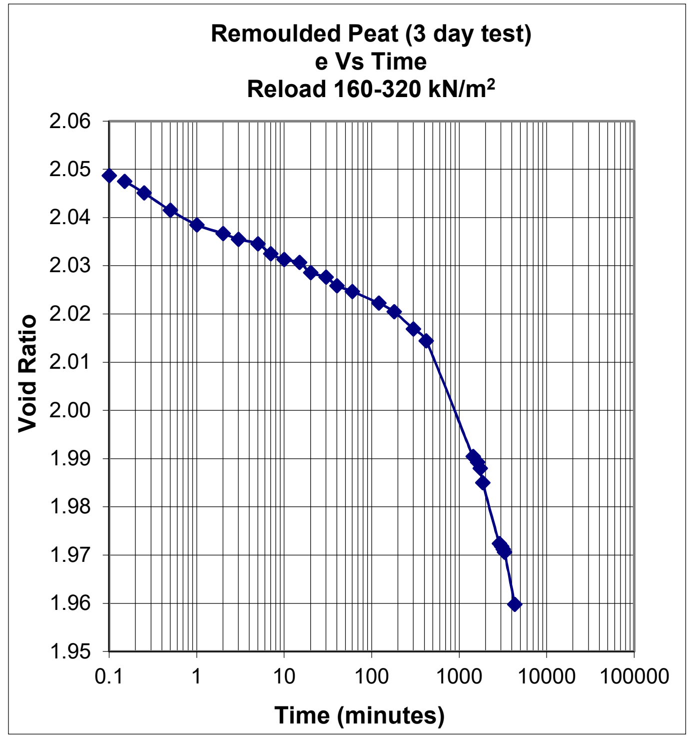
Sample – NBRO-Test E
Date-From 21/05/2015 to 25/07/2015
Conventional Consolidation
Load Increment 80kN/m² to 160kN/m²

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	$C_{\alpha}1$	$C_{\alpha}2$
0	47	0.156	9.556	9.1560	2.1070		
0.1	47	0.18	9.58	9.1800	2.0998		
0.15	47	0.19	9.59	9.1900	2.0968	0.0171	0.0121
0.25	47	0.196	9.596	9.1960	2.0950	0.0081	0.0092
0.5	48	0.006	9.606	9.2060	2.0919	0.0100	0.0070
1	48	0.01	9.61	9.2100	2.0907	0.0040	0.0040
1.5	48	0.012	9.612	9.2120	2.0901	0.0034	0.0038
2	48	0.014	9.614	9.2140	2.0895	0.0040	0.0038
3	48	0.016	9.616	9.2160	2.0889	0.0034	0.0030
5	48	0.018	9.618	9.2180	2.0883	0.0027	0.0033
7	48	0.02	9.62	9.2200	2.0877	0.0041	0.0020
10	48	0.02	9.62	9.2200	2.0877	0.0000	0.0018
15	48	0.022	9.622	9.2220	2.0871	0.0034	0.0030
20	48	0.023	9.623	9.2230	2.0868	0.0024	0.0020
30	48	0.024	9.624	9.2240	2.0865	0.0017	0.0030
40	48	0.026	9.626	9.2260	2.0859	0.0048	0.0030
60	48	0.027	9.627	9.2270	2.0856	0.0017	0.0025
90	48	0.028	9.628	9.2280	2.0853	0.0017	0.0019
120	48	0.03	9.63	9.2300	2.0847	0.0030	0.0019
180	48	0.03	9.63	9.2300	2.0847	0.0000	0.0030
300	48	0.034	9.634	9.2340	2.0835	0.0054	0.0065
420	48	0.038	9.638	9.2380	2.0823	0.0082	0.0119
1440	48	0.061	9.661	9.2610	2.0754	0.0129	0.0128
1620	48	0.063	9.663	9.2630	2.0748	0.0117	0.0110
1740	48	0.064	9.664	9.2640	2.0745	0.0097	0.0250
1860	48	0.068	9.668	9.2680	2.0733	0.0415	0.0288
2880	48	0.085	9.685	9.2850	2.0682	0.0269	0.0250
3060	48	0.086	9.686	9.2860	2.0679	0.0114	0.0070
3180	48	0.086	9.686	9.2860	2.0679	0.0000	0.0000
3300	48	0.086	9.686	9.2860	2.0679	0.0000	0.0203
4320	48	0.095	9.695	9.2950	2.0652	0.0231	#NUM!



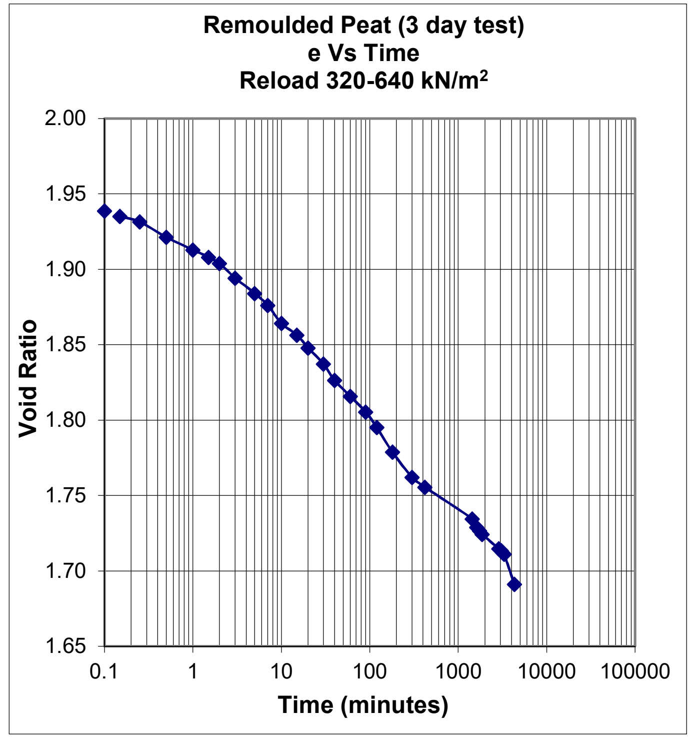
Sample – NBRO-Test E
Date-From 21/05/2015 to 25/07/2015
Conventional Consolidation
Load Increment 160kN/m² to 320kN/m²

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	48	0.095	9.695	9.2950	2.0652		
0.1	48	0.15	9.75	9.3500	2.0487		
0.15	48	0.154	9.754	9.3540	2.0475	0.0068	0.0091
0.25	48	0.162	9.762	9.3620	2.0451	0.0108	0.0115
0.5	48	0.174	9.774	9.3740	2.0415	0.0120	0.0110
1	48	0.184	9.784	9.3840	2.0385	0.0100	0.0077
2	48	0.19	9.79	9.3900	2.0367	0.0060	0.0056
3	48	0.194	9.794	9.3940	2.0355	0.0063	0.0056
5	48	0.197	9.797	9.3970	2.0346	0.0041	0.0082
7	49	0.004	9.804	9.4040	2.0325	0.0144	0.0110
10	49	0.008	9.808	9.4080	2.0313	0.0078	0.0054
15	49	0.01	9.81	9.4100	2.0307	0.0034	0.0090
20	49	0.017	9.817	9.4170	2.0286	0.0168	0.0100
30	49	0.02	9.82	9.4200	2.0277	0.0051	0.0090
40	49	0.026	9.826	9.4260	2.0259	0.0144	0.0100
60	49	0.03	9.83	9.4300	2.0247	0.0068	0.0076
120	49	0.038	9.838	9.4380	2.0223	0.0080	0.0112
180	49	0.044	9.844	9.4440	2.0205	0.0102	0.0144
300	49	0.056	9.856	9.4560	2.0169	0.0136	0.0144
420	49	0.064	9.864	9.4640	2.0145	0.0164	0.0388
1440	49	0.144	9.944	9.5440	1.9904	0.0449	0.0430
1620	49	0.148	9.948	9.5480	1.9892	0.0235	0.0292
1740	49	0.152	9.952	9.5520	1.9880	0.0387	0.0701
1860	49	0.162	9.962	9.5620	1.9850	0.1037	0.0714
2880	50	0.004	10.004	9.6040	1.9724	0.0664	0.0611
3060	50	0.006	10.006	9.6060	1.9718	0.0228	0.0279
3180	50	0.008	10.008	9.6080	1.9712	0.0360	0.0366
3300	50	0.01	10.01	9.6100	1.9706	0.0373	0.0858
4320	50	0.046	10.046	9.6460	1.9598	0.0924	#NUM!



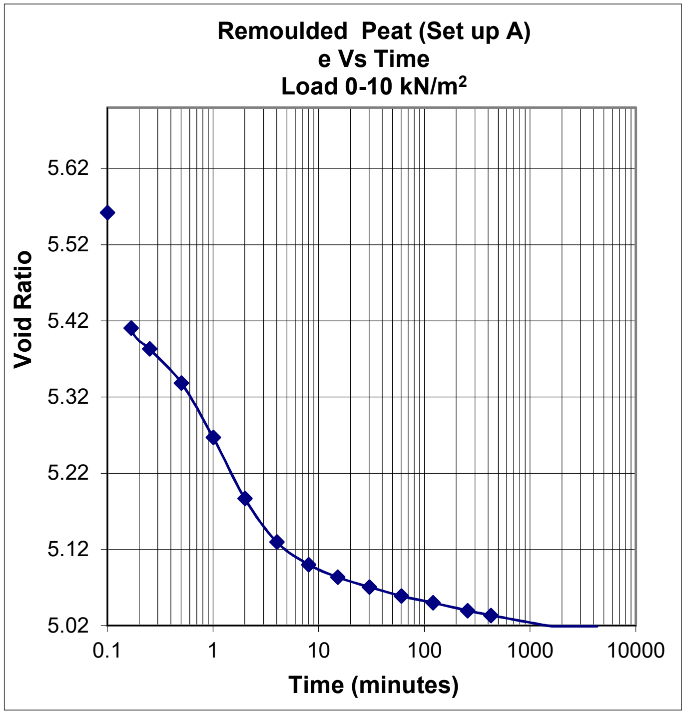
Sample – NBRO-Test E
Date-From 21/05/2015 to 25/07/2015
Conventional Consolidation
Load Increment 320kN/m^2 to 640kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	50	0.046	10.046	9.6460	1.9598		
0.1	50	0.116	10.116	9.7160	1.9388		
0.15	50	0.128	10.128	9.7280	1.9352	0.0205	0.0181
0.25	50	0.14	10.14	9.7400	1.9316	0.0162	0.0264
0.5	50	0.174	10.174	9.7740	1.9213	0.0339	0.0309
1	51	0.002	10.202	9.8020	1.9129	0.0279	0.0289
1.5	51	0.018	10.218	9.8180	1.9081	0.0273	0.0390
2	51	0.032	10.232	9.8320	1.9039	0.0299	0.0390
3	51	0.064	10.264	9.8640	1.8943	0.0546	0.0498
5	51	0.098	10.298	9.8980	1.8841	0.0460	0.0490
7	51	0.124	10.324	9.9240	1.8763	0.0534	0.0659
10	51	0.164	10.364	9.9640	1.8643	0.0776	0.0599
15	51	0.19	10.39	9.9900	1.8565	0.0443	0.0539
20	52	0.018	10.418	10.0180	1.8481	0.0673	0.0639
30	52	0.054	10.454	10.0540	1.8372	0.0614	0.0718
40	52	0.09	10.49	10.0900	1.8264	0.0865	0.0708
60	52	0.125	10.525	10.1250	1.8159	0.0597	0.0655
90	52	0.16	10.56	10.1600	1.8054	0.0597	0.0774
120	52	0.194	10.594	10.1940	1.7952	0.0688	0.0774
180	53	0.048	10.648	10.2480	1.7790	0.0921	0.0830
300	53	0.104	10.704	10.3040	1.7621	0.0758	0.0637
420	53	0.126	10.726	10.3260	1.7555	0.0452	0.0406
1440	53	0.196	10.796	10.3960	1.7345	0.0393	0.0451
1620	54	0.014	10.814	10.4140	1.7291	0.1057	0.0950
1740	54	0.022	10.822	10.4220	1.7267	0.0774	0.0801
1860	54	0.03	10.83	10.4300	1.7243	0.0830	0.0549
2880	54	0.062	10.862	10.4620	1.7147	0.0506	0.0500
3060	54	0.066	10.866	10.4660	1.7135	0.0456	0.0558
3180	54	0.07	10.87	10.4700	1.7123	0.0719	0.0733
3300	54	0.074	10.874	10.4740	1.7111	0.0747	0.1580
4320	54	0.14	10.94	10.5400	1.6913	0.1695	#NUM!



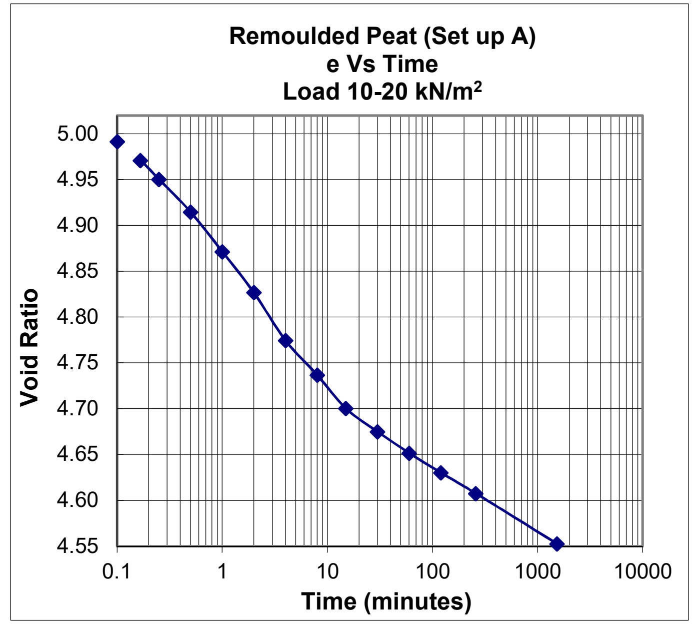
Sample – UOM-Test A
Date – From 09/05/2011 to 27/06/2011
Conventional Consolidation
Load Increment 0kN/m^2 to 10kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
5/9/2011 9:26	0	0	0	0.000	0.0000	5.6995		
5/9/2011 9:26	0.1	2	0	0.400	0.4000	5.5621		
5/9/2011 9:26	0.166667	4	4	0.840	0.8400	5.4109	0.6814	0.4489
5/9/2011 9:26	0.25	4	12	0.920	0.9200	5.3834	0.1561	0.1512
5/9/2011 9:26	0.5	5	5	1.050	1.0500	5.3388	0.1484	0.1929
5/9/2011 9:27	1	6	5.8	1.258	1.2580	5.2673	0.2374	0.2522
5/9/2011 9:28	2	7	9.2	1.492	1.4920	5.1869	0.2671	0.2283
5/9/2011 9:30	4	8	5.8	1.658	1.6580	5.1299	0.1895	0.1438
5/9/2011 9:34	8	8	14.4	1.744	1.7440	5.1003	0.0982	0.0802
5/9/2011 9:41	15	8	19.2	1.792	1.7920	5.0839	0.0604	0.0515
5/9/2011 9:56	30	9	3	1.830	1.8300	5.0708	0.0434	0.0411
5/9/2011 10:26	60	9	6.4	1.864	1.8640	5.0591	0.0388	0.0342
5/9/2011 11:26	120	9	9	1.890	1.8900	5.0502	0.0297	0.0307
5/9/2011 13:40	254	9	12	1.920	1.9200	5.0399	0.0317	0.0301
5/9/2011 16:30	424	9	13.8	1.938	1.9380	5.0337	0.0278	0.0261
5/10/201110:00	1474	9	17.8	1.978	1.9780	5.0199	0.0254	0.0239
5/10/201113:50	1704	9	18	1.980	1.9800	5.0193	0.0109	0.0024
5/11/2011 9:15	2869	9	18	1.980	1.9800	5.0193	0.0000	0.0000
5/12/2011 9:00	4294	9	18	1.980	1.9800	5.0193	0.0000	#NUM!



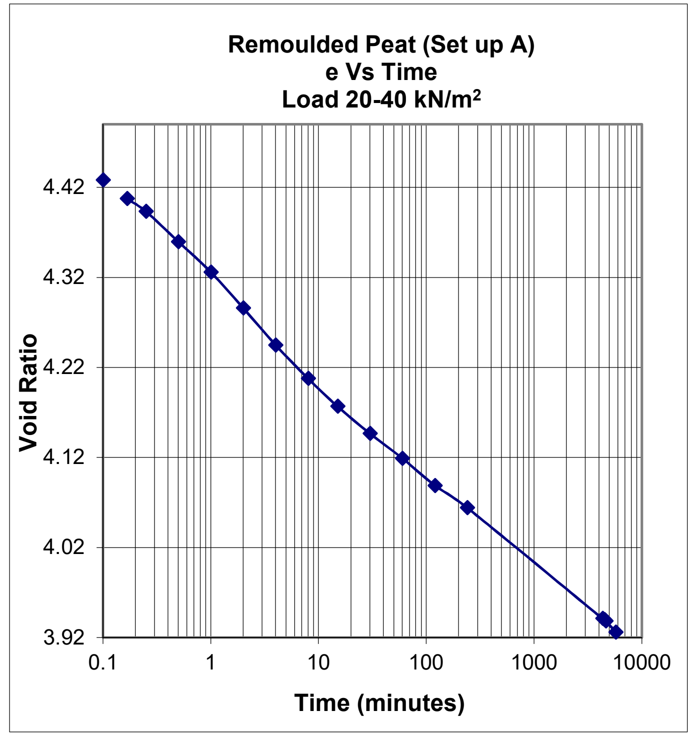
Sample – UOM-Test A
Date – From 09/05/2011 to 27/06/2011
Conventional Consolidation
Load Increment 10kN/m² to 20kN/m²

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
5/12/2011 9:32	0	9	18	1.980	1.9800	5.0193		
5/12/2011 9:32	0.1	10	6	2.060	2.0600	4.9918		
5/12/2011 9:32	0.166667	10	12	2.120	2.1200	4.9712	0.0929	0.1036
5/12/2011 9:32	0.25	10	18	2.180	2.1800	4.9505	0.1171	0.1181
5/12/2011 9:32	0.5	11	8.4	2.284	2.2840	4.9148	0.1187	0.1312
5/12/2011 9:33	1	12	1	2.410	2.4100	4.8715	0.1438	0.1461
5/12/2011 9:34	2	12	14	2.540	2.5400	4.8269	0.1484	0.1609
5/12/2011 9:36	4	13	9.2	2.692	2.6920	4.7746	0.1735	0.1495
5/12/2011 9:40	8	14	0.2	2.802	2.8020	4.7369	0.1255	0.1293
5/12/2011 9:47	15	14	10.8	2.908	2.9080	4.7004	0.1334	0.1077
5/12/2011 10:02	30	14	18.2	2.982	2.9820	4.6750	0.0845	0.0810
5/12/2011 10:32	60	15	5	3.050	3.0500	4.6516	0.0776	0.0742
5/12/2011 11:32	120	15	11.2	3.112	3.1120	4.6303	0.0708	0.0694
5/12/2011 13:50	258	15	17.8	3.178	3.1780	4.6077	0.0682	0.0703
5/13/2011 11:00	1528	16	13.8	3.338	3.3380	4.5527	0.0712	#NUM!



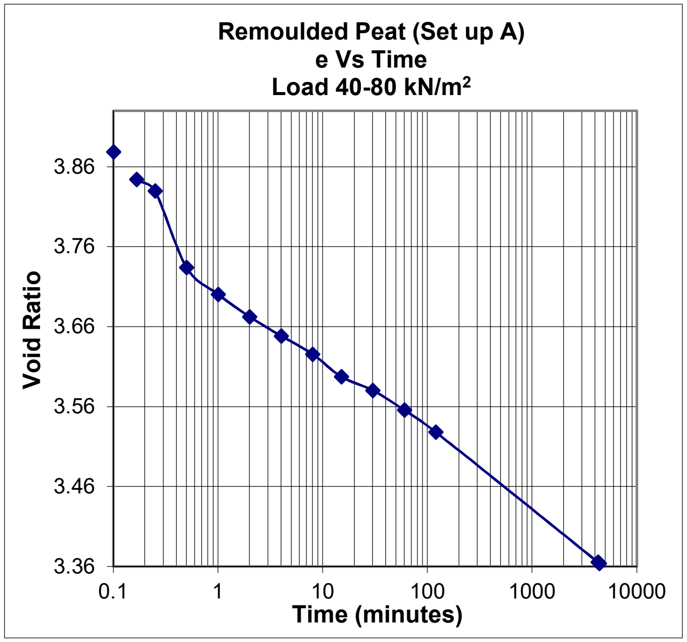
Sample – UOM-Test A
Date – From 09/05/2011 to 27/06/2011
Conventional Consolidation
Load Increment 20kN/m² to 40kN/m²

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
5/16/2011 9:58	0	17	12.2	3.522	3.522	4.4895		
5/16/2011 9:58	0.1	18	10	3.700	3.7	4.4283		
5/16/2011 9:58	0.166	18	16	3.760	3.76	4.4077	0.093	0.088
5/16/2011 9:58	0.25	19	0.2	3.802	3.802	4.3933	0.082	0.101
5/16/2011 9:58	0.5	19	10	3.900	3.9	4.3596	0.112	0.112
5/16/2011 9:59	1	19	19.8	3.998	3.998	4.3259	0.112	0.122
5/16/2011 10:00	2	20	11.4	4.114	4.114	4.2861	0.132	0.135
5/16/2011 10:02	4	21	3.4	4.234	4.234	4.2449	0.137	0.130
5/16/2011 10:06	8	21	14.2	4.342	4.342	4.2078	0.123	0.119
5/16/2011 10:13	15	22	3.2	4.432	4.432	4.1768	0.113	0.107
5/16/2011 10:28	30	22	12	4.520	4.52	4.1466	0.100	0.096
5/16/2011 10:58	60	23	0	4.600	4.6	4.1191	0.091	0.096
5/16/2011 11:58	120	23	8.8	4.688	4.688	4.0889	0.100	0.091
5/16/2011 13:58	240	23	16	4.760	4.76	4.0642	0.082	0.095
5/19/2011 9:50	4312	25	11.8	5.118	5.118	3.9412	0.098	0.098
5/19/2011 12:51	4493	25	12.2	5.122	5.122	3.9398	0.077	0.090
5/19/2011 15:05	4627	25	12.6	5.126	5.126	3.9384	0.108	0.130
5/20/2011 9:30	5732	25	16.2	5.162	5.162	3.9260	0.133	#NUM!



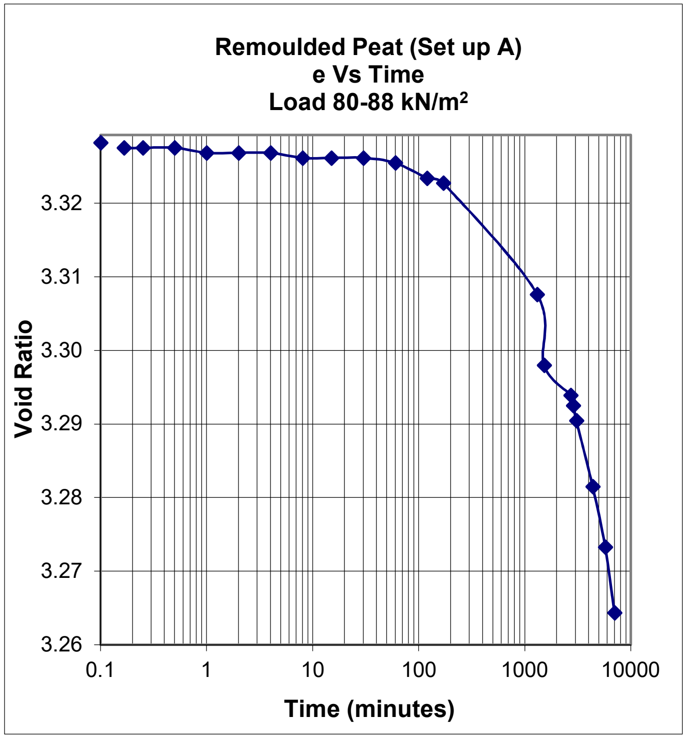
Sample – UOM-Test A
Date – From 09/05/2011 to 27/06/2011
Conventional Consolidation
Load Increment 40kN/m^2 to 80kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
5/20/2011 10:07	0	25	16.2	5.162	5.1620	3.9260		
5/20/2011 10:07	0.1	26	10	5.300	5.3000	3.8786		
5/20/2011 10:07	0.167	27	0	5.400	5.4000	3.8443	0.1549	0.1226
5/20/2011 10:07	0.25	27	4.2	5.442	5.4420	3.8298	0.0819	0.2304
5/20/2011 10:07	0.5	28	12	5.720	5.7200	3.7343	0.3173	0.2146
5/20/2011 10:08	1	29	1.8	5.818	5.8180	3.7007	0.1118	0.1027
5/20/2011 10:09	2	29	10	5.900	5.9000	3.6725	0.0936	0.0867
5/20/2011 10:11	4	29	17	5.970	5.9700	3.6484	0.0799	0.0776
5/20/2011 10:15	8	30	3.6	6.036	6.0360	3.6258	0.0753	0.0886
5/20/2011 10:22	15	30	11.8	6.118	6.1180	3.5976	0.1032	0.0790
5/20/2011 10:37	30	30	16.8	6.168	6.1680	3.5804	0.0571	0.0696
5/20/2011 11:07	60	31	4	6.240	6.2400	3.5557	0.0822	0.0867
5/20/2011 12:07	120	31	12	6.320	6.3200	3.5282	0.0913	0.1028
5/23/2011 9:10	4263	33	19.4	6.794	6.7940	3.3653	0.1050	0.1051
5/23/2011 11:10	4383	33	19.8	6.798	6.7980	3.3640	0.1140	#NUM!



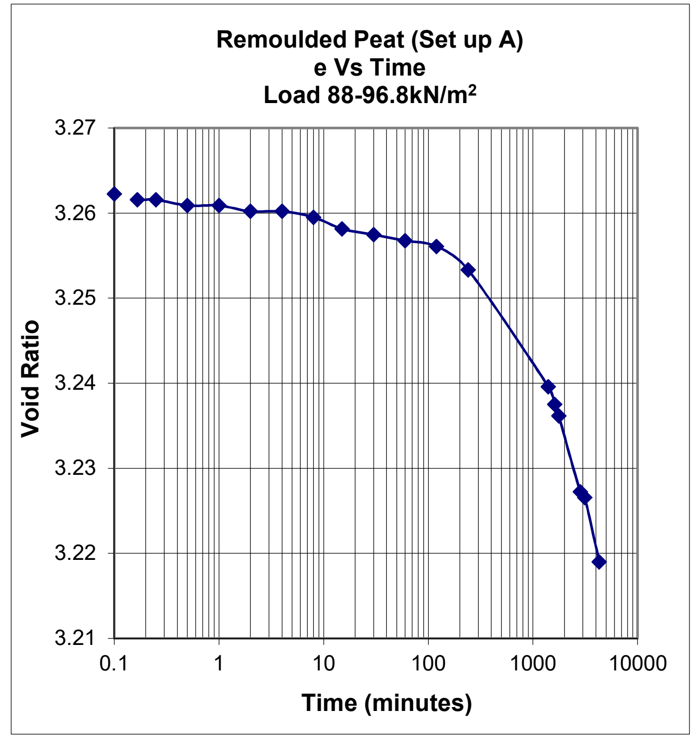
Sample – UOM-Test A
Date – From 09/05/2011 to 27/06/2011
Conventional Consolidation
Load Increment 80kN/m² to 88kN/m²

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
5/25/2011 12:10	0	34	9.8	6.898	6.8980	3.3296		
5/25/2011 12:10	0.1	34	10.2	6.902	6.9020	3.3282		
5/25/2011 12:10	0.167	34	10.4	6.904	6.9040	3.3275	0.0031	0.0017
5/25/2011 12:10	0.25	34	10.4	6.904	6.9040	3.3275	0.0000	0.0000
5/25/2011 12:10	0.5	34	10.4	6.904	6.9040	3.3275	0.0000	0.0011
5/25/2011 12:11	1	34	10.6	6.906	6.9060	3.3269	0.0023	0.0011
5/25/2011 12:12	2	34	10.6	6.906	6.9060	3.3269	0.0000	0.0000
5/25/2011 12:14	4	34	10.6	6.906	6.9060	3.3269	0.0000	0.0011
5/25/2011 12:18	8	34	10.8	6.908	6.9080	3.3262	0.0023	0.0012
5/25/2011 12:25	15	34	10.8	6.908	6.9080	3.3262	0.0000	0.0000
5/25/2011 12:40	30	34	10.8	6.908	6.9080	3.3262	0.0000	0.0011
5/25/2011 13:10	60	34	11	6.910	6.9100	3.3255	0.0023	0.0046
5/25/2011 14:10	120	34	11.6	6.916	6.9160	3.3234	0.0068	0.0061
5/25/2011 15:00	170	34	11.8	6.918	6.9180	3.3227	0.0045	0.0152
5/26/2011 10:00	1310	34	16.2	6.962	6.9620	3.3076	0.0170	0.0260
5/26/2011 13:30	1520	34	19	6.990	6.9900	3.2980	0.1490	0.0434
5/27/2011 9:25	2715	35	0.2	7.002	7.0020	3.2939	0.0164	0.0199
5/27/2011 12:00	2870			7.006	7.0060	3.2925	0.0570	0.0652
5/27/2011 15:15	3065			7.012	7.0120	3.2904	0.0722	0.0602
5/28/2011 13:00	4370			7.038	7.0380	3.2815	0.0580	0.0631
5/29/2011 11:45	5735			7.062	7.0620	3.2733	0.0698	0.0832
5/30/2011 9:20	7030			7.088	7.0880	3.2643	0.1010	#NUM!



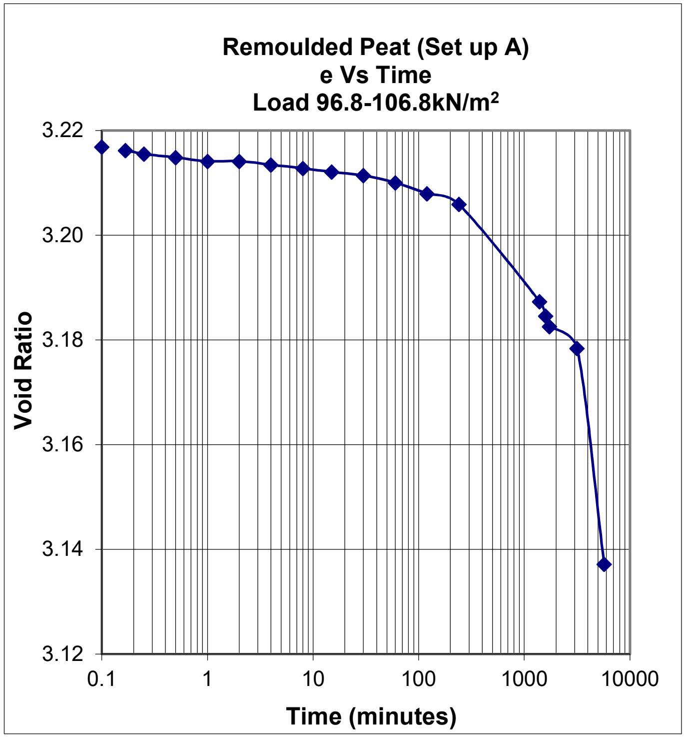
Sample – UOM-Test A
Date – From 09/05/2011 to 27/06/2011
Conventional Consolidation
Load Increment 88kN/m² to 96.8kN/m²

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
5/30/2011 9:53	0			7.088	7.0880	3.2643		
5/30/2011 9:53	0.1			7.094	7.0940	3.2623		
5/30/2011 9:53	0.16667			7.096	7.0960	3.2616	0.0031	0.0017
5/30/2011 9:53	0.25			7.096	7.0960	3.2616	0.0000	0.0014
5/30/2011 9:53	0.5			7.098	7.0980	3.2609	0.0023	0.0011
5/30/2011 9:54	1			7.098	7.0980	3.2609	0.0000	0.0011
5/30/2011 9:55	2			7.100	7.1000	3.2602	0.0023	0.0011
5/30/2011 9:57	4			7.100	7.1000	3.2602	0.0000	0.0011
5/30/2011 10:01	8			7.102	7.1020	3.2595	0.0023	0.0036
5/30/2011 10:08	15			7.106	7.1060	3.2581	0.0050	0.0036
5/30/2011 10:23	30			7.108	7.1080	3.2575	0.0023	0.0023
5/30/2011 10:53	60			7.110	7.1100	3.2568	0.0023	0.0023
5/30/2011 11:53	120			7.112	7.1120	3.2561	0.0023	0.0057
5/30/2011 13:53	240			7.120	7.1200	3.2533	0.0091	0.0154
5/31/2011 9:15	1402			7.160	7.1600	3.2396	0.0179	0.0191
5/31/2011 12:45	1612			7.166	7.1660	3.2375	0.0340	0.0346
5/31/2011 15:15	1762			7.170	7.1700	3.2362	0.0356	0.0422
6/1/2011 9:00	2827			7.196	7.1960	3.2272	0.0435	0.0386
6/1/2011 14:00	3127			7.198	7.1980	3.2265	0.0157	0.0453
6/2/2011 9:30	4297			7.220	7.2200	3.2190	0.0548	#NUM!



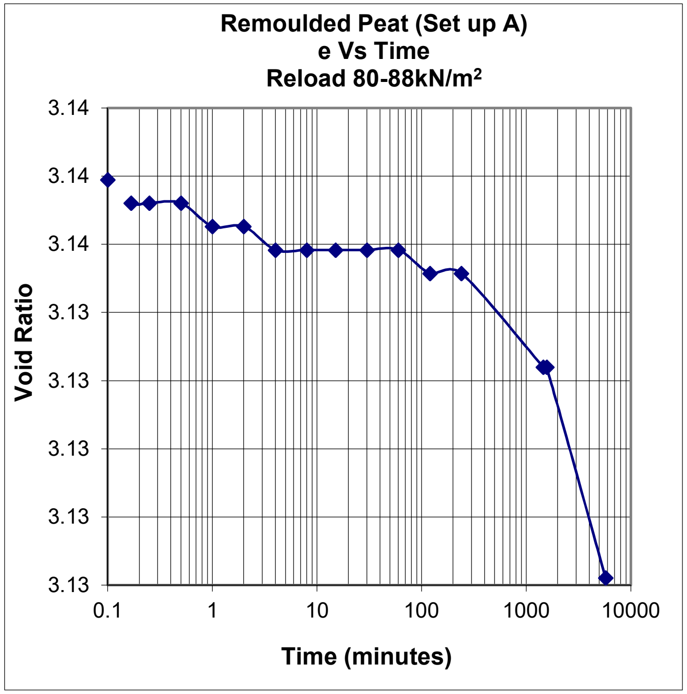
Sample – UOM-Test A
Date – From 09/05/2011 to 27/06/2011
Conventional Consolidation
Load Increment 96.8kN/m^2 to 106.8kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
6/2/2011 10:15	0			7.220	7.220	3.2190		
6/2/2011 10:15	0.1			7.226	7.226	3.2169		
6/2/2011 10:15	0.166			7.228	7.228	3.2162	0.0031	0.0035
6/2/2011 10:15	0.25			7.230	7.230	3.2155	0.0039	0.0029
6/2/2011 10:15	0.5			7.232	7.232	3.2149	0.0023	0.0023
6/2/2011 10:16	1			7.234	7.234	3.2142	0.0023	0.0011
6/2/2011 10:17	2			7.234	7.234	3.2142	0.0000	0.0011
6/2/2011 10:19	4			7.236	7.236	3.2135	0.0023	0.0023
6/2/2011 10:23	8			7.238	7.238	3.2128	0.0023	0.0024
6/2/2011 10:30	15			7.240	7.240	3.2121	0.0025	0.0024
6/2/2011 10:45	30			7.242	7.242	3.2114	0.0023	0.0034
6/2/2011 11:15	60			7.246	7.246	3.2100	0.0046	0.0057
6/2/2011 12:15	120			7.252	7.252	3.2080	0.0068	0.0068
6/2/2011 14:15	240			7.258	7.258	3.2059	0.0068	0.0193
6/3/2011 9:30	1395			7.312	7.312	3.1874	0.0243	0.0259
6/3/2011 12:50	1595			7.320	7.320	3.1846	0.0472	0.0522
6/3/2011 15:00	1725			7.326	7.326	3.1826	0.0606	0.0208
6/4/2011 14:56	3161			7.338	7.338	3.1784	0.0157	0.0872
6/6/2011 9:25	5710			7.426	7.458	3.1372	0.1605	#NUM!



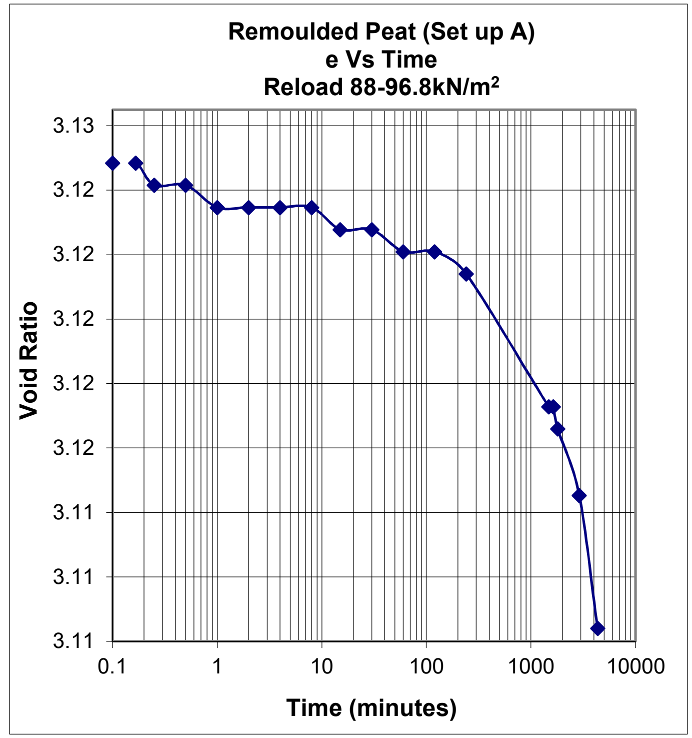
Sample – UOM-Test A
Date – From 09/05/2011 to 27/06/2011
Conventional Consolidation
Load Increment 80kN/m^2 to 88kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
6/16/2011 9:54	0			7.452	7.4520	3.1393		
6/16/2011 9:54	0.1			7.456	7.4560	3.1379		
6/16/2011 9:54	0.16			7.458	7.4580	3.1372	0.0031	0.0017
6/16/2011 9:54	0.25			7.458	7.4580	3.1372	0.0000	0.0000
6/16/2011 9:54	0.5			7.458	7.4580	3.1372	0.0000	0.0011
6/16/2011 9:55	1			7.460	7.4600	3.1365	0.0023	0.0011
6/16/2011 9:56	2			7.460	7.4600	3.1365	0.0000	0.0011
6/16/2011 9:58	4			7.462	7.4620	3.1358	0.0023	0.0011
6/16/2011 10:02	8			7.462	7.4620	3.1358	0.0000	0.0000
6/16/2011 10:09	15			7.462	7.4620	3.1358	0.0000	0.0000
6/16/2011 10:24	30			7.462	7.4620	3.1358	0.0000	0.0000
6/16/2011 10:54	60			7.462	7.4620	3.1358	0.0000	0.0011
6/16/2011 11:54	120			7.464	7.4640	3.1352	0.0023	0.0011
6/16/2011 13:54	240			7.464	7.4640	3.1352	0.0000	0.0025
6/17/2011 10:10	1456			7.472	7.4720	3.1324	0.0035	0.0034
6/17/2011 12:00	1566			7.472	7.4720	3.1324	0.0000	0.0104
6/20/2011 9:35	5741			7.490	7.4900	3.1262	0.0110	#NUM!



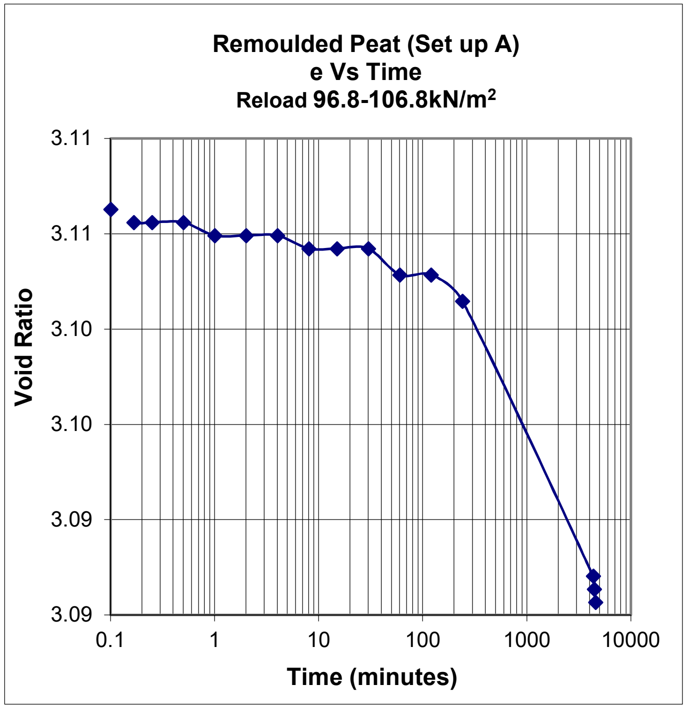
Sample – UOM-Test A
Date – From 09/05/2011 to 27/06/2011
Conventional Consolidation
Load Increment 88kN/m^2 to 96.8kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	$C_{\alpha 1}$	$C_{\alpha 2}$
6/20/2011 9:47	0			7.490	7.4900	3.1262		
6/20/2011 9:47	0.1			7.494	7.4940	3.1248		
6/20/2011 9:47	0.16			7.494	7.4940	3.1248	0.0000	0.0017
6/20/2011 9:47	0.25			7.496	7.4960	3.1242	0.0039	0.0014
6/20/2011 9:47	0.5			7.496	7.4960	3.1242	0.0000	0.0011
6/20/2011 9:48	1			7.498	7.4980	3.1235	0.0023	0.0011
6/20/2011 9:49	2			7.498	7.4980	3.1235	0.0000	0.0000
6/20/2011 9:51	4			7.498	7.4980	3.1235	0.0000	0.0000
6/20/2011 9:55	8			7.498	7.4980	3.1235	0.0000	0.0012
6/20/2011 10:02	15			7.500	7.5000	3.1228	0.0025	0.0012
6/20/2011 10:17	30			7.500	7.5000	3.1228	0.0000	0.0011
6/20/2011 10:47	60			7.502	7.5020	3.1221	0.0023	0.0011
6/20/2011 11:47	120			7.502	7.5020	3.1221	0.0000	0.0011
6/20/2011 13:47	240			7.504	7.5040	3.1214	0.0023	0.0044
6/21/2011 10:25	1478			7.516	7.5160	3.1173	0.0052	0.0050
6/21/2011 13:00	1633			7.516	7.5160	3.1173	0.0000	0.0081
6/21/2011 15:45	1798			7.518	7.5180	3.1166	0.0164	0.0111
6/22/2011 10:00	2893			7.524	7.5240	3.1145	0.0100	0.0162
6/23/2011 10:00	4333			7.536	7.5360	3.1104	0.0235	#NUM!



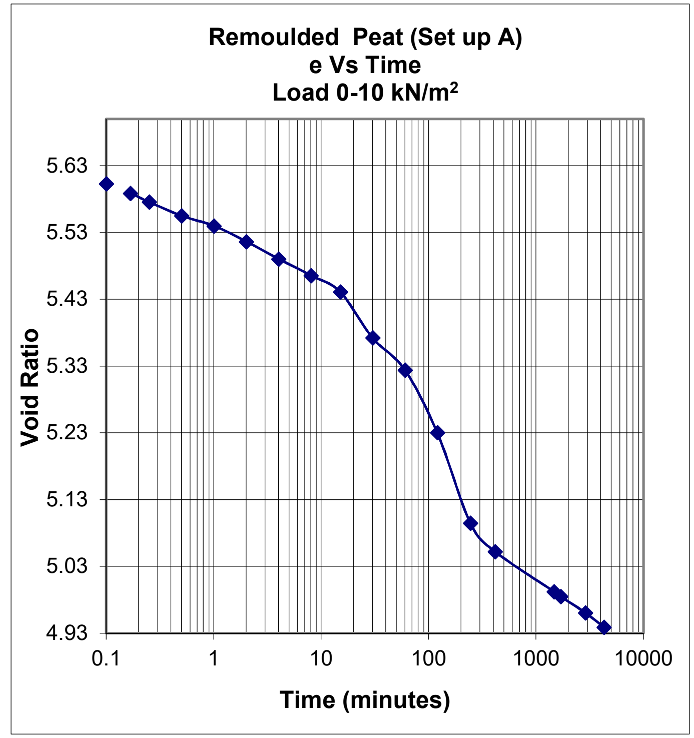
Sample – UOM-Test A
Date – From 09/05/2011 to 27/06/2011
Conventional Consolidation
Load Increment 96.8kN/m^2 to 106.8kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
6/24/2011 10:12	0			7.540	7.5400	3.1090		
6/24/2011 10:12	0.1			7.548	7.5480	3.1063		
6/24/2011 10:12	0.16			7.550	7.5500	3.1056	0.0031	0.0017
6/24/2011 10:12	0.25			7.550	7.5500	3.1056	0.0000	0.0000
6/24/2011 10:12	0.5			7.550	7.5500	3.1056	0.0000	0.0011
6/24/2011 10:13	1			7.552	7.5520	3.1049	0.0023	0.0011
6/24/2011 10:14	2			7.552	7.5520	3.1049	0.0000	0.0000
6/24/2011 10:16	4			7.552	7.5520	3.1049	0.0000	0.0011
6/24/2011 10:20	8			7.554	7.5540	3.1042	0.0023	0.0012
6/24/2011 10:27	15			7.554	7.5540	3.1042	0.0000	0.0000
6/24/2011 10:42	30			7.554	7.5540	3.1042	0.0000	0.0023
6/24/2011 11:12	60			7.558	7.5580	3.1029	0.0046	0.0023
6/24/2011 12:12	120			7.558	7.5580	3.1029	0.0000	0.0023
6/24/2011 14:12	240			7.562	7.5620	3.1015	0.0046	0.0102
6/27/2011 10:15	4323			7.604	7.6040	3.0871	0.0115	0.0119
6/27/2011 12:00	4428			7.606	7.6060	3.0864	0.0659	0.0624
6/27/2011 14:00	4548			7.608	7.6080	3.0857	0.0592	#NUM!



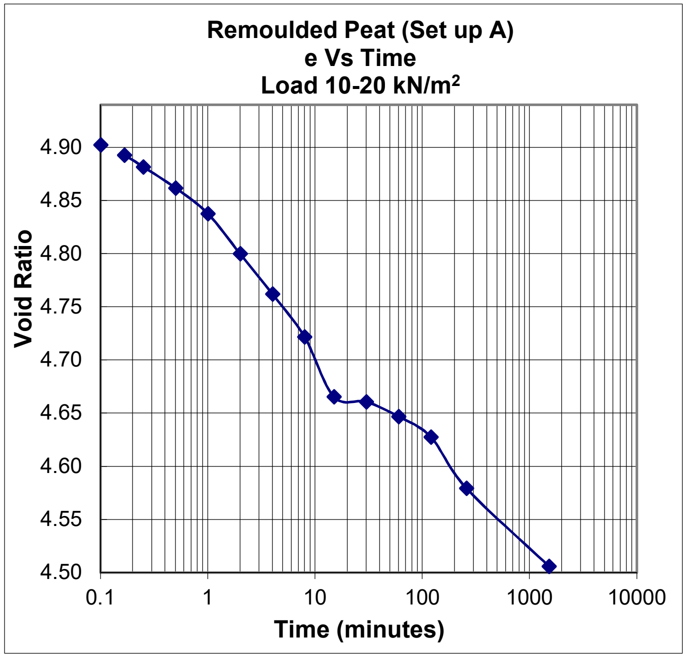
Sample – UOM-Test B
Date-From 09/05/2011 to 27/06/2011
Conventional Consolidation
Load Increment 0kN/m^2 to 10kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	$C_{\alpha}1$	$C_{\alpha}2$
5/9/2011 9:36	0	0	0	0.000	0.0000	5.6995		
5/9/2011 9:36	0.1	1	8	0.280	0.2800	5.6033		
5/9/2011 9:36	0.16	1	12.2	0.322	0.3220	5.5889	0.0650	0.0691
5/9/2011 9:36	0.25	1	16	0.360	0.3600	5.5758	0.0741	0.0706
5/9/2011 9:36	0.5	2	2	0.420	0.4200	5.5552	0.0685	0.0593
5/9/2011 9:37	1	2	6.4	0.464	0.4640	5.5401	0.0502	0.0639
5/9/2011 9:38	2	2	13.2	0.532	0.5320	5.5167	0.0776	0.0822
5/9/2011 9:40	4	3	0.8	0.608	0.6080	5.4906	0.0867	0.0845
5/9/2011 9:44	8	3	8	0.680	0.6800	5.4659	0.0822	0.0862
5/9/2011 9:51	15	3	15.2	0.752	0.7520	5.4412	0.0906	0.1628
5/9/2011 10:06	30	4	15.2	0.952	0.9520	5.3724	0.2283	0.1940
5/9/2011 10:36	60	5	9.2	1.092	1.0920	5.3243	0.1598	0.2351
5/9/2011 11:36	120	6	16.4	1.364	1.3640	5.2309	0.3104	0.3767
5/9/2011 13:40	244	8	16	1.760	1.7600	5.0948	0.4414	0.3322
5/9/2011 16:30	414	9	8.4	1.884	1.8840	5.0522	0.1855	0.1316
5/10/2011 10:00	1464	10	5.8	2.058	2.0580	4.9925	0.1090	0.1100
5/10/2011 13:50	1694	10	8	2.080	2.0800	4.9849	0.1193	0.1087
5/11/2011 9:15	2859	10	15	2.150	2.1500	4.9609	0.1058	0.1143
5/12/2011 9:00	4284	11	1.4	2.214	2.2140	4.9389	0.1252	#NUM!



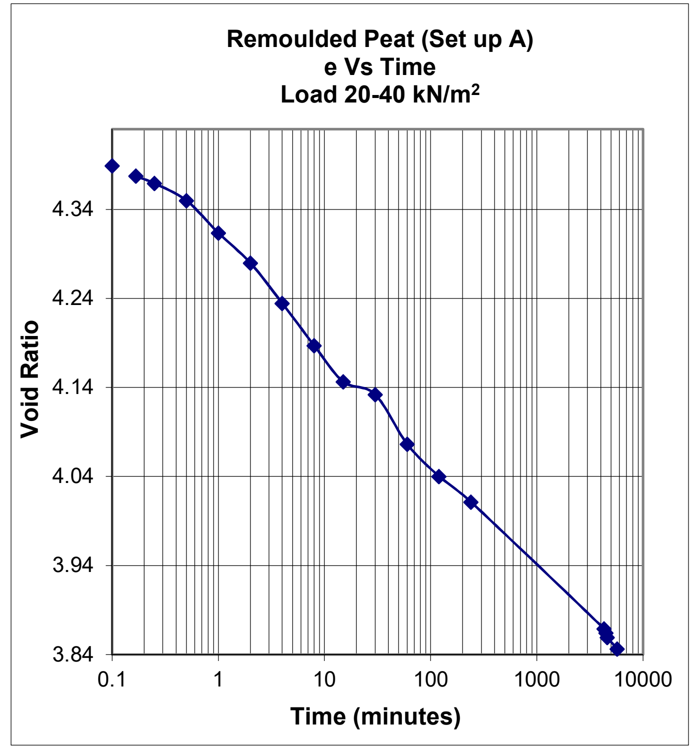
Sample – UOM-Test B
Date-From 09/05/2011 to 27/06/2011
Conventional Consolidation
Load Increment 10kN/m^2 to 20kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
5/12/2011 9:43	0	11	1.4	2.214	2.2140	4.9389		
5/12/2011 9:43	0.1	11	12	2.320	2.3200	4.9025		
5/12/2011 9:43	0.16	11	14.8	2.348	2.3480	4.8928	0.0434	0.0518
5/12/2011 9:43	0.25	11	18	2.380	2.3800	4.8818	0.0624	0.0648
5/12/2011 9:43	0.5	12	3.8	2.438	2.4380	4.8619	0.0662	0.0730
5/12/2011 9:44	1	12	10.8	2.508	2.5080	4.8379	0.0799	0.1027
5/12/2011 9:45	2	13	1.8	2.618	2.6180	4.8001	0.1255	0.1255
5/12/2011 9:47	4	13	12.8	2.728	2.7280	4.7623	0.1255	0.1301
5/12/2011 9:51	8	14	4.6	2.846	2.8460	4.7217	0.1347	0.1688
5/12/2011 9:58	15	15	1	3.010	3.0100	4.6654	0.2064	0.1065
5/12/2011 10:13	30	15	2.4	3.024	3.0240	4.6606	0.0160	0.0308
5/12/2011 10:43	60	15	6.4	3.064	3.0640	4.6468	0.0457	0.0548
5/12/2011 11:43	120	15	12	3.120	3.1200	4.6276	0.0639	0.1066
5/12/2011 14:00	257	16	6	3.260	3.2600	4.5795	0.1454	0.1104
5/13/2011 11:00	1517	17	7.4	3.474	3.4740	4.5060	0.0954	#NUM!



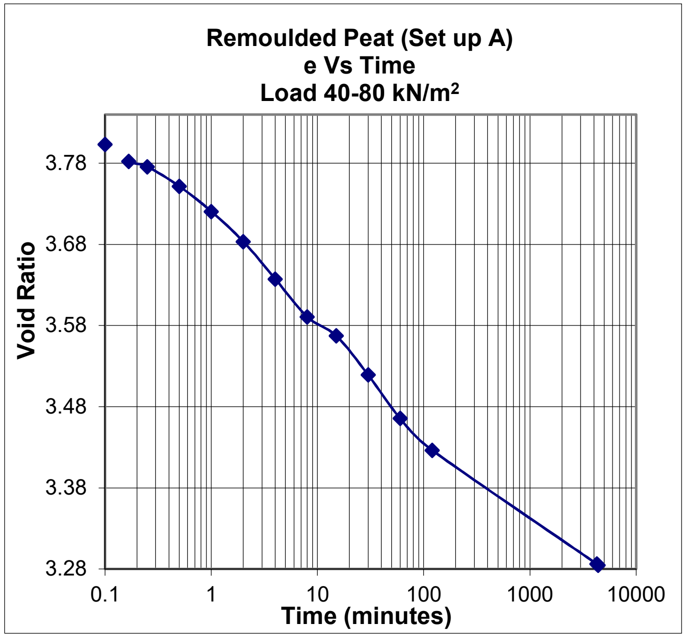
Sample – UOM-Test B
Date-From 09/05/2011 to 27/06/2011
Conventional Consolidation
Load Increment 20kN/m^2 to 40kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
5/16/2011 10:09	0	18	9.6	3.696	3.696	4.4297		
5/16/2011 10:09	0.1	19	1.4	3.814	3.814	4.3892		
5/16/2011 10:09	0.16	19	4.8	3.848	3.848	4.3775	0.053	0.050
5/16/2011 10:09	0.25	19	7.2	3.872	3.872	4.3692	0.047	0.058
5/16/2011 10:09	0.5	19	12.8	3.928	3.928	4.3500	0.064	0.092
5/16/2011 10:10	1	20	3.4	4.034	4.034	4.3136	0.121	0.116
5/16/2011 10:11	2	20	13.2	4.132	4.132	4.2799	0.112	0.131
5/16/2011 10:13	4	21	6.4	4.264	4.264	4.2346	0.151	0.154
5/16/2011 10:17	8	22	0.2	4.402	4.402	4.1871	0.157	0.153
5/16/2011 10:24	15	22	12	4.520	4.52	4.1466	0.149	0.096
5/16/2011 10:39	30	22	16.2	4.562	4.562	4.1322	0.048	0.116
5/16/2011 11:09	60	23	12.4	4.724	4.724	4.0765	0.185	0.153
5/16/2011 12:09	120	24	3	4.830	4.83	4.0401	0.121	0.108
5/16/2011 14:09	240	24	11.4	4.914	4.914	4.0112	0.096	0.110
5/19/2011 9:50	4301	26	12.8	5.328	5.328	3.8690	0.113	0.116
5/19/2011 12:51	4482	26	14.2	5.342	5.342	3.8642	0.269	0.313
5/19/2011 15:05	4616	26	15.6	5.356	5.356	3.8594	0.376	0.169
5/20/2011 9:30	5721	26	19.4	5.394	5.394	3.8463	0.140	#NUM!



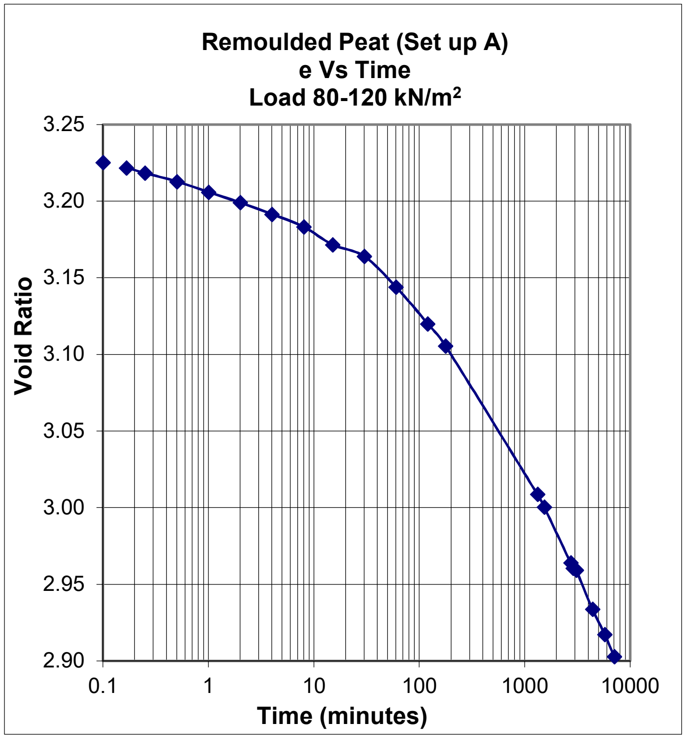
Sample – UOM-Test B
Date-From 09/05/2011 to 27/06/2011
Conventional Consolidation
Load Increment 40kN/m^2 to 80kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
5/20/2011 10:02	0	27	4	5.440	5.4400	3.8305		
5/20/2011 10:02	0.1	27	12	5.520	5.5200	3.8030		
5/20/2011 10:02	0.16	27	18	5.580	5.5800	3.7824	0.0929	0.0691
5/20/2011 10:02	0.25	28	0	5.600	5.6000	3.7756	0.0390	0.0648
5/20/2011 10:02	0.5	28	7	5.670	5.6700	3.7515	0.0799	0.0913
5/20/2011 10:03	1	28	16	5.760	5.7600	3.7206	0.1027	0.1130
5/20/2011 10:04	2	29	6.8	5.868	5.8680	3.6835	0.1233	0.1381
5/20/2011 10:06	4	30	0.2	6.002	6.0020	3.6374	0.1529	0.1541
5/20/2011 10:10	8	30	13.8	6.138	6.1380	3.5907	0.1552	0.1221
5/20/2011 10:17	15	31	0.6	6.206	6.2060	3.5674	0.0856	0.1245
5/20/2011 10:32	30	31	14.6	6.346	6.3460	3.5193	0.1598	0.1689
5/20/2011 11:02	60	32	10.2	6.502	6.5020	3.4657	0.1780	0.1541
5/20/2011 12:02	120	33	1.6	6.616	6.6160	3.4265	0.1301	0.0968
5/23/2011 9:10	4268	35	2.4	7.024	7.0240	3.2863	0.0904	0.0906
5/23/2011 11:10	4388	35	2.8	7.028	7.0280	3.2849	0.1141	#NUM!



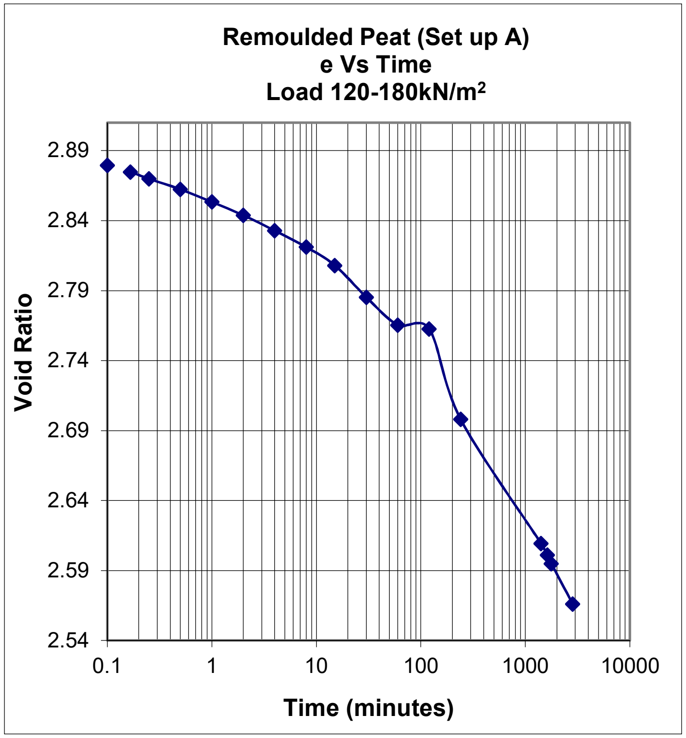
Sample – UOM-Test B
Date-From 09/05/2011 to 27/06/2011
Conventional Consolidation
Load Increment 80kN/m^2 to 120kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
5/25/2011 12:03	0	35	15.2	7.152	7.1520	3.2423		
5/25/2011 12:03	0.1	36	0.2	7.202	7.2020	3.2252		
5/25/2011 12:03	0.1	36	1.2	7.212	7.2120	3.2217	0.0155	0.0173
5/25/2011 12:03	0.25	36	2.2	7.222	7.2220	3.2183	0.0195	0.0187
5/25/2011 12:03	0.5	36	3.8	7.238	7.2380	3.2128	0.0183	0.0205
5/25/2011 12:04	1	36	5.8	7.258	7.2580	3.2059	0.0228	0.0228
5/25/2011 12:05	2	36	7.8	7.278	7.2780	3.1991	0.0228	0.0240
5/25/2011 12:07	4	36	10	7.300	7.3000	3.1915	0.0251	0.0262
5/25/2011 12:11	8	36	12.4	7.324	7.3240	3.1833	0.0274	0.0347
5/25/2011 12:18	15	36	15.8	7.358	7.3580	3.1716	0.0428	0.0335
5/25/2011 12:33	30	36	18	7.380	7.3800	3.1640	0.0251	0.0457
5/25/2011 13:03	60	37	3.8	7.438	7.4380	3.1441	0.0662	0.0730
5/25/2011 14:03	120	37	10.8	7.508	7.5080	3.1200	0.0799	0.0819
5/25/2011 15:00	177	37	15	7.550	7.5500	3.1056	0.0855	0.1070
5/26/2011 10:00	1317	39	3.2	7.832	7.8320	3.0087	0.1112	0.1123
5/26/2011 13:30	1527	39	5.6	7.856	7.8560	3.0005	0.1283	0.1417
5/27/2011 9:25	2722	39	16.2	7.962	7.9620	2.9641	0.1451	0.1449
5/27/2011 12:00	2877			7.972	7.9720	2.9606	0.1428	0.0916
5/27/2011 15:15	3072			7.976	7.9760	2.9592	0.0483	0.1471
5/28/2011 13:00	4377			8.05	8.0500	2.9338	0.1654	0.1543
5/29/2011 11:45	5742			8.098	8.0980	2.9173	0.1399	0.1499
5/30/2011 9:20	7037			8.14	8.1400	2.9029	0.1634	#NUM!



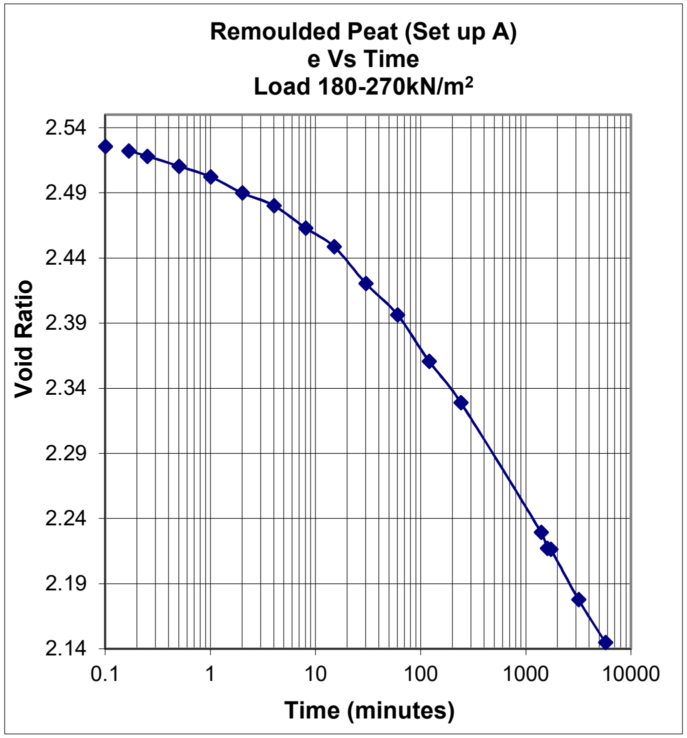
Sample – UOM-Test B
Date-From 09/05/2011 to 27/06/2011
Conventional Consolidation
Load Increment 120kN/m^2 to 180kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
5/30/2011 9:45	0	0	0	8.140	8.1400	2.9029		
5/30/2011 9:45	0.1	0	6.8	8.208	8.2080	2.8795		
5/30/2011 9:45	0.1	0	8.2	8.222	8.2220	2.8747	0.0217	0.0242
5/30/2011 9:45	0.25	0	9.6	8.236	8.2360	2.8699	0.0273	0.0259
5/30/2011 9:45	0.5	0	11.8	8.258	8.2580	2.8624	0.0251	0.0274
5/30/2011 9:46	1	0	14.4	8.284	8.2840	2.8534	0.0297	0.0308
5/30/2011 9:47	2	0	17.2	8.312	8.3120	2.8438	0.0320	0.0342
5/30/2011 9:49	4	1	0.4	8.344	8.3440	2.8328	0.0365	0.0377
5/30/2011 9:53	8	1	3.8	8.378	8.3780	2.8211	0.0388	0.0431
5/30/2011 10:00	15	1	7.6	8.416	8.4160	2.8081	0.0478	0.0622
5/30/2011 10:15	30	1	14.2	8.482	8.4820	2.7854	0.0753	0.0708
5/30/2011 10:45	60	2	0	8.540	8.5400	2.7655	0.0662	0.0377
5/30/2011 11:45	120	2	0.8	8.548	8.5480	2.7627	0.0091	0.1118
5/30/2011 13:45	240	2	19.6	8.736	8.7360	2.6981	0.2146	0.1432
5/31/2011 9:15	1410	4	5.4	8.994	8.9940	2.6095	0.1153	0.1168
5/31/2011 12:45	1620	4	7.8	9.018	9.0180	2.6013	0.1368	0.1461
5/31/2011 15:15	1770	4	9.6	9.036	9.0360	2.5951	0.1608	0.1442
6/1/2011 9:00	2835	4	18	9.120	9.1200	2.5662	0.1411	0.1273
6/1/2011 14:00	3135	4	18.8	9.128	9.1280	2.5635	0.0629	0.1098
6/2/2011 9:30	4305	5	3.8	9.178	9.1780	2.5463	0.1247	#NUM!



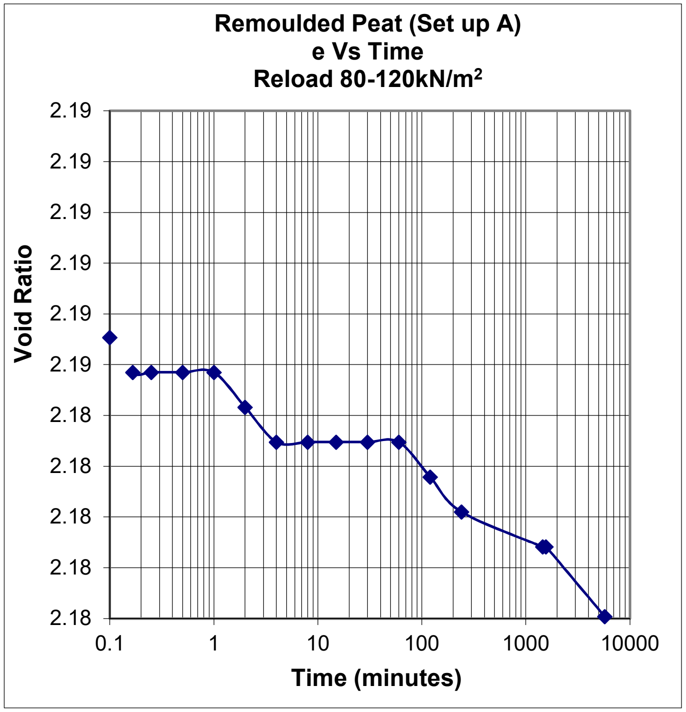
Sample – UOM-Test B
Date-From 09/05/2011 to 27/06/2011
Conventional Consolidation
Load Increment 180kN/m² to 270kN/m²

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
6/2/2011 10:15	0	5	3.8	9.178	9.1780	2.5463		
6/2/2011 10:15	0.1	5	9.8	9.238	9.2380	2.5257		
6/2/2011 10:15	0.1	5	10.8	9.248	9.2480	2.5222	0.0155	0.0190
6/2/2011 10:15	0.25	5	12	9.260	9.2600	2.5181	0.0234	0.0245
6/2/2011 10:15	0.5	5	14.2	9.282	9.2820	2.5105	0.0251	0.0262
6/2/2011 10:16	1	5	16.6	9.306	9.3060	2.5023	0.0274	0.0342
6/2/2011 10:17	2	6	0.2	9.342	9.3420	2.4899	0.0411	0.0365
6/2/2011 10:19	4	6	3	9.370	9.3700	2.4803	0.0320	0.0445
6/2/2011 10:23	8	6	8	9.420	9.4200	2.4631	0.0571	0.0551
6/2/2011 10:30	15	6	12.2	9.462	9.4620	2.4487	0.0529	0.0742
6/2/2011 10:45	30	7	0.4	9.544	9.5440	2.4205	0.0936	0.0867
6/2/2011 11:15	60	7	7.4	9.614	9.6140	2.3965	0.0799	0.0993
6/2/2011 12:15	120	7	17.8	9.718	9.7180	2.3608	0.1187	0.1118
6/2/2011 14:15	240	8	7	9.810	9.8100	2.3291	0.1050	0.1232
6/3/2011 9:30	1395	9	16	10.100	10.1000	2.2295	0.1303	0.1362
6/3/2011 12:50	1595	9	19.6	10.136	10.1360	2.2171	0.2126	0.1416
6/3/2011 15:00	1725	9	19.8	10.138	10.1380	2.2165	0.0202	0.1318
6/4/2011 14:56	3161	10	11	10.250	10.2500	2.1780	0.1463	0.1375
6/6/2011 9:25	5710	11	0.6	10.346	10.3460	2.1450	0.1284	#NUM!



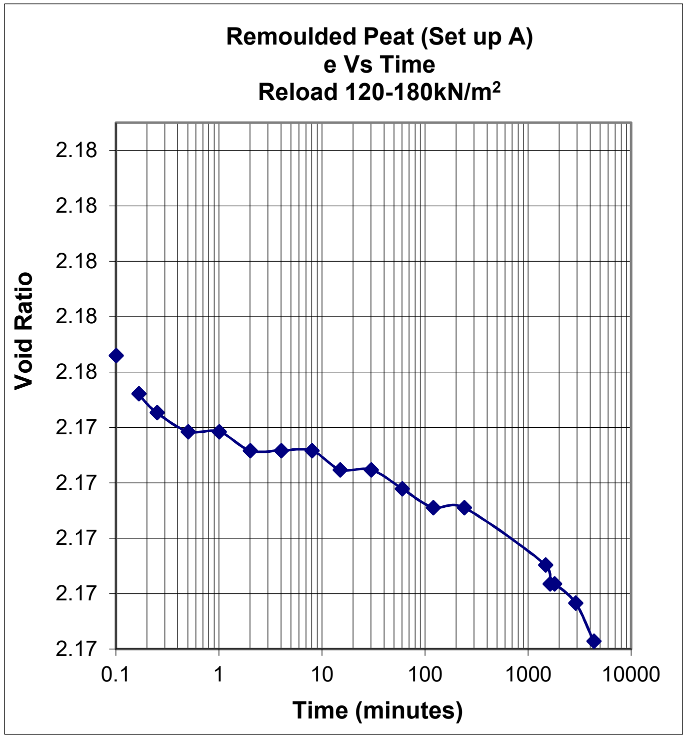
Sample – UOM-Test B
Date-From 09/05/2011 to 27/06/2011
Conventional Consolidation
Load Increment 80kN/m^2 to 120kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
6/16/2011 10:01	0			10.220	10.2200	2.1883		
6/16/2011 10:01	0.1			10.228	10.2280	2.1855		
6/16/2011 10:01	0.1			10.230	10.2300	2.1848	0.0031	0.0017
6/16/2011 10:01	0.25			10.230	10.2300	2.1848	0.0000	0.0000
6/16/2011 10:01	0.5			10.230	10.2300	2.1848	0.0000	0.0000
6/16/2011 10:02	1			10.230	10.2300	2.1848	0.0000	0.0011
6/16/2011 10:03	2			10.232	10.2320	2.1842	0.0023	0.0023
6/16/2011 10:05	4			10.234	10.2340	2.1835	0.0023	0.0011
6/16/2011 10:09	8			10.234	10.2340	2.1835	0.0000	0.0000
6/16/2011 10:16	15			10.234	10.2340	2.1835	0.0000	0.0000
6/16/2011 10:31	30			10.234	10.2340	2.1835	0.0000	0.0000
6/16/2011 11:01	60			10.234	10.2340	2.1835	0.0000	0.0011
6/16/2011 12:01	120			10.236	10.2360	2.1828	0.0023	0.0023
6/16/2011 14:01	240			10.238	10.2380	2.1821	0.0023	0.0013
6/17/2011 10:10	1449			10.240	10.2400	2.1814	0.0009	0.0008
6/17/2011 12:00	1559			10.240	10.2400	2.1814	0.0000	0.0023
6/20/2011 9:35	5734			10.244	10.2440	2.1800	0.0024	#NUM!



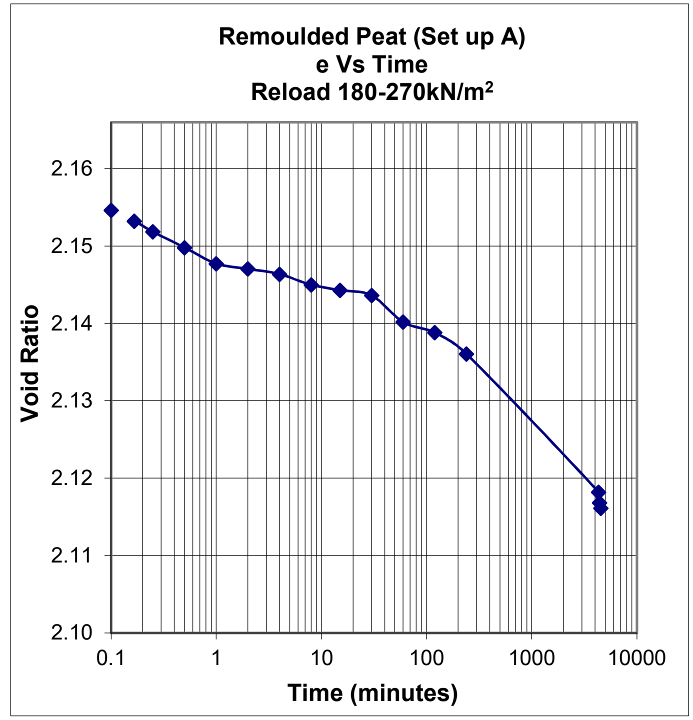
Sample – UOM-Test B
Date-From 09/05/2011 to 27/06/2011
Conventional Consolidation
Load Increment 120kN/m^2 to 180kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
6/20/2011 9:50	0			10.244	10.2440	2.1800		
6/20/2011 9:50	0.1			10.254	10.2540	2.1766		
6/20/2011 9:50	0.17			10.258	10.2580	2.1752	0.0062	0.0052
6/20/2011 9:50	0.25			10.260	10.2600	2.1745	0.0039	0.0029
6/20/2011 9:50	0.5			10.262	10.2620	2.1739	0.0023	0.0011
6/20/2011 9:51	1			10.262	10.2620	2.1739	0.0000	0.0011
6/20/2011 9:52	2			10.264	10.2640	2.1732	0.0023	0.0011
6/20/2011 9:54	4			10.264	10.2640	2.1732	0.0000	0.0000
6/20/2011 9:58	8			10.264	10.2640	2.1732	0.0000	0.0012
6/20/2011 10:05	15			10.266	10.2660	2.1725	0.0025	0.0012
6/20/2011 10:20	30			10.266	10.2660	2.1725	0.0000	0.0011
6/20/2011 10:50	60			10.268	10.2680	2.1718	0.0023	0.0023
6/20/2011 11:50	120			10.270	10.2700	2.1711	0.0023	0.0011
6/20/2011 13:50	240			10.270	10.2700	2.1711	0.0000	0.0019
6/21/2011 10:25	1475			10.276	10.2760	2.1690	0.0026	0.0033
6/21/2011 13:00	1630			10.278	10.2780	2.1684	0.0158	0.0081
6/21/2011 15:45	1795			10.278	10.2780	2.1684	0.0000	0.0028
6/22/2011 10:00	2890			10.280	10.2800	2.1677	0.0033	0.0054
6/23/2011 10:00	4330			10.284	10.2840	2.1663	0.0078	0.0069
6/24/2011 10:00	5770			10.286	10.2860	2.1656	0.0055	#NUM!



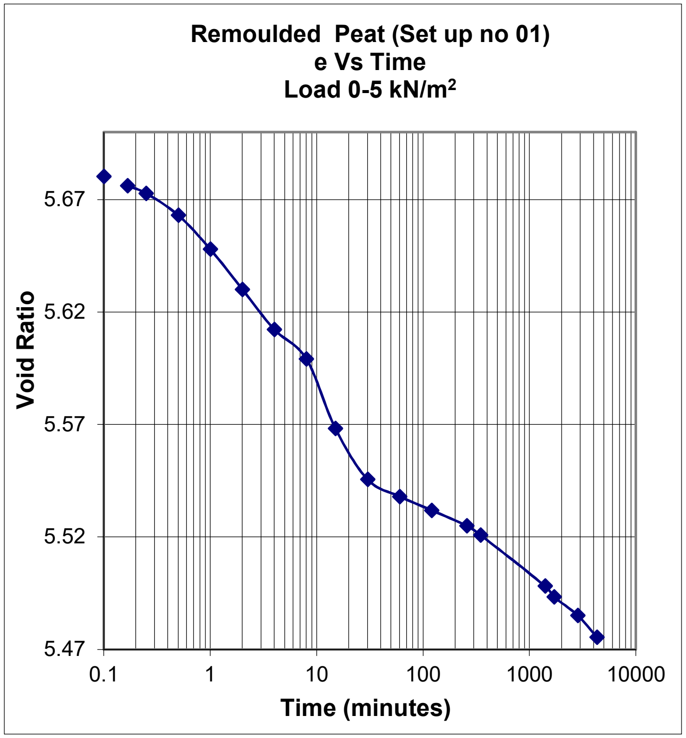
Sample – UOM-Test B
Date-From 09/05/2011 to 27/06/2011
Conventional Consolidation
Load Increment 180kN/m^2 to 270kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
6/24/2011 10:15	0			10.286	10.2860	2.1656		
6/24/2011 10:15	0.1			10.318	10.3180	2.1546		
6/24/2011 10:15	0.1666667			10.322	10.3220	2.1532	0.0062	0.0069
6/24/2011 10:15	0.25			10.326	10.3260	2.1519	0.0078	0.0072
6/24/2011 10:15	0.5			10.332	10.3320	2.1498	0.0068	0.0068
6/24/2011 10:16	1			10.338	10.3380	2.1477	0.0068	0.0046
6/24/2011 10:17	2			10.340	10.3400	2.1471	0.0023	0.0023
6/24/2011 10:19	4			10.342	10.3420	2.1464	0.0023	0.0034
6/24/2011 10:23	8			10.346	10.3460	2.1450	0.0046	0.0036
6/24/2011 10:30	15			10.348	10.3480	2.1443	0.0025	0.0024
6/24/2011 10:45	30			10.350	10.3500	2.1436	0.0023	0.0068
6/24/2011 11:15	60			10.360	10.3600	2.1402	0.0114	0.0080
6/24/2011 12:15	120			10.364	10.3640	2.1388	0.0046	0.0068
6/24/2011 14:15	240			10.372	10.3720	2.1361	0.0091	0.0132
6/27/2011 10:15	4320			10.424	10.4240	2.1182	0.0142	0.0152
6/27/2011 12:00	4425			10.428	10.4280	2.1168	0.1318	0.0935
6/27/2011 14:00	4545			10.430	10.4300	2.1161	0.0591	#NUM!



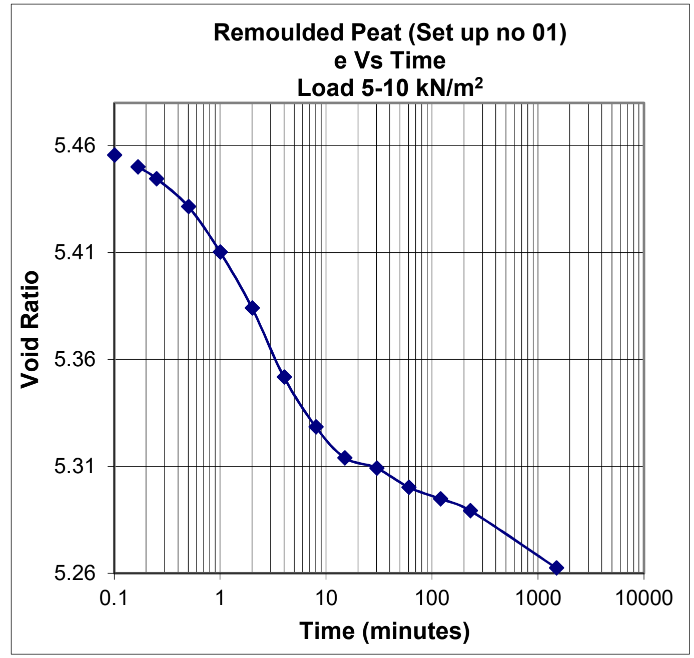
Sample – UOM-Test C
Date-From 09/05/2011 to 27/06/2011
Conventional Consolidation
Load Increment 0kN/m^2 to 5kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
5/9/2011 10:43	0	0	0	0.000	0.0000	5.6995		
5/9/2011 10:43	0.1	0	5.6	0.056	0.0560	5.6803		
5/9/2011 10:43	0.1666667	0	6.8	0.068	0.0680	5.6762	0.0186	0.0190
5/9/2011 10:43	0.25	0	7.8	0.078	0.0780	5.6727	0.0195	0.0274
5/9/2011 10:43	0.5	0	10.6	0.106	0.1060	5.6631	0.0320	0.0411
5/9/2011 10:44	1	0	15	0.150	0.1500	5.6480	0.0502	0.0548
5/9/2011 10:45	2	1	0.2	0.202	0.2020	5.6301	0.0593	0.0593
5/9/2011 10:47	4	1	5.4	0.254	0.2540	5.6123	0.0593	0.0514
5/9/2011 10:51	8	1	9.2	0.292	0.2920	5.5992	0.0434	0.0766
5/9/2011 10:58	15	1	18.2	0.382	0.3820	5.5683	0.1133	0.0934
5/9/2011 11:13	30	2	4.8	0.448	0.4480	5.5456	0.0753	0.0502
5/9/2011 11:43	60	2	7	0.470	0.4700	5.5380	0.0251	0.0228
5/9/2011 12:43	120	2	8.8	0.488	0.4880	5.5319	0.0205	0.0207
5/9/2011 15:00	257	2	10.8	0.508	0.5080	5.5250	0.0208	0.0238
5/9/2011 16:30	347	2	12	0.520	0.5200	5.5209	0.0316	0.0364
5/10/2011 10:00	1397	2	18.6	0.586	0.5860	5.4982	0.0375	0.0399
5/10/2011 15:00	1697	3	0	0.600	0.6000	5.4934	0.0569	0.0424
5/11/2011 10:00	2837	3	2.4	0.624	0.6240	5.4851	0.0369	0.0445
5/12/2011 10:00	4277	3	5.2	0.652	0.6520	5.4755	0.0540	#NUM!



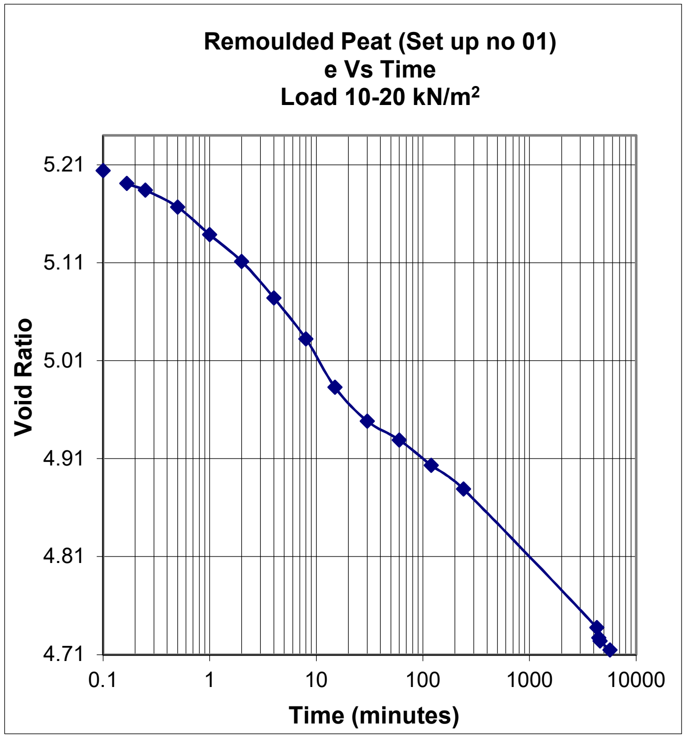
Sample – UOM-Test C
Date-From 09/05/2011 to 27/06/2011
Conventional Consolidation
Load Increment 5kN/m^2 to 10kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
5/12/2011 10:11	0	3	5.2	0.652	0.6520	5.4755		
5/12/2011 10:11	0.1	3	11	0.710	0.7100	5.4556		
5/12/2011 10:11	0.167	3	12.6	0.726	0.7260	5.4501	0.0248	0.0276
5/12/2011 10:11	0.25	3	14.2	0.742	0.7420	5.4446	0.0312	0.0389
5/12/2011 10:11	0.5	3	18	0.780	0.7800	5.4315	0.0434	0.0571
5/12/2011 10:12	1	4	4.2	0.842	0.8420	5.4102	0.0708	0.0787
5/12/2011 10:13	2	4	11.8	0.918	0.9180	5.3841	0.0867	0.0970
5/12/2011 10:15	4	5	1.2	1.012	1.0120	5.3518	0.1073	0.0924
5/12/2011 10:19	8	5	8	1.080	1.0800	5.3285	0.0776	0.0658
5/12/2011 10:26	15	5	12.2	1.122	1.1220	5.3140	0.0529	0.0335
5/12/2011 10:41	30	5	13.6	1.136	1.1360	5.3092	0.0160	0.0228
5/12/2011 11:11	60	5	16.2	1.162	1.1620	5.3003	0.0297	0.0240
5/12/2011 12:11	120	5	17.8	1.178	1.1780	5.2948	0.0183	0.0189
5/12/2011 14:00	229	5	19.4	1.194	1.1940	5.2893	0.0196	0.0295
5/13/2011 11:00	1489	6	7.2	1.272	1.2720	5.2625	0.0330	#NUM!



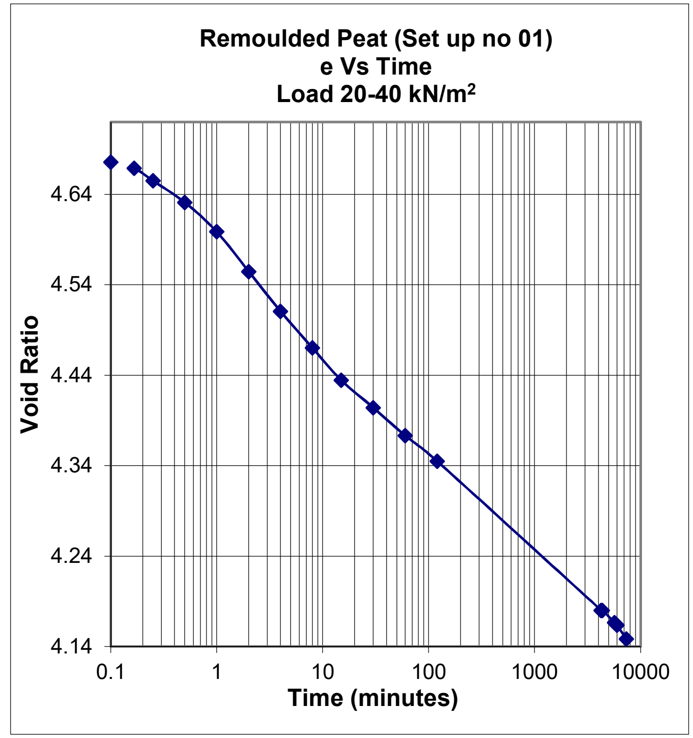
Sample – UOM-Test C
Date-From 09/05/2011 to 27/06/2011
Conventional Consolidation
Load Increment 10kN/m^2 to 20kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
5/16/2011 10:36	0	6	16.6	1.366	1.366	5.2302		
5/16/2011 10:36	0.1	7	4.2	1.442	1.442	5.2041		
5/16/2011 10:36	0.1	7	8	1.480	1.48	5.1910	0.059	0.050
5/16/2011 10:36	0.25	7	10	1.500	1.5	5.1842	0.039	0.050
5/16/2011 10:36	0.5	7	15	1.550	1.55	5.1670	0.057	0.075
5/16/2011 10:37	1	8	3.2	1.632	1.632	5.1388	0.094	0.092
5/16/2011 10:38	2	8	11.2	1.712	1.712	5.1113	0.091	0.107
5/16/2011 10:40	4	9	2	1.820	1.82	5.0742	0.123	0.131
5/16/2011 10:44	8	9	14.2	1.942	1.942	5.0323	0.139	0.159
5/16/2011 10:51	15	10	8.6	2.086	2.086	4.9828	0.181	0.146
5/16/2011 11:06	30	10	18.6	2.186	2.186	4.9485	0.114	0.089
5/16/2011 11:36	60	11	4.2	2.242	2.242	4.9292	0.064	0.075
5/16/2011 12:36	120	11	11.8	2.318	2.318	4.9031	0.087	0.083
5/16/2011 14:36	240	11	18.8	2.388	2.388	4.8791	0.080	0.107
5/19/2011 9:55	4279	14	0	2.800	2.8	4.7375	0.113	0.120
5/19/2011 12:50	4454	14	3	2.830	2.83	4.7272	0.592	0.452
5/19/2011 15:05	4589	14	4	2.840	2.84	4.7238	0.265	0.116
5/20/2011 9:30	5694	14	6.6	2.866	2.866	4.7149	0.095	#NUM



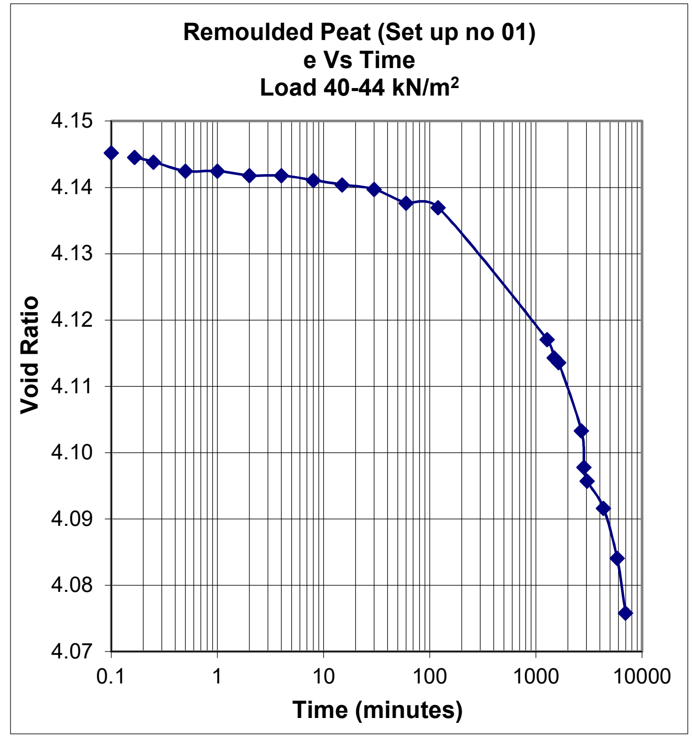
Sample – UOM-Test C
Date-From 09/05/2011 to 27/06/2011
Conventional Consolidation
Load Increment 20kN/m² to 40kN/m²

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
5/20/2011 10:24	0	14	7	2.870	2.8700	4.7135		
5/20/2011 10:24	0.1	14	18	2.980	2.9800	4.6757		
5/20/2011 10:24	0.16	15	0	3.000	3.0000	4.6688	0.0310	0.0518
5/20/2011 10:24	0.25	15	4	3.040	3.0400	4.6551	0.0780	0.0792
5/20/2011 10:24	0.5	15	11	3.110	3.1100	4.6310	0.0799	0.0936
5/20/2011 10:25	1	16	0.4	3.204	3.2040	4.5987	0.1073	0.1267
5/20/2011 10:26	2	16	13.2	3.332	3.3320	4.5548	0.1461	0.1461
5/20/2011 10:28	4	17	6	3.460	3.4600	4.5108	0.1461	0.1404
5/20/2011 10:32	8	17	17.8	3.578	3.5780	4.4702	0.1347	0.1329
5/20/2011 10:39	15	18	8.2	3.682	3.6820	4.4345	0.1309	0.1149
5/20/2011 10:54	30	18	17	3.770	3.7700	4.4043	0.1004	0.1016
5/20/2011 11:24	60	19	6	3.860	3.8600	4.3734	0.1027	0.0982
5/20/2011 12:24	120	19	14.2	3.942	3.9420	4.3452	0.0936	0.1044
5/23/2011 9:10	4246	22	2.2	4.422	4.4220	4.1803	0.1065	0.1057
5/23/2011 11:10	4366	22	2.2	4.422	4.4220	4.1803	0.0000	0.1090
5/24/2011 9:00	5676	22	6.2	4.462	4.4620	4.1665	0.1206	0.1203
5/24/2011 14:10	5986	22	7	4.470	4.4700	4.1638	0.1190	0.1603
5/25/2011 12:40	7336	22	11.4	4.514	4.5140	4.1487	0.1712	#NUM!



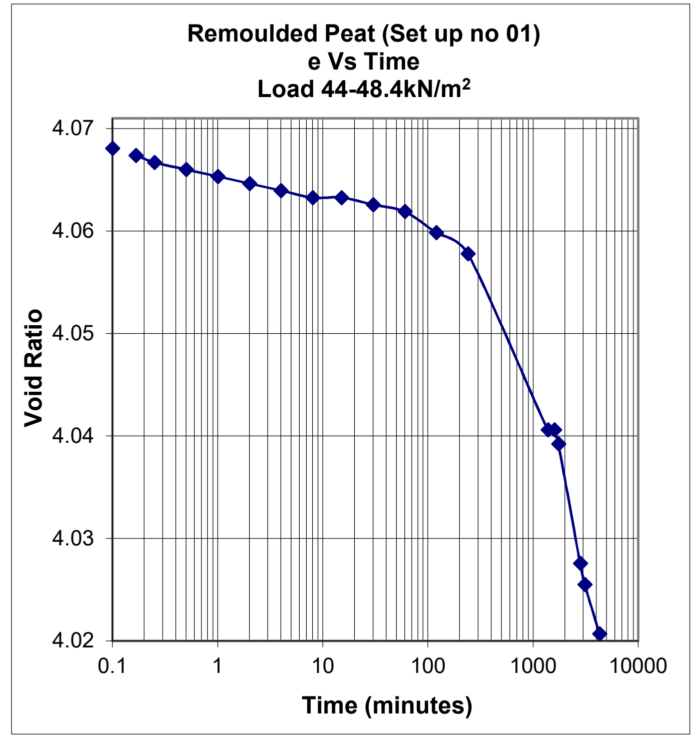
Sample – UOM-Test C
Date-From 09/05/2011 to 27/06/2011
Conventional Consolidation
Load Increment 40kN/m^2 to 44kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
5/25/2011 12:47	0	22	11.4	4.514	4.5140	4.1487		
5/25/2011 12:47	0.1	22	12.4	4.524	4.5240	4.1452		
5/25/2011 12:47	0.16	22	12.6	4.526	4.5260	4.1445	0.0031	0.0035
5/25/2011 12:47	0.25	22	12.8	4.528	4.5280	4.1439	0.0039	0.0043
5/25/2011 12:47	0.5	22	13.2	4.532	4.5320	4.1425	0.0046	0.0023
5/25/2011 12:48	1	22	13.2	4.532	4.5320	4.1425	0.0000	0.0011
5/25/2011 12:49	2	22	13.4	4.534	4.5340	4.1418	0.0023	0.0011
5/25/2011 12:51	4	22	13.4	4.534	4.5340	4.1418	0.0000	0.0011
5/25/2011 12:55	8	22	13.6	4.536	4.5360	4.1411	0.0023	0.0024
5/25/2011 13:02	15	22	13.8	4.538	4.5380	4.1404	0.0025	0.0024
5/25/2011 13:17	30	22	14	4.540	4.5400	4.1397	0.0023	0.0046
5/25/2011 13:47	60	22	14.6	4.546	4.5460	4.1377	0.0068	0.0046
5/25/2011 14:47	120	22	14.8	4.548	4.5480	4.1370	0.0023	0.0155
5/26/2011 10:00	1273	23	0.6	4.606	4.6060	4.1171	0.0194	0.0208
5/26/2011 13:30	1483	23	1.4	4.614	4.6140	4.1143	0.0414	0.0318
5/26/2011 16:00	1633	23	1.6	4.616	4.6160	4.1136	0.0164	0.0427
5/27/2011 9:30	2683	23	4.6	4.646	4.6460	4.1033	0.0478	0.0658
5/27/2011 12:05	2838			4.662	4.6620	4.0978	0.2254	0.1439
5/27/2011 15:15	3028			4.668	4.6680	4.0958	0.0732	0.0337
5/28/2011 13:00	4333			4.68	4.6800	4.0916	0.0265	0.0412
5/29/2011 13:45	5818			4.702	4.7020	4.0841	0.0591	0.0760
5/30/2011 9:20	6993			4.726	4.7260	4.0758	0.1032	#NUM!



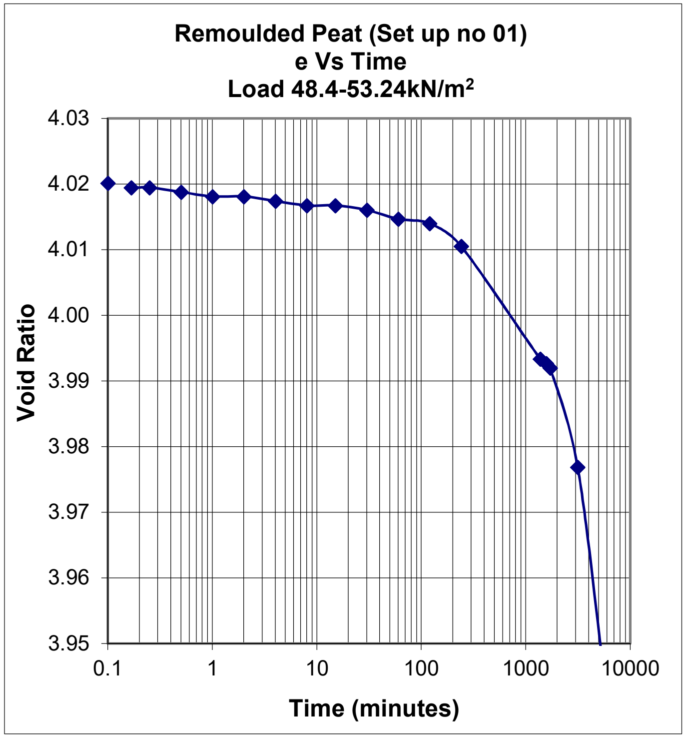
Sample – UOM-Test C
Date-From 09/05/2011 to 27/06/2011
Conventional Consolidation
Load Increment 44kN/m^2 to 48.4kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	$C_{\alpha}1$	$C_{\alpha}2$
5/30/2011 10:15	0			4.726	4.7260	4.0758		
5/30/2011 10:15	0.1			4.734	4.7340	4.0731		
5/30/2011 10:15	0.16			4.736	4.7360	4.0724	0.0031	0.0035
5/30/2011 10:15	0.25			4.738	4.7380	4.0717	0.0039	0.0029
5/30/2011 10:15	0.5			4.740	4.7400	4.0710	0.0023	0.0023
5/30/2011 10:16	1			4.742	4.7420	4.0703	0.0023	0.0023
5/30/2011 10:17	2			4.744	4.7440	4.0696	0.0023	0.0023
5/30/2011 10:19	4			4.746	4.7460	4.0690	0.0023	0.0023
5/30/2011 10:23	8			4.748	4.7480	4.0683	0.0023	0.0012
5/30/2011 10:30	15			4.748	4.7480	4.0683	0.0000	0.0012
5/30/2011 10:45	30			4.750	4.7500	4.0676	0.0023	0.0023
5/30/2011 11:15	60			4.752	4.7520	4.0669	0.0023	0.0046
5/30/2011 12:15	120			4.758	4.7580	4.0648	0.0068	0.0068
5/30/2011 14:15	240			4.764	4.7640	4.0628	0.0068	0.0181
5/31/2011 9:15	1380			4.814	4.8140	4.0456	0.0226	0.0209
5/31/2011 12:45	1590			4.814	4.8140	4.0456	0.0000	0.0137
5/31/2011 15:15	1740			4.818	4.8180	4.0442	0.0351	0.0530
6/1/2011 9:00	2805			4.852	4.8520	4.0325	0.0563	0.0546
6/1/2011 14:00	3105			4.858	4.8580	4.0305	0.0467	0.0372
6/2/2011 9:45	4290			4.872	4.8720	4.0257	0.0343	#NUM!



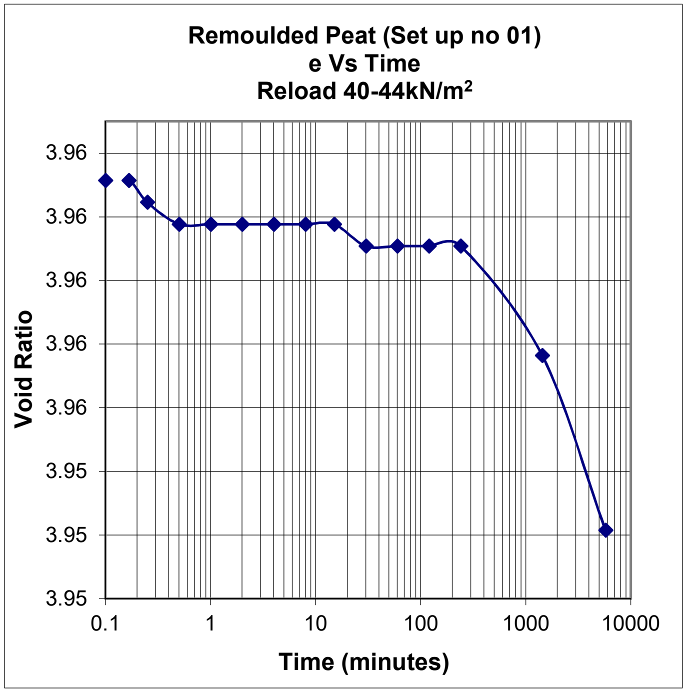
Sample – UOM-Test C
Date-From 09/05/2011 to 27/06/2011
Conventional Consolidation
Load Increment 48.4kN/m² to 53.24kN/m²

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
6/2/2011 10:40	0			4.878	4.8780	4.0236		
6/2/2011 10:40	0.1			4.888	4.8880	4.0202		
6/2/2011 10:40	0.1666667			4.890	4.8900	4.0195	0.0031	0.0017
6/2/2011 10:40	0.25			4.890	4.8900	4.0195	0.0000	0.0014
6/2/2011 10:40	0.5			4.892	4.8920	4.0188	0.0023	0.0023
6/2/2011 10:41	1			4.894	4.8940	4.0181	0.0023	0.0011
6/2/2011 10:42	2			4.894	4.8940	4.0181	0.0000	0.0011
6/2/2011 10:44	4			4.896	4.8960	4.0174	0.0023	0.0023
6/2/2011 10:48	8			4.898	4.8980	4.0167	0.0023	0.0012
6/2/2011 10:55	15			4.898	4.8980	4.0167	0.0000	0.0012
6/2/2011 11:10	30			4.900	4.9000	4.0161	0.0023	0.0034
6/2/2011 11:40	60			4.904	4.9040	4.0147	0.0046	0.0034
6/2/2011 12:40	120			4.906	4.9060	4.0140	0.0023	0.0068
6/2/2011 14:40	240			4.916	4.9160	4.0106	0.0114	0.0195
6/3/2011 9:30	1370			4.966	4.9660	3.9934	0.0227	0.0219
6/3/2011 12:50	1570			4.968	4.9680	3.9927	0.0116	0.0143
6/3/2011 15:10	1710			4.970	4.9700	3.9920	0.0185	0.0525
6/4/2011 15:00	3140			5.014	5.0140	3.9769	0.0573	0.0907
6/6/2011 9:35	5695			5.108	5.1080	3.9446	0.1249	#NUM!



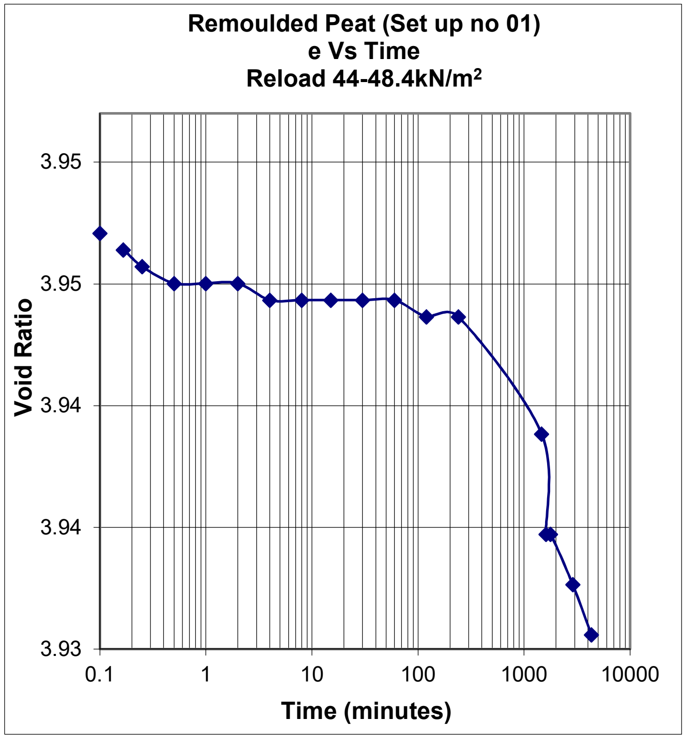
Sample – UOM-Test C
Date-From 09/05/2011 to 27/06/2011
Conventional Consolidation
Load Increment 40kN/m^2 to 44kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
6/16/2011 10:20	0			5.050	5.0500	3.9645		
6/16/2011 10:20	0.1			5.054	5.0540	3.9631		
6/16/2011 10:20	0.16			5.054	5.0540	3.9631	0.0000	0.0017
6/16/2011 10:20	0.25			5.056	5.0560	3.9625	0.0039	0.0029
6/16/2011 10:20	0.5			5.058	5.0580	3.9618	0.0023	0.0011
6/16/2011 10:21	1			5.058	5.0580	3.9618	0.0000	0.0000
6/16/2011 10:22	2			5.058	5.0580	3.9618	0.0000	0.0000
6/16/2011 10:24	4			5.058	5.0580	3.9618	0.0000	0.0000
6/16/2011 10:28	8			5.058	5.0580	3.9618	0.0000	0.0000
6/16/2011 10:35	15			5.058	5.0580	3.9618	0.0000	0.0012
6/16/2011 10:50	30			5.060	5.0600	3.9611	0.0023	0.0011
6/16/2011 11:20	60			5.060	5.0600	3.9611	0.0000	0.0000
6/16/2011 12:20	120			5.060	5.0600	3.9611	0.0000	0.0000
6/16/2011 14:20	240			5.060	5.0600	3.9611	0.0000	0.0032
6/17/2011 10:15	1435			5.070	5.0700	3.9576	0.0044	0.0065
6/20/2011 10:05	5745			5.086	5.0860	3.9521	0.0091	#NUM!



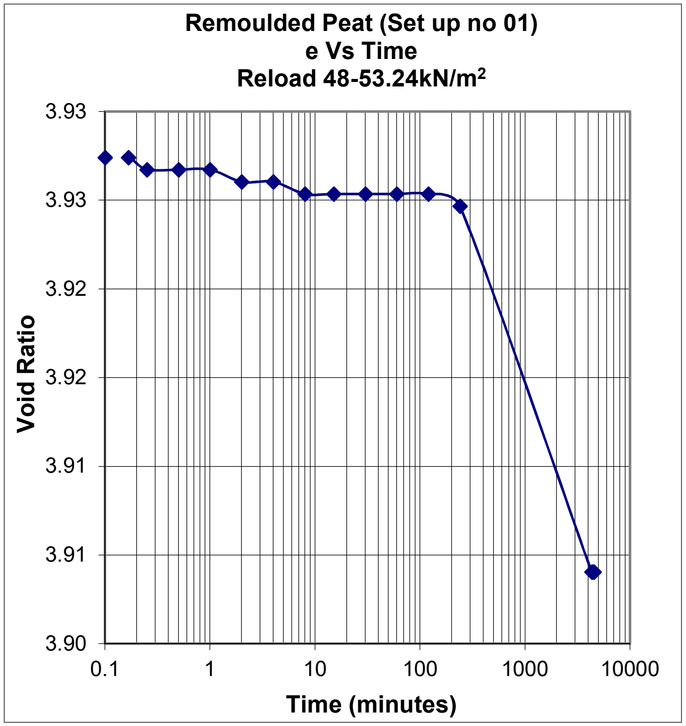
Sample – UOM-Test C
Date-From 09/05/2011 to 27/06/2011
Conventional Consolidation
Load Increment 44kN/m² to 48.4kN/m²

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
6/20/2011 10:07	0			5.086	5.0860	3.9521		
6/20/2011 10:07	0.1			5.092	5.0920	3.9501		
6/20/2011 10:07	0.16			5.094	5.0940	3.9494	0.0031	0.0035
6/20/2011 10:07	0.25			5.096	5.0960	3.9487	0.0039	0.0029
6/20/2011 10:07	0.5			5.098	5.0980	3.9480	0.0023	0.0011
6/20/2011 10:08	1			5.098	5.0980	3.9480	0.0000	0.0000
6/20/2011 10:09	2			5.098	5.0980	3.9480	0.0000	0.0011
6/20/2011 10:11	4			5.100	5.1000	3.9473	0.0023	0.0011
6/20/2011 10:15	8			5.100	5.1000	3.9473	0.0000	0.0000
6/20/2011 10:22	15			5.100	5.1000	3.9473	0.0000	0.0000
6/20/2011 10:37	30			5.100	5.1000	3.9473	0.0000	0.0000
6/20/2011 11:07	60			5.100	5.1000	3.9473	0.0000	0.0011
6/20/2011 12:07	120			5.102	5.1020	3.9467	0.0023	0.0011
6/20/2011 14:07	240			5.102	5.1020	3.9467	0.0000	0.0044
6/21/2011 10:30	1463			5.116	5.1160	3.9418	0.0061	0.0108
6/21/2011 13:00	1613			5.128	5.1280	3.9377	0.0973	0.0487
6/21/2011 15:45	1778			5.128	5.1280	3.9377	0.0000	0.0082
6/22/2011 10:00	2873			5.134	5.1340	3.9357	0.0099	0.0107
6/23/2011 10:00	4313			5.14	5.14	3.9336	0.0117	0.0160
6/24/2011 10:00	5753			5.148	5.1480	3.9308	0.0220	#NUM!



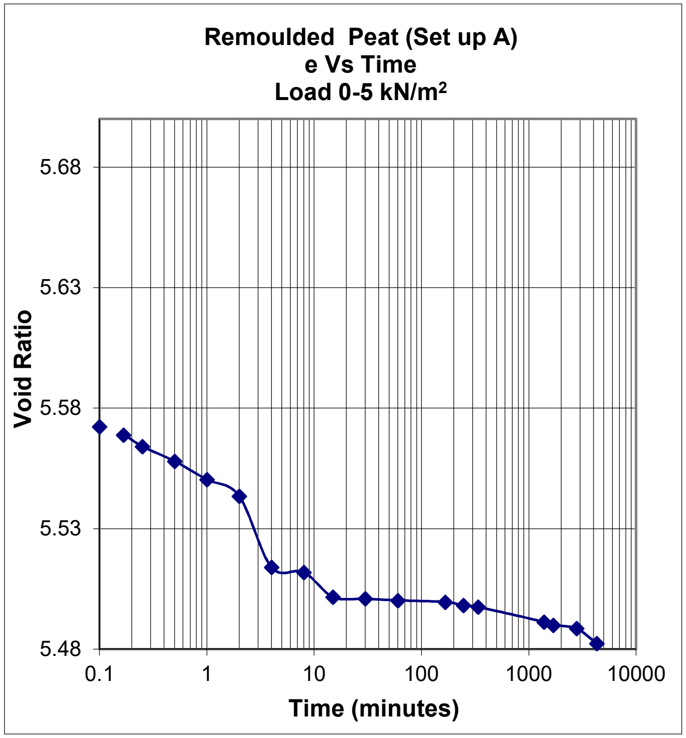
Sample – UOM-Test C
Date-From 09/05/2011 to 27/06/2011
Conventional Consolidation
Load Increment 48kN/m^2 to 53.24kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
6/24/2011 10:26	0			5.148	5.1480	3.9308		
6/24/2011 10:26	0.1			5.158	5.1580	3.9274		
6/24/2011 10:26	0.1666667			5.158	5.1580	3.9274	0.0000	0.0017
6/24/2011 10:26	0.25			5.160	5.1600	3.9267	0.0039	0.0014
6/24/2011 10:26	0.5			5.160	5.1600	3.9267	0.0000	0.0000
6/24/2011 10:27	1			5.160	5.1600	3.9267	0.0000	0.0011
6/24/2011 10:28	2			5.162	5.1620	3.9260	0.0023	0.0011
6/24/2011 10:30	4			5.162	5.1620	3.9260	0.0000	0.0011
6/24/2011 10:34	8			5.164	5.1640	3.9254	0.0023	0.0012
6/24/2011 10:41	15			5.164	5.1640	3.9254	0.0000	0.0000
6/24/2011 10:56	30			5.164	5.1640	3.9254	0.0000	0.0000
6/24/2011 11:26	60			5.164	5.1640	3.9254	0.0000	0.0000
6/24/2011 12:26	120			5.164	5.1640	3.9254	0.0000	0.0011
6/24/2011 14:26	240			5.166	5.1660	3.9247	0.0023	0.0137
6/27/2011 10:15	4309			5.226	5.2260	3.9040	0.0164	0.0163
6/27/2011 12:00	4414			5.226	5.2260	3.9040	0.0000	0.0000
6/27/2011 14:00	4534			5.226	5.2260	3.9040	0.0000	#NUM!



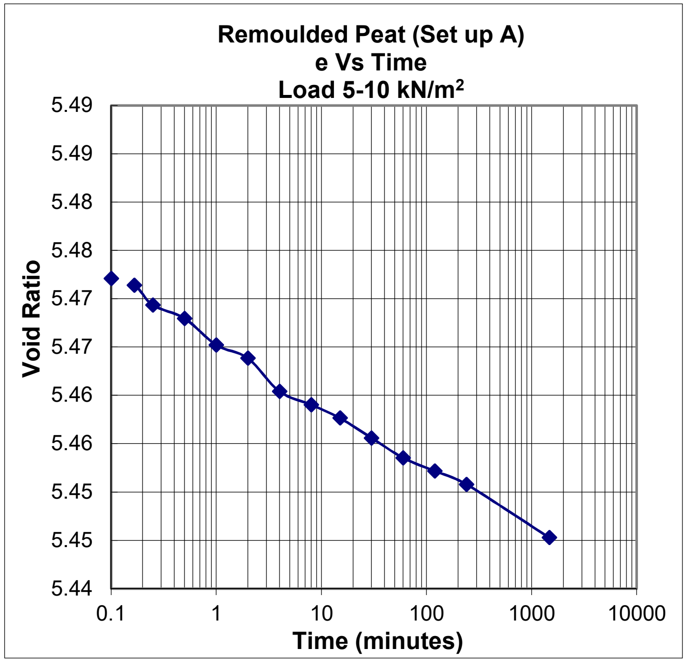
Sample – UOM-Test D
Date-From 5/9/2011 to 27/6/2011
Conventional Consolidation
Load Increment 0kN/m^2 to 5kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
5/9/2011 10:54	0	0	0	0.000	0.0000	5.6995		
5/9/2011 10:54	0.1	1	17	0.370	0.3700	5.5724		
5/9/2011 10:54	0.1666667	1	18	0.380	0.3800	5.5690	0.0155	0.0207
5/9/2011 10:54	0.25	1	19.4	0.394	0.3940	5.5642	0.0273	0.0230
5/9/2011 10:54	0.5	2	1.2	0.412	0.4120	5.5580	0.0205	0.0228
5/9/2011 10:55	1	2	3.4	0.434	0.4340	5.5504	0.0251	0.0240
5/9/2011 10:56	2	2	5.4	0.454	0.4540	5.5435	0.0228	0.0605
5/9/2011 10:58	4	2	14	0.540	0.5400	5.5140	0.0982	0.0525
5/9/2011 11:02	8	2	14.6	0.546	0.5460	5.5119	0.0068	0.0215
5/9/2011 11:09	15	2	17.6	0.576	0.5760	5.5016	0.0378	0.0192
5/9/2011 11:24	30	2	17.8	0.578	0.5780	5.5009	0.0023	0.0023
5/9/2011 11:54	60	2	18	0.580	0.5800	5.5003	0.0023	0.0018
5/9/2011 13:40	166	2	18.2	0.582	0.5820	5.4996	0.0016	0.0034
5/9/2011 15:00	246	2	18.6	0.586	0.5860	5.4982	0.0080	0.0067
5/9/2011 16:30	336	2	18.8	0.588	0.5880	5.4975	0.0051	0.0092
5/10/2011 10:00	1386	3	0.6	0.606	0.6060	5.4913	0.0100	0.0108
5/10/2011 15:00	1686	3	1	0.610	0.6100	5.4899	0.0161	0.0091
5/11/2011 9:20	2786	3	1.4	0.614	0.6140	5.4886	0.0063	0.0187
5/12/2011 10:20	4286	3	3.2	0.632	0.6320	5.4824	0.0331	#NUM!



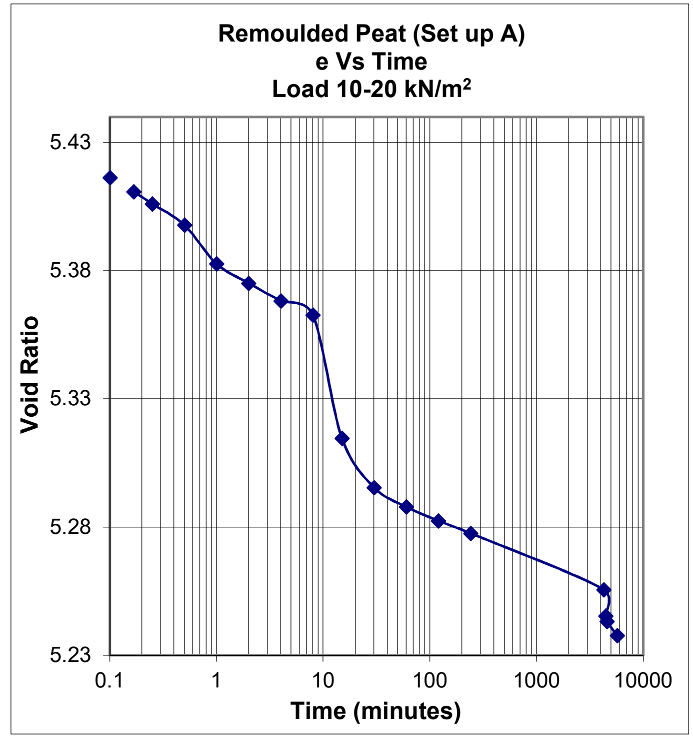
Sample – UOM-Test D
Date-From 5/9/2011 to 27/6/2011
Conventional Consolidation
Load Increment 5kN/m^2 to 10kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
5/12/2011 10:30	0	3	3.2	0.632	0.6320	5.4824		
5/12/2011 10:30	0.1	3	6.2	0.662	0.6620	5.4721		
5/12/2011 10:30	0.1666667	3	6.4	0.664	0.6640	5.4714	0.0031	0.0069
5/12/2011 10:30	0.25	3	7	0.670	0.6700	5.4693	0.0117	0.0072
5/12/2011 10:30	0.5	3	7.4	0.674	0.6740	5.4680	0.0046	0.0068
5/12/2011 10:31	1	3	8.2	0.682	0.6820	5.4652	0.0091	0.0068
5/12/2011 10:32	2	3	8.6	0.686	0.6860	5.4638	0.0046	0.0080
5/12/2011 10:34	4	3	9.6	0.696	0.6960	5.4604	0.0114	0.0080
5/12/2011 10:38	8	3	10	0.700	0.7000	5.4590	0.0046	0.0048
5/12/2011 10:45	15	3	10.4	0.704	0.7040	5.4577	0.0050	0.0060
5/12/2011 11:00	30	3	11	0.710	0.7100	5.4556	0.0068	0.0068
5/12/2011 11:30	60	3	11.6	0.716	0.7160	5.4535	0.0068	0.0057
5/12/2011 12:30	120	3	12	0.720	0.7200	5.4522	0.0046	0.0046
5/12/2011 14:30	240	3	12.4	0.724	0.7240	5.4508	0.0046	0.0063
5/13/2011 11:00	1470	3	14	0.740	0.7400	5.4453	0.0070	#NUM!



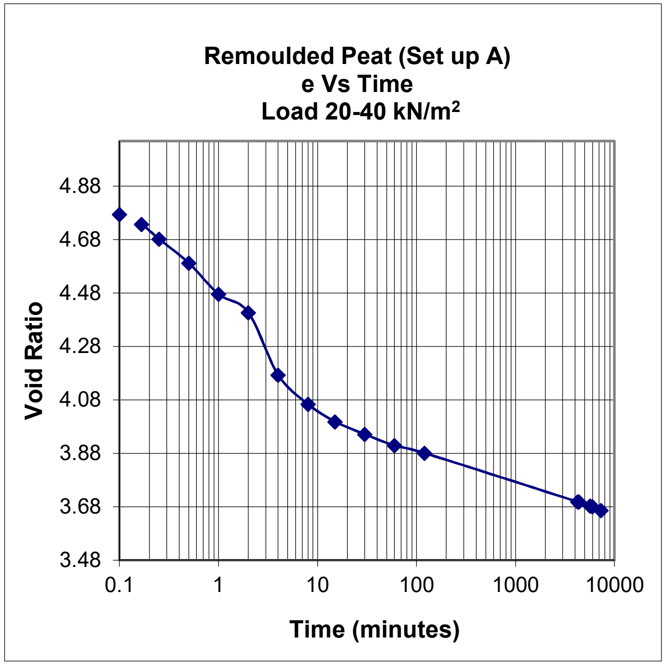
Sample – UOM-Test D
Date-From 5/9/2011 to 27/6/2011
Conventional Consolidation
Load Increment 10kN/m^2 to 20kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
5/16/2011 10:54	0	3	16.2	0.762	0.762	5.4377		
5/16/2011 10:54	0.1	4	2.4	0.824	0.824	5.4164		
5/16/2011 10:54	0.1666667	4	4	0.840	0.84	5.4109	0.025	0.026
5/16/2011 10:54	0.25	4	5.4	0.854	0.854	5.4061	0.027	0.027
5/16/2011 10:54	0.5	4	7.8	0.878	0.878	5.3979	0.027	0.039
5/16/2011 10:55	1	4	12.2	0.922	0.922	5.3828	0.050	0.038
5/16/2011 10:56	2	4	14.4	0.944	0.944	5.3752	0.025	0.024
5/16/2011 10:58	4	4	16.4	0.964	0.964	5.3683	0.023	0.021
5/16/2011 11:02	8	4	18	0.980	0.98	5.3628	0.018	0.093
5/16/2011 11:09	15	5	12	1.120	1.12	5.3147	0.176	0.117
5/16/2011 11:24	30	5	17.6	1.176	1.176	5.2955	0.064	0.045
5/16/2011 11:54	60	5	19.8	1.198	1.198	5.2879	0.025	0.022
5/16/2011 12:54	120	6	1.4	1.214	1.214	5.2824	0.018	0.017
5/16/2011 14:54	240	6	2.8	1.228	1.228	5.2776	0.016	0.017
5/19/2011 9:55	4261	6	9.2	1.292	1.292	5.2556	0.018	0.025
5/19/2011 12:50	4436	6	12.2	1.322	1.322	5.2453	0.590	0.406
5/19/2011 15:05	4571	6	12.8	1.328	1.328	5.2433	0.158	0.071
5/20/2011 9:30	5676	6	14.4	1.344	1.344	5.2378	0.058	#NUM!



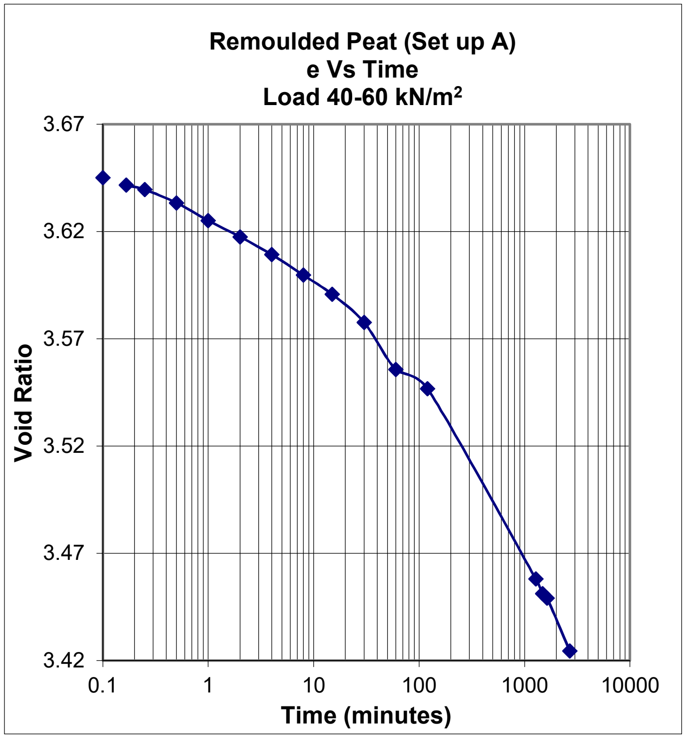
Sample – UOM-Test D
Date-From 5/9/2011 to 27/6/2011
Conventional Consolidation
Load Increment 20kN/m^2 to 40kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
5/20/2011 10:46	0	9	10	1.900	1.9000	5.0467		
5/20/2011 10:46	0.1	13	9	2.690	2.6900	4.7753		
5/20/2011 10:46	0.1666667	14	0	2.800	2.8000	4.7375	0.1704	0.2331
5/20/2011 10:46	0.25	14	16	2.960	2.9600	4.6826	0.3122	0.3024
5/20/2011 10:46	0.5	16	2	3.220	3.2200	4.5932	0.2967	0.3424
5/20/2011 10:47	1	17	16	3.560	3.5600	4.4764	0.3880	0.3082
5/20/2011 10:48	2	18	16	3.760	3.7600	4.4077	0.2283	0.5022
5/20/2011 10:50	4	22	4	4.440	4.4400	4.1741	0.7761	0.5695
5/20/2011 10:54	8	23	15.8	4.758	4.7580	4.0648	0.3629	0.3052
5/20/2011 11:01	15	24	15	4.950	4.9500	3.9989	0.2416	0.1975
5/20/2011 11:16	30	25	8.8	5.088	5.0880	3.9515	0.1575	0.1484
5/20/2011 11:46	60	26	1	5.210	5.2100	3.9095	0.1392	0.1164
5/20/2011 12:46	120	26	9.2	5.292	5.2920	3.8814	0.0936	0.1140
5/23/2011 9:30	4244	29	2.4	5.824	5.8240	3.6986	0.1180	0.1171
5/23/2011 11:30	4364	29	2.4	5.824	5.8240	3.6986	0.0000	0.1213
5/24/2011 9:00	5654	29	6.8	5.868	5.8680	3.6835	0.1344	0.1266
5/24/2011 14:10	5964	29	7.4	5.874	5.8740	3.6814	0.0889	0.1537
5/25/2011 12:40	7314	29	11.8	5.918	5.9180	3.6663	0.1706	#NUM!



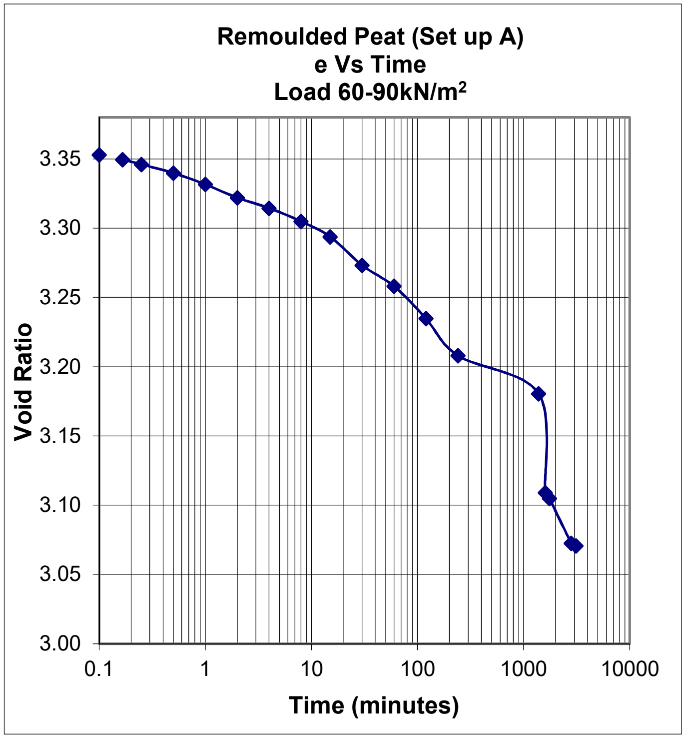
Sample – UOM-Test D
Date-From 5/9/2011 to 27/6/2011
Conventional Consolidation
Load Increment 40kN/m^2 to 60kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
5/25/2011 12:44	0	29	11.8	5.918	5.9180	3.6663		
5/25/2011 12:44	0.1	29	18	5.980	5.9800	3.6450		
5/25/2011 12:44	0.1666667	29	19	5.990	5.9900	3.6416	0.0155	0.0138
5/25/2011 12:44	0.25	29	19.6	5.996	5.9960	3.6395	0.0117	0.0173
5/25/2011 12:44	0.5	30	1.4	6.014	6.0140	3.6333	0.0205	0.0240
5/25/2011 12:45	1	30	3.8	6.038	6.0380	3.6251	0.0274	0.0262
5/25/2011 12:46	2	30	6	6.060	6.0600	3.6175	0.0251	0.0262
5/25/2011 12:48	4	30	8.4	6.084	6.0840	3.6093	0.0274	0.0297
5/25/2011 12:52	8	30	11.2	6.112	6.1120	3.5997	0.0320	0.0323
5/25/2011 12:59	15	30	13.8	6.138	6.1380	3.5907	0.0327	0.0383
5/25/2011 13:14	30	30	17.6	6.176	6.1760	3.5777	0.0434	0.0582
5/25/2011 13:44	60	31	4	6.240	6.2400	3.5557	0.0730	0.0514
5/25/2011 14:44	120	31	6.6	6.266	6.2660	3.5467	0.0297	0.0735
5/26/2011 10:00	1276	32	12.4	6.524	6.5240	3.4581	0.0863	0.0874
5/26/2011 13:30	1486	32	14.4	6.544	6.5440	3.4512	0.1038	0.0828
5/26/2011 16:00	1636	32	15	6.550	6.5500	3.4492	0.0494	0.1042
5/27/2011 9:30	2686	33	2.2	6.622	6.6220	3.4244	0.1149	0.1175
5/27/2011 12:05	2841			6.632	6.6320	3.4210	0.1410	0.0917
5/27/2011 15:15	3031			6.636	6.6360	3.4196	0.0489	0.1048
5/28/2011 13:00	4336			6.688	6.6880	3.4018	0.1149	0.1236
5/29/2011 13:45	5821			6.738	6.7380	3.3846	0.1343	0.1488
5/30/2011 9:20	6996			6.778	6.7780	3.3708	0.1721	#NUM!



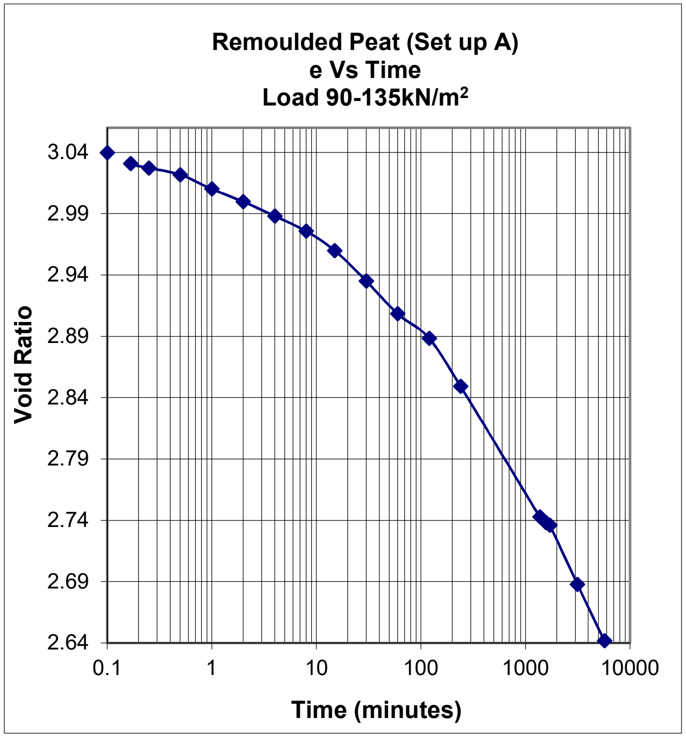
Sample – UOM-Test D
Date-From 5/9/2011 to 27/6/2011
Conventional Consolidation
Load Increment 60kN/m^2 to 90kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
5/30/2011 10:09	0			6.778	6.7780	3.3708		
5/30/2011 10:09	0.1			6.830	6.8300	3.3530		
5/30/2011 10:09	0.1666667			6.840	6.8400	3.3495	0.0155	0.0173
5/30/2011 10:09	0.25			6.850	6.8500	3.3461	0.0195	0.0202
5/30/2011 10:09	0.5			6.868	6.8680	3.3399	0.0205	0.0240
5/30/2011 10:10	1			6.892	6.8920	3.3317	0.0274	0.0297
5/30/2011 10:11	2			6.920	6.9200	3.3221	0.0320	0.0285
5/30/2011 10:13	4			6.942	6.9420	3.3145	0.0251	0.0285
5/30/2011 10:17	8			6.970	6.9700	3.3049	0.0320	0.0359
5/30/2011 10:24	15			7.002	7.0020	3.2939	0.0403	0.0551
5/30/2011 10:39	30			7.062	7.0620	3.2733	0.0685	0.0593
5/30/2011 11:09	60			7.106	7.1060	3.2581	0.0502	0.0639
5/30/2011 12:09	120			7.174	7.1740	3.2348	0.0776	0.0833
5/30/2011 14:09	240			7.252	7.2520	3.2080	0.0890	0.0511
5/31/2011 9:15	1386			7.332	7.3320	3.1805	0.0361	0.1203
5/31/2011 12:45	1596			7.540	7.5400	3.1090	1.1663	0.7537
5/31/2011 15:15	1746			7.552	7.5520	3.1049	0.1057	0.1481
6/1/2011 9:00	2811			7.646	7.6460	3.0726	0.1562	0.1370
6/1/2011 14:00	3111			7.652	7.6520	3.0706	0.0468	0.1007
6/2/2011 9:45	4296			7.700	7.7000	3.0541	0.1177	#NUM!



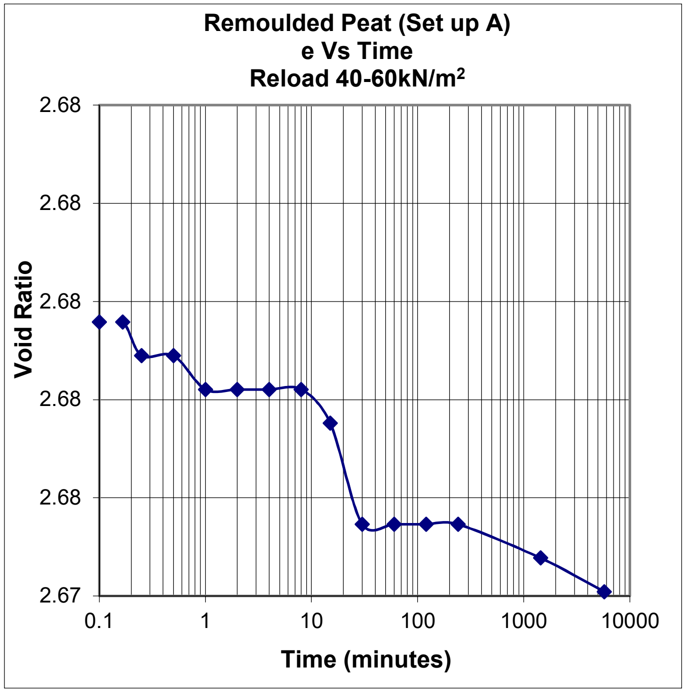
Sample – UOM-Test D
Date-From 5/9/2011 to 27/6/2011
Conventional Consolidation
Load Increment 90kN/m² to 135kN/m²

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
6/2/2011 10:35	0			7.704	7.7040	3.0527		
6/2/2011 10:35	0.1			7.742	7.7420	3.0396		
6/2/2011 10:35	0.1666667			7.768	7.7680	3.0307	0.0403	0.0311
6/2/2011 10:35	0.25			7.778	7.7780	3.0273	0.0195	0.0187
6/2/2011 10:35	0.5			7.794	7.7940	3.0218	0.0183	0.0285
6/2/2011 10:36	1			7.828	7.8280	3.0101	0.0388	0.0365
6/2/2011 10:37	2			7.858	7.8580	2.9998	0.0342	0.0365
6/2/2011 10:39	4			7.892	7.8920	2.9881	0.0388	0.0399
6/2/2011 10:43	8			7.928	7.9280	2.9757	0.0411	0.0491
6/2/2011 10:50	15			7.974	7.9740	2.9599	0.0579	0.0706
6/2/2011 11:05	30			8.046	8.0460	2.9352	0.0822	0.0856
6/2/2011 11:35	60			8.124	8.1240	2.9084	0.0890	0.0776
6/2/2011 12:35	120			8.182	8.1820	2.8885	0.0662	0.0982
6/2/2011 14:35	240			8.296	8.2960	2.8493	0.1301	0.1375
6/3/2011 9:30	1375			8.606	8.6060	2.7428	0.1405	0.1362
6/3/2011 12:50	1575			8.620	8.6200	2.7380	0.0816	0.0716
6/3/2011 15:10	1715			8.626	8.6260	2.7359	0.0557	0.1670
6/4/2011 15:00	3145			8.766	8.7660	2.6878	0.1826	0.1805
6/6/2011 9:35	5700			8.900	8.9000	2.6418	0.1783	#NUM!



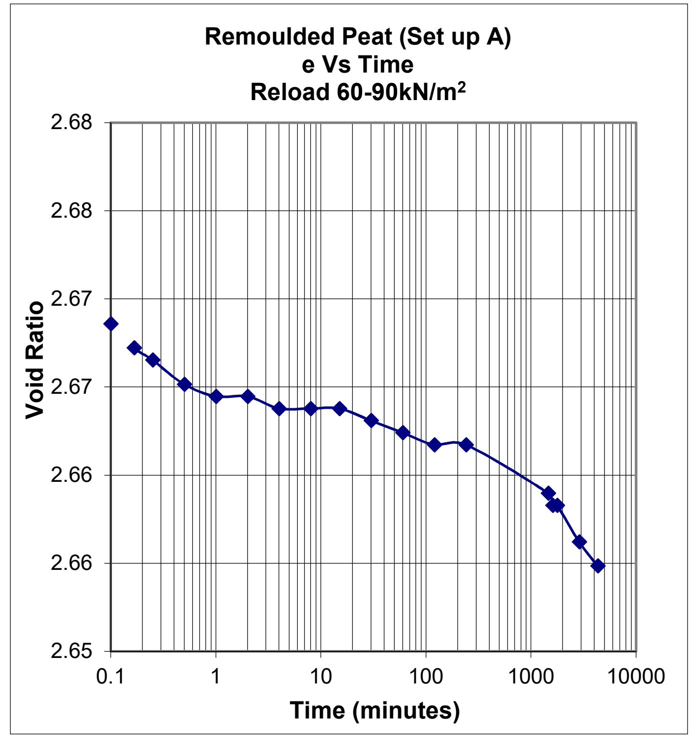
Sample – UOM-Test D
Date-From 5/9/2011 to 27/6/2011
Conventional Consolidation
Load Increment 40kN/m^2 to 60kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
6/16/2011 10:28	0			8.780	8.7800	2.6830		
6/16/2011 10:28	0.1			8.790	8.7900	2.6796		
6/16/2011 10:28	0.1666667			8.790	8.7900	2.6796	0.0000	0.0017
6/16/2011 10:28	0.25			8.792	8.7920	2.6789	0.0039	0.0014
6/16/2011 10:28	0.5			8.792	8.7920	2.6789	0.0000	0.0011
6/16/2011 10:29	1			8.794	8.7940	2.6782	0.0023	0.0011
6/16/2011 10:30	2			8.794	8.7940	2.6782	0.0000	0.0000
6/16/2011 10:32	4			8.794	8.7940	2.6782	0.0000	0.0000
6/16/2011 10:36	8			8.794	8.7940	2.6782	0.0000	0.0012
6/16/2011 10:43	15			8.796	8.7960	2.6775	0.0025	0.0048
6/16/2011 10:58	30			8.802	8.8020	2.6755	0.0068	0.0034
6/16/2011 11:28	60			8.802	8.8020	2.6755	0.0000	0.0000
6/16/2011 12:28	120			8.802	8.8020	2.6755	0.0000	0.0000
6/16/2011 14:28	240			8.802	8.8020	2.6755	0.0000	0.0006
6/17/2011 10:28	1440			8.804	8.8040	2.6748	0.0009	0.0010
6/20/2011 10:10	5742			8.806	8.8060	2.6741	0.0011	#NUM!



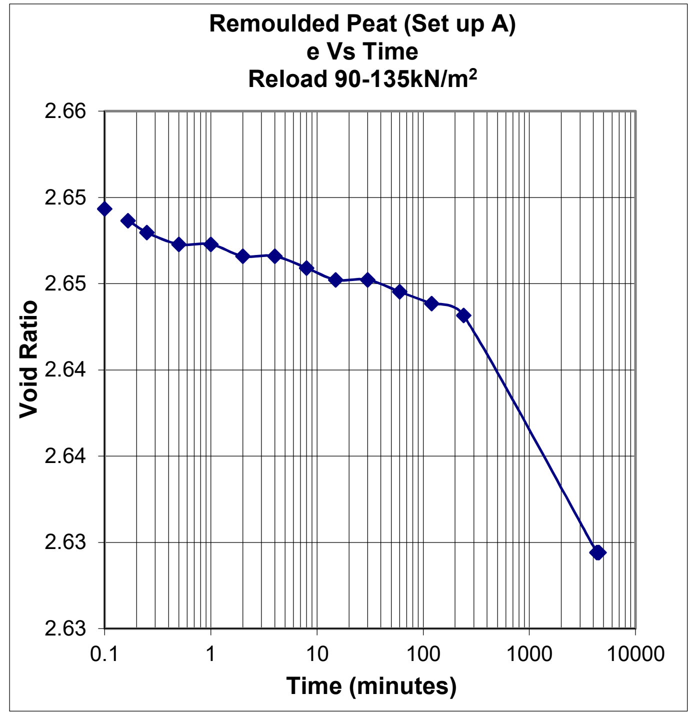
Sample – UOM-Test D
Date-23/01/2015
Conventional Consolidation
Load Increment 60kN/m² to 90kN/m²

	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
6/20/2011 10:14	0			8.806	8.8060	2.6741		
6/20/2011 10:14	0.1			8.822	8.8220	2.6686		
6/20/2011 10:14	0.1666667			8.826	8.8260	2.6672	0.0062	0.0052
6/20/2011 10:14	0.25			8.828	8.8280	2.6665	0.0039	0.0043
6/20/2011 10:14	0.5			8.832	8.8320	2.6652	0.0046	0.0034
6/20/2011 10:15	1			8.834	8.8340	2.6645	0.0023	0.0011
6/20/2011 10:16	2			8.834	8.8340	2.6645	0.0000	0.0011
6/20/2011 10:18	4			8.836	8.8360	2.6638	0.0023	0.0011
6/20/2011 10:22	8			8.836	8.8360	2.6638	0.0000	0.0000
6/20/2011 10:29	15			8.836	8.8360	2.6638	0.0000	0.0012
6/20/2011 10:44	30			8.838	8.8380	2.6631	0.0023	0.0023
6/20/2011 11:14	60			8.840	8.8400	2.6624	0.0023	0.0023
6/20/2011 12:14	120			8.842	8.8420	2.6617	0.0023	0.0011
6/20/2011 14:14	240			8.842	8.8420	2.6617	0.0000	0.0025
6/21/2011 10:30	1456			8.850	8.8500	2.6590	0.0035	0.0042
6/21/2011 13:00	1606			8.852	8.8520	2.6583	0.0161	0.0081
6/21/2011 15:45	1771			8.852	8.8520	2.6583	0.0000	0.0082
6/22/2011 10:00	2866			8.858	8.8580	2.6562	0.0099	0.0089
6/23/2011 10:00	4306			8.862	8.8620	2.6548	0.0078	0.0068
6/24/2011 10:30	5776			8.864	8.8640	2.6542	0.0054	#NUM!



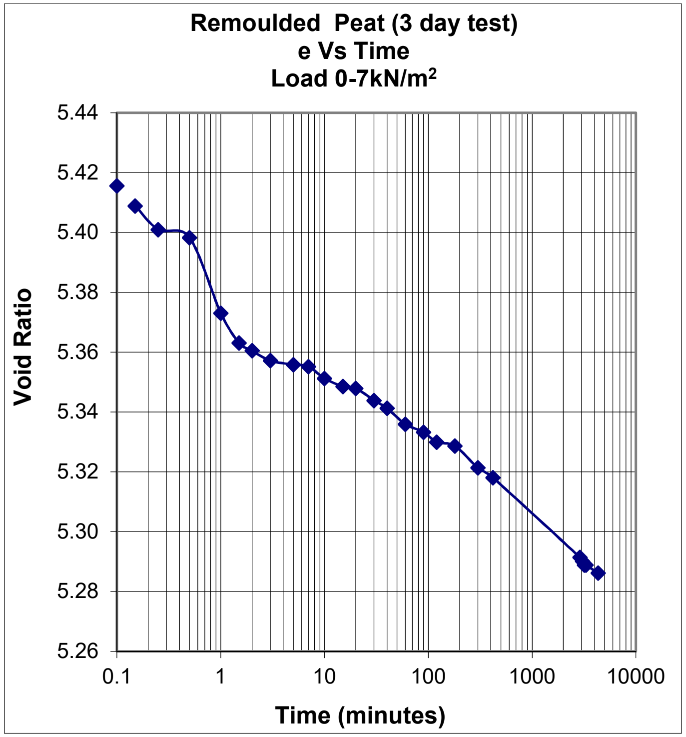
Sample – UOM-Test D
Date-From 5/9/2011 to 27/6/2011
Conventional Consolidation
Load Increment 90kN/m^2 to 135kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
6/24/2011 10:30	0			8.864	8.8640	2.6542		
6/24/2011 10:30	0.1			8.878	8.8780	2.6493		
6/24/2011 10:30	0.1666667			8.880	8.8800	2.6487	0.0031	0.0035
6/24/2011 10:30	0.25			8.882	8.8820	2.6480	0.0039	0.0029
6/24/2011 10:30	0.5			8.884	8.8840	2.6473	0.0023	0.0011
6/24/2011 10:31	1			8.884	8.8840	2.6473	0.0000	0.0011
6/24/2011 10:32	2			8.886	8.8860	2.6466	0.0023	0.0011
6/24/2011 10:34	4			8.886	8.8860	2.6466	0.0000	0.0011
6/24/2011 10:38	8			8.888	8.8880	2.6459	0.0023	0.0024
6/24/2011 10:45	15			8.890	8.8900	2.6452	0.0025	0.0012
6/24/2011 11:00	30			8.890	8.8900	2.6452	0.0000	0.0011
6/24/2011 11:30	60			8.892	8.8920	2.6445	0.0023	0.0023
6/24/2011 12:30	120			8.894	8.8940	2.6439	0.0023	0.0023
6/24/2011 14:30	240			8.896	8.8960	2.6432	0.0023	0.0093
6/27/2011 10:20	4310			8.936	8.9360	2.6294	0.0110	0.0109
6/27/2011 12:05	4415			8.936	8.9360	2.6294	0.0000	0.0000
6/27/2011 14:00	4530			8.936	8.9360	2.6294	0.0000	#NUM!



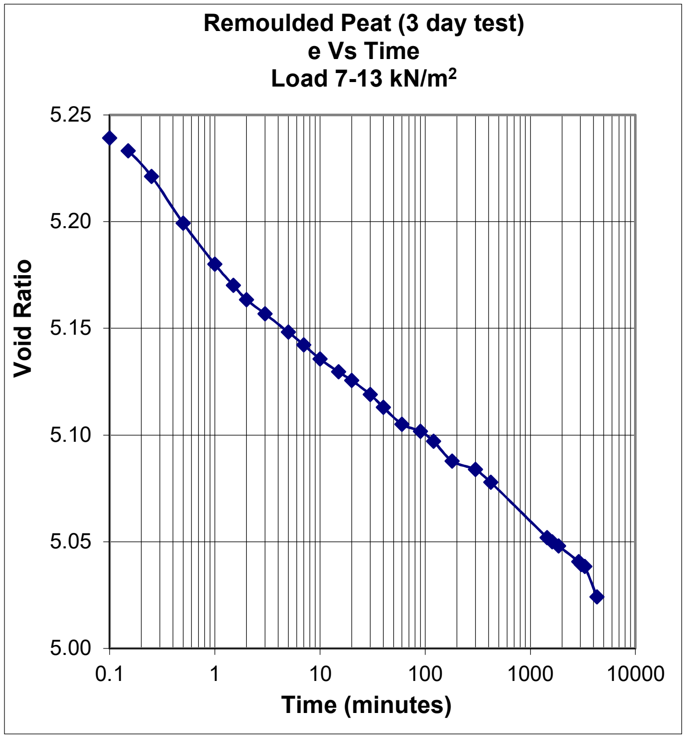
Sample – UOM-Test 02
Date–From 30/11/2013 to 12/01/2014
Conventional Consolidation
Load Increment 0kN/m² to 7kN/m²

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
11/30/2013 9:00	0	0	0	0.000	0.0000	5.4687		
11/30/2013 9:00	0.1	0	16	0.160	0.1600	5.4156		
11/30/2013 9:00	0.15	0	18	0.180	0.1800	5.4090	0.0377	0.0367
11/30/2013 9:00	0.25	1	0.4	0.204	0.2040	5.4010	0.0359	0.0203
11/30/2013 9:00	0.5	1	1.2	0.212	0.2120	5.3983	0.0088	0.0463
11/30/2013 9:01	1	1	8.8	0.288	0.2880	5.3731	0.0837	0.0737
11/30/2013 9:01	1.5	1	11.8	0.318	0.3180	5.3632	0.0565	0.0419
11/30/2013 9:02	2	1	12.6	0.326	0.3260	5.3605	0.0212	0.0198
11/30/2013 9:03	3	1	13.6	0.336	0.3360	5.3572	0.0188	0.0117
11/30/2013 9:05	5	1	14	0.340	0.3400	5.3559	0.0060	0.0054
11/30/2013 9:07	7	1	14.2	0.342	0.3420	5.3552	0.0045	0.0154
11/30/2013 9:10	10	1	15.4	0.354	0.3540	5.3512	0.0257	0.0200
11/30/2013 9:15	15	1	16.2	0.362	0.3620	5.3486	0.0151	0.0110
11/30/2013 9:20	20	1	16.4	0.364	0.3640	5.3479	0.0053	0.0154
11/30/2013 9:30	30	1	17.6	0.376	0.3760	5.3439	0.0226	0.0220
11/30/2013 9:40	40	1	18.4	0.384	0.3840	5.3413	0.0212	0.0264
11/30/2013 10:00	60	2	0	0.400	0.4000	5.3360	0.0301	0.0226
11/30/2013 10:30	90	2	0.8	0.408	0.4080	5.3333	0.0151	0.0198
11/30/2013 11:00	120	2	1.8	0.418	0.4180	5.3300	0.0266	0.0154
11/30/2013 12:00	180	2	2.2	0.422	0.4220	5.3287	0.0075	0.0217
11/30/2013 14:00	300	2	4.4	0.444	0.4440	5.3214	0.0329	0.0288
11/30/2013 16:00	420	2	5.4	0.454	0.4540	5.3181	0.0227	0.0304
12/2/2013 9:00	2880	2	13.4	0.534	0.5340	5.2915	0.0317	0.0323
12/2/2013 12:00	3060	2	13.8	0.538	0.5380	5.2902	0.0504	0.0617
12/2/2013 14:00	3180	2	14.2	0.542	0.5420	5.2889	0.0794	0.0405
12/2/2013 16:00	3300	2	14.2	0.542	0.5420	5.2889	0.0000	0.0199
12/3/2013 9:00	4320	2	15	0.550	0.5500	5.2862	0.0227	#NUM!



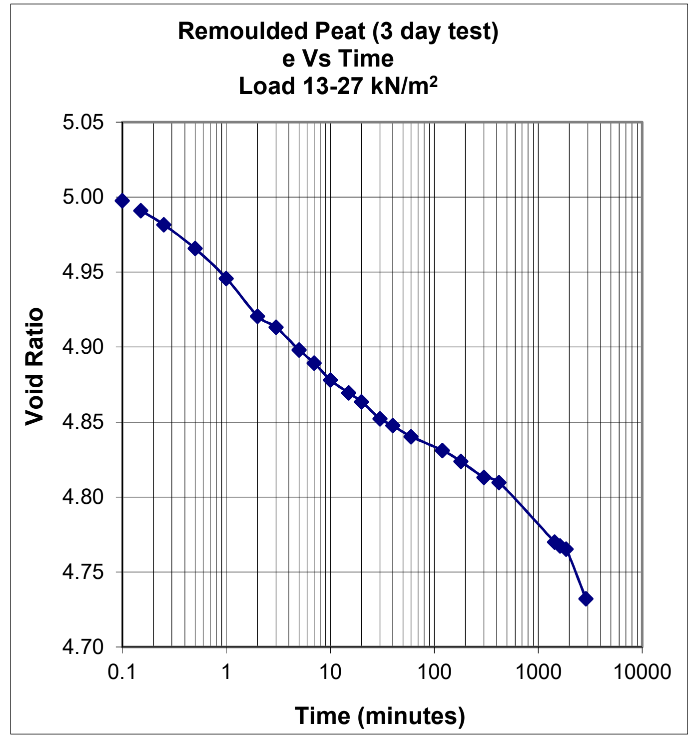
Sample – UOM-Test 02
Date–From 30/11/2013 to 12/01/2014
Conventional Consolidation
Load Increment 7kN/m^2 to 13kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
12/3/2013 9:00	0	2	15	0.550	0.5500	5.2862		
12/3/2013 9:00	0.1	3	9.2	0.692	0.6920	5.2391		
12/3/2013 9:00	0.15	3	11	0.710	0.7100	5.2331	0.0339	0.0450
12/3/2013 9:00	0.25	3	14.6	0.746	0.7460	5.2212	0.0538	0.0647
12/3/2013 9:00	0.5	4	1.2	0.812	0.8120	5.1993	0.0727	0.0683
12/3/2013 9:01	1	4	7	0.870	0.8700	5.1801	0.0639	0.0612
12/3/2013 9:01	1.5	4	10	0.900	0.9000	5.1701	0.0565	0.0551
12/3/2013 9:02	2	4	12	0.920	0.9200	5.1635	0.0531	0.0441
12/3/2013 9:03	3	4	14	0.940	0.9400	5.1569	0.0377	0.0383
12/3/2013 9:05	5	4	16.6	0.966	0.9660	5.1482	0.0389	0.0397
12/3/2013 9:07	7	4	18.4	0.984	0.9840	5.1423	0.0409	0.0419
12/3/2013 9:10	10	5	0.4	1.004	1.0040	5.1356	0.0428	0.0381
12/3/2013 9:15	15	5	2.2	1.022	1.0220	5.1296	0.0339	0.0331
12/3/2013 9:20	20	5	3.4	1.034	1.0340	5.1257	0.0319	0.0353
12/3/2013 9:30	30	5	5.4	1.054	1.0540	5.1190	0.0377	0.0419
12/3/2013 9:40	40	5	7.2	1.072	1.0720	5.1131	0.0478	0.0463
12/3/2013 10:00	60	5	9.6	1.096	1.0960	5.1051	0.0452	0.0320
12/3/2013 10:30	90	5	10.6	1.106	1.1060	5.1018	0.0188	0.0264
12/3/2013 11:00	120	5	12	1.120	1.1200	5.0971	0.0372	0.0463
12/3/2013 12:00	180	5	14.8	1.148	1.1480	5.0879	0.0527	0.0333
12/3/2013 14:00	300	5	16	1.160	1.1600	5.0839	0.0179	0.0270
12/3/2013 16:00	420	5	17.8	1.178	1.1780	5.0779	0.0409	0.0467
12/4/2013 9:00	1440	6	5.6	1.256	1.2560	5.0520	0.0484	0.0475
12/4/2013 12:00	1620	6	6.2	1.262	1.2620	5.0500	0.0389	0.0358
12/4/2013 16:00	1860	6	6.8	1.268	1.2680	5.0480	0.0332	0.0372
12/5/2013 9:00	2880	6	9	1.290	1.2900	5.0407	0.0384	0.0399
12/5/2013 12:00	3060	6	9.4	1.294	1.2940	5.0394	0.0504	0.0393
12/5/2013 16:00	3300	6	9.7	1.297	1.2970	5.0384	0.0303	0.1019
12/6/2013 9:00	4320	6	14	1.340	1.3400	5.0242	0.1219	#REF!



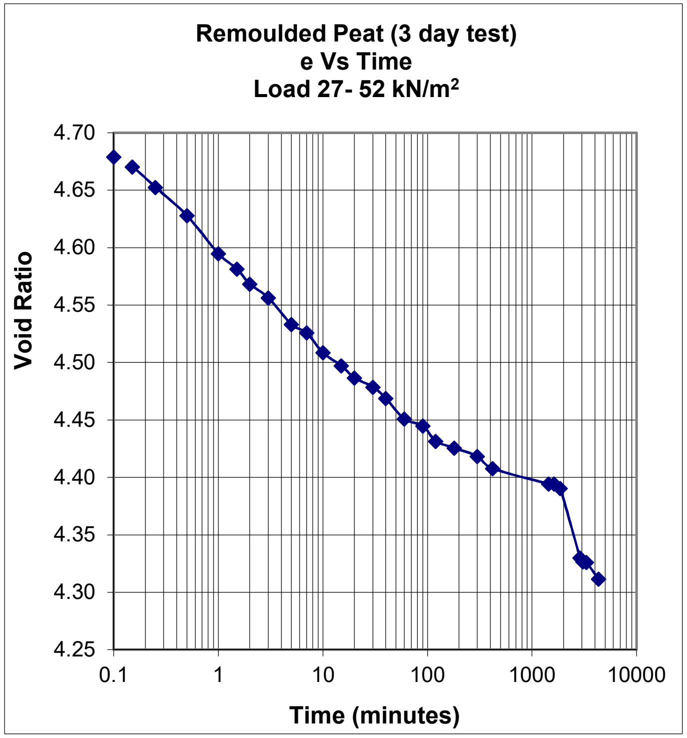
Sample – UOM-Test 02
Date–From 30/11/2013 to 12/01/2014
Conventional Consolidation
Load Increment 13kN/m^2 to 27kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
12/6/2013 9:00	0	6	14	1.340	1.34	5.0242		
12/6/2013 9:00	0.1	7	2	1.420	1.42	4.9976		
12/6/2013 9:00	0.15	7	4	1.440	1.44	4.9910	0.038	0.040
12/6/2013 9:00	0.25	7	6.8	1.468	1.468	4.9817	0.042	0.048
12/6/2013 9:00	0.5	7	11.6	1.516	1.516	4.9658	0.053	0.060
12/6/2013 9:01	1	7	17.6	1.576	1.576	4.9459	0.066	0.075
12/6/2013 9:02	2	8	5.2	1.652	1.652	4.9207	0.084	0.068
12/6/2013 9:03	3	8	7.4	1.674	1.674	4.9134	0.041	0.057
12/6/2013 9:05	5	8	12	1.720	1.72	4.8981	0.069	0.065
12/6/2013 9:07	7	8	14.6	1.746	1.746	4.8895	0.059	0.066
12/6/2013 9:10	10	8	18	1.780	1.78	4.8782	0.073	0.060
12/6/2013 9:15	15	9	0.6	1.806	1.806	4.8696	0.049	0.048
12/6/2013 9:20	20	9	2.4	1.824	1.824	4.8636	0.048	0.057
12/6/2013 9:30	30	9	5.8	1.858	1.858	4.8523	0.064	0.053
12/6/2013 9:40	40	9	7.2	1.872	1.872	4.8477	0.037	0.040
12/6/2013 10:00	60	9	9.4	1.894	1.894	4.8404	0.041	0.035
12/6/2013 11:00	120	9	12.2	1.922	1.922	4.8311	0.031	0.035
12/6/2013 12:00	180	9	14.4	1.944	1.944	4.8238	0.041	0.045
12/6/2013 14:00	300	9	17.6	1.976	1.976	4.8132	0.048	0.038
12/6/2013 16:00	420	9	18.6	1.986	1.986	4.8099	0.023	0.063
12/7/2013 9:00	1440	10	10.6	2.106	2.106	4.7701	0.074	0.072
12/7/2013 12:00	1620	10	11.4	2.114	2.114	4.7674	0.052	0.042
12/7/2013 16:00	1860	10	12	2.120	2.12	4.7654	0.033	0.141
12/8/2013 9:00	2880	11	2	2.220	2.22	4.7322	0.175	#NUM!



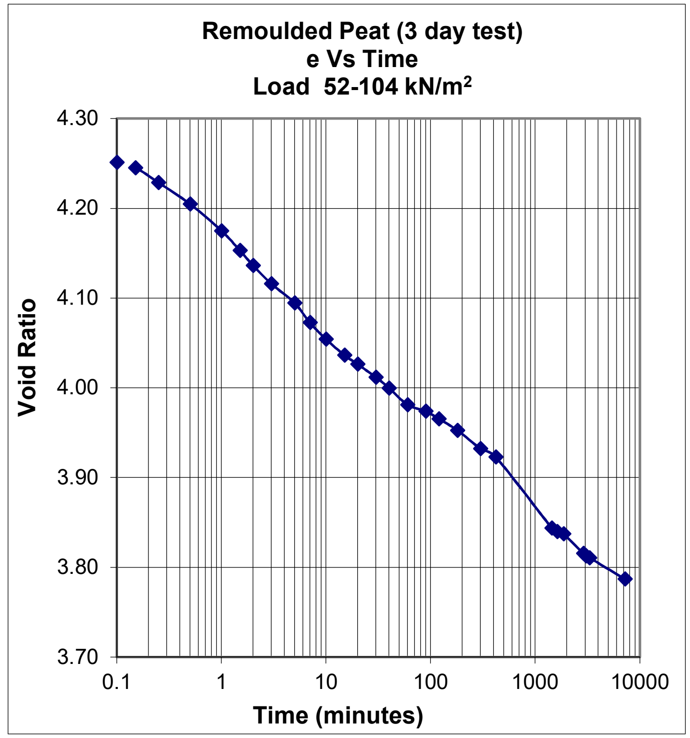
Sample – UOM-Test 02
Date–From 30/11/2013 to 12/01/2014
Conventional Consolidation
Load Increment 27kN/m² to 52kN/m²

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
12/9/2013 9:00	0	11	2	2.220	2.2200	4.7322		
12/9/2013 9:00	0.1	11	18	2.380	2.3800	4.6792		
12/9/2013 9:00	0.15	12	0.6	2.406	2.4060	4.6705	0.0490	0.0667
12/9/2013 9:00	0.25	12	6	2.460	2.4600	4.6526	0.0807	0.0812
12/9/2013 9:00	0.5	12	13.4	2.534	2.5340	4.6281	0.0815	0.0959
12/9/2013 9:01	1	13	3.4	2.634	2.6340	4.5949	0.1102	0.0973
12/9/2013 9:01	1.5	13	7.4	2.674	2.6740	4.5816	0.0754	0.0882
12/9/2013 9:02	2	13	11.4	2.714	2.7140	4.5684	0.1062	0.0837
12/9/2013 9:03	3	13	15	2.750	2.7500	4.5564	0.0678	0.0884
12/9/2013 9:05	5	14	2	2.820	2.8200	4.5332	0.1047	0.0829
12/9/2013 9:07	7	14	4.2	2.842	2.8420	4.5259	0.0499	0.0815
12/9/2013 9:10	10	14	9.4	2.894	2.8940	4.5087	0.1114	0.0862
12/9/2013 9:15	15	14	12.8	2.928	2.9280	4.4974	0.0641	0.0727
12/9/2013 9:20	20	14	16	2.960	2.9600	4.4868	0.0850	0.0617
12/9/2013 9:30	30	14	18.4	2.984	2.9840	4.4788	0.0452	0.0595
12/9/2013 9:40	40	15	1.4	3.014	3.0140	4.4688	0.0797	0.0926
12/9/2013 10:00	60	15	6.8	3.068	3.0680	4.4509	0.1017	0.0678
12/9/2013 10:30	90	15	8.6	3.086	3.0860	4.4450	0.0339	0.0639
12/9/2013 11:00	120	15	12.6	3.126	3.1260	4.4317	0.1062	0.0639
12/9/2013 12:00	180	15	14.4	3.144	3.1440	4.4257	0.0339	0.0333
12/9/2013 14:00	300	15	16.6	3.166	3.1660	4.4184	0.0329	0.0487
12/9/2013 16:00	420	15	19.8	3.198	3.1980	4.4078	0.0726	0.0351
12/10/2013 9:00	1440	16	3.8	3.238	3.2380	4.3945	0.0248	0.0226
12/10/2013 12:00	1620	16	3.8	3.238	3.2380	4.3945	0.0000	0.0358
12/10/2013 16:00	1860	16	5	3.250	3.2500	4.3906	0.0663	0.2575
12/11/2013 9:00	2880	17	3.2	3.432	3.4320	4.3302	0.3180	0.2946
12/11/2013 12:00	3060	17	4.2	3.442	3.4420	4.3269	0.1260	0.0673
12/11/2013 16:00	3300	17	4.4	3.444	3.4440	4.3262	0.0202	0.1019
12/12/2013 9:00	4320	17	8.8	3.488	3.4880	4.3116	0.1248	#NUM!



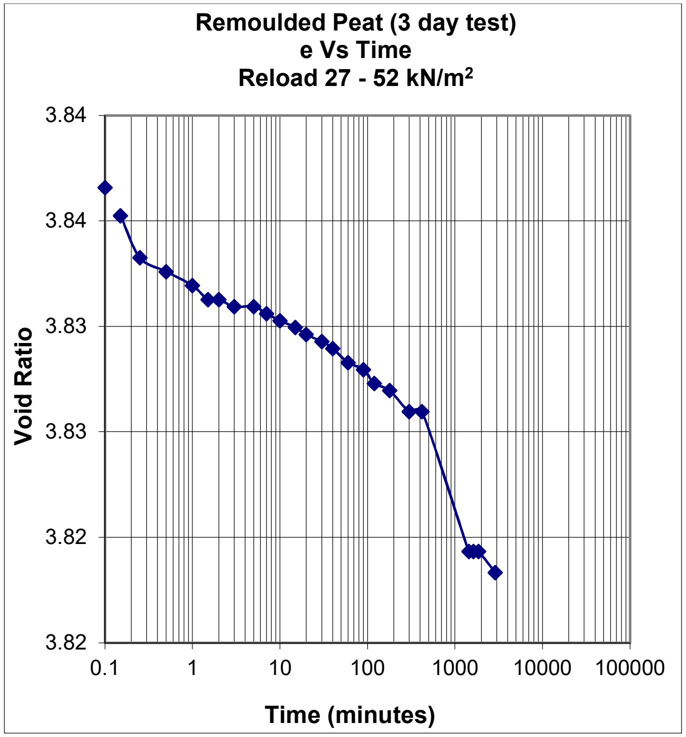
Sample – UOM-Test 02
Date–From 30/11/2013 to 12/01/2014
Conventional Consolidation
Load Increment 52kN/m² to 104kN/m²

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
12/12/2013 9:00	0	17	8.8	3.488	3.4880	4.3116		
12/12/2013 9:00	0.1	18	7	3.670	3.6700	4.2512		
12/12/2013 9:00	0.15	18	8.8	3.688	3.6880	4.2453	0.0339	0.0567
12/12/2013 9:00	0.25	18	13.8	3.738	3.7380	4.2287	0.0748	0.0774
12/12/2013 9:00	0.5	19	1	3.810	3.8100	4.2048	0.0793	0.0893
12/12/2013 9:01	1	19	10	3.900	3.9000	4.1749	0.0992	0.1085
12/12/2013 9:01	1.5	19	16.6	3.966	3.9660	4.1530	0.1243	0.1278
12/12/2013 9:02	2	20	1.6	4.016	4.0160	4.1365	0.1328	0.1234
12/12/2013 9:03	3	20	7.8	4.078	4.0780	4.1159	0.1168	0.1050
12/12/2013 9:05	5	20	14.2	4.142	4.1420	4.0947	0.0957	0.1172
12/12/2013 9:07	7	21	0.8	4.208	4.2080	4.0728	0.1498	0.1344
12/12/2013 9:10	10	21	6.4	4.264	4.2640	4.0542	0.1199	0.1102
12/12/2013 9:15	15	21	11.8	4.318	4.3180	4.0363	0.1017	0.0926
12/12/2013 9:20	20	21	14.8	4.348	4.3480	4.0263	0.0797	0.0815
12/12/2013 9:30	30	21	19.2	4.392	4.3920	4.0117	0.0829	0.0882
12/12/2013 9:40	40	22	2.8	4.428	4.4280	3.9998	0.0956	0.1014
12/12/2013 10:00	60	22	8.4	4.484	4.4840	3.9812	0.1055	0.0735
12/12/2013 10:30	90	22	10.6	4.506	4.5060	3.9739	0.0414	0.0529
12/12/2013 11:00	120	22	13.2	4.532	4.5320	3.9653	0.0690	0.0705
12/12/2013 12:00	180	22	17	4.570	4.5700	3.9527	0.0716	0.0834
12/12/2013 14:00	300	23	3.2	4.632	4.6320	3.9321	0.0927	0.0811
12/12/2013 16:00	420	23	6	4.660	4.6600	3.9228	0.0636	0.1295
12/13/2013 9:00	1440	24	9.8	4.898	4.8980	3.8439	0.1475	0.1415
12/13/2013 12:00	1620	24	11	4.910	4.9100	3.8399	0.0778	0.0597
12/13/2013 16:00	1860	24	11.8	4.918	4.9180	3.8372	0.0442	0.0982
12/14/2013 9:00	2880	24	18.4	4.984	4.9840	3.8153	0.1153	0.1135
12/14/2013 12:00	3060	24	19.2	4.992	4.9920	3.8127	0.1008	0.0786
12/14/2013 16:00	3300	24	19.8	4.998	4.9980	3.8107	0.0607	0.0696
12/17/2013 9:00	7200	25	7	5.070	5.0700	3.7868	0.0705	#NUM!



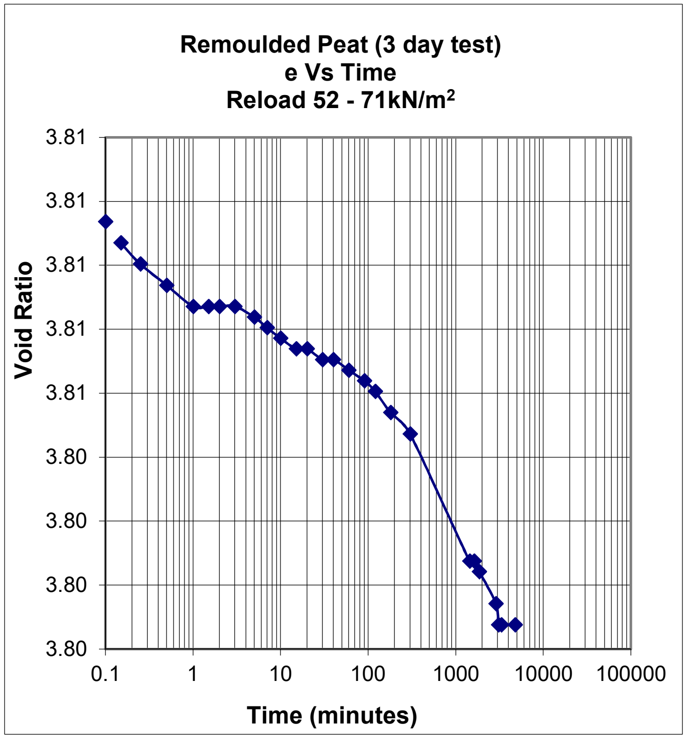
Sample – UOM-Test 02
Date–From 30/11/2013 to 12/01/2014
Conventional Consolidation
Load Increment 27kN/m² to 52kN/m²

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
12/19/2013 9:00	0	24	10	4.900	4.9000	3.8432		
12/19/2013 9:00	0.1	24	12	4.920	4.9200	3.8366		
12/19/2013 9:00	0.15	24	12.4	4.924	4.9240	3.8353	0.0075	0.0083
12/19/2013 9:00	0.25	24	13	4.930	4.9300	3.8333	0.0090	0.0051
12/19/2013 9:00	0.5	24	13.2	4.932	4.9320	3.8326	0.0022	0.0022
12/19/2013 9:01	1	24	13.4	4.934	4.9340	3.8319	0.0022	0.0028
12/19/2013 9:01	1.5	24	13.6	4.936	4.9360	3.8313	0.0038	0.0022
12/19/2013 9:02	2	24	13.6	4.936	4.9360	3.8313	0.0000	0.0011
12/19/2013 9:03	3	24	13.7	4.937	4.9370	3.8309	0.0019	0.0008
12/19/2013 9:05	5	24	13.7	4.937	4.9370	3.8309	0.0000	0.0009
12/19/2013 9:07	7	24	13.8	4.938	4.9380	3.8306	0.0023	0.0022
12/19/2013 9:10	10	24	13.9	4.939	4.9390	3.8303	0.0021	0.0020
12/19/2013 9:15	15	24	14	4.940	4.9400	3.8299	0.0019	0.0022
12/19/2013 9:20	20	24	14.1	4.941	4.9410	3.8296	0.0027	0.0022
12/19/2013 9:30	30	24	14.2	4.942	4.9420	3.8293	0.0019	0.0022
12/19/2013 9:40	40	24	14.3	4.943	4.9430	3.8289	0.0027	0.0033
12/19/2013 10:00	60	24	14.5	4.945	4.9450	3.8283	0.0038	0.0028
12/19/2013 10:30	90	24	14.6	4.946	4.9460	3.8280	0.0019	0.0033
12/19/2013 11:00	120	24	14.8	4.948	4.9480	3.8273	0.0053	0.0033
12/19/2013 12:00	180	24	14.9	4.949	4.9490	3.8270	0.0019	0.0033
12/19/2013 14:00	300	24	15.2	4.952	4.9520	3.8260	0.0045	0.0027
12/19/2013 16:00	420	24	15.2	4.952	4.9520	3.8260	0.0000	0.0097
12/20/2013 9:00	1440	24	17.2	4.972	4.9720	3.8193	0.0124	0.0113
12/20/2013 12:00	1620	24	17.2	4.972	4.9720	3.8193	0.0000	0.0000
12/20/2013 16:00	1860	24	17.2	4.972	4.9720	3.8193	0.0000	0.0040
12/21/2013 9:00	2880	24	17.5	4.975	4.9750	3.8183	0.0052	#NUM!



Sample – UOM-Test 02
Date–From 30/11/2013 to 12/01/2014
Conventional Consolidation
Load Increment 52kN/m² to 71kN/m²

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
12/26/2013 9:00	0	24	17.8	4.978	4.9780	3.8173		
12/26/2013 9:00	0.1	24	19.6	4.996	4.9960	3.8114		
12/26/2013 9:00	0.15	24	19.8	4.998	4.9980	3.8107	0.0038	0.0033
12/26/2013 9:00	0.25	25	0	5.000	5.0000	3.8100	0.0030	0.0025
12/26/2013 9:00	0.5	25	0.2	5.002	5.0020	3.8094	0.0022	0.0022
12/26/2013 9:01	1	25	0.4	5.004	5.0040	3.8087	0.0022	0.0011
12/26/2013 9:01	1.5	25	0.4	5.004	5.0040	3.8087	0.0000	0.0000
12/26/2013 9:02	2	25	0.4	5.004	5.0040	3.8087	0.0000	0.0000
12/26/2013 9:03	3	25	0.4	5.004	5.0040	3.8087	0.0000	0.0008
12/26/2013 9:05	5	25	0.5	5.005	5.0050	3.8084	0.0015	0.0018
12/26/2013 9:07	7	25	0.6	5.006	5.0060	3.8080	0.0023	0.0022
12/26/2013 9:10	10	25	0.7	5.007	5.0070	3.8077	0.0021	0.0020
12/26/2013 9:15	15	25	0.8	5.008	5.0080	3.8074	0.0019	0.0011
12/26/2013 9:20	20	25	0.8	5.008	5.0080	3.8074	0.0000	0.0011
12/26/2013 9:30	30	25	0.9	5.009	5.0090	3.8071	0.0019	0.0011
12/26/2013 9:40	40	25	0.9	5.009	5.0090	3.8071	0.0000	0.0011
12/26/2013 10:00	60	25	1	5.010	5.0100	3.8067	0.0019	0.0021
12/26/2013 10:30	90	25	1.1	5.011	5.0110	3.8064	0.0019	0.0028
12/26/2013 11:00	120	25	1.2	5.012	5.0120	3.8061	0.0022	0.0028
12/26/2013 12:00	180	25	1.4	5.014	5.0140	3.8054	0.0038	0.0033
12/26/2013 14:00	300	25	1.6	5.016	5.0160	3.8047	0.0030	0.0051
12/27/2013 9:00	1440	25	2.8	5.028	5.0280	3.8008	0.0058	0.0054
12/27/2013 12:00	1620	25	2.8	5.028	5.0280	3.8008	0.0000	0.0030
12/27/2013 16:00	1860	25	2.9	5.029	5.0290	3.8004	0.0055	0.0053
12/28/2013 9:00	2880	25	3.2	5.032	5.0320	3.7994	0.0052	0.0077
12/28/2013 12:00	3060	25	3.4	5.034	5.0340	3.7988	0.0252	0.0112
12/28/2013 16:00	3300	25	3.4	5.034	5.0340	3.7988	0.0000	0.0000
12/29/2013 16:00	4740	25	3.4	5.034	5.0340	3.7988	0.0000	#NUM!



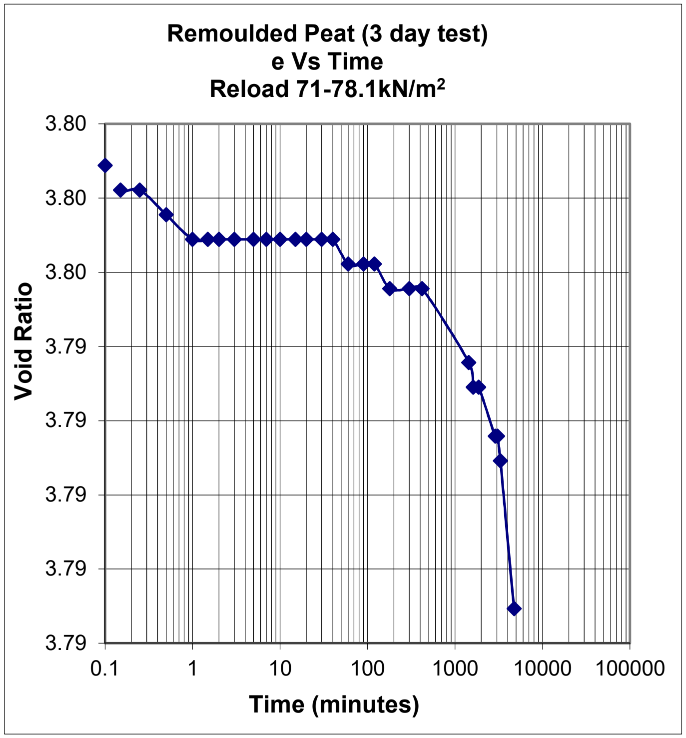
Sample – UOM-Test 02

Date–From 30/11/2013 to 12/01/2014

Conventional Consolidation

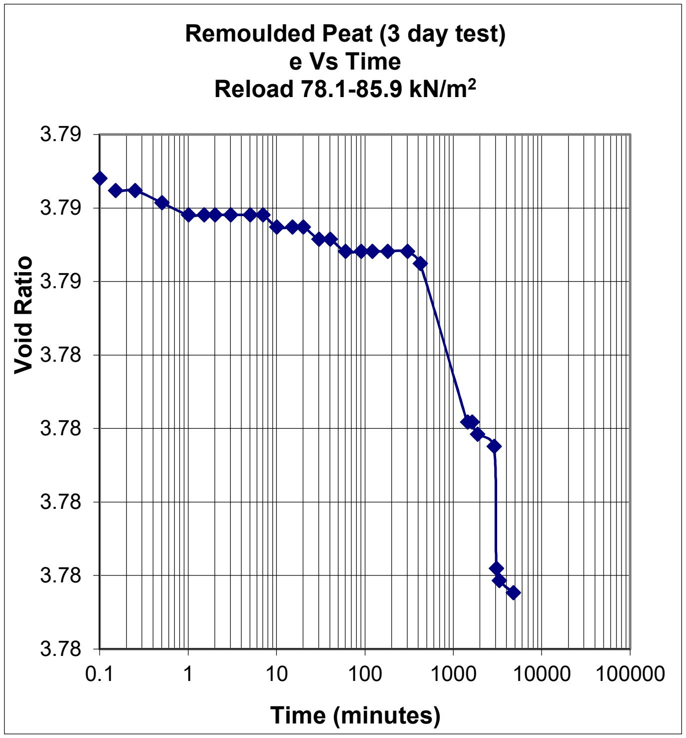
Load Increment 71kN/m^2 to 78.1kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
12/31/2013 9:00	0	25	4	5.040	5.0400	3.7968		
12/31/2013 9:00	0.1	25	4.1	5.041	5.0410	3.7964		
12/31/2013 9:00	0.15	25	4.2	5.042	5.0420	3.7961	0.0019	0.0008
12/31/2013 9:00	0.25	25	4.2	5.042	5.0420	3.7961	0.0000	0.0006
12/31/2013 9:00	0.5	25	4.3	5.043	5.0430	3.7958	0.0011	0.0011
12/31/2013 9:01	1	25	4.4	5.044	5.0440	3.7954	0.0011	0.0006
12/31/2013 9:01	1.5	25	4.4	5.044	5.0440	3.7954	0.0000	0.0000
12/31/2013 9:02	2	25	4.4	5.044	5.0440	3.7954	0.0000	0.0000
12/31/2013 9:03	3	25	4.4	5.044	5.0440	3.7954	0.0000	0.0000
12/31/2013 9:05	5	25	4.4	5.044	5.0440	3.7954	0.0000	0.0000
12/31/2013 9:07	7	25	4.4	5.044	5.0440	3.7954	0.0000	0.0000
12/31/2013 9:10	10	25	4.4	5.044	5.0440	3.7954	0.0000	0.0000
12/31/2013 9:15	15	25	4.4	5.044	5.0440	3.7954	0.0000	0.0000
12/31/2013 9:20	20	25	4.4	5.044	5.0440	3.7954	0.0000	0.0000
12/31/2013 9:30	30	25	4.4	5.044	5.0440	3.7954	0.0000	0.0000
12/31/2013 9:40	40	25	4.4	5.044	5.0440	3.7954	0.0000	0.0011
12/31/2013 10:00	60	25	4.5	5.045	5.0450	3.7951	0.0019	0.0007
12/31/2013 10:30	90	25	4.5	5.045	5.0450	3.7951	0.0000	0.0007
12/31/2013 11:00	120	25	4.5	5.045	5.0450	3.7951	0.0000	0.0007
12/31/2013 12:00	180	25	4.6	5.046	5.0460	3.7948	0.0019	0.0008
12/31/2013 14:00	300	25	4.6	5.046	5.0460	3.7948	0.0000	0.0000
12/31/2013 16:00	420	25	4.6	5.046	5.0460	3.7948	0.0000	0.0015
1/1/2014 9:00	1440	25	4.9	5.049	5.0490	3.7938	0.0019	0.0023
1/1/2014 12:00	1620	25	5	5.050	5.0500	3.7935	0.0065	0.0030
1/1/2014 16:00	1860	25	5	5.050	5.0500	3.7935	0.0000	0.0027
1/2/2014 9:00	2880	25	5.2	5.052	5.0520	3.7928	0.0035	0.0031
1/2/2014 12:00	3060	25	5.2	5.052	5.0520	3.7928	0.0000	0.0056
1/2/2014 16:00	3300	25	5.3	5.053	5.0530	3.7925	0.0101	0.0122
1/3/2014 16:00	4740	25	5.9	5.059	5.0590	3.7905	0.0127	#NUM!



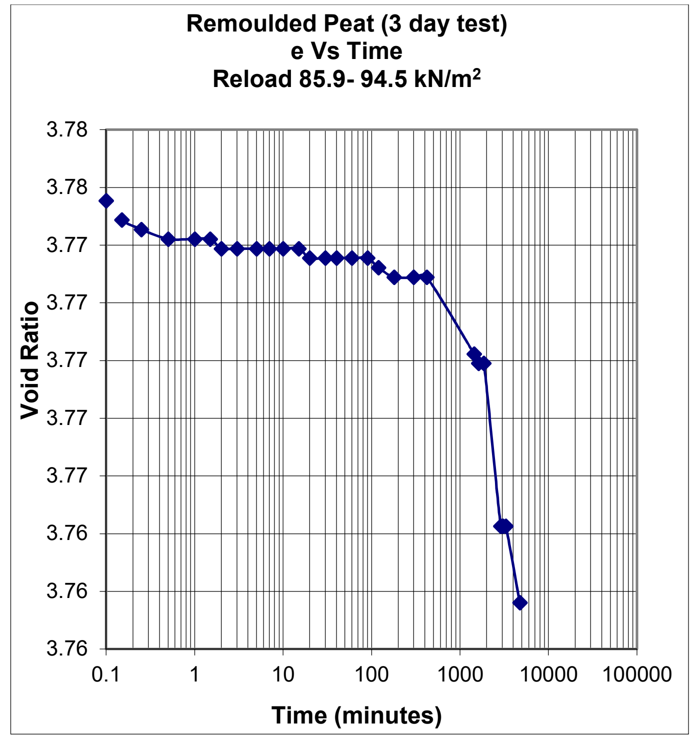
Sample – UOM-Test 02
Date–From 30/11/2013 to 12/01/2014
Conventional Consolidation
Load Increment 78.1kN/m² to 85.9kN/m²

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
1/3/2014 9:00	0	25	5.9	5.059	5.0590	3.7905		
1/3/2014 9:00	0.1	25	6.4	5.064	5.0640	3.7888		
1/3/2014 9:00	0.15	25	6.5	5.065	5.0650	3.7885	0.0019	0.0008
1/3/2014 9:00	0.25	25	6.5	5.065	5.0650	3.7885	0.0000	0.0006
1/3/2014 9:00	0.5	25	6.6	5.066	5.0660	3.7881	0.0011	0.0011
1/3/2014 9:01	1	25	6.7	5.067	5.0670	3.7878	0.0011	0.0006
1/3/2014 9:01	1.5	25	6.7	5.067	5.0670	3.7878	0.0000	0.0000
1/3/2014 9:02	2	25	6.7	5.067	5.0670	3.7878	0.0000	0.0000
1/3/2014 9:03	3	25	6.7	5.067	5.0670	3.7878	0.0000	0.0000
1/3/2014 9:05	5	25	6.7	5.067	5.0670	3.7878	0.0000	0.0000
1/3/2014 9:07	7	25	6.7	5.067	5.0670	3.7878	0.0000	0.0011
1/3/2014 9:10	10	25	6.8	5.068	5.0680	3.7875	0.0021	0.0010
1/3/2014 9:15	15	25	6.8	5.068	5.0680	3.7875	0.0000	0.0000
1/3/2014 9:20	20	25	6.8	5.068	5.0680	3.7875	0.0000	0.0011
1/3/2014 9:30	30	25	6.9	5.069	5.0690	3.7872	0.0019	0.0011
1/3/2014 9:40	40	25	6.9	5.069	5.0690	3.7872	0.0000	0.0011
1/3/2014 10:00	60	25	7	5.070	5.0700	3.7868	0.0019	0.0007
1/3/2014 10:30	90	25	7	5.070	5.0700	3.7868	0.0000	0.0000
1/3/2014 11:00	120	25	7	5.070	5.0700	3.7868	0.0000	0.0000
1/3/2014 12:00	180	25	7	5.070	5.0700	3.7868	0.0000	0.0000
1/3/2014 14:00	300	25	7	5.070	5.0700	3.7868	0.0000	0.0009
1/3/2014 16:00	420	25	7.1	5.071	5.0710	3.7865	0.0023	0.0068
1/4/2014 9:00	1440	25	8.4	5.084	5.0840	3.7822	0.0081	0.0074
1/4/2014 12:00	1620	25	8.4	5.084	5.0840	3.7822	0.0000	0.0030
1/4/2014 16:00	1860	25	8.5	5.085	5.0850	3.7818	0.0055	0.0027
1/5/2014 9:00	2880	25	8.6	5.086	5.0860	3.7815	0.0017	0.0169
1/5/2014 12:00	3060	25	9.6	5.096	5.0960	3.7782	0.1260	0.0617
1/5/2014 16:00	3300	25	9.7	5.097	5.0970	3.7779	0.0101	0.0035
1/6/2014 16:00	4740	25	9.8	5.098	5.0980	3.7775	0.0021	#NUM!



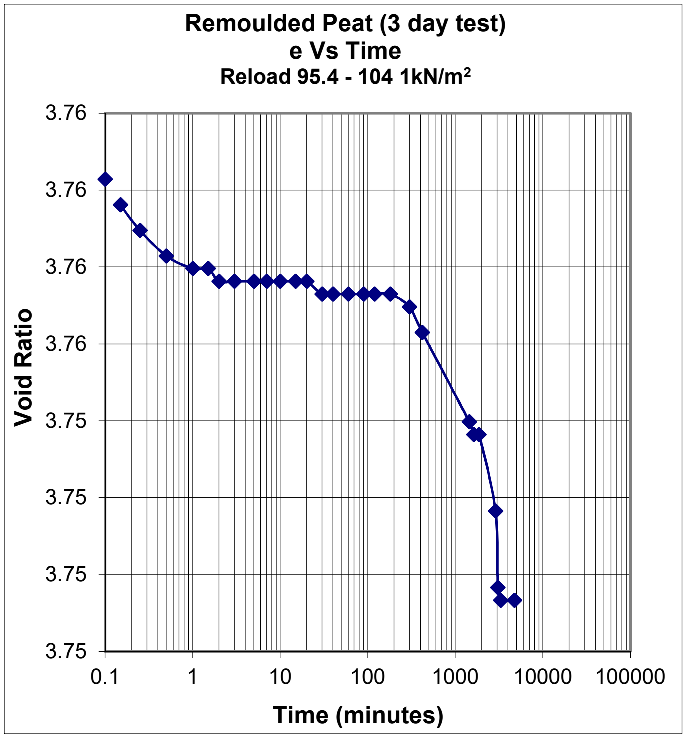
Sample – UOM-Test 02
Date–From 30/11/2013 to 12/01/2014
Conventional Consolidation
Load Increment 85.9kN/m² to 94.5kN/m²

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
1/6/2014 9:00	0	25	9.6	5.096	5.0960	3.7782		
1/6/2014 9:00	0.1	25	10.4	5.104	5.1040	3.7755		
1/6/2014 9:00	0.15	25	10.6	5.106	5.1060	3.7749	0.0038	0.0025
1/6/2014 9:00	0.25	25	10.7	5.107	5.1070	3.7745	0.0015	0.0013
1/6/2014 9:00	0.5	25	10.8	5.108	5.1080	3.7742	0.0011	0.0006
1/6/2014 9:01	1	25	10.8	5.108	5.1080	3.7742	0.0000	0.0006
1/6/2014 9:01	1.5	25	10.8	5.108	5.1080	3.7742	0.0000	0.0007
1/6/2014 9:02	2	25	10.9	5.109	5.1090	3.7739	0.0011	0.0007
1/6/2014 9:03	3	25	10.9	5.109	5.1090	3.7739	0.0000	0.0000
1/6/2014 9:05	5	25	10.9	5.109	5.1090	3.7739	0.0000	0.0000
1/6/2014 9:07	7	25	10.9	5.109	5.1090	3.7739	0.0000	0.0000
1/6/2014 9:10	10	25	10.9	5.109	5.1090	3.7739	0.0000	0.0000
1/6/2014 9:15	15	25	10.9	5.109	5.1090	3.7739	0.0000	0.0011
1/6/2014 9:20	20	25	11	5.110	5.1100	3.7735	0.0027	0.0011
1/6/2014 9:30	30	25	11	5.110	5.1100	3.7735	0.0000	0.0000
1/6/2014 9:40	40	25	11	5.110	5.1100	3.7735	0.0000	0.0000
1/6/2014 10:00	60	25	11	5.110	5.1100	3.7735	0.0000	0.0007
1/6/2014 10:30	90	25	11	5.110	5.1100	3.7735	0.0000	0.0014
1/6/2014 11:00	120	25	11.1	5.111	5.1110	3.7732	0.0011	0.0014
1/6/2014 12:00	180	25	11.2	5.112	5.1120	3.7729	0.0019	0.0008
1/6/2014 14:00	300	25	11.2	5.112	5.1120	3.7729	0.0000	0.0000
1/6/2014 16:00	420	25	11.2	5.112	5.1120	3.7729	0.0000	0.0039
1/7/2014 9:00	1440	25	12	5.120	5.1200	3.7702	0.0050	0.0051
1/7/2014 12:00	1620	25	12.1	5.121	5.1210	3.7699	0.0065	0.0030
1/7/2014 16:00	1860	25	12.1	5.121	5.1210	3.7699	0.0000	0.0226
1/8/2014 9:00	2880	25	13.8	5.138	5.1380	3.7643	0.0297	0.0261
1/8/2014 12:00	3060	25	13.8	5.138	5.1380	3.7643	0.0000	0.0000
1/8/2014 16:00	3300	25	13.8	5.138	5.1380	3.7643	0.0000	0.0140
1/9/2014 16:00	4740	25	14.6	5.146	5.1460	3.7616	0.0169	#NUM!



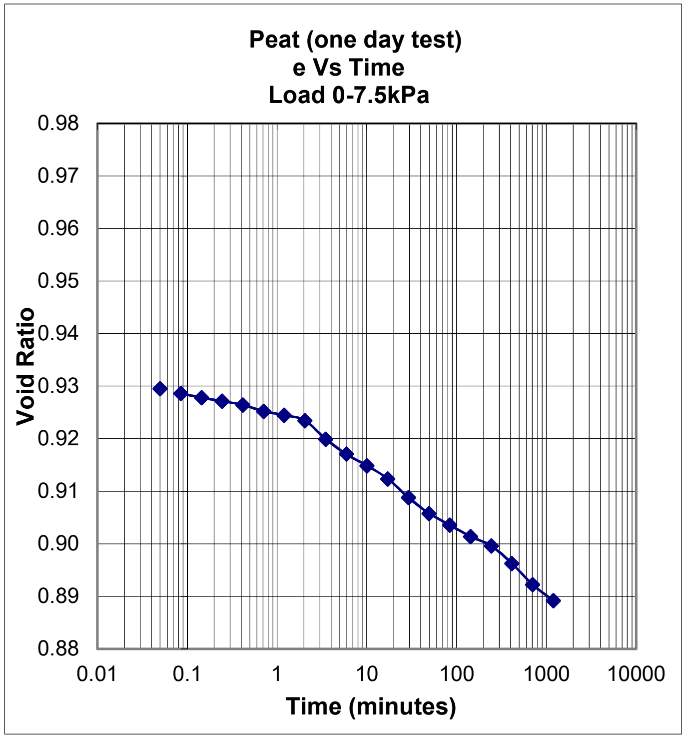
Sample – UOM-Test 02
Date–From 30/11/2013 to 12/01/2014
Conventional Consolidation
Load Increment 94.5kN/m^2 to 104kN/m^2

Date & Time	Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
1/9/2014 9:00	0	25	14.6	5.146	5.1460	3.7616		
1/9/2014 9:00	0.1	25	15	5.150	5.1500	3.7603		
1/9/2014 9:00	0.15	25	15.2	5.152	5.1520	3.7596	0.0038	0.0033
1/9/2014 9:00	0.25	25	15.4	5.154	5.1540	3.7590	0.0030	0.0025
1/9/2014 9:00	0.5	25	15.6	5.156	5.1560	3.7583	0.0022	0.0017
1/9/2014 9:01	1	25	15.7	5.157	5.1570	3.7580	0.0011	0.0011
1/9/2014 9:01	1.5	25	15.7	5.157	5.1570	3.7580	0.0000	0.0007
1/9/2014 9:02	2	25	15.8	5.158	5.1580	3.7576	0.0011	0.0007
1/9/2014 9:03	3	25	15.8	5.158	5.1580	3.7576	0.0000	0.0000
1/9/2014 9:05	5	25	15.8	5.158	5.1580	3.7576	0.0000	0.0000
1/9/2014 9:07	7	25	15.8	5.158	5.1580	3.7576	0.0000	0.0000
1/9/2014 9:10	10	25	15.8	5.158	5.1580	3.7576	0.0000	0.0000
1/9/2014 9:15	15	25	15.8	5.158	5.1580	3.7576	0.0000	0.0000
1/9/2014 9:20	20	25	15.8	5.158	5.1580	3.7576	0.0000	0.0011
1/9/2014 9:30	30	25	15.9	5.159	5.1590	3.7573	0.0019	0.0011
1/9/2014 9:40	40	25	15.9	5.159	5.1590	3.7573	0.0000	0.0000
1/9/2014 10:00	60	25	15.9	5.159	5.1590	3.7573	0.0000	0.0000
1/9/2014 10:30	90	25	15.9	5.159	5.1590	3.7573	0.0000	0.0000
1/9/2014 11:00	120	25	15.9	5.159	5.1590	3.7573	0.0000	0.0000
1/9/2014 12:00	180	25	15.9	5.159	5.1590	3.7573	0.0000	0.0008
1/9/2014 14:00	300	25	16	5.160	5.1600	3.7570	0.0015	0.0027
1/9/2014 16:00	420	25	16.2	5.162	5.1620	3.7563	0.0045	0.0044
1/10/2014 9:00	1440	25	16.9	5.169	5.1690	3.7540	0.0043	0.0045
1/10/2014 12:00	1620	25	17	5.170	5.1700	3.7536	0.0065	0.0030
1/10/2014 16:00	1860	25	17	5.170	5.1700	3.7536	0.0000	0.0080
1/11/2014 9:00	2880	25	17.6	5.176	5.1760	3.7517	0.0105	0.0184
1/11/2014 12:00	3060	25	18.2	5.182	5.1820	3.7497	0.0756	0.0393
1/11/2014 16:00	3300	25	18.3	5.183	5.1830	3.7493	0.0101	0.0017
1/12/2014 16:00	4740	25	18.3	5.183	5.1830	3.7493	0.0000	#NUM!



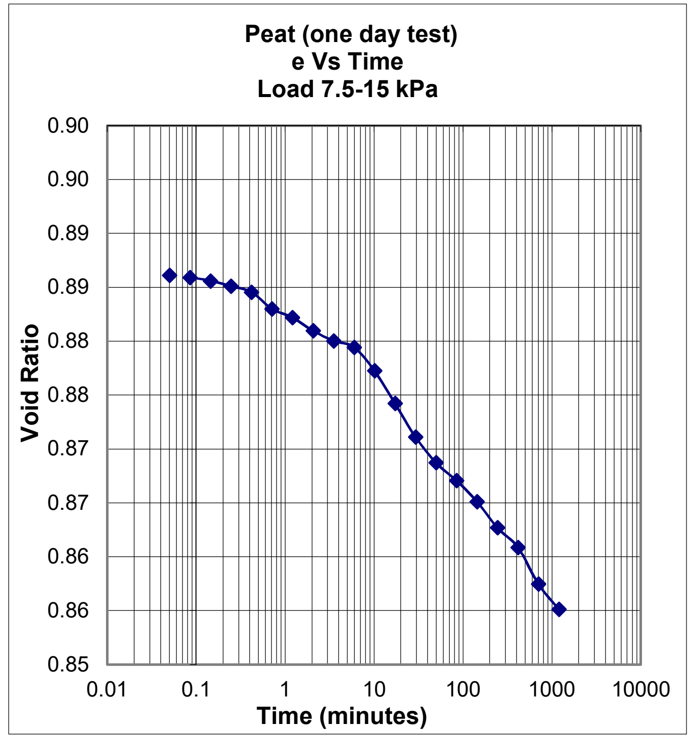
Sample – CKE – Undisturbed – BH 1 (14.25-15.00)
Started Date-24/09/2012
Conventional Consolidation
Load Increment 0kN/m^2 to 7.5kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.0000	0.0000	0.9700		
0.05	0.4110	0.4110	0.9295		
0.085	0.4204	0.4204	0.9286	0.0040	0.0037
0.145	0.4282	0.4282	0.9278	0.0033	0.0032
0.245	0.4352	0.4352	0.9271	0.0030	0.0030
0.418	0.4422	0.4422	0.9264	0.0030	0.0041
0.71	0.4546	0.4546	0.9252	0.0053	0.0042
1.206	0.4620	0.4620	0.9245	0.0032	0.0039
2.051	0.4727	0.4727	0.9234	0.0046	0.0099
3.487	0.5085	0.5085	0.9199	0.0153	0.0138
5.929	0.5373	0.5373	0.9171	0.0123	0.0110
10.08	0.5599	0.5599	0.9148	0.0097	0.0102
17.14	0.5850	0.5850	0.9124	0.0107	0.0131
29.13	0.6212	0.6212	0.9088	0.0155	0.0143
49.52	0.6520	0.6520	0.9058	0.0132	0.0113
84	0.6742	0.6742	0.9036	0.0095	0.0095
143.1	0.6965	0.6965	0.9014	0.0095	0.0086
243.3	0.7146	0.7146	0.8996	0.0077	0.0112
413.6	0.7487	0.7487	0.8963	0.0146	0.0160
703.2	0.7894	0.7894	0.8922	0.0174	0.0153
1195	0.8203	0.8203	0.8892	0.0132	#NUM!



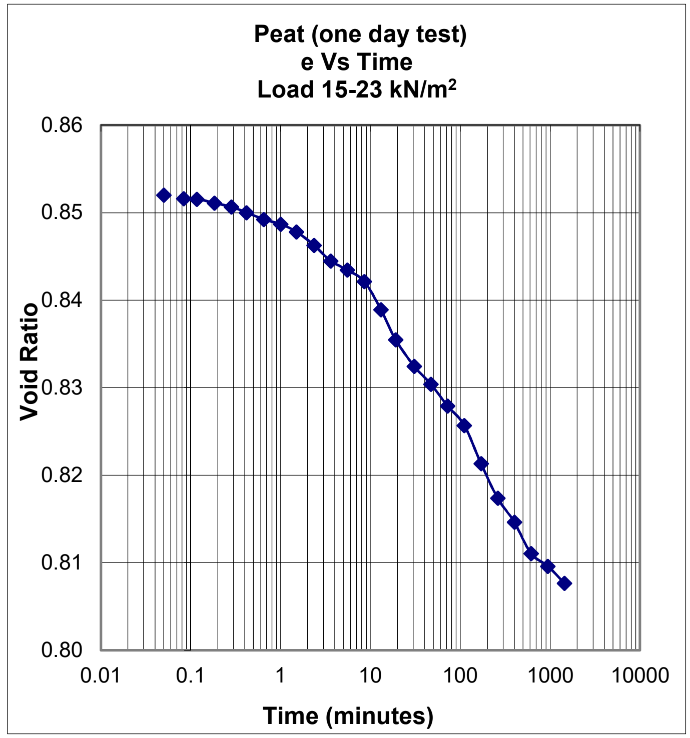
Sample – CKE – Undisturbed – BH 1 (14.25-15.00)
Started Date-24/09/2012
Conventional Consolidation
Load Increment 7.5kN/m^2 to 15kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.8203	0.8203	0.8892		
0.05	0.8515	0.8515	0.8861		
0.085	0.8536	0.8536	0.8859	0.0009	0.0012
0.145	0.8569	0.8569	0.8856	0.0014	0.0018
0.245	0.8618	0.8618	0.8851	0.0021	0.0023
0.418	0.8676	0.8676	0.8845	0.0025	0.0046
0.71	0.8832	0.8832	0.8830	0.0067	0.0051
1.206	0.8915	0.8915	0.8822	0.0036	0.0044
2.051	0.9038	0.9038	0.8810	0.0053	0.0047
3.487	0.9133	0.9133	0.8800	0.0041	0.0033
5.929	0.9194	0.9194	0.8794	0.0026	0.0060
10.08	0.9416	0.9416	0.8773	0.0095	0.0113
17.14	0.9721	0.9721	0.8742	0.0130	0.0133
29.13	1.0038	1.0038	0.8711	0.0135	0.0120
49.52	1.0281	1.0281	0.8687	0.0104	0.0088
84	1.0449	1.0449	0.8671	0.0072	0.0078
143.1	1.0647	1.0647	0.8651	0.0085	0.0095
243.3	1.0894	1.0894	0.8627	0.0106	0.0092
413.6	1.1079	1.1079	0.8609	0.0079	0.0113
703.2	1.1424	1.1424	0.8575	0.0147	0.0125
1195	1.1663	1.1663	0.8551	0.0102	#NUM!



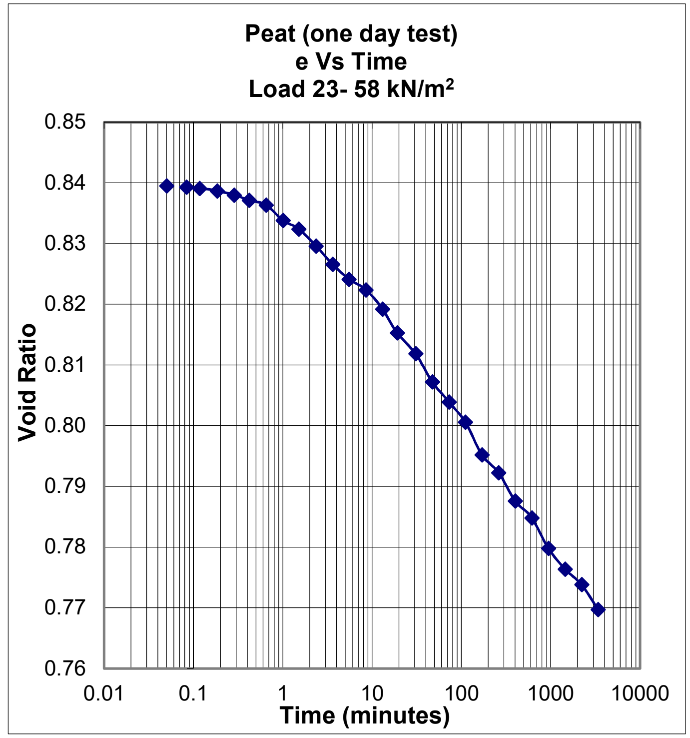
Sample – CKE – Undisturbed – BH 1 (14.25-15.00)
Started Date-24/09/2012
Conventional Consolidation
Load Increment 15kN/m^2 to 23kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	1.1663	1.1663	0.8551		
0.05	1.1975	1.1975	0.8520		
0.08	1.2016	1.2016	0.8516	0.002	0.001
0.12	1.2024	1.2024	0.8516	0.001	0.002
0.18	1.2069	1.2069	0.8511	0.002	0.002
0.28	1.2115	1.2115	0.8507	0.002	0.003
0.42	1.2180	1.2180	0.8500	0.004	0.004
0.65	1.2259	1.2259	0.8492	0.004	0.004
1	1.2316	1.2316	0.8487	0.003	0.004
1.5	1.2403	1.2403	0.8478	0.005	0.006
2.35	1.2559	1.2559	0.8463	0.008	0.009
3.6	1.2740	1.2740	0.8445	0.010	0.008
5.5	1.2847	1.2847	0.8435	0.006	0.006
8.5	1.2979	1.2979	0.8422	0.007	0.012
13.02	1.3304	1.3304	0.8390	0.017	0.019
19	1.3654	1.3654	0.8355	0.021	0.017
30.65	1.3962	1.3962	0.8325	0.015	0.013
47	1.4172	1.4172	0.8304	0.011	0.012
72.12	1.4423	1.4423	0.8279	0.013	0.013
110.6	1.4649	1.4649	0.8257	0.012	0.018
169.7	1.5090	1.5090	0.8214	0.023	0.022
260.3	1.5493	1.5493	0.8174	0.021	0.018
399.3	1.5773	1.5773	0.8146	0.015	0.017
612.5	1.6135	1.6135	0.8111	0.019	0.014
939.6	1.6283	1.6283	0.8096	0.008	0.009
1441	1.6481	1.6481	0.8077	0.010	#NUM!



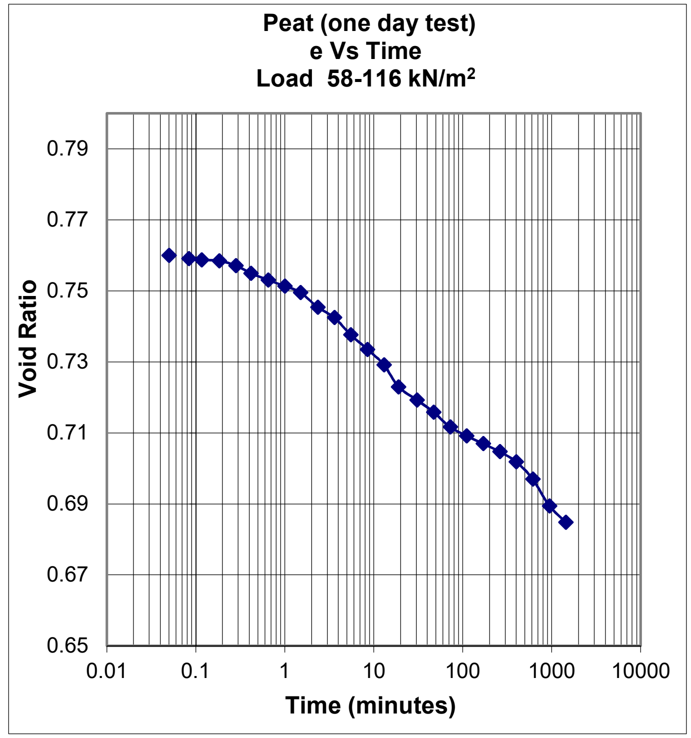
Sample – CKE – Undisturbed – BH 1 (14.25-15.00)
Started Date-24/09/2012
Conventional Consolidation
Load Increment 23kN/m^2 to 58kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	1.2848	1.2848	0.8434		
0.05	1.3248	1.3248	0.8395		
0.08	1.3268	1.3268	0.8393	0.0009	0.0011
0.12	1.3289	1.3289	0.8391	0.0014	0.0018
0.18	1.3330	1.3330	0.8387	0.0021	0.0028
0.28	1.3400	1.3400	0.8380	0.0036	0.0043
0.42	1.3486	1.3486	0.8372	0.0051	0.0046
0.65	1.3569	1.3569	0.8363	0.0042	0.0088
1	1.3824	1.3824	0.8338	0.0134	0.0108
1.5	1.3968	1.3968	0.8324	0.0081	0.0114
2.35	1.4252	1.4252	0.8296	0.0143	0.0152
3.6	1.4556	1.4556	0.8266	0.0162	0.0148
5.5	1.4807	1.4807	0.8242	0.0134	0.0113
8.5	1.4984	1.4984	0.8224	0.0092	0.0131
13.02	1.5305	1.5305	0.8192	0.0171	0.0203
19	1.5705	1.5705	0.8153	0.0240	0.0198
30.65	1.6054	1.6054	0.8119	0.0166	0.0204
47	1.6520	1.6520	0.8073	0.0247	0.0214
72.12	1.6861	1.6861	0.8039	0.0181	0.0180
110.6	1.7198	1.7198	0.8006	0.0179	0.0235
169.7	1.7746	1.7746	0.7952	0.0290	0.0224
260.3	1.8042	1.8042	0.7923	0.0157	0.0204
399.3	1.8516	1.8516	0.7876	0.0251	0.0200
612.5	1.8796	1.8796	0.7849	0.0148	0.0209
939.6	1.9306	1.9306	0.7798	0.0270	0.0228
1441.4	1.9656	1.9656	0.7764	0.0186	0.0161
2211.0	1.9915	1.9915	0.7738	0.0137	0.0179
3391	2.0331	2.0331	0.7697	0.0221	#NUM!



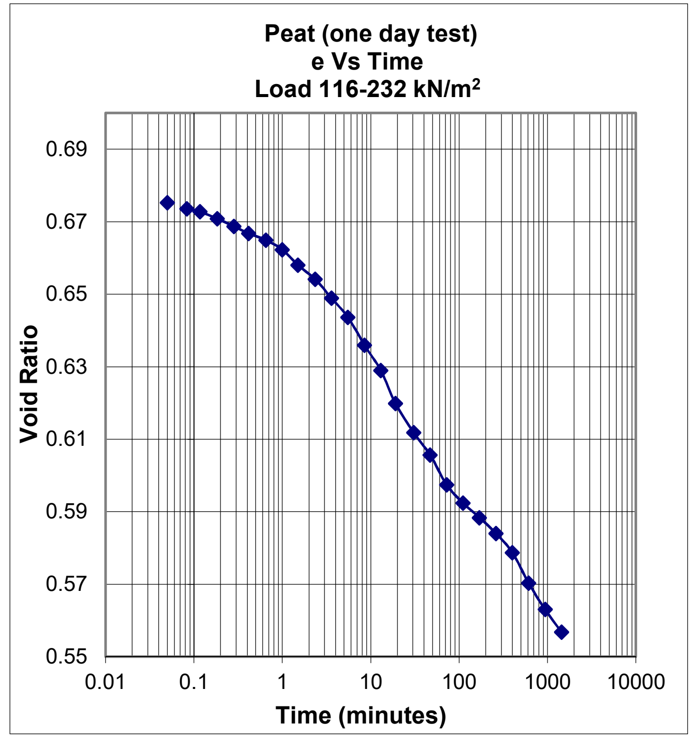
Sample – CKE – Undisturbed – BH 1 (14.25-15.00)
Started Date-24/09/2012
Conventional Consolidation
Load Increment 58kN/m^2 to 116kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	2.0331	2.0331	0.7697		
0.05	2.1319	2.1319	0.7600		
0.08	2.1410	2.1410	0.7591	0.0040	0.0034
0.12	2.1447	2.1447	0.7587	0.0025	0.0020
0.18	2.1480	2.1480	0.7584	0.0017	0.0043
0.28	2.1615	2.1615	0.7571	0.0070	0.0098
0.42	2.1834	2.1834	0.7549	0.0129	0.0113
0.65	2.2027	2.2027	0.7530	0.0098	0.0095
1	2.2200	2.2200	0.7513	0.0091	0.0096
1.5	2.2381	2.2381	0.7495	0.0101	0.0161
2.35	2.2805	2.2805	0.7454	0.0214	0.0187
3.6	2.3101	2.3101	0.7425	0.0157	0.0210
5.5	2.3591	2.3591	0.7376	0.0262	0.0240
8.5	2.4011	2.4011	0.7335	0.0219	0.0227
13.02	2.4452	2.4452	0.7291	0.0235	0.0302
19	2.5082	2.5082	0.7229	0.0378	0.0267
30.65	2.5460	2.5460	0.7192	0.0179	0.0180
47	2.5802	2.5802	0.7159	0.0181	0.0204
72.12	2.6230	2.6230	0.7116	0.0227	0.0180
110.6	2.6482	2.6482	0.7092	0.0134	0.0126
169.7	2.6704	2.6704	0.7070	0.0118	0.0120
260.3	2.6934	2.6934	0.7047	0.0122	0.0139
399.3	2.7227	2.7227	0.7018	0.0155	0.0209
612.5	2.7721	2.7721	0.6969	0.0262	0.0333
939.6	2.8483	2.8483	0.6894	0.0404	0.0325
1441	2.8948	2.8948	0.6849	0.0246	#NUM!



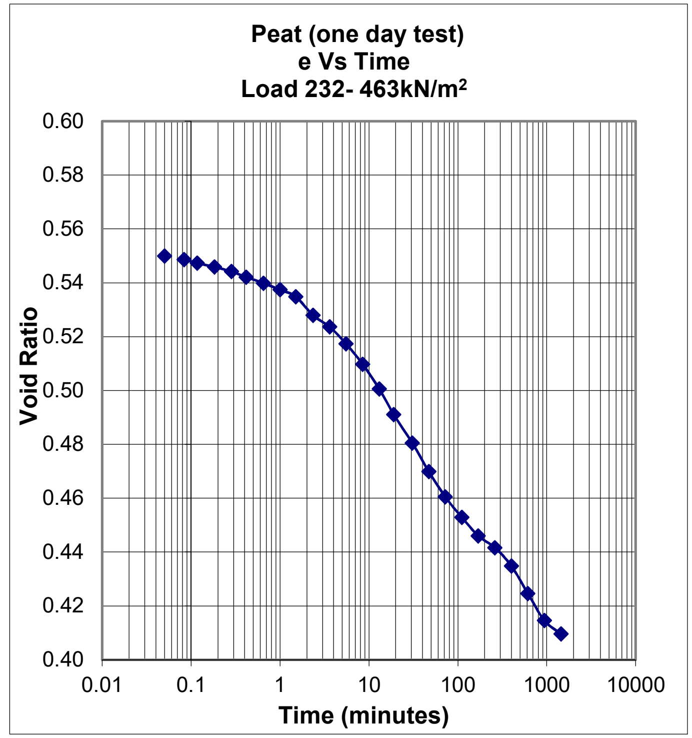
Sample – CKE – Undisturbed – BH 1 (14.25-15.00)
Started Date-24/09/2012
Conventional Consolidation
Load Increment 116kN/m^2 to 232kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	2.8948	2.8948	0.6849		
0.05	2.9920	2.9920	0.6753		
0.08	3.0089	3.0089	0.6736	0.0075	0.0068
0.12	3.0175	3.0175	0.6728	0.0058	0.0081
0.18	3.0369	3.0369	0.6709	0.0097	0.0104
0.28	3.0583	3.0583	0.6688	0.0111	0.0114
0.42	3.0780	3.0780	0.6668	0.0116	0.0105
0.65	3.0966	3.0966	0.6650	0.0095	0.0118
1	3.1237	3.1237	0.6623	0.0143	0.0191
1.5	3.1670	3.1670	0.6581	0.0242	0.0220
2.35	3.2065	3.2065	0.6542	0.0200	0.0240
3.6	3.2596	3.2596	0.6489	0.0282	0.0284
5.5	3.3128	3.3128	0.6437	0.0285	0.0348
8.5	3.3914	3.3914	0.6359	0.0410	0.0393
13.02	3.4623	3.4623	0.6290	0.0377	0.0459
19	3.5541	3.5541	0.6199	0.0551	0.0460
30.65	3.6361	3.6361	0.6118	0.0389	0.0362
47	3.6987	3.6987	0.6057	0.0332	0.0386
72.12	3.7819	3.7819	0.5975	0.0441	0.0356
110.6	3.8329	3.8329	0.5925	0.0270	0.0244
169.7	3.8741	3.8741	0.5884	0.0218	0.0226
260.3	3.9182	3.9182	0.5841	0.0234	0.0259
399.3	3.9718	3.9718	0.5788	0.0284	0.0370
612.5	4.0578	4.0578	0.5703	0.0456	0.0422
939.6	4.1312	4.1312	0.5631	0.0389	0.0364
1441.4	4.1950	4.1950	0.5568	0.0338	#NUM!



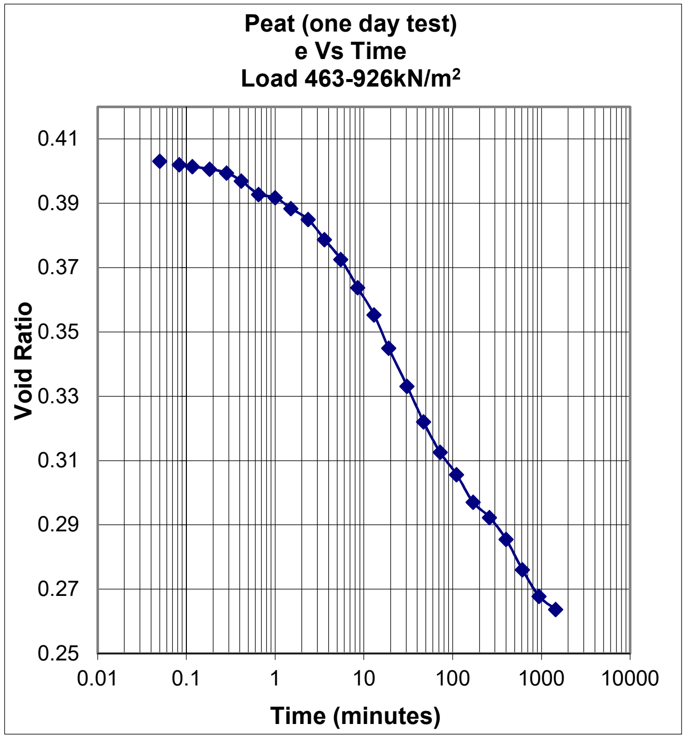
Sample – CKE – Undisturbed – BH 1 (14.25-15.00)
Started Date-24/09/2012
Conventional Consolidation
Load Increment 232kN/m² to 463kN/m²

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	4.1950	4.1950	0.5568		
0.05	4.2646	4.2646	0.5499		
0.08	4.2778	4.2778	0.5486	0.0059	0.0072
0.12	4.2914	4.2914	0.5473	0.0092	0.0081
0.18	4.3058	4.3058	0.5459	0.0072	0.0081
0.28	4.3231	4.3231	0.5442	0.0090	0.0106
0.42	4.3442	4.3442	0.5421	0.0124	0.0120
0.65	4.3672	4.3672	0.5398	0.0117	0.0124
1	4.3919	4.3919	0.5374	0.0130	0.0138
1.5	4.4179	4.4179	0.5348	0.0145	0.0256
2.35	4.4884	4.4884	0.5279	0.0356	0.0294
3.6	4.5312	4.5312	0.5237	0.0228	0.0285
5.5	4.5951	4.5951	0.5174	0.0342	0.0374
8.5	4.6729	4.6729	0.5097	0.0405	0.0450
13.02	4.7661	4.7661	0.5005	0.0496	0.0535
19	4.8625	4.8625	0.4910	0.0578	0.0538
30.65	4.9692	4.9692	0.4805	0.0506	0.0538
47	5.0772	5.0772	0.4699	0.0573	0.0539
72.12	5.1724	5.1724	0.4605	0.0504	0.0456
110.6	5.2494	5.2494	0.4529	0.0408	0.0391
169.7	5.3199	5.3199	0.4460	0.0374	0.0304
260.3	5.3640	5.3640	0.4416	0.0234	0.0300
399.3	5.4332	5.4332	0.4348	0.0367	0.0460
612.5	5.5375	5.5375	0.4246	0.0553	0.0545
939.6	5.6389	5.6389	0.4146	0.0537	0.0401
1441	5.6888	5.6888	0.4097	0.0264	#NUM!



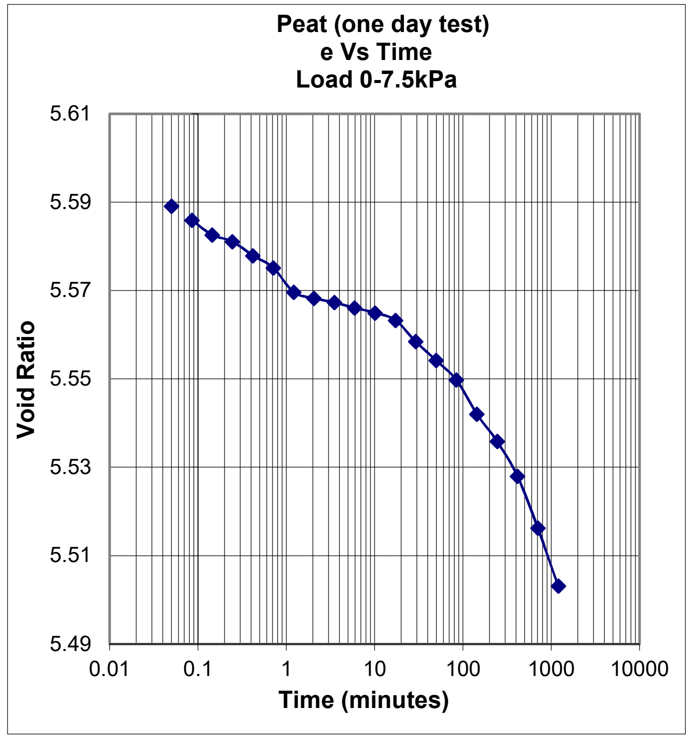
Sample – CKE – Undisturbed – BH 1 (14.25-15.00)
Started Date-24/09/2012
Conventional Consolidation
Load Increment 463kN/m² to 926kN/m²

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	$C\alpha 1$	$C\alpha 2$
0	5.6888	5.6888	0.4097		
0.05	5.7551	5.7551	0.4031		
0.08	5.7663	5.7663	0.4020	0.0050	0.0045
0.12	5.7720	5.7720	0.4015	0.0038	0.0039
0.18	5.7799	5.7799	0.4007	0.0040	0.0052
0.28	5.7922	5.7922	0.3995	0.0064	0.0142
0.42	5.8174	5.8174	0.3970	0.0148	0.0139
0.65	5.8594	5.8594	0.3928	0.0184	0.0139
1	5.8697	5.8697	0.3918	0.0054	0.0121
1.5	5.9039	5.9039	0.3885	0.0191	0.0184
2.35	5.9390	5.9390	0.3850	0.0177	0.0255
3.6	6.0024	6.0024	0.3788	0.0337	0.0336
5.5	6.0651	6.0651	0.3726	0.0336	0.0399
8.5	6.1537	6.1537	0.3639	0.0462	0.0460
13.02	6.2399	6.2399	0.3554	0.0458	0.0539
19	6.3450	6.3450	0.3450	0.0631	0.0596
30.65	6.4650	6.4650	0.3332	0.0569	0.0559
47	6.5780	6.5780	0.3221	0.0599	0.0493
72.12	6.6740	6.6740	0.3126	0.0554	0.0493
110.6	6.7441	6.7441	0.3057	0.0372	0.0416
169.7	6.8311	6.8311	0.2971	0.0461	0.0359
260.3	6.8794	6.8794	0.2924	0.0256	0.0312
399.3	6.9487	6.9487	0.2856	0.0367	0.0439
612.5	7.0451	7.0451	0.2761	0.0511	0.0476
939.6	7.1284	7.1284	0.2679	0.0441	0.0331
1441	7.1701	7.1701	0.2637	0.0221	#NUM!



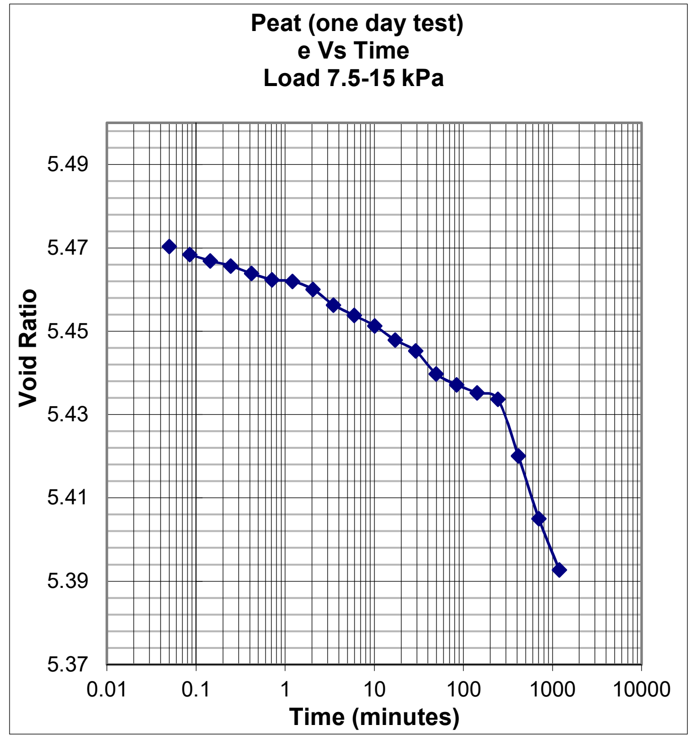
Sample – CKE– Undisturbed – BH 2 (12.00-12.75)
Started Date-19/07/2012
Conventional Consolidation
Load Increment 0kN/m^2 to 7.5kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.0000	0.0000	5.6900		
0.05	0.3017	0.3017	5.5891		
0.085	0.3112	0.3112	5.5859	0.0138	0.0141
0.145	0.3211	0.3211	5.5826	0.0144	0.0105
0.245	0.3256	0.3256	5.5811	0.0066	0.0102
0.418	0.3351	0.3351	5.5779	0.0137	0.0128
0.71	0.3433	0.3433	5.5752	0.0119	0.0179
1.206	0.3598	0.3598	5.5696	0.0240	0.0150
2.051	0.3639	0.3639	5.5683	0.0059	0.0051
3.487	0.3668	0.3668	5.5673	0.0042	0.0048
5.929	0.3705	0.3705	5.5661	0.0054	0.0051
10.08	0.3738	0.3738	5.5650	0.0048	0.0060
17.14	0.3788	0.3788	5.5633	0.0073	0.0141
29.13	0.3932	0.3932	5.5585	0.0209	0.0197
49.52	0.4060	0.4060	5.5542	0.0186	0.0189
84	0.4192	0.4192	5.5498	0.0192	0.0263
143.1	0.4422	0.4422	5.5421	0.0334	0.0302
243.3	0.4608	0.4608	5.5359	0.0270	0.0306
413.6	0.4843	0.4843	5.5280	0.0341	0.0425
703.2	0.5193	0.5193	5.5163	0.0508	0.0539
1195	0.5585	0.5585	5.5032	0.0569	#NUM!



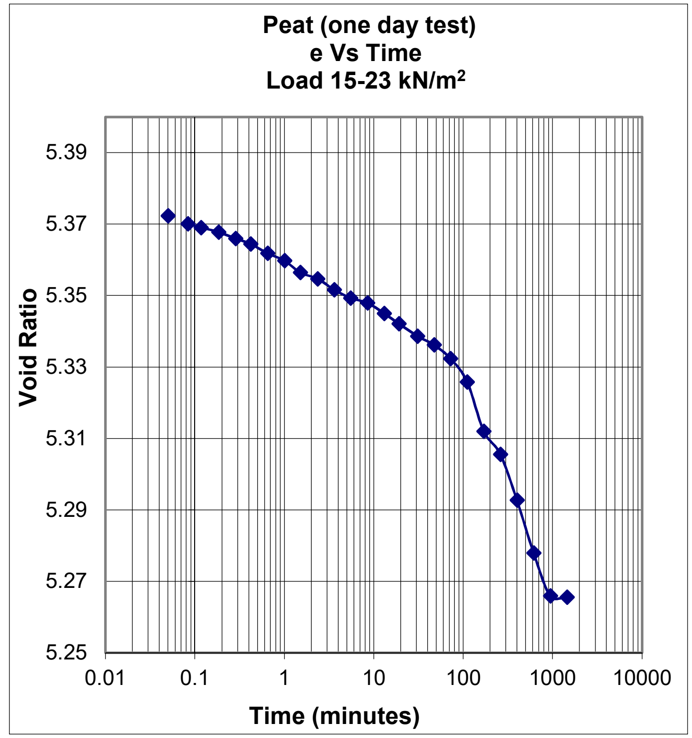
Sample – CKE– Undisturbed – BH 2 (12.00-12.75)
Started Date-19/07/2012
Conventional Consolidation
Load Increment 7.5kN/m^2 to 15kN/m^2

Elapsed Time /(min	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.5585	0.5585	5.5032		
0.05	0.6566	0.6566	5.4704		
0.085	0.6624	0.6624	5.4684	0.0084	0.0075
0.145	0.6669	0.6669	5.4669	0.0065	0.0060
0.245	0.6706	0.6706	5.4657	0.0054	0.0066
0.418	0.6760	0.6760	5.4639	0.0078	0.0072
0.71	0.6805	0.6805	5.4624	0.0065	0.0041
1.206	0.6817	0.6817	5.4620	0.0017	0.0051
2.051	0.6875	0.6875	5.4600	0.0084	0.0123
3.487	0.6986	0.6986	5.4563	0.0161	0.0135
5.929	0.7061	0.7061	5.4538	0.0109	0.0108
10.08	0.7135	0.7135	5.4513	0.0107	0.0128
17.14	0.7238	0.7238	5.4479	0.0150	0.0131
29.13	0.7316	0.7316	5.4453	0.0113	0.0176
49.52	0.7481	0.7481	5.4398	0.0239	0.0176
84	0.7559	0.7559	5.4372	0.0113	0.0099
143.1	0.7617	0.7617	5.4352	0.0084	0.0075
243.3	0.7662	0.7662	5.4337	0.0065	0.0329
413.6	0.8070	0.8070	5.4201	0.0592	0.0623
703.2	0.8520	0.8520	5.4050	0.0653	0.0593
1195	0.8887	0.8887	5.3927	0.0533	#NUM!



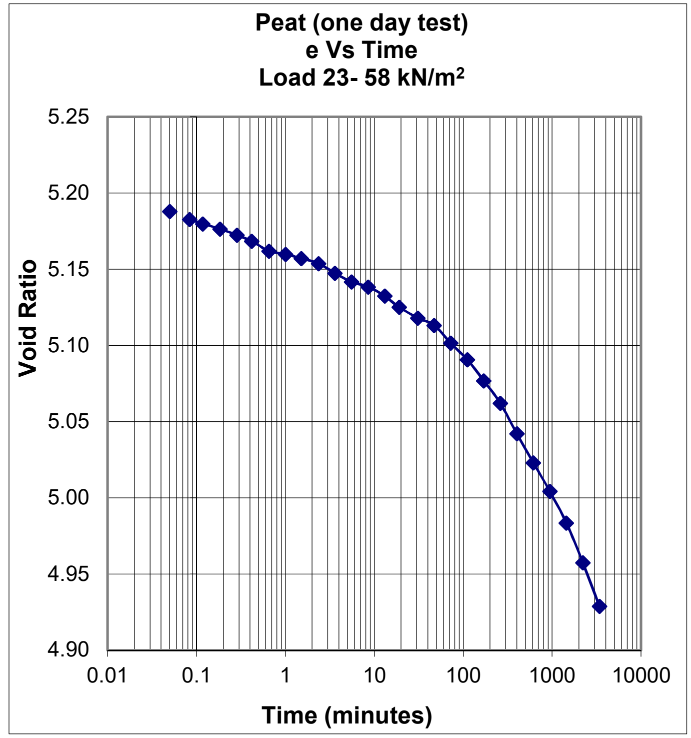
Sample – CKE– Undisturbed – BH 2 (12.00-12.75)
Started Date-19/07/2012
Conventional Consolidation
Load Increment 15kN/m² to 23kN/m²

Elapsed Time /(min	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.8887	0.8887	5.3927		
0.05	0.9497	0.9497	5.3723		
0.08	0.9562	0.9562	5.3702	0.010	0.009
0.12	0.9595	0.9595	5.3690	0.008	0.007
0.18	0.9633	0.9633	5.3678	0.006	0.008
0.28	0.9686	0.9686	5.3660	0.009	0.009
0.42	0.9732	0.9732	5.3645	0.009	0.012
0.65	0.9810	0.9810	5.3619	0.014	0.012
1	0.9872	0.9872	5.3598	0.011	0.015
1.5	0.9971	0.9971	5.3565	0.019	0.014
2.35	1.0024	1.0024	5.3547	0.009	0.013
3.6	1.0115	1.0115	5.3517	0.016	0.015
5.5	1.0185	1.0185	5.3493	0.013	0.010
8.5	1.0226	1.0226	5.3479	0.007	0.011
13.02	1.0313	1.0313	5.3450	0.016	0.017
19	1.0399	1.0399	5.3422	0.018	0.017
30.65	1.0503	1.0503	5.3387	0.017	0.015
47	1.0577	1.0577	5.3362	0.013	0.017
72.12	1.0692	1.0692	5.3324	0.021	0.028
110.6	1.0886	1.0886	5.3259	0.035	0.055
169.7	1.1298	1.1298	5.3121	0.074	0.055
260.3	1.1492	1.1492	5.3056	0.035	0.052
399.3	1.1876	1.1876	5.2927	0.069	0.074
612.5	1.2317	1.2317	5.2780	0.079	0.072
939.6	1.2675	1.2675	5.2660	0.064	0.033
1441	1.2688	1.2688	5.2656	0.002	#NUM!



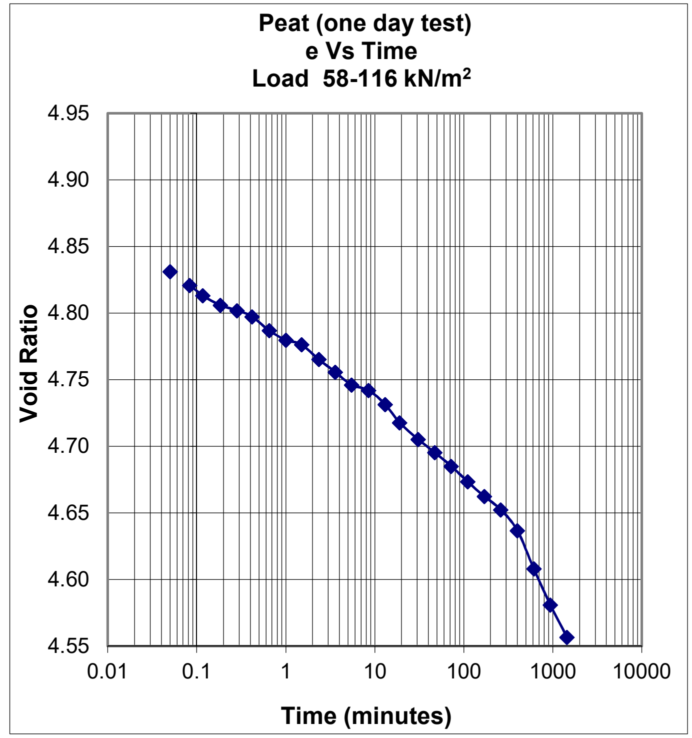
Sample – CKE– Undisturbed – BH 2 (12.00-12.75)
Started Date-19/07/2012
Conventional Consolidation
Load Increment 23kN/m^2 to 58kN/m^2

Elapsed Time /(min	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	1.2688	1.2688	5.2656		
0.05	1.5009	1.5009	5.1879		
0.08	1.5162	1.5162	5.1828	0.0231	0.0218
0.12	1.5249	1.5249	5.1799	0.0199	0.0186
0.18	1.5352	1.5352	5.1765	0.0176	0.0193
0.28	1.5471	1.5471	5.1725	0.0211	0.0224
0.42	1.5591	1.5591	5.1685	0.0240	0.0291
0.65	1.5785	1.5785	5.1620	0.0336	0.0229
1	1.5851	1.5851	5.1598	0.0118	0.0133
1.5	1.5929	1.5929	5.1572	0.0148	0.0163
2.35	1.6032	1.6032	5.1537	0.0177	0.0258
3.6	1.6222	1.6222	5.1474	0.0343	0.0325
5.5	1.6391	1.6391	5.1417	0.0307	0.0237
8.5	1.6486	1.6486	5.1385	0.0168	0.0247
13.02	1.6667	1.6667	5.1325	0.0327	0.0383
19	1.6886	1.6886	5.1252	0.0446	0.0390
30.65	1.7100	1.7100	5.1180	0.0345	0.0302
47	1.7241	1.7241	5.1133	0.0254	0.0442
72.12	1.7591	1.7591	5.1016	0.0630	0.0608
110.6	1.7917	1.7917	5.0907	0.0587	0.0664
169.7	1.8329	1.8329	5.0769	0.0742	0.0765
260.3	1.8767	1.8767	5.0622	0.0789	0.0933
399.3	1.9365	1.9365	5.0422	0.1076	0.1054
612.5	1.9938	1.9938	5.0231	0.1032	0.1021
939.6	2.0499	2.0499	5.0043	0.1010	0.1062
1441.4	2.1118	2.1118	4.9836	0.1114	0.1262
2211.0	2.1901	2.1901	4.9574	0.1410	0.1470
3391	2.2751	2.2751	4.9290	0.1531	#NUM!



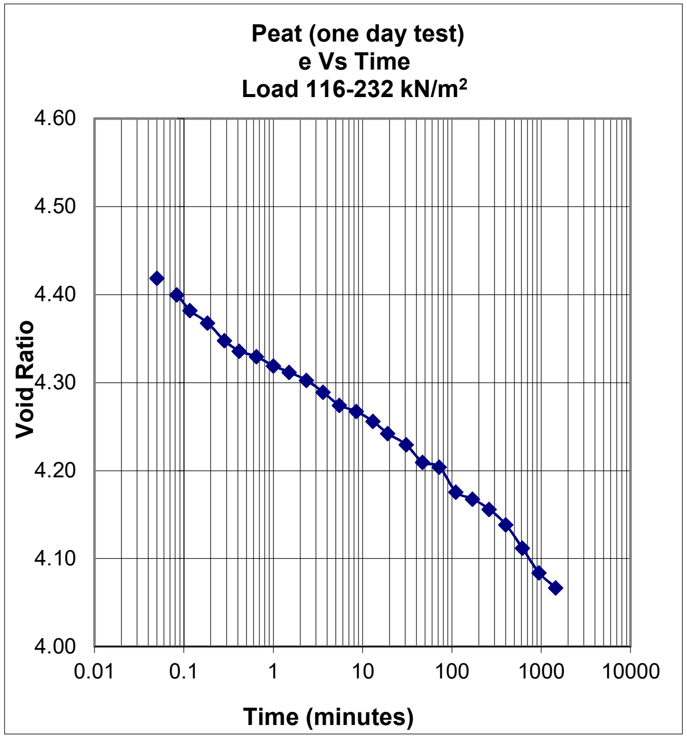
Sample – CKE– Undisturbed – BH 2 (12.00-12.75)
Started Date-19/07/2012
Conventional Consolidation
Load Increment 58kN/m² to 116kN/m²

Elapsed Time /(min	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	2.2751	2.2751	4.9290		
0.05	2.5676	2.5676	4.8311		
0.08	2.5982	2.5982	4.8209	0.0461	0.0488
0.12	2.6213	2.6213	4.8132	0.0529	0.0439
0.18	2.6431	2.6431	4.8059	0.0371	0.0290
0.28	2.6547	2.6547	4.8020	0.0205	0.0236
0.42	2.6683	2.6683	4.7975	0.0272	0.0417
0.65	2.6997	2.6997	4.7870	0.0544	0.0465
1	2.7211	2.7211	4.7798	0.0383	0.0292
1.5	2.7314	2.7314	4.7763	0.0196	0.0390
2.35	2.7644	2.7644	4.7653	0.0566	0.0541
3.6	2.7929	2.7929	4.7558	0.0515	0.0520
5.5	2.8218	2.8218	4.7461	0.0525	0.0367
8.5	2.8338	2.8338	4.7421	0.0212	0.0387
13.02	2.8651	2.8651	4.7316	0.0565	0.0695
19	2.9064	2.9064	4.7178	0.0842	0.0705
30.65	2.9435	2.9435	4.7054	0.0598	0.0568
47	2.9732	2.9732	4.6955	0.0535	0.0543
72.12	3.0038	3.0038	4.6852	0.0550	0.0590
110.6	3.0388	3.0388	4.6735	0.0630	0.0609
169.7	3.0715	3.0715	4.6626	0.0589	0.0565
260.3	3.1016	3.1016	4.6525	0.0542	0.0690
399.3	3.1482	3.1482	4.6369	0.0839	0.1192
612.5	3.2340	3.2340	4.6082	0.1545	0.1505
939.6	3.3154	3.3154	4.5810	0.1465	0.1382
1441	3.3876	3.3876	4.5568	0.1300	#NUM!



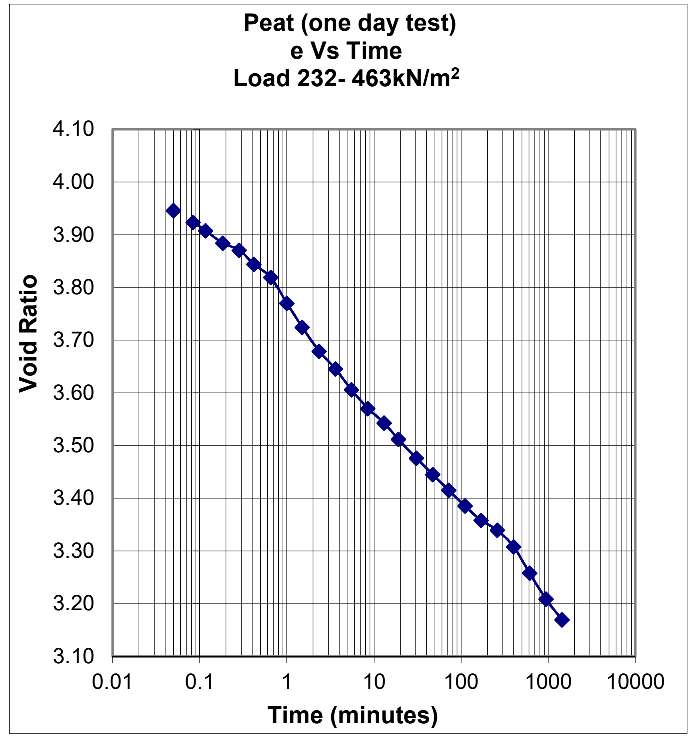
Sample – Undisturbed – BH 2 (12.00-12.75)
Started Date-19/07/2012
Conventional Consolidation
Load Increment 116kN/m^2 to 232kN/m^2

Elapsed Time /(min	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	3.3876	3.3876	4.5568		
0.05	3.8004	3.8004	4.4188		
0.08	3.8561	3.8561	4.4001	0.0840	0.0998
0.12	3.9102	3.9102	4.3820	0.1238	0.0936
0.18	3.9519	3.9519	4.3681	0.0711	0.0885
0.28	4.0121	4.0121	4.3480	0.1065	0.0898
0.42	4.0476	4.0476	4.3361	0.0709	0.0509
0.65	4.0670	4.0670	4.3296	0.0336	0.0447
1	4.0984	4.0984	4.3191	0.0561	0.0484
1.5	4.1195	4.1195	4.3120	0.0401	0.0439
2.35	4.1471	4.1471	4.3028	0.0474	0.0592
3.6	4.1868	4.1868	4.2895	0.0717	0.0771
5.5	4.2322	4.2322	4.2743	0.0825	0.0592
8.5	4.2528	4.2528	4.2674	0.0364	0.0484
13.02	4.2863	4.2863	4.2562	0.0605	0.0712
19	4.3272	4.3272	4.2426	0.0833	0.0717
30.65	4.3660	4.3660	4.2296	0.0625	0.0838
47	4.4258	4.4258	4.2096	0.1077	0.0680
72.12	4.4415	4.4415	4.2043	0.0282	0.0903
110.6	4.5262	4.5262	4.1760	0.1525	0.0978
169.7	4.5501	4.5501	4.1680	0.0430	0.0531
260.3	4.5852	4.5852	4.1563	0.0632	0.0785
399.3	4.6373	4.6373	4.1388	0.0938	0.1183
612.5	4.7166	4.7166	4.1123	0.1428	0.1468
939.6	4.8004	4.8004	4.0843	0.1508	0.1215
1441.4	4.8516	4.8516	4.0671	0.0922	#NUM!



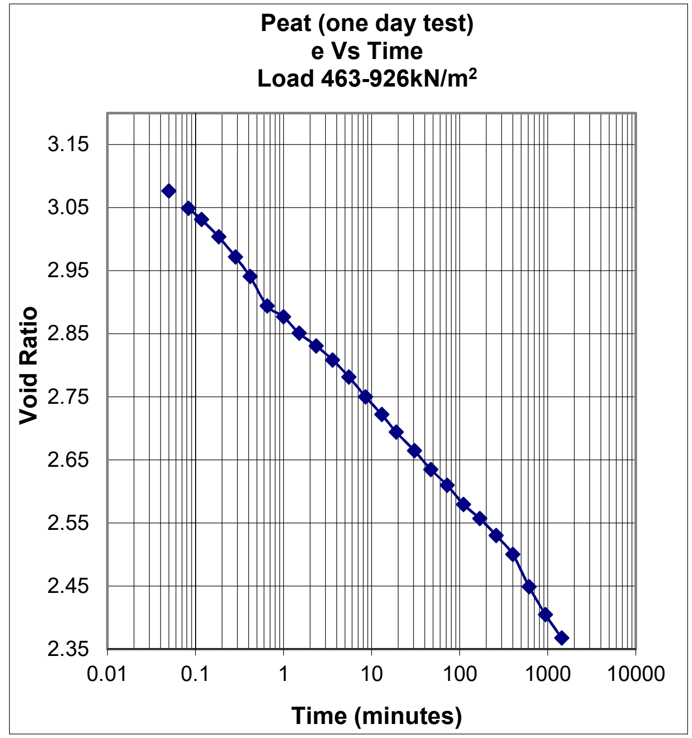
Sample – CKE– Undisturbed – BH 2 (12.00-12.75)
Started Date-19/07/2012
Conventional Consolidation
Load Increment 232kN/m² to 463kN/m²

Elapsed Time /(min	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	4.8516	4.8516	4.0671		
0.05	5.2138	5.2138	3.9460		
0.08	5.2812	5.2812	3.9234	0.1016	0.1037
0.12	5.3279	5.3279	3.9078	0.1069	0.1150
0.18	5.3989	5.3989	3.8841	0.1210	0.0957
0.28	5.4382	5.4382	3.8709	0.0695	0.1116
0.42	5.5179	5.5179	3.8443	0.1592	0.1437
0.65	5.5931	5.5931	3.8191	0.1302	0.1951
1	5.7397	5.7397	3.7701	0.2621	0.2603
1.5	5.8757	5.8757	3.7246	0.2583	0.2455
2.35	6.0120	6.0120	3.6790	0.2338	0.2079
3.6	6.1120	6.1120	3.6455	0.1806	0.1976
5.5	6.2302	6.2302	3.6060	0.2148	0.2012
8.5	6.3364	6.3364	3.5705	0.1879	0.1678
13.02	6.4179	6.4179	3.5432	0.1472	0.1682
19	6.5121	6.5121	3.5117	0.1920	0.1803
30.65	6.6183	6.6183	3.4762	0.1711	0.1684
47	6.7101	6.7101	3.4455	0.1654	0.1637
72.12	6.8002	6.8002	3.4153	0.1621	0.1611
110.6	6.8891	6.8891	3.3856	0.1601	0.1533
169.7	6.9705	6.9705	3.3584	0.1465	0.1242
260.3	7.0271	7.0271	3.3394	0.1019	0.1347
399.3	7.1201	7.1201	3.3083	0.1674	0.2192
612.5	7.2706	7.2706	3.2580	0.2709	0.2676
939.6	7.4174	7.4174	3.2089	0.2642	0.2382
1441	7.5353	7.5353	3.1694	0.2122	#NUM!



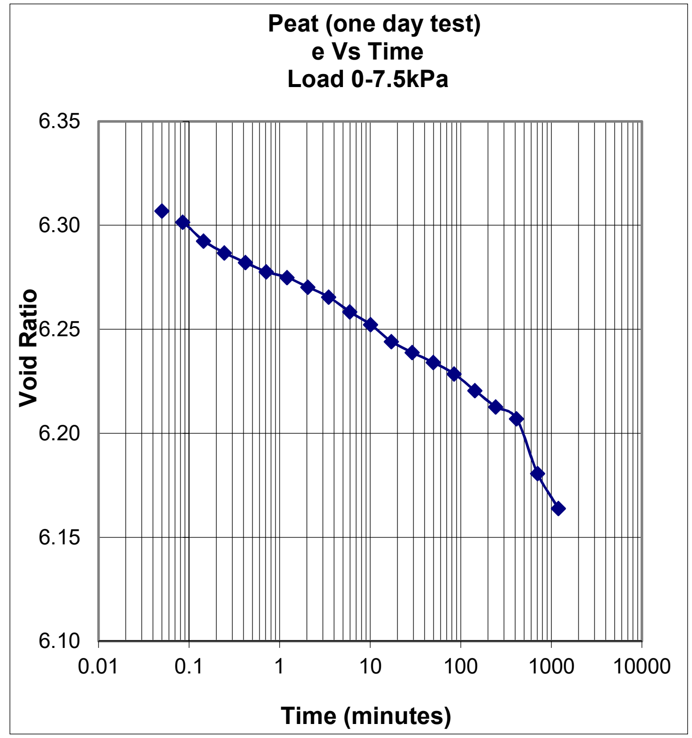
Sample – CKE– Undisturbed – BH 2 (12.00-12.75)
Started Date-19/07/2012
Conventional Consolidation
Load Increment 463kN/m^2 to 926kN/m^2

Elapsed Time /(min	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	7.5353	7.5353	3.1694		
0.05	7.8131	7.8131	3.0765		
0.08	7.8950	7.8950	3.0491	0.1235	0.1230
0.12	7.9484	7.9484	3.0313	0.1222	0.1326
0.18	8.0307	8.0307	3.0037	0.1402	0.1533
0.28	8.1250	8.1250	2.9722	0.1668	0.1991
0.42	8.2189	8.2189	2.9408	0.1875	0.1738
0.65	8.3578	8.3578	2.8943	0.2159	0.1738
1	8.4096	8.4096	2.8770	0.0926	0.1193
1.5	8.4873	8.4873	2.8510	0.1476	0.1245
2.35	8.5477	8.5477	2.8308	0.1036	0.1117
3.6	8.6143	8.6143	2.8085	0.1203	0.1327
5.5	8.6942	8.6942	2.7818	0.1452	0.1562
8.5	8.7885	8.7885	2.7502	0.1668	0.1597
13.02	8.8729	8.8729	2.7220	0.1524	0.1609
19	8.9565	8.9565	2.6941	0.1704	0.1545
30.65	9.0446	9.0446	2.6646	0.1419	0.1455
47	9.1332	9.1332	2.6349	0.1596	0.1527
72.12	9.2085	9.2085	2.6098	0.1475	0.1527
110.6	9.2991	9.2991	2.5795	0.1631	0.1419
169.7	9.3661	9.3661	2.5570	0.1206	0.1329
260.3	9.4468	9.4468	2.5300	0.1453	0.1524
399.3	9.5354	9.5354	2.5004	0.1595	0.2179
612.5	9.6889	9.6889	2.4491	0.2763	0.2570
939.6	9.8210	9.8210	2.4049	0.2378	0.2194
1441	9.9327	9.9327	2.3675	0.2011	#NUM!



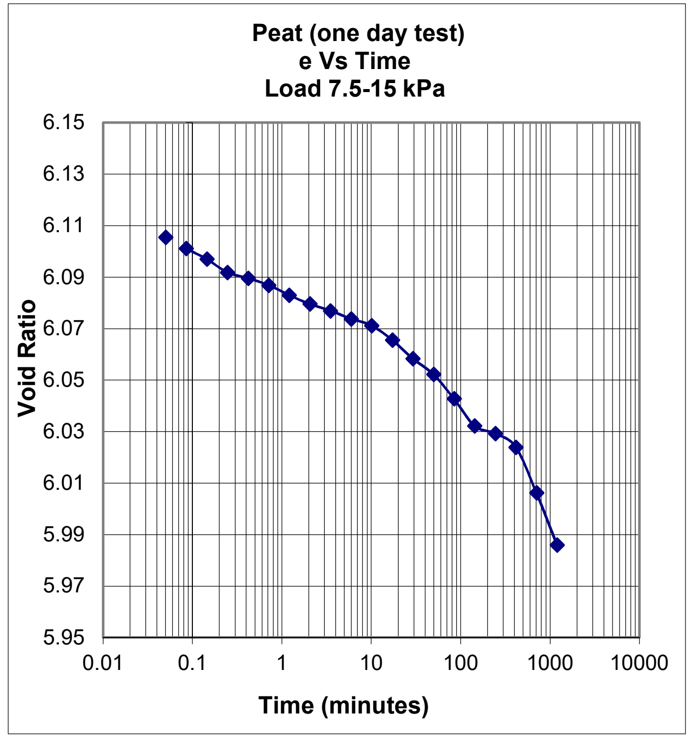
Sample – CKE– Undisturbed – BH 2 (14.25-15.00)
Started Date-24/09/2012
Conventional Consolidation
Load Increment 0kN/m^2 to 7.5kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.0000	0.0000	6.4900		
0.05	0.4887	0.4887	6.3070		
0.085	0.5032	0.5032	6.3016	0.0236	0.0314
0.145	0.5273	0.5273	6.2925	0.0392	0.0321
0.245	0.5426	0.5426	6.2868	0.0250	0.0226
0.418	0.5551	0.5551	6.2821	0.0202	0.0195
0.71	0.5667	0.5667	6.2778	0.0189	0.0155
1.206	0.5742	0.5742	6.2750	0.0122	0.0162
2.051	0.5866	0.5866	6.2703	0.0201	0.0205
3.487	0.5995	0.5995	6.2655	0.0210	0.0257
5.929	0.6182	0.6182	6.2585	0.0304	0.0287
10.08	0.6348	0.6348	6.2523	0.0270	0.0310
17.14	0.6563	0.6563	6.2442	0.0349	0.0290
29.13	0.6705	0.6705	6.2389	0.0231	0.0219
49.52	0.6833	0.6833	6.2341	0.0208	0.0223
84	0.6979	0.6979	6.2286	0.0237	0.0293
143.1	0.7194	0.7194	6.2206	0.0349	0.0344
243.3	0.7402	0.7402	6.2128	0.0338	0.0293
413.6	0.7555	0.7555	6.2071	0.0249	0.0695
703.2	0.8257	0.8257	6.1808	0.1141	0.0934
1195	0.8705	0.8705	6.1640	0.0728	#NUM!



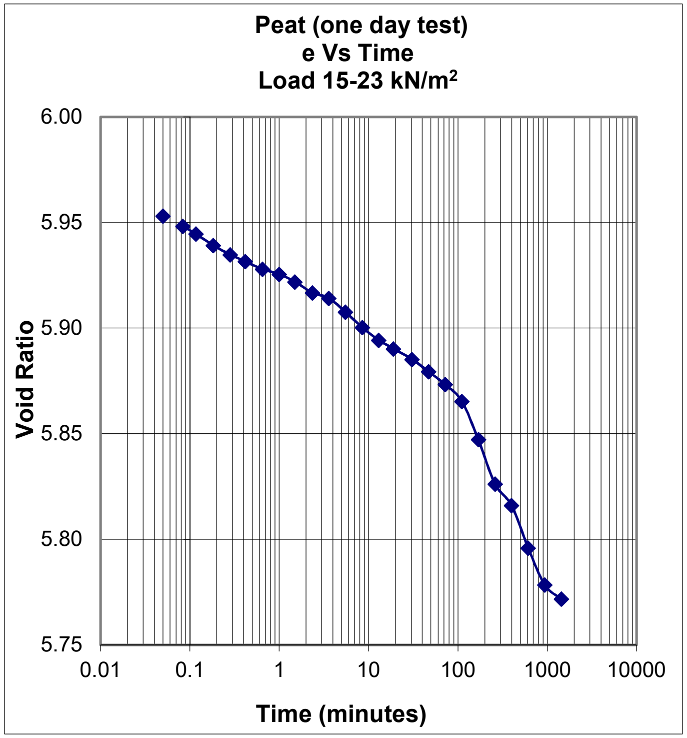
Sample – CKE– Undisturbed – BH 2 (14.25-15.00)
Started Date-24/09/2012
Conventional Consolidation
Load Increment 7.5kN/m² to 15kN/m²

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.8705	0.8705	6.1640		
0.05	1.0266	1.0266	6.1055		
0.085	1.0382	1.0382	6.1012	0.0189	0.0185
0.145	1.0494	1.0494	6.0970	0.0182	0.0203
0.245	1.0631	1.0631	6.0919	0.0224	0.0162
0.418	1.0693	1.0693	6.0895	0.0100	0.0108
0.71	1.0764	1.0764	6.0869	0.0115	0.0141
1.206	1.0867	1.0867	6.0830	0.0168	0.0158
2.051	1.0959	1.0959	6.0796	0.0149	0.0132
3.487	1.1029	1.1029	6.0770	0.0114	0.0124
5.929	1.1112	1.1112	6.0739	0.0135	0.0125
10.08	1.1183	1.1183	6.0712	0.0115	0.0179
17.14	1.1332	1.1332	6.0656	0.0242	0.0280
29.13	1.1527	1.1527	6.0583	0.0317	0.0290
49.52	1.1689	1.1689	6.0522	0.0263	0.0337
84	1.1942	1.1942	6.0428	0.0411	0.0435
143.1	1.2224	1.2224	6.0322	0.0458	0.0293
243.3	1.2303	1.2303	6.0293	0.0128	0.0179
413.6	1.2444	1.2444	6.0240	0.0229	0.0499
703.2	1.2917	1.2917	6.0063	0.0769	0.0823
1195	1.3457	1.3457	5.9860	0.0878	#NUM!



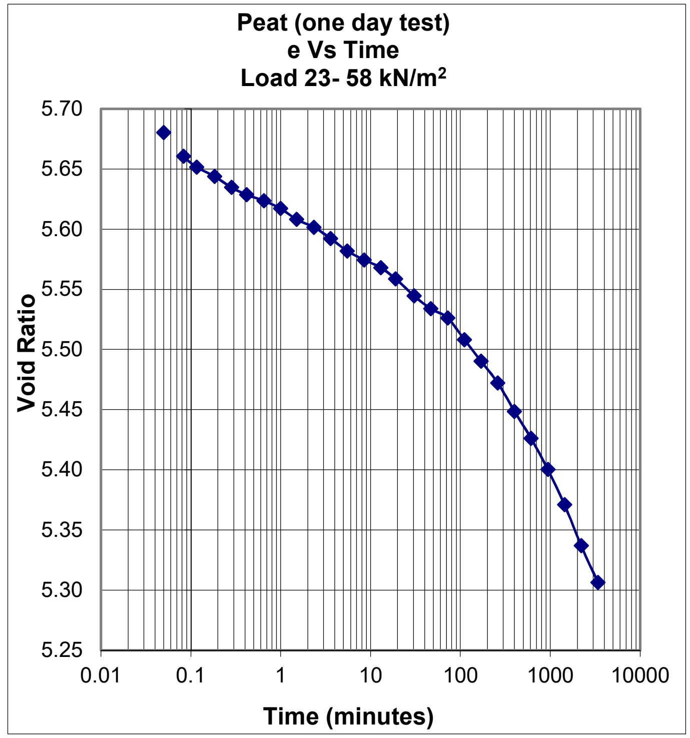
Sample – CKE– Undisturbed – BH 2 (14.25-15.00)
Started Date-24/09/2012
Conventional Consolidation
Load Increment 15kN/m^2 to 23kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	$C\alpha1$	$C\alpha2$
0	1.3457	1.3457	5.9860		
0.05	1.4335	1.4335	5.9532		
0.08	1.4467	1.4467	5.9482	0.022	0.023
0.12	1.4563	1.4563	5.9446	0.025	0.026
0.18	1.4708	1.4708	5.9392	0.028	0.025
0.28	1.4824	1.4824	5.9348	0.023	0.021
0.42	1.4911	1.4911	5.9316	0.019	0.019
0.65	1.5007	1.5007	5.9280	0.019	0.016
1	1.5073	1.5073	5.9255	0.013	0.017
1.5	1.5169	1.5169	5.9219	0.020	0.024
2.35	1.5306	1.5306	5.9168	0.026	0.020
3.6	1.5376	1.5376	5.9142	0.014	0.025
5.5	1.5550	1.5550	5.9077	0.035	0.037
8.5	1.5745	1.5745	5.9003	0.039	0.036
13.02	1.5907	1.5907	5.8943	0.033	0.029
19	1.6015	1.6015	5.8902	0.025	0.024
30.65	1.6148	1.6148	5.8853	0.024	0.028
47	1.6305	1.6305	5.8794	0.032	0.032
72.12	1.6467	1.6467	5.8733	0.033	0.038
110.6	1.6679	1.6679	5.8654	0.043	0.070
169.7	1.7164	1.7164	5.8472	0.098	0.105
260.3	1.7724	1.7724	5.8262	0.113	0.084
399.3	1.7998	1.7998	5.8160	0.055	0.082
612.5	1.8533	1.8533	5.7959	0.108	0.101
939.6	1.9002	1.9002	5.7784	0.095	0.065
1441	1.9180	1.9180	5.7717	0.036	#NUM!



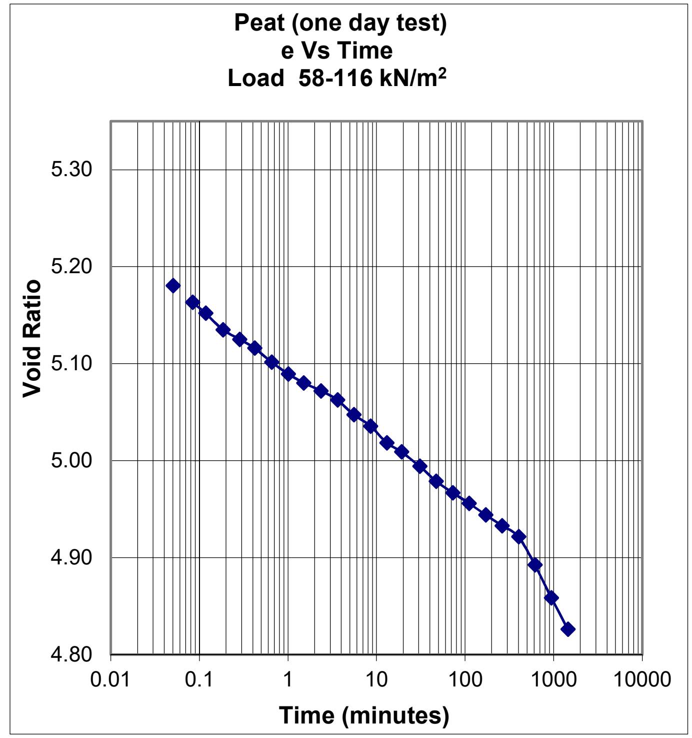
Sample – CKE– Undisturbed – BH 2 (14.25-15.00)
Started Date-24/09/2012
Conventional Consolidation
Load Increment 23kN/m^2 to 58kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	1.9180	1.9180	5.7717		
0.05	2.1619	2.1619	5.6804		
0.08	2.2146	2.2146	5.6606	0.0890	0.0786
0.12	2.2391	2.2391	5.6515	0.0628	0.0490
0.18	2.2594	2.2594	5.6439	0.0387	0.0435
0.28	2.2839	2.2839	5.6347	0.0485	0.0426
0.42	2.3000	2.3000	5.6287	0.0360	0.0309
0.65	2.3137	2.3137	5.6235	0.0266	0.0302
1	2.3307	2.3307	5.6172	0.0340	0.0424
1.5	2.3548	2.3548	5.6081	0.0513	0.0419
2.35	2.3722	2.3722	5.6016	0.0334	0.0417
3.6	2.3971	2.3971	5.5923	0.0503	0.0534
5.5	2.4249	2.4249	5.5819	0.0566	0.0479
8.5	2.4448	2.4448	5.5744	0.0394	0.0369
13.02	2.4618	2.4618	5.5681	0.0344	0.0449
19	2.4867	2.4867	5.5587	0.0568	0.0635
30.65	2.5248	2.5248	5.5445	0.0687	0.0631
47	2.5530	2.5530	5.5339	0.0569	0.0493
72.12	2.5737	2.5737	5.5261	0.0417	0.0693
110.6	2.6218	2.6218	5.5081	0.0970	0.0969
169.7	2.6699	2.6699	5.4901	0.0969	0.0965
260.3	2.7176	2.7176	5.4723	0.0961	0.1121
399.3	2.7811	2.7811	5.4485	0.1280	0.1246
612.5	2.8412	2.8412	5.4260	0.1211	0.1299
939.6	2.9100	2.9100	5.4002	0.1386	0.1479
1441.4	2.9880	2.9880	5.3710	0.1572	0.1705
2211.0	3.0792	3.0792	5.3368	0.1838	0.1743
3391	3.1609	3.1609	5.3062	0.1647	#NUM!



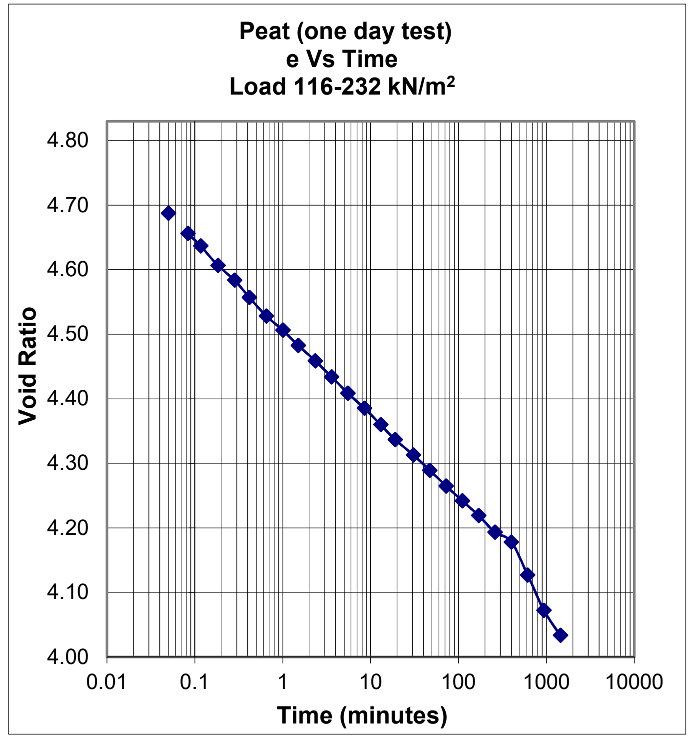
Sample – CKE– Undisturbed – BH 2 (14.25-15.00)
Started Date-24/09/2012
Conventional Consolidation
Load Increment 58kN/m^2 to 116kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	3.1609	3.1609	5.3062		
0.05	3.4962	3.4962	5.1807		
0.08	3.5423	3.5423	5.1634	0.0778	0.0777
0.12	3.5725	3.5725	5.1521	0.0774	0.0825
0.18	3.6177	3.6177	5.1352	0.0862	0.0697
0.28	3.6442	3.6442	5.1252	0.0525	0.0531
0.42	3.6683	3.6683	5.1162	0.0539	0.0654
0.65	3.7072	3.7072	5.1017	0.0754	0.0702
1	3.7396	3.7396	5.0895	0.0649	0.0590
1.5	3.7644	3.7644	5.0802	0.0527	0.0472
2.35	3.7864	3.7864	5.0720	0.0423	0.0462
3.6	3.8113	3.8113	5.0627	0.0503	0.0660
5.5	3.8515	3.8515	5.0476	0.0818	0.0720
8.5	3.8830	3.8830	5.0358	0.0624	0.0780
13.02	3.9294	3.9294	5.0184	0.0938	0.0763
19	3.9542	3.9542	5.0092	0.0566	0.0651
30.65	3.9940	3.9940	4.9942	0.0718	0.0770
47	4.0351	4.0351	4.9789	0.0829	0.0736
72.12	4.0670	4.0670	4.9669	0.0642	0.0614
110.6	4.0960	4.0960	4.9560	0.0585	0.0610
169.7	4.1275	4.1275	4.9443	0.0635	0.0618
260.3	4.1573	4.1573	4.9331	0.0601	0.0610
399.3	4.1880	4.1880	4.9216	0.0619	0.1085
612.5	4.2650	4.2650	4.8928	0.1552	0.1691
939.6	4.3558	4.3558	4.8588	0.1830	0.1787
1441	4.4424	4.4424	4.8263	0.1745	#NUM!



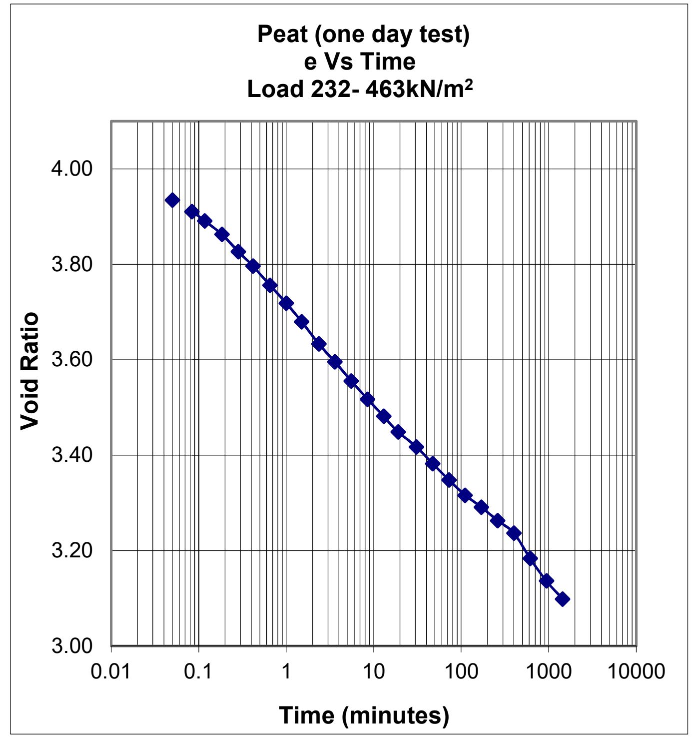
Sample – CKE– Undisturbed – BH 2 (14.25-15.00)
Started Date-24/09/2012
Conventional Consolidation
Load Increment 116kN/m^2 to 232kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	4.4424	4.4424	4.8263		
0.05	4.8128	4.8128	4.6876		
0.08	4.8965	4.8965	4.6563	0.1413	0.1383
0.12	4.9487	4.9487	4.6367	0.1338	0.1445
0.18	5.0286	5.0286	4.6068	0.1524	0.1376
0.28	5.0903	5.0903	4.5837	0.1222	0.1389
0.42	5.1608	5.1608	4.5573	0.1576	0.1536
0.65	5.2382	5.2382	4.5283	0.1501	0.1338
1	5.2966	5.2966	4.5064	0.1169	0.1260
1.5	5.3604	5.3604	4.4825	0.1357	0.1280
2.35	5.4234	5.4234	4.4589	0.1210	0.1277
3.6	5.4900	5.4900	4.4340	0.1346	0.1356
5.5	5.5571	5.5571	4.4089	0.1365	0.1306
8.5	5.6201	5.6201	4.3853	0.1248	0.1306
13.02	5.6876	5.6876	4.3600	0.1365	0.1389
19	5.7497	5.7497	4.3367	0.1417	0.1268
30.65	5.8135	5.8135	4.3128	0.1150	0.1206
47	5.8764	5.8764	4.2893	0.1269	0.1285
72.12	5.9410	5.9410	4.2651	0.1301	0.1264
110.6	6.0019	6.0019	4.2423	0.1228	0.1240
169.7	6.0640	6.0640	4.2190	0.1251	0.1314
260.3	6.1323	6.1323	4.1935	0.1377	0.1097
399.3	6.1729	6.1729	4.1782	0.0818	0.1786
612.5	6.3095	6.3095	4.1271	0.2753	0.2854
939.6	6.4561	6.4561	4.0722	0.2954	0.2519
1441.4	6.5595	6.5595	4.0335	0.2084	#NUM!



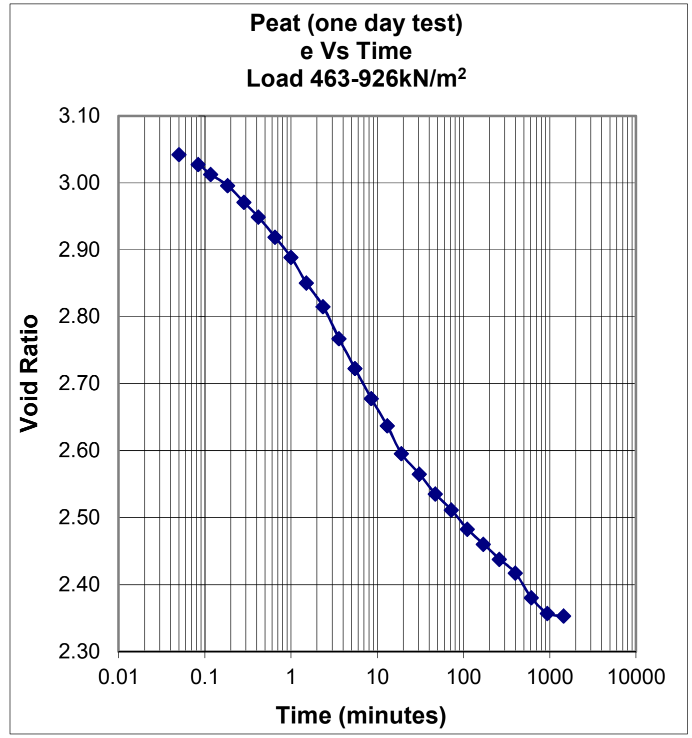
Sample – CKE– Undisturbed – BH 2 (14.25-15.00)
Started Date-24/09/2012
Conventional Consolidation
Load Increment 232kN/m² to 463kN/m²

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	6.5595	6.5595	4.0335		
0.05	6.8224	6.8224	3.9350		
0.08	6.8861	6.8861	3.9112	0.1075	0.1188
0.12	6.9391	6.9391	3.8913	0.1358	0.1399
0.18	7.0140	7.0140	3.8633	0.1429	0.1674
0.28	7.1113	7.1113	3.8268	0.1927	0.1874
0.42	7.1924	7.1924	3.7964	0.1813	0.1947
0.65	7.2988	7.2988	3.7566	0.2063	0.2038
1	7.3993	7.3993	3.7190	0.2012	0.2104
1.5	7.5028	7.5028	3.6802	0.2201	0.2301
2.35	7.6273	7.6273	3.6336	0.2391	0.2217
3.6	7.7279	7.7279	3.5959	0.2034	0.2098
5.5	7.8342	7.8342	3.5561	0.2163	0.2097
8.5	7.9368	7.9368	3.5177	0.2032	0.1987
13.02	8.0328	8.0328	3.4817	0.1941	0.1969
19	8.1205	8.1205	3.4489	0.2001	0.1716
30.65	8.2032	8.2032	3.4179	0.1491	0.1678
47	8.2967	8.2967	3.3829	0.1886	0.1863
72.12	8.3881	8.3881	3.3487	0.1841	0.1783
110.6	8.4737	8.4737	3.3166	0.1726	0.1538
169.7	8.5407	8.5407	3.2915	0.1350	0.1434
260.3	8.6160	8.6160	3.2633	0.1518	0.1467
399.3	8.6863	8.6863	3.2370	0.1417	0.2137
612.5	8.8281	8.8281	3.1839	0.2858	0.2696
939.6	8.9539	8.9539	3.1368	0.2535	0.2288
1441	9.0552	9.0552	3.0988	0.2041	#NUM!



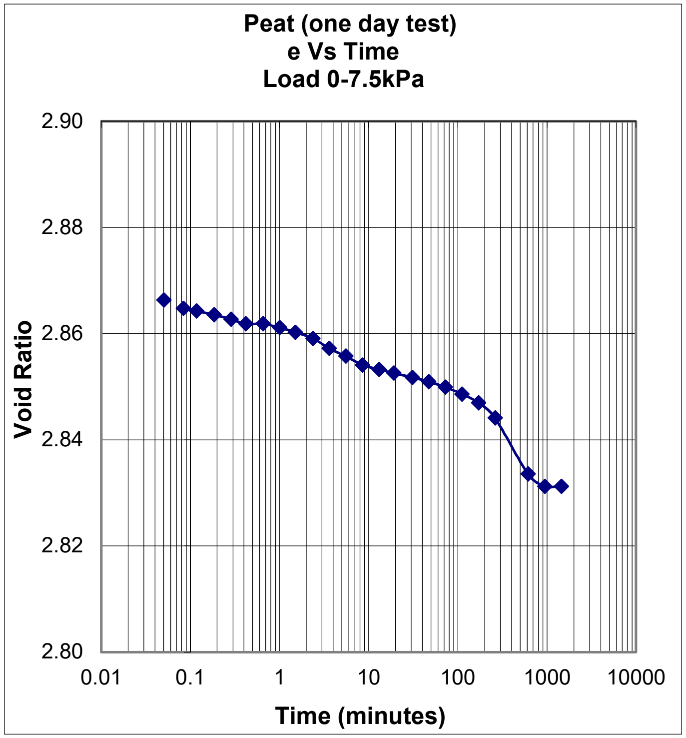
Sample – CKE– Undisturbed – BH 2 (14.25-15.00)
Started Date-24/09/2012
Conventional Consolidation
Load Increment 463kN/m^2 to 926kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	9.0552	9.0552	3.0988		
0.05	9.2057	9.2057	3.0425		
0.08	9.2450	9.2450	3.0277	0.0663	0.0812
0.12	9.2855	9.2855	3.0126	0.1038	0.0931
0.18	9.3301	9.3301	2.9959	0.0851	0.1073
0.28	9.3959	9.3959	2.9712	0.1303	0.1395
0.42	9.4550	9.4550	2.9491	0.1321	0.1506
0.65	9.5348	9.5348	2.9192	0.1442	0.1506
1	9.6162	9.6162	2.8887	0.1629	0.1880
1.5	9.7171	9.7171	2.8509	0.2146	0.1978
2.35	9.8122	9.8122	2.8153	0.1827	0.2195
3.6	9.9399	9.9399	2.7675	0.2582	0.2503
5.5	10.0590	10.0590	2.7229	0.2423	0.2400
8.5	10.1790	10.1790	2.6780	0.2377	0.2282
13.02	10.2870	10.2870	2.6375	0.2184	0.2348
19	10.3980	10.3980	2.5959	0.2533	0.1944
30.65	10.4800	10.4800	2.5652	0.1479	0.1455
47	10.5590	10.5590	2.5357	0.1593	0.1471
72.12	10.6230	10.6230	2.5117	0.1441	0.1471
110.6	10.6990	10.6990	2.4832	0.1532	0.1371
169.7	10.7590	10.7590	2.4608	0.1209	0.1209
260.3	10.8190	10.8190	2.4383	0.1209	0.1169
399.3	10.8750	10.8750	2.4173	0.1129	0.1552
612.5	10.9730	10.9730	2.3806	0.1975	0.1622
939.6	11.0360	11.0360	2.3570	0.1270	0.0736
1441	11.0460	11.0460	2.3533	0.0202	#NUM!



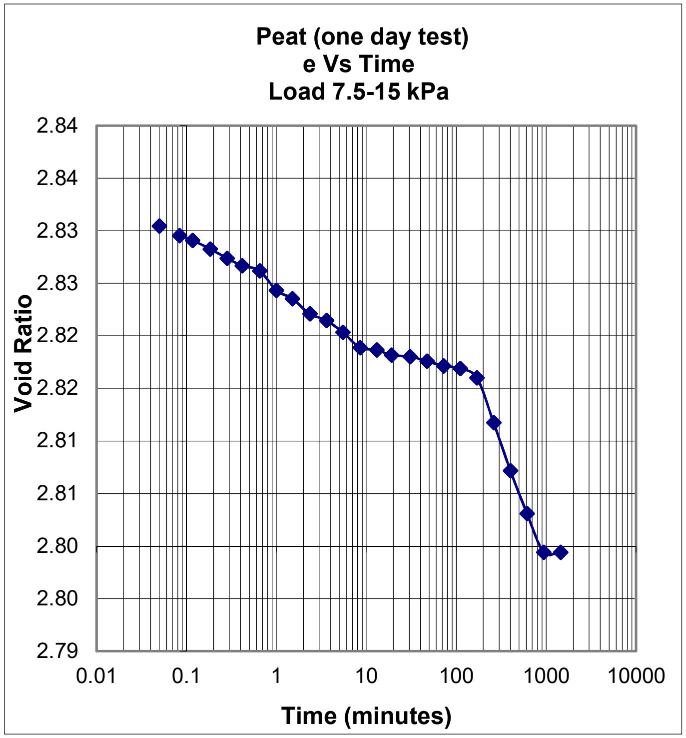
Sample – CKE – Undisturbed – BH 4 (12.00-12.75)
Started Date-10/10/2012
Conventional Consolidation
Load Increment 0kN/m^2 to7.5kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.0000	0.0000	2.8900		
0.05	0.1216	0.1216	2.8663		
0.08	0.1298	0.1298	2.8648	0.0072	0.0057
0.12	0.1323	0.1323	2.8643	0.0033	0.0035
0.18	0.1360	0.1360	2.8635	0.0037	0.0039
0.28	0.1401	0.1401	2.8628	0.0042	0.0047
0.42	0.1447	0.1447	2.8619	0.0053	0.0025
0.65	0.1447	0.1447	2.8619	0.0000	0.0019
1	0.1484	0.1484	2.8611	0.0038	0.0044
1.5	0.1529	0.1529	2.8603	0.0050	0.0054
2.35	0.1587	0.1587	2.8591	0.0058	0.0080
3.6	0.1686	0.1686	2.8572	0.0104	0.0091
5.5	0.1760	0.1760	2.8558	0.0078	0.0083
8.5	0.1846	0.1846	2.8541	0.0088	0.0067
13.02	0.1888	0.1888	2.8533	0.0044	0.0044
19	0.1925	0.1925	2.8526	0.0044	0.0041
30.65	0.1966	0.1966	2.8518	0.0038	0.0041
47	0.2007	0.2007	2.8510	0.0043	0.0050
72.12	0.2061	0.2061	2.8499	0.0056	0.0063
110.6	0.2127	0.2127	2.8486	0.0069	0.0080
169.7	0.2213	0.2213	2.8470	0.0090	0.0121
260.3	0.2358	0.2358	2.8441	0.0152	0.0240
612.5	0.2902	0.2902	2.8336	0.0285	0.0231
939.6	0.3021	0.3021	2.8312	0.0125	0.0062
1441	0.3021	0.3021	2.8312	0.0000	#NUM!



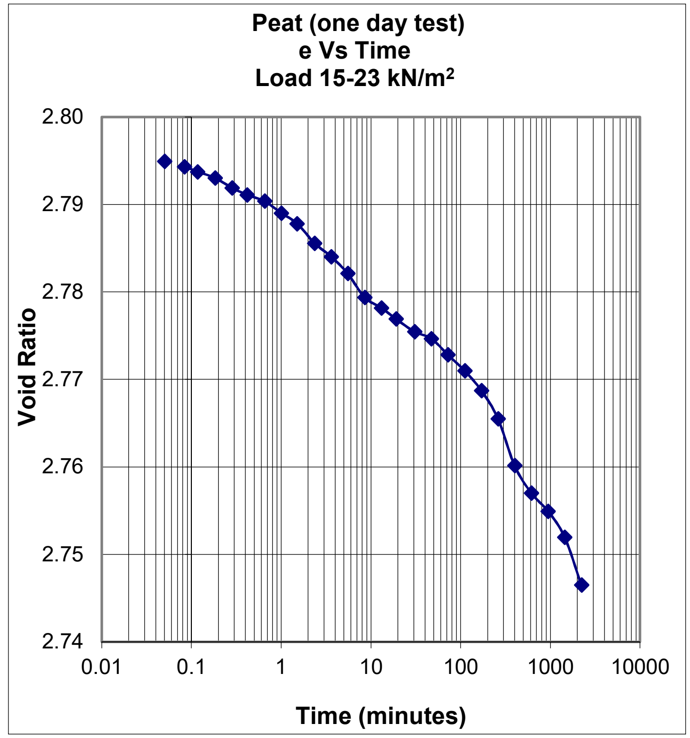
Sample – CKE – Undisturbed – BH 4 (12.00-12.75)
Started Date-10/10/2012
Conventional Consolidation
Load Increment 7.5kN/m^2 to 15kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.3021	0.3021	2.8312		
0.05	0.3062	0.3062	2.8304		
0.08	0.3108	0.3108	2.8295	0.0040	0.0037
0.12	0.3132	0.3132	2.8291	0.0032	0.0037
0.18	0.3174	0.3174	2.8283	0.0042	0.0044
0.28	0.3219	0.3219	2.8274	0.0046	0.0045
0.42	0.3256	0.3256	2.8267	0.0043	0.0033
0.65	0.3281	0.3281	2.8262	0.0025	0.0061
1	0.3376	0.3376	2.8243	0.0099	0.0073
1.5	0.3417	0.3417	2.8235	0.0045	0.0060
2.35	0.3491	0.3491	2.8221	0.0074	0.0055
3.6	0.3524	0.3524	2.8215	0.0035	0.0048
5.5	0.3582	0.3582	2.8203	0.0061	0.0069
8.5	0.3656	0.3656	2.8189	0.0076	0.0045
13.02	0.3668	0.3668	2.8187	0.0013	0.0021
19	0.3693	0.3693	2.8182	0.0030	0.0017
30.65	0.3701	0.3701	2.8180	0.0007	0.0014
47	0.3722	0.3722	2.8176	0.0022	0.0024
72.12	0.3746	0.3746	2.8171	0.0025	0.0019
110.6	0.3759	0.3759	2.8169	0.0014	0.0030
169.7	0.3804	0.3804	2.8160	0.0047	0.0138
260.3	0.4023	0.4023	2.8118	0.0229	0.0238
399.3	0.4258	0.4258	2.8072	0.0246	0.0233
612.5	0.4468	0.4468	2.8031	0.0220	0.0209
939.6	0.4657	0.4657	2.7994	0.0198	0.0099
1441	0.4657	0.4657	2.7994	0.0000	#NUM!



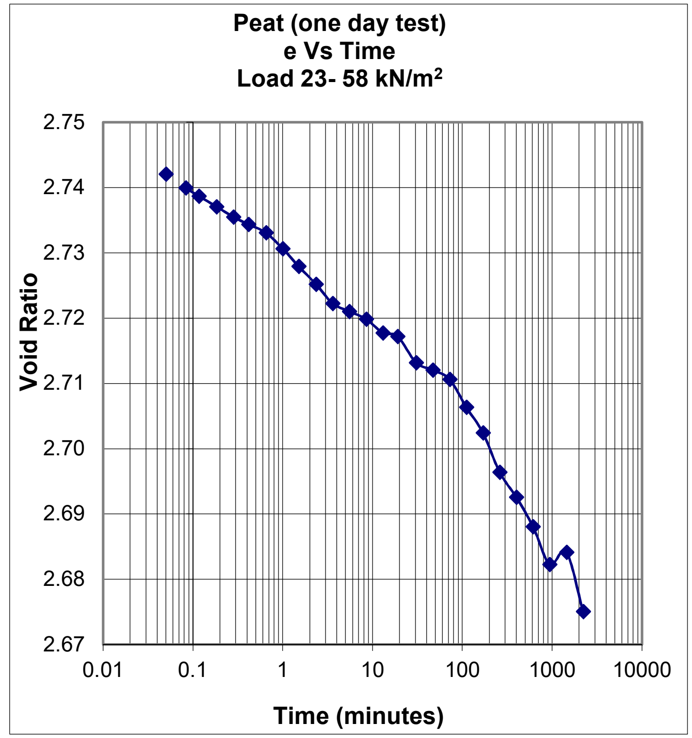
Sample – CKE – Undisturbed – BH 4 (12.00-12.75)
Started Date-10/10/2012
Conventional Consolidation
Load Increment 15kN/m² to 23kN/m²

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.4657	0.4657	2.7994		
0.05	0.4887	0.4887	2.7949		
0.08	0.4920	0.4920	2.7943	0.003	0.003
0.12	0.4949	0.4949	2.7937	0.004	0.004
0.18	0.4986	0.4986	2.7930	0.004	0.005
0.28	0.5044	0.5044	2.7919	0.006	0.005
0.42	0.5085	0.5085	2.7911	0.005	0.004
0.65	0.5122	0.5122	2.7904	0.004	0.005
1	0.5192	0.5192	2.7890	0.007	0.007
1.5	0.5254	0.5254	2.7878	0.007	0.009
2.35	0.5369	0.5369	2.7856	0.011	0.010
3.6	0.5448	0.5448	2.7840	0.008	0.009
5.5	0.5547	0.5547	2.7821	0.010	0.012
8.5	0.5687	0.5687	2.7794	0.014	0.010
13.02	0.5749	0.5749	2.7782	0.007	0.007
19	0.5814	0.5814	2.7769	0.008	0.007
30.65	0.5889	0.5889	2.7755	0.007	0.006
47	0.5930	0.5930	2.7747	0.004	0.007
72.12	0.6025	0.6025	2.7728	0.010	0.010
110.6	0.6119	0.6119	2.7710	0.010	0.011
169.7	0.6235	0.6235	2.7687	0.012	0.015
260.3	0.6400	0.6400	2.7655	0.017	0.023
399.3	0.6676	0.6676	2.7602	0.029	0.023
612.5	0.6837	0.6837	2.7570	0.017	0.014
939.6	0.6944	0.6944	2.7549	0.011	0.014
1441	0.7096	0.7096	2.7520	0.016	0.023
2211	0.7377	0.7377	2.7465	0.029	#NUM!



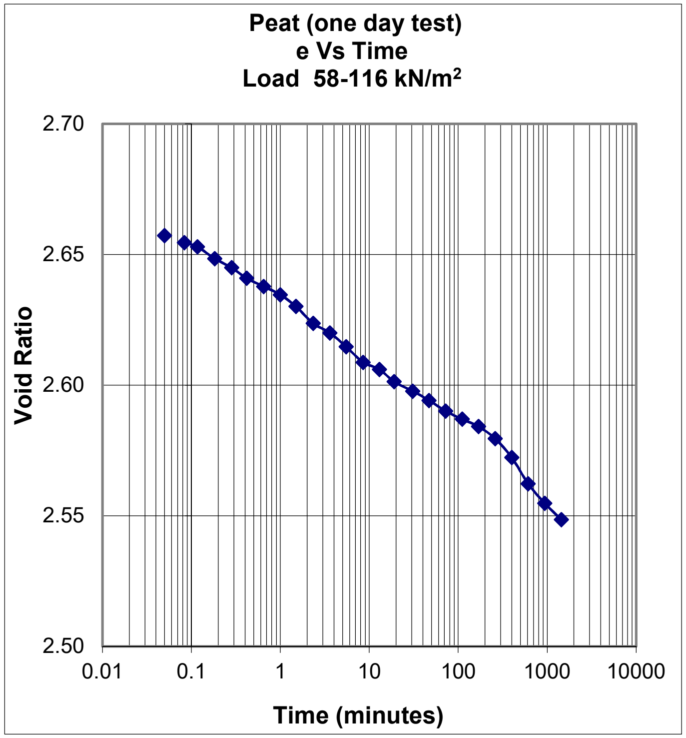
Sample – CKE – Undisturbed – BH 4 (12.00-12.75)
Started Date-10/10/2012
Conventional Consolidation
Load Increment 23kN/m^2 to 58kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.7377	0.7377	2.7465		
0.05	0.7607	0.7607	2.7420		
0.08	0.7714	0.7714	2.7400	0.0094	0.0091
0.12	0.7780	0.7780	2.7387	0.0088	0.0085
0.18	0.7863	0.7863	2.7371	0.0082	0.0083
0.28	0.7945	0.7945	2.7355	0.0084	0.0076
0.42	0.8003	0.8003	2.7343	0.0067	0.0067
0.65	0.8069	0.8069	2.7331	0.0066	0.0097
1	0.8193	0.8193	2.7306	0.0129	0.0141
1.5	0.8333	0.8333	2.7279	0.0155	0.0147
2.35	0.8473	0.8473	2.7252	0.0140	0.0149
3.6	0.8625	0.8625	2.7222	0.0160	0.0113
5.5	0.8687	0.8687	2.7210	0.0066	0.0065
8.5	0.8749	0.8749	2.7198	0.0064	0.0088
13.02	0.8856	0.8856	2.7178	0.0112	0.0075
19	0.8884	0.8884	2.7172	0.0033	0.0123
30.65	0.9091	0.9091	2.7132	0.0194	0.0131
47	0.9149	0.9149	2.7121	0.0061	0.0069
72.12	0.9223	0.9223	2.7106	0.0077	0.0153
110.6	0.9442	0.9442	2.7064	0.0229	0.0220
169.7	0.9644	0.9644	2.7024	0.0211	0.0267
260.3	0.9953	0.9953	2.6964	0.0323	0.0265
399.3	1.0151	1.0151	2.6926	0.0207	0.0225
612.5	1.0382	1.0382	2.6881	0.0242	0.0276
939.6	1.0679	1.0679	2.6823	0.0311	0.0106
1441	1.0584	1.0584	2.6841	-0.0099	0.0194
2211	1.1050	1.1050	2.6751	0.0488	#NUM!



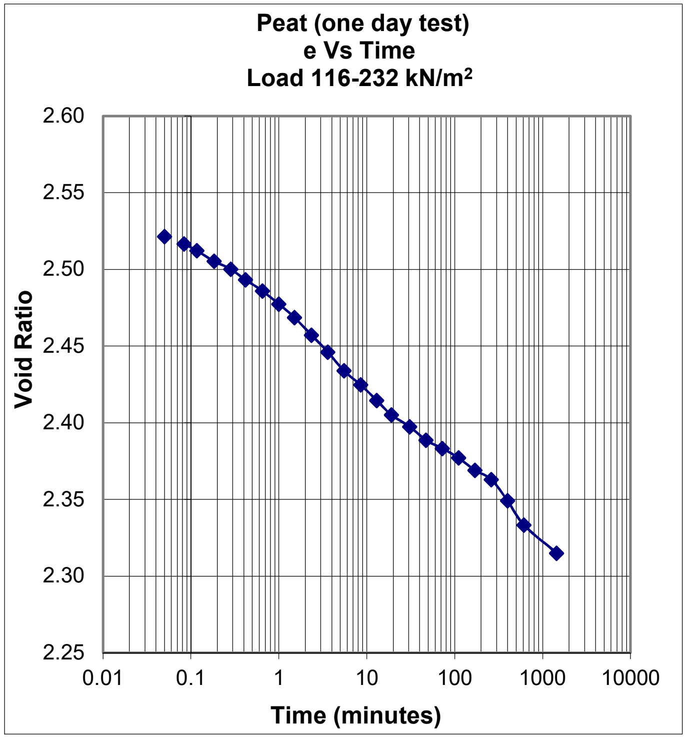
Sample – CKE – Undisturbed – BH 4 (12.00-12.75)
Started Date-10/10/2012
Conventional Consolidation
Load Increment 58kN/m² to 116kN/m²

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	1.1050	1.1050	2.6751		
0.05	1.1969	1.1969	2.6572		
0.08	1.2105	1.2105	2.6546	0.0119	0.0116
0.12	1.2188	1.2188	2.6529	0.0110	0.0181
0.18	1.2423	1.2423	2.6484	0.0233	0.0208
0.28	1.2600	1.2600	2.6449	0.0182	0.0209
0.42	1.2806	1.2806	2.6409	0.0239	0.0198
0.65	1.2967	1.2967	2.6378	0.0162	0.0167
1	1.3132	1.3132	2.6346	0.0172	0.0212
1.5	1.3363	1.3363	2.6301	0.0255	0.0296
2.35	1.3697	1.3697	2.6236	0.0333	0.0265
3.6	1.3882	1.3882	2.6200	0.0194	0.0241
5.5	1.4155	1.4155	2.6147	0.0288	0.0301
8.5	1.4460	1.4460	2.6088	0.0314	0.0231
13.02	1.4600	1.4600	2.6060	0.0147	0.0213
19	1.4843	1.4843	2.6013	0.0288	0.0224
30.65	1.5029	1.5029	2.5977	0.0174	0.0181
47	1.5210	1.5210	2.5942	0.0190	0.0205
72.12	1.5421	1.5421	2.5901	0.0221	0.0194
110.6	1.5581	1.5581	2.5869	0.0168	0.0160
169.7	1.5726	1.5726	2.5841	0.0152	0.0201
260.3	1.5965	1.5965	2.5795	0.0250	0.0319
399.3	1.6336	1.6336	2.5723	0.0388	0.0464
612.5	1.6852	1.6852	2.5622	0.0540	0.0470
939.6	1.7235	1.7235	2.5548	0.0401	0.0371
1441	1.7561	1.7561	2.5484	0.0341	#NUM!



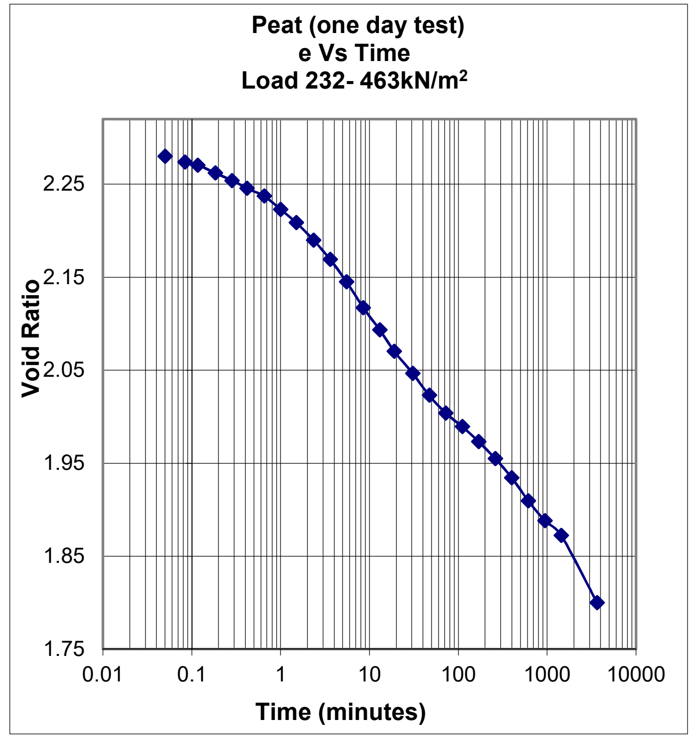
Sample – CKE – Undisturbed – BH 4 (12.00-12.75)
Started Date-10/10/2012
Conventional Consolidation
Load Increment 116kN/m^2 to 232kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	1.7561	1.7561	2.5484		
0.05	1.8947	1.8947	2.5215		
0.08	1.9198	1.9198	2.5166	0.0220	0.0253
0.12	1.9425	1.9425	2.5122	0.0302	0.0331
0.18	1.9780	1.9780	2.5053	0.0352	0.0314
0.28	2.0048	2.0048	2.5001	0.0276	0.0338
0.42	2.0399	2.0399	2.4932	0.0408	0.0392
0.65	2.0774	2.0774	2.4859	0.0378	0.0415
1	2.1211	2.1211	2.4774	0.0454	0.0475
1.5	2.1661	2.1661	2.4687	0.0497	0.0547
2.35	2.2255	2.2255	2.4571	0.0593	0.0593
3.6	2.2820	2.2820	2.4462	0.0593	0.0630
5.5	2.3451	2.3451	2.4339	0.0667	0.0572
8.5	2.3917	2.3917	2.4248	0.0479	0.0519
13.02	2.4450	2.4450	2.4144	0.0560	0.0563
19	2.4928	2.4928	2.4052	0.0566	0.0457
30.65	2.5324	2.5324	2.3974	0.0371	0.0418
47	2.5774	2.5774	2.3887	0.0471	0.0382
72.12	2.6054	2.6054	2.3832	0.0293	0.0313
110.6	2.6372	2.6372	2.3771	0.0333	0.0385
169.7	2.6789	2.6789	2.3690	0.0436	0.0378
260.3	2.7094	2.7094	2.3630	0.0319	0.0533
399.3	2.7808	2.7808	2.3491	0.0747	0.0797
612.5	2.8617	2.8617	2.3334	0.0847	0.0612
1441	2.9562	2.9562	2.3150	0.0495	#NUM!



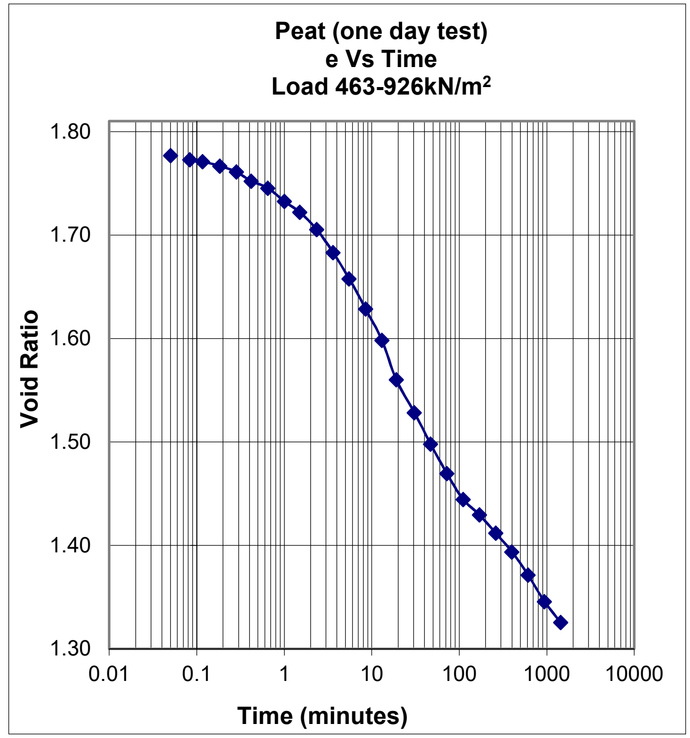
Sample – CKE – Undisturbed – BH 4 (12.00-12.75)
Started Date-10/10/2012
Conventional Consolidation
Load Increment 232kN/m^2 to 463kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	2.9562	2.9562	2.3150		
0.05	3.1353	3.1353	2.2802		
0.08	3.1683	3.1683	2.2738	0.0289	0.0262
0.12	3.1848	3.1848	2.2706	0.0220	0.0340
0.18	3.2281	3.2281	2.2621	0.0429	0.0429
0.28	3.2698	3.2698	2.2540	0.0429	0.0466
0.42	3.3135	3.3135	2.2455	0.0507	0.0465
0.65	3.3561	3.3561	2.2372	0.0429	0.0593
1	3.4295	3.4295	2.2230	0.0763	0.0787
1.5	3.5030	3.5030	2.2087	0.0812	0.0894
2.35	3.6000	3.6000	2.1898	0.0968	0.1037
3.6	3.7057	3.7057	2.1692	0.1110	0.1209
5.5	3.8295	3.8295	2.1452	0.1308	0.1392
8.5	3.9727	3.9727	2.1173	0.1473	0.1382
13.02	4.0954	4.0954	2.0934	0.1289	0.1345
19	4.2143	4.2143	2.0703	0.1409	0.1263
30.65	4.3369	4.3369	2.0465	0.1148	0.1203
47	4.4575	4.4575	2.0230	0.1263	0.1143
72.12	4.5553	4.5553	2.0040	0.1023	0.0905
110.6	4.6305	4.6305	1.9894	0.0787	0.0830
169.7	4.7139	4.7139	1.9731	0.0873	0.0927
260.3	4.8076	4.8076	1.9549	0.0981	0.1046
399.3	4.9138	4.9138	1.9343	0.1112	0.1217
612.5	5.0402	5.0402	1.9097	0.1323	0.1241
939.6	5.1509	5.1509	1.8881	0.1159	0.1007
1441	5.2326	5.2326	1.8723	0.0855	0.1494
3650	5.6035	5.6035	1.8001	0.1788	#NUM!



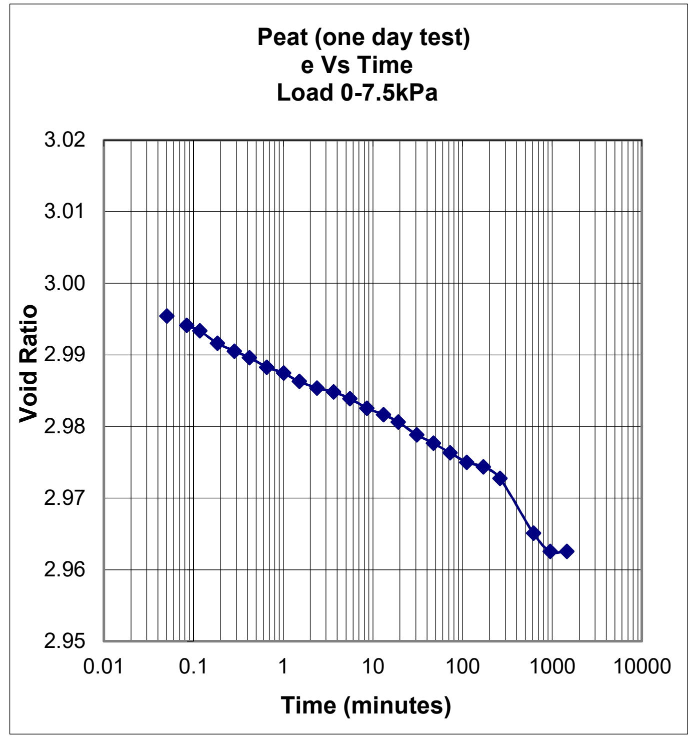
Sample – CKE – Undisturbed – BH 4 (12.00-12.75)
Started Date-10/10/2012
Conventional Consolidation
Load Increment 463kN/m^2 to 926kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	5.6035	5.6035	1.8001		
0.05	5.7220	5.7220	1.7771		
0.08	5.7435	5.7435	1.7729	0.0188	0.0164
0.12	5.7530	5.7530	1.7710	0.0126	0.0178
0.18	5.7749	5.7749	1.7668	0.0217	0.0258
0.28	5.8042	5.8042	1.7611	0.0301	0.0389
0.42	5.8493	5.8493	1.7523	0.0524	0.0520
0.65	5.8848	5.8848	1.7454	0.0435	0.0520
1	5.9505	5.9505	1.7326	0.0683	0.0642
1.5	6.0046	6.0046	1.7221	0.0598	0.0734
2.35	6.0906	6.0906	1.7054	0.0858	0.1019
3.6	6.2038	6.2038	1.6834	0.1189	0.1284
5.5	6.3344	6.3344	1.6580	0.1380	0.1463
8.5	6.4844	6.4844	1.6288	0.1543	0.1587
13.02	6.6398	6.6398	1.5986	0.1632	0.1954
19	6.8353	6.8353	1.5605	0.2317	0.1883
30.65	6.9998	6.9998	1.5285	0.1541	0.1567
47	7.1557	7.1557	1.4982	0.1633	0.1506
72.12	7.3020	7.3020	1.4698	0.1582	0.1506
110.6	7.4314	7.4314	1.4446	0.1355	0.1073
169.7	7.5071	7.5071	1.4299	0.0792	0.0877
260.3	7.5989	7.5989	1.4120	0.0961	0.0965
399.3	7.6915	7.6915	1.3940	0.0969	0.1091
612.5	7.8073	7.8073	1.3715	0.1212	0.1294
939.6	7.9388	7.9388	1.3459	0.1376	0.1231
1441	8.0426	8.0426	1.3257	0.1086	#NUM!



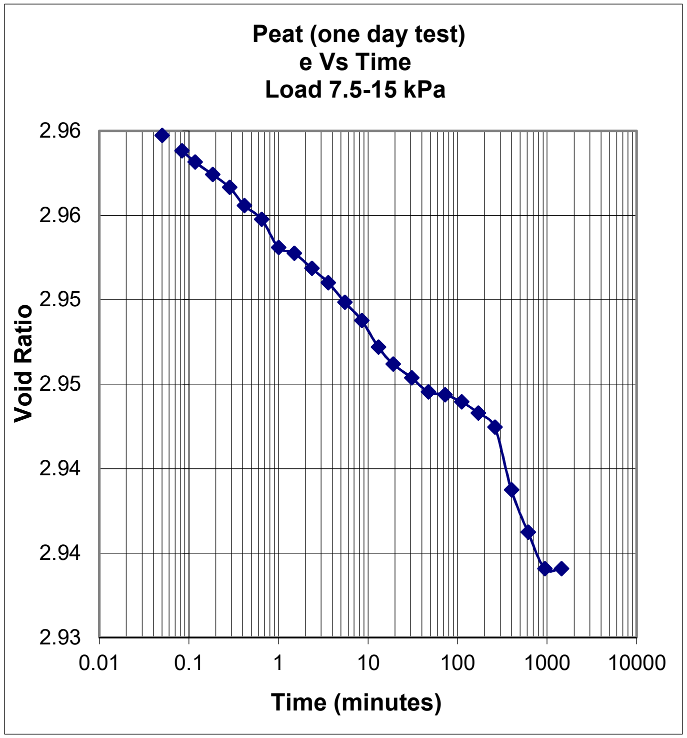
Sample – CKE– Undisturbed – BH 4 (15.00-15.75)
Started Date-10/10/2012
Conventional Consolidation
Load Increment 0kN/m² to 7.5kN/m²

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.0000	0.0000	3.0000		
0.05	0.0228	0.0228	2.9954		
0.08	0.0294	0.0294	2.9941	0.0059	0.0057
0.12	0.0332	0.0332	2.9934	0.0052	0.0073
0.18	0.0419	0.0419	2.9916	0.0089	0.0073
0.28	0.0473	0.0473	2.9905	0.0057	0.0056
0.42	0.0518	0.0518	2.9896	0.0054	0.0062
0.65	0.0585	0.0585	2.9883	0.0069	0.0057
1	0.0626	0.0626	2.9875	0.0044	0.0055
1.5	0.0685	0.0685	2.9863	0.0067	0.0056
2.35	0.0730	0.0730	2.9854	0.0046	0.0039
3.6	0.0759	0.0759	2.9848	0.0031	0.0041
5.5	0.0805	0.0805	2.9839	0.0050	0.0060
8.5	0.0871	0.0871	2.9826	0.0070	0.0060
13.02	0.0917	0.0917	2.9817	0.0050	0.0055
19	0.0967	0.0967	2.9807	0.0061	0.0076
30.65	0.1058	0.1058	2.9788	0.0088	0.0076
47	0.1116	0.1116	2.9777	0.0062	0.0067
72.12	0.1183	0.1183	2.9763	0.0072	0.0072
110.6	0.1249	0.1249	2.9750	0.0071	0.0053
169.7	0.1282	0.1282	2.9744	0.0036	0.0060
260.3	0.1361	0.1361	2.9728	0.0085	0.0165
612.5	0.1743	0.1743	2.9651	0.0206	0.0183
939.6	0.1872	0.1872	2.9626	0.0139	0.0069
1441	0.1872	0.1872	2.9626	0.0000	#NUM!



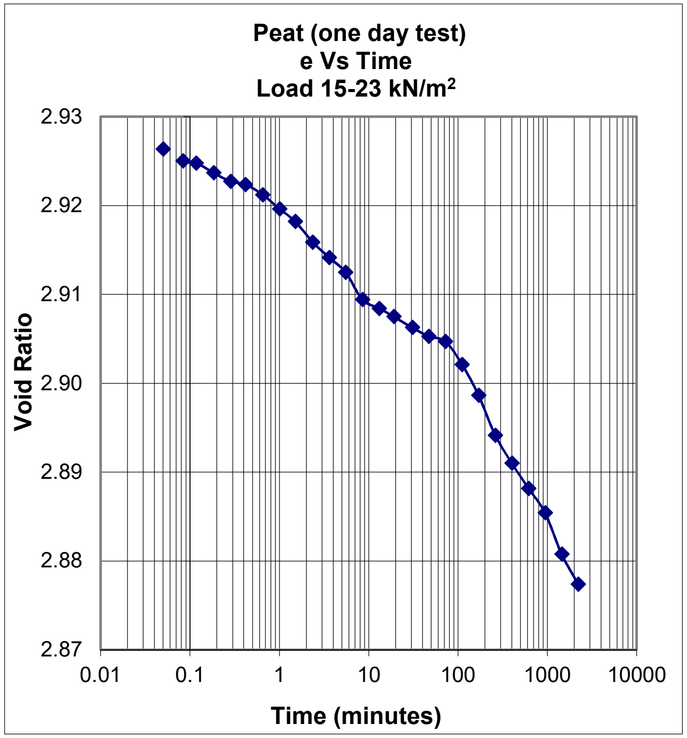
Sample – CKE– Undisturbed – BH 4 (15.00-15.75)
Started Date-10/10/2012
Conventional Consolidation
Load Increment 7.5kN/m^2 to 15kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.1872	0.1872	2.9626		
0.05	0.2013	0.2013	2.9597		
0.08	0.2059	0.2059	2.9588	0.0041	0.0043
0.12	0.2092	0.2092	2.9582	0.0045	0.0041
0.18	0.2129	0.2129	2.9574	0.0038	0.0039
0.28	0.2167	0.2167	2.9567	0.0040	0.0052
0.42	0.2221	0.2221	2.9556	0.0064	0.0053
0.65	0.2262	0.2262	2.9548	0.0042	0.0065
1	0.2345	0.2345	2.9531	0.0089	0.0055
1.5	0.2362	0.2362	2.9528	0.0019	0.0033
2.35	0.2407	0.2407	2.9519	0.0046	0.0046
3.6	0.2449	0.2449	2.9510	0.0045	0.0054
5.5	0.2507	0.2507	2.9499	0.0063	0.0060
8.5	0.2561	0.2561	2.9488	0.0057	0.0071
13.02	0.2640	0.2640	2.9472	0.0085	0.0074
19	0.2690	0.2690	2.9462	0.0061	0.0049
30.65	0.2731	0.2731	2.9454	0.0039	0.0042
47	0.2773	0.2773	2.9445	0.0045	0.0027
72.12	0.2781	0.2781	2.9444	0.0009	0.0016
110.6	0.2802	0.2802	2.9440	0.0023	0.0029
169.7	0.2835	0.2835	2.9433	0.0036	0.0040
260.3	0.2877	0.2877	2.9425	0.0045	0.0123
399.3	0.3063	0.3063	2.9387	0.0200	0.0167
612.5	0.3188	0.3188	2.9362	0.0135	0.0125
939.6	0.3296	0.3296	2.9341	0.0116	0.0058
1441	0.3296	0.3296	2.9341	0.0000	#NUM!



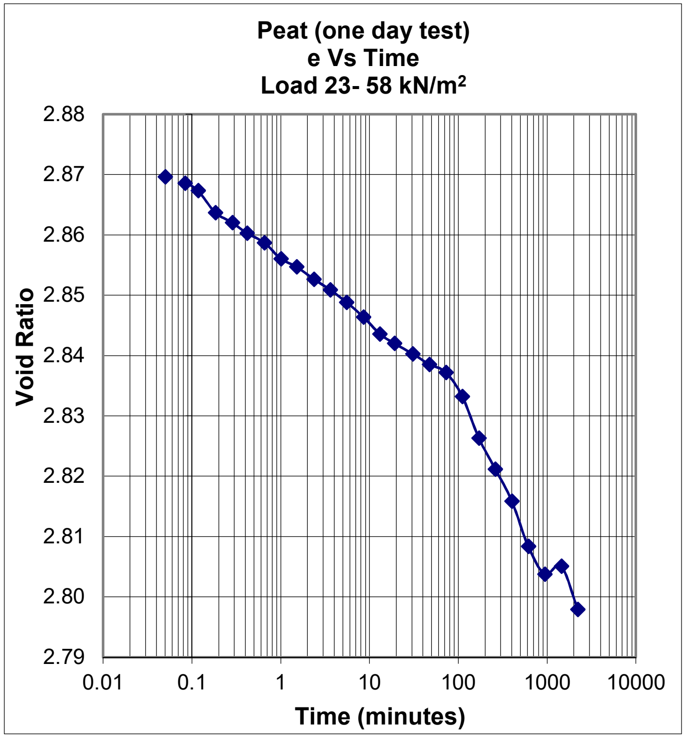
Sample – CKE – Undisturbed – BH 4 (15.00-15.75)
Started Date-10/10/2012
Conventional Consolidation
Load Increment 15kN/m² to 23kN/m²

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.3296	0.3296	2.9341		
0.05	0.3682	0.3682	2.9264		
0.08	0.3748	0.3748	2.9250	0.006	0.004
0.12	0.3761	0.3761	2.9248	0.002	0.004
0.18	0.3815	0.3815	2.9237	0.006	0.005
0.28	0.3864	0.3864	2.9227	0.005	0.004
0.42	0.3881	0.3881	2.9224	0.002	0.004
0.65	0.3939	0.3939	2.9212	0.006	0.007
1	0.4018	0.4018	2.9196	0.008	0.008
1.5	0.4089	0.4089	2.9182	0.008	0.010
2.35	0.4205	0.4205	2.9159	0.012	0.011
3.6	0.4292	0.4292	2.9142	0.009	0.009
5.5	0.4375	0.4375	2.9125	0.009	0.013
8.5	0.4529	0.4529	2.9094	0.016	0.011
13.02	0.4578	0.4578	2.9084	0.005	0.005
19	0.4624	0.4624	2.9075	0.006	0.006
30.65	0.4686	0.4686	2.9063	0.006	0.006
47	0.4736	0.4736	2.9053	0.005	0.004
72.12	0.4765	0.4765	2.9047	0.003	0.009
110.6	0.4894	0.4894	2.9021	0.014	0.016
169.7	0.5068	0.5068	2.8986	0.019	0.021
260.3	0.5292	0.5292	2.8942	0.024	0.021
399.3	0.5450	0.5450	2.8910	0.017	0.016
612.5	0.5591	0.5591	2.8882	0.015	0.015
939.6	0.5728	0.5728	2.8854	0.015	0.020
1441	0.5961	0.5961	2.8808	0.025	0.022
2211	0.6131	0.6131	2.8774	0.018	#NUM!



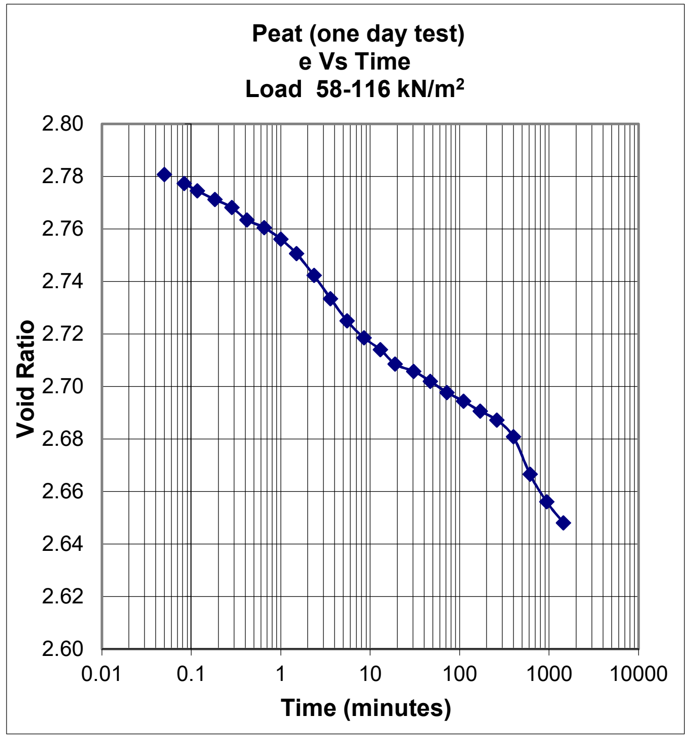
Sample – CKE – Undisturbed – BH 4 (15.00-15.75)
Started Date-10/10/2012
Conventional Consolidation
Load Increment 23kN/m^2 to 58kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.6131	0.6131	2.8774		
0.05	0.6517	0.6517	2.8697		
0.08	0.6571	0.6571	2.8686	0.0049	0.0063
0.12	0.6633	0.6633	2.8673	0.0085	0.0143
0.18	0.6815	0.6815	2.8637	0.0185	0.0138
0.28	0.6898	0.6898	2.8620	0.0088	0.0096
0.42	0.6986	0.6986	2.8603	0.0105	0.0092
0.65	0.7064	0.7064	2.8587	0.0081	0.0111
1	0.7197	0.7197	2.8561	0.0142	0.0110
1.5	0.7264	0.7264	2.8547	0.0076	0.0092
2.35	0.7367	0.7367	2.8527	0.0106	0.0100
3.6	0.7455	0.7455	2.8509	0.0095	0.0103
5.5	0.7558	0.7558	2.8488	0.0112	0.0120
8.5	0.7679	0.7679	2.8464	0.0128	0.0140
13.02	0.7820	0.7820	2.8436	0.0152	0.0126
19	0.7899	0.7899	2.8420	0.0096	0.0089
30.65	0.7986	0.7986	2.8403	0.0084	0.0088
47	0.8073	0.8073	2.8385	0.0094	0.0082
72.12	0.8139	0.8139	2.8372	0.0071	0.0143
110.6	0.8339	0.8339	2.8332	0.0215	0.0293
169.7	0.8683	0.8683	2.8263	0.0370	0.0323
260.3	0.8940	0.8940	2.8212	0.0277	0.0281
399.3	0.9206	0.9206	2.8159	0.0286	0.0344
612.5	0.9580	0.9580	2.8084	0.0403	0.0326
939.6	0.9812	0.9812	2.8038	0.0250	0.0089
1441	0.9746	0.9746	2.8051	-0.0071	0.0156
2211	1.0102	1.0102	2.7980	0.0383	#NUM!



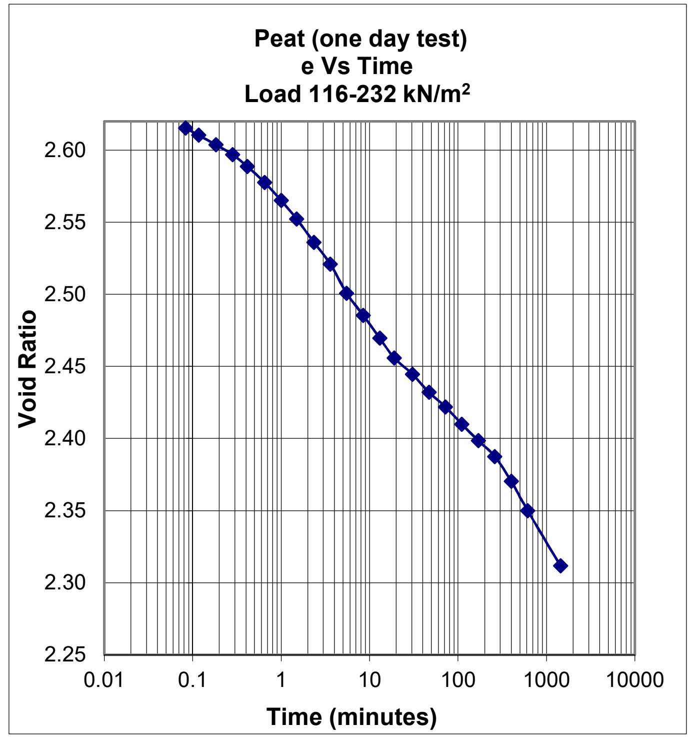
Sample – CKE – Undisturbed – BH 4 (15.00-15.75)
Started Date-10/10/2012
Conventional Consolidation
Load Increment 58kN/m² to 116kN/m²

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	1.0102	1.0102	2.7980		
0.05	1.0961	1.0961	2.7808		
0.08	1.1136	1.1136	2.7773	0.0158	0.0172
0.12	1.1277	1.1277	2.7745	0.0193	0.0177
0.18	1.1439	1.1439	2.7712	0.0165	0.0163
0.28	1.1592	1.1592	2.7682	0.0162	0.0219
0.42	1.1829	1.1829	2.7634	0.0283	0.0212
0.65	1.1974	1.1974	2.7605	0.0150	0.0192
1	1.2194	1.2194	2.7561	0.0235	0.0274
1.5	1.2472	1.2472	2.7506	0.0316	0.0374
2.35	1.2887	1.2887	2.7423	0.0426	0.0450
3.6	1.3327	1.3327	2.7335	0.0475	0.0467
5.5	1.3750	1.3750	2.7250	0.0460	0.0400
8.5	1.4074	1.4074	2.7185	0.0343	0.0293
13.02	1.4298	1.4298	2.7140	0.0242	0.0287
19	1.4576	1.4576	2.7085	0.0339	0.0223
30.65	1.4713	1.4713	2.7057	0.0132	0.0166
47	1.4903	1.4903	2.7019	0.0205	0.0216
72.12	1.5115	1.5115	2.6977	0.0228	0.0203
110.6	1.5281	1.5281	2.6944	0.0179	0.0192
169.7	1.5472	1.5472	2.6906	0.0206	0.0194
260.3	1.5642	1.5642	2.6872	0.0183	0.0263
399.3	1.5961	1.5961	2.6808	0.0343	0.0556
612.5	1.6675	1.6675	2.6665	0.0769	0.0666
939.6	1.7198	1.7198	2.6560	0.0563	0.0496
1441	1.7596	1.7596	2.6481	0.0428	#NUM!



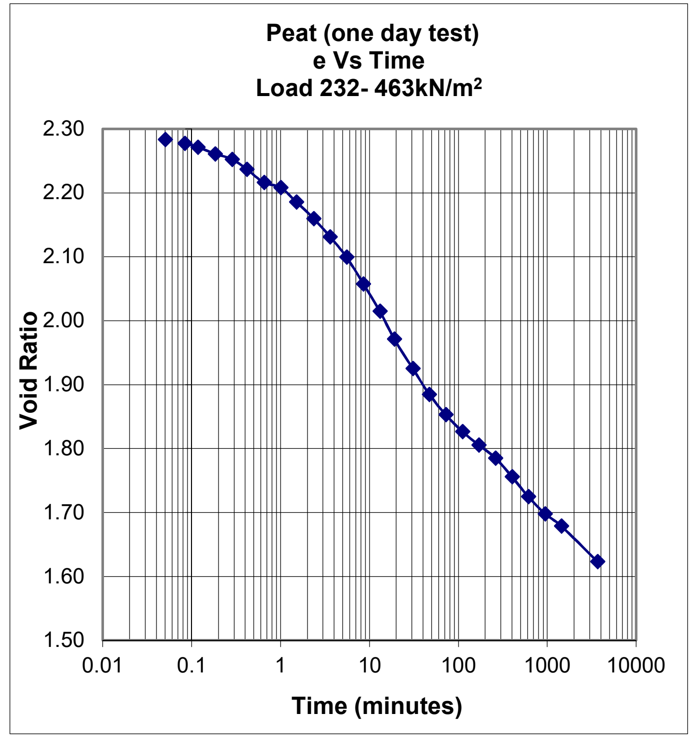
Sample – CKE– Undisturbed – BH 4 (15.00-15.75)
Started Date-10/10/2012
Conventional Consolidation
Load Increment 116kN/m² to 232kN/m²

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	1.7596	1.7596	2.6481		
0.05	1.8861	1.8861	2.6228		
0.08	1.9239	1.9239	2.6152	0.0341	0.0338
0.12	1.9483	1.9483	2.6103	0.0334	0.0336
0.18	1.9815	1.9815	2.6037	0.0338	0.0351
0.28	2.0160	2.0160	2.5968	0.0365	0.0426
0.42	2.0574	2.0574	2.5885	0.0494	0.0534
0.65	2.1122	2.1122	2.5776	0.0568	0.0618
1	2.1748	2.1748	2.5650	0.0669	0.0701
1.5	2.2395	2.2395	2.5521	0.0735	0.0780
2.35	2.3196	2.3196	2.5361	0.0822	0.0821
3.6	2.3955	2.3955	2.5209	0.0820	0.0957
5.5	2.4963	2.4963	2.5007	0.1095	0.0954
8.5	2.5734	2.5734	2.4853	0.0816	0.0833
13.02	2.6522	2.6522	2.4696	0.0851	0.0843
19	2.7206	2.7206	2.4559	0.0833	0.0676
30.65	2.7778	2.7778	2.4444	0.0551	0.0607
47	2.8400	2.8400	2.4320	0.0670	0.0607
72.12	2.8906	2.8906	2.4219	0.0544	0.0596
110.6	2.9507	2.9507	2.4099	0.0647	0.0629
169.7	3.0075	3.0075	2.3985	0.0611	0.0601
260.3	3.0623	3.0623	2.3875	0.0590	0.0757
399.3	3.1481	3.1481	2.3704	0.0923	0.1011
612.5	3.2501	3.2501	2.3500	0.1098	0.1053
1441	3.4416	3.4416	2.3117	0.1030	#NUM!



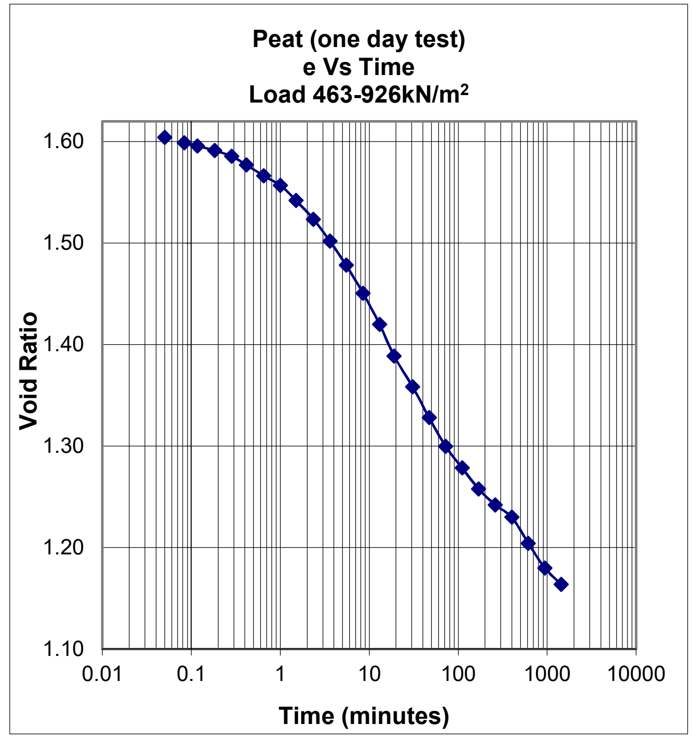
Sample – CKE– Undisturbed – BH 4 (15.00-15.75)
Started Date-10/10/2012
Conventional Consolidation
Load Increment 232kN/m² to 463kN/m²

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	3.4416	3.4416	2.3117		
0.05	3.5817	3.5817	2.2837		
0.08	3.6128	3.6128	2.2774	0.0280	0.0329
0.12	3.6422	3.6422	2.2716	0.0402	0.0480
0.18	3.6949	3.6949	2.2610	0.0537	0.0493
0.28	3.7372	3.7372	2.2526	0.0447	0.0674
0.42	3.8151	3.8151	2.2370	0.0930	0.1011
0.65	3.9195	3.9195	2.2161	0.1081	0.0754
1	3.9585	3.9585	2.2083	0.0417	0.0835
1.5	4.0712	4.0712	2.1858	0.1280	0.1304
2.35	4.2005	4.2005	2.1599	0.1326	0.1432
3.6	4.3435	4.3435	2.1313	0.1544	0.1630
5.5	4.5014	4.5014	2.0997	0.1716	0.1970
8.5	4.7110	4.7110	2.0578	0.2217	0.2265
13.02	4.9252	4.9252	2.0150	0.2313	0.2469
19	5.1423	5.1423	1.9715	0.2645	0.2411
30.65	5.3734	5.3734	1.9253	0.2226	0.2199
47	5.5747	5.5747	1.8851	0.2168	0.1939
72.12	5.7337	5.7337	1.8533	0.1710	0.1568
110.6	5.8662	5.8662	1.8268	0.1426	0.1281
169.7	5.9718	5.9718	1.8056	0.1136	0.1117
260.3	6.0737	6.0737	1.7853	0.1097	0.1337
399.3	6.2203	6.2203	1.7559	0.1578	0.1622
612.5	6.3751	6.3751	1.7250	0.1666	0.1555
939.6	6.5092	6.5092	1.6982	0.1443	0.1243
1441	6.6061	6.6061	1.6788	0.1043	0.1268
3650	6.8828	6.8828	1.6234	0.1371	#NUM!



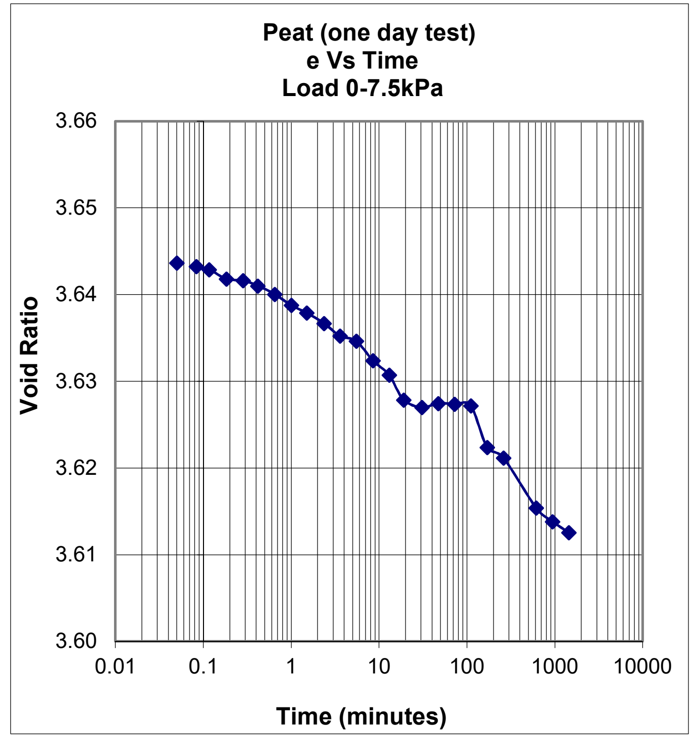
Sample – CKE– Undisturbed – BH 4 (15.00-15.75)
Started Date-10/10/2012
Conventional Consolidation
Load Increment 463kN/m^2 to 926kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	6.8828	6.8828	1.6234		
0.05	6.9796	6.9796	1.6041		
0.08	7.0065	7.0065	1.5987	0.0243	0.0227
0.12	7.0214	7.0214	1.5957	0.0204	0.0223
0.18	7.0446	7.0446	1.5911	0.0236	0.0268
0.28	7.0731	7.0731	1.5854	0.0301	0.0452
0.42	7.1158	7.1158	1.5768	0.0510	0.0521
0.65	7.1688	7.1688	1.5662	0.0531	0.0521
1	7.2159	7.2159	1.5568	0.0504	0.0670
1.5	7.2904	7.2904	1.5419	0.0846	0.0899
2.35	7.3827	7.3827	1.5235	0.0947	0.1056
3.6	7.4911	7.4911	1.5018	0.1170	0.1226
5.5	7.6091	7.6091	1.4782	0.1282	0.1375
8.5	7.7477	7.7477	1.4505	0.1466	0.1556
13.02	7.9003	7.9003	1.4199	0.1648	0.1767
19	8.0563	8.0563	1.3887	0.1901	0.1653
30.65	8.2077	8.2077	1.3585	0.1458	0.1538
47	8.3604	8.3604	1.3279	0.1645	0.1437
72.12	8.5018	8.5018	1.2996	0.1583	0.1437
110.6	8.6081	8.6081	1.2784	0.1144	0.1129
169.7	8.7115	8.7115	1.2577	0.1113	0.0979
260.3	8.7901	8.7901	1.2420	0.0846	0.0750
399.3	8.8509	8.8509	1.2298	0.0654	0.1017
612.5	8.9791	8.9791	1.2042	0.1380	0.1349
939.6	9.1015	9.1015	1.1797	0.1317	0.1088
1441	9.1813	9.1813	1.1637	0.0859	#NUM!



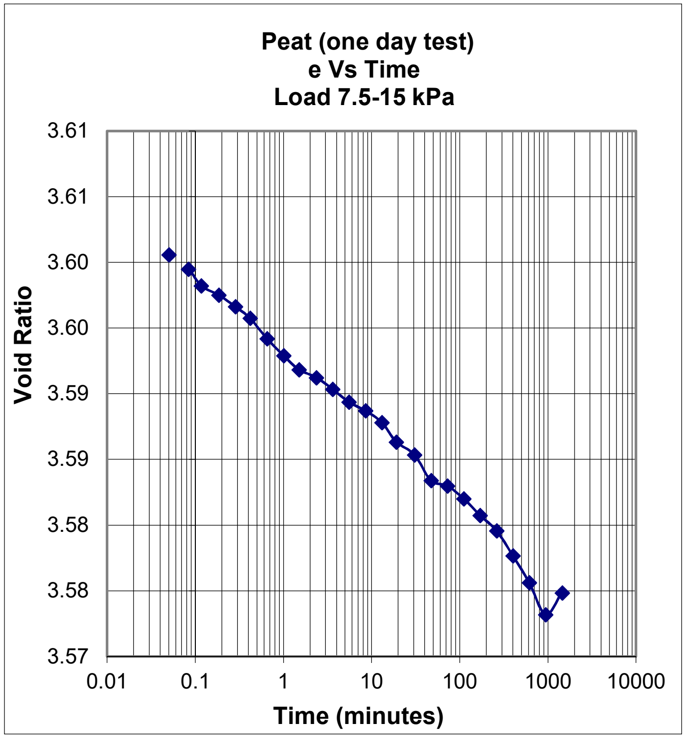
Sample – CKE – Undisturbed – BH 5 (13.50-14.25)
Started Date-30/10/2012
Conventional Consolidation
Load Increment 0kN/m^2 to7.5kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.0000	0.0000	3.7800		
0.05	0.5704	0.5704	3.6437		
0.08	0.5721	0.5721	3.6433	0.0018	0.0021
0.12	0.5737	0.5737	3.6429	0.0026	0.0043
0.18	0.5782	0.5782	3.6418	0.0055	0.0033
0.28	0.5790	0.5790	3.6416	0.0010	0.0022
0.42	0.5815	0.5815	3.6410	0.0036	0.0044
0.65	0.5856	0.5856	3.6400	0.0051	0.0059
1	0.5909	0.5909	3.6388	0.0068	0.0059
1.5	0.5946	0.5946	3.6379	0.0050	0.0056
2.35	0.5996	0.5996	3.6367	0.0061	0.0070
3.6	0.6057	0.6057	3.6352	0.0079	0.0056
5.5	0.6082	0.6082	3.6346	0.0032	0.0076
8.5	0.6176	0.6176	3.6324	0.0119	0.0105
13.02	0.6246	0.6246	3.6307	0.0090	0.0129
19	0.6365	0.6365	3.6279	0.0173	0.0100
30.65	0.6402	0.6402	3.6270	0.0043	0.0010
47	0.6382	0.6382	3.6275	-0.0026	-0.0010
72.12	0.6386	0.6386	3.6274	0.0005	0.0008
110.6	0.6394	0.6394	3.6272	0.0010	0.0134
169.7	0.6595	0.6595	3.6224	0.0258	0.0161
260.3	0.6645	0.6645	3.6212	0.0064	0.0125
612.5	0.6887	0.6887	3.6154	0.0156	0.0132
939.6	0.6953	0.6953	3.6138	0.0085	0.0077
1441	0.7006	0.7006	3.6126	0.0068	#NUM!



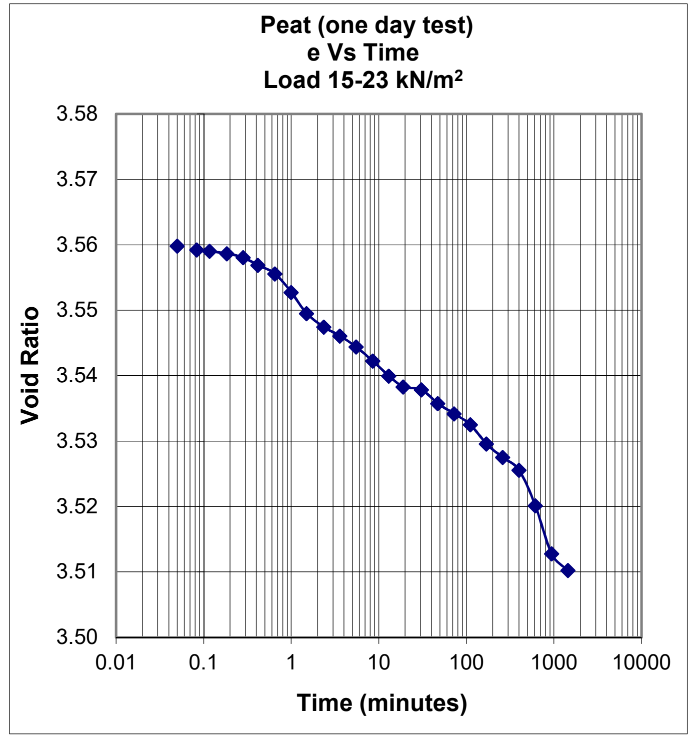
Sample – CKE – Undisturbed – BH 5 (13.50-14.25)
Started Date-30/10/2012
Conventional Consolidation
Load Increment 7.5kN/m^2 to 15kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.7006	0.7006	3.6126		
0.05	0.7507	0.7507	3.6006		
0.08	0.7553	0.7553	3.5995	0.0050	0.0064
0.12	0.7606	0.7606	3.5982	0.0087	0.0057
0.18	0.7635	0.7635	3.5975	0.0035	0.0041
0.28	0.7672	0.7672	3.5966	0.0047	0.0050
0.42	0.7709	0.7709	3.5958	0.0053	0.0068
0.65	0.7774	0.7774	3.5942	0.0080	0.0075
1	0.7828	0.7828	3.5929	0.0069	0.0065
1.5	0.7873	0.7873	3.5918	0.0061	0.0045
2.35	0.7898	0.7898	3.5912	0.0031	0.0039
3.6	0.7935	0.7935	3.5904	0.0048	0.0050
5.5	0.7976	0.7976	3.5894	0.0053	0.0044
8.5	0.8004	0.8004	3.5887	0.0035	0.0042
13.02	0.8041	0.8041	3.5878	0.0048	0.0068
19	0.8103	0.8103	3.5863	0.0090	0.0066
30.65	0.8144	0.8144	3.5854	0.0047	0.0075
47	0.8226	0.8226	3.5834	0.0106	0.0064
72.12	0.8243	0.8243	3.5830	0.0022	0.0037
110.6	0.8284	0.8284	3.5820	0.0053	0.0060
169.7	0.8337	0.8337	3.5807	0.0068	0.0066
260.3	0.8386	0.8386	3.5796	0.0063	0.0082
399.3	0.8465	0.8465	3.5777	0.0102	0.0106
612.5	0.8551	0.8551	3.5756	0.0111	0.0121
939.6	0.8653	0.8653	3.5732	0.0131	0.0021
1441	0.8584	0.8584	3.5748	-0.0089	#NUM!



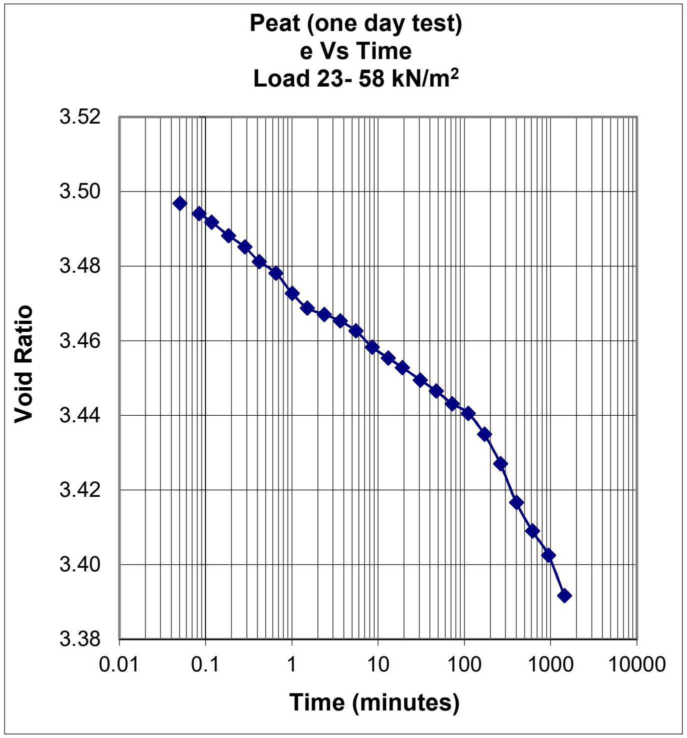
Sample – CKE – Undisturbed – BH 5 (13.50-14.25)
Started Date-30/10/2012
Conventional Consolidation
Load Increment 15kN/m² to 23kN/m²

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.8653	0.8653	3.5732		
0.05	0.9212	0.9212	3.5598		
0.08	0.9237	0.9237	3.5592	0.003	0.002
0.12	0.9245	0.9245	3.5590	0.001	0.002
0.18	0.9261	0.9261	3.5587	0.002	0.003
0.28	0.9286	0.9286	3.5581	0.003	0.005
0.42	0.9335	0.9335	3.5569	0.007	0.007
0.65	0.9389	0.9389	3.5556	0.007	0.011
1	0.9508	0.9508	3.5528	0.015	0.017
1.5	0.9643	0.9643	3.5495	0.018	0.014
2.35	0.9730	0.9730	3.5475	0.011	0.009
3.6	0.9787	0.9787	3.5461	0.007	0.008
5.5	0.9857	0.9857	3.5444	0.009	0.010
8.5	0.9947	0.9947	3.5423	0.011	0.012
13.02	1.0042	1.0042	3.5400	0.012	0.011
19	1.0112	1.0112	3.5383	0.010	0.006
30.65	1.0132	1.0132	3.5378	0.002	0.007
47	1.0219	1.0219	3.5358	0.011	0.010
72.12	1.0284	1.0284	3.5342	0.008	0.009
110.6	1.0354	1.0354	3.5325	0.009	0.012
169.7	1.0478	1.0478	3.5296	0.016	0.014
260.3	1.0564	1.0564	3.5275	0.011	0.011
399.3	1.0646	1.0646	3.5256	0.011	0.020
612.5	1.0872	1.0872	3.5202	0.029	0.034
939.6	1.1180	1.1180	3.5128	0.040	0.027
1441	1.1287	1.1287	3.5102	0.014	#NUM!



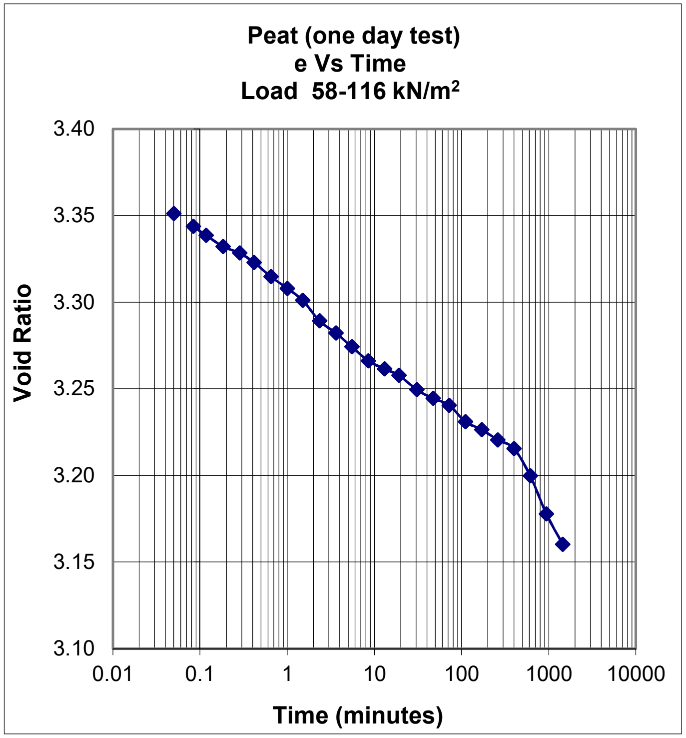
Sample – CKE – Undisturbed – BH 5 (13.50-14.25)
Started Date-30/10/2012
Conventional Consolidation
Load Increment 23kN/m² to 58kN/m²

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	1.1287	1.1287	3.5102		
0.05	1.1846	1.1846	3.4969		
0.08	1.1961	1.1961	3.4941	0.0124	0.0136
0.12	1.2056	1.2056	3.4919	0.0155	0.0172
0.18	1.2208	1.2208	3.4882	0.0185	0.0173
0.28	1.2335	1.2335	3.4852	0.0161	0.0196
0.42	1.2500	1.2500	3.4813	0.0235	0.0194
0.65	1.2627	1.2627	3.4782	0.0157	0.0222
1	1.2853	1.2853	3.4728	0.0289	0.0259
1.5	1.3021	1.3021	3.4688	0.0228	0.0153
2.35	1.3091	1.3091	3.4671	0.0086	0.0091
3.6	1.3165	1.3165	3.4654	0.0095	0.0120
5.5	1.3276	1.3276	3.4627	0.0144	0.0187
8.5	1.3457	1.3457	3.4584	0.0229	0.0194
13.02	1.3580	1.3580	3.4554	0.0159	0.0157
19	1.3687	1.3687	3.4529	0.0156	0.0159
30.65	1.3827	1.3827	3.4495	0.0161	0.0160
47	1.3950	1.3950	3.4466	0.0158	0.0172
72.12	1.4094	1.4094	3.4432	0.0185	0.0161
110.6	1.4201	1.4201	3.4406	0.0138	0.0219
169.7	1.4435	1.4435	3.4350	0.0301	0.0362
260.3	1.4764	1.4764	3.4271	0.0423	0.0491
399.3	1.5199	1.5199	3.4167	0.0559	0.0486
612.5	1.5520	1.5520	3.4091	0.0413	0.0381
939.6	1.5791	1.5791	3.4026	0.0349	0.0465
1441	1.6243	1.6243	3.3918	0.0581	#NUM!



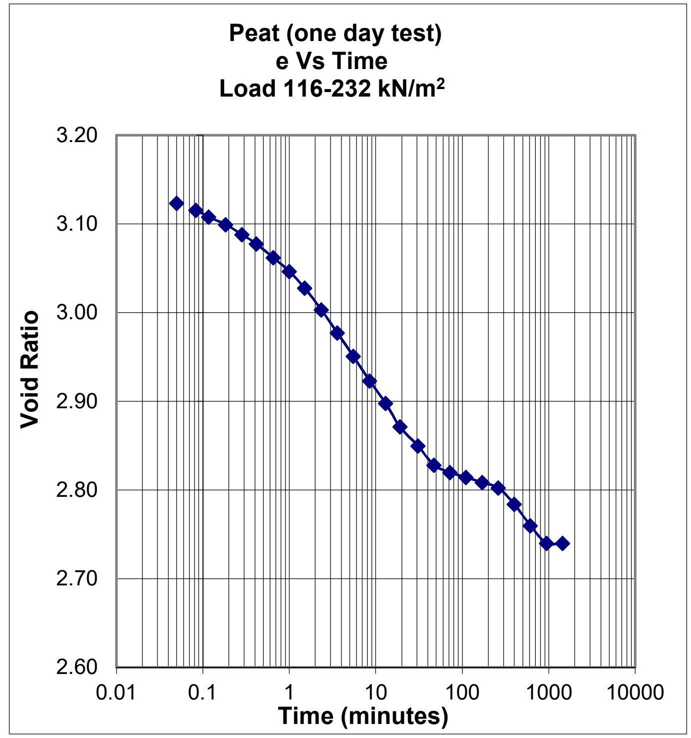
Sample – CKE – Undisturbed – BH 5 (13.50-14.25)
Started Date-30/10/2012
Conventional Consolidation
Load Increment 58kN/m^2 to 116kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	1.6243	1.6243	3.3918		
0.05	1.7940	1.7940	3.3512		
0.08	1.8256	1.8256	3.3437	0.0340	0.0342
0.12	1.8466	1.8466	3.3387	0.0343	0.0339
0.18	1.8741	1.8741	3.3321	0.0335	0.0267
0.28	1.8897	1.8897	3.3284	0.0197	0.0259
0.42	1.9127	1.9127	3.3229	0.0328	0.0379
0.65	1.9469	1.9469	3.3147	0.0423	0.0393
1	1.9752	1.9752	3.3079	0.0362	0.0376
1.5	2.0040	2.0040	3.3010	0.0391	0.0506
2.35	2.0537	2.0537	3.2892	0.0609	0.0493
3.6	2.0825	2.0825	3.2823	0.0372	0.0404
5.5	2.1162	2.1162	3.2742	0.0438	0.0432
8.5	2.1499	2.1499	3.2662	0.0426	0.0341
13.02	2.1696	2.1696	3.2615	0.0254	0.0239
19	2.1848	2.1848	3.2578	0.0221	0.0322
30.65	2.2197	2.2197	3.2495	0.0402	0.0340
47	2.2407	2.2407	3.2445	0.0270	0.0244
72.12	2.2576	2.2576	3.2404	0.0217	0.0362
110.6	2.2970	2.2970	3.2310	0.0507	0.0378
169.7	2.3163	2.3163	3.2264	0.0248	0.0283
260.3	2.3410	2.3410	3.2205	0.0318	0.0294
399.3	2.3620	2.3620	3.2155	0.0270	0.0558
612.5	2.4277	2.4277	3.1998	0.0845	0.1012
939.6	2.5194	2.5194	3.1779	0.1179	0.1063
1441	2.5930	2.5930	3.1603	0.0947	#NUM!



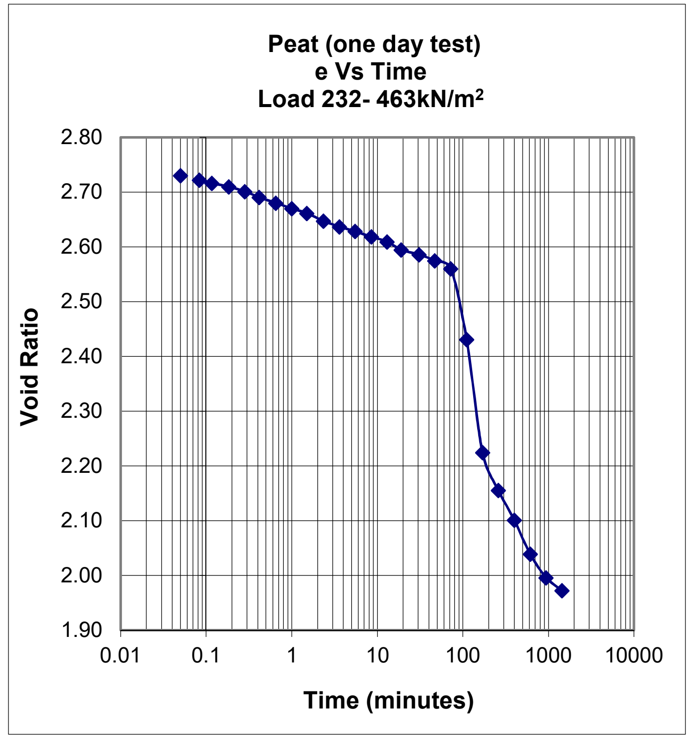
Sample – CKE – Undisturbed – BH 5 (13.50-14.25)
Started Date-30/10/2012
Conventional Consolidation
Load Increment 116kN/m² to 232kN/m²

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	2.5930	2.5930	3.1603		
0.05	2.7463	2.7463	3.1236		
0.08	2.7804	2.7804	3.1155	0.0367	0.0427
0.12	2.8121	2.8121	3.1079	0.0518	0.0468
0.18	2.8474	2.8474	3.0995	0.0430	0.0515
0.28	2.8951	2.8951	3.0881	0.0603	0.0615
0.42	2.9391	2.9391	3.0776	0.0628	0.0722
0.65	3.0040	3.0040	3.0620	0.0803	0.0812
1	3.0682	3.0682	3.0467	0.0820	0.0942
1.5	3.1471	3.1471	3.0278	0.1071	0.1173
2.35	3.2503	3.2503	3.0032	0.1265	0.1334
3.6	3.3593	3.3593	2.9771	0.1406	0.1419
5.5	3.4695	3.4695	2.9508	0.1431	0.1443
8.5	3.5846	3.5846	2.9233	0.1455	0.1415
13.02	3.6911	3.6911	2.8978	0.1374	0.1483
19	3.8013	3.8013	2.8715	0.1605	0.1287
30.65	3.8914	3.8914	2.8500	0.1037	0.1097
47	3.9818	3.9818	2.8283	0.1164	0.0809
72.12	4.0172	4.0172	2.8199	0.0455	0.0375
110.6	4.0402	4.0402	2.8144	0.0296	0.0304
169.7	4.0645	4.0645	2.8086	0.0312	0.0323
260.3	4.0904	4.0904	2.8024	0.0333	0.0656
399.3	4.1665	4.1665	2.7842	0.0979	0.1140
612.5	4.2677	4.2677	2.7600	0.1302	0.1185
939.6	4.3508	4.3508	2.7402	0.1069	0.0535
1441.0	4.3508	4.3508	2.7402	0.0000	#NUM!



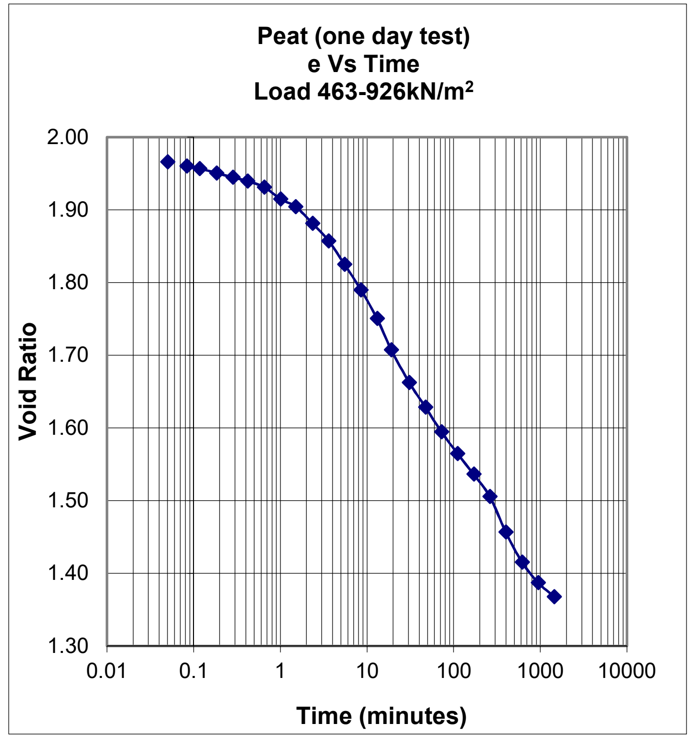
Sample – CKE – Undisturbed – BH 5 (13.50-14.25)
Started Date-30/10/2012
Conventional Consolidation
Load Increment 232kN/m^2 to 463kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	4.3508	4.3508	2.7402		
0.05	4.3900	4.3900	2.7308		
0.08	4.4257	4.4257	2.7223	0.0385	0.0390
0.12	4.4500	4.4500	2.7165	0.0397	0.0353
0.18	4.4763	4.4763	2.7102	0.0320	0.0385
0.28	4.5121	4.5121	2.7016	0.0453	0.0544
0.42	4.5574	4.5574	2.6908	0.0646	0.0584
0.65	4.6002	4.6002	2.6806	0.0530	0.0532
1	4.6421	4.6421	2.6705	0.0535	0.0517
1.5	4.6787	4.6787	2.6618	0.0497	0.0623
2.35	4.7388	4.7388	2.6474	0.0737	0.0649
3.6	4.7820	4.7820	2.6371	0.0557	0.0509
5.5	4.8174	4.8174	2.6286	0.0460	0.0495
8.5	4.8593	4.8593	2.6186	0.0530	0.0507
13.02	4.8968	4.8968	2.6097	0.0484	0.0684
19	4.9593	4.9593	2.5947	0.0910	0.0632
30.65	4.9951	4.9951	2.5862	0.0412	0.0495
47	5.0408	5.0408	2.5752	0.0588	0.0693
72.12	5.1029	5.1029	2.5604	0.0798	0.3876
110.6	5.6436	5.6436	2.4312	0.6956	0.9038
169.7	6.5083	6.5083	2.2245	1.1120	0.7412
260.3	6.7961	6.7961	2.1557	0.3702	0.3318
399.3	7.0242	7.0242	2.1012	0.2934	0.3132
612.5	7.2831	7.2831	2.0393	0.3330	0.2823
939.6	7.4631	7.4631	1.9963	0.2315	0.1793
1441.0	7.5619	7.5619	1.9727	0.1271	#NUM!



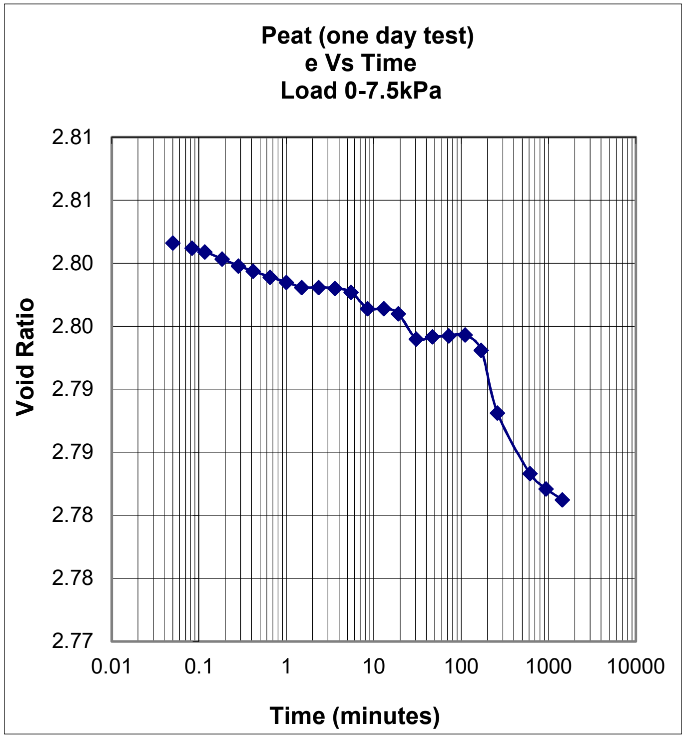
Sample – CKE – Undisturbed – BH 5 (13.50-14.25)
Started Date-30/10/2012
Conventional Consolidation
Load Increment 463kN/m^2 to 926kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	7.5619	7.5619	1.9727		
0.05	7.5900	7.5900	1.9660		
0.08	7.6131	7.6131	1.9605	0.0249	0.0241
0.12	7.6271	7.6271	1.9571	0.0229	0.0282
0.18	7.6535	7.6535	1.9508	0.0321	0.0317
0.28	7.6782	7.6782	1.9449	0.0312	0.0354
0.42	7.7000	7.7000	1.9397	0.0311	0.0545
0.65	7.7350	7.7350	1.9313	0.0376	0.0545
1	7.8030	7.8030	1.9151	0.0869	0.0743
1.5	7.8479	7.8479	1.9044	0.0609	0.0907
2.35	7.9438	7.9438	1.8814	0.1176	0.1232
3.6	8.0439	8.0439	1.8575	0.1292	0.1525
5.5	8.1794	8.1794	1.8251	0.1759	0.1804
8.5	8.3256	8.3256	1.7902	0.1848	0.1984
13.02	8.4900	8.4900	1.7509	0.2122	0.2362
19	8.6709	8.6709	1.7077	0.2634	0.2370
30.65	8.8587	8.8587	1.6628	0.2161	0.1946
47	9.0005	9.0005	1.6289	0.1825	0.1760
72.12	9.1426	9.1426	1.5949	0.1826	0.1760
110.6	9.2691	9.2691	1.5647	0.1627	0.1572
169.7	9.3870	9.3870	1.5365	0.1516	0.1582
260.3	9.5151	9.5151	1.5059	0.1648	0.2144
399.3	9.7204	9.7204	1.4568	0.2640	0.2430
612.5	9.8930	9.8930	1.4156	0.2220	0.1870
939	10.0109	10.0109	1.3874	0.1519	0.1281
1441	10.0921	10.0921	1.3680	0.1043	#NUM!



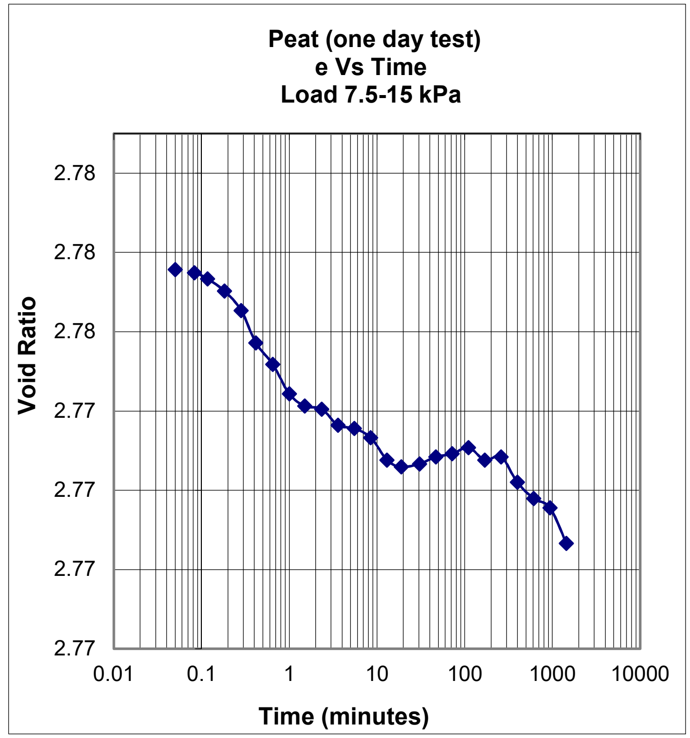
Sample – CKE – Undisturbed – BH 5 (14.50-15.25)
Started Date-30/10/2012
Conventional Consolidation
Load Increment 0kN/m^2 to7.5kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.0000	0.0000	2.8900		
0.05	0.4543	0.4543	2.8016		
0.08	0.4564	0.4564	2.8012	0.0018	0.0020
0.12	0.4580	0.4580	2.8009	0.0021	0.0026
0.18	0.4609	0.4609	2.8004	0.0029	0.0029
0.28	0.4638	0.4638	2.7998	0.0030	0.0027
0.42	0.4659	0.4659	2.7994	0.0024	0.0024
0.65	0.4683	0.4683	2.7989	0.0024	0.0023
1	0.4704	0.4704	2.7985	0.0022	0.0022
1.5	0.4725	0.4725	2.7981	0.0023	0.0011
2.35	0.4725	0.4725	2.7981	0.0000	0.0002
3.6	0.4729	0.4729	2.7980	0.0004	0.0011
5.5	0.4745	0.4745	2.7977	0.0017	0.0043
8.5	0.4811	0.4811	2.7964	0.0068	0.0034
13.02	0.4811	0.4811	2.7964	0.0000	0.0012
19	0.4832	0.4832	2.7960	0.0025	0.0065
30.65	0.4935	0.4935	2.7940	0.0096	0.0047
47	0.4927	0.4927	2.7942	-0.0008	-0.0006
72.12	0.4923	0.4923	2.7942	-0.0004	-0.0004
110.6	0.4919	0.4919	2.7943	-0.0004	0.0030
169.7	0.4981	0.4981	2.7931	0.0065	0.0166
260.3	0.5237	0.5237	2.7881	0.0268	0.0176
612.5	0.5485	0.5485	2.7833	0.0130	0.0108
939.6	0.5547	0.5547	2.7821	0.0065	0.0056
1441	0.5592	0.5592	2.7812	0.0047	#NUM!



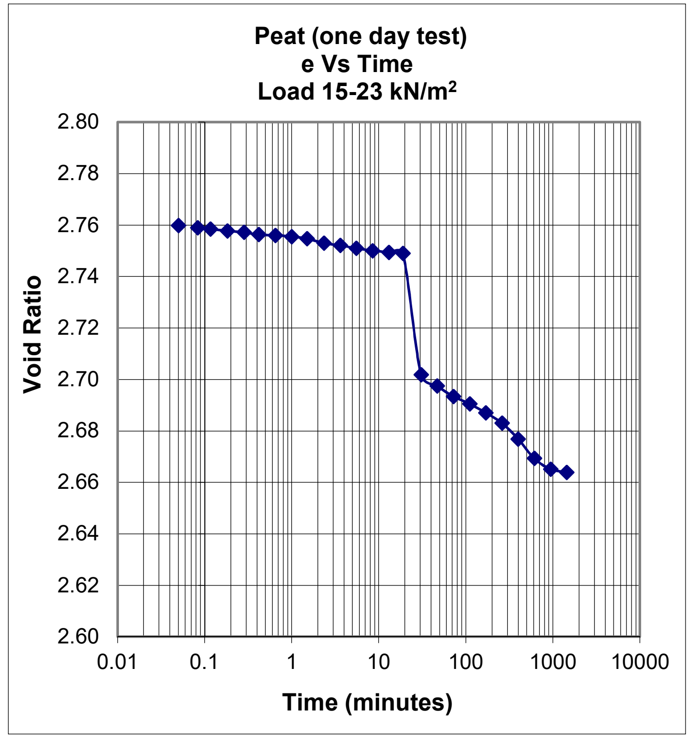
Sample – CKE – Undisturbed – BH 5 (14.50-15.25)
Started Date-30/10/2012
Conventional Consolidation
Load Increment 7.5kN/m² to 15kN/m²

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.5592	0.5592	2.7812		
0.05	0.5832	0.5832	2.7766		
0.08	0.5836	0.5836	2.7765	0.0004	0.0006
0.12	0.5844	0.5844	2.7763	0.0011	0.0014
0.18	0.5860	0.5860	2.7760	0.0016	0.0021
0.28	0.5885	0.5885	2.7755	0.0026	0.0037
0.42	0.5927	0.5927	2.7747	0.0049	0.0038
0.65	0.5955	0.5955	2.7742	0.0028	0.0034
1	0.5993	0.5993	2.7734	0.0040	0.0029
1.5	0.6009	0.6009	2.7731	0.0018	0.0010
2.35	0.6013	0.6013	2.7730	0.0004	0.0013
3.6	0.6034	0.6034	2.7726	0.0022	0.0013
5.5	0.6038	0.6038	2.7726	0.0004	0.0008
8.5	0.6050	0.6050	2.7723	0.0012	0.0021
13.02	0.6079	0.6079	2.7718	0.0030	0.0021
19	0.6088	0.6088	2.7716	0.0011	0.0003
30.65	0.6084	0.6084	2.7717	-0.0004	-0.0006
47	0.6075	0.6075	2.7718	-0.0009	-0.0007
72.12	0.6071	0.6071	2.7719	-0.0004	-0.0006
110.6	0.6063	0.6063	2.7721	-0.0008	0.0004
169.7	0.6079	0.6079	2.7718	0.0017	0.0006
260.3	0.6075	0.6075	2.7718	-0.0004	0.0015
399.3	0.6108	0.6108	2.7712	0.0035	0.0028
612.5	0.6129	0.6129	2.7708	0.0022	0.0017
939.6	0.6141	0.6141	2.7706	0.0013	0.0030
1441	0.6187	0.6187	2.7697	0.0048	#NUM!



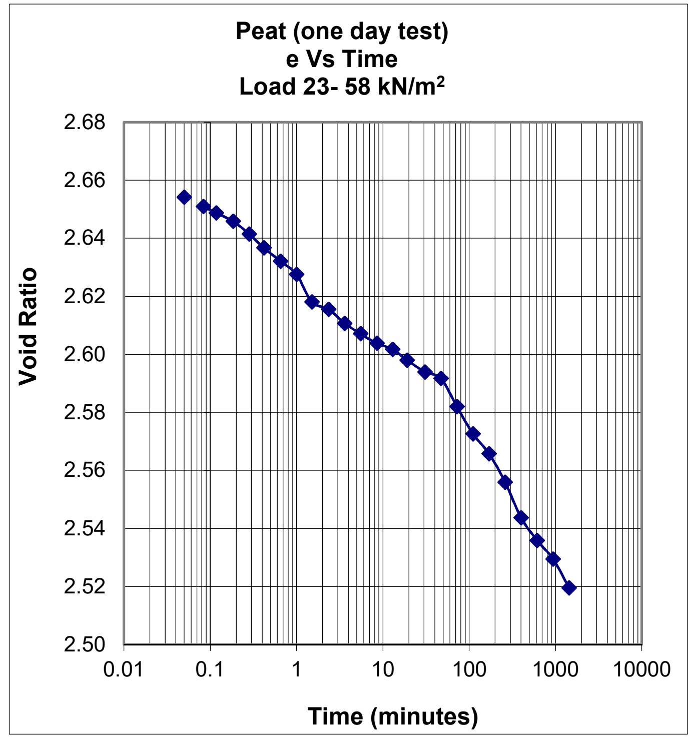
Sample – CKE – Undisturbed – BH 5 (14.50-15.25)
Started Date-30/10/2012
Conventional Consolidation
Load Increment 15kN/m² to 23kN/m²

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.6187	0.6187	2.7697		
0.05	0.6691	0.6691	2.7599		
0.08	0.6740	0.6740	2.7589	0.004	0.004
0.12	0.6761	0.6761	2.7585	0.003	0.003
0.18	0.6798	0.6798	2.7578	0.004	0.003
0.28	0.6827	0.6827	2.7572	0.003	0.004
0.42	0.6872	0.6872	2.7563	0.005	0.003
0.65	0.6889	0.6889	2.7560	0.002	0.002
1	0.6914	0.6914	2.7555	0.003	0.004
1.5	0.6955	0.6955	2.7547	0.005	0.007
2.35	0.7046	0.7046	2.7530	0.009	0.007
3.6	0.7091	0.7091	2.7521	0.005	0.005
5.5	0.7145	0.7145	2.7510	0.006	0.005
8.5	0.7195	0.7195	2.7501	0.005	0.004
13.02	0.7228	0.7228	2.7494	0.003	0.003
19	0.7252	0.7252	2.7489	0.003	0.128
30.65	0.9677	0.9677	2.7018	0.227	0.131
47	0.9900	0.9900	2.6974	0.023	0.023
72.12	1.0107	1.0107	2.6934	0.022	0.019
110.6	1.0256	1.0256	2.6905	0.016	0.017
169.7	1.0433	1.0433	2.6871	0.019	0.020
260.3	1.0640	1.0640	2.6831	0.022	0.027
399.3	1.0958	1.0958	2.6769	0.033	0.037
612.5	1.1346	1.1346	2.6693	0.041	0.032
939.6	1.1561	1.1561	2.6651	0.023	0.014
1441	1.1623	1.1623	2.6639	0.006	#NUM!



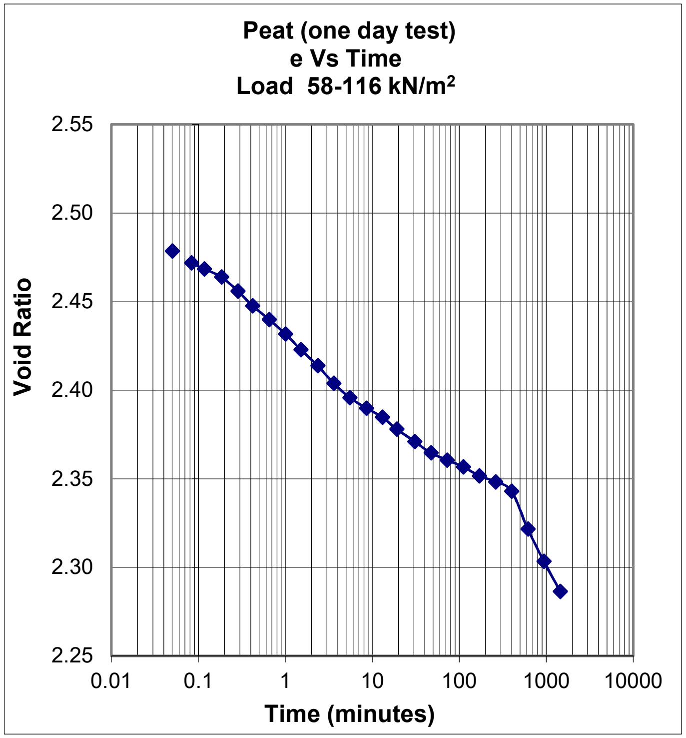
Sample – CKE – Undisturbed – BH 5 (14.50-15.25)
Started Date-30/10/2012
Conventional Consolidation
Load Increment 23kN/m^2 to 58kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	1.1623	1.1623	2.6639		
0.05	1.2127	1.2127	2.6541		
0.08	1.2292	1.2292	2.6509	0.0145	0.0146
0.12	1.2403	1.2403	2.6488	0.0148	0.0148
0.18	1.2552	1.2552	2.6459	0.0148	0.0190
0.28	1.2779	1.2779	2.6414	0.0234	0.0257
0.42	1.3023	1.3023	2.6367	0.0283	0.0259
0.65	1.3259	1.3259	2.6321	0.0238	0.0241
1	1.3494	1.3494	2.6275	0.0244	0.0385
1.5	1.3978	1.3978	2.6181	0.0535	0.0323
2.35	1.4110	1.4110	2.6156	0.0132	0.0194
3.6	1.4358	1.4358	2.6107	0.0260	0.0229
5.5	1.4544	1.4544	2.6071	0.0197	0.0185
8.5	1.4713	1.4713	2.6038	0.0174	0.0144
13.02	1.4821	1.4821	2.6017	0.0113	0.0166
19	1.5011	1.5011	2.5980	0.0225	0.0210
30.65	1.5222	1.5222	2.5939	0.0198	0.0161
47	1.5337	1.5337	2.5917	0.0120	0.0320
72.12	1.5833	1.5833	2.5820	0.0519	0.0513
110.6	1.6317	1.6317	2.5726	0.0507	0.0437
169.7	1.6668	1.6668	2.5658	0.0367	0.0447
260.3	1.7172	1.7172	2.5560	0.0528	0.0593
399.3	1.7801	1.7801	2.5438	0.0658	0.0541
612.5	1.8206	1.8206	2.5359	0.0424	0.0385
939.6	1.8537	1.8537	2.5295	0.0346	0.0439
1441	1.9045	1.9045	2.5196	0.0532	#NUM!



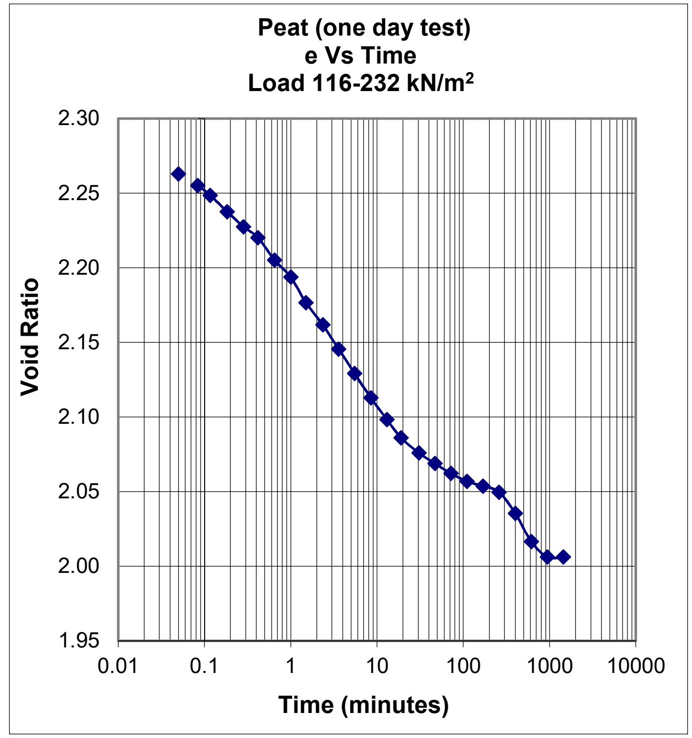
Sample – CKE – Undisturbed – BH 5 (14.50-15.25)
Started Date-30/10/2012
Conventional Consolidation
Load Increment 58kN/m² to 116kN/m²

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	1.9045	1.9045	2.5196		
0.05	2.1149	2.1149	2.4787		
0.08	2.1492	2.1492	2.4720	0.0301	0.0275
0.12	2.1670	2.1670	2.4685	0.0237	0.0235
0.18	2.1906	2.1906	2.4639	0.0234	0.0322
0.28	2.2307	2.2307	2.4561	0.0413	0.0453
0.42	2.2737	2.2737	2.4478	0.0499	0.0446
0.65	2.3134	2.3134	2.4400	0.0400	0.0418
1	2.3555	2.3555	2.4319	0.0438	0.0469
1.5	2.4010	2.4010	2.4230	0.0503	0.0484
2.35	2.4478	2.4478	2.4139	0.0467	0.0501
3.6	2.4990	2.4990	2.4039	0.0538	0.0488
5.5	2.5404	2.5404	2.3959	0.0437	0.0375
8.5	2.5710	2.5710	2.3899	0.0315	0.0296
13.02	2.5974	2.5974	2.3848	0.0277	0.0339
19	2.6318	2.6318	2.3781	0.0408	0.0368
30.65	2.6678	2.6678	2.3711	0.0337	0.0341
47	2.7008	2.7008	2.3647	0.0346	0.0281
72.12	2.7215	2.7215	2.3607	0.0217	0.0212
110.6	2.7414	2.7414	2.3568	0.0208	0.0240
169.7	2.7674	2.7674	2.3517	0.0272	0.0227
260.3	2.7848	2.7848	2.3484	0.0182	0.0234
399.3	2.8121	2.8121	2.3430	0.0286	0.0714
612.5	2.9213	2.9213	2.3218	0.1143	0.1065
939.6	3.0156	3.0156	2.3035	0.0987	0.0948
1441	3.1025	3.1025	2.2866	0.0910	#NUM!



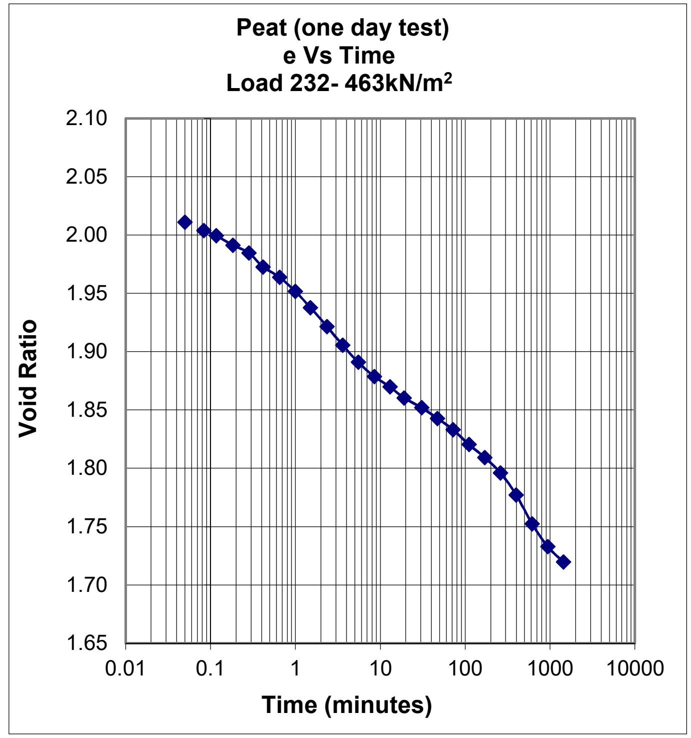
Sample – CKE – Undisturbed – BH 5 (14.50-15.25)
Started Date-30/10/2012
Conventional Consolidation
Load Increment 116kN/m² to 232kN/m²

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	3.1025	3.1025	2.2866		
0.05	3.2241	3.2241	2.2629		
0.08	3.2642	3.2642	2.2551	0.0352	0.0394
0.12	3.2986	3.2986	2.2484	0.0458	0.0512
0.18	3.3544	3.3544	2.2376	0.0553	0.0543
0.28	3.4061	3.4061	2.2275	0.0532	0.0490
0.42	3.4442	3.4442	2.2201	0.0442	0.0621
0.65	3.5212	3.5212	2.2051	0.0775	0.0696
1	3.5803	3.5803	2.1936	0.0614	0.0785
1.5	3.6677	3.6677	2.1766	0.0965	0.0861
2.35	3.7446	3.7446	2.1617	0.0767	0.0821
3.6	3.8282	3.8282	2.1454	0.0878	0.0883
5.5	3.9122	3.9122	2.1291	0.0888	0.0874
8.5	3.9958	3.9958	2.1128	0.0860	0.0824
13.02	4.0708	4.0708	2.0982	0.0788	0.0766
19	4.1333	4.1333	2.0861	0.0741	0.0602
30.65	4.1858	4.1858	2.0759	0.0492	0.0440
47	4.2223	4.2223	2.0688	0.0382	0.0368
72.12	4.2562	4.2562	2.0622	0.0355	0.0323
110.6	4.2840	4.2840	2.0568	0.0291	0.0228
169.7	4.2997	4.2997	2.0537	0.0164	0.0193
260.3	4.3208	4.3208	2.0496	0.0221	0.0492
399.3	4.3937	4.3937	2.0354	0.0763	0.0888
612.5	4.4905	4.4905	2.0166	0.1013	0.0789
939.6	4.5444	4.5444	2.0061	0.0564	0.0282
1441.0	4.5444	4.5444	2.0061	0.0000	#NUM!



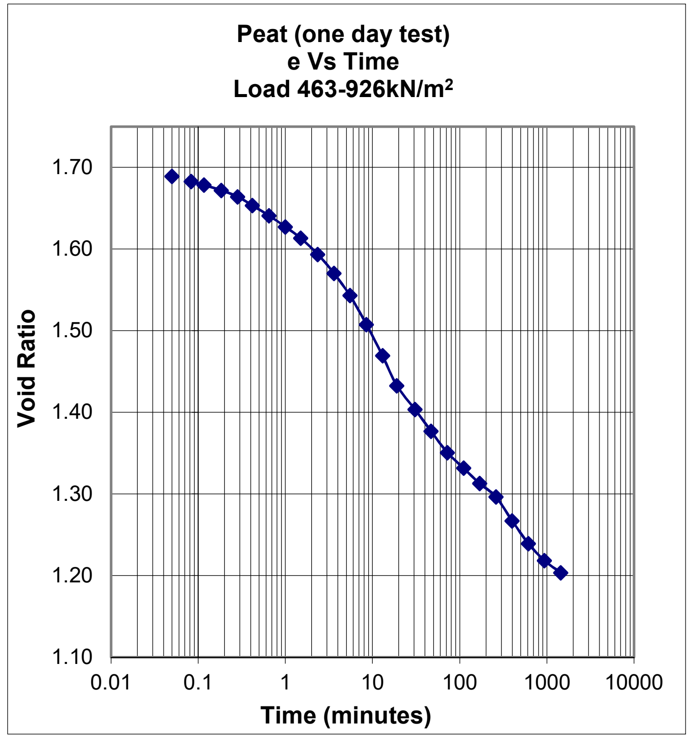
Sample – CKE – Undisturbed – BH 5 (14.50-15.25)
Started Date-30/10/2012
Conventional Consolidation
Load Increment 232kN/m^2 to 463kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	4.5444	4.5444	2.0061		
0.05	4.5200	4.5200	2.0109		
0.08	4.5561	4.5561	2.0038	0.0316	0.0311
0.12	4.5788	4.5788	1.9994	0.0302	0.0367
0.18	4.6207	4.6207	1.9913	0.0415	0.0385
0.28	4.6550	4.6550	1.9846	0.0353	0.0524
0.42	4.7168	4.7168	1.9726	0.0718	0.0577
0.65	4.7619	4.7619	1.9638	0.0454	0.0552
1	4.8248	4.8248	1.9516	0.0654	0.0717
1.5	4.8957	4.8957	1.9378	0.0783	0.0810
2.35	4.9793	4.9793	1.9215	0.0834	0.0848
3.6	5.0614	5.0614	1.9056	0.0862	0.0827
5.5	5.1363	5.1363	1.8910	0.0791	0.0723
8.5	5.2001	5.2001	1.8786	0.0656	0.0566
13.02	5.2453	5.2453	1.8698	0.0475	0.0524
19	5.2942	5.2942	1.8603	0.0579	0.0479
30.65	5.3368	5.3368	1.8520	0.0399	0.0445
47	5.3841	5.3841	1.8428	0.0496	0.0510
72.12	5.4342	5.4342	1.8330	0.0524	0.0603
110.6	5.4993	5.4993	1.8204	0.0682	0.0642
169.7	5.5568	5.5568	1.8092	0.0602	0.0657
260.3	5.6248	5.6248	1.7960	0.0712	0.0864
399.3	5.7218	5.7218	1.7771	0.1015	0.1171
612.5	5.8486	5.8486	1.7524	0.1327	0.1193
939.6	5.9497	5.9497	1.7328	0.1058	0.0883
1441.0	6.0173	6.0173	1.7196	0.0708	#NUM!



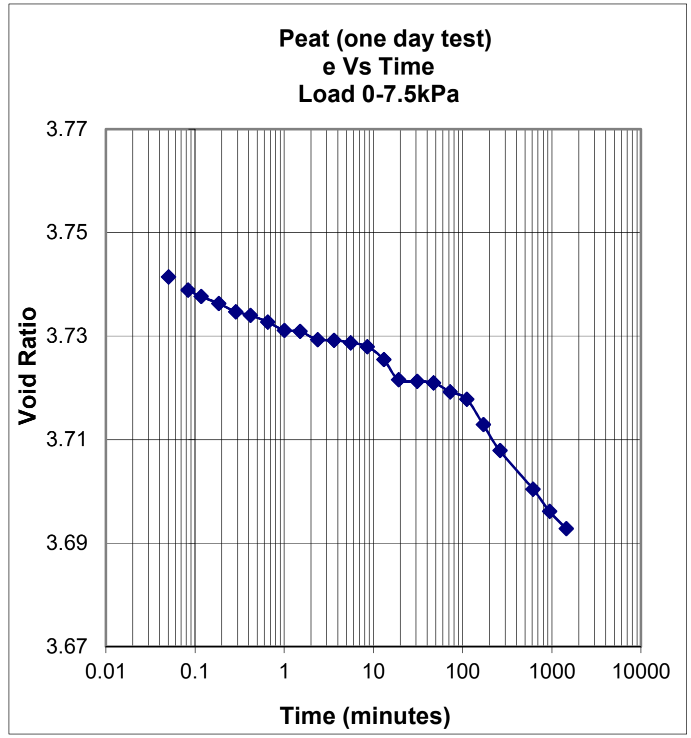
Sample – CKE – Undisturbed – BH 5 (14.50-15.25)
Started Date-30/10/2012
Conventional Consolidation
Load Increment 463kN/m² to 926kN/m²

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	$C\alpha 1$	$C\alpha 2$
0	6.0173	6.0173	1.7196		
0.05	6.1740	6.1740	1.6892		
0.08	6.2068	6.2068	1.6828	0.0288	0.0292
0.12	6.2292	6.2292	1.6784	0.0298	0.0315
0.18	6.2623	6.2623	1.6720	0.0328	0.0370
0.28	6.3025	6.3025	1.6642	0.0414	0.0563
0.42	6.3577	6.3577	1.6534	0.0641	0.0676
0.65	6.4215	6.4215	1.6410	0.0642	0.0676
1	6.4928	6.4928	1.6272	0.0741	0.0762
1.5	6.5637	6.5637	1.6134	0.0783	0.0906
2.35	6.6657	6.6657	1.5935	0.1018	0.1128
3.6	6.7843	6.7843	1.5705	0.1245	0.1365
5.5	6.9249	6.9249	1.5431	0.1486	0.1682
8.5	7.1070	7.1070	1.5077	0.1873	0.1972
13.02	7.3044	7.3044	1.4693	0.2073	0.2147
19	7.4927	7.4927	1.4327	0.2231	0.1764
30.65	7.6417	7.6417	1.4037	0.1395	0.1416
47	7.7802	7.7802	1.3768	0.1451	0.1293
72.12	7.9143	7.9143	1.3507	0.1427	0.1293
110.6	8.0122	8.0122	1.3316	0.1025	0.1018
169.7	8.1089	8.1089	1.3128	0.1012	0.0947
260.3	8.1931	8.1931	1.2964	0.0881	0.1227
399.3	8.3434	8.3434	1.2672	0.1573	0.1540
612.5	8.4874	8.4874	1.2392	0.1507	0.1315
939	8.5945	8.5945	1.2184	0.1123	0.0956
1441	8.6701	8.6701	1.2037	0.0791	#NUM!



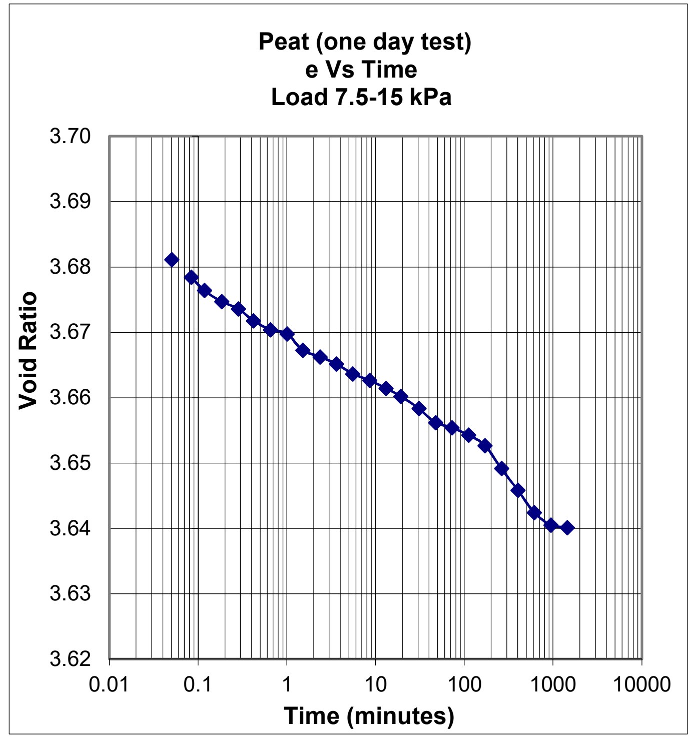
Sample – CKE – Undisturbed – BH 6 (9.50-10.25)
Started Date-30/10/2012
Conventional Consolidation
Load Increment 0kN/m² to 7.5kN/m²

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.0000	0.0000	3.8800		
0.05	0.5677	0.5677	3.7415		
0.08	0.5780	0.5780	3.7390	0.0113	0.0103
0.12	0.5833	0.5833	3.7377	0.0088	0.0076
0.18	0.5887	0.5887	3.7364	0.0067	0.0076
0.28	0.5953	0.5953	3.7347	0.0085	0.0064
0.42	0.5981	0.5981	3.7341	0.0041	0.0055
0.65	0.6035	0.6035	3.7327	0.0068	0.0077
1	0.6101	0.6101	3.7311	0.0086	0.0050
1.5	0.6109	0.6109	3.7309	0.0011	0.0049
2.35	0.6175	0.6175	3.7293	0.0083	0.0045
3.6	0.6179	0.6179	3.7292	0.0005	0.0017
5.5	0.6200	0.6200	3.7287	0.0028	0.0033
8.5	0.6229	0.6229	3.7280	0.0037	0.0086
13.02	0.6332	0.6332	3.7255	0.0136	0.0184
19	0.6492	0.6492	3.7216	0.0238	0.0114
30.65	0.6505	0.6505	3.7213	0.0015	0.0016
47	0.6517	0.6517	3.7210	0.0016	0.0054
72.12	0.6587	0.6587	3.7193	0.0092	0.0084
110.6	0.6645	0.6645	3.7179	0.0076	0.0171
169.7	0.6847	0.6847	3.7129	0.0265	0.0268
260.3	0.7053	0.7053	3.7079	0.0271	0.0224
612.5	0.7358	0.7358	3.7005	0.0200	0.0211
939.6	0.7535	0.7535	3.6961	0.0232	0.0205
1441	0.7671	0.7671	3.6928	0.0179	#NUM!



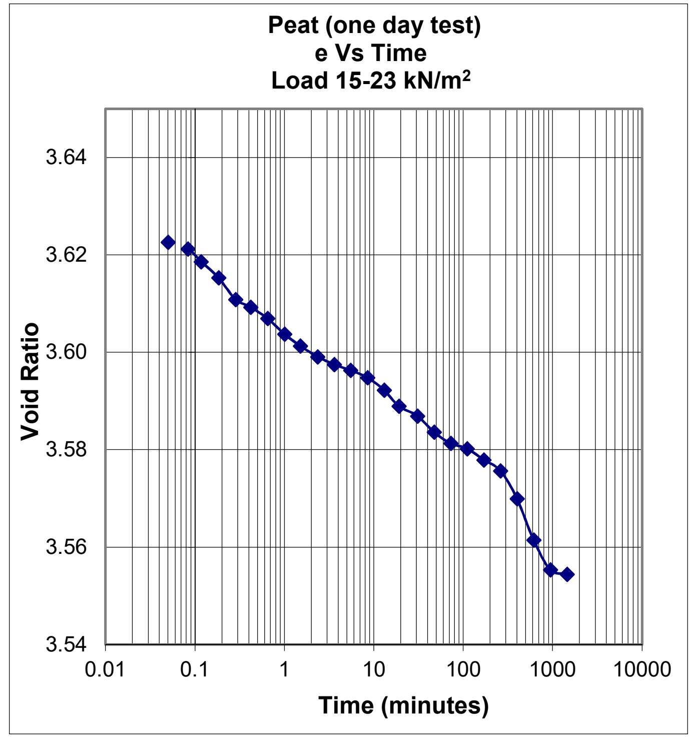
Sample – CKE – Undisturbed – BH 6 (9.50-10.25)
Started Date-30/10/2012
Conventional Consolidation
Load Increment 7.5kN/m^2 to 15kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.7671	0.7671	3.6928		
0.05	0.8149	0.8149	3.6812		
0.08	0.8260	0.8260	3.6785	0.0122	0.0129
0.12	0.8343	0.8343	3.6764	0.0139	0.0109
0.18	0.8413	0.8413	3.6747	0.0087	0.0073
0.28	0.8458	0.8458	3.6736	0.0058	0.0081
0.42	0.8532	0.8532	3.6718	0.0108	0.0089
0.65	0.8590	0.8590	3.6704	0.0073	0.0053
1	0.8615	0.8615	3.6698	0.0033	0.0086
1.5	0.8718	0.8718	3.6673	0.0143	0.0095
2.35	0.8759	0.8759	3.6663	0.0051	0.0055
3.6	0.8804	0.8804	3.6652	0.0059	0.0071
5.5	0.8866	0.8866	3.6637	0.0082	0.0067
8.5	0.8907	0.8907	3.6627	0.0053	0.0059
13.02	0.8957	0.8957	3.6614	0.0066	0.0069
19	0.9006	0.9006	3.6603	0.0073	0.0083
30.65	0.9084	0.9084	3.6584	0.0092	0.0102
47	0.9171	0.9171	3.6562	0.0114	0.0079
72.12	0.9204	0.9204	3.6554	0.0043	0.0051
110.6	0.9249	0.9249	3.6543	0.0059	0.0073
169.7	0.9315	0.9315	3.6527	0.0087	0.0138
260.3	0.9459	0.9459	3.6492	0.0189	0.0184
399.3	0.9595	0.9595	3.6459	0.0179	0.0181
612.5	0.9735	0.9735	3.6425	0.0184	0.0144
939.6	0.9814	0.9814	3.6405	0.0104	0.0062
1441	0.9830	0.9830	3.6401	0.0021	#NUM!



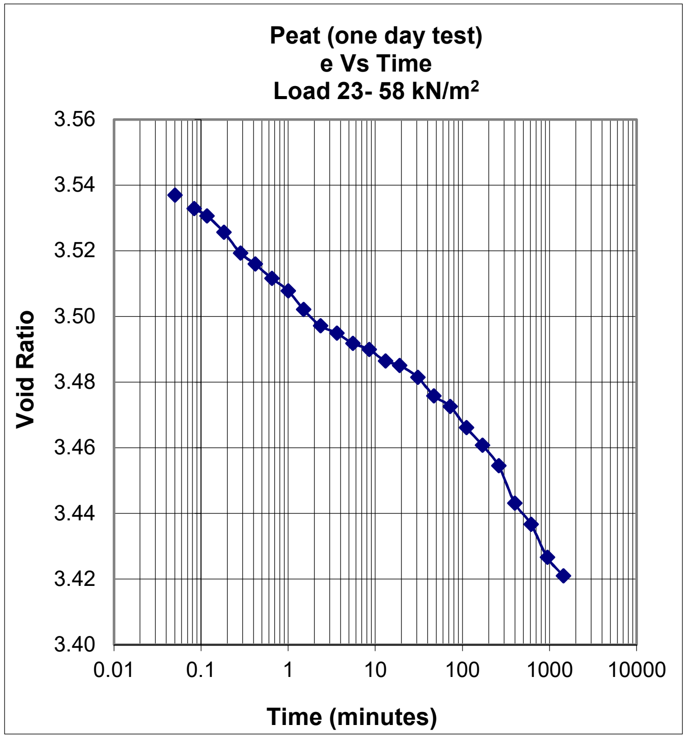
Sample – CKE – Undisturbed – BH 6 (9.50-10.25)
Started Date-30/10/2012
Conventional Consolidation
Load Increment 15kN/m^2 to 23kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.9830	0.9830	3.6401		
0.05	1.0547	1.0547	3.6227		
0.08	1.0605	1.0605	3.6212	0.006	0.011
0.12	1.0712	1.0712	3.6186	0.018	0.017
0.18	1.0848	1.0848	3.6153	0.017	0.020
0.28	1.1029	1.1029	3.6109	0.023	0.017
0.42	1.1095	1.1095	3.6093	0.010	0.011
0.65	1.1190	1.1190	3.6070	0.012	0.015
1	1.1322	1.1322	3.6037	0.017	0.016
1.5	1.1421	1.1421	3.6013	0.014	0.012
2.35	1.1512	1.1512	3.5991	0.011	0.010
3.6	1.1578	1.1578	3.5975	0.009	0.008
5.5	1.1627	1.1627	3.5963	0.006	0.007
8.5	1.1689	1.1689	3.5948	0.008	0.011
13.02	1.1792	1.1792	3.5923	0.014	0.017
19	1.1928	1.1928	3.5890	0.020	0.014
30.65	1.2010	1.2010	3.5870	0.010	0.014
47	1.2146	1.2146	3.5836	0.018	0.015
72.12	1.2241	1.2241	3.5813	0.012	0.009
110.6	1.2286	1.2286	3.5802	0.006	0.009
169.7	1.2381	1.2381	3.5779	0.012	0.012
260.3	1.2472	1.2472	3.5757	0.012	0.021
399.3	1.2707	1.2707	3.5699	0.031	0.038
612.5	1.3053	1.3053	3.5615	0.045	0.039
939.6	1.3304	1.3304	3.5554	0.033	0.019
1441	1.3342	1.3342	3.5545	0.005	#NUM!



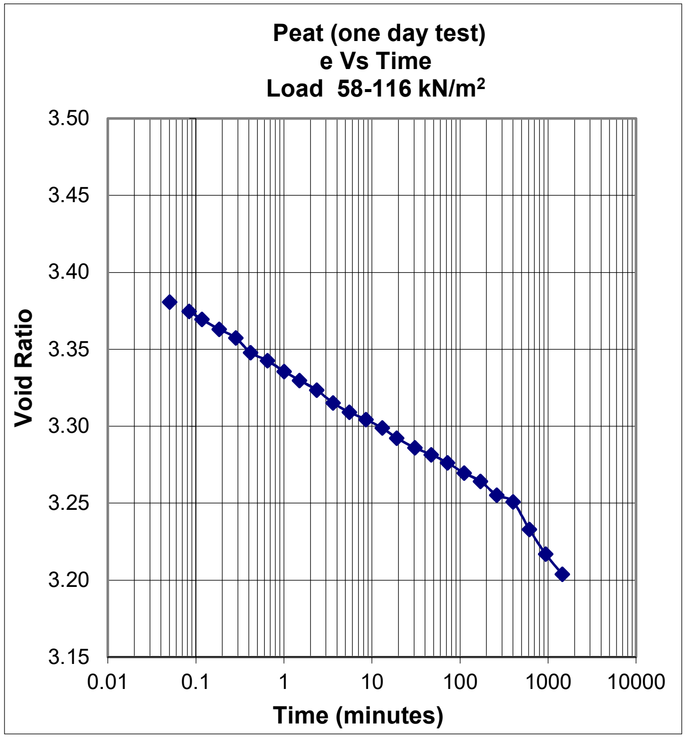
Sample – CKE – Undisturbed – BH 6 (9.50-10.25)
Started Date-30/10/2012
Conventional Consolidation
Load Increment 23kN/m² to 58kN/m²

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	1.3342	1.3342	3.5545		
0.05	1.4059	1.4059	3.5370		
0.08	1.4228	1.4228	3.5328	0.0186	0.0172
0.12	1.4318	1.4318	3.5306	0.0150	0.0211
0.18	1.4524	1.4524	3.5256	0.0256	0.0295
0.28	1.4784	1.4784	3.5193	0.0336	0.0271
0.42	1.4920	1.4920	3.5160	0.0198	0.0214
0.65	1.5101	1.5101	3.5115	0.0229	0.0214
1	1.5254	1.5254	3.5078	0.0200	0.0261
1.5	1.5489	1.5489	3.5021	0.0326	0.0287
2.35	1.5691	1.5691	3.4971	0.0253	0.0188
3.6	1.5782	1.5782	3.4949	0.0120	0.0144
5.5	1.5909	1.5909	3.4918	0.0168	0.0135
8.5	1.5988	1.5988	3.4899	0.0102	0.0145
13.02	1.6132	1.6132	3.4864	0.0190	0.0138
19	1.6186	1.6186	3.4851	0.0080	0.0133
30.65	1.6334	1.6334	3.4815	0.0174	0.0235
47	1.6565	1.6565	3.4758	0.0304	0.0238
72.12	1.6697	1.6697	3.4726	0.0173	0.0260
110.6	1.6961	1.6961	3.4662	0.0347	0.0319
169.7	1.7183	1.7183	3.4607	0.0291	0.0314
260.3	1.7439	1.7439	3.4545	0.0336	0.0474
399.3	1.7905	1.7905	3.4431	0.0612	0.0479
612.5	1.8168	1.8168	3.4367	0.0345	0.0444
939.6	1.8581	1.8581	3.4266	0.0542	0.0423
1441	1.8812	1.8812	3.4210	0.0303	#NUM!



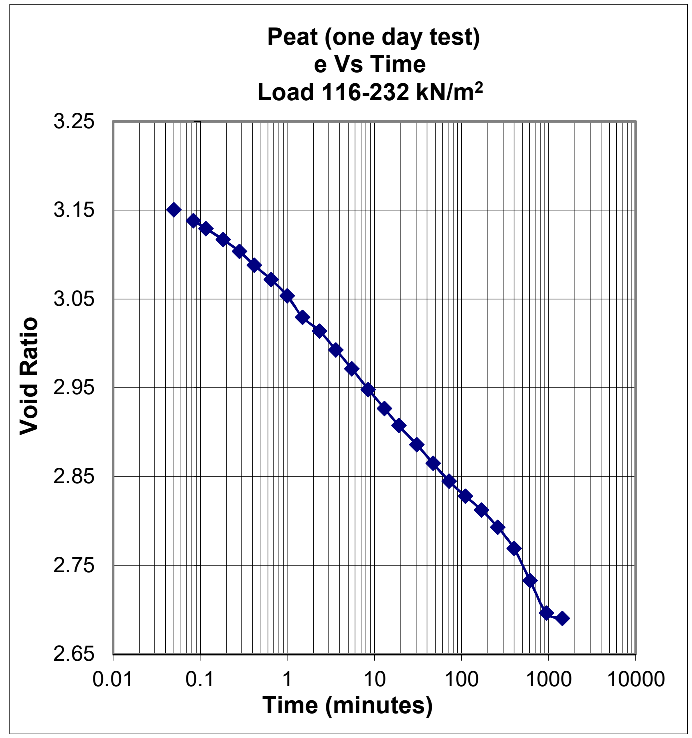
Sample – CKE – Undisturbed – BH 6 (9.50-10.25)
Started Date-30/10/2012
Conventional Consolidation
Load Increment 58kN/m^2 to 116kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	1.8812	1.8812	3.4210		
0.05	2.0457	2.0457	3.3808		
0.08	2.0712	2.0712	3.3746	0.0280	0.0306
0.12	2.0918	2.0918	3.3696	0.0344	0.0338
0.18	2.1186	2.1186	3.3631	0.0333	0.0316
0.28	2.1417	2.1417	3.3574	0.0298	0.0424
0.42	2.1805	2.1805	3.3480	0.0565	0.0410
0.65	2.2023	2.2023	3.3426	0.0275	0.0323
1	2.2308	2.2308	3.3357	0.0372	0.0352
1.5	2.2547	2.2547	3.3299	0.0331	0.0325
2.35	2.2803	2.2803	3.3236	0.0320	0.0384
3.6	2.3145	2.3145	3.3153	0.0450	0.0389
5.5	2.3392	2.3392	3.3092	0.0327	0.0288
8.5	2.3586	2.3586	3.3045	0.0250	0.0274
13.02	2.3813	2.3813	3.2990	0.0299	0.0346
19	2.4081	2.4081	3.2924	0.0398	0.0346
30.65	2.4341	2.4341	3.2861	0.0305	0.0276
47	2.4526	2.4526	3.2816	0.0243	0.0263
72.12	2.4741	2.4741	3.2763	0.0282	0.0320
110.6	2.5013	2.5013	3.2697	0.0357	0.0322
169.7	2.5232	2.5232	3.2643	0.0288	0.0387
260.3	2.5603	2.5603	3.2553	0.0487	0.0362
399.3	2.5784	2.5784	3.2509	0.0238	0.0598
612.5	2.6514	2.6514	3.2331	0.0959	0.0913
939.6	2.7174	2.7174	3.2170	0.0867	0.0783
1441	2.7706	2.7706	3.2040	0.0699	#NUM!



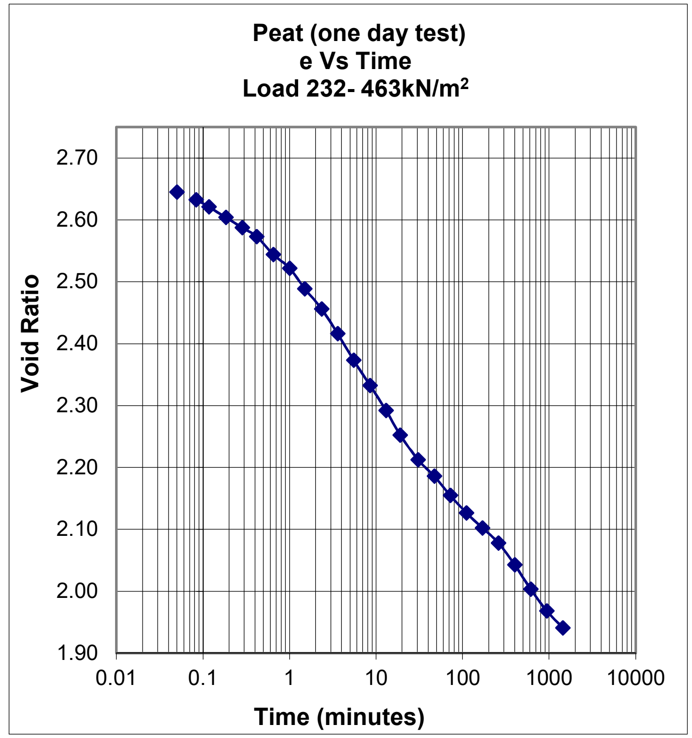
Sample – CKE – Undisturbed – BH 6 (9.50-10.25)
Started Date-30/10/2012
Conventional Consolidation
Load Increment 116kN/m^2 to 232kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	2.7706	2.7706	3.2040		
0.05	2.9900	2.9900	3.1504		
0.08	3.0404	3.0404	3.1381	0.0554	0.0575
0.12	3.0767	3.0767	3.1293	0.0606	0.0620
0.18	3.1274	3.1274	3.1169	0.0630	0.0669
0.28	3.1823	3.1823	3.1035	0.0709	0.0810
0.42	3.2458	3.2458	3.0880	0.0925	0.0874
0.65	3.3114	3.3114	3.0720	0.0829	0.0911
1	3.3877	3.3877	3.0534	0.0995	0.1175
1.5	3.4863	3.4863	3.0293	0.1366	0.1063
2.35	3.5494	3.5494	3.0139	0.0790	0.0961
3.6	3.6361	3.6361	2.9928	0.1142	0.1154
5.5	3.7240	3.7240	2.9713	0.1165	0.1198
8.5	3.8193	3.8193	2.9481	0.1230	0.1192
13.02	3.9068	3.9068	2.9267	0.1153	0.1164
19	3.9860	3.9860	2.9074	0.1177	0.1097
30.65	4.0739	4.0739	2.8860	0.1033	0.1077
47	4.1597	4.1597	2.8650	0.1128	0.1111
72.12	4.2431	4.2431	2.8447	0.1094	0.1000
110.6	4.3120	4.3120	2.8279	0.0905	0.0870
169.7	4.3756	4.3756	2.8124	0.0835	0.0938
260.3	4.4548	4.4548	2.7930	0.1040	0.1165
399.3	4.5531	4.5531	2.7690	0.1291	0.1621
612.5	4.7017	4.7017	2.7328	0.1951	0.1954
939.6	4.8507	4.8507	2.6964	0.1956	0.1147
1441.0	4.8764	4.8764	2.6902	0.0338	#NUM!



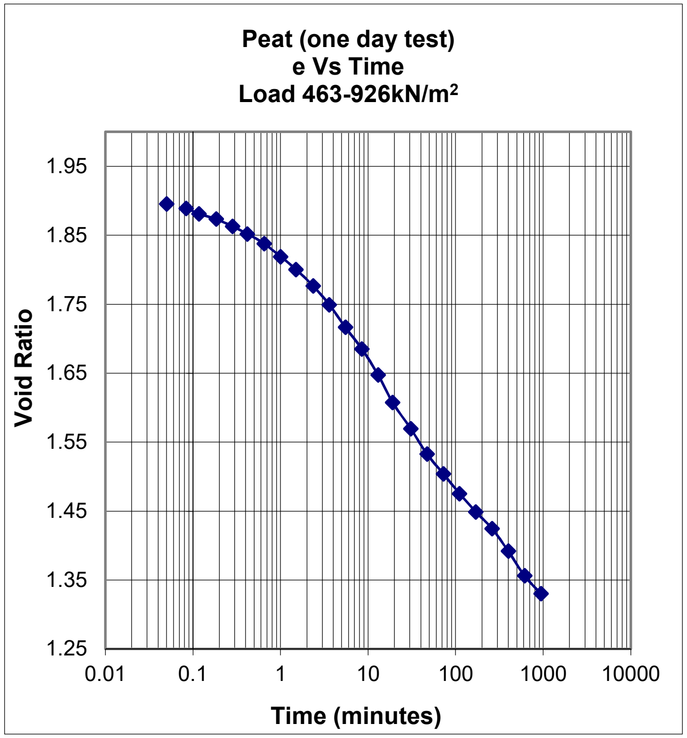
Sample – CKE – Undisturbed – BH 6 (9.50-10.25)
Started Date-30/10/2012
Conventional Consolidation
Load Increment 232kN/m^2 to 463kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	4.8764	4.8764	2.6902		
0.05	5.0614	5.0614	2.6450		
0.08	5.1121	5.1121	2.6326	0.0558	0.0651
0.12	5.1596	5.1596	2.6211	0.0793	0.0836
0.18	5.2294	5.2294	2.6040	0.0868	0.0868
0.28	5.2967	5.2967	2.5876	0.0869	0.0870
0.42	5.3566	5.3566	2.5730	0.0873	0.1204
0.65	5.4747	5.4747	2.5442	0.1492	0.1338
1	5.5651	5.5651	2.5221	0.1179	0.1520
1.5	5.7010	5.7010	2.4890	0.1883	0.1782
2.35	5.8361	5.8361	2.4560	0.1691	0.1914
3.6	5.9992	5.9992	2.4162	0.2148	0.2232
5.5	6.1739	6.1739	2.3736	0.2316	0.2237
8.5	6.3412	6.3412	2.3327	0.2159	0.2168
13.02	6.5065	6.5065	2.2924	0.2178	0.2297
19	6.6701	6.6701	2.2525	0.2432	0.2147
30.65	6.8337	6.8337	2.2126	0.1922	0.1692
47	6.9428	6.9428	2.1860	0.1434	0.1552
72.12	7.0701	7.0701	2.1549	0.1670	0.1592
110.6	7.1854	7.1854	2.1268	0.1514	0.1416
169.7	7.2858	7.2858	2.1023	0.1318	0.1310
260.3	7.3850	7.3850	2.0781	0.1303	0.1596
399.3	7.5289	7.5289	2.0429	0.1889	0.2008
612.5	7.6909	7.6909	2.0034	0.2127	0.2014
939.6	7.8356	7.8356	1.9681	0.1900	0.1680
1441.0	7.9468	7.9468	1.9410	0.1461	#NUM!



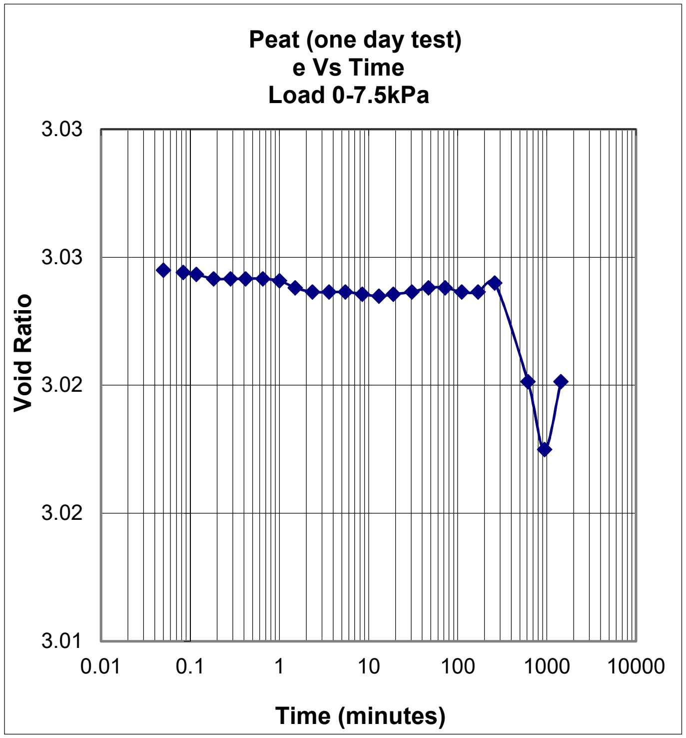
Sample – CKE – Undisturbed – BH 6 (9.50-10.25)
Started Date-30/10/2012
Conventional Consolidation
Load Increment 463kN/m^2 to 926kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	7.9468	7.9468	1.9410		
0.05	8.1318	8.1318	1.8958		
0.08	8.1599	8.1599	1.8890	0.0309	0.0395
0.12	8.1913	8.1913	1.8813	0.0524	0.0447
0.18	8.2227	8.2227	1.8737	0.0390	0.0469
0.28	8.2653	8.2653	1.8633	0.0550	0.0646
0.42	8.3104	8.3104	1.8523	0.0657	0.0803
0.65	8.3683	8.3683	1.8381	0.0697	0.0803
1	8.4456	8.4456	1.8193	0.1008	0.1033
1.5	8.5221	8.5221	1.8006	0.1060	0.1145
2.35	8.6197	8.6197	1.7768	0.1221	0.1343
3.6	8.7313	8.7313	1.7496	0.1470	0.1629
5.5	8.8662	8.8662	1.7166	0.1788	0.1728
8.5	8.9956	8.9956	1.6851	0.1670	0.1844
13.02	9.1491	9.1491	1.6476	0.2022	0.2213
19	9.3124	9.3124	1.6078	0.2427	0.2093
30.65	9.4680	9.4680	1.5698	0.1828	0.1788
47	9.6190	9.6190	1.5330	0.1984	0.1691
72.12	9.7369	9.7369	1.5042	0.1766	0.1691
110.6	9.8544	9.8544	1.4755	0.1543	0.1486
169.7	9.9632	9.9632	1.4490	0.1428	0.1372
260.3	10.0633	10.0633	1.4246	0.1315	0.1531
399.3	10.1963	10.1963	1.3921	0.1746	0.1838
612.5	10.3433	10.3433	1.3562	0.1930	0.1662
939	10.4493	10.4493	1.3304	0.1394	0.1195
1441	10.5253	10.5253	1.3118	0.0997	#NUM!



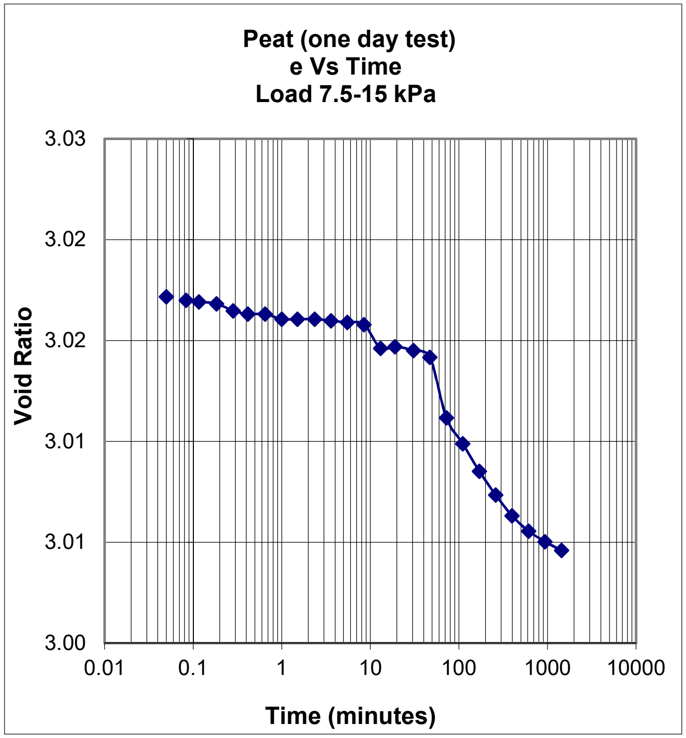
Sample – CKE – Undisturbed – BH 8 (7.00-7.75)
Started Date-14/11/2012
Conventional Consolidation
Load Increment 0kN/m² to 7.5kN/m²

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.0000	0.0000	3.1400		
0.05	0.5580	0.5580	3.0245		
0.08	0.5584	0.5584	3.0244	0.0004	0.0005
0.12	0.5588	0.5588	3.0243	0.0006	0.0007
0.18	0.5596	0.5596	3.0242	0.0008	0.0004
0.28	0.5596	0.5596	3.0242	0.0000	0.0000
0.42	0.5596	0.5596	3.0242	0.0000	0.0000
0.65	0.5596	0.5596	3.0242	0.0000	0.0002
1	0.5600	0.5600	3.0241	0.0004	0.0010
1.5	0.5613	0.5613	3.0238	0.0015	0.0012
2.35	0.5621	0.5621	3.0236	0.0008	0.0004
3.6	0.5621	0.5621	3.0236	0.0000	0.0000
5.5	0.5621	0.5621	3.0236	0.0000	0.0002
8.5	0.5625	0.5625	3.0236	0.0004	0.0004
13.02	0.5629	0.5629	3.0235	0.0004	0.0000
19	0.5625	0.5625	3.0236	-0.0005	-0.0004
30.65	0.5621	0.5621	3.0236	-0.0004	-0.0006
47	0.5613	0.5613	3.0238	-0.0009	-0.0004
72.12	0.5613	0.5613	3.0238	0.0000	0.0004
110.6	0.5621	0.5621	3.0236	0.0009	0.0004
169.7	0.5621	0.5621	3.0236	0.0000	-0.0009
260.3	0.5604	0.5604	3.0240	-0.0019	0.0063
612.5	0.5790	0.5790	3.0201	0.0104	0.0117
939.6	0.5918	0.5918	3.0175	0.0143	0.0000
1441	0.5790	0.5790	3.0201	-0.0143	#NUM!



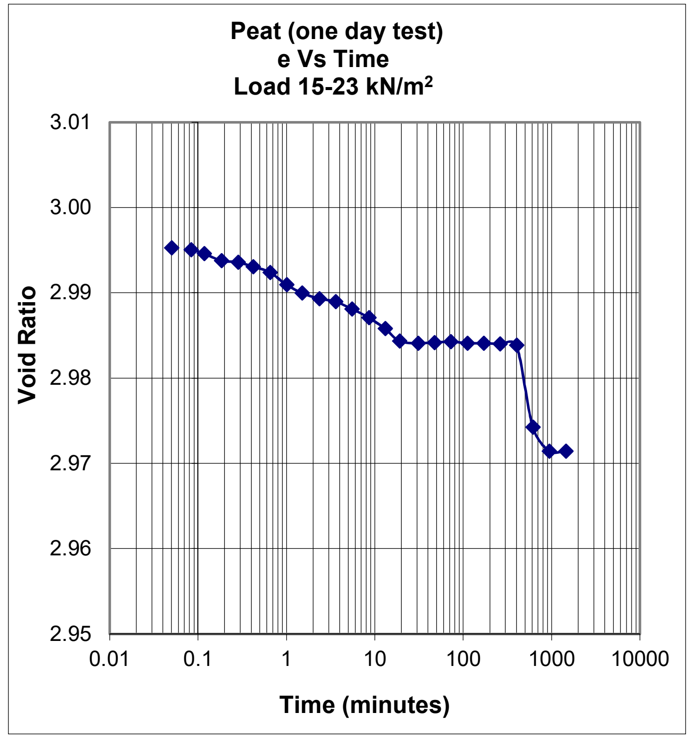
Sample – CKE – Undisturbed – BH 8 (7.00-7.75)
Started Date-14/11/2012
Conventional Consolidation
Load Increment 7.5kN/m^2 to 15kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.5918	0.5918	3.0175		
0.05	0.5933	0.5933	3.0172		
0.08	0.5942	0.5942	3.0170	0.0008	0.0007
0.12	0.5946	0.5946	3.0169	0.0006	0.0005
0.18	0.5950	0.5950	3.0168	0.0004	0.0011
0.28	0.5967	0.5967	3.0165	0.0019	0.0015
0.42	0.5975	0.5975	3.0163	0.0010	0.0005
0.65	0.5975	0.5975	3.0163	0.0000	0.0007
1	0.5987	0.5987	3.0161	0.0013	0.0007
1.5	0.5987	0.5987	3.0161	0.0000	0.0000
2.35	0.5987	0.5987	3.0161	0.0000	0.0002
3.6	0.5991	0.5991	3.0160	0.0004	0.0004
5.5	0.5995	0.5995	3.0159	0.0004	0.0005
8.5	0.6000	0.6000	3.0158	0.0005	0.0034
13.02	0.6057	0.6057	3.0146	0.0064	0.0031
19	0.6053	0.6053	3.0147	-0.0005	0.0003
30.65	0.6062	0.6062	3.0145	0.0009	0.0013
47	0.6078	0.6078	3.0142	0.0018	0.0090
72.12	0.6223	0.6223	3.0112	0.0161	0.0115
110.6	0.6285	0.6285	3.0099	0.0069	0.0071
169.7	0.6351	0.6351	3.0085	0.0074	0.0069
260.3	0.6408	0.6408	3.0074	0.0064	0.0060
399.3	0.6458	0.6458	3.0063	0.0056	0.0048
612.5	0.6495	0.6495	3.0056	0.0041	0.0035
939.6	0.6520	0.6520	3.0050	0.0028	0.0026
1441	0.6541	0.6541	3.0046	0.0023	#NUM!



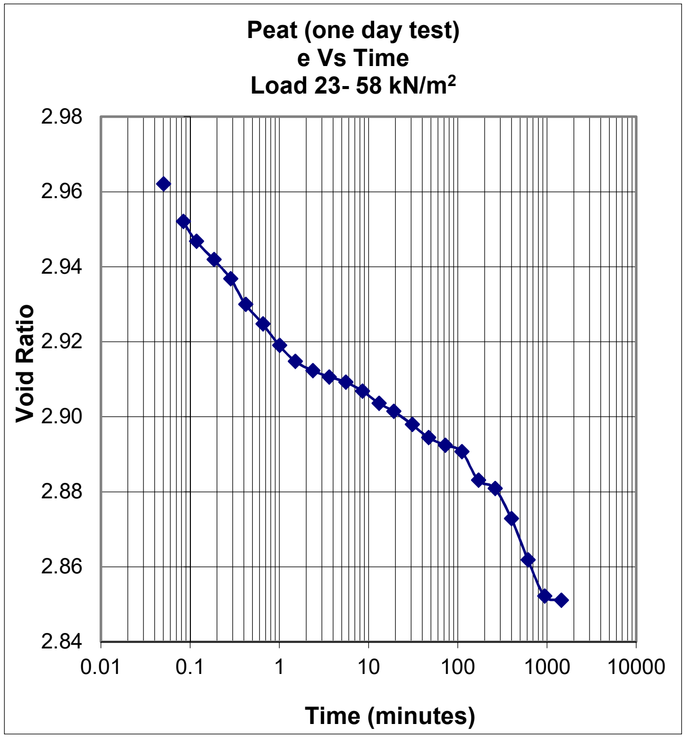
Sample – CKE – Undisturbed – BH 8 (7.00-7.75)
Started Date-14/11/2012
Conventional Consolidation
Load Increment 15kN/m² to 23kN/m²

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.6541	0.6541	3.0046		
0.05	0.6991	0.6991	2.9953		
0.08	0.7003	0.7003	2.9950	0.001	0.002
0.12	0.7024	0.7024	2.9946	0.003	0.004
0.18	0.7065	0.7065	2.9938	0.004	0.003
0.28	0.7073	0.7073	2.9936	0.001	0.002
0.42	0.7098	0.7098	2.9931	0.003	0.003
0.65	0.7131	0.7131	2.9924	0.004	0.006
1	0.7201	0.7201	2.9909	0.008	0.007
1.5	0.7247	0.7247	2.9900	0.005	0.004
2.35	0.7280	0.7280	2.9893	0.004	0.003
3.6	0.7296	0.7296	2.9890	0.002	0.003
5.5	0.7338	0.7338	2.9881	0.005	0.005
8.5	0.7387	0.7387	2.9871	0.005	0.006
13.02	0.7449	0.7449	2.9858	0.007	0.008
19	0.7520	0.7520	2.9843	0.009	0.005
30.65	0.7532	0.7532	2.9841	0.001	0.000
47	0.7528	0.7528	2.9842	0.000	0.000
72.12	0.7524	0.7524	2.9843	0.000	0.000
110.6	0.7532	0.7532	2.9841	0.001	0.000
169.7	0.7532	0.7532	2.9841	0.000	0.000
260.3	0.7536	0.7536	2.9840	0.000	0.001
399.3	0.7544	0.7544	2.9838	0.001	0.026
612.5	0.8007	0.8007	2.9743	0.052	0.033
939.6	0.8143	0.8143	2.9714	0.015	0.008
1441	0.8143	0.8143	2.9714	0.000	#NUM!



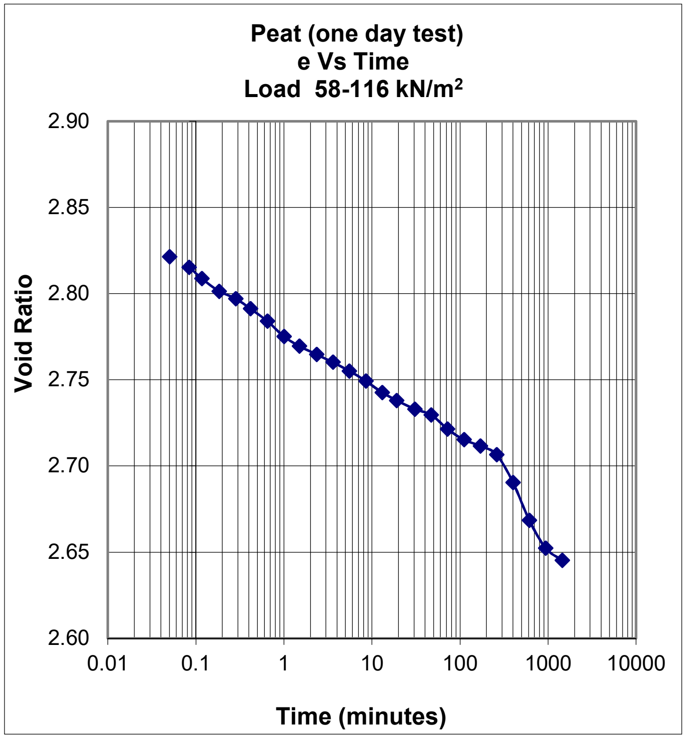
Sample – CKE – Undisturbed – BH 8 (7.00-7.75)
Started Date-14/11/2012
Conventional Consolidation
Load Increment 23kN/m^2 to 58kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.8143	0.8143	2.9714		
0.05	0.8593	0.8593	2.9621		
0.08	0.9076	0.9076	2.9521	0.0451	0.0416
0.12	0.9333	0.9333	2.9468	0.0364	0.0297
0.18	0.9568	0.9568	2.9419	0.0248	0.0259
0.28	0.9816	0.9816	2.9368	0.0272	0.0336
0.42	1.0146	1.0146	2.9300	0.0408	0.0334
0.65	1.0398	1.0398	2.9248	0.0270	0.0288
1	1.0675	1.0675	2.9190	0.0306	0.0274
1.5	1.0878	1.0878	2.9148	0.0239	0.0180
2.35	1.0998	1.0998	2.9123	0.0127	0.0110
3.6	1.1080	1.1080	2.9106	0.0092	0.0083
5.5	1.1146	1.1146	2.9093	0.0074	0.0101
8.5	1.1262	1.1262	2.9069	0.0127	0.0151
13.02	1.1419	1.1419	2.9036	0.0175	0.0154
19	1.1522	1.1522	2.9015	0.0130	0.0152
30.65	1.1692	1.1692	2.8980	0.0169	0.0178
47	1.1861	1.1861	2.8945	0.0188	0.0149
72.12	1.1960	1.1960	2.8924	0.0110	0.0101
110.6	1.2043	1.2043	2.8907	0.0092	0.0251
169.7	1.2411	1.2411	2.8831	0.0410	0.0265
260.3	1.2518	1.2518	2.8809	0.0119	0.0276
399.3	1.2906	1.2906	2.8728	0.0432	0.0511
612.5	1.3435	1.3435	2.8619	0.0589	0.0555
939.6	1.3902	1.3902	2.8522	0.0520	0.0290
1441	1.3956	1.3956	2.8511	0.0060	#NUM!



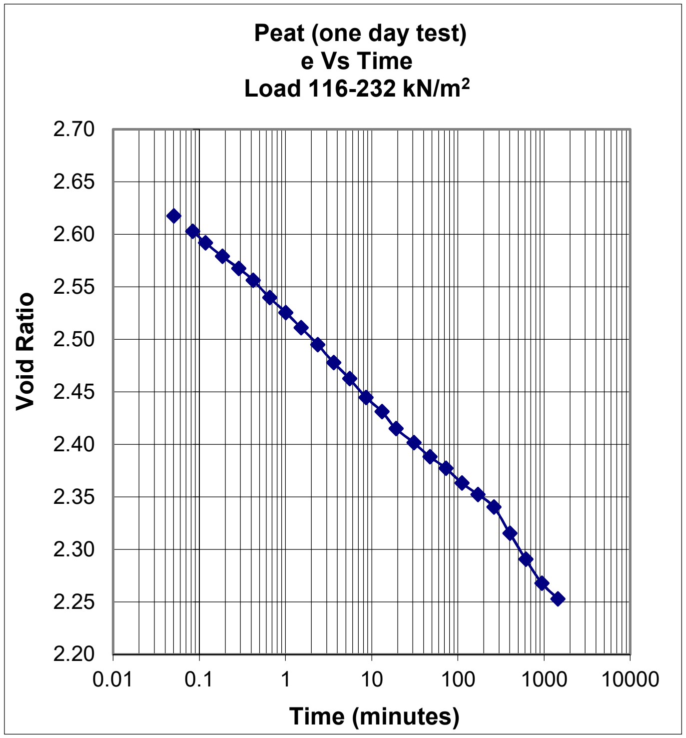
Sample – CKE – Undisturbed – BH 8 (7.00-7.75)
Started Date-14/11/2012
Conventional Consolidation
Load Increment 58kN/m^2 to 116kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	1.3956	1.3956	2.8511		
0.05	1.5390	1.5390	2.8214		
0.08	1.5692	1.5692	2.8152	0.0282	0.0347
0.12	1.6006	1.6006	2.8087	0.0445	0.0402
0.18	1.6357	1.6357	2.8014	0.0370	0.0302
0.28	1.6568	1.6568	2.7970	0.0231	0.0286
0.42	1.6849	1.6849	2.7912	0.0347	0.0363
0.65	1.7200	1.7200	2.7840	0.0376	0.0423
1	1.7626	1.7626	2.7751	0.0471	0.0398
1.5	1.7899	1.7899	2.7695	0.0321	0.0281
2.35	1.8130	1.8130	2.7647	0.0245	0.0245
3.6	1.8349	1.8349	2.7602	0.0245	0.0260
5.5	1.8593	1.8593	2.7551	0.0274	0.0291
8.5	1.8874	1.8874	2.7493	0.0308	0.0334
13.02	1.9197	1.9197	2.7426	0.0361	0.0324
19	1.9420	1.9420	2.7380	0.0281	0.0258
30.65	1.9660	1.9660	2.7330	0.0239	0.0213
47	1.9825	1.9825	2.7296	0.0184	0.0313
72.12	2.0222	2.0222	2.7214	0.0442	0.0387
110.6	2.0520	2.0520	2.7152	0.0332	0.0265
169.7	2.0697	2.0697	2.7116	0.0197	0.0232
260.3	2.0937	2.0937	2.7066	0.0267	0.0569
399.3	2.1719	2.1719	2.6904	0.0871	0.1025
612.5	2.2777	2.2777	2.6685	0.1179	0.1025
939.6	2.3559	2.3559	2.6523	0.0871	0.0624
1441	2.3898	2.3898	2.6453	0.0378	#NUM!



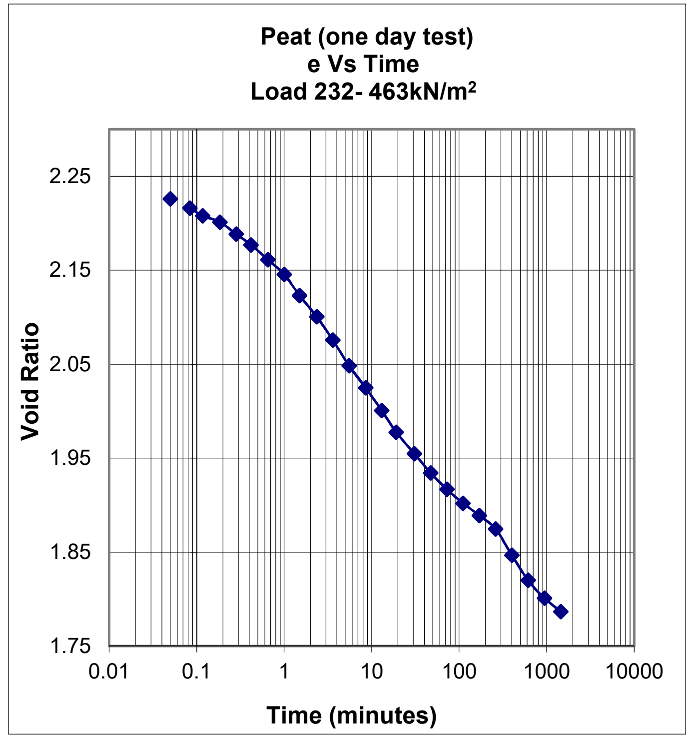
Sample – CKE – Undisturbed – BH 8 (7.00-7.75)
Started Date-14/11/2012
Conventional Consolidation
Load Increment 116kN/m^2 to 232kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	$C_{\alpha}1$	$C_{\alpha}2$
0	2.3898	2.3898	2.6453		
0.05	2.5233	2.5233	2.6177		
0.08	2.5936	2.5936	2.6031	0.0656	0.0694
0.12	2.6466	2.6466	2.5922	0.0751	0.0698
0.18	2.7090	2.7090	2.5792	0.0658	0.0633
0.28	2.7644	2.7644	2.5678	0.0607	0.0636
0.42	2.8186	2.8186	2.5565	0.0670	0.0774
0.65	2.8993	2.8993	2.5398	0.0865	0.0811
1	2.9675	2.9675	2.5257	0.0755	0.0785
1.5	3.0370	3.0370	2.5113	0.0817	0.0822
2.35	3.1148	3.1148	2.4952	0.0826	0.0878
3.6	3.1983	3.1983	2.4780	0.0933	0.0879
5.5	3.2716	3.2716	2.4628	0.0824	0.0886
8.5	3.3580	3.3580	2.4449	0.0946	0.0835
13.02	3.4226	3.4226	2.4315	0.0722	0.0851
19	3.5016	3.5016	2.4152	0.0996	0.0802
30.65	3.5666	3.5666	2.4017	0.0648	0.0684
47	3.6316	3.6316	2.3883	0.0725	0.0652
72.12	3.6837	3.6837	2.3775	0.0580	0.0670
110.6	3.7520	3.7520	2.3633	0.0761	0.0673
169.7	3.8045	3.8045	2.3525	0.0585	0.0618
260.3	3.8629	3.8629	2.3404	0.0651	0.0998
399.3	3.9837	3.9837	2.3154	0.1346	0.1337
612.5	4.1030	4.1030	2.2907	0.1329	0.1275
939.6	4.2127	4.2127	2.2680	0.1222	0.1010
1441.0	4.2843	4.2843	2.2531	0.0798	#NUM!



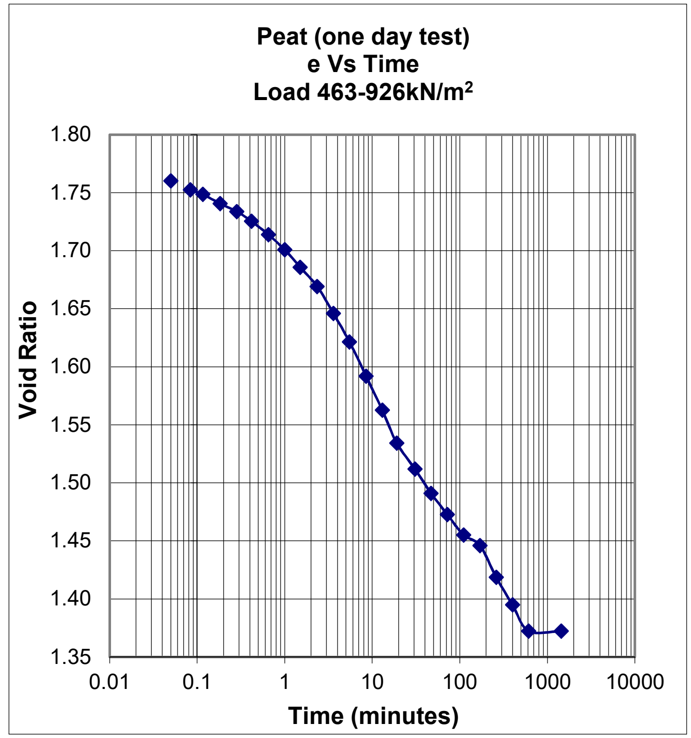
Sample – CKE – Undisturbed – BH 8 (7.00-7.75)
Started Date-14/11/2012
Conventional Consolidation
Load Increment 232kN/m² to 463kN/m²

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	$C_{\alpha}1$	$C_{\alpha}2$
0	4.2843	4.2843	2.2531		
0.05	4.4147	4.4147	2.2262		
0.08	4.4631	4.4631	2.2161	0.0452	0.0494
0.12	4.5025	4.5025	2.2080	0.0558	0.0430
0.18	4.5343	4.5343	2.2014	0.0335	0.0504
0.28	4.5964	4.5964	2.1885	0.0680	0.0680
0.42	4.6515	4.6515	2.1771	0.0681	0.0751
0.65	4.7273	4.7273	2.1614	0.0812	0.0828
1	4.8035	4.8035	2.1457	0.0843	0.1053
1.5	4.9120	4.9120	2.1232	0.1275	0.1213
2.35	5.0209	5.0209	2.1007	0.1156	0.1249
3.6	5.1414	5.1414	2.0757	0.1347	0.1407
5.5	5.2719	5.2719	2.0487	0.1468	0.1359
8.5	5.3863	5.3863	2.0250	0.1253	0.1281
13.02	5.5035	5.5035	2.0008	0.1310	0.1350
19	5.6141	5.6141	1.9779	0.1395	0.1231
30.65	5.7247	5.7247	1.9550	0.1102	0.1101
47	5.8234	5.8234	1.9346	0.1100	0.1018
72.12	5.9075	5.9075	1.9171	0.0936	0.0872
110.6	5.9800	5.9800	1.9021	0.0808	0.0753
169.7	6.0426	6.0426	1.8892	0.0697	0.0739
260.3	6.1126	6.1126	1.8747	0.0780	0.1136
399.3	6.2465	6.2465	1.8470	0.1492	0.1464
612.5	6.3754	6.3754	1.8203	0.1436	0.1230
939.6	6.4674	6.4674	1.8012	0.1025	0.0894
1441.0	6.5358	6.5358	1.7871	0.0762	#NUM!



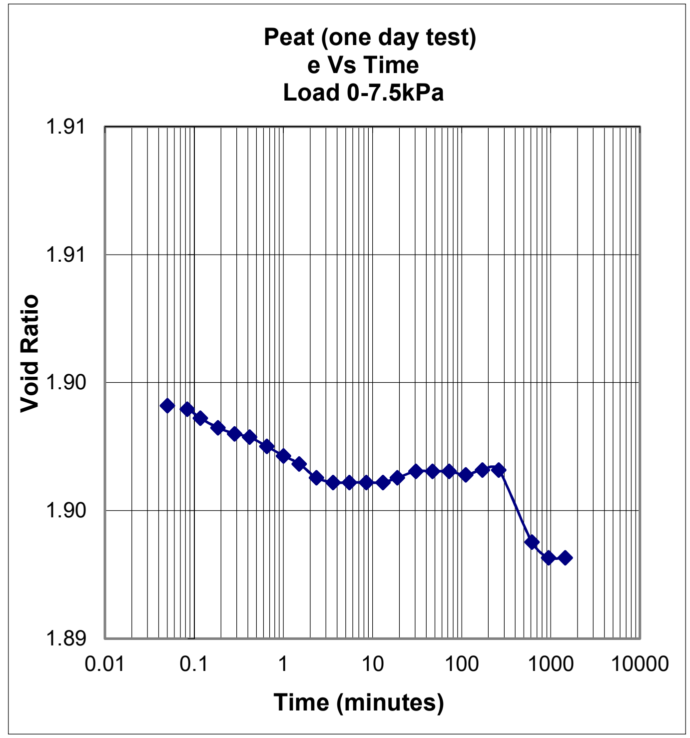
Sample – CKE – Undisturbed – BH 8 (7.00-7.75)
Started Date-14/11/2012
Conventional Consolidation
Load Increment 463kN/m^2 to 926kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	$C_{\alpha}1$	$C_{\alpha}2$
0	6.5358	6.5358	1.7871		
0.05	6.6662	6.6662	1.7601		
0.08	6.7030	6.7030	1.7525	0.0343	0.0317
0.12	6.7225	6.7225	1.7484	0.0276	0.0349
0.18	6.7607	6.7607	1.7405	0.0403	0.0383
0.28	6.7938	6.7938	1.7337	0.0362	0.0484
0.42	6.8341	6.8341	1.7253	0.0498	0.0601
0.65	6.8892	6.8892	1.7139	0.0548	0.0601
1	6.9527	6.9527	1.7008	0.0703	0.0777
1.5	7.0256	7.0256	1.6857	0.0857	0.0851
2.35	7.1053	7.1053	1.6692	0.0846	0.1045
3.6	7.2176	7.2176	1.6460	0.1255	0.1297
5.5	7.3367	7.3367	1.6213	0.1339	0.1450
8.5	7.4789	7.4789	1.5919	0.1557	0.1565
13.02	7.6196	7.6196	1.5627	0.1573	0.1647
19	7.7569	7.7569	1.5343	0.1731	0.1365
30.65	7.8647	7.8647	1.5120	0.1074	0.1064
47	7.9664	7.9664	1.4910	0.1134	0.1022
72.12	8.0548	8.0548	1.4727	0.1059	0.1022
110.6	8.1398	8.1398	1.4551	0.0947	0.0716
169.7	8.1834	8.1834	1.4460	0.0486	0.0980
260.3	8.3158	8.3158	1.4186	0.1475	0.1375
399.3	8.4303	8.4303	1.3949	0.1275	0.1248
612.5	8.5399	8.5399	1.3722	0.1221	0.0407
1441	8.5399	8.5399	1.3722	0.0000	#NUM!



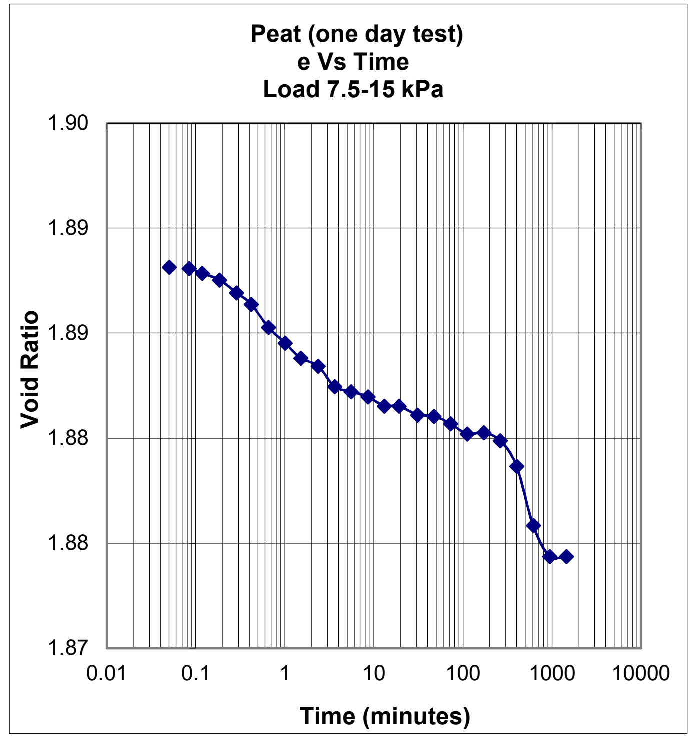
Sample – CKE – Undisturbed – BH 10 (12.50-13.25)
Started Date-03/12/2012
Conventional Consolidation
Load Increment 0kN/m^2 to 7.5kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.0000	0.0000	1.9700		
0.05	0.4774	0.4774	1.8991		
0.08	0.4783	0.4783	1.8990	0.0006	0.0013
0.12	0.4807	0.4807	1.8986	0.0024	0.0021
0.18	0.4832	0.4832	1.8982	0.0019	0.0016
0.28	0.4848	0.4848	1.8980	0.0013	0.0010
0.42	0.4857	0.4857	1.8979	0.0008	0.0014
0.65	0.4881	0.4881	1.8975	0.0018	0.0019
1	0.4906	0.4906	1.8971	0.0020	0.0019
1.5	0.4927	0.4927	1.8968	0.0018	0.0023
2.35	0.4964	0.4964	1.8963	0.0028	0.0019
3.6	0.4976	0.4976	1.8961	0.0010	0.0005
5.5	0.4976	0.4976	1.8961	0.0000	0.0000
8.5	0.4976	0.4976	1.8961	0.0000	0.0000
13.02	0.4976	0.4976	1.8961	0.0000	-0.0005
19	0.4964	0.4964	1.8963	-0.0011	-0.0012
30.65	0.4947	0.4947	1.8965	-0.0012	-0.0006
47	0.4947	0.4947	1.8965	0.0000	0.0000
72.12	0.4947	0.4947	1.8965	0.0000	0.0004
110.6	0.4956	0.4956	1.8964	0.0007	-0.0002
169.7	0.4943	0.4943	1.8966	-0.0010	-0.0005
260.3	0.4943	0.4943	1.8966	0.0000	0.0051
612.5	0.5133	0.5133	1.8938	0.0076	0.0062
939.6	0.5174	0.5174	1.8932	0.0033	0.0016
1441	0.5174	0.5174	1.8932	0.0000	#NUM!



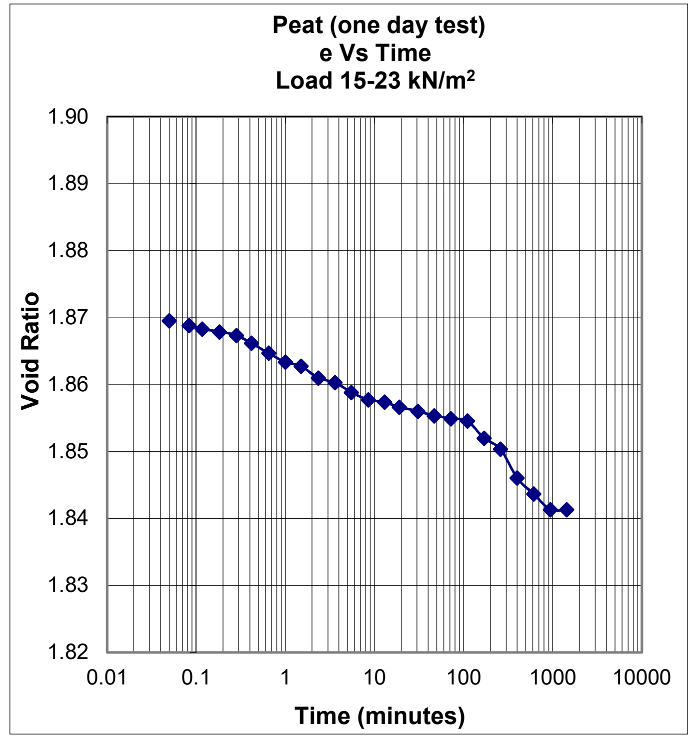
Sample – CKE – Undisturbed – BH 10 (12.50-13.25)
Started Date-03/12/2012
Conventional Consolidation
Load Increment 7.5kN/m² to 15kN/m²

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.5174	0.5174	1.8932		
0.05	0.5512	0.5512	1.8881		
0.08	0.5516	0.5516	1.8881	0.0003	0.0008
0.12	0.5532	0.5532	1.8878	0.0016	0.0016
0.18	0.5553	0.5553	1.8875	0.0016	0.0024
0.28	0.5594	0.5594	1.8869	0.0032	0.0032
0.42	0.5631	0.5631	1.8864	0.0033	0.0046
0.65	0.5705	0.5705	1.8853	0.0057	0.0048
1	0.5755	0.5755	1.8845	0.0040	0.0040
1.5	0.5804	0.5804	1.8838	0.0041	0.0030
2.35	0.5829	0.5829	1.8834	0.0019	0.0036
3.6	0.5895	0.5895	1.8825	0.0053	0.0033
5.5	0.5911	0.5911	1.8822	0.0013	0.0013
8.5	0.5928	0.5928	1.8820	0.0013	0.0018
13.02	0.5957	0.5957	1.8815	0.0023	0.0012
19	0.5957	0.5957	1.8815	0.0000	0.0012
30.65	0.5986	0.5986	1.8811	0.0021	0.0012
47	0.5990	0.5990	1.8810	0.0003	0.0011
72.12	0.6014	0.6014	1.8807	0.0019	0.0023
110.6	0.6047	0.6047	1.8802	0.0026	0.0012
169.7	0.6043	0.6043	1.8803	-0.0003	0.0008
260.3	0.6068	0.6068	1.8799	0.0020	0.0043
399.3	0.6150	0.6150	1.8787	0.0066	0.0109
612.5	0.6340	0.6340	1.8759	0.0152	0.0115
939.6	0.6439	0.6439	1.8744	0.0079	0.0040
1441	0.6439	0.6439	1.8744	0.0000	#NUM!



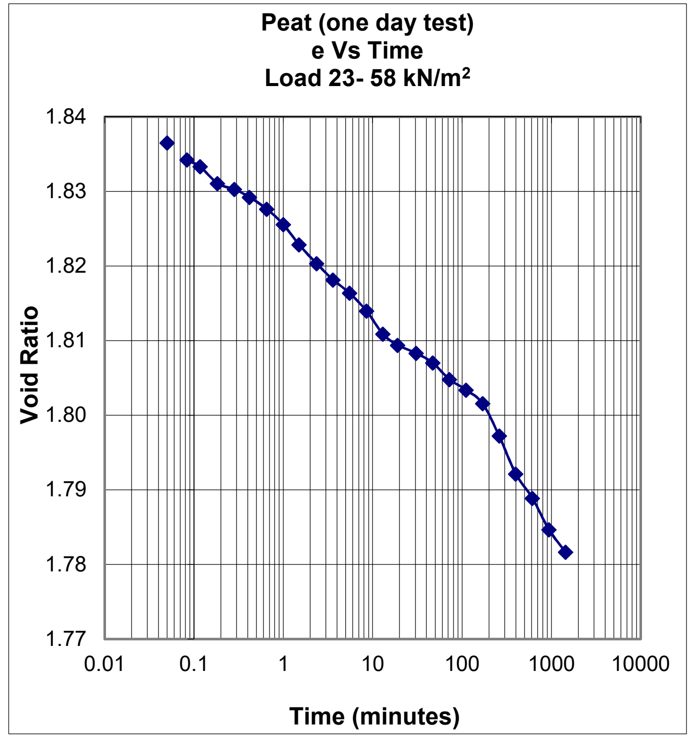
Sample – CKE – Undisturbed – BH 10 (12.50-13.25)
Started Date-03/12/2012
Conventional Consolidation
Load Increment 15kN/m^2 to 23kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.6439	0.6439	1.8744		
0.05	0.6764	0.6764	1.8696		
0.08	0.6814	0.6814	1.8688	0.003	0.003
0.12	0.6847	0.6847	1.8683	0.003	0.003
0.18	0.6876	0.6876	1.8679	0.002	0.003
0.28	0.6913	0.6913	1.8673	0.003	0.005
0.42	0.6991	0.6991	1.8662	0.007	0.007
0.65	0.7090	0.7090	1.8647	0.008	0.007
1	0.7181	0.7181	1.8634	0.007	0.005
1.5	0.7222	0.7222	1.8628	0.003	0.006
2.35	0.7341	0.7341	1.8610	0.009	0.006
3.6	0.7387	0.7387	1.8603	0.004	0.006
5.5	0.7485	0.7485	1.8588	0.008	0.007
8.5	0.7560	0.7560	1.8577	0.006	0.004
13.02	0.7584	0.7584	1.8574	0.002	0.003
19	0.7634	0.7634	1.8566	0.005	0.004
30.65	0.7675	0.7675	1.8560	0.003	0.003
47	0.7720	0.7720	1.8554	0.004	0.003
72.12	0.7749	0.7749	1.8549	0.002	0.002
110.6	0.7774	0.7774	1.8546	0.002	0.008
169.7	0.7947	0.7947	1.8520	0.014	0.011
260.3	0.8058	0.8058	1.8503	0.009	0.016
399.3	0.8347	0.8347	1.8460	0.023	0.018
612.5	0.8507	0.8507	1.8437	0.013	0.013
939.6	0.8664	0.8664	1.8413	0.013	0.006
1441	0.8664	0.8664	1.8413	0.000	#NUM!



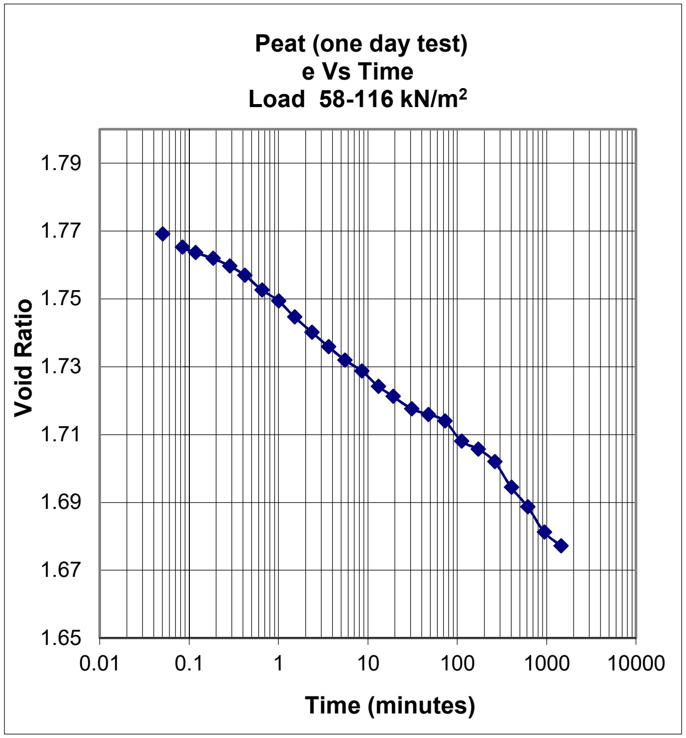
Sample – CKE – Undisturbed – BH 10 (12.50-13.25)
Started Date-03/12/2012
Conventional Consolidation
Load Increment 23kN/m^2 to 58kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.8664	0.8664	1.8413		
0.05	0.8989	0.8989	1.8365		
0.08	0.9141	0.9141	1.8343	0.0102	0.0086
0.12	0.9203	0.9203	1.8333	0.0063	0.0093
0.18	0.9355	0.9355	1.8311	0.0115	0.0079
0.28	0.9409	0.9409	1.8303	0.0042	0.0052
0.42	0.9479	0.9479	1.8292	0.0062	0.0073
0.65	0.9586	0.9586	1.8276	0.0082	0.0096
1	0.9726	0.9726	1.8256	0.0111	0.0132
1.5	0.9908	0.9908	1.8229	0.0153	0.0140
2.35	1.0077	1.0077	1.8204	0.0129	0.0124
3.6	1.0225	1.0225	1.8182	0.0119	0.0107
5.5	1.0344	1.0344	1.8164	0.0096	0.0111
8.5	1.0505	1.0505	1.8140	0.0126	0.0147
13.02	1.0715	1.0715	1.8109	0.0168	0.0131
19	1.0814	1.0814	1.8094	0.0090	0.0069
30.65	1.0888	1.0888	1.8083	0.0053	0.0061
47	1.0975	1.0975	1.8070	0.0070	0.0094
72.12	1.1123	1.1123	1.8048	0.0118	0.0097
110.6	1.1218	1.1218	1.8034	0.0076	0.0088
169.7	1.1342	1.1342	1.8016	0.0099	0.0166
260.3	1.1634	1.1634	1.7972	0.0233	0.0253
399.3	1.1976	1.1976	1.7922	0.0273	0.0224
612.5	1.2195	1.2195	1.7889	0.0175	0.0201
939.6	1.2479	1.2479	1.7847	0.0227	0.0194
1441	1.2681	1.2681	1.7817	0.0161	#NUM!



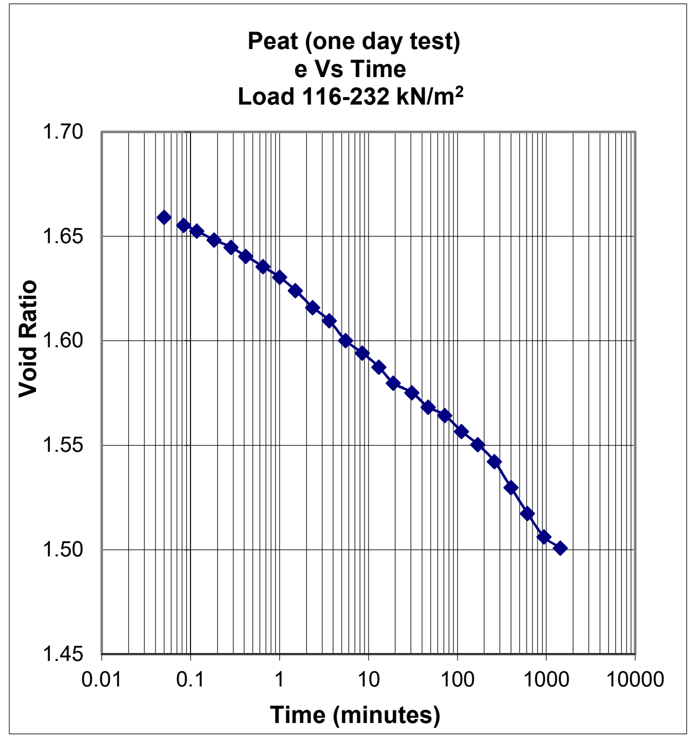
Sample – CKE – Undisturbed – BH 10 (12.50-13.25)
Started Date-03/12/2012
Conventional Consolidation
Load Increment 58kN/m² to 116kN/m²

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	1.2681	1.2681	1.7817		
0.05	1.3530	1.3530	1.7691		
0.08	1.3790	1.3790	1.7652	0.0174	0.0148
0.12	1.3897	1.3897	1.7636	0.0109	0.0097
0.18	1.4013	1.4013	1.7619	0.0088	0.0103
0.28	1.4165	1.4165	1.7596	0.0119	0.0139
0.42	1.4346	1.4346	1.7570	0.0160	0.0195
0.65	1.4639	1.4639	1.7526	0.0225	0.0200
1	1.4858	1.4858	1.7494	0.0174	0.0219
1.5	1.5175	1.5175	1.7447	0.0267	0.0247
2.35	1.5476	1.5476	1.7402	0.0229	0.0230
3.6	1.5764	1.5764	1.7359	0.0231	0.0222
5.5	1.6028	1.6028	1.7320	0.0213	0.0192
8.5	1.6247	1.6247	1.7287	0.0172	0.0208
13.02	1.6552	1.6552	1.7242	0.0245	0.0214
19	1.6750	1.6750	1.7213	0.0179	0.0178
30.65	1.6997	1.6997	1.7176	0.0177	0.0135
47	1.7108	1.7108	1.7159	0.0089	0.0096
72.12	1.7236	1.7236	1.7140	0.0102	0.0211
110.6	1.7636	1.7636	1.7081	0.0320	0.0224
169.7	1.7797	1.7797	1.7057	0.0129	0.0163
260.3	1.8044	1.8044	1.7020	0.0197	0.0303
399.3	1.8555	1.8555	1.6945	0.0408	0.0359
612.5	1.8943	1.8943	1.6887	0.0310	0.0356
939.6	1.9446	1.9446	1.6812	0.0402	0.0310
1441	1.9718	1.9718	1.6772	0.0217	#NUM!



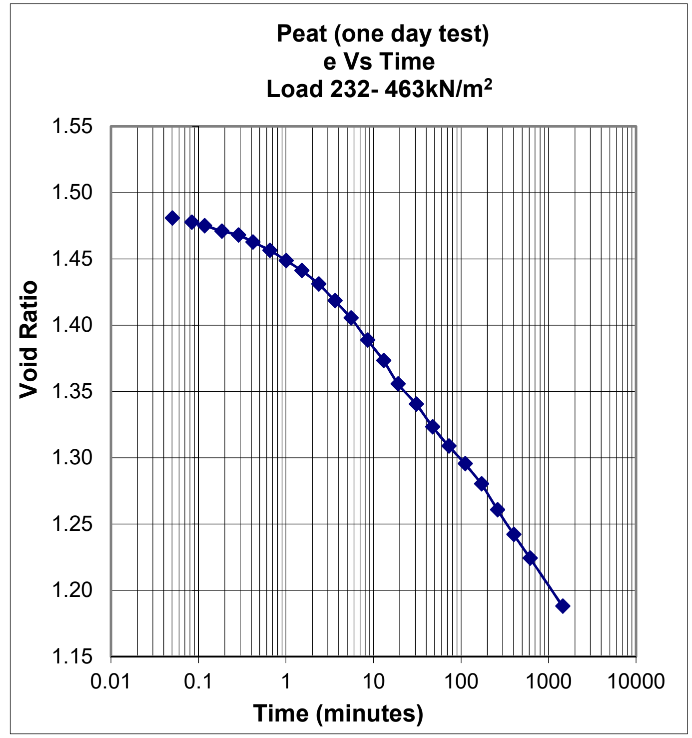
Sample – CKE – Undisturbed – BH 10 (12.50-13.25)
Started Date-03/12/2012
Conventional Consolidation
Load Increment 116kN/m^2 to 232kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	1.9718	1.9718	1.6772		
0.05	2.0934	2.0934	1.6591		
0.08	2.1186	2.1186	1.6554	0.0169	0.0178
0.12	2.1375	2.1375	1.6526	0.0192	0.0207
0.18	2.1664	2.1664	1.6483	0.0219	0.0202
0.28	2.1899	2.1899	1.6448	0.0185	0.0218
0.42	2.2188	2.2188	1.6405	0.0256	0.0257
0.65	2.2522	2.2522	1.6355	0.0257	0.0264
1	2.2864	2.2864	1.6305	0.0271	0.0314
1.5	2.3289	2.3289	1.6242	0.0358	0.0389
2.35	2.3837	2.3837	1.6160	0.0417	0.0378
3.6	2.4258	2.4258	1.6098	0.0338	0.0428
5.5	2.4901	2.4901	1.6002	0.0519	0.0417
8.5	2.5305	2.5305	1.5942	0.0317	0.0339
13.02	2.5755	2.5755	1.5875	0.0361	0.0412
19	2.6274	2.6274	1.5798	0.0470	0.0331
30.65	2.6583	2.6583	1.5752	0.0221	0.0293
47	2.7050	2.7050	1.5683	0.0374	0.0292
72.12	2.7313	2.7313	1.5644	0.0210	0.0311
110.6	2.7829	2.7829	1.5567	0.0412	0.0376
169.7	2.8254	2.8254	1.5504	0.0340	0.0390
260.3	2.8806	2.8806	1.5422	0.0441	0.0552
399.3	2.9636	2.9636	1.5299	0.0663	0.0666
612.5	3.0473	3.0473	1.5175	0.0669	0.0636
939.6	3.1228	3.1228	1.5063	0.0603	0.0448
1441.0	3.1595	3.1595	1.5008	0.0293	#NUM!



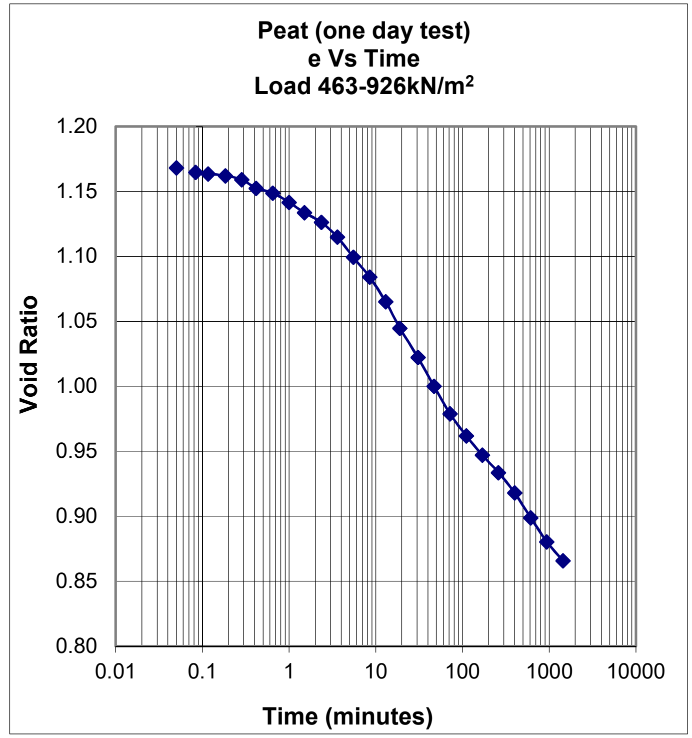
Sample – CKE – Undisturbed – BH 10 (12.50-13.25)
Started Date-03/12/2012
Conventional Consolidation
Load Increment 232kN/m^2 to 463kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	3.1595	3.1595	1.5008		
0.05	3.2936	3.2936	1.4809		
0.08	3.3146	3.3146	1.4778	0.0141	0.0156
0.12	3.3323	3.3323	1.4752	0.0180	0.0197
0.18	3.3600	3.3600	1.4710	0.0210	0.0185
0.28	3.3802	3.3802	1.4680	0.0159	0.0230
0.42	3.4153	3.4153	1.4628	0.0311	0.0321
0.65	3.4582	3.4582	1.4565	0.0330	0.0370
1	3.5101	3.5101	1.4488	0.0412	0.0420
1.5	3.5609	3.5609	1.4412	0.0428	0.0474
2.35	3.6286	3.6286	1.4312	0.0516	0.0598
3.6	3.7140	3.7140	1.4185	0.0685	0.0696
5.5	3.8018	3.8018	1.4054	0.0708	0.0796
8.5	3.9141	3.9141	1.3888	0.0882	0.0858
13.02	4.0181	4.0181	1.3733	0.0834	0.0945
19	4.1365	4.1365	1.3557	0.1071	0.0882
30.65	4.2389	4.2389	1.3405	0.0732	0.0821
47	4.3540	4.3540	1.3234	0.0921	0.0852
72.12	4.4522	4.4522	1.3088	0.0784	0.0750
110.6	4.5418	4.5418	1.2955	0.0716	0.0767
169.7	4.6442	4.6442	1.2803	0.0818	0.0932
260.3	4.7750	4.7750	1.2609	0.1045	0.1026
399.3	4.9009	4.9009	1.2422	0.1006	0.0983
612.5	5.0211	5.0211	1.2244	0.0961	0.0970
1441	5.2648	5.2648	1.1882	0.0974	#NUM!



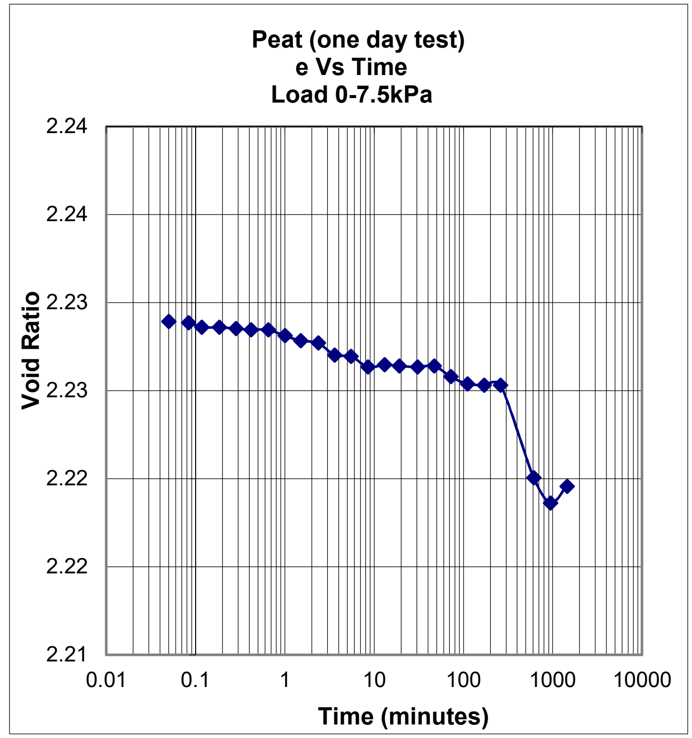
Sample – CKE – Undisturbed – BH 10 (12.50-13.25)
Started Date-03/12/2012
Conventional Consolidation
Load Increment 463kN/m² to 926kN/m²

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	5.2648	5.2648	1.1882		
0.05	5.3989	5.3989	1.1683		
0.08	5.4228	5.4228	1.1647	0.0160	0.0126
0.12	5.4302	5.4302	1.1636	0.0075	0.0075
0.18	5.4402	5.4402	1.1621	0.0076	0.0118
0.28	5.4608	5.4608	1.1591	0.0162	0.0243
0.42	5.5050	5.5050	1.1525	0.0392	0.0319
0.65	5.5302	5.5302	1.1488	0.0286	0.0319
1	5.5785	5.5785	1.1416	0.0383	0.0415
1.5	5.6318	5.6318	1.1337	0.0449	0.0411
2.35	5.6813	5.6813	1.1263	0.0377	0.0492
3.6	5.7577	5.7577	1.1150	0.0612	0.0729
5.5	5.8626	5.8626	1.0994	0.0846	0.0829
8.5	5.9659	5.9659	1.0841	0.0811	0.0918
13.02	6.0939	6.0939	1.0651	0.1026	0.1124
19	6.2302	6.2302	1.0448	0.1233	0.1153
30.65	6.3827	6.3827	1.0222	0.1090	0.1139
47	6.5314	6.5314	1.0001	0.1189	0.1081
72.12	6.6747	6.6747	0.9788	0.1167	0.1081
110.6	6.7884	6.7884	0.9619	0.0909	0.0856
169.7	6.8888	6.8888	0.9470	0.0802	0.0761
260.3	6.9789	6.9789	0.9336	0.0720	0.0779
399.3	7.0838	7.0838	0.9181	0.0838	0.0936
612.5	7.2132	7.2132	0.8988	0.1034	0.1012
939.6	7.3371	7.3371	0.8804	0.0990	0.0888
1441	7.4355	7.4355	0.8658	0.0786	#NUM!



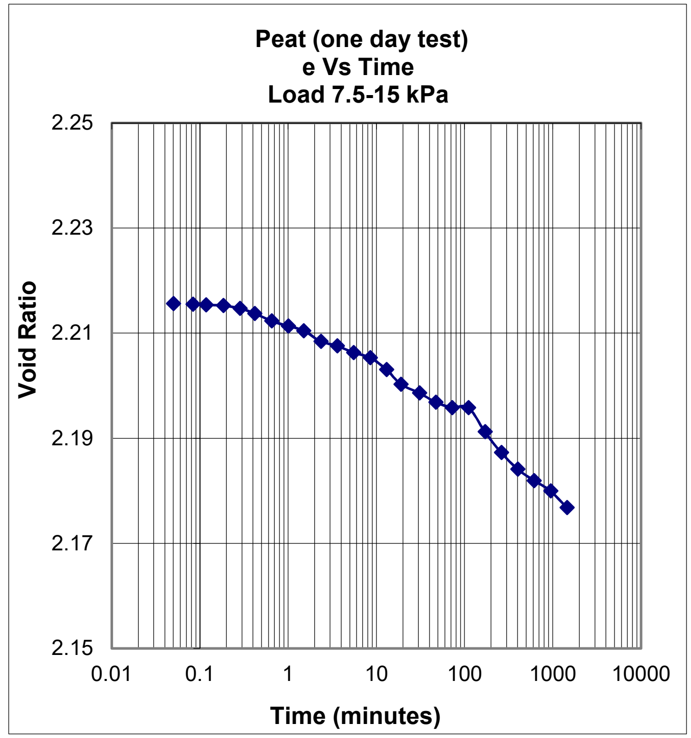
Sample– CKE – Undisturbed – BH 10 (13.50-14.25)
Started Date-14/11/2012
Conventional Consolidation
Load Increment 0kN/m^2 to 7.5kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.0000	0.0000	2.3000		
0.05	0.4307	0.4307	2.2289		
0.08	0.4311	0.4311	2.2289	0.0003	0.0009
0.12	0.4327	0.4327	2.2286	0.0018	0.0008
0.18	0.4327	0.4327	2.2286	0.0000	0.0002
0.28	0.4331	0.4331	2.2285	0.0003	0.0004
0.42	0.4336	0.4336	2.2285	0.0005	0.0002
0.65	0.4336	0.4336	2.2285	0.0000	0.0009
1	0.4356	0.4356	2.2281	0.0018	0.0017
1.5	0.4373	0.4373	2.2278	0.0016	0.0011
2.35	0.4381	0.4381	2.2277	0.0007	0.0022
3.6	0.4423	0.4423	2.2270	0.0037	0.0021
5.5	0.4427	0.4427	2.2270	0.0004	0.0018
8.5	0.4464	0.4464	2.2263	0.0032	0.0013
13.02	0.4456	0.4456	2.2265	-0.0007	-0.0002
19	0.4460	0.4460	2.2264	0.0004	0.0004
30.65	0.4464	0.4464	2.2263	0.0003	0.0000
47	0.4460	0.4460	2.2264	-0.0004	0.0015
72.12	0.4497	0.4497	2.2258	0.0033	0.0028
110.6	0.4522	0.4522	2.2254	0.0022	0.0013
169.7	0.4526	0.4526	2.2253	0.0004	0.0002
260.3	0.4526	0.4526	2.2253	0.0000	0.0094
612.5	0.4845	0.4845	2.2201	0.0142	0.0120
939.6	0.4932	0.4932	2.2186	0.0077	0.0013
1441	0.4874	0.4874	2.2196	-0.0051	#NUM!



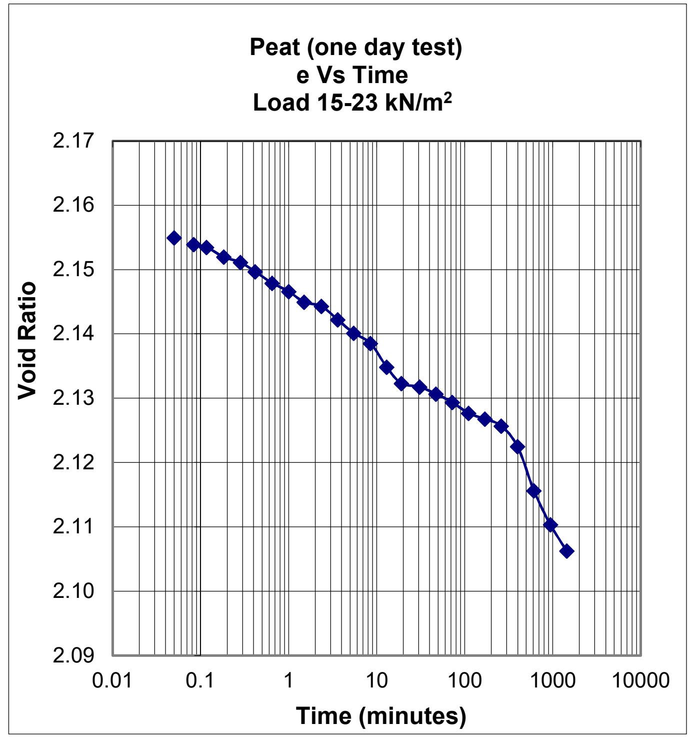
Sample– CKE – Undisturbed – BH 10 (13.50-14.25)
Started Date-14/11/2012
Conventional Consolidation
Load Increment 7.5kN/m^2 to 15kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.4932	0.4932	2.2186		
0.05	0.5115	0.5115	2.2156		
0.08	0.5119	0.5119	2.2155	0.0003	0.0005
0.12	0.5127	0.5127	2.2154	0.0009	0.0008
0.18	0.5136	0.5136	2.2153	0.0008	0.0018
0.28	0.5169	0.5169	2.2147	0.0029	0.0042
0.42	0.5227	0.5227	2.2138	0.0057	0.0066
0.65	0.5314	0.5314	2.2123	0.0074	0.0063
1	0.5372	0.5372	2.2114	0.0051	0.0051
1.5	0.5426	0.5426	2.2105	0.0051	0.0079
2.35	0.5550	0.5550	2.2084	0.0105	0.0076
3.6	0.5600	0.5600	2.2076	0.0045	0.0058
5.5	0.5679	0.5679	2.2063	0.0071	0.0061
8.5	0.5737	0.5737	2.2053	0.0051	0.0086
13.02	0.5873	0.5873	2.2031	0.0121	0.0145
19	0.6043	0.6043	2.2003	0.0171	0.0120
30.65	0.6143	0.6143	2.1986	0.0079	0.0087
47	0.6250	0.6250	2.1969	0.0095	0.0075
72.12	0.6313	0.6313	2.1958	0.0056	0.0028
110.6	0.6313	0.6313	2.1958	0.0000	0.0123
169.7	0.6590	0.6590	2.1913	0.0246	0.0230
260.3	0.6831	0.6831	2.1873	0.0214	0.0191
399.3	0.7021	0.7021	2.1842	0.0169	0.0143
612.5	0.7154	0.7154	2.1820	0.0118	0.0112
939.6	0.7274	0.7274	2.1800	0.0107	0.0138
1441	0.7465	0.7465	2.1768	0.0170	#NUM!



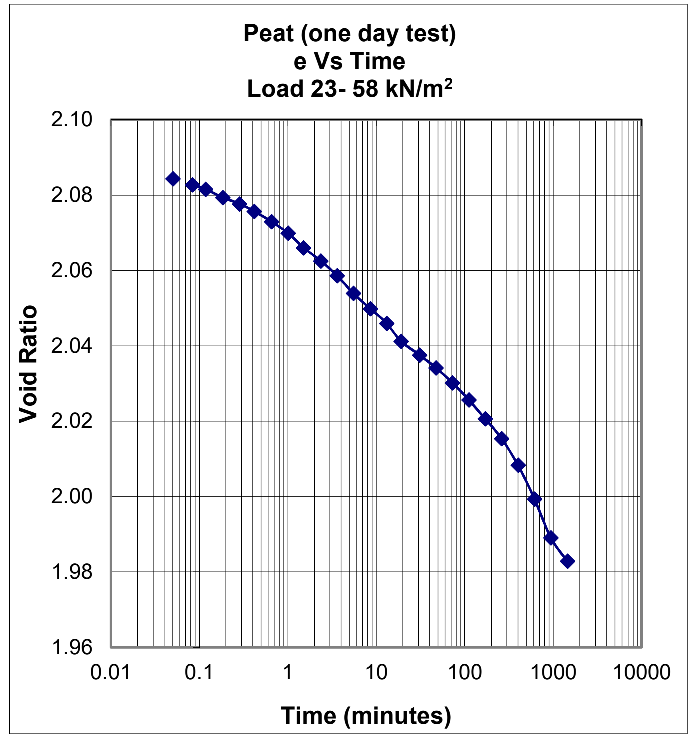
Sample– CKE – Undisturbed – BH 10 (13.50-14.25)
Started Date-14/11/2012
Conventional Consolidation
Load Increment 15kN/m² to 23kN/m²

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	0.7465	0.7465	2.1768		
0.05	0.8791	0.8791	2.1549		
0.08	0.8853	0.8853	2.1539	0.005	0.004
0.12	0.8882	0.8882	2.1534	0.003	0.006
0.18	0.8973	0.8973	2.1519	0.008	0.006
0.28	0.9023	0.9023	2.1511	0.004	0.006
0.42	0.9110	0.9110	2.1497	0.009	0.009
0.65	0.9218	0.9218	2.1479	0.009	0.008
1	0.9297	0.9297	2.1466	0.007	0.008
1.5	0.9396	0.9396	2.1450	0.009	0.006
2.35	0.9437	0.9437	2.1443	0.003	0.007
3.6	0.9562	0.9562	2.1422	0.011	0.011
5.5	0.9690	0.9690	2.1401	0.011	0.010
8.5	0.9786	0.9786	2.1385	0.008	0.014
13.02	1.0009	1.0009	2.1349	0.020	0.018
19	1.0163	1.0163	2.1323	0.015	0.008
30.65	1.0196	1.0196	2.1318	0.003	0.004
47	1.0262	1.0262	2.1307	0.006	0.006
72.12	1.0341	1.0341	2.1294	0.007	0.008
110.6	1.0444	1.0444	2.1277	0.009	0.007
169.7	1.0498	1.0498	2.1268	0.005	0.005
260.3	1.0565	1.0565	2.1257	0.006	0.012
399.3	1.0759	1.0759	2.1225	0.017	0.027
612.5	1.1174	1.1174	2.1156	0.037	0.033
939.6	1.1493	1.1493	2.1104	0.028	0.025
1441	1.1741	1.1741	2.1063	0.022	#NUM!



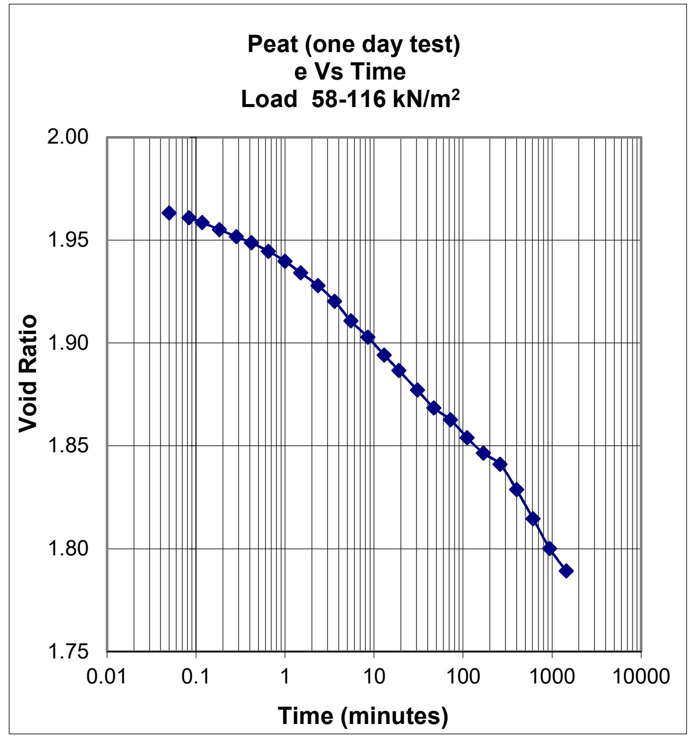
Sample– CKE – Undisturbed – BH 10 (13.50-14.25)
Started Date-14/11/2012
Conventional Consolidation
Load Increment 23kN/m^2 to 58kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	1.1741	1.1741	2.1063		
0.05	1.3067	1.3067	2.0844		
0.08	1.3166	1.3166	2.0828	0.0074	0.0076
0.12	1.3237	1.3237	2.0816	0.0080	0.0098
0.18	1.3369	1.3369	2.0794	0.0111	0.0101
0.28	1.3473	1.3473	2.0777	0.0091	0.0104
0.42	1.3593	1.3593	2.0757	0.0118	0.0131
0.65	1.3759	1.3759	2.0730	0.0142	0.0151
1	1.3941	1.3941	2.0700	0.0161	0.0190
1.5	1.4177	1.4177	2.0661	0.0221	0.0199
2.35	1.4389	1.4389	2.0626	0.0179	0.0196
3.6	1.4629	1.4629	2.0586	0.0214	0.0233
5.5	1.4911	1.4911	2.0540	0.0253	0.0233
8.5	1.5155	1.5155	2.0499	0.0213	0.0212
13.02	1.5391	1.5391	2.0460	0.0210	0.0248
19	1.5681	1.5681	2.0413	0.0292	0.0226
30.65	1.5901	1.5901	2.0376	0.0175	0.0179
47	1.6108	1.6108	2.0342	0.0184	0.0198
72.12	1.6348	1.6348	2.0303	0.0213	0.0228
110.6	1.6622	1.6622	2.0257	0.0243	0.0258
169.7	1.6928	1.6928	2.0207	0.0272	0.0277
260.3	1.7247	1.7247	2.0154	0.0283	0.0331
399.3	1.7674	1.7674	2.0084	0.0379	0.0431
612.5	1.8217	1.8217	1.9994	0.0482	0.0519
939.6	1.8842	1.8842	1.9891	0.0555	0.0445
1441	1.9219	1.9219	1.9829	0.0335	#NUM!



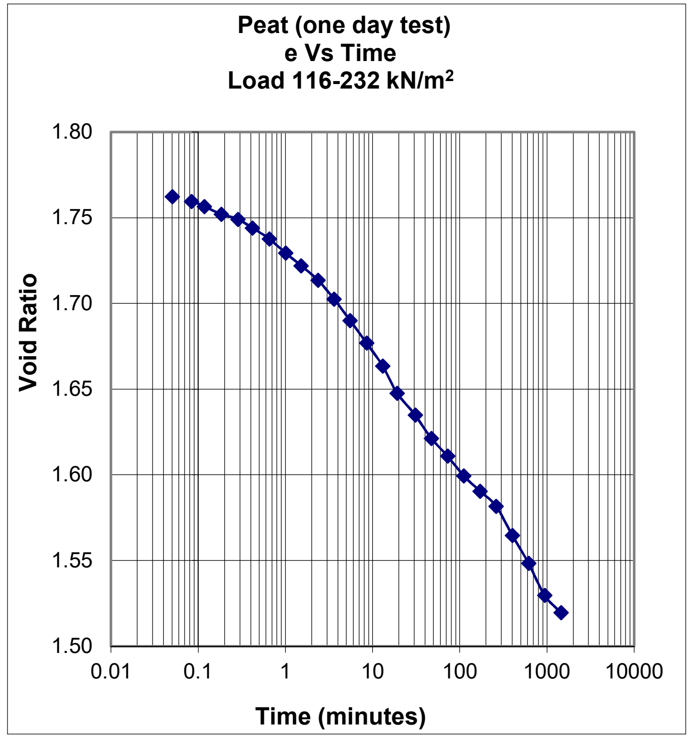
Sample– CKE – Undisturbed – BH 10 (13.50-14.25)
Started Date-14/11/2012
Conventional Consolidation
Load Increment 58kN/m^2 to 116kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	1.9219	1.9219	1.9829		
0.05	2.0408	2.0408	1.9633		
0.08	2.0553	2.0553	1.9609	0.0108	0.0128
0.12	2.0694	2.0694	1.9585	0.0159	0.0170
0.18	2.0905	2.0905	1.9551	0.0177	0.0179
0.28	2.1112	2.1112	1.9517	0.0181	0.0178
0.42	2.1290	2.1290	1.9487	0.0175	0.0197
0.65	2.1543	2.1543	1.9445	0.0216	0.0236
1	2.1833	2.1833	1.9398	0.0256	0.0288
1.5	2.2177	2.2177	1.9341	0.0322	0.0320
2.35	2.2553	2.2553	1.9279	0.0318	0.0363
3.6	2.3013	2.3013	1.9203	0.0410	0.0465
5.5	2.3593	2.3593	1.9107	0.0520	0.0467
8.5	2.4069	2.4069	1.9029	0.0415	0.0444
13.02	2.4599	2.4599	1.8941	0.0472	0.0466
19	2.5055	2.5055	1.8866	0.0458	0.0458
30.65	2.5630	2.5630	1.8771	0.0457	0.0462
47	2.6156	2.6156	1.8684	0.0467	0.0386
72.12	2.6500	2.6500	1.8628	0.0305	0.0388
110.6	2.7030	2.7030	1.8540	0.0471	0.0440
169.7	2.7490	2.7490	1.8464	0.0408	0.0349
260.3	2.7817	2.7817	1.8410	0.0290	0.0476
399.3	2.8562	2.8562	1.8287	0.0662	0.0711
612.5	2.9419	2.9419	1.8146	0.0761	0.0768
939.6	3.0293	3.0293	1.8002	0.0776	0.0684
1441	3.0959	3.0959	1.7892	0.0591	#NUM!



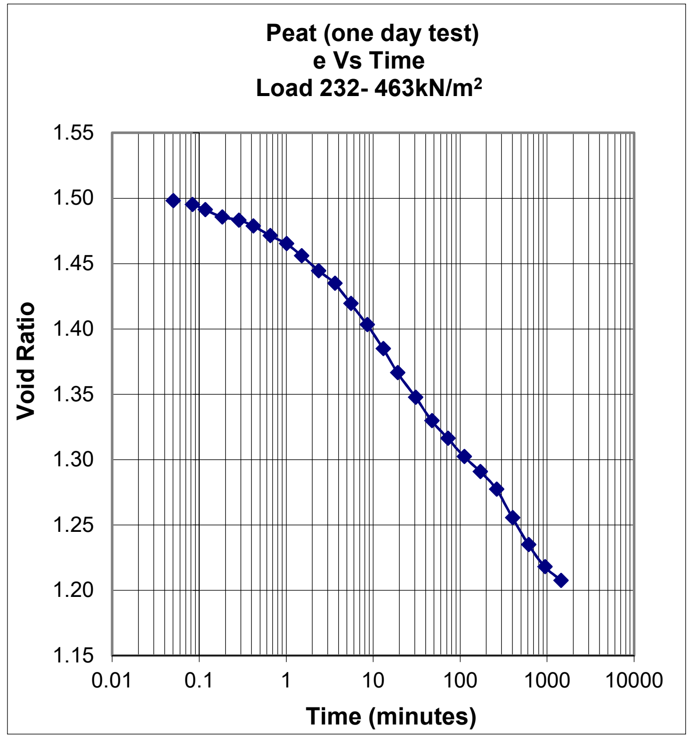
Sample– CKE – Undisturbed – BH 10 (13.50-14.25)
Started Date-14/11/2012
Conventional Consolidation
Load Increment 116kN/m² to 232kN/m²

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	3.0959	3.0959	1.7892		
0.05	3.2582	3.2582	1.7624		
0.08	3.2744	3.2744	1.7597	0.0120	0.0156
0.12	3.2930	3.2930	1.7567	0.0210	0.0223
0.18	3.3207	3.3207	1.7521	0.0233	0.0193
0.28	3.3381	3.3381	1.7492	0.0152	0.0223
0.42	3.3688	3.3688	1.7441	0.0302	0.0318
0.65	3.4077	3.4077	1.7377	0.0332	0.0382
1	3.4569	3.4569	1.7296	0.0434	0.0429
1.5	3.5021	3.5021	1.7222	0.0424	0.0429
2.35	3.5534	3.5534	1.7137	0.0434	0.0512
3.6	3.6200	3.6200	1.7027	0.0593	0.0636
5.5	3.6958	3.6958	1.6902	0.0680	0.0689
8.5	3.7757	3.7757	1.6770	0.0697	0.0710
13.02	3.8568	3.8568	1.6636	0.0723	0.0836
19	3.9528	3.9528	1.6478	0.0965	0.0769
30.65	4.0302	4.0302	1.6350	0.0615	0.0672
47	4.1130	4.1130	1.6214	0.0736	0.0645
72.12	4.1754	4.1754	1.6111	0.0554	0.0589
110.6	4.2458	4.2458	1.5994	0.0625	0.0551
169.7	4.2996	4.2996	1.5906	0.0478	0.0478
260.3	4.3534	4.3534	1.5817	0.0478	0.0693
399.3	4.4556	4.4556	1.5648	0.0907	0.0893
612.5	4.5545	4.5545	1.5485	0.0878	0.0944
939.6	4.6682	4.6682	1.5297	0.1010	0.0775
1441.0	4.7291	4.7291	1.5197	0.0541	#NUM!



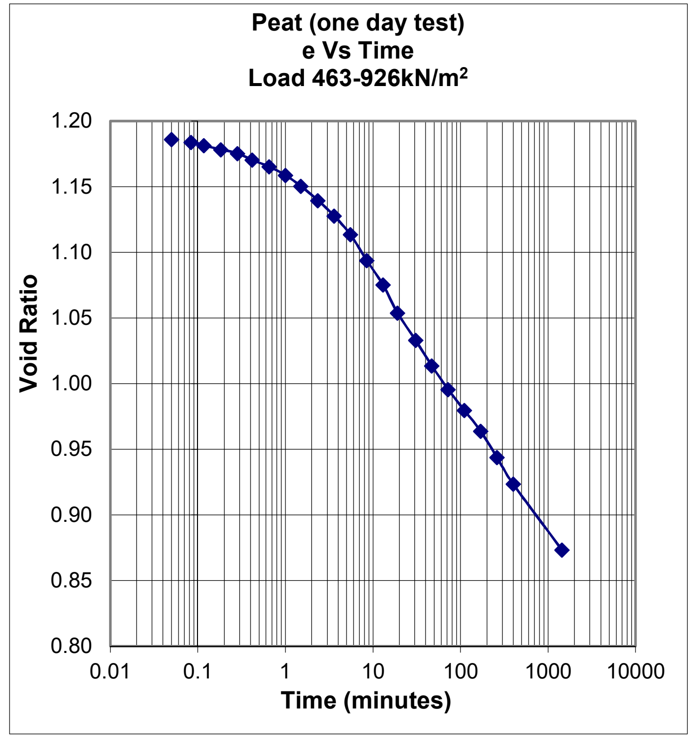
Sample– CKE – Undisturbed – BH 10 (13.50-14.25)
Started Date-14/11/2012
Conventional Consolidation
Load Increment 232kN/m² to 463kN/m²

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	4.7291	4.7291	1.5197		
0.05	4.8594	4.8594	1.4982		
0.08	4.8776	4.8776	1.4952	0.0135	0.0189
0.12	4.9016	4.9016	1.4912	0.0271	0.0279
0.18	4.9355	4.9355	1.4856	0.0285	0.0207
0.28	4.9500	4.9500	1.4833	0.0127	0.0190
0.42	4.9765	4.9765	1.4789	0.0261	0.0329
0.65	5.0220	5.0220	1.4714	0.0389	0.0359
1	5.0592	5.0592	1.4652	0.0328	0.0423
1.5	5.1150	5.1150	1.4560	0.0523	0.0555
2.35	5.1841	5.1841	1.4446	0.0585	0.0557
3.6	5.2433	5.2433	1.4349	0.0527	0.0680
5.5	5.3363	5.3363	1.4195	0.0834	0.0847
8.5	5.4348	5.4348	1.4033	0.0860	0.0925
13.02	5.5460	5.5460	1.3849	0.0991	0.1051
19	5.6573	5.6573	1.3665	0.1119	0.0997
30.65	5.7706	5.7706	1.3479	0.0900	0.0935
47	5.8801	5.8801	1.3298	0.0973	0.0850
72.12	5.9620	5.9620	1.3163	0.0727	0.0738
110.6	6.0464	6.0464	1.3023	0.0750	0.0683
169.7	6.1158	6.1158	1.2909	0.0616	0.0670
260.3	6.1973	6.1973	1.2774	0.0724	0.0951
399.3	6.3300	6.3300	1.2556	0.1178	0.1143
612.5	6.4548	6.4548	1.2350	0.1108	0.1010
939.6	6.5574	6.5574	1.2180	0.0911	0.0733
1441.0	6.6198	6.6198	1.2077	0.0554	#NUM!



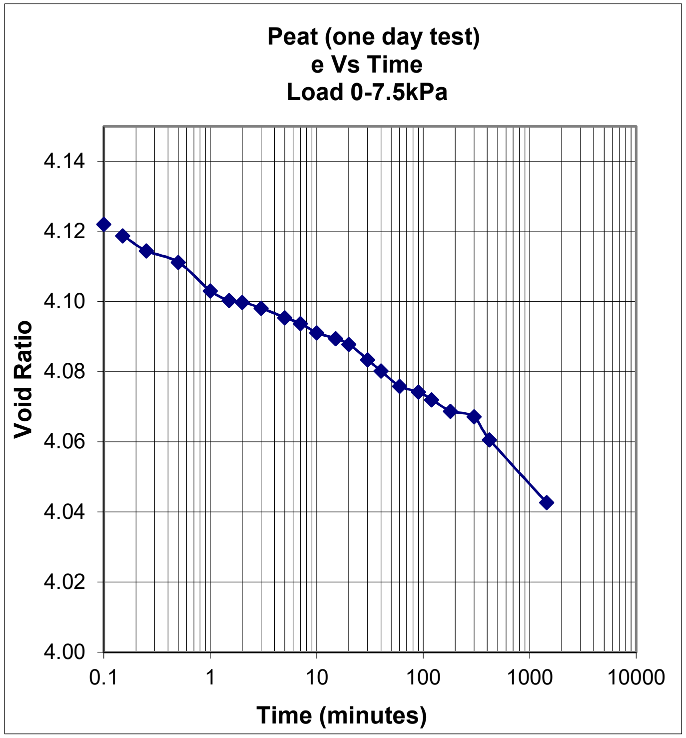
Sample– CKE – Undisturbed – BH 10 (13.50-14.25)
Started Date-14/11/2012
Conventional Consolidation
Load Increment 463kN/m^2 to 926kN/m^2

Elapsed Time /(min)	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	6.6198	6.6198	1.2077		
0.05	6.7501	6.7501	1.1862		
0.08	6.7633	6.7633	1.1841	0.0098	0.0126
0.12	6.7782	6.7782	1.1816	0.0168	0.0165
0.18	6.7976	6.7976	1.1784	0.0163	0.0156
0.28	6.8146	6.8146	1.1756	0.0148	0.0236
0.42	6.8452	6.8452	1.1705	0.0301	0.0304
0.65	6.8762	6.8762	1.1654	0.0282	0.0304
1	6.9154	6.9154	1.1590	0.0346	0.0409
1.5	6.9663	6.9663	1.1506	0.0477	0.0518
2.35	7.0320	7.0320	1.1397	0.0556	0.0595
3.6	7.1035	7.1035	1.1279	0.0637	0.0703
5.5	7.1894	7.1894	1.1137	0.0770	0.0910
8.5	7.3093	7.3093	1.0940	0.1046	0.1024
13.02	7.4217	7.4217	1.0754	0.1001	0.1142
19	7.5510	7.5510	1.0541	0.1300	0.1135
30.65	7.6774	7.6774	1.0332	0.1004	0.1007
47	7.7952	7.7952	1.0138	0.1047	0.0959
72.12	7.9047	7.9047	0.9957	0.1009	0.0959
110.6	8.0014	8.0014	0.9798	0.0859	0.0856
169.7	8.0976	8.0976	0.9639	0.0854	0.0963
260.3	8.2182	8.2182	0.9440	0.1071	0.1084
399.3	8.3417	8.3417	0.9236	0.1097	0.0950
1441	8.6463	8.6463	0.8734	0.0902	#NUM!



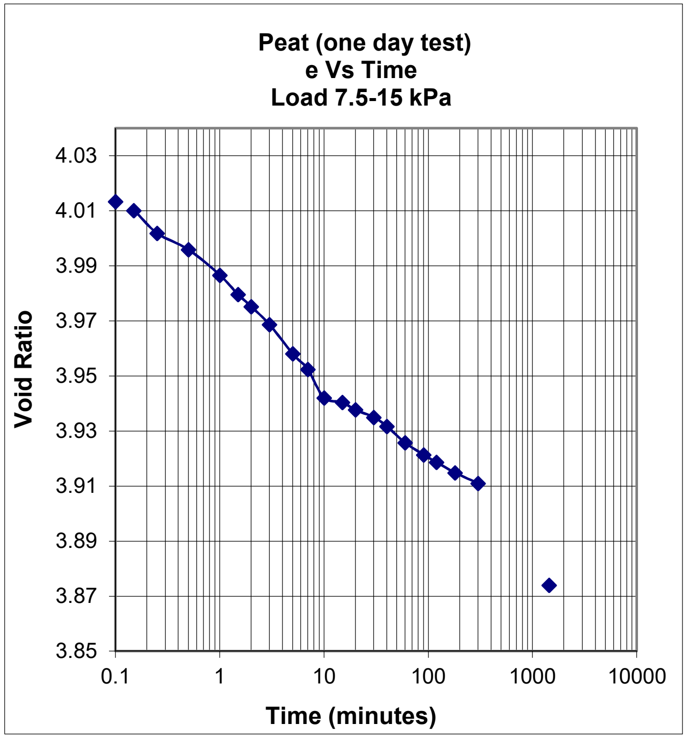
Sample – Fish market – Undisturbed – BH 3 (7.50-8.00)
Started Date-20/02/2013
Conventional Consolidation
Load Increment 0kN/m^2 to 7.5kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	2	0	0.4	0.0000	4.2500		
0.1	2	0.07	0.47	0.4700	4.1222		
0.15	2	0.082	0.482	0.4820	4.1189	0.0185	0.0191
0.25	2	0.098	0.498	0.4980	4.1145	0.0196	0.0146
0.5	2	0.11	0.51	0.5100	4.1113	0.0108	0.0190
1	2	0.14	0.54	0.5400	4.1031	0.0271	0.0228
1.5	2	0.15	0.55	0.5500	4.1004	0.0154	0.0108
2	2	0.152	0.552	0.5520	4.0998	0.0044	0.0072
3	2	0.158	0.558	0.5580	4.0982	0.0093	0.0109
5	2	0.168	0.568	0.5680	4.0955	0.0123	0.0118
7	2	0.174	0.574	0.5740	4.0939	0.0112	0.0145
10	2	0.184	0.584	0.5840	4.0911	0.0176	0.0131
15	2	0.19	0.59	0.5900	4.0895	0.0093	0.0108
20	2	0.196	0.596	0.5960	4.0879	0.0131	0.0199
30	3	0.012	0.612	0.6120	4.0835	0.0247	0.0253
40	3	0.024	0.624	0.6240	4.0803	0.0261	0.0253
60	3	0.04	0.64	0.6400	4.0759	0.0247	0.0170
90	3	0.046	0.646	0.6460	4.0743	0.0093	0.0127
120	3	0.054	0.654	0.6540	4.0721	0.0174	0.0181
180	3	0.066	0.666	0.6660	4.0688	0.0185	0.0123
300	3	0.072	0.672	0.6720	4.0672	0.0074	0.0222
420	3	0.096	0.696	0.6960	4.0607	0.0447	0.0359
1440	3	0.162	0.762	0.7620	4.0427	0.0336	#DIV/0!



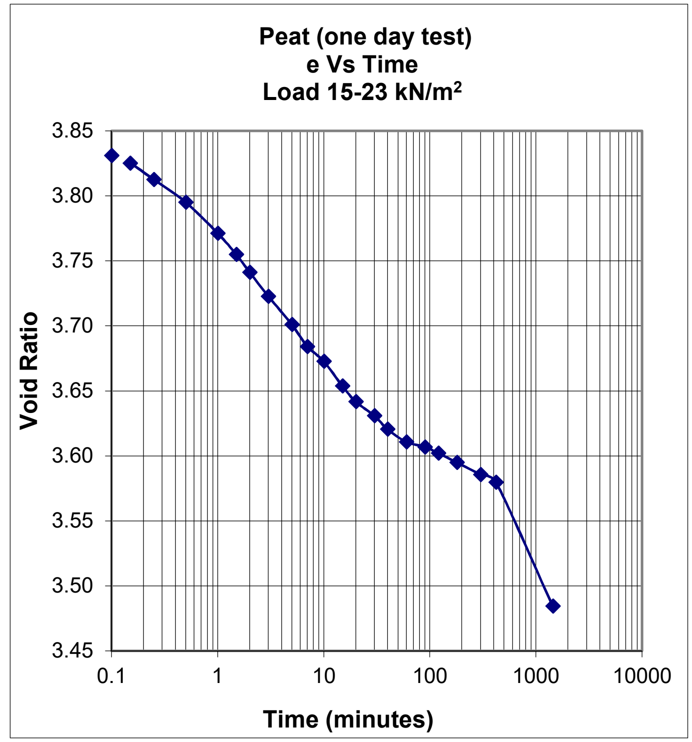
Sample – Fish market – Undisturbed – BH 3 (7.50-8.00)
Started Date-20/02/2013
Conventional Consolidation
Load Increment 7.5kN/m^2 to 15kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	3	0.162	0.762	0.7620	4.0427		
0.1	4	0.07	0.87	0.8700	4.0133		
0.15	4	0.082	0.882	0.8820	4.0101	0.0185	0.0287
0.25	4	0.112	0.912	0.9120	4.0019	0.0368	0.0271
0.5	4	0.134	0.934	0.9340	3.9959	0.0199	0.0253
1	4	0.168	0.968	0.9680	3.9867	0.0307	0.0342
1.5	4	0.194	0.994	0.9940	3.9796	0.0402	0.0380
2	5	0.01	1.01	1.0100	3.9753	0.0348	0.0361
3	5	0.034	1.034	1.0340	3.9687	0.0371	0.0431
5	5	0.073	1.073	1.0730	3.9581	0.0478	0.0444
7	5	0.094	1.094	1.0940	3.9524	0.0391	0.0533
10	5	0.132	1.132	1.1320	3.9421	0.0667	0.0362
15	5	0.138	1.138	1.1380	3.9404	0.0093	0.0145
20	5	0.148	1.148	1.1480	3.9377	0.0218	0.0181
30	5	0.158	1.158	1.1580	3.9350	0.0154	0.0199
40	5	0.17	1.17	1.1700	3.9317	0.0261	0.0307
60	5	0.192	1.192	1.1920	3.9258	0.0340	0.0294
90	6	0.008	1.208	1.2080	3.9214	0.0247	0.0235
120	6	0.018	1.218	1.2180	3.9187	0.0218	0.0217
180	6	0.032	1.232	1.2320	3.9149	0.0216	0.0191
300	6	0.046	1.246	1.2460	3.9111	0.0172	0.0452
1440	6	0.182	1.382	1.3820	3.8741	0.0543	#DIV/0!



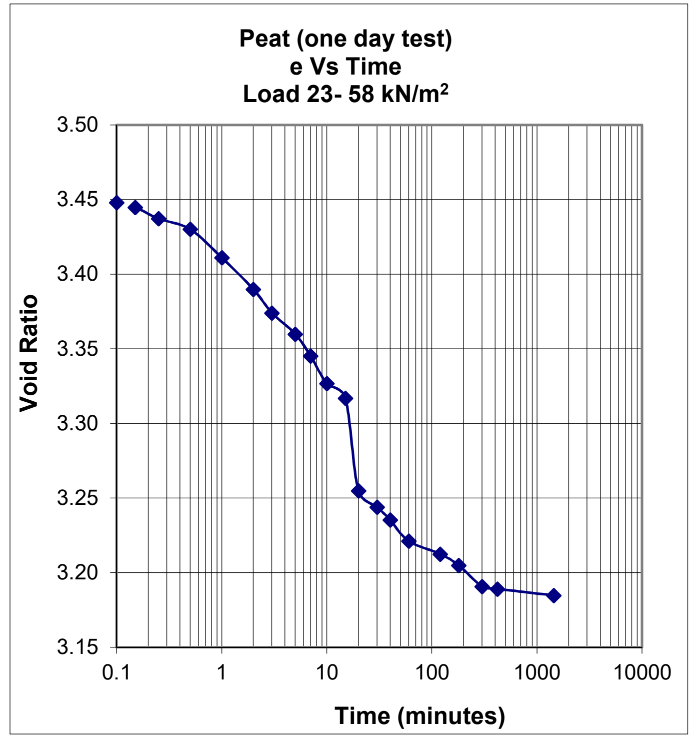
Sample – Fish market – Undisturbed – BH 3 (7.50-8.00)
Started Date-20/02/2013
Conventional Consolidation
Load Increment 15kN/m^2 to 23kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	6	0.182	1.382	1.3820	3.8741		
0.1	7	0.14	1.54	1.5400	3.8311		
0.15	7	0.162	1.562	1.5620	3.8251	0.034	0.046
0.25	8	0.008	1.608	1.6080	3.8126	0.056	0.057
0.5	8	0.072	1.672	1.6720	3.7952	0.058	0.069
1	8	0.16	1.76	1.7600	3.7712	0.080	0.084
1.5	9	0.02	1.82	1.8200	3.7549	0.093	0.099
2	9	0.07	1.87	1.8700	3.7413	0.109	0.107
3	9	0.138	1.938	1.9380	3.7228	0.105	0.101
5	10	0.018	2.018	2.0180	3.7011	0.098	0.105
7	10	0.08	2.08	2.0800	3.6842	0.115	0.094
10	10	0.122	2.122	2.1220	3.6728	0.074	0.092
15	10	0.192	2.192	2.1920	3.6537	0.108	0.103
20	11	0.036	2.236	2.2360	3.6418	0.096	0.076
30	11	0.076	2.276	2.2760	3.6309	0.062	0.070
40	11	0.114	2.314	2.3140	3.6205	0.083	0.067
60	11	0.15	2.35	2.3500	3.6108	0.056	0.039
90	11	0.164	2.364	2.3640	3.6069	0.022	0.029
120	11	0.182	2.382	2.3820	3.6020	0.039	0.040
180	12	0.008	2.408	2.4080	3.5950	0.040	0.041
300	12	0.042	2.442	2.4420	3.5857	0.042	0.041
420	12	0.064	2.464	2.4640	3.5797	0.041	0.149
1440	14	0.014	2.814	2.8140	3.4845	0.178	#NUM!



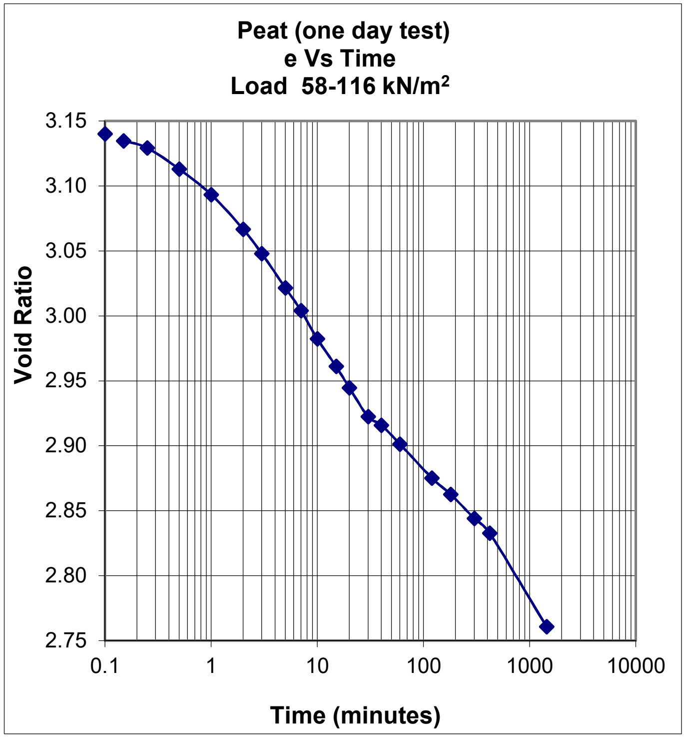
Sample – Fish market – Undisturbed – BH 3 (7.50-8.00)
Started Date-20/02/2013
Conventional Consolidation
Load Increment 23kN/m² to 58kN/m²

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	14	0.014	2.814	2.8140	3.4845		
0.1	14	0.148	2.948	2.9480	3.4481		
0.15	14	0.16	2.96	2.9600	3.4448	0.0185	0.0273
0.25	14	0.188	2.988	2.9880	3.4372	0.0343	0.0281
0.5	15	0.014	3.014	3.0140	3.4301	0.0235	0.0434
1	15	0.084	3.084	3.0840	3.4111	0.0633	0.0669
2	15	0.162	3.162	3.1620	3.3899	0.0705	0.0775
3	16	0.02	3.22	3.2200	3.3741	0.0896	0.0752
5	16	0.072	3.272	3.2720	3.3599	0.0638	0.0784
7	16	0.126	3.326	3.3260	3.3453	0.1005	0.1102
10	16	0.194	3.394	3.3940	3.3268	0.1194	0.0855
15	17	0.03	3.43	3.4300	3.3170	0.0556	0.2386
20	18	0.058	3.658	3.6580	3.2549	0.4964	0.2422
30	18	0.098	3.698	3.6980	3.2441	0.0618	0.0651
40	18	0.13	3.73	3.7300	3.2354	0.0697	0.0759
60	18	0.182	3.782	3.7820	3.2212	0.0803	0.0479
120	19	0.014	3.814	3.8140	3.2125	0.0289	0.0342
180	19	0.042	3.842	3.8420	3.2049	0.0433	0.0547
300	19	0.094	3.894	3.8940	3.1908	0.0638	0.0429
420	19	0.1	3.9	3.9000	3.1891	0.0112	0.0088
1440	19	0.116	3.916	3.9160	3.1848	0.0081	#NUM!



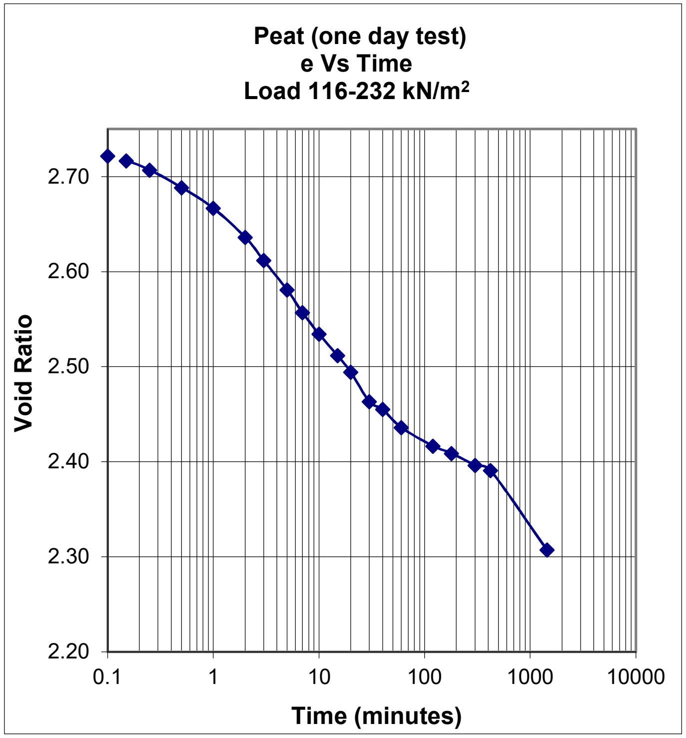
Sample – Fish market – Undisturbed – BH 3 (7.50-8.00)
Started Date-20/02/2013
Conventional Consolidation
Load Increment 58kN/m^2 to 116kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	19	0.116	3.916	3.9160	3.1848		
0.1	20	0.08	4.08	4.0800	3.1402		
0.15	20	0.1	4.1	4.1000	3.1347	0.0309	0.0273
0.25	20	0.12	4.12	4.1200	3.1293	0.0245	0.0416
0.5	20	0.18	4.18	4.1800	3.1130	0.0542	0.0596
1	21	0.052	4.252	4.2520	3.0934	0.0651	0.0768
2	21	0.15	4.35	4.3500	3.0667	0.0886	0.0952
3	22	0.019	4.419	4.4190	3.0479	0.1066	0.1135
5	22	0.116	4.516	4.5160	3.0216	0.1189	0.1190
7	22	0.18	4.58	4.5800	3.0041	0.1191	0.1301
10	23	0.06	4.66	4.6600	2.9824	0.1405	0.1298
15	23	0.138	4.738	4.7380	2.9612	0.1205	0.1247
20	23	0.198	4.798	4.7980	2.9448	0.1306	0.1283
30	24	0.08	4.88	4.8800	2.9225	0.1267	0.0958
40	24	0.104	4.904	4.9040	2.9160	0.0523	0.0705
60	24	0.158	4.958	4.9580	2.9013	0.0834	0.0855
120	25	0.054	5.054	5.0540	2.8752	0.0867	0.0810
180	25	0.1	5.1	5.1000	2.8627	0.0711	0.0779
300	25	0.168	5.168	5.1680	2.8442	0.0834	0.0813
420	26	0.01	5.21	5.2100	2.8328	0.0782	0.1222
1440	27	0.074	5.474	5.4740	2.7610	0.1342	#REF!



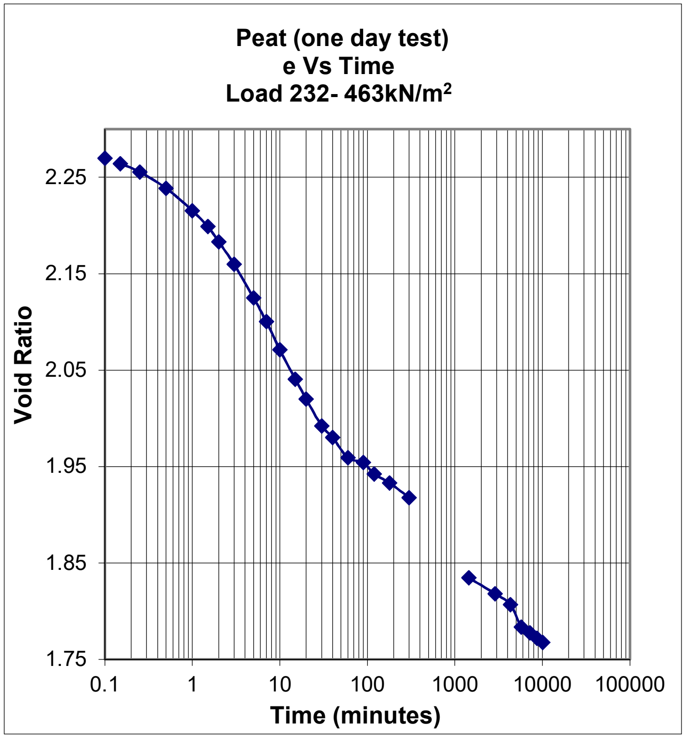
Sample – Fish market – Undisturbed – BH 3 (7.50-8.00)
Started Date-20/02/2013
Conventional Consolidation
Load Increment 116kN/m² to 232kN/m²

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	27	0.074	5.474	5.4740	2.7610		
0.1	28	0.018	5.618	5.6180	2.7218		
0.15	28	0.036	5.636	5.6360	2.7169	0.0278	0.0369
0.25	28	0.072	5.672	5.6720	2.7071	0.0441	0.0541
0.5	28	0.14	5.74	5.7400	2.6886	0.0614	0.0669
1	29	0.02	5.82	5.8200	2.6668	0.0723	0.0867
2	29	0.132	5.932	5.9320	2.6364	0.1012	0.1152
3	30	0.022	6.022	6.0220	2.6119	0.1390	0.1394
5	30	0.136	6.136	6.1360	2.5809	0.1398	0.1493
7	31	0.024	6.224	6.2240	2.5569	0.1638	0.1536
10	31	0.106	6.306	6.3060	2.5346	0.1440	0.1364
15	31	0.19	6.39	6.3900	2.5118	0.1298	0.1337
20	32	0.054	6.454	6.4540	2.4944	0.1393	0.1608
30	32	0.168	6.568	6.5680	2.4634	0.1761	0.1301
40	32	0.198	6.598	6.5980	2.4552	0.0653	0.0904
60	33	0.068	6.668	6.6680	2.4362	0.1081	0.0810
120	33	0.14	6.74	6.7400	2.4166	0.0651	0.0570
180	33	0.168	6.768	6.7680	2.4090	0.0433	0.0506
300	34	0.014	6.814	6.8140	2.3965	0.0564	0.0488
420	34	0.034	6.834	6.8340	2.3910	0.0372	0.1310
1440	35	0.142	7.142	7.1420	2.3072	0.1566	#NUM!



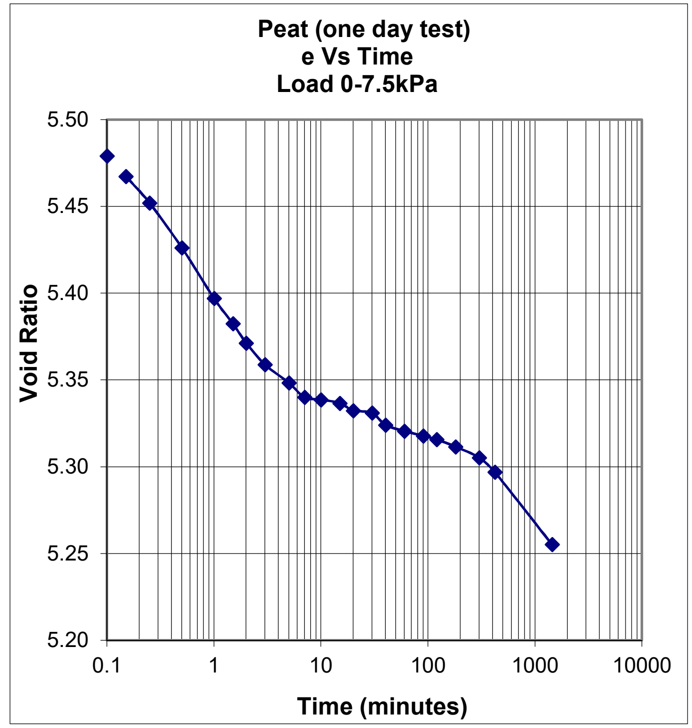
Sample – Fish market – Undisturbed – BH 3 (7.50-8.00)
Started Date-20/02/2013
Conventional Consolidation
Load Increment 232kN/m^2 to 463kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	35	0.142	7.142	7.1420	2.3072		
0.1	36	0.08	7.28	7.2800	2.2697		
0.15	36	0.1	7.3	7.3000	2.2642	0.0309	0.0355
0.25	36	0.132	7.332	7.3320	2.2555	0.0392	0.0489
0.5	36	0.194	7.394	7.3940	2.2387	0.0560	0.0669
1	37	0.08	7.48	7.4800	2.2153	0.0777	0.0832
1.5	37	0.14	7.54	7.5400	2.1990	0.0927	0.1066
2	37	0.198	7.598	7.5980	2.1832	0.1263	0.1301
3	38	0.084	7.684	7.6840	2.1598	0.1329	0.1463
5	39	0.012	7.812	7.8120	2.1250	0.1569	0.1612
7	39	0.102	7.902	7.9020	2.1005	0.1675	0.1789
10	40	0.01	8.01	8.0100	2.0711	0.1897	0.1808
15	40	0.122	8.122	8.1220	2.0406	0.1730	0.1699
20	40	0.198	8.198	8.1980	2.0200	0.1655	0.1608
30	41	0.1	8.3	8.3000	1.9922	0.1576	0.1319
40	41	0.144	8.344	8.3440	1.9803	0.0958	0.1102
60	42	0.022	8.422	8.4220	1.9590	0.1205	0.0741
90	42	0.04	8.44	8.4400	1.9541	0.0278	0.0560
120	42	0.084	8.484	8.4840	1.9422	0.0958	0.0705
180	42	0.118	8.518	8.5180	1.9329	0.0525	0.0615
300	42	0.174	8.574	8.5740	1.9177	0.0687	0.1090
1440	44	0.08	8.88	8.8800	1.8345	0.1222	0.1014
2880	44	0.14	8.94	8.9400	1.8181	0.0542	0.0582
4320	44	0.182	8.982	8.9820	1.8067	0.0649	0.1157
5760	45	0.068	9.068	9.0680	1.7833	0.1872	0.1324
7200	45	0.09	9.09	9.0900	1.7773	0.0618	0.0649
8640	45	0.11	9.11	9.1100	1.7719	0.0687	0.0670
10080	45	0.126	9.126	9.1260	1.7675	0.0650	#NUM!



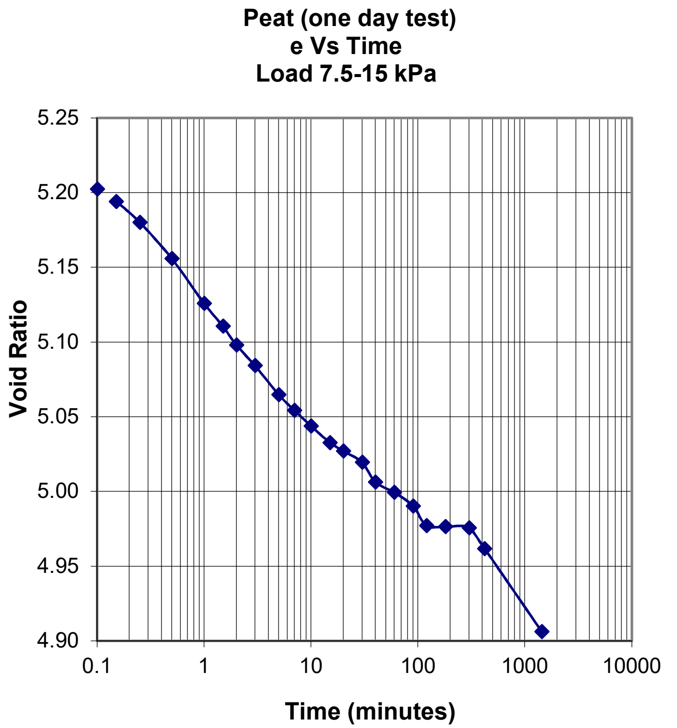
Sample – Fish market – Undisturbed – BH 6 (3.00-3.50)
Started Date-13/02/2013
Conventional Consolidation
Load Increment 0kN/m² to 7.5kN/m²

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	2	0	0.4	0.0000	5.7100		
0.1	3	0.064	0.664	0.6640	5.4791		
0.15	3	0.098	0.698	0.6980	5.4673	0.0671	0.0681
0.25	3	0.142	0.742	0.7420	5.4520	0.0690	0.0785
0.5	4	0.016	0.816	0.8160	5.4263	0.0855	0.0912
1	4	0.1	0.9	0.9000	5.3971	0.0970	0.0918
1.5	4	0.142	0.942	0.9420	5.3825	0.0829	0.0855
2	4	0.174	0.974	0.9740	5.3714	0.0890	0.0785
3	5	0.01	1.01	1.0100	5.3589	0.0711	0.0577
5	5	0.04	1.04	1.0400	5.3484	0.0470	0.0510
7	5	0.064	1.064	1.0640	5.3401	0.0571	0.0323
10	5	0.068	1.068	1.0680	5.3387	0.0090	0.0105
15	5	0.074	1.074	1.0740	5.3366	0.0118	0.0208
20	5	0.086	1.086	1.0860	5.3324	0.0334	0.0185
30	5	0.09	1.09	1.0900	5.3310	0.0079	0.0277
40	5	0.11	1.11	1.1100	5.3241	0.0557	0.0346
60	5	0.12	1.12	1.1200	5.3206	0.0197	0.0178
90	5	0.128	1.128	1.1280	5.3178	0.0158	0.0162
120	5	0.134	1.134	1.1340	5.3157	0.0167	0.0208
180	5	0.146	1.146	1.1460	5.3116	0.0237	0.0262
300	5	0.164	1.164	1.1640	5.3053	0.0282	0.0397
420	5	0.188	1.188	1.1880	5.2970	0.0571	0.0735
1440	6	0.108	1.308	1.3080	5.2552	0.0780	#DIV/0!



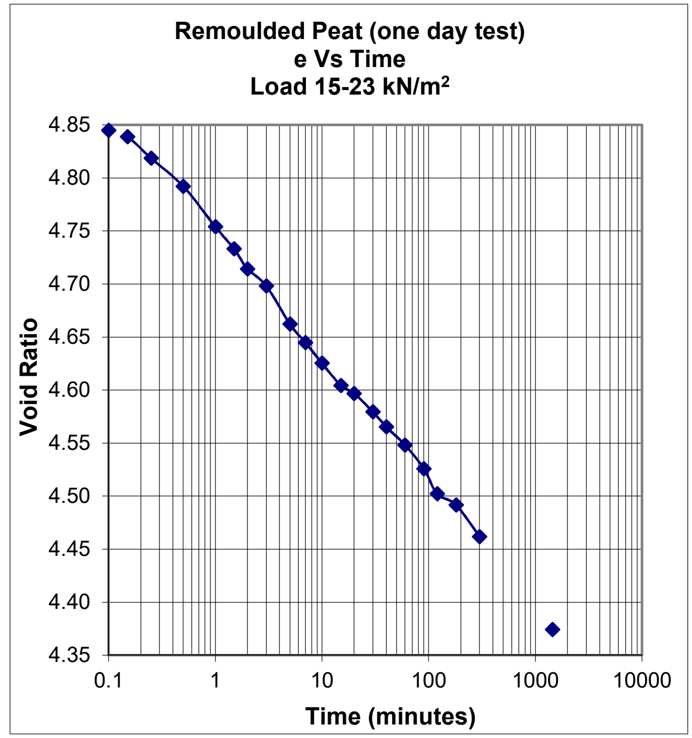
Sample – Fish market – Undisturbed – BH 6 (3.00-3.50)
Started Date-13/02/2013
Conventional Consolidation
Load Increment 7.5kN/m^2 to 15kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	6	0.118	1.318	1.3180	5.2518		
0.1	7	0.06	1.46	1.4600	5.2024		
0.15	7	0.084	1.484	1.4840	5.1941	0.0474	0.0559
0.25	7	0.124	1.524	1.5240	5.1802	0.0627	0.0731
0.5	7	0.194	1.594	1.5940	5.1558	0.0808	0.0901
1	8	0.08	1.68	1.6800	5.1259	0.0993	0.0947
1.5	8	0.124	1.724	1.7240	5.1106	0.0869	0.0924
2	8	0.16	1.76	1.7600	5.0981	0.1002	0.0878
3	9	0	1.8	1.8000	5.0842	0.0790	0.0839
5	9	0.056	1.856	1.8560	5.0647	0.0878	0.0813
7	9	0.086	1.886	1.8860	5.0543	0.0714	0.0693
10	9	0.116	1.916	1.9160	5.0439	0.0673	0.0651
15	9	0.148	1.948	1.9480	5.0327	0.0632	0.0554
20	9	0.164	1.964	1.9640	5.0272	0.0445	0.0439
30	9	0.186	1.986	1.9860	5.0195	0.0434	0.0693
40	10	0.024	2.024	2.0240	5.0063	0.1057	0.0670
60	10	0.044	2.044	2.0440	4.9994	0.0395	0.0454
90	10	0.07	2.07	2.0700	4.9903	0.0513	0.0739
120	10	0.108	2.108	2.1080	4.9771	0.1057	0.0462
180	10	0.11	2.11	2.1100	4.9764	0.0039	0.0035
300	10	0.112	2.112	2.1120	4.9757	0.0031	0.0397
420	10	0.152	2.152	2.1520	4.9618	0.0952	0.1021
1440	11	0.112	2.312	2.3120	4.9062	0.1040	#NUM!



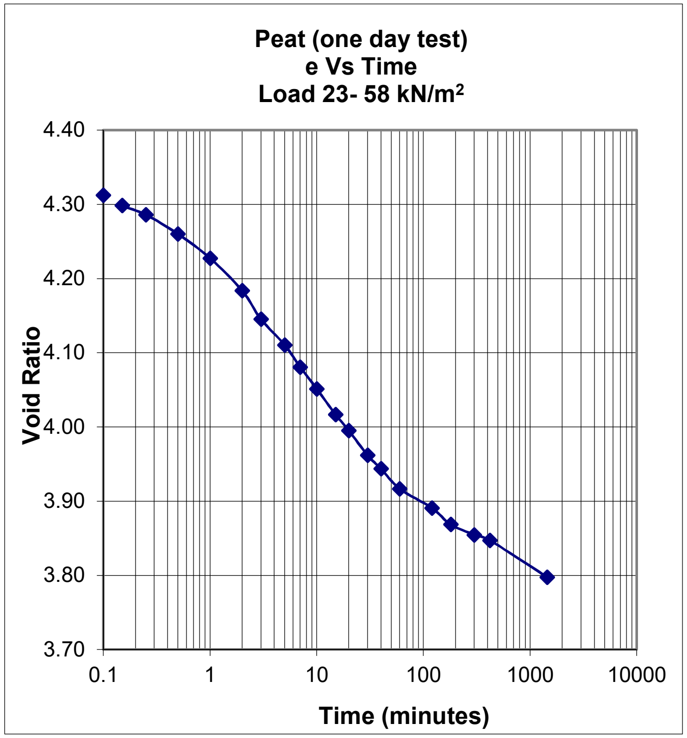
Sample – Fish market – Undisturbed – BH 6 (3.00-3.50)
Started Date-13/02/2013
Conventional Consolidation
Load Increment 15kN/m^2 to 23kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	11	0.112	2.312	2.3120	4.9062		
0.1	12	0.088	2.488	2.4880	4.8450		
0.15	12	0.106	2.506	2.5060	4.8387	0.036	0.066
0.25	12	0.164	2.564	2.5640	4.8186	0.091	0.089
0.5	13	0.04	2.64	2.6400	4.7922	0.088	0.107
1	13	0.15	2.75	2.7500	4.7539	0.127	0.124
1.5	14	0.01	2.81	2.8100	4.7331	0.118	0.132
2	14	0.064	2.864	2.8640	4.7143	0.150	0.115
3	14	0.11	2.91	2.9100	4.6983	0.091	0.131
5	15	0.014	3.014	3.0140	4.6621	0.163	0.146
7	15	0.064	3.064	3.0640	4.6447	0.119	0.122
10	15	0.12	3.12	3.1200	4.6253	0.126	0.122
15	15	0.18	3.18	3.1800	4.6044	0.118	0.095
20	16	0.002	3.202	3.2020	4.5968	0.061	0.083
30	16	0.052	3.252	3.2520	4.5794	0.099	0.104
40	16	0.092	3.292	3.2920	4.5655	0.111	0.104
60	16	0.142	3.342	3.3420	4.5481	0.099	0.113
90	17	0.006	3.406	3.4060	4.5258	0.126	0.152
120	17	0.074	3.474	3.4740	4.5022	0.189	0.113
180	17	0.104	3.504	3.5040	4.4918	0.059	0.101
300	17	0.19	3.59	3.5900	4.4619	0.135	0.130
1440	19	0.042	3.842	3.8420	4.3743	0.129	#DIV/0!



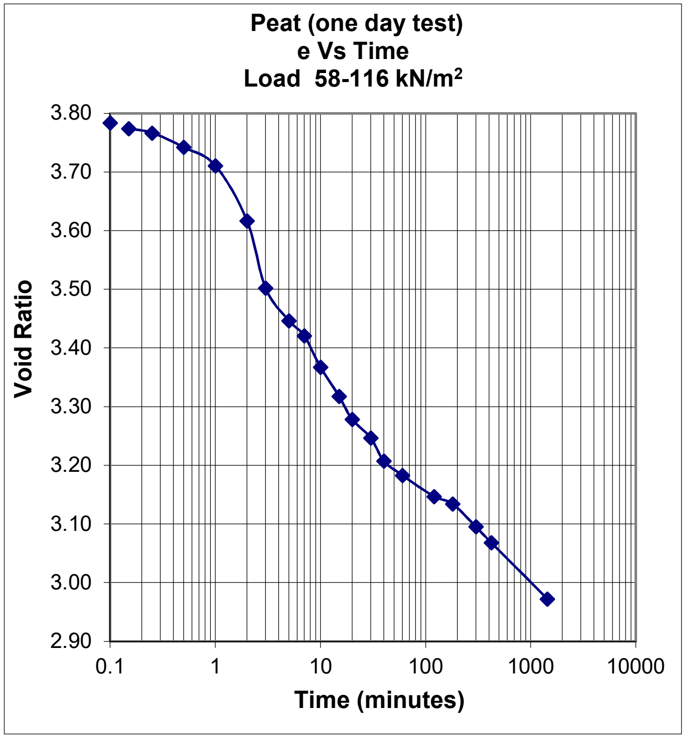
Sample – Fish market – Undisturbed – BH 6 (3.00-3.50)
Started Date-13/02/2013
Conventional Consolidation
Load Increment 23kN/m^2 to 58kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	19	0.042	3.842	3.8420	4.3743		
0.1	20	0.02	4.02	4.0200	4.3124		
0.15	20	0.06	4.06	4.0600	4.2985	0.0790	0.0664
0.25	20	0.096	4.096	4.0960	4.2860	0.0564	0.0731
0.5	20	0.17	4.17	4.1700	4.2602	0.0855	0.0970
1	21	0.064	4.264	4.2640	4.2275	0.1086	0.1270
2	21	0.19	4.39	4.3900	4.1837	0.1455	0.1720
3	22	0.1	4.5	4.5000	4.1455	0.2172	0.1835
5	23	0	4.6	4.6000	4.1107	0.1567	0.1757
7	23	0.086	4.686	4.6860	4.0808	0.2046	0.1963
10	23	0.17	4.77	4.7700	4.0516	0.1885	0.1933
15	24	0.07	4.87	4.8700	4.0169	0.1974	0.1871
20	24	0.132	4.932	4.9320	3.9953	0.1725	0.1825
30	25	0.028	5.028	5.0280	3.9619	0.1895	0.1709
40	25	0.08	5.08	5.0800	3.9438	0.1447	0.1501
60	25	0.158	5.158	5.1580	3.9167	0.1540	0.1108
120	26	0.032	5.232	5.2320	3.8910	0.0855	0.1006
180	26	0.096	5.296	5.2960	3.8687	0.1264	0.0909
300	26	0.136	5.336	5.3360	3.8548	0.0627	0.0586
420	26	0.158	5.358	5.3580	3.8472	0.0523	0.0837
1440	27	0.1	5.5	5.5000	3.7978	0.0923	#NUM!



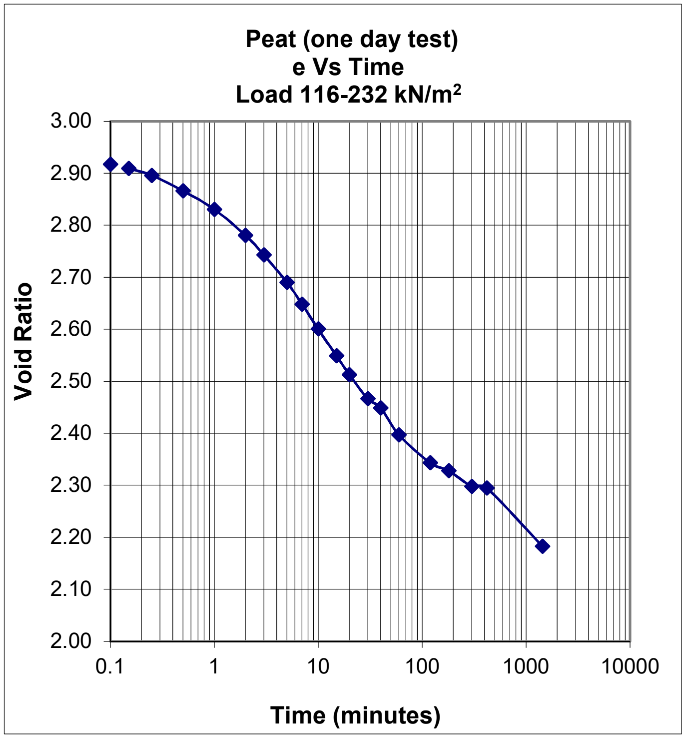
Sample – Fish market – Undisturbed – BH 6 (3.00-3.50)
Started Date-13/02/2013
Conventional Consolidation
Load Increment 58kN/m^2 to 116kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	27	0.1	5.5	5.5000	3.7978		
0.1	27	0.14	5.54	5.5400	3.7839		
0.15	27	0.168	5.568	5.5680	3.7742	0.0553	0.0437
0.25	27	0.19	5.59	5.5900	3.7665	0.0345	0.0612
0.5	28	0.06	5.66	5.6600	3.7422	0.0808	0.0924
1	28	0.15	5.75	5.7500	3.7109	0.1039	0.2079
2	30	0.02	6.02	6.0200	3.6170	0.3118	0.4372
3	31	0.15	6.35	6.3500	3.5023	0.6515	0.4281
5	32	0.11	6.51	6.5100	3.4467	0.2507	0.2211
7	32	0.184	6.584	6.5840	3.4210	0.1761	0.2633
10	33	0.138	6.738	6.7380	3.3674	0.3456	0.3109
15	34	0.08	6.88	6.8800	3.3180	0.2804	0.2957
20	34	0.194	6.994	6.9940	3.2784	0.3172	0.2356
30	35	0.084	7.084	7.0840	3.2471	0.1777	0.2356
40	35	0.198	7.198	7.1980	3.2075	0.3172	0.2125
60	36	0.068	7.268	7.2680	3.1831	0.1382	0.1268
120	36	0.172	7.372	7.3720	3.1470	0.1201	0.1020
180	37	0.008	7.408	7.4080	3.1345	0.0711	0.1293
300	37	0.12	7.52	7.5200	3.0955	0.1755	0.1795
420	37	0.198	7.598	7.5980	3.0684	0.1856	0.1807
1440	39	0.074	7.874	7.8740	2.9725	0.1793	#REF!



Sample – Fish market – Undisturbed – BH 6 (3.00-3.50)
Started Date-13/02/2013
Conventional Consolidation
Load Increment 116kN/m^2 to 232kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	39	0.078	7.878	7.8780	2.9711		
0.1	40	0.032	8.032	8.0320	2.9175		
0.15	40	0.056	8.056	8.0560	2.9092	0.0474	0.0542
0.25	40	0.094	8.094	8.0940	2.8960	0.0596	0.0824
0.5	40	0.18	8.18	8.1800	2.8661	0.0993	0.1086
1	41	0.082	8.282	8.2820	2.8306	0.1178	0.1421
2	42	0.026	8.426	8.4260	2.7805	0.1663	0.1836
3	42	0.134	8.534	8.5340	2.7430	0.2132	0.2272
5	43	0.086	8.686	8.6860	2.6902	0.2382	0.2570
7	44	0.006	8.806	8.8060	2.6484	0.2855	0.2980
10	44	0.144	8.944	8.9440	2.6005	0.3097	0.3004
15	45	0.092	9.092	9.0920	2.5490	0.2922	0.2910
20	45	0.196	9.196	9.1960	2.5128	0.2894	0.2749
30	46	0.13	9.33	9.3300	2.4663	0.2646	0.2125
40	46	0.18	9.38	9.3800	2.4489	0.1391	0.2310
60	47	0.13	9.53	9.5300	2.3967	0.2962	0.2215
120	48	0.084	9.684	9.6840	2.3432	0.1779	0.1443
180	48	0.128	9.728	9.7280	2.3279	0.0869	0.1136
300	49	0.014	9.814	9.8140	2.2980	0.1348	0.0907
420	49	0.024	9.824	9.8240	2.2945	0.0238	0.1694
1440	50	0.146	10.146	10.1460	2.1826	0.2092	#NUM!



Sample – Fish market – Undisturbed – BH 6 (3.00-3.50)
Started Date-13/02/2013
Conventional Consolidation
Load Increment 232kN/m^2 to 463kN/m^2

Elapsed Time /(min)	Dial Major	Dial Minor	Corrected Dial Gauge Reading	Settlement /(mm)	Void Ratio (e)	Cα1	Cα2
0	50	0.146	10.146	10.1460	2.1826		
0.1	51	0.076	10.276	10.2760	2.1374		
0.15	51	0.092	10.292	10.2920	2.1318	0.0316	0.0402
0.25	51	0.122	10.322	10.3220	2.1214	0.0470	0.0731
0.5	52	0.002	10.402	10.4020	2.0936	0.0924	0.0820
1	52	0.064	10.464	10.4640	2.0720	0.0716	0.1006
1.5	52	0.14	10.54	10.5400	2.0456	0.1501	0.1548
2	52	0.198	10.598	10.5980	2.0254	0.1614	0.1478
3	53	0.068	10.668	10.6680	2.0011	0.1382	0.1730
5	53	0.196	10.796	10.7960	1.9566	0.2006	0.2268
7	54	0.108	10.908	10.9080	1.9176	0.2665	0.2518
10	55	0.014	11.014	11.0140	1.8808	0.2379	0.2395
15	55	0.136	11.136	11.1360	1.8384	0.2409	0.2564
20	56	0.036	11.236	11.2360	1.8036	0.2783	0.2564
30	56	0.158	11.358	11.3580	1.7612	0.2409	0.2379
40	57	0.042	11.442	11.4420	1.7320	0.2337	0.2194
60	57	0.148	11.548	11.5480	1.6951	0.2093	0.1520
90	57	0.196	11.596	11.5960	1.6784	0.0948	0.0901
120	58	0.026	11.626	11.6260	1.6680	0.0835	0.0647
180	58	0.052	11.652	11.6520	1.6590	0.0513	0.0821
300	58	0.12	11.72	11.7200	1.6353	0.1066	0.0831
420	58	0.14	11.74	11.7400	1.6284	0.0476	0.1490
1440	60	0.012	12.012	12.0120	1.5338	0.1767	0.1430
2880	60	0.084	12.084	12.0840	1.5088	0.0832	0.0568
4320	60	0.09	12.09	12.0900	1.5067	0.0118	0.0162
5760	60	0.098	12.098	12.0980	1.5039	0.0223	0.1881
7200	61	0.01	12.21	12.2100	1.4650	0.4018	0.2290
8640	61	0.014	12.214	12.2140	1.4636	0.0176	0.0714
10080	61	0.04	12.24	12.2400	1.4545	0.1350	#NUM!