S T R E S S   P A T H S   A N D   C O L L A P S I N G   S O I L S

A Thesis presented to the

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the degree of Master of Science in Engineering.

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** This candidate has successfully completed five postgraduate courses (24 credit points) in partial fulfilment of the requirements for the M.Sc.Eng. degree, and therefore this thesis represents approximately one half of the value of an M.Sc. thesis submitted in complete fulfilment of the requirements for the degree. (For details of courses taken, see page C1 in last Appendix.)*

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DECLARATION

The writer hereby declares that except where otherwise stated, the content of this thesis is substantially his own work and has not been submitted to any other university.

Signed by candidate

L.A. ERRERA

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B I B L I O G R A P H Y

1. TERZAGHI, K. "Theoretical Soil Mechanics"
2. LAMBE, T. and WHITMAN, R. "Soil Mechanics"
3. TERZAGHI, K. and PECK, R. "Soil Mechanics in Engineering Practice"
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25. TRUSWELL, J.F. "An Introduction to the Historical Geology of South Africa"

26. MOUNTAIN, E.D. "Geology of Southern Africa"

27. HOLMES, A. "Principles of Physical Geology"

28. KNIGHT, K. "The Collapse of Structure of Sandy Subsoils on Wetting" (Ph.D. Thesis)

29. BRINK, A.B. and KANTEY, B.A. "Collapsible Grain Structure in Residual Granitic soils in Southern Africa"

30. ALLEN, J.R.L. "Physical Processes of Sedimentation"

31. WAY, D. "Terrain Analysis"

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45. FABER and MEAD "Foundation Design Simply Explained"

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CHAPTER 1

BRIEF INTRODUCTION TO THESIS

The design of footings and the accurate prediction of settlements is inherently difficult as the parameters involved vary considerably.

The initial stage of the design consists of three steps. The first step is to define all the parameters required. The second step is to give quantitive values to these parameters by performing tests and calculations. The third and last step should be the investigation of changes in external or local conditions on these parameters. The importance of this step is brought to the fore when considering collapsing soils and heaving clays.

The next stage of the design would be to consider the stress changes at either an average point or a grid of points below the footing within the soil mass. To do this the engineer makes use of conventional methods of analysis. Factors such as horizontal strata and variations of properties with depth must be considered.

Once the engineer has defined all the stress changes he must then decide which method of settlement prediction would be appropriate. The deformations of the soil mass do not only depend on the change in stress, but also on the previous stress-strain history of the soil and the actual variation of stresses with time during the settlement process. (e.g. see the error involved when considering the Skempton-Bjerrum method. Refer to Chapter 7). As the stress path accurately reflects all the stress changes the stress path method is an excellent tool for describing the stress and strain variations. There are numerous methods all of which have their merits and disadvantages. These will be discussed, and the influence of the stress path on settlement prediction is also analysed. Although a stress path method of settlement prediction might not always be essential, an analysis of a typical stress path for the particular problem would appear to be an excellent initial approach to deciding on the validity of any method of settlement prediction.

The final stage is the accumulation of data and the prediction of the settlement value using one or more of the following methods:

1) Find the field penetration using the Dutch Cone Penetrometer (or any accepted penetrometer). This value is then used in conjunction with predetermined design curves to find the settlement.
2) Make use of settlement formulae which are directly derived from elastic theory. These do not take into consideraton any of the variations of properties within the soil mass (see Chapter 7).
3) Define an average point or a number of grid points below the foundation (see Chapter 5). For each point evaluate a stress variation and hence calculate a corresponding strain value. The settlement of the footing is then calculated using the strain values.

The above estimated settlement values are also to be regarded with caution, as foundation size and rigidity do influence predicted values. There are however methods to diminish these inaccuracies (see Chapters 3 and 7).

The engineer should be able to predict the stress variations with reasonable accuracy if he has a knowledge of the influences of all these factors on the idealised elastic case (e.g. foundation size, rigidity, existing horizontal stresses etc). It therefore becomes apparent that the predicted settlement is not a 'wild estimate', but a carefully analysed value which can be forecast with confidence, providing the proper tests have been made.

CHAPTER 2

COLLAPSING SOILS

2.1 Introduction to the phenomenon of collapsing soils

The problem of collapsing soils is a world wide phenomena. On these soils excessive settlements can be experienced by footings carrying only a fraction of the safe bearing capacity according to current theories.

After investigation of case histories (Knight, Ref. 28 and Kantey, Ref. 29) it was found that if a particular type of soil was subjected to a load greater than the past overburden pressure and the collapsing soil was simultaneously wetted, then excessive settlement would occur. This sudden excessive settlement has been defined as 'settlement due to collapse' (Knight, Ref. 28). Collapse is a rapid decrease in void ratio and refers to the altering of the packing of the grains.

The amount of water necessary to produce this collapse phenomena is related to the clay content as well as the type of clay present. In the case of a collapsing decomposed granitic residual soil this statement is justified, providing the proportion of clay is expressed as a percentage by mass of the material below 1 mm. If the moisture content is too high, the soil settles fully under the loading, and no further collapse occurs due to further wetting while the soil carries this load. Critical moisture contents above which no more collapse settlement occurs have been observed by the writer. These are shown in Table 2.1 for three soils.

2.2 Collapsing soils in South Africa

Collapsing soils fall into two main categories i.e. decomposed in situ residual soils or transported decomposed silty sands. The transported material is silty sand because the prime mode of transportation is wind.

Clay content & soil description	Field void ratio	Moisture content after which no further collapse settlement occurs	Degree of saturation after which no further collapse settlement occurs	Source of sample
	e_o	(Constant load 110 kN/m^2) i.e. 1 ton/ft^2	(Constant load 110 kN/m^2) i.e. 1 ton/ft^2	
19% Clay Berea Road Collapsing sand	0,712	16,5 %	69,4 %	Via Prof Sparks
10% Clay Sishen Collapsing sand	0,802	5,2 %	20,7 %	Via Mr Stern
5% Clay Feathers Decomposed Granite	0,915	13,7 %	52,0 %	Via Mr Butters

TABLE 2.1 *Comparison of Collapsing Properties of Undisturbed Samples Tested*

2.2.1 Physical properites of collapsing aeolian sands

The deposited sands rest unconformably on rock systems (Knight, Ref. 28). They usually have a grey or orange colour. The colouring depends on whether the oxice present is one of Iron (orange) of Aluminium (grey). The darkness of the colour depends on the percentage of the oxide present in the soil.

All the sands display a uniformity of size. This is a direct result of the aeolian mode of transportation (Knight, Ref. 28, Allen, Ref. 30 and Way, Ref. 31). Way and Allen define the sizes of saltating (i.e. bouncing) grains in wind as varying between 0,5 and 0,15 mm. Results of sieve analyses substantiate this (see Figure 2.1).

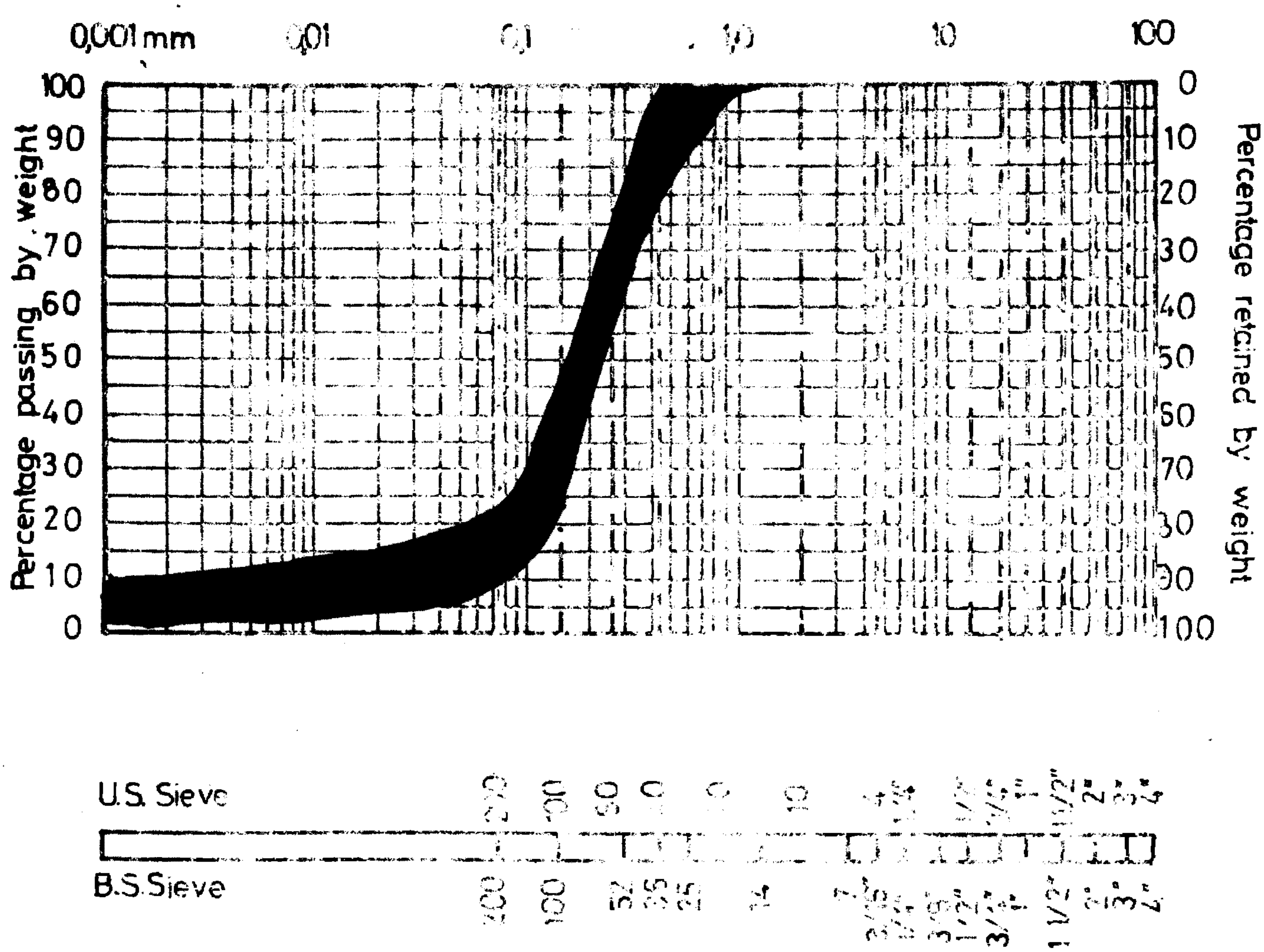


FIGURE 2.1 *Sieve Analysis of Collapsing Soils Investigated by the Writer*

Particles which are larger and finer than the usual wind-blown sizes are also present in the windblown sands. These larger sizes can arise from a process defined as creep (Way, Ref. 31, and Allen, Ref. 30). The finer sizes may be deposited after travelling in suspension, or from in situ weathering after deposition of larger saltating grains. In collapsing sands the latter can be the cause of the finer portion of the sand (Knight, Ref. 28).

The envelope of eight collapsing aeolian sands is shown in Figure 2.2. Jennings (Ref. 32) and Knight (Ref. 28) emphasize that all collapsing sands have a characteristic gap grading. The writer however feels that the characteristic grading curve of collapsing sands should rather be described as uniformly graded with relatively low clay content. For this thesis clay content is defined as the proportion by mass of the sample below a grain size diameter of 0,074 mm.

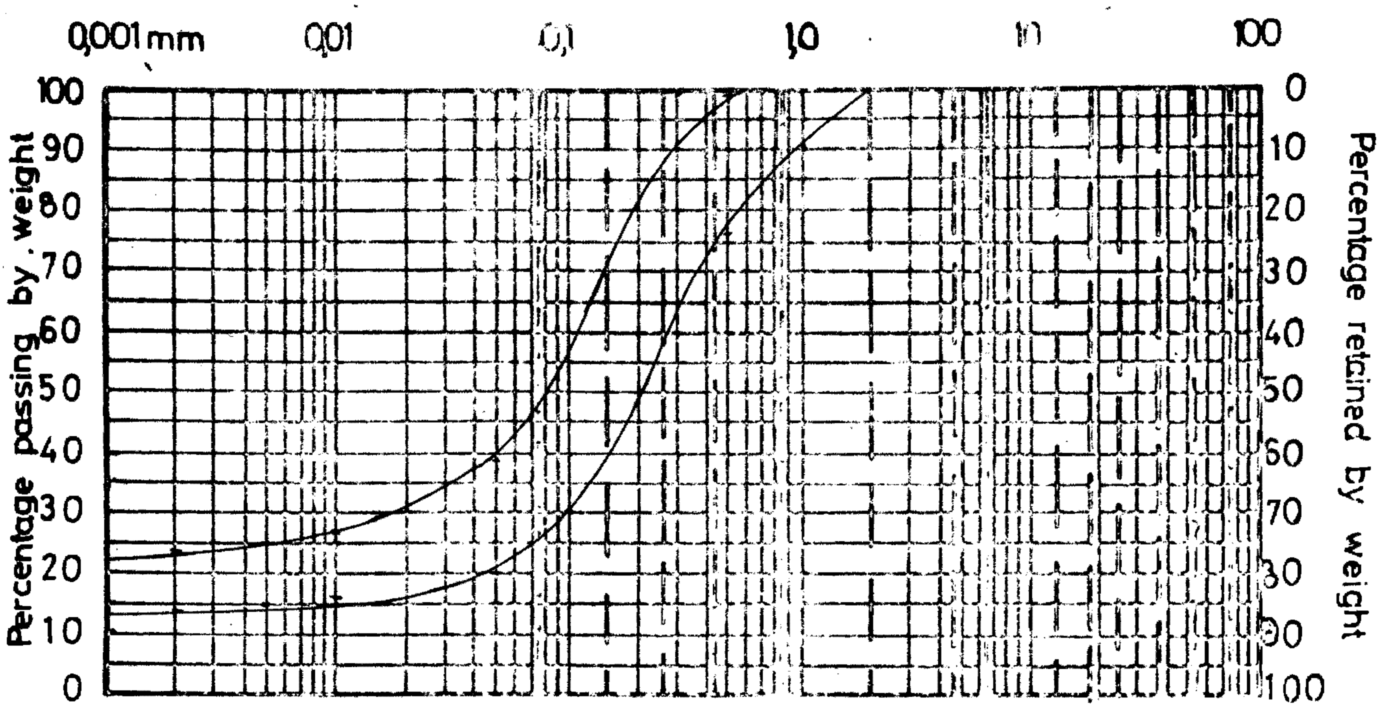


FIGURE 2.2 *Envelope of Eight Collapsing Sands (Knight, Ref. 28 and Jennings, Ref. 32)*

2.2.2 Sequence of events resulting in the formation of collapsing aeolian sands

Initially in areas of arid climatic conditions rocks are broken down. The breaking down process is caused by the action of temperature, wind and water. When the process has continued long enough for the material to be transported, the sands will either be transported by wind for long distances, or they may be deposited locally. Local deposition is a result of local dustbowl conditions. In the Transvaal these local dustbowl conditions are known to exist (Knight, Ref. 28).

In the areas where the sands are deposited the climatic conditions may be different. The map in Figure 2.3 describes the recent deposition of windblown sands (Knight, Ref. 28 and Kantey, Ref. 29) and areas where precipitation of water exceeds evapo transpiration. (Knight, Ref. 28, Kantey, Ref. 29 and Van der Merwe, Ref. 33).

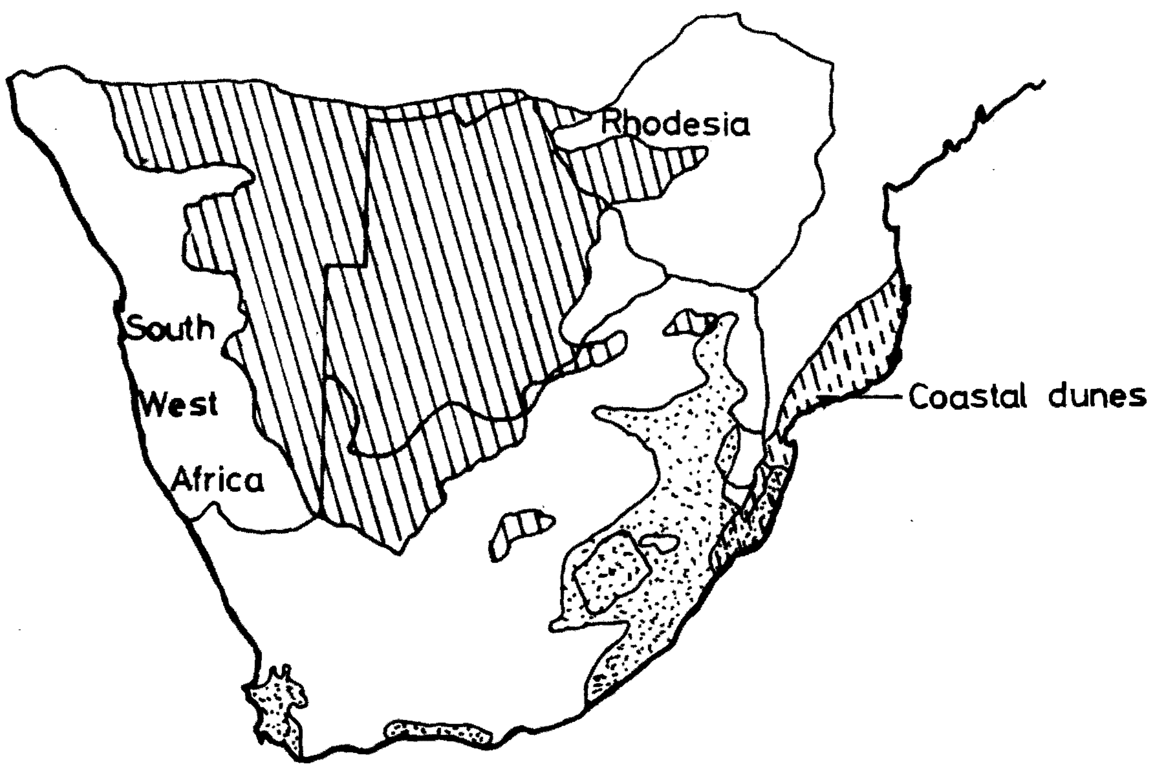


FIGURE 2.3 *Areas of Recent Windblown Sheets and of Annual Water Surplus*

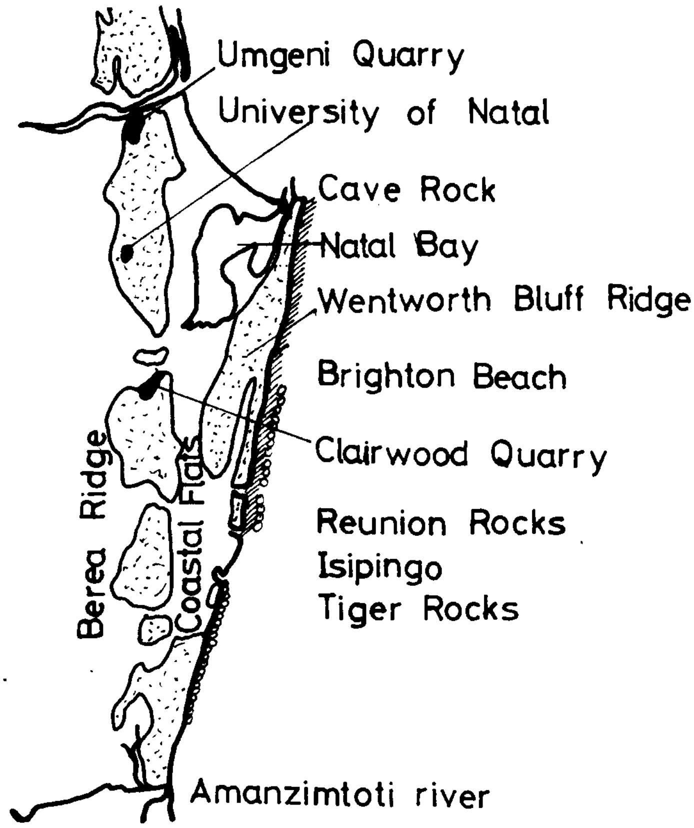


FIGURE 2.4 *The Distribution of the Bluff Beds, the Berea Red Sandstone (Weathered Bluff Beds) and raised beach deposits in the Durban area.*

Kaolonite bridges are formed between the hard quartz grains. The iron oxide present covers the quartz grains and assists in the cementing together of the grains. The end result is a weakly cemented loosely packed soil mass. See Figure 2.5.

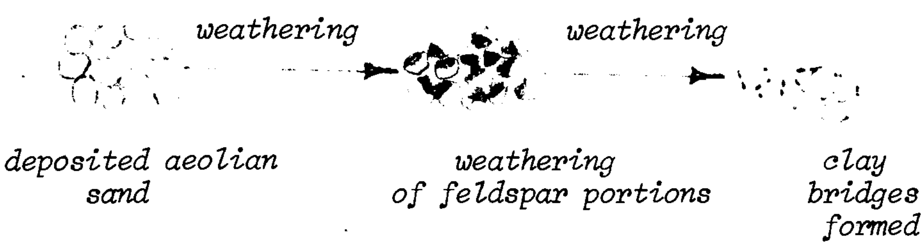


FIGURE 2.5 *Schematic Representation of Insitu Weathering*

2.2.3 Composition and source of collapsing sands

The parent rock is usually granite. The sands are predominantly quartz. Small percentages of heavy minerals (e.g. ilmenite and tourmaline) are present. Knight (Ref. 28) shows that it is this small percentage of heavy minerals which can be used to define the origin of the transported sands. Variable quantities of feldspar are present.

The hard grains are chiefly quartz and chert. Microscopic examination of windblown quartz grains shows them to have a frosted texture. (Knight, Ref. 28).

The clay content of the sands vary. Knight (Ref. 28) quotes an average value of 20 per cent for the clay content of collapsing sands. The sample from Sishen, tested by the writer, has a much lower clay content. The clay fractions of most collapsing sands consists mainly of kaolinite with minor amount of illite. The clay is formed as a by-product of feldspar weathering.

Adhering to the grains is a fine layer of iron oxide. The colours of soils tested by the writer varied from a brick red (Berea Road, Durban) through a dull brown (Sishen) to a orange (Yellowood Parkway, Durban). The iron oxide is a weathering product of the mafic minerals present in the wind deposited soil mass.

2.2.4 Conditions surrounding collapsing sands

Aeolian or windblown sands were deposited mainly during the Pleistocene times. Pleistocene times are associated with arid climatic conditions. Areas where collapsing soils have been found have rainfalls varying from 41 cm to 82 cm per annum.

Underlying all transported collapsing sands a pebble-marker layer has been found. The weathering of the rock formations underlying the pebble-marker indicates the weathering that has occurred in the collapsing sand (Knight, Ref. 28).

The rapidity of in situ weathering is dependent upon climatic conditions and internal soil drainage. In humid climates and under good internal soil drainage conditions the weathering process is accelerated.

Figure 2.6 illustrates the distribution of collapsing sands in South Africa (Knight, Ref. 28 and Van der Merwe, Ref. 33). Comparison of Figures 2.3 and 2.6 shows a definite correlation between areas of recent transported sands, rainfall surplus and known sites of collapsing sands. Subsequent areas where collapsing sands were found are Sishen and Durban. The Sishen area however does not lie in a zone of rainfall surplus.

2.2.5 The structure of collapsing sands

The structure of collapsing sands consists of the stable quartz grains weakly cemented by clay bridges. These clay bridges display strength parameters which are highly dependent upon moisture content. In cases when the degree of saturation is low, the collapsing soil seems to have much higher strength parameters than a pure sand. The addition of water appears to lubricate the coated quartz particles. This reduces both the angle of internal friction and the cohesive strength of the collapsing sand. This reduction in the strength parameters must be related to the percentage of clay present in the collapsing sand. This would seem to be the reason for the main difference between the Southern African sands and collapsing sands in the other areas throughout the world. The difference is that collapsing sands in America (Knight, Ref. 28) will not support their own weight when inundated whereas the Southern African sands do not collapse under normal overburden pressures due to self weight.

The sands have relatively high void ratios which may differ in any one location. Differences in void ratio in any one location arise from occurrences such as failure near the toe of a dune (Knight, Ref. 28). Within the voids are uncompacted fine portions of the soil mass. When collapse of the soil mass takes place these portions are compacted.

Figure 2.7(a) shows the structure of the undisturbed deposited sand while Figure 2.7(c) shows the collapsed structure (Knight, Ref. 28, Knight and Jennings, Ref. 34, and Jennings, Ref. 32). Figure 2.8 shows a typical e-$\bar{p}$ collapse curve for a collapsing sand. The method and description of the test as used at the University of Cape Town is described in Chapter 9.

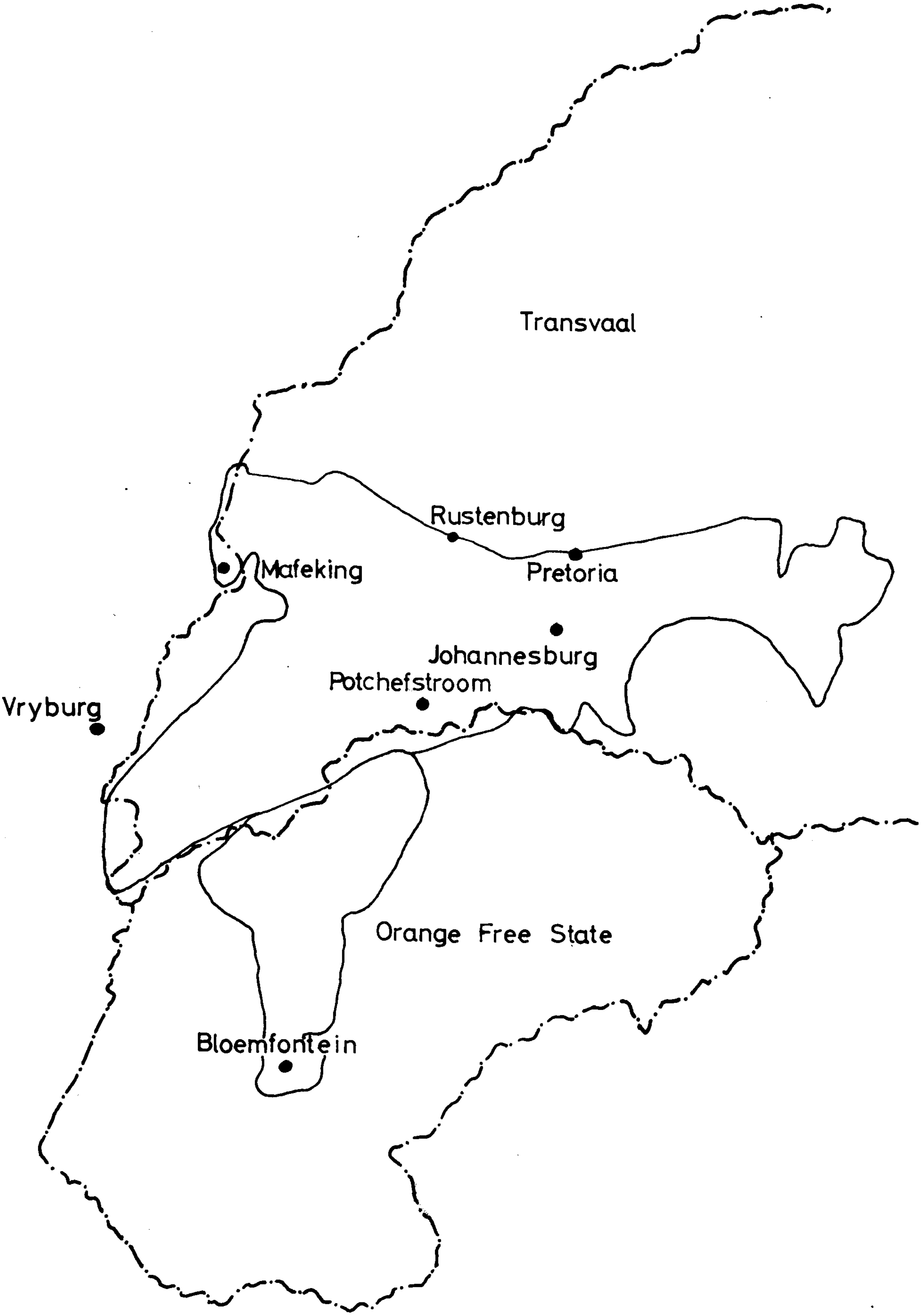


FIGURE 2.6 *Distribution of Commonly known Areas of Collapsing Sands in South Africa*

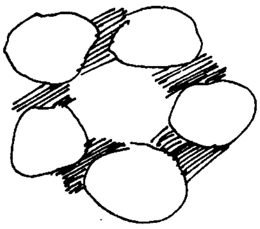


FIGURE 2.7(a) ORIGINAL FIELD STRESS STATE

Low moisture content
High void ratio
Subjected to self weight pressures only

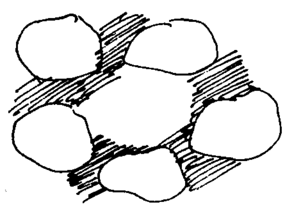


FIGURE 2.7(b) LOADED STATE (without wetting)

Low moisture content
Relatively high void ratio
Subjected to self weight overburden pressure plus design loads

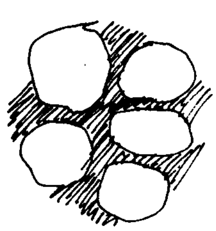
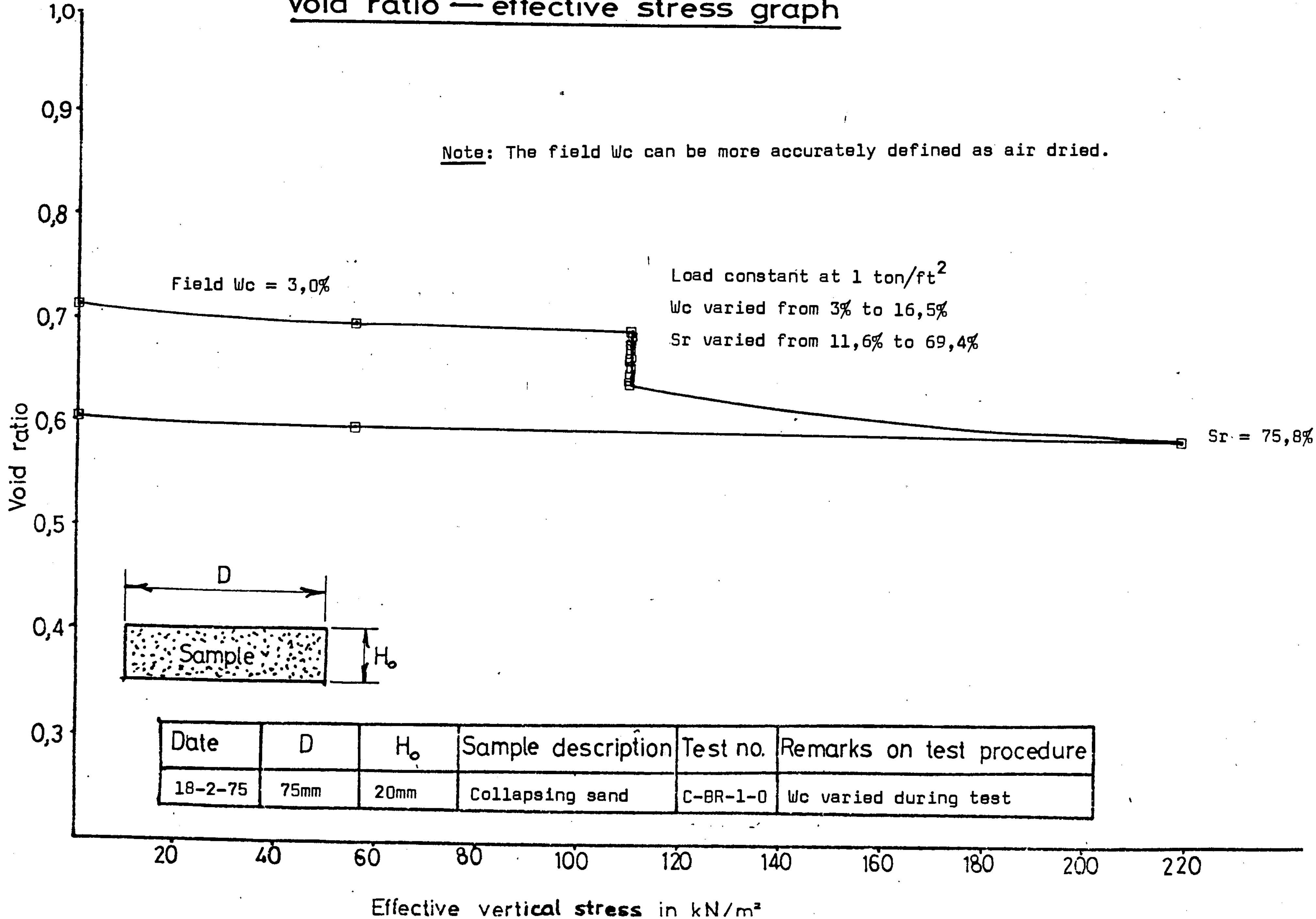


FIGURE 2.7(c) LOADED STATE (after further wetting)

Relatively high moisture content
Low void ratio
Subjected to overburden pressure plus design loads

FIGURE 2.8 $e - \bar{p}$ Collapse Curve for Berea Road Sample



Date	D	H_o	Sample description	Test no.	Remarks on test procedure
18-2-75	75mm	20mm	Collapsing sand	C-BR-1-0	Wc varied during test

2.2.6 Physical properties of collapsible residual granitic soils

This soil type is formed when the feldspars and the mafic minerals of the parent rock are weathered in situ. The resulting soil consists of a large percentage of quartz particles surrounded by finer material.

The finer material consists of fine sand particles with a thin layer of either iron oxide or aluminium oxide adhering to them. As with the collapsing sands, clay bridges also link the larger sized particles in the collapsing residual granitic soils.

The results of a grading analysis done on this soil type is shown in Figure 2.9(a). In Figure 2.9(b) a comparison of grading curves for the collapsing sands and for the granitic soil is shown. The curve for the collapsing sands is an average curve derived directly from Knight (Ref. 28). Only the ~~finner~~ finer section of the grading curve for the granitic soil is used. This section of the curve is adjusted to represent a complete sample.

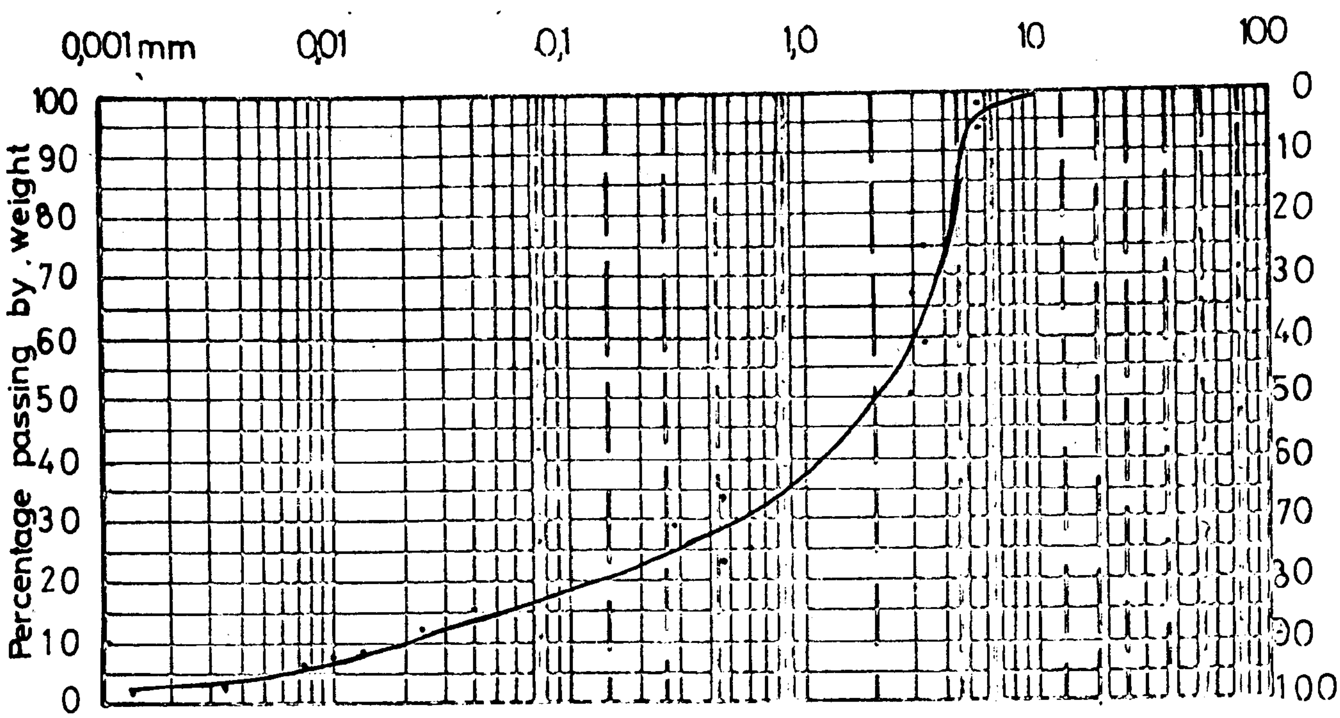


FIGURE 2.9(a) Grading Curve for Feathers Sample

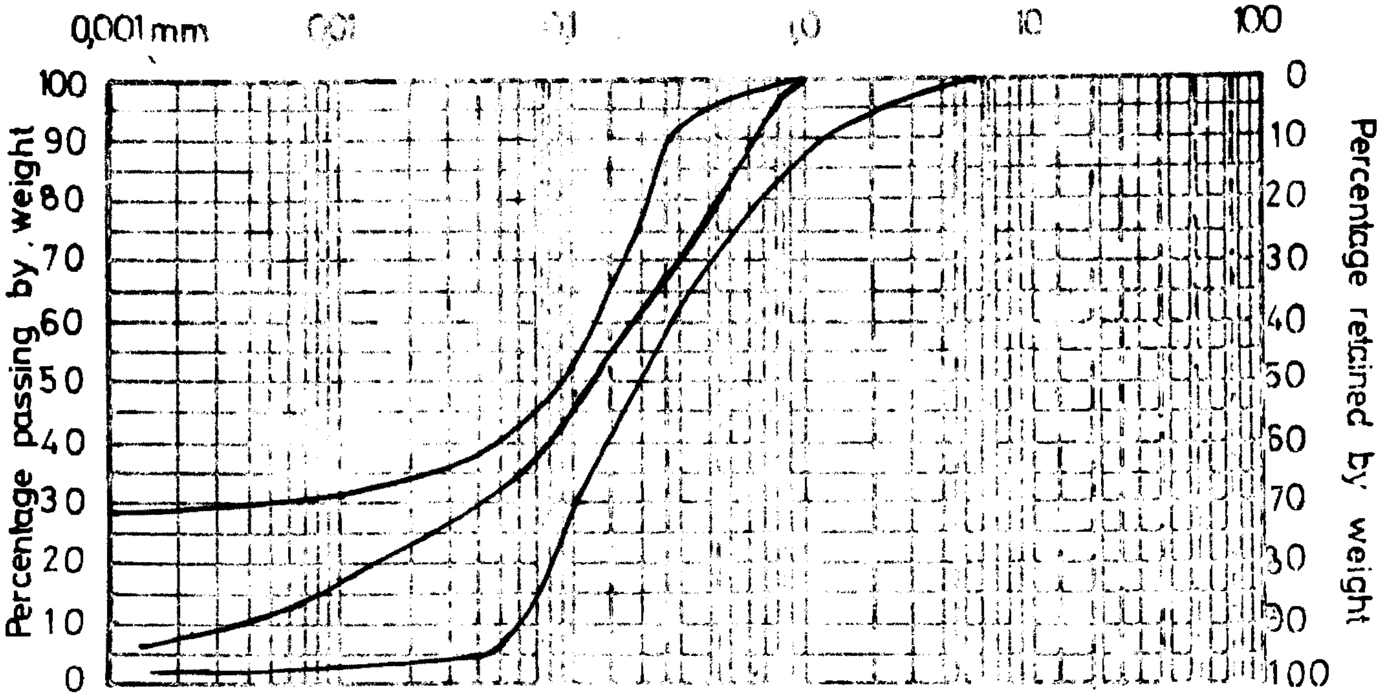
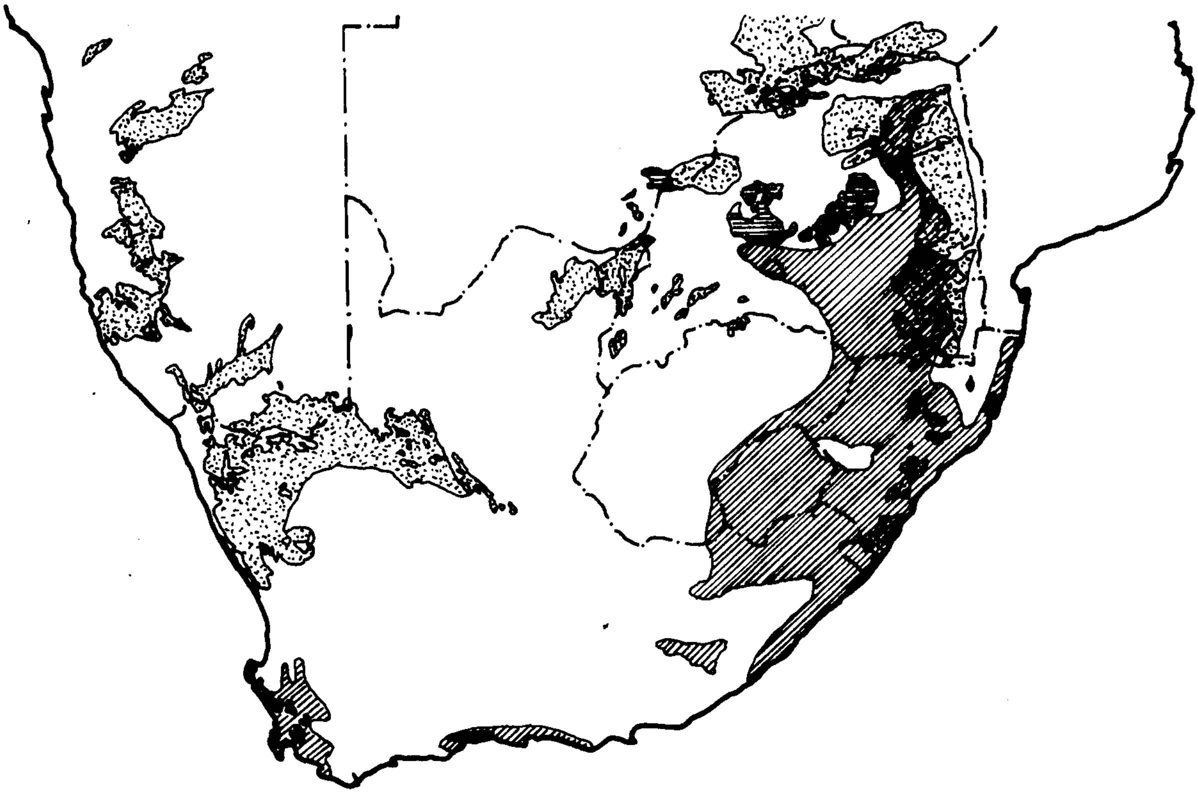


FIGURE 2.9(b) *Comparison of Grading Curves*

According to other workers (e.g. Knight, Kantey, Holmes) the two main climatic factors associated with the collapse structure of the soil are that precipitation must exceed evapo-transpiration and the existence of arid conditions see Figure 2.10. Seasonal climatic variations and the presence of slopes or large angles of dip accelerate the process of the formation of the collapse structure.

The colouring of granitic residual soils is either reddish brown or grey. The cause and variations in colouring is the same as for the collapsing sands.



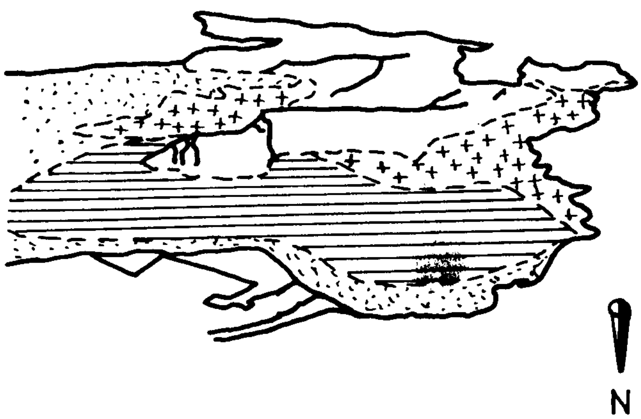
Distribution of Red Bushveld Granite

Distribution of younger Cape Granite

Distribution of Old Granite

Areas of annual water surplus

FIGURE 2.10 Granite Areas and Areas of Net Excess Rainfall in S.A.



Sand

Table Mountain Series

Cape Town Granite

Malmesbury Series

FIGURE 2.11 Detailed Geographical View of the Cape Peninsula

2.2.7 Sequence of events resulting in the production of collapsible granitic soils in South Africa

The parent rock consists mainly of quartz (25% to 40%), feldspar (orthoclase, plagioclase up to 50%) and mica (light or dark).

The weathering process is divided into two main categories, mechanical weathering and chemical weathering. The weathering process usually leaves a loosely packed skeleton of unweathered products. The unweathered products are chiefly quartz and muscovite (Holmes, Ref. 27).

Mechanical weathering is the breaking down of the parent rock into smaller particles. Agents of this process are rain, frost and wind. Sudden temperature changes will cause flaking of the parent rock.

Chemical weathering is the breaking down of minerals into new components by the action of chemical agents. Representative of these chemical agents are acids in the air, in rain water and in river water.

A. Horizon Top Soil	high void ratio high porosity quantities of inorganic particles and vegetable humus	Decreasing organic content
	Mixture of soil and rock fragments	
B. Horizon	Weathered Rock	
Sub Soil	Unweathered Rock	

FIGURE 2.12 *Typical Cross-section Through weathered layers down to Parent Rock (Holmes, Ref. 27)*

The weathered material may either remain in position as residual deposits or be removed by the action of wind and/or water.

The voids in the B Horizon are filled with air together with water from rainfall. Some of this water percolates down into the rock. The jointing of the granite increases the depth of penetration. This groundwater can become acidic in passing through the soil and can under certain conditions reduce the granite to a relatively porous weak soil mass.

Denudation also accelerates weathering. A reduction in loading will cause a vertical expansion within the rock mass. This gives rise to the formation of sheets of rock due to the opening of joints parallel to the ground surface. This occurrence is a characteristic of granites. The frequency of the existence of the sheets diminishes with depth into the granite.

Once the weathering process has been completed the products that are in colloidal form are transported to other areas. The transportation process can either be due to the flow of water down a slope or by the upward movement of water. The upward flow of water occurs mainly in areas where there are heavy rainfalls followed by hot dry seasons during which evaporation is rapid. The top soil water is removed by plants and evaporation. The water below the surface is then drawn upwards. The weak solutions produced by the leaching of the rocks during the wet season, then become concentrated. Dissolved materials such as the hydroxides of aluminium and iron are then deposited (Holmes, Ref. 27). Kantey, (Ref. 29) states that slopes are essential for the formation of this soil type whereas Holmes, (Ref. 27) quotes flat areas where decomposed granite to depths of 10 metres and more have been found.

2.2.8 The processes involved in the chemical weathering of rock

Rain water acts as a carrier for dissolved oxygen and carbon dioxide and for various acids and organic products derived from the soil. Natural water is slightly dissociated into H^+ and OH^- ions. The pH of rain water varies between four and seven (i.e. it is acidic). The acidity is formed mainly from dissolved carbon dioxide which ionises the water (see equation 2.1). The very low pH values might be due to a lightening discharge. The discharge produces nitric and other acids in small amounts. The effect of carbon dioxide (without lightning) is shown by the following equation:

$$CO_2 + H_2O = H^+ + (HCO_3)^- \qquad (2.1)$$

(Holmes, Ref. 27)

The main chemical changes which occur in the soil are:

a) Solution of solubles by water
b) Oxidation of certain substances
c) Hydration or hydrolysis
d) Formation of carbonates

The feldspars break down under the hydrolysing action of slightly carbonated waters. The main residual products of decomposition of feldspars are clay minerals and silicic acid.

$$\underset{}{6H_2O} + CO_2 + \underset{\text{orthoclase}}{2KASi_3O_8} = \underset{\text{clay minerals}}{Al_2Si_2O_5()H)_4} + \underset{\text{silicic 'acid'}}{4SiO(OH)_2} + \underset{\text{removed in solution}}{K_2CO_3}$$

(Holmes, Ref. 27)

Most of the clay mineral initially exists in colloidal solution. Colloid particles are larger than ions, but smaller than can be seen by the microscope. The particles eventually congregate into tiny scales or flakes which coat the residual grains. These clay minerals form the clay bridges.

2.3 Conclusion

In areas where climatic conditions favour the formation of collapsing soils, consideration should be given to the behaviour of soils due to varying the moisture content of a load-bearing soil.

There are various methods to control the collapse phenomena of these soils (Knight, Ref. 28, Kantey, Ref. 29, Tschebotarioff, Ref. 22 and Robert Leslie and Partners). The most common method of inducing collapse before construction is the simultaneous inundation and loading of the soil.

CHAPTER 3

BRIEF OUTLINE OF THESIS WORK

3.1 Brief outline of thesis

At this stage of this thesis, it seems advisable to provide a brief guide to the major steps which were followed in planning and setting out the work of this thesis.

The fold-out flow chart in Figure 3.1 shows the main steps of the thesis. In some cases there might be a slight overlap of ideas between the conclusions discussed in the final Chapter of the thesis and Figure 3.1.

3.2 Comments concerning the flow chart in Figure 3.1

It will be noticed that Figure 3.1 is not a description of the conventional stress path method used for settlement prediction by Simons, Lambe and others. Instead Figure 3.1 can be regarded as one possible plan for investigating certain background assumptions which are implied in the use of a stress path method for settlement prediction.

Particular attention has been given to the comparison between the stress paths (for soil elements under footings) which follow either the K_o stress path, or a more correct stress path in which Boussinesq type equations are used to find the stress increases due to the surface loading.

As a result of these comparisons it was found that the K_o condition might be suitable for use even in a stress path approach to the settlement prediction for collapsing soils. A modification to the K_o stress path occurs during collapse, in that the soil stress moves to another K_o stress path line. However this would also occur in a consolidometer if a collapsing soil is wetted under loading. Hence the consolidometer is still a good instrument for the laboratory studies of collapsing soils, even if one wishes to simulate the field stress path.

The method used to find the extra stresses in a soil due to a uniform surface loading, is not necessarily the only method, nor the best method. It was however a convenient technique based on the principle of superposition for elastic medium.

Although soil is not a true elastic medium, it has been assumed that the stresses calculated for a surface load on an elastic medium will be approximately correct for the soil; even if the resulting strains for a soil may differ from those of an elastic medium.

TITLE: A STRESS PATH APPROACH TO SETTLEMENT PREDICTION
(especially for collapsing soils)

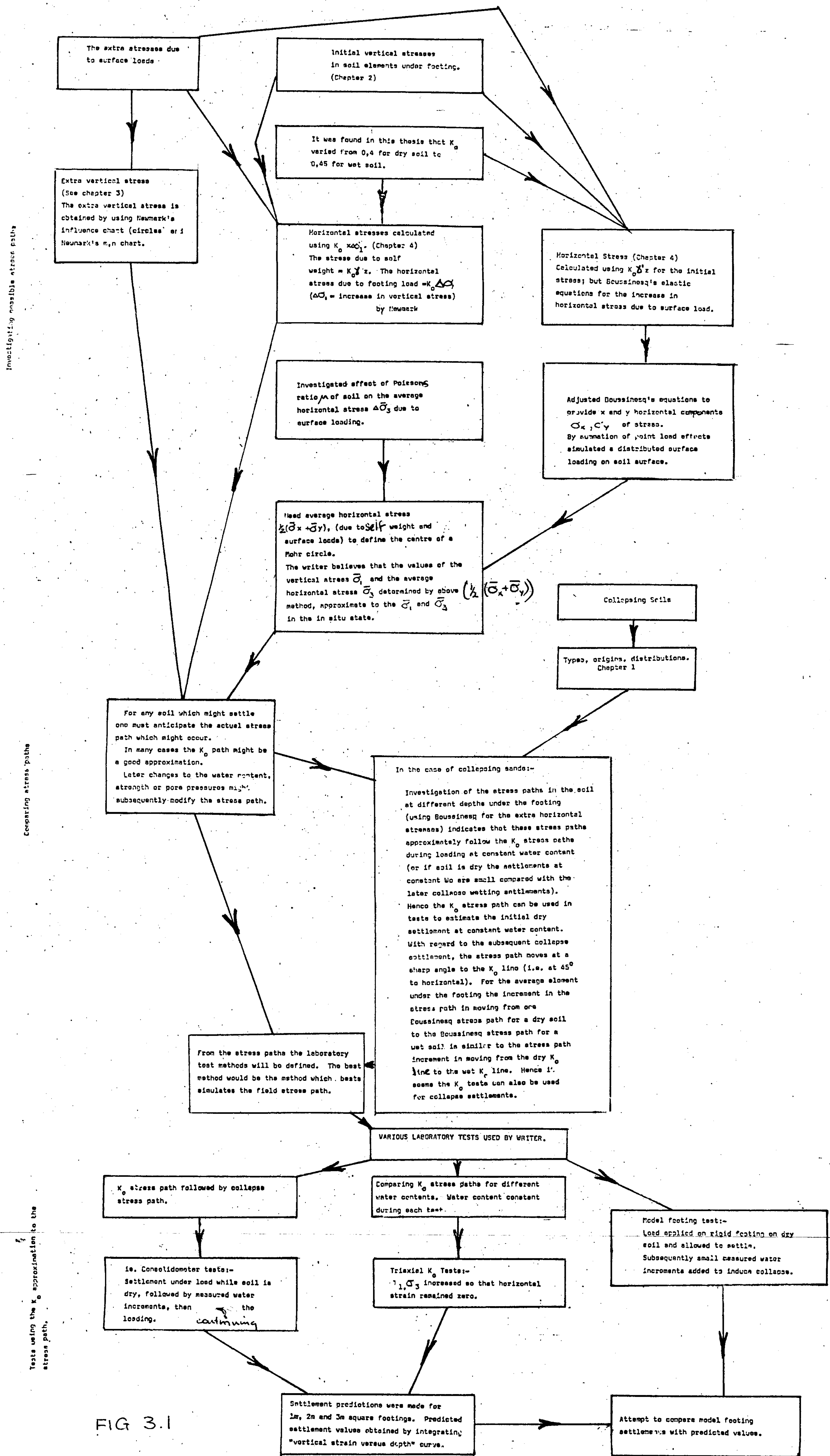


FIG 3.1

CHAPTER 4

VERTICAL STRESSES WITHIN A SOIL MASS

4.1 Introduction to the boundary conditions of elastic formulae

When designing a foundation system the engineer must determine whether the given soil mass will support the load imposed on it by the foundation. The term 'support' implies that both the bearing capacity and the settlement criteria are satisfied. It is therefore necessary to be able to define the magnitude and distribution of the stresses produced under the action of the design load. Formulae are usually based upon the assumptions of:

a) elasticity
b) homogeneity
c) semi-infinite soil mass
d) isotropy

Isotropy is defined as identical elastic properties in every direction through a certain point of the solid. Homogeneity is defined as involving identical elastic properties at every point of the solid (Lambe and Whitman, Ref. 2 and Terzaghi, Ref. 1).

4.2 Dry soil

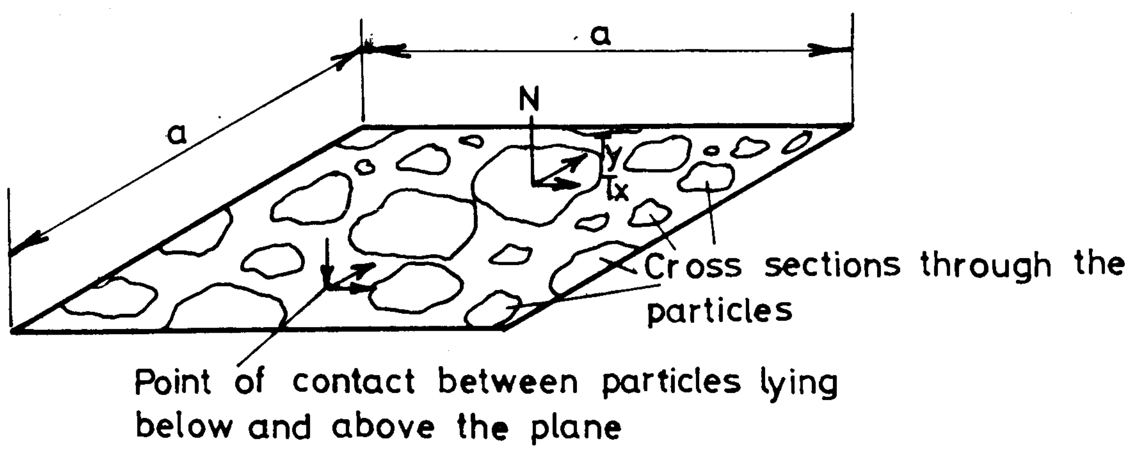
The measuring of the stresses within a soil mass is difficult as the presence of a stress gauge disrupts the stress field that would otherwise exist if the stress gauge were not present. This effect would depend upon the type of soil, the average grain size and the size of the loaded area. 'In a dry soil, stress may be thought of as the force in the mineral skeleton per unit of area' (Lambe and Whitman, Ref. 2). To define this Lambe considers a plane through a soil mass.

This plane passes through pore space as well as through mineral matter. At each point where this plane passes through mineral matter, the forces on these faces can be resolved into components normal and tangential to the plane. These forces are then resolved further to fit into some global coordinate system. The summation of the forces along the vertical axis divided by the area of the plane will define the vertical stress (see Figure 3.1). The shear stresses and the horizontal stresses are similarly defined.

It is important to note that the macroscopic stresses as described above are different from the stresses existing at points of contact between particles. The above definition allows the forces acting at a point to be defined as the forces acting against the sides of an infinitesimally small cube of typical soil.

4.3 Geostatic stresses

Geostatic stresses exist when there are no shear stresses acting on vertical and horizontal planes within a soil mass. The stress is also due to self weight of the soil mass alone.



$$\sigma_1 = \frac{\Sigma N}{a \times a}$$

FIGURE 4.1 *Definition of Stress within a Soil Mass*

4.3.1 Equations based on elastic theories

Most soil mechanics ~~for~~ formulae are based on the assumption that the soil strictly follows Hooke's law. (Ratio between a linear stress, σ, and the corresponding linear strain, ε, is constant (Terzaghi, Ref. 1).

$$\frac{\sigma}{\varepsilon} = E \qquad (4.1)$$

The value of E is derived from the results of the unconfined compression test.

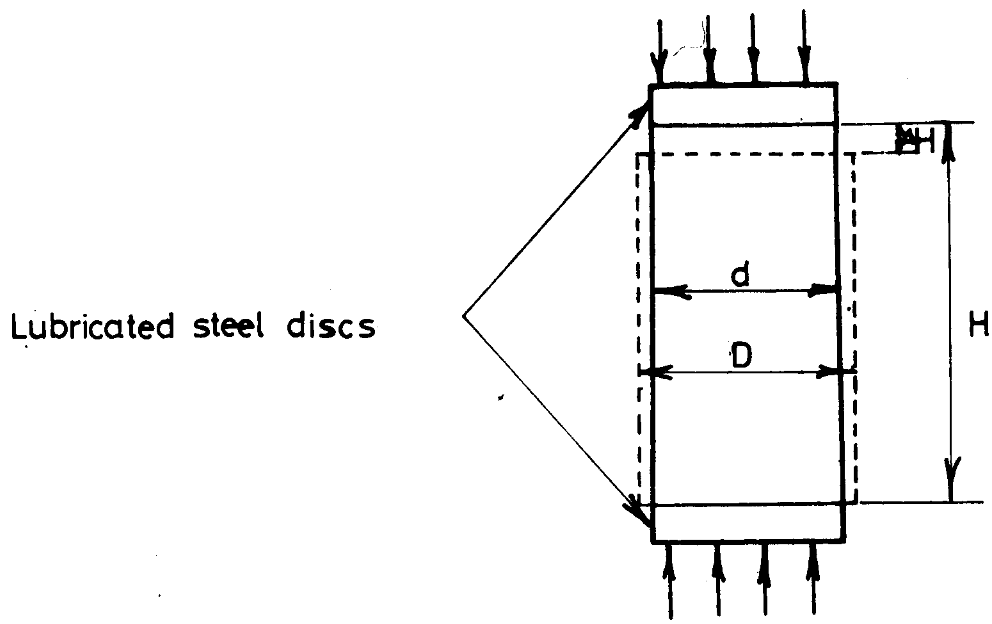


FIGURE 4.2 *Deformations which Occur During the Unconfined Compression Test (Lambe, Ref. 5 and Terzaghi, Ref. 1)*

The vertical load applied will produce both a positive vertical strain and a negative horizontal strain.

$$\varepsilon_1 = \frac{\Delta H}{H} \qquad (4.2)$$

$$\varepsilon_h = \frac{\Delta d}{d} \qquad (4.3)$$

where D-d = Δd

The absolute value of the strain ratio $\varepsilon_h/\varepsilon_1$ is termed Poisson's Ratio (μ). The reciprocal of this ratio is called Poisson's number (m).

4.3.2 <u>The upper and lower limits of Poisson's ratio</u>

Poisson's ratio has been defined as either the ratio of lateral extension to longitudinal contraction for a cylindrical specimen in compression or the ratio of lateral compression to longitudinal extension for a specimen in tension. Therefore by definition if μ were to be negative one of the following situations would have to occur.

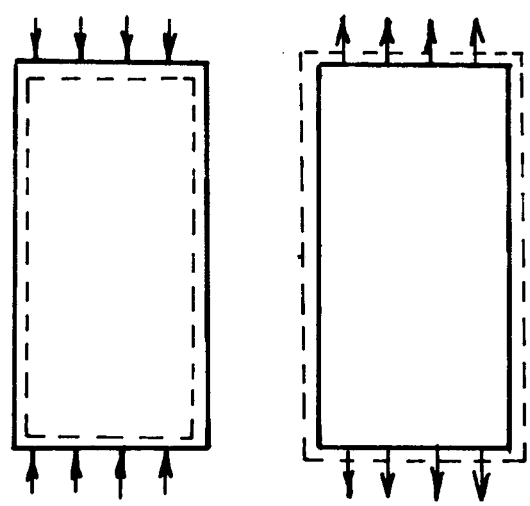


FIGURE 4.3 *Deformations Associated with Negative Values of* μ *(Rauch, Ref. 17)*

For all truly elastic materials the situations in Figure 4.3 are unknown. These conditions therefore define the lower limit of Poisson's ratio, i.e. μ must be positive. However the writer believes that if the void ratio changes during shear (e.g. from a dense packing to a looser packing), care must be exercised in defining μ.

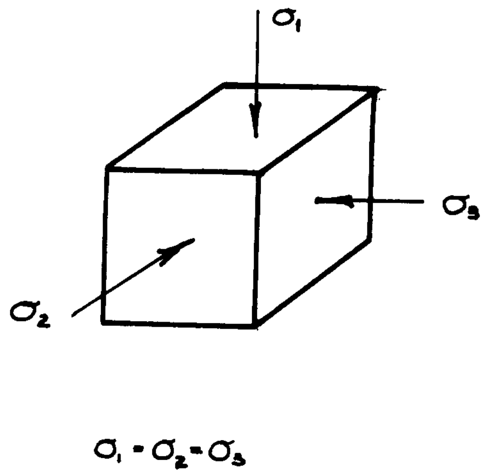


FIGURE 4:4 *Isotropic Stress Application*

If a sample is subjected to an isotropic stress system and if equations (4.1), (4.2) and (4.3) are satisfied then the strain in any one of the three principal directions is $\frac{\sigma}{E} - 2\mu \frac{\sigma}{E}$

The volumetric strain $= \frac{\Delta V}{V}$

$$= 3 \frac{\sigma}{E} (1 - 2\mu) \qquad (4.4)$$

(if a small strain occurs)

From equation (4.4) it is evident that for μ equal to 0,5 the material is incompressible. The range of μ therefore is zero to 0,5.

Terzaghi (Ref. 1) also states that for dense soils and solid granular materials μ varies considerably in magnitude between relatively low stresses and failure stresses. In most formulae applied to soil mechanics μ is considered to remain constant. It is therefore necessary to view this assumption with caution when considering the behaviour of collapsing soil types as the stresses approach failure values.

4.3.3 The relationship between vertical and horizontal stresses

The ratio of the horizontal effective stress to the vertical effective stress is defined by the coefficient of lateral pressure, K, where

$$K = \frac{\sigma_3}{\sigma_1} \qquad (4.5)$$

If a prism of material with unit weight γ kN/m^3 is placed on a perfectly frictionless base, the stresses caused by the self weight will produce a vertical compression and a lateral expansion (see Figure 4.5).

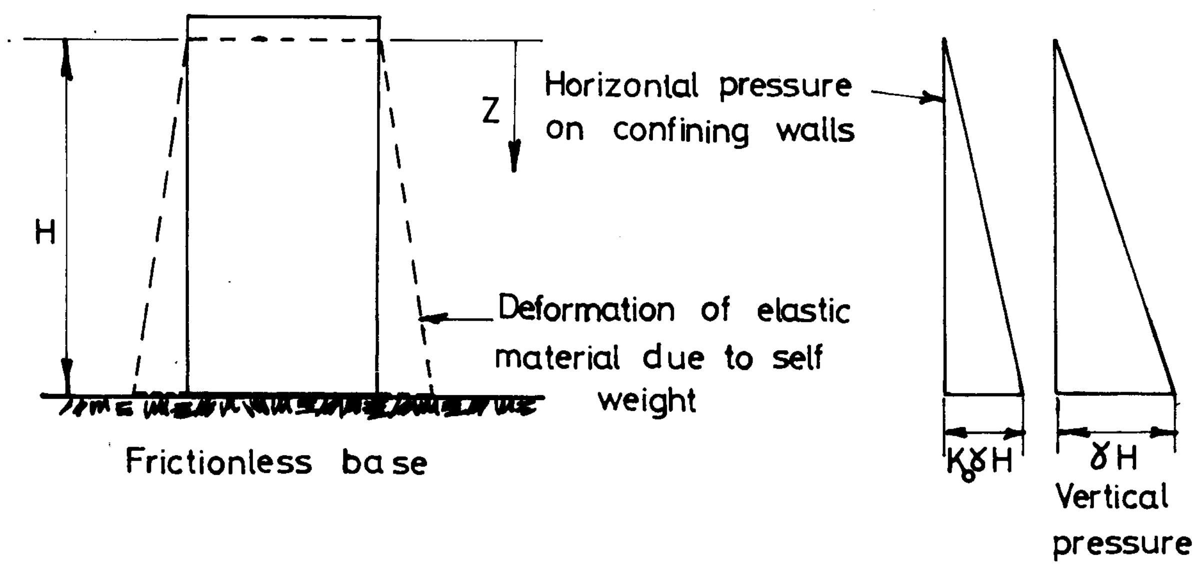


FIGURE 4.5 Deformations and Stresses Associated with a Prism of Soil acted upon by Self Weight Alone (Terzaghi, Ref. 1)

In Figure 4.5, any depth z the vertical stress is equal to γz kN/m^2. Applying equations (4.3) and (4.4) an expression of lateral strain in terms of vertical stress for any depth z is obtained.

The soil prism (cross section) can now be considered to be laterally confined in both horizontal directions between walls of exactly the same soil material, and to rest on a rough base.

A horizontal pressure σ_3 will then be developed along the vertical walls. When compared with the unconfined case in Figure 4.5 this horizontal stress will cause horizontal strains ε_3' due to σ_3. i.e.

$$\varepsilon_3' = \frac{\sigma_3}{E} - \mu \frac{\sigma_3}{E}$$

$$= \frac{\sigma_3}{E} (1 - \mu)$$

The absolute values of this strain must be equal to the strain which existed in Figure 4.5 for the unrestrained case.

$$\frac{\mu \gamma z}{E} = \frac{\sigma_3}{E} (1 - \mu)$$

$$\therefore \quad \sigma_3 = \frac{\mu}{1 - \mu} \gamma z$$

Therefore

$$\sigma_3 = \left(\frac{\mu}{1 - \mu} \right) \sigma_1 = K_o \sigma_1 = K_o \gamma z \qquad (4.6)$$

where

$$K_o = \frac{\mu}{1 - \mu}$$

Where K_o is defined as the coefficient of lateral pressure at rest i.e. when no horizontal deformation is permitted. (Compare K_o with the general notation for K in equation (4.5)).

4.4 Stresses and displacements produced in a semi-infinite solid, with a horizontal surface, due to an imposed loading system

In Figure 4.6 let N' be any point on the surface of a soil mass distance r away from the point of application of a point load Q. N is a point directly below N', at depth z below ground level. The stresses and strains (See Figure 4.6) that exist at point N are described by Boussinesq's equations (see equations (4.7) to (4.12)).

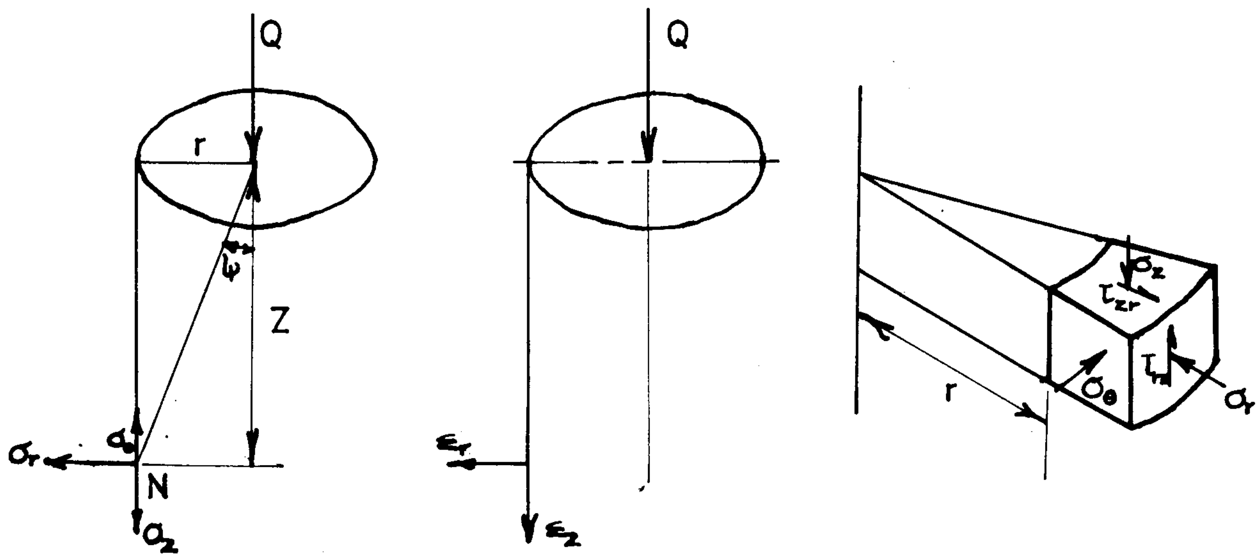


FIGURE 4.6 *Definition of the Stresses and Strains Described by Boussinesq's Equations (Terzaghi, Ref. 1 & Zeevaert, Ref. 14)*

Boussinesq's equations as stated below strictly satisfy the boundary conditions described in the beginning of this Chapter and as such are only within the acceptable limits of accuracy where these conditions are approximated.

The equations of stress according to Boussinesq are as follows:

$$\sigma_z = \frac{3Q}{2\pi z^2} \operatorname{Cos}^5\psi \tag{4.7}$$

$$\sigma_r = \frac{Q}{2\pi z^2}\left[3 \operatorname{Cos}^3\psi \operatorname{Sin}^2\psi - (1 - 2\mu)\frac{\operatorname{Cos}^2\psi}{1 + \operatorname{Cos}\psi}\right] \tag{4.8}$$

$$\sigma_\theta = -(1 - 2\mu)\frac{Q}{2\pi z^2}\left[\operatorname{Cos}^3\psi - \frac{\operatorname{Cos}^2\psi}{1 + \operatorname{Cos}\psi}\right] \tag{4.9}$$

$$\tau_{rz} = \frac{3Q}{2\pi z^2} \text{Cos}^4\psi \text{ Sin } \psi \qquad (4.10)$$

Displacement equations:

$$\varepsilon_z = \frac{Q}{2\pi r} \frac{1 + \mu}{E} \left[2 (1 - \mu) + \text{Cos}^2\psi \right] \text{Sin } \psi \qquad (4.11)$$

$$\varepsilon_r = \frac{Q}{2\pi r} \frac{1 + \mu}{E} \left[- (1 - 2\mu) + \text{Cos}\psi + \text{Cos}^2\psi \right] \text{Sin}\psi \text{ Tan } \frac{\psi}{2} \qquad (4.12)$$

where

Q = the concentrated load on the surface

r = the horizontal radial distance between an arbitrary point N below the surface and a vertical axis through the point of application of Q

ψ = the angle between N and the vertical axis through the point of application of Q

z = the depth below the surface of N

σ_z = the vertical normal stress

σ_r = the horizontal radial normal stress

σ_θ = the horizontal circumferential normal stress

τ_{rz} = the shear stress in the directions of r and z

μ = Poisson's ratio for the solid

ε_z = the vertical displacement of the point N, taken as positive for a downward displacement

ε_r = the horizontal radial displacement, taken as positive for an outward displacement

These equations all assume that the unit weight of the material is zero. The stress obtained is therefore only due to the imposed surface load Q. The determination of the stresses due to self weight has already been described (see equation (4.6)). The summation of these two stress systems will define a stress state for a point within the soil (due to self weight and the load Q).

4.4.1 Vertical stresses due to uniformly distributed loads

The formulae available to the engineer for the determination of stresses due to distributed loads apply only to stresses produced by a flexible area load (i.e. surface loading intensity q is constant). A flexible area load implies that there is no rigid structure such as a footing between the load and the soil surface. To determine the effect of the uniformly distributed load, the load is divided into an infinite number of discrete point loads qdA (see Figure 4.7). Where A is the flexible loaded area and q is the intensity of the uniformly distributed load.

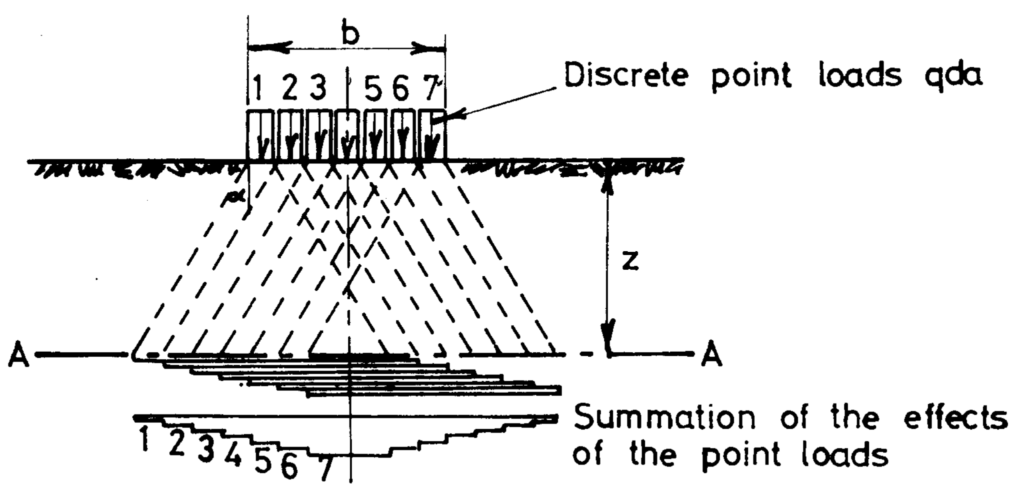


FIGURE 4.7 *Illustration of the Division of an Uniformly Distributed Load into a Number of Point Loads (Tschebotarioff, Ref. 22)*

Terzaghi (Ref. 1) quotes formulae applying to line loads, strip loads and circular loads.

For a line load (see Figure 4.8)

$$\sigma_1 = \frac{2q'}{\pi z} \cos^4\psi \qquad \text{(vertical)} \tag{4.13}$$

$$\sigma_3 = \frac{2q'}{\pi z} \cos^2\psi \cdot \sin^2\psi \qquad \text{(horizontal)} \tag{4.14}$$

$$\tau_{13} = \frac{2q'}{\pi z} \cos^2\psi \; \sin\psi \tag{4.15}$$

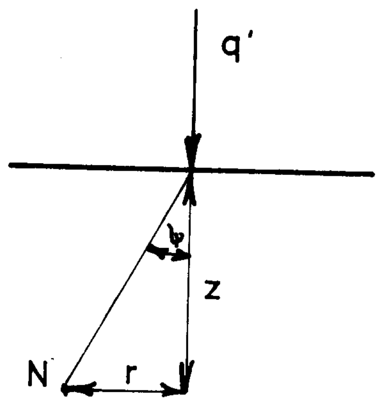


FIGURE 4.8 *Stresses at N due to Line Load q' are Described by Equations 4.13 and 4.15*

For a strip load (see Figure 4.9 and 4.10)

$$\sigma_1 = \frac{q}{\pi}\Big[\,\text{Sin}\psi\ \text{Cos}\psi + \psi\,\Big]_{\psi_1}^{\psi_2} \qquad \text{(vertical)} \qquad (4.16)$$

$$\sigma_3 = \frac{q}{\pi}\Big[-\,\text{Sin}\psi\ \text{Cos}\psi + \psi\,\Big]_{\psi_1}^{\psi_2} \qquad \text{(horizontal)} \qquad (4.17)$$

$$\tau_{13} = \frac{q}{\pi}\,\text{Sin}^2\psi \qquad (4.18)$$

For a uniform loading on a circular area (see Figure 4.11)

$$\sigma_z = q\left[1 - \left\{\frac{1}{1 + (R/z)^2}\right\}^{\frac{3}{2}}\right] \qquad 4.18b.$$

(under the centre of the loaded circle)

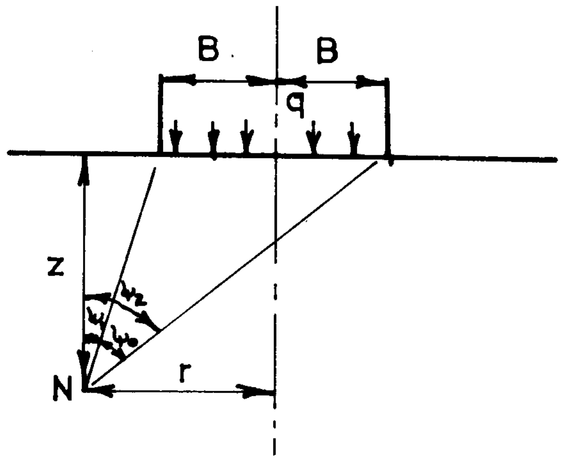


FIGURE 4.9 *Stresses at N due to a Strip Load q are Described by Equations 4.16 and 4.18*

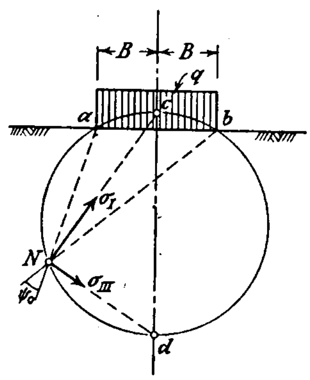


FIGURE 4.10 *Illustration of a Simple Construction to Determine the orientation of the Principal Stresses at N due to a uniformly distributed Strip Load (Terzaghi, Ref. 1)*

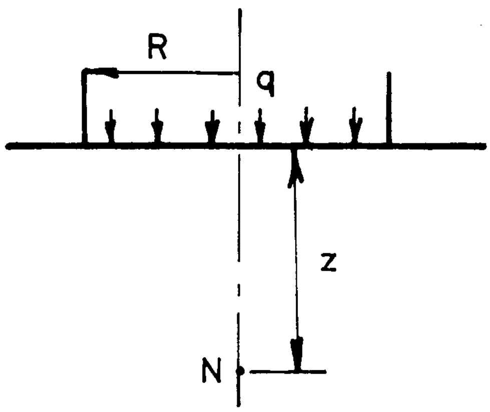


FIGURE 4.11 *Stress at Point N, due to Loading q on a Circular Flexible Footing, is defined by Equation 4.18b*

4.4.2 Influence values

An influence value (see Figure 4.14) is a dimensionless quantity that enables the stress at any point within a soil mass to be determined merely by multiplying this value by Q/z, or q'/z where q' is a line load causing a pressure at depth z. The parameters used for multiplication depend on whether the load is uniformly distributed, a line load or a concentrated load.

Newmark, in 1935, obtained from integration of Boussinesq's formula for a concentrated load the following:

$$\frac{\Delta\sigma_1}{q} = \frac{1}{4\pi}\left[\frac{2mn\sqrt{m^2+n^2+1}}{m^2+n^2+1+m^2n^2}\;\frac{m^2+n^2+2}{m^2+n^2+1} + \sin^{-1}\frac{2mn\sqrt{m^2+n^2+1}}{m^2+n^2+1+m^2n^2}\right] \tag{4.19}$$

where

$m = B/z$

$n = L/z$

B = the breadth of the footing

L = the length of the footing

$\Delta\sigma_1$ = the change in stress at any point N, depth z below the corner of a rectangle

The increase in vertical stress at N (see Figure 4.12) can be calculated for the loaded area dehi by addition and subtraction of various rectangles (Terzaghi, Ref. 1).

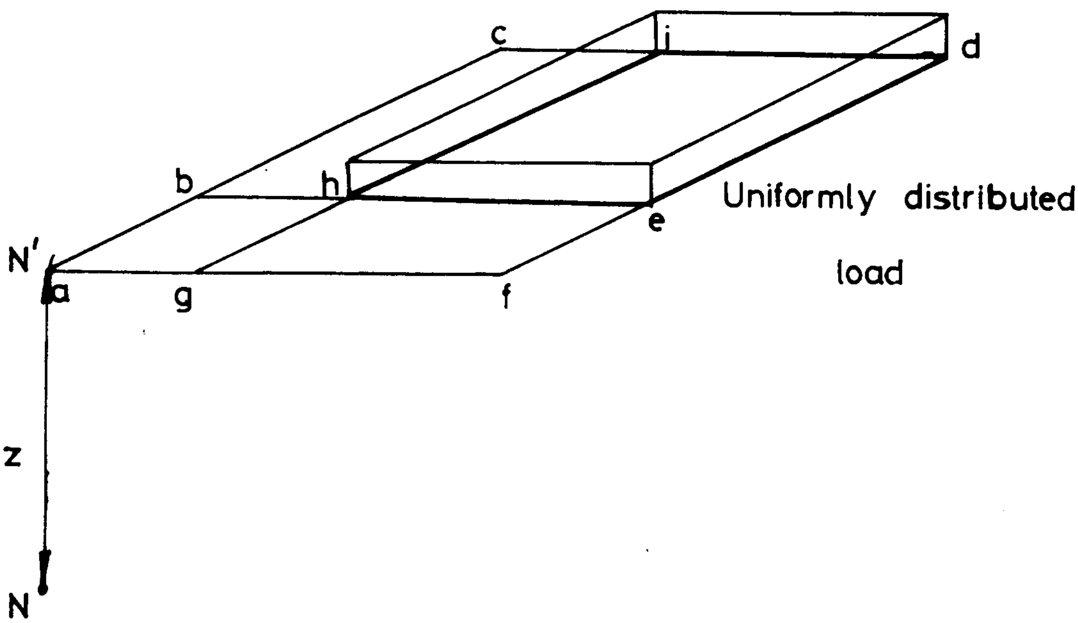


FIGURE 4.12 *Point N at which Stress is to be Calculated*

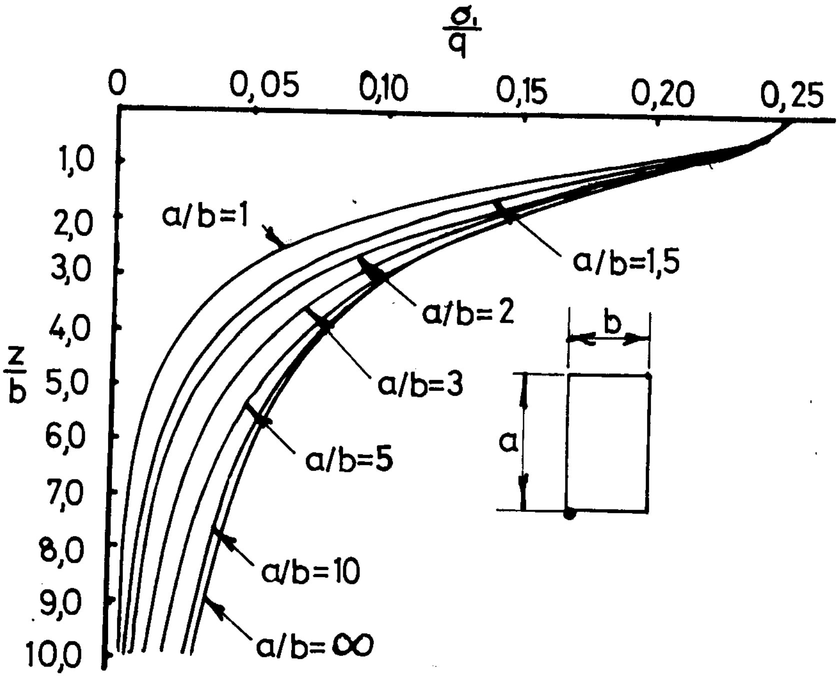


FIGURE 4.13 Chart of Stress Values for Point at Depth z below Corner of Footing (Tschebotarioff, Ref. 22)

Equation (4.19) can be rewritten as

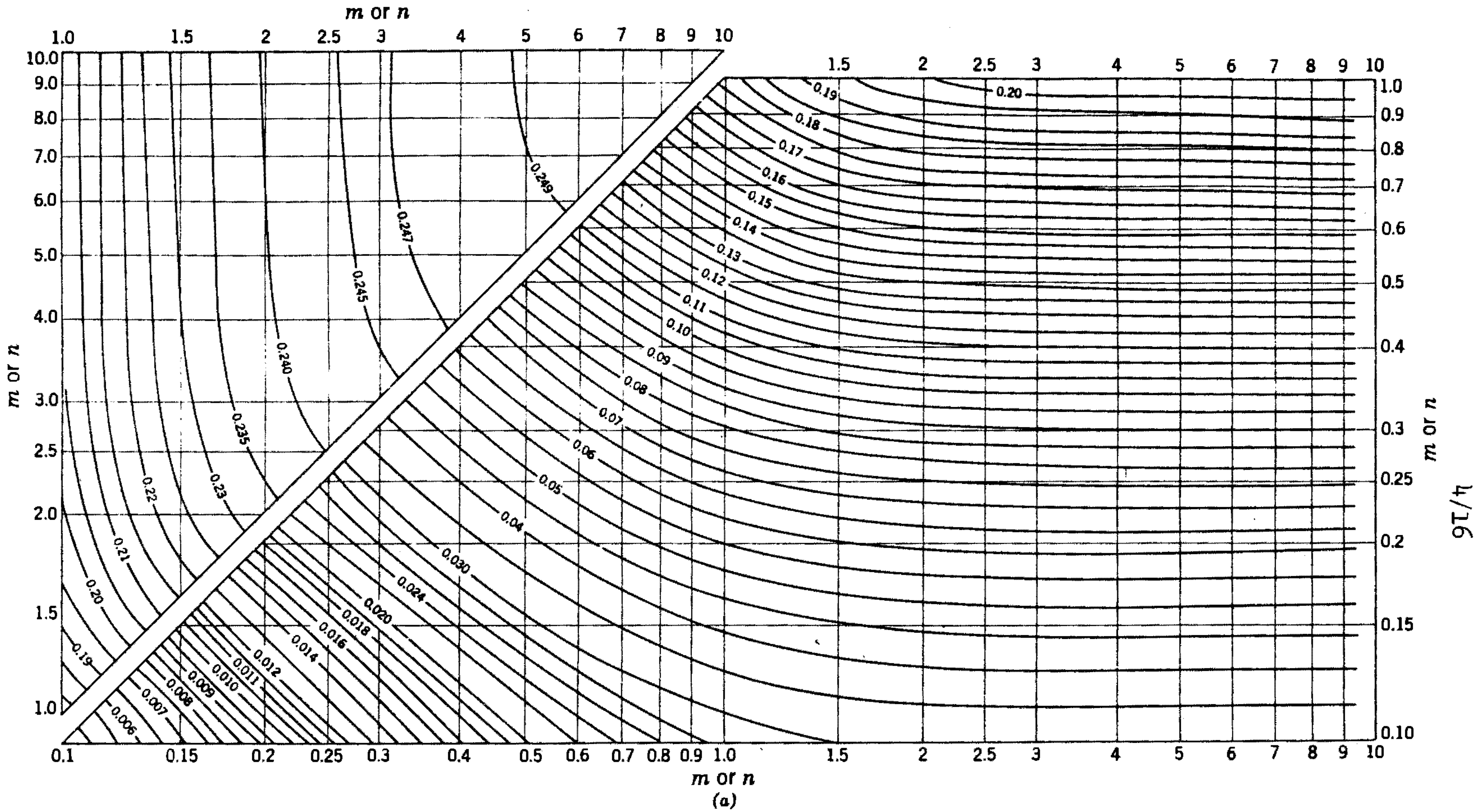
$$\Delta\sigma_1 = q\ f(m,n) \tag{4.20}$$

For the direct solution to equation (4.20) a chart (see Figure 4.14) has been drawn. This chart defines f(m,n) for particular values of m and n.

Another form of equation (4.20) is

$$\Delta\sigma_1 = q\ I_\sigma \tag{4.21}$$

From the curves shown in Figure 4.15 values of I_σ can be found for any value of z/B and L/B. I_σ is called an influence value (for stress).



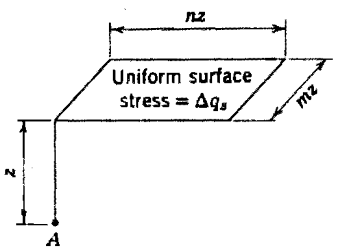


FIGURE 4.14 Chart for Determining the Stress Factor at a Point N Situated at Depth z below the Corner of a footing

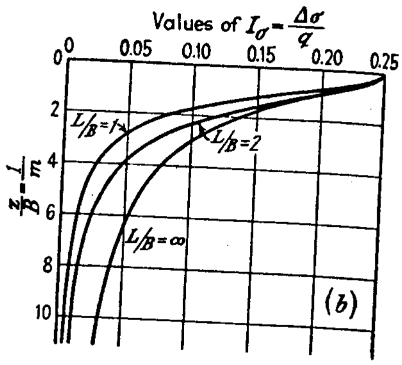


FIGURE 4.15 *Stress Influence Value at Depth z under a Corner of a Rectangular Loaded Area (Terzaghi, Ref. 1)*

4.4.3. Newmark influence chart

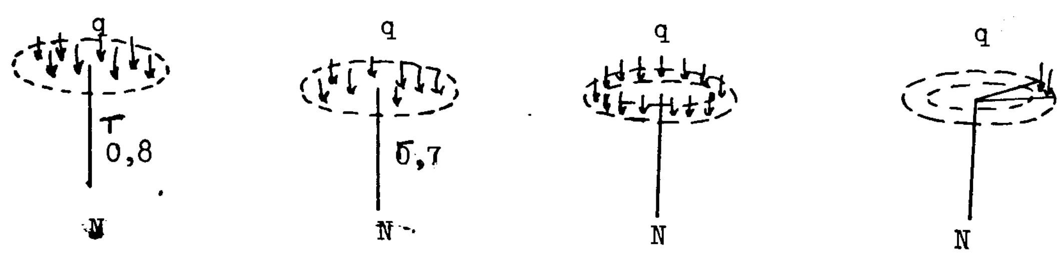


FIGURE 4.16(a) *4.16(b)* *4.16(c)* *4.16(d)*

Suppose that in Figure 4.16(a) r is such that the stress at N due to the loaded area is 0,8 q. If r in Figure 4.16(b) is chosen so that the stress caused is 0,7 q, then the stress caused due to Figure 4.16(c) is 0,1 q. Similarly in Figure 4.16(d) the stress at N is 0,1 x 0,1 q for each of the loaded portions.

Newmark's influence chart (see Figure 4.17) is used to find the extra stress at any point within a soil mass due to a surface loading. To evaluate the stress, the footing is drawn to a scale dependent upon the depth below founding level of the point at which the stress must be determined. The scale is determined by equating OA to the depth of the point considered. Then the number of elemental areas covered by the drawn footing is counted. The number of elemental areas counted multiplied by the chart constant and the uniformly distributed loading will produce the required vertical pressure. The chart constant will depend only on the number of elemental areas that the chart contains. Note that the self weight effect of the soil must be added to the above vertical stress caused by the footing load.

4.5 Conclusion

For a footing which causes a uniformly distributed load on the soil, the increase in vertical stress at a point in the soil can be calculated. In practice however rigid footings are a common occurrence.

Rigid footings tend to prevent the uniform distribution of contact pressures to the soil. The contact pressures can vary considerably across a rigid footing. The contact pressure distribution depends on the stress parameters E and μ for the footing and for the subgrade. For the prediction of settlements, the contact pressure is considered to be uniform and the settlement results are then modified to allow for non-uniform contact pressures (see Chapter 7).

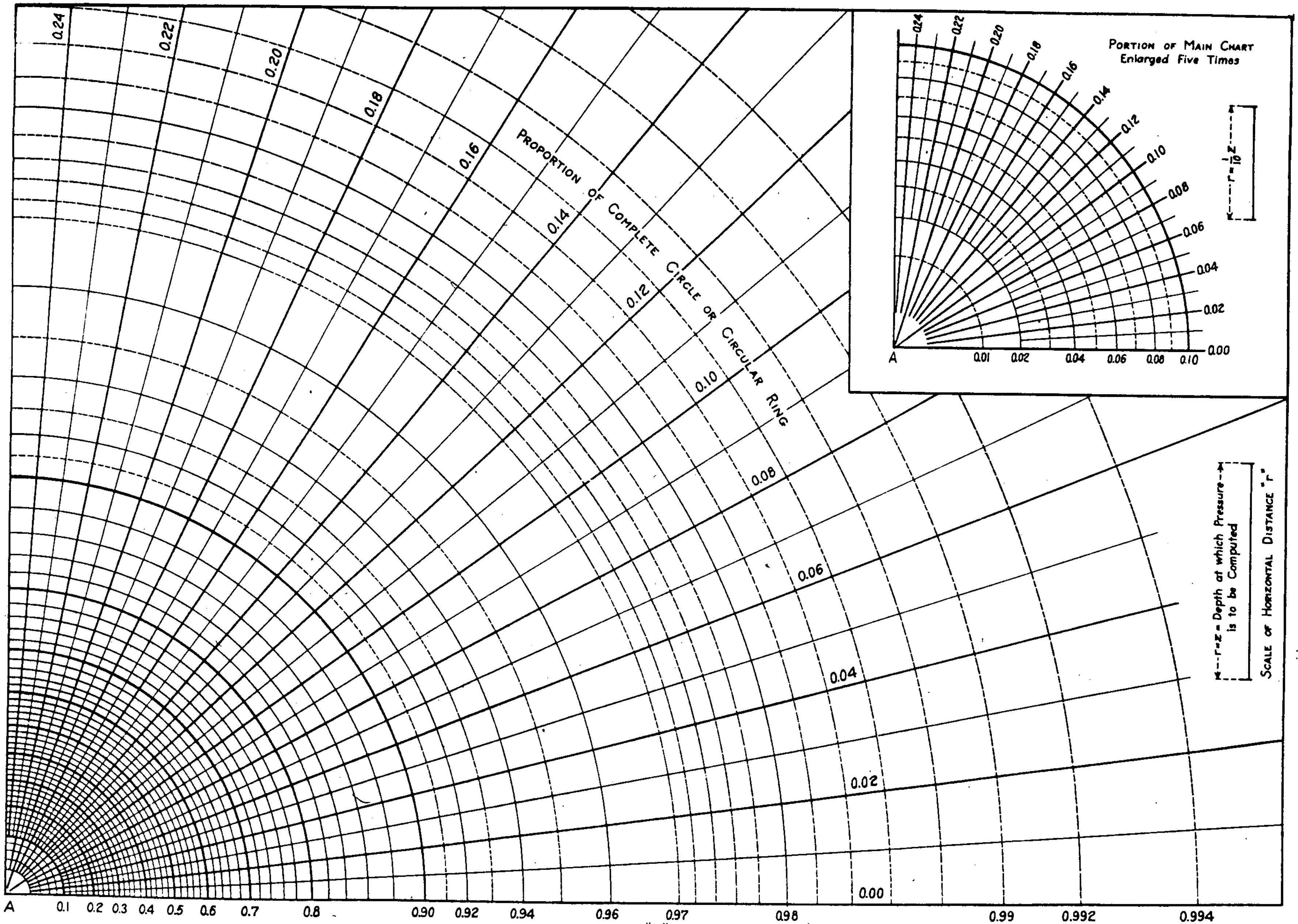


FIGURE 4.17 Newmark Influence Chart (Plummer, Ref. 37)

In 1936 Borowicka (Ref. 2) established a formula to describe the contact pressure distribution. The formula defines a subgrade reaction K_r value for given stress parameters of the soil and the footing and for a given footing size. For a circular footing Borowicka stated that K_r has the following value.

$$K_r = \frac{1}{6} \frac{1 - \mu_s^2}{1 - \mu_p^2} \frac{E_p}{E_s} \left(\frac{H}{R} \right)^3 \tag{4.22}$$

where

μ_s = Poisson's ratio for subgrade reaction

μ_p = Poisson's ratio for the footing

E_s = Young's modulus for the subgrade

E_p = Young's modulus for the footing

H = Thickness of footing

R = Radius of circular footing

For an infinite strip load K_r has the following value

$$K_r = \frac{1}{6} \frac{1 - \mu_s^2}{1 - \mu_p^2} \frac{E_p}{E_s} \left(\frac{H}{B} \right)^3 \tag{4.23}$$

A value of K_r equal to zero indicates constant contact pressure (e.g. a perfectly flexible raft carrying a uniform loading). Figures 4.18(a) and 4.18(b) show various contact pressures for different values of K_r (Terzaghi, Ref. 1 and Lambe and Whitman, Ref. 2).

Figure 4.19 shows lines of equal vertical pressure in sand as measured during the Freiburg tests. The angle ϕ_o is measured between the zero pressure curve (due to Q) and the vertical. As one approaches the footing this angle varies until it reaches the value of 90° at the footing.

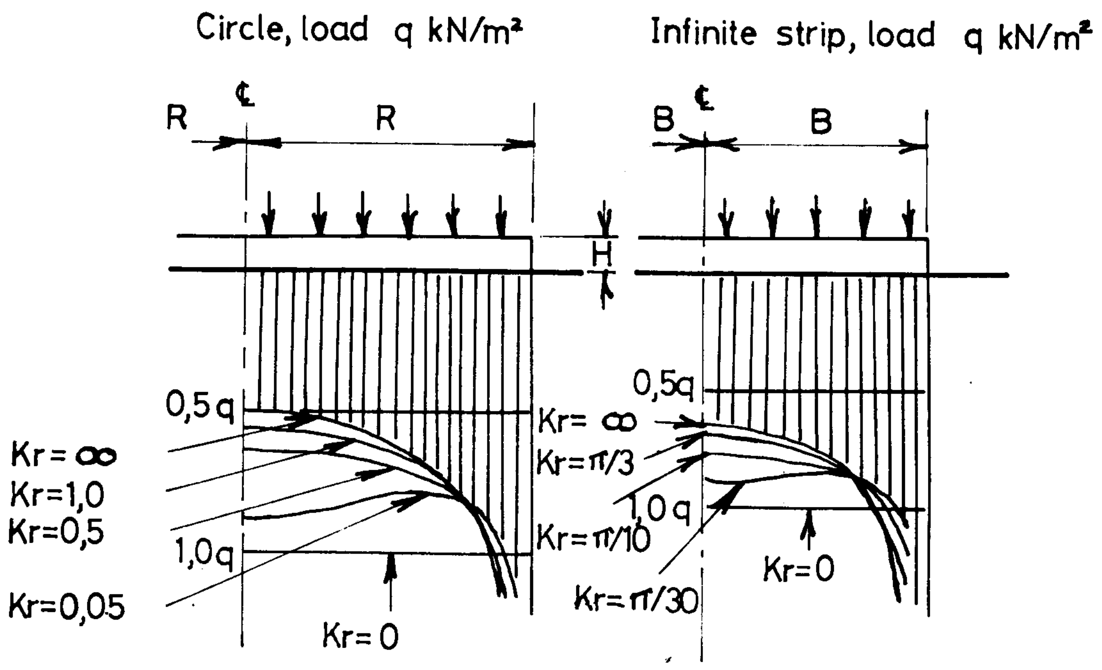


FIGURE 4.18(a) *FIGURE 4.18(b)*

Uniform Loadings on Semi-flexible Bases

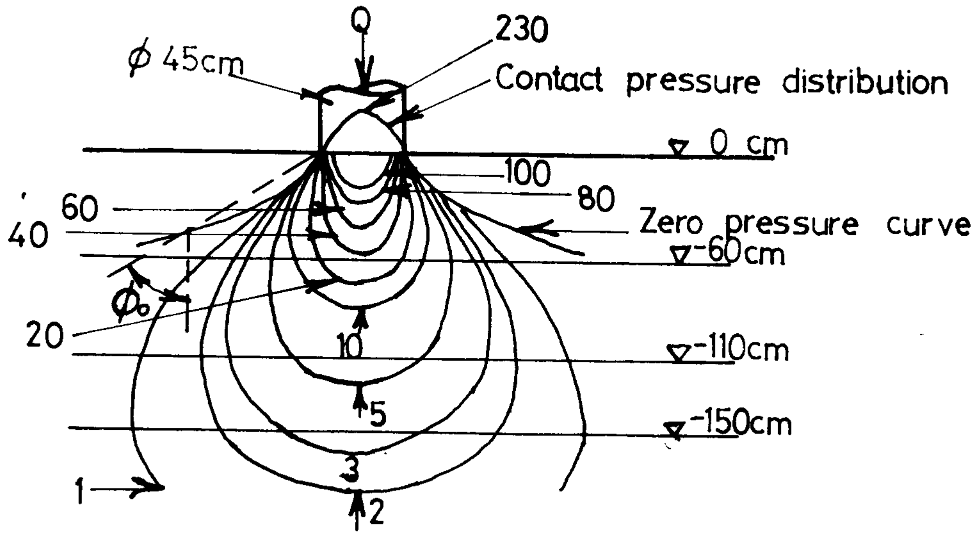


FIGURE 4.19 *Lines of Equal Vertical pressure (due to Q) as measured in Sand (Tschebotarioff, Ref. 22)*

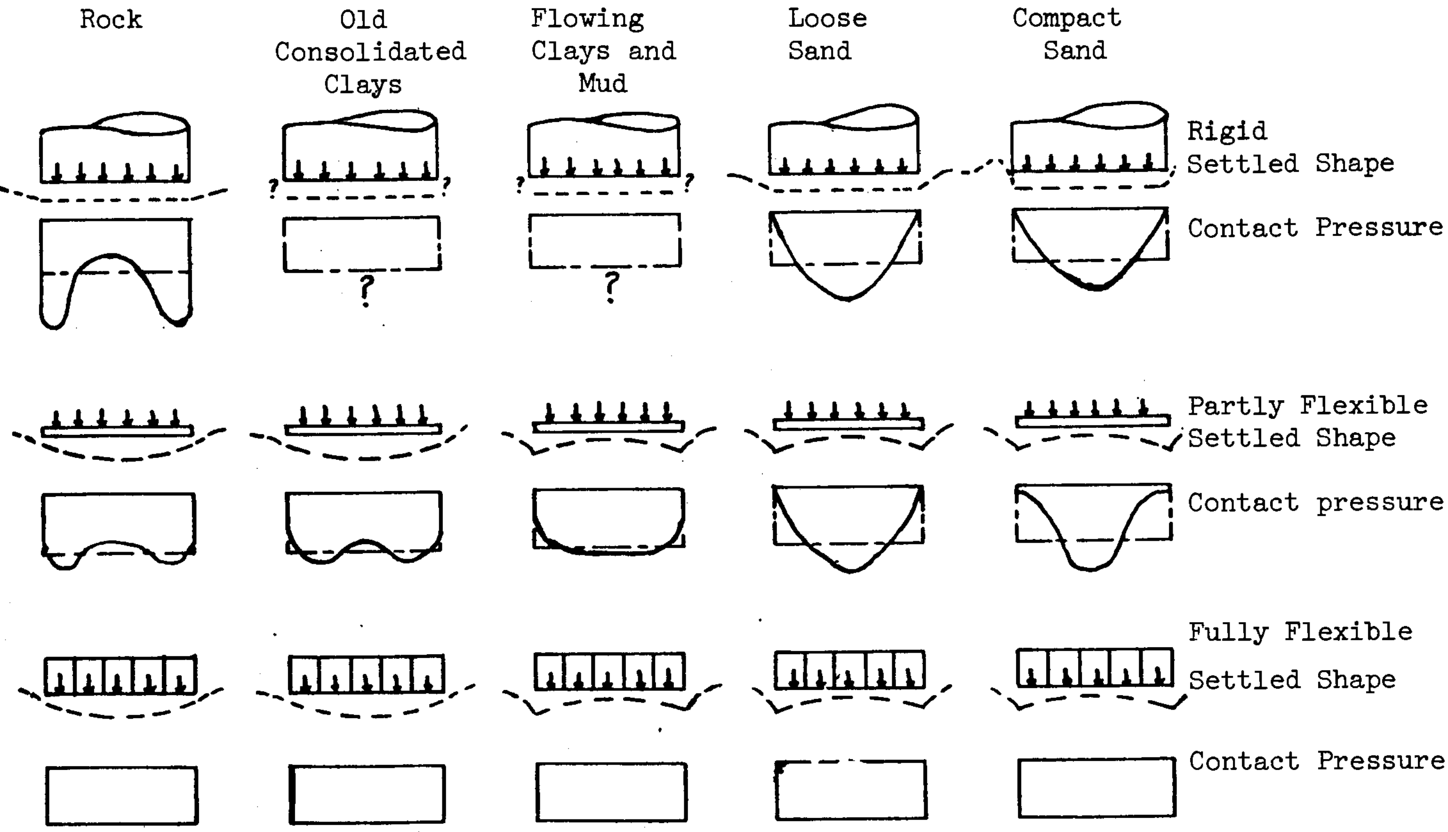


FIGURE 4.20 *Shows Different Settlement and Contact Pressure Distributions for Different Types of Footings and Soil Formations (Plummer, Ref. 37)*

Because of the variations shown in Figure 4.20 it is the duty of the civil engineer not to merely apply formulae but also to adjust the idealised values he obtains to the problem under consideration.

CHAPTER 5

HORIZONTAL STRESS DISTRIBUTIONS

5.1 Introduction to horizontal stresses due to vertical loads

Horizontal stress distributions can be calculated from elastic formulae or might be approximated by multiplying the vertical stress (due to self weight and surface loading) by the factor K_o (i.e. assuming zero horizontal strain). The assumption of zero horizontal strain is a simplification and is not always accurate. The variations in the results obtained from the two different methods can become appreciable, especially near the surface. These two methods can cause different stress paths at different points in the soil and therefore the settlement predictions by the two methods will not be identical. In order to decide on the stress path which must be followed in a laboratory test used for settlement prediction, it is necessary to accurately anticipate the stress path which might be followed by a soil element under the proposed foundation. Soil elements at different positions under the footing will follow different shapes of stress paths. Stress paths are defined and discussed in Chapter 6.

5.2 Using Boussinesq's equations to approximate horizontal stresses due to a concentrated surface load

At this stage we will neglect the self weight effect of the soil. To define stresses within a soil mass a constant coordinate system (see Figure 5.1) is generally used. Boussinesq's equations yield values for radial and tangential horizontal stress. Use can be made of Mohr's circle of stress (see Chapter 7) to find the components of stress in the x and y directions.

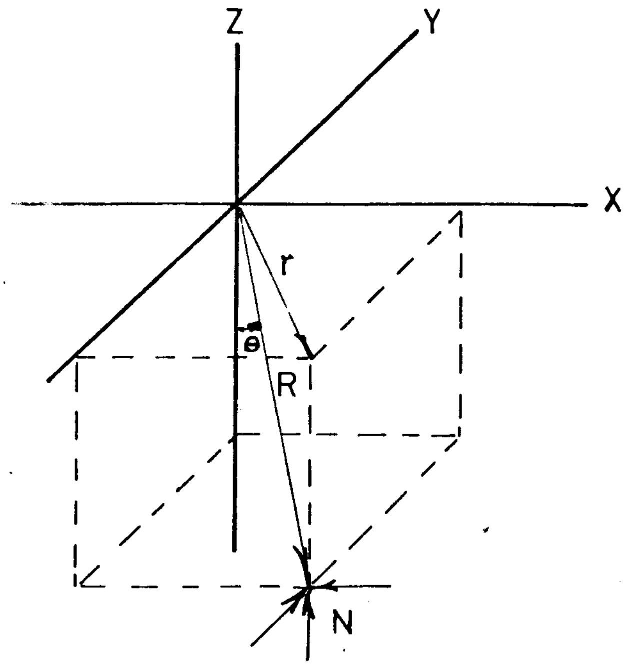


FIGURE 5.1 *Definition of the Co-ordinate System*

Timoshenko (Ref. 50) shows that the stress normal to any plane (see Figure 5.2) at any point within an elastic medium can be expressed in terms of stresses σ_x, σ_y, σ_z, τ_{yz}, τ_{xz}, τ_{xy} the stresses acting on three mutually perpendicular planes as

$$\sigma_n = \sigma_x \ell^2 + \sigma_y m^2 + \sigma_z n^2 + 2\tau_{yz} mn + 2\tau_{xz} \ell n + 2\tau_{xy} \ell m \qquad (5.1)$$

where

$$\mathrm{Cos}(N_x) = \ell$$
$$\mathrm{Cos}(N_y) = m$$
$$\mathrm{Cos}(N_z) = n$$

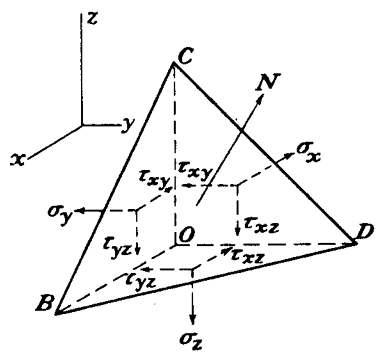


FIGURE 5.2 *The Normal Stress σ_n Acting on plane CBD in Direction ON*

The stresses obtained from Boussinesq's equations are defined in Figure 5.3 These stresses must now be orientated to yield σ_x and σ_y in the chosen x,y coordinate system (Figure 5.4).

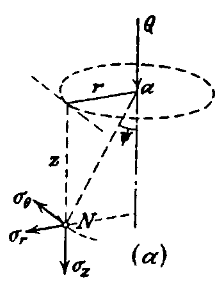


FIGURE 5.3 *Stresses Defined by Boussinesq's Equations*

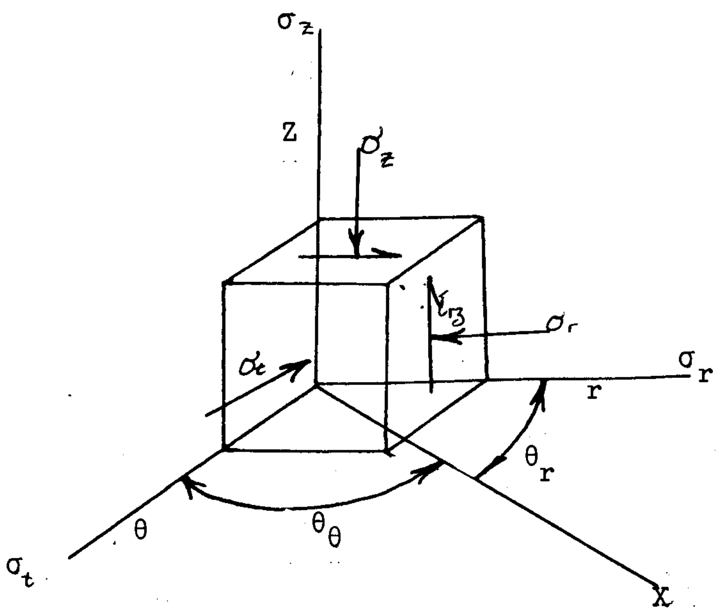


FIGURE 5.4 *The Modification of the Boussinesq's Stresses to yield horizontal stresses* σ_x, σ_y *in the x,y coordinate system*

From Figure 5.4 the direction cosines can be defined. These are:

$$\text{Cos}(ZX) = \text{Cos } 90^\circ = 0 = n$$

$$\text{Cos}(rX) = \text{Cos } \theta_r = \ell$$

$$\text{Cos}(\theta X) = \text{Cos } \theta_\theta = m$$

Therefore from equation (5.1)

$$\sigma_x = \sigma_z n^2 + \sigma_t m^2 + \sigma_r \ell^2 + 2\tau_{rz}\ell n + 2\tau_{tz} mn + 2\tau_{rt}\ell m$$

Because $n = 0$, $\tau_{tz} = 0$ and $\tau_{rt} = o$

$$\sigma_x = \sigma_t m^2 + \sigma_r \ell^2$$

$$= \sigma_t \text{Sin}^2\theta_r + \sigma_r \text{ Cos}^2\theta_r \qquad (5.2)$$

Similarly

$$\sigma_y = \sigma_t \text{ Cos}^2\theta_r + \sigma_r \text{ Sin}^2\theta_r \qquad (5.3)$$

Substituting Boussinesq values for σ_t and σ_r into equation 5.2 and 5.3 the following is obtained:

$$\sigma_x = \frac{y^2}{x^2+y^2}\left[-(1-2\mu)\frac{Q}{2\pi z^2}\right]\left[\frac{z^3}{(x^2+y^2+z^2)^{\frac{3}{2}}} - \frac{z^2}{x^2+y^2+z^2+z\sqrt{x^2+y^2+z^2}}\right]$$

$$+\frac{Q}{2\pi z^2}\frac{x^2}{x^2+y^2}\left[\frac{3x^2z^3+3y^2z^3}{(x^2+y^2+z^2)^{\frac{5}{2}}} - (1-2\mu)\frac{z^2}{x^2+y^2+z^2+z\sqrt{x^2+y^2+z^2}}\right]$$

$$= \frac{Q}{2\pi}\left[\frac{x^2}{x^2+y^2}\left(\frac{3x^2z+3y^2z}{(x^2+y^2+z^2)^{\frac{5}{2}}}\right) - \frac{(1-2\mu)y^2}{x^2+y^2}\right.$$

$$\left(\frac{z}{(x^2+y^2+z^2)^{\frac{3}{2}}} - \frac{1}{x^2+y^2+z^2+z\sqrt{x^2+y^2+z^2}}\right)$$

$$\left. - \frac{(1-2\mu)x^2}{x^2+y^2}\left(\frac{1}{x^2+y^2+z^2+z\sqrt{x^2+y^2+z^2}}\right)\right] \qquad (5.4)$$

$$\sigma_y = \frac{Q}{2\pi}\left[\frac{y^2}{x^2+y^2}\frac{3x^2z+3y^2z}{(x^2+y^2+z^2)^{\frac{5}{2}}} - \frac{(1-2\mu)x^2}{x^2+y^2}\right.$$

$$\left(\frac{z}{(x^2+y^2+z^2)^{\frac{3}{2}}} - \frac{1}{x^2+y^2+z^2+z\sqrt{x^2+y^2+z^2}}\right)$$

$$\left. - \frac{(1-2\mu)y^2}{x^2+y^2}\left(\frac{1}{x^2+y^2+z^2+z\sqrt{x^2+y^2+z^2}}\right)\right] \qquad (5.5)$$

where

$$r = x^2+y^2$$

$$R = x^2+y^2+z^2$$

$$\sigma_r = \frac{Q}{2\pi z^2}\left[3\,\frac{z^3\,(\sqrt{x^2+y^2})^2}{(x^2+y^2+z^2)^{5/2}} - (1-2\mu)\,\frac{z^2}{x^2+y^2+z^2+z\,\sqrt{x^2+y^2+z^2}}\right]$$

$$\sigma_t = -(1-2\mu)\,\frac{Q}{2\pi z^2}\left[\frac{z^3}{(x^2+y^2+z^2)^{3/2}} - \frac{z^2}{x^2+y^2+z^2+z\,\sqrt{x^2+y^2+z^2}}\right]$$

$$\mathrm{Sin}^2\,\theta_r = \frac{y^2}{(\sqrt{x^2+y^2})^2}$$

$$\mathrm{Cos}^2\,\theta_r = \frac{x^2}{x^2+y^2}$$

5.3 Approximation of horizontal stresses due to uniformly distributed surface loads

Equations 5.4 and 5.5 were expressly derived to facilitate the application of Boussinesq's equations to determine horizontal stresses within a soil mass subjected to a uniformly distributed surface load.

The effect of the uniformly distributed load can once more be considered as a large number of concentrated loads with their effects summated. The major difference between determining horizontal and vertical stresses is that for the calculation of the horizontal stresses the summation by formula of the effects of a finite number of concentrated surface loads has been considered. However the Newmark chart and the effective weight of the soil is used to calculate the vertical stresses at each point in the soil.

The formulae derived (equations 5.4 and 5.5) orientate the σ_t and σ_r to a chosen σ_x, σ_y system for each of the concentrated loads of an elemental area. A finite number of point loads was considered because a mechanical form of integration was used. (see Figure 5.5)

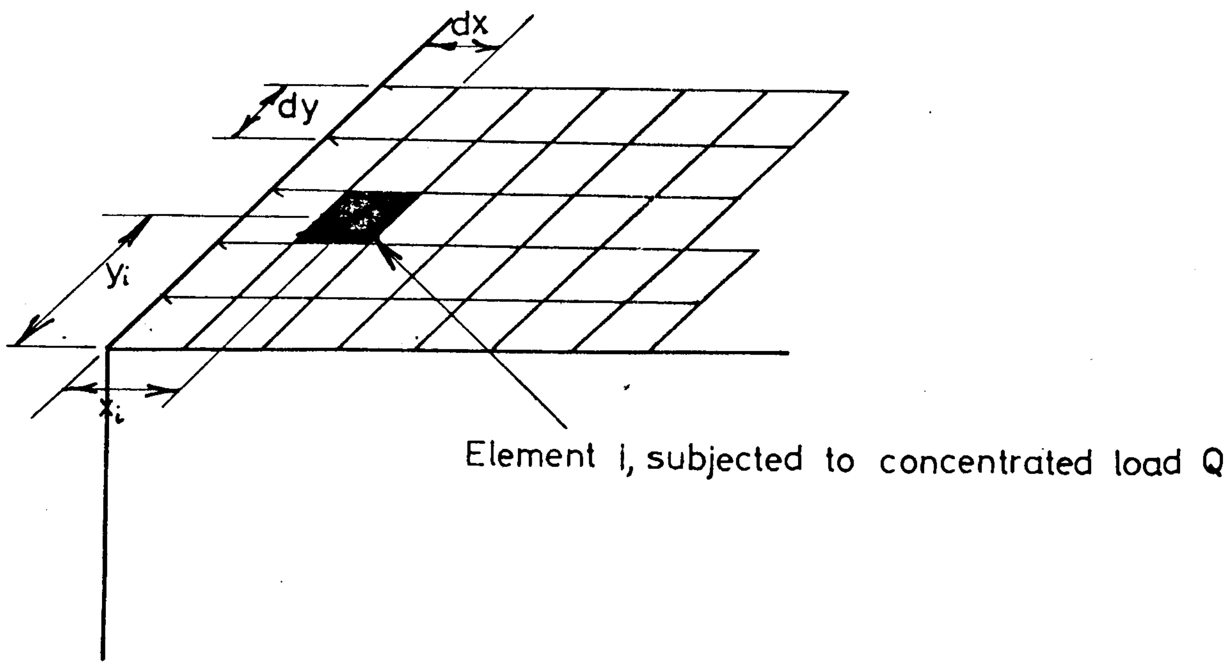


FIGURE 5.5 *An Elemental Area a_i Subjected to Load Q*

Although the footing sizes are 1 m, 2 m and 3 m square the dimensions of each element are 10 cm x 10 cm. The computer program used to determine values for σ_x and σ_y is shown after the next paragraph. At a point in the soil the program calculates values of σ_x and σ_y for each surface element. From the tabulated data (Appendix 1) stress distributions under odd shaped footings can be determined. (see Figure 5.6)

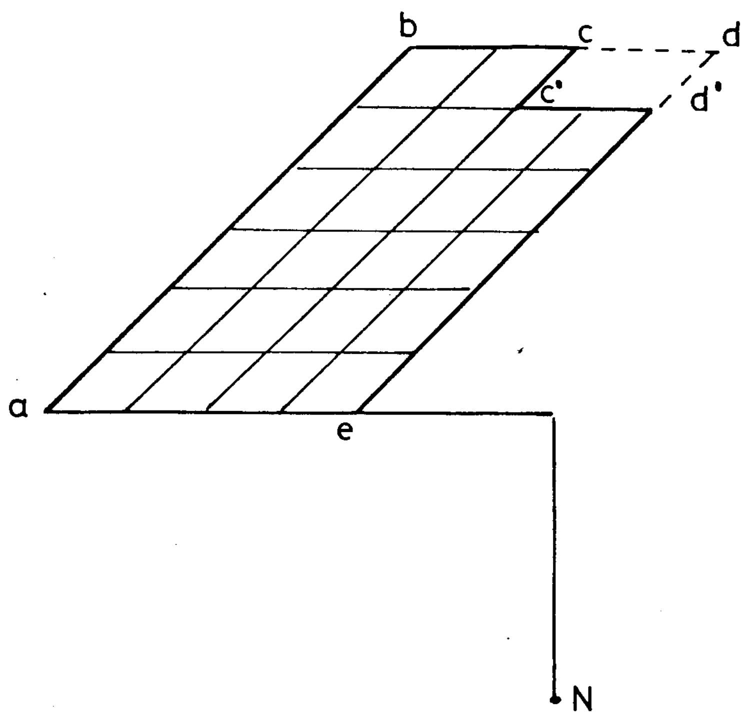


FIGURE 5.6 Stress at N = (Effect of elements of abde) - (Effects of elements of cc'd'd)

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@HDG   ERRERA     HORIZONTAL STRESSES IN SOILS USING ELASTIC FORMALAE

@RFOR,IS
RFOR     5,106 09/13-14:23-
0101:          DIMENSION Y(30),R(30),Z(12),COEFA(900),COEFB(900),COEFV(900),
              ,COEFW(900),ANSA(900),ANSB(900),ANSV(900),ANSW(900),BSTR(900),
              ,CSTR(900),DSTR(900),ESTR(900),FSTR(900),GSTR(900),RA(30)
0102:          WRITE (5,100)
0103:      100 FORMAT (1H1,4X,'Y(I)',6X,'RA(J)',6X,'Z(K)',6X,'BSTR(N)',1X,
              ,'CSTR(N)',1X,'DSTR(N)',1X,'ESTR(N)',1X,'FSTR(N)',1X,'GSTR(N)')
0104:          K=1
0105:          Z(K)=0.1
0106:       10 J=1
0107:          L=1
0110:          RA(J)=0.05
0111:        9 I=1
0112:          Y(I)=0.05
0113:          M=1
0114:          COEFA(M)=0
0115:          COEFB(M)=0
0116:          COEFV(M)=0
0117:          COEFW(M)=0
0120:          N=1
0121:        2 R(I)=(RA(J)**2+Y(I)**2)**0.5
0122:          ANSA(L)=(Y(I)**2/(R(I)**2+Y(I)**2))*(3*(R(I)**2)*Z(K)+3*(Y(I)**2)
              ,*Z(K))/((R(I)**2+Z(K)**2+Y(I)**2)**2.5)
0123:          ANSB(L)=(Y(I)**2/(R(I)**2+Y(I)**2))/(R(I)**2+Z(K)**2+Y(I)**2+
              ,Z(K)*((R(I)**2+Z(K)**2+Y(I)**2)**0.5))+(R(I)**2/(R(I)**2+Y(I)**2
              ,))*(Z(K)/((R(I)**2+Z(K)**2+Y(I)**2)**1.5)-1/(R(I)**2+Z(K)**2
              ,+Y(I)**2+Z(K)*((R(I)**2+Z(K)**2+Y(I)**2)**0.5)))
0124:          ANSV(L)=(R(I)**2/(R(I)**2+Y(I)**2))*(3*(R(I)**2)*Z(K)+3*(Y(I)**2)
              ,*Z(K))/((R(I)**2+Z(K)**2+Y(I)**2)**2.5)
0125:          ANSW(L)=(R(I)**2/(R(I)**2+Y(I)**2))/(R(I)**2+Z(K)**2+Y(I)**2+
              ,Z(K)*((R(I)**2+Z(K)**2+Y(I)**2)**0.5))+(Y(I)**2/(R(I)**2+Y(I)**2
              ,))*(Z(K)/((R(I)**2+Z(K)**2+Y(I)**2)**1.5)-1/(R(I)**2+Z(K)**2
              ,+Y(I)**2+Z(K)*((R(I)**2+Z(K)**2+Y(I)**2)**0.5)))
0126:          COEFA(M+1)=COEFA(M)+ANSA(L)
0127:          COEFB(M+1)=COEFB(M)+ANSB(L)
0130:          COEFV(M+1)=COEFV(M)+ANSV(L)
0131:          COEFW(M+1)=COEFW(M)+ANSW(L)
0132:          L=L+1
```

```
      M=M+1
      BSTR(N)=COEFA(M)-0.34*COEFB(M)
      CSTR(N)=COEFA(M)-0.4*COEFB(M)
      DSTR(N)=COEFA(M)-0.5*COEFB(M)
      ESTR(N)=COEFV(M)-0.34*COEFW(M)
      FSTR(N)=COEFV(M)-0.4*COEFW(M)
      GSTR(N)=COEFV(M)-0.5*COEFW(M)
      PRINT 200,( Y(I),RA(J),Z(K),BSTR(N),CSTR(N),DSTR(N),ESTR(N),
     ,FSTR(N),GSTR(N))
  200 FORMAT (9(F10.3))
      N=N+1
      IF (I-30) 4,3,3
    4 Y(I+1)=Y(I)+0.1
      I=I+1
      GO TO 2
    3 IF (J-30) 5,6,6
    5 RA(J+1)=RA(J)+0.1
      J=J+1
      GO TO 9
    6 IF (K-6) 80,81,82
   80 Z(K+1)=Z(K)+0.1
      K=K+1
      GO TO 10
   81 Z(K+1)=Z(K)+0.4
      K=K+1
      GO TO 10
   82 Z(K+1)=Z(K)+1.0
      K=K+1
      IF (K-12) 10,10,7
    7 STOP
      END
```

Y(I)	RA(J)	Z(K)	BSTR(N)	CSTR(N)	DSTR(N)	ESTR(N)	FSTR(N)	GSTR(N)
.050	.050	.100	12.410	11.233	9.538	28.491	26.927	24.402
.150	.050	.100	19.045	18.578	16.466	36.514	34.754	31.821
.250	.050	.100	22.218	20.898	18.697	38.930	37.106	34.066
.350	.050	.100	23.190	21.848	19.612	39.905	38.056	34.975
.450	.050	.100	23.670	22.318	20.065	40.384	38.523	35.422
.550	.050	.100	23.940	22.582	20.319	40.652	38.785	35.673
.650	.050	.100	24.106	22.744	20.475	40.817	38.946	35.828
.750	.050	.100	24.215	22.851	20.577	40.925	39.052	35.929
.850	.050	.100	24.290	22.924	20.648	41.000	39.125	35.999
.950	.050	.100	24.344	22.977	20.698	41.054	39.177	36.049
1.050	.050	.100	24.384	23.017	20.737	41.094	39.216	36.087
1.150	.050	.100	24.415	23.046	20.766	41.124	39.246	36.116
1.250	.050	.100	24.439	23.070	20.788	41.148	39.269	36.138
1.350	.050	.100	24.458	23.080	20.806	41.167	39.288	36.156
1.450	.050	.100	24.473	23.103	20.821	41.182	39.303	36.170
1.550	.050	.100	24.486	23.116	20.833	41.195	39.315	36.182
1.650	.050	.100	24.496	23.126	20.842	41.205	39.325	36.191
1.750	.050	.100	24.505	23.135	20.851	41.214	39.334	36.200
1.850	.050	.100	24.512	23.142	20.858	41.221	39.341	36.207
1.950	.050	.100	24.519	23.148	20.864	41.228	39.347	36.212
2.050	.050	.100	24.524	23.153	20.869	41.233	39.352	36.218
2.150	.050	.100	24.529	23.158	20.873	41.238	39.357	36.222
2.250	.050	.100	24.533	23.162	20.877	41.242	39.361	36.226
2.350	.050	.100	24.537	23.165	20.880	41.246	39.364	36.229
2.450	.050	.100	24.540	23.169	20.883	41.249	39.368	36.232
2.550	.050	.100	24.543	23.171	20.886	41.252	39.370	36.235
2.650	.050	.100	24.545	23.174	20.888	41.254	39.373	36.237
2.750	.050	.100	24.547	23.176	20.891	41.256	39.375	36.239
2.850	.050	.100	24.549	23.178	20.892	41.258	39.377	36.241
2.950	.050	.100	24.551	23.180	20.874	41.260	39.379	36.243
.050	.150	.100	3.390	3.502	3.689	22.224	21.285	19.721
.150	.150	.100	7.452	7.569	7.763	28.696	27.475	25.440
.250	.150	.100	9.306	9.414	9.593	30.793	29.485	27.305
.350	.150	.100	10.173	10.273	10.441	31.672	30.330	28.093
.450	.150	.100	10.626	10.722	10.882	32.114	30.756	28.492
.550	.150	.100	10.308	10.981	11.136	32.365	30.999	28.720
.650	.150	.100	11.052	11.143	11.294	32.521	31.149	28.862
.750	.150	.100	11.160	11.250	11.398	32.624	31.249	28.957
.050	.150	.100	11.236	11.324	11.471	32.696	31.318	29.022
.950	.150	.100	11.290	11.377	11.523	32.748	31.369	29.070
1.050	.150	.100	11.330	11.417	11.562	32.786	31.406	29.106
1.150	.150	.100	11.361	11.447	11.591	32.816	31.435	29.133
1.250	.150	.100	11.305	11.471	11.614	32.839	31.457	29.154
1.350	.150	.100	11.405	11.490	11.633	32.857	31.475	29.171
1.450	.150	.100	11.420	11.505	11.647	32.872	31.490	29.185
1.550	.150	.100	11.433	11.518	11.659	32.895	31.502	29.196
1.650	.150	.100	11.443	11.528	11.659	32.895	31.511	29.206
1.750	.150	.100	11.452	11.537	11.678	32.903	31.520	29.214
1.650	.150	.100	11.460	11.544	11.635	32.911	31.527	29.220
1.750	.150	.100	11.466	11.550	11.691	32.917	31.533	29.226
2.350	.150	.100	11.472	11.556	11.696	32.922	31.538	29.231
2.150	.150	.100	11.476	11.561	11.701	32.927	31.542	29.235
2.250	.150	.100	11.431	11.565	11.705	32.931	31.546	29.239
2.350	.150	.100	11.484	11.568	11.708	32.934	31.550	29.243

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From the computer program results the horizontal stresses at various depths under the centre of the footing have been computed for various sizes of footings. The results are tabulated in Tables 5.1 to 5.4. The stress paths for these footings have been drawn. (see Figures 5.7 to 5.10). A single curve of Z/B against average horizontal stress σ_h can be drawn. (see Figure 5.11). The effect of μ on horizontal stress distributions is shown in Figure 5.12. The results obtained compared with those shown in Lambe and Whiteman (Ref. 2), see Figures 5.13 to 5.16.

5.4 Conclusion

The power of the stress path method is illustrated. One can see from the stress paths that

a) μ and therefore K_o definitely have a large effect on the horizontal stress distribution within a soil mass

b) Smaller footings are much more susceptable to inaccuracies when using settlement prediction methods in which the average increments in horizontal stresses are estimated from vertical stresses by using the K_o factor (i.e. instead of calculating directly from Boussinesq type theory). The reason for this greater inaccuracy for smaller footings is that the stress paths deviate proportionally more from the K_o line than in the case of the larger footings. Whenever results with apparently good agreement between predictions and measurements are quoted by other workers these are for large footings where the actual average stress paths due to surface loads are approximately on the K_o line.

c) The effect of moisture content on collapsing soils can be represented by a 45° line on the p - q diagram.. When considering small footings (e.g. less than 0,5 m by 0,5 m) it might be advisable not to use the K_o approximation For larger footings for important structures where accurate settlement must be predicted the K_o approximation might also be unsuitable.

For collapsing soils the estimated initial settlement based on K_o might be inaccurate, but the collapse settlement taking into account the change in K_o due to changes in water content be such that the combined initial and collapse settlement should be accurately predicted. All settlements calculated using the K_o theory should be less than that of the actual field settlement because in natural foundation soils,horizontal yielding can take place. This is also substantiated by the stress paths (see Figure 5.7 to 5.10) and the knowledge that horizontal deformations do in fact occur.

FIGURE 5.7 Stress Paths for Points Under the Centre of a 3m x 3 m Footing (deepwwater table)

FIGURE 5.7 Stress Paths for Points Under the Centre of a 3m x 3m Footing (Deep water table)

q_w = 100 kN/m^2 (gross loading at founding level)

q_{wn} = 80 kN/m^2 (nett loading, taking into account excavated material)

K_o = 0,5

Unit weight of soil = 20 kN/m^3

Founding depth = 1 m

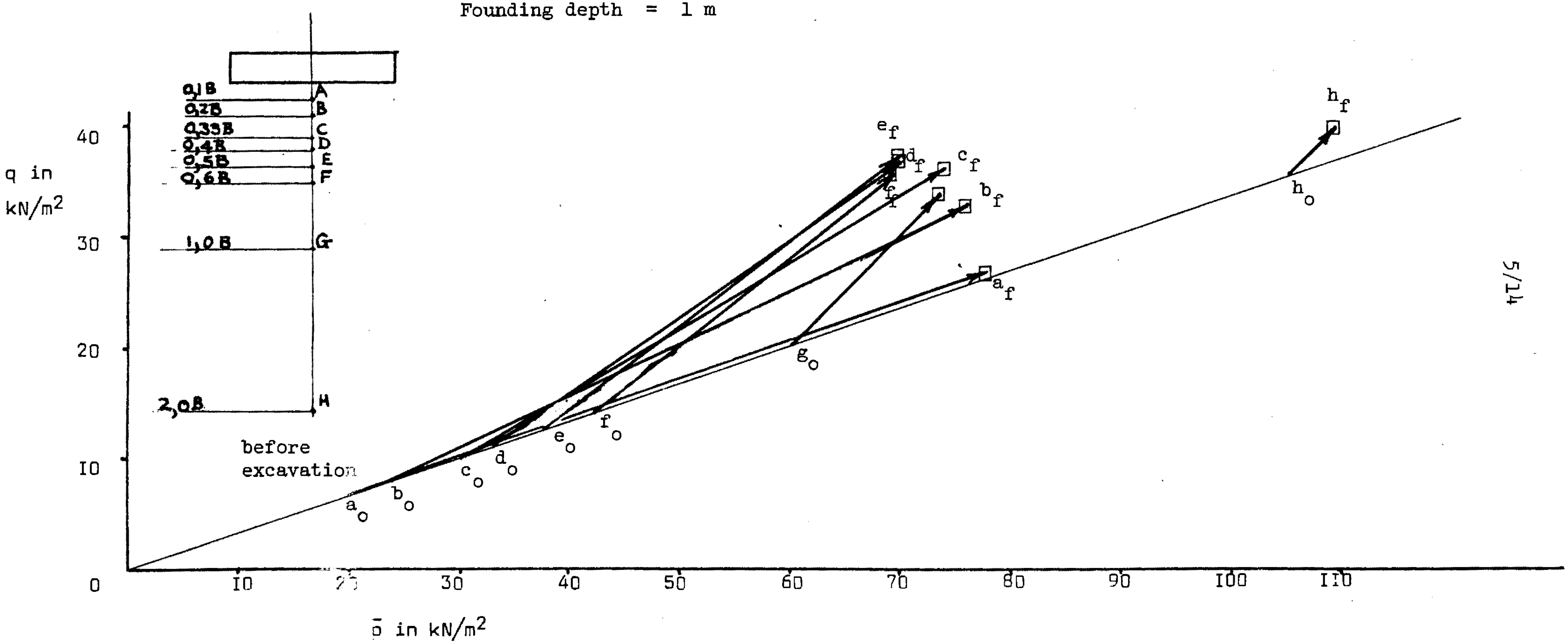

FIGURE 5.8 *Stress Paths for Points Under the Centre of a 10m x 10m Footing (Fine sand, deep water table)*

q_w = 120 kN/m^2

q_{wn} = 100 kN/m^2

K_o = 0,5

Unit weight of soil = 20 kN/m^3

Founding depth = 1 m

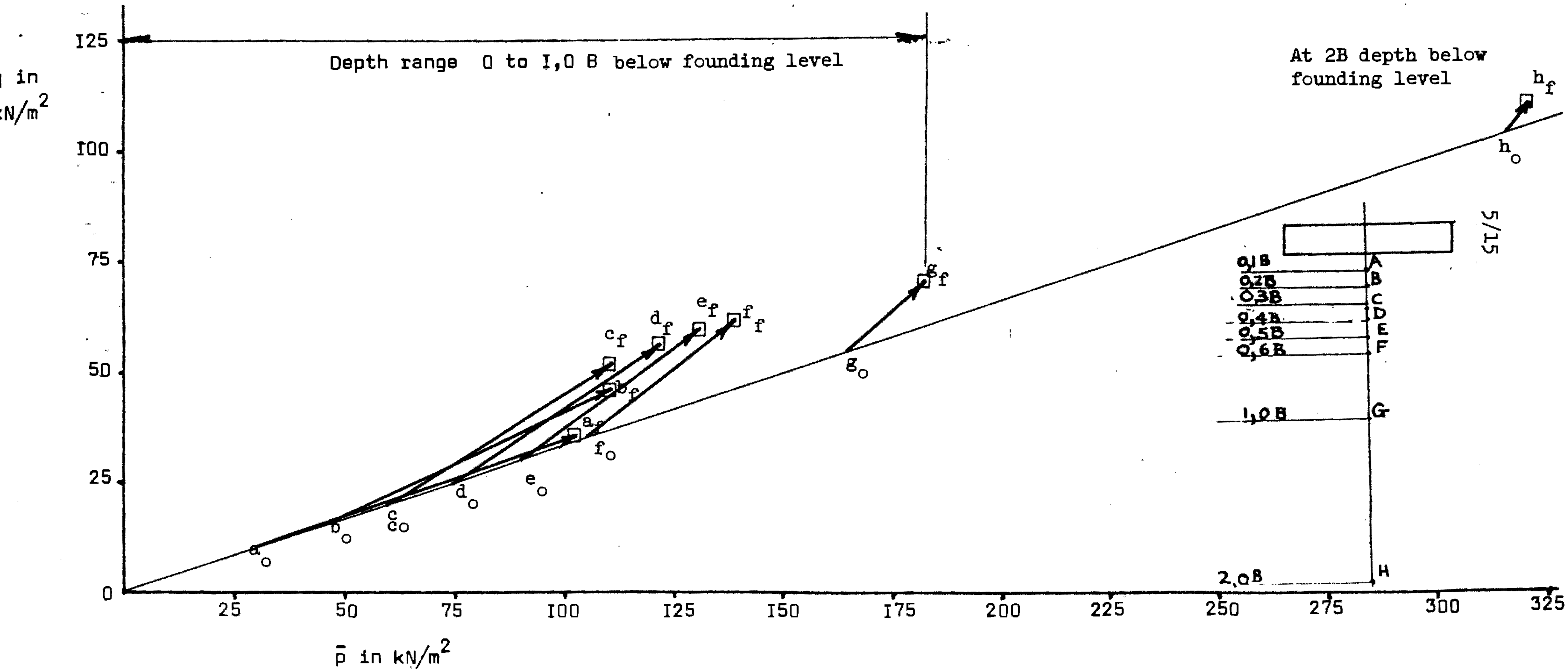

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FIGURE 5.9 Stress Paths for Points Under the Centre of a 10m x 10m Footing (Fine sand, deep water table)

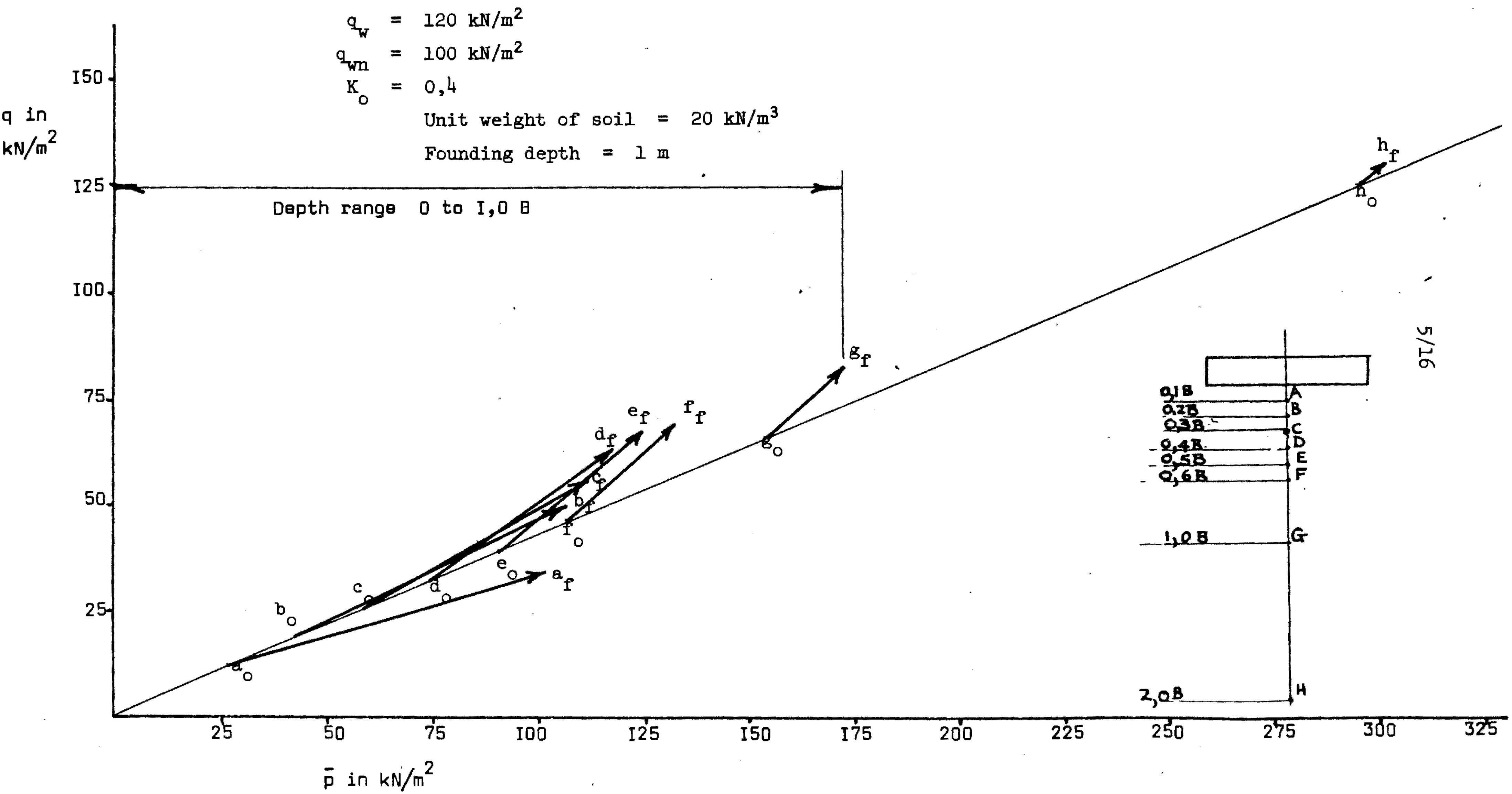


FIGURE 5.10 *Stress Paths for Points Under the Centre of a 20m x 20m Footing (Fine sand, deep water table)*

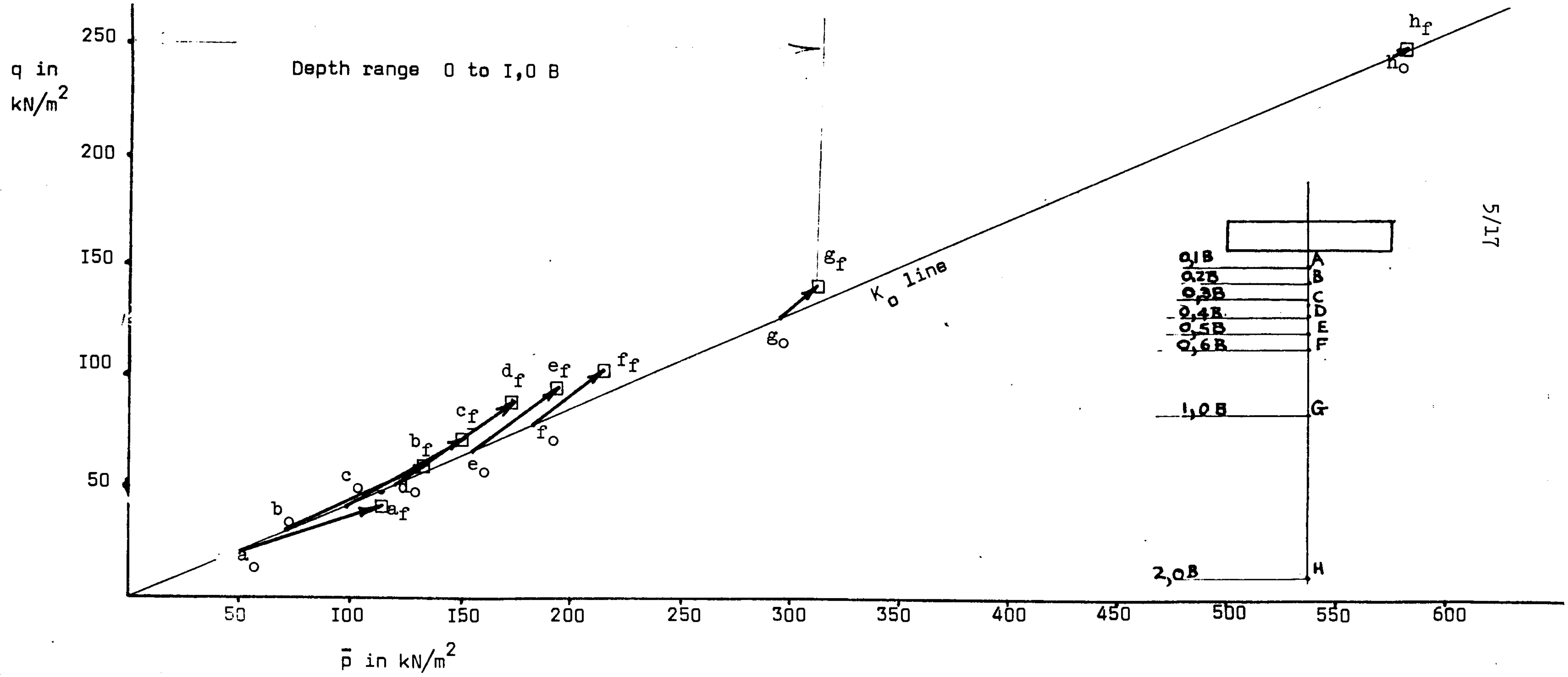
q_w = 120 kN/m^2

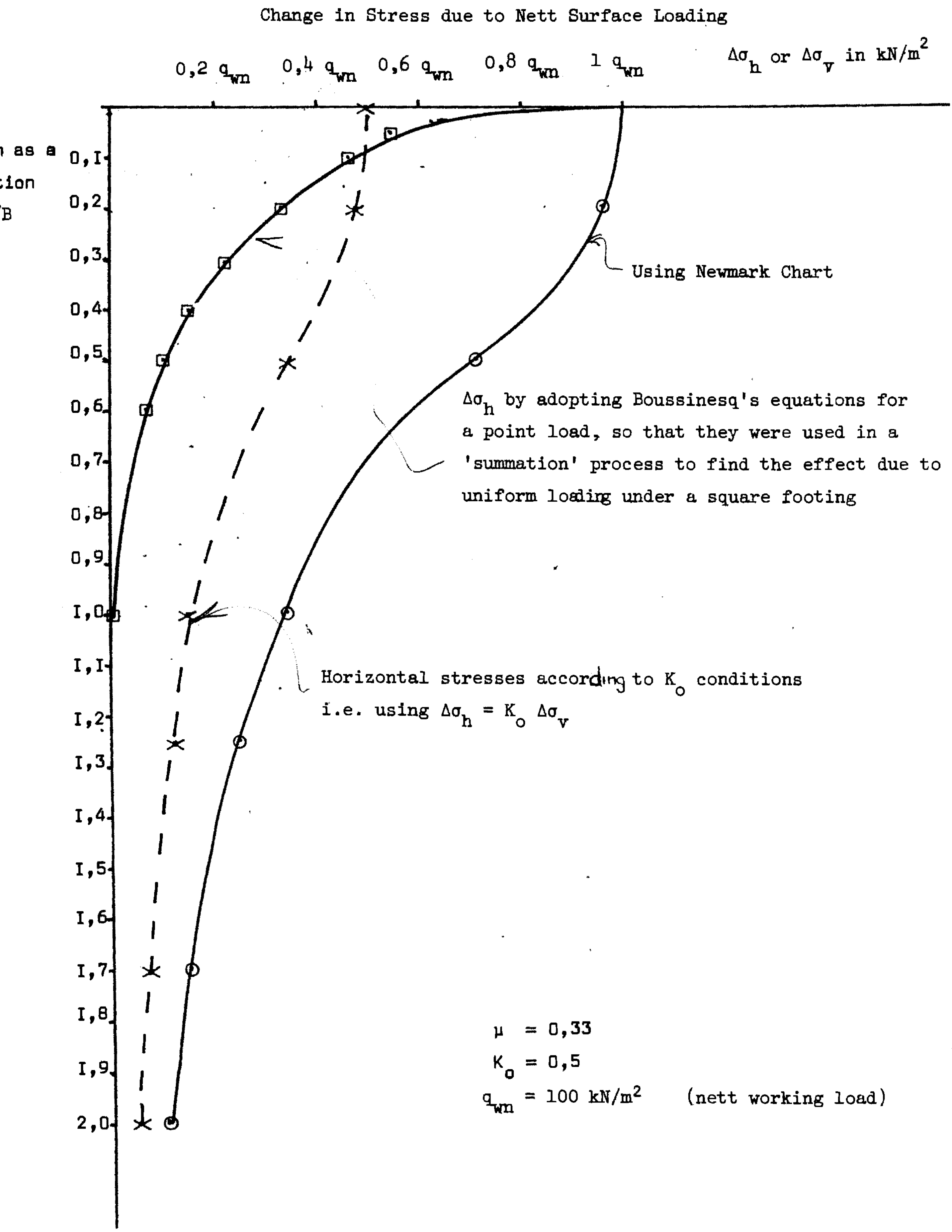
q_{wn} = 100 kN/m^2

K_o = 0,4

Unit weight of soil = 20 kN/m^3

Founding depth = 1 m





<u>*FIGURE 5.11*</u> *Stresses under Centre of a Square Footing (width B)*
(assumed uniform pressure between footing and soil)

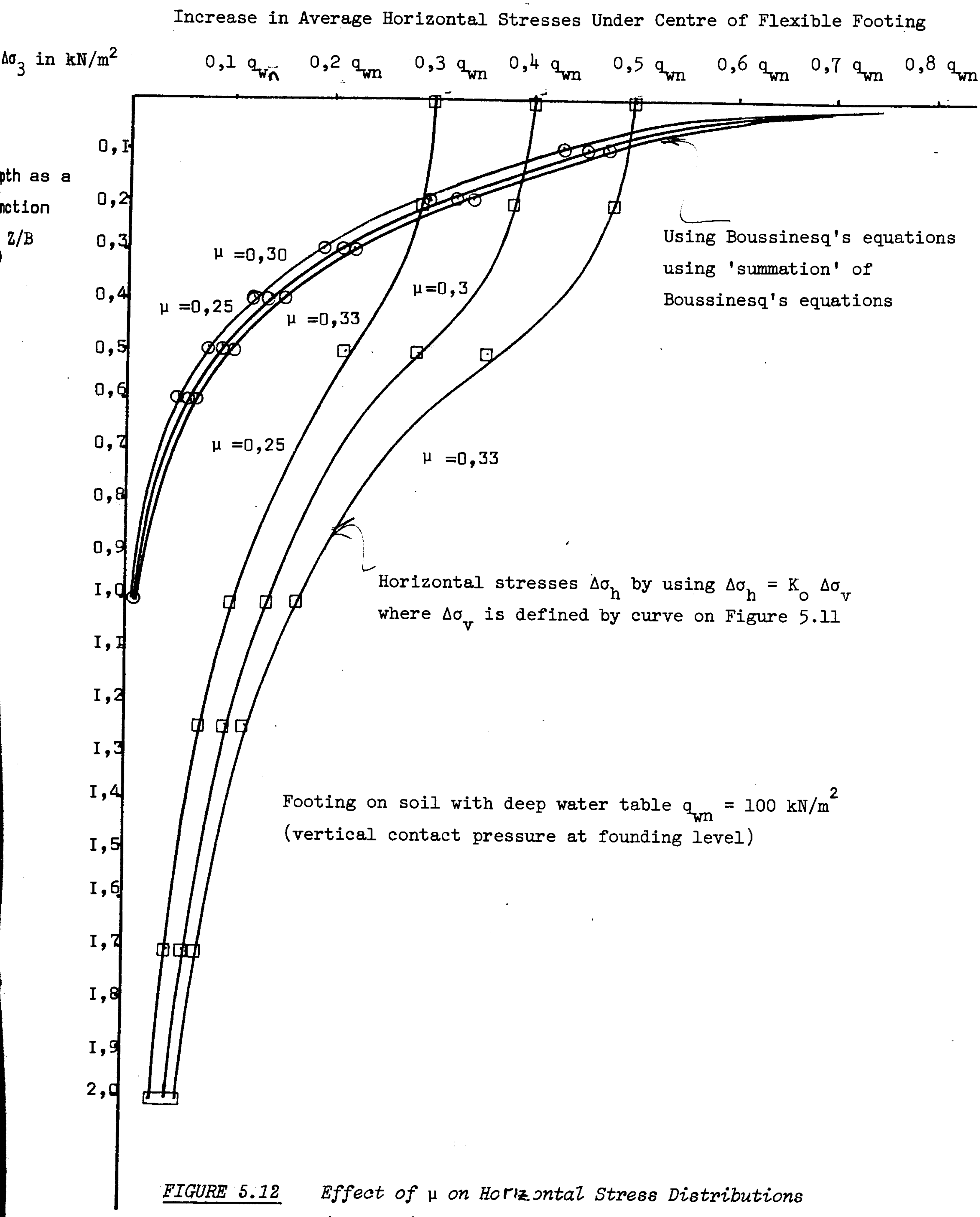


FIGURE 5.12 *Effect of μ on Horizontal Stress Distributions (on vertical centre line under square footing)*

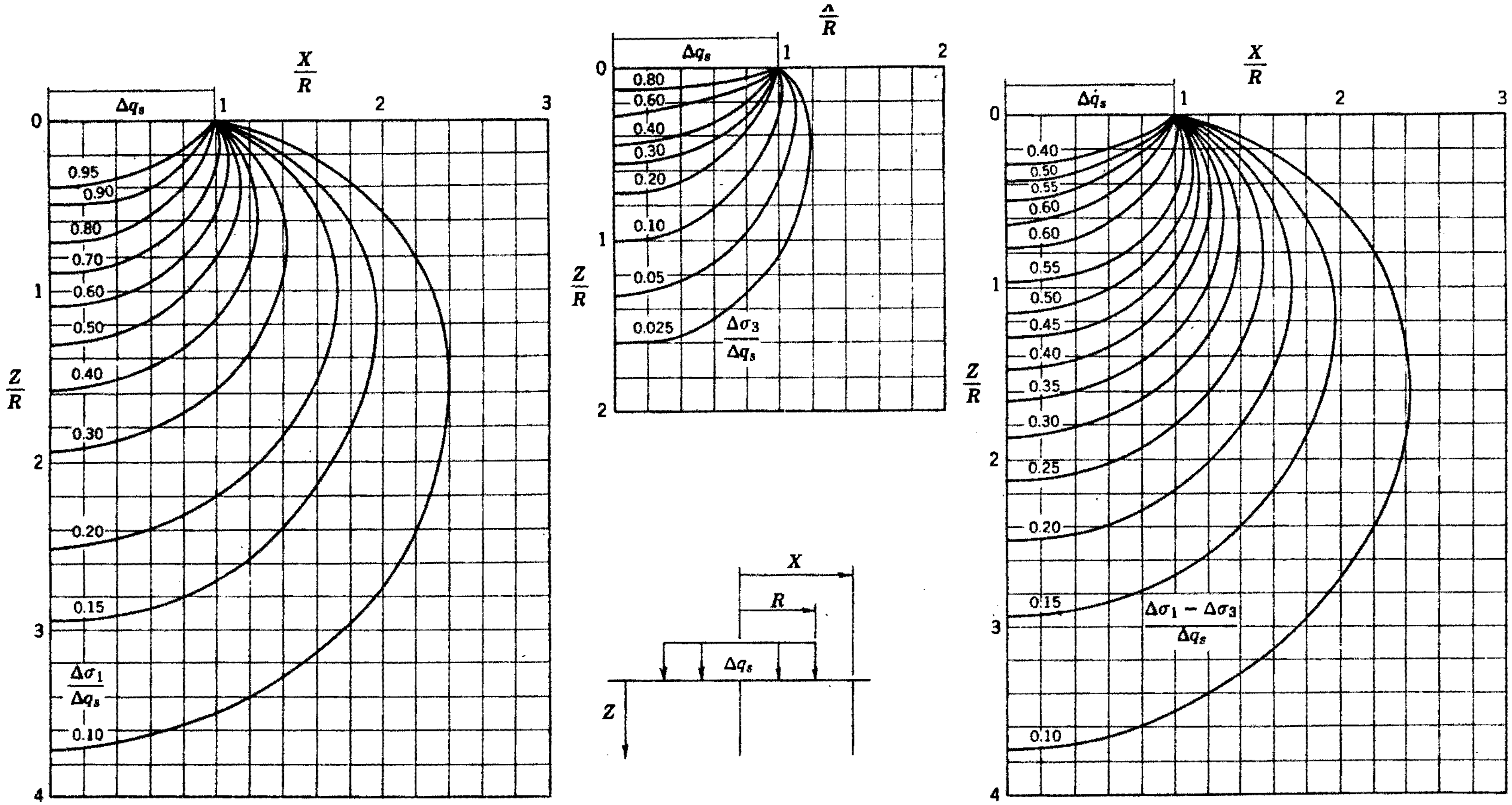


FIGURE 5.13 *Stress Distributions under a Circular Footing* (*Lambe and Whitman, Ref. 2*)

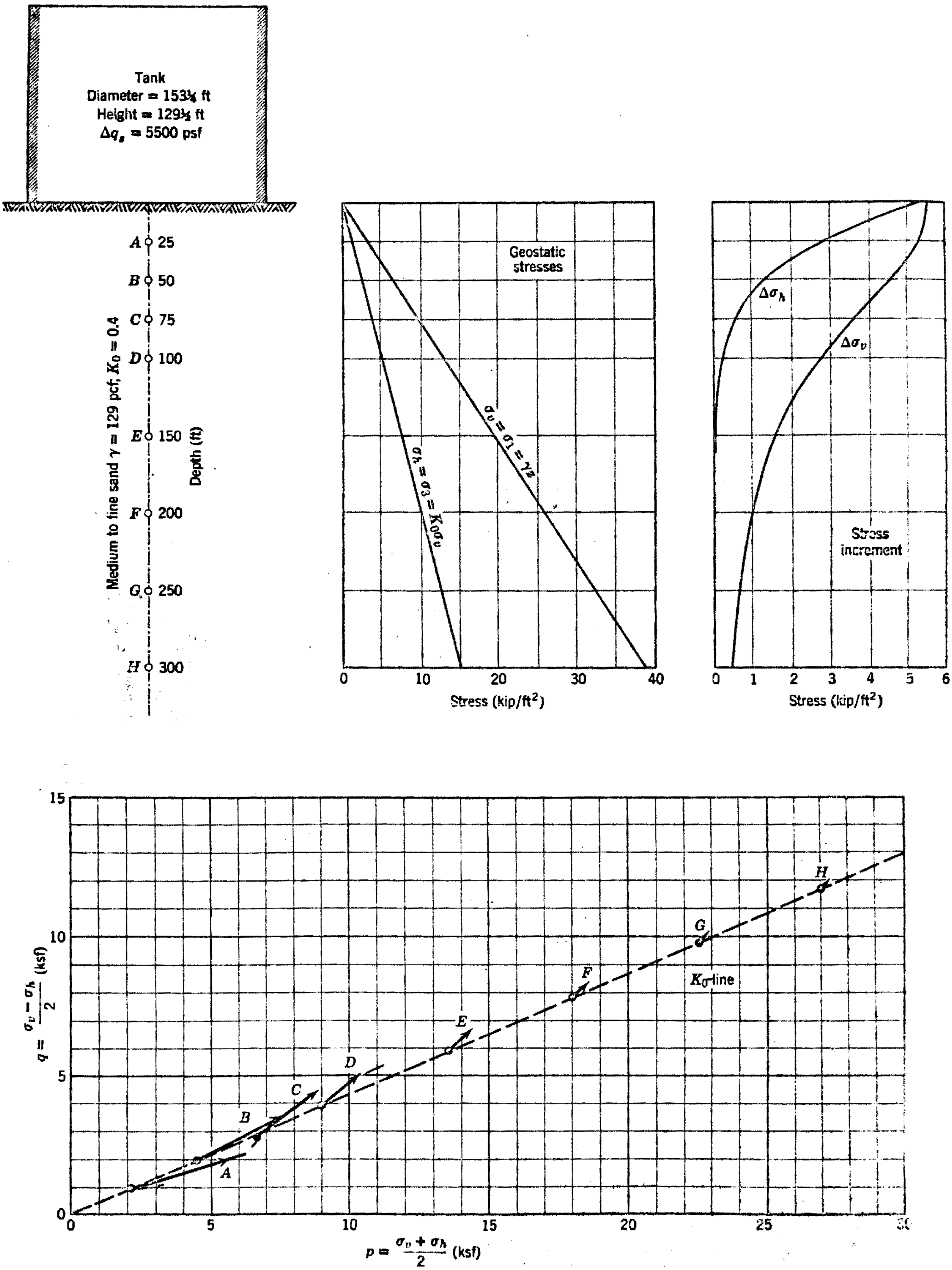


FIGURE 5.14 *Stress Distributions and Associated Stress Paths under a Tank (Lambe and Whitman, Ref. 2)*

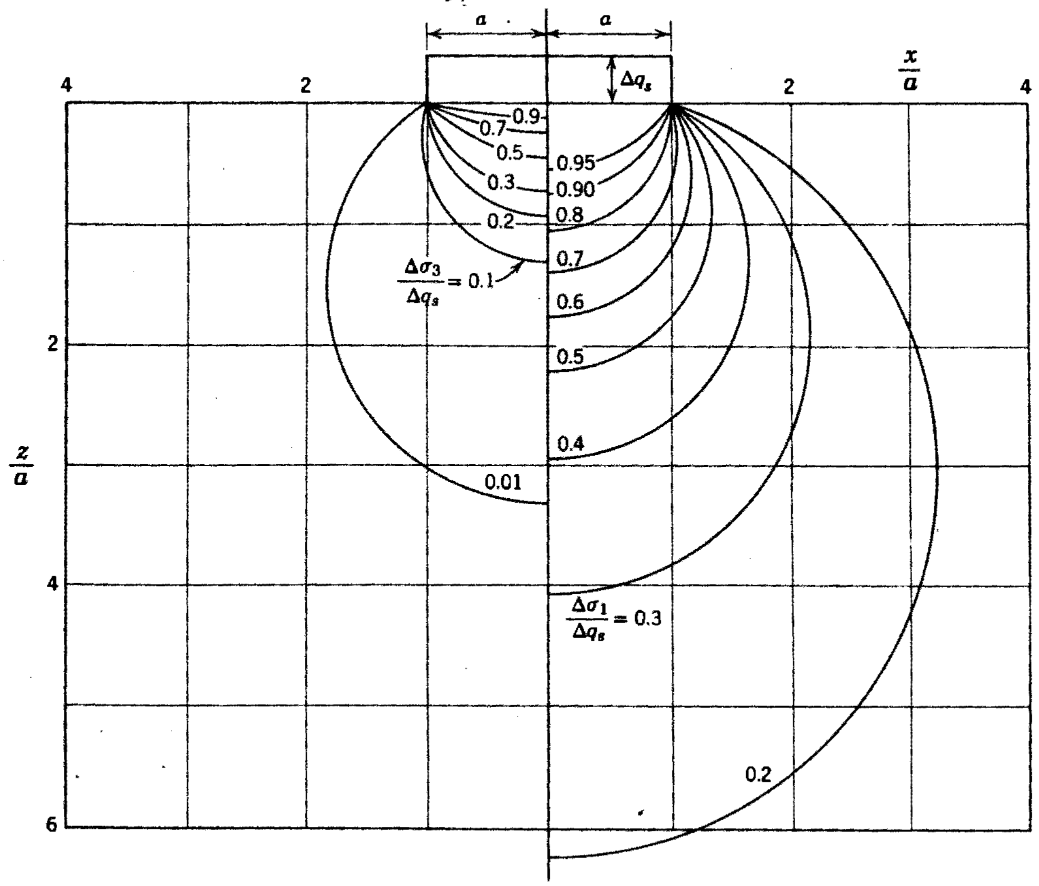


FIGURE 5.15   *Stresses Under a Strip Load (Lambe & Whitman, Ref. 2)*

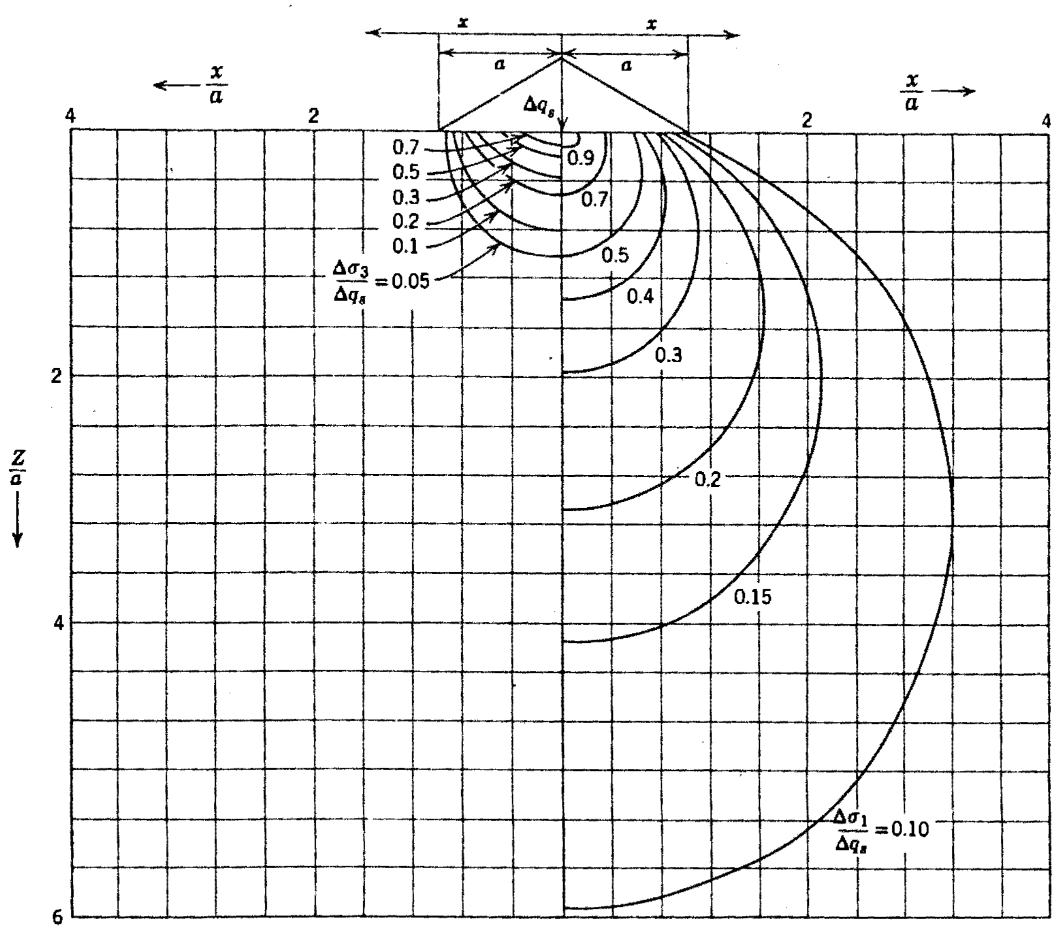


FIGURE 5.16   *Stresses Under a Triangular Strip Load (Lamb & Whitman, Ref, 2)*

TABLE 5.1 *Table of data for drawing actual stress paths under the centre of a 3 m x 3 m footing.* (K_o = 0,5 *Founding depth* = 1 m)

Depth below footing		Initial (kN/m^2)				(kN/m^2)		(kN/m^2) Final	
Z/B	metres	$\bar{\sigma}_1$	$\bar{\sigma}_3$	q	$\bar{p}$	$\Delta\bar{\sigma}_1$	$\Delta\bar{\sigma}_3$	q	$\bar{p}$
0,1	0,3	26	13	6,5	19,5	78	38	26,5	77,5
0,2	0,6	32	16	8,0	24,0	77	27	33,0	76,0
0,3	1,0	40	20	10,0	30,0	70	18	36,0	74,0
0,4	1,2	44	22	11,0	33,0	63	12	36,5	70,5
0,5	1,5	50	25	12,5	37,5	57	8	37,0	70,0
0,6	1,8	56	28	14,0	42,0	49	6	35,5	69,5
1,0	3,0	80	40	20,0	60,0	27,5	0,5	33,8	73,8
2,0	6,0	140	70	35,0	105,0	9	0	39,5	109,5

TABLE 5.2 *Table of data for drawing actual stress paths under the centre of a* 10 *m* x 10 *m footing.* (K_o = 0,5 *Founding depth* = 1 m)

Depth below footing		Initial (kN/m^2)				(kN/m^2)		(kN/m^2) Final	
Z/B	metres	$\bar{\sigma}_1$	$\bar{\sigma}_3$	q	$\bar{p}$	$\Delta\bar{\sigma}_1$	$\Delta\bar{\sigma}_3$	q	$\bar{p}$
0,1	1	40	20	10	30	98	47	35,5	102,5
0,2	2	60	30	15	45	96	34	46,0	110,0
0,3	3	80	40	20	60	87	22	52,5	116,5
0,4	4	100	50	25	75	79	15	57,0	122,0
0,5	5	120	60	30	90	71	10	60,5	130,5
0,6	6	140	70	35	105	61	6	62,5	138,5
1,0	10	220	110	55	165	34	1	71,5	182,5
2,0	20	420	210	105	315	11	0	110,5	320,5

TABLE 5.3 *Table of data for drawing actual stress paths under the centre of a 10 m x 10 m footing.* (K_o = 0,4 *Founding depth* = 1 *m*)

Depth below footing		Initial (kN/m^2)				(kN/m^2)		(kN/m^2) Final	
Z/B	metres	$\bar{\sigma}_1$	$\bar{\sigma}_h$	Q	$\bar{p}$	$\Delta\bar{\sigma}_1$	$\Delta\bar{\sigma}_h$	q	$\bar{p}$
0,1	1	40	16	12	26	98	45	38,5	99,5
0,2	2	60	24	18	42	96	32	50,0	106,0
0,3	3	80	32	24	58	87	21	57,0	110,0
0,4	4	100	40	30	74	79	14	62,5	116,5
0,5	5	120	48	36	90	71	9	67,0	124,0
0,6	6	140	56	42	106	61	6	69,5	131,5
1,0	10	220	88	66	154	34	1	82,5	171,5
2,0	20	420	168	126	294	11	0	131,5	299,5

TABLE 5.4

TABLE 5.4 *Table of data for drawing actual stress paths under the centre of a 20 m x 20 m footing.* (K_o = 0,4 *Founding depth* = 1 *m*)

Depth below footing		Initial (kN/m^2)				(kN/m^2)		(kN/m^2) Final	
Z/B	metres	$\bar{\sigma}_1$	$\bar{\sigma}_h$	q	$\bar{p}$	$\Delta\bar{\sigma}_1$	$\Delta\bar{\sigma}_h$	q	$\bar{p}$
0,1	2	60	24	18	42	98	45	44,5	113,5
0,2	4	100	40	30	70	96	32	62,0	134,0
0,3	6	140	56	42	98	87	21	75,0	152,0
0,4	8	180	72	54	126	79	14	86,5	172,5
0,5	10	220	88	66	154	71	9	97,0	194,0
0,6	12	260	104	78	182	61	6	105,5	215,5
1,0	20	420	168	126	294	34	1	142,5	311,5
2,0	40	820	328	246	574	11	0	251,5	579,5

CHAPTER 6

SETTLEMENT PREDICTION

6.1 Introduction to the problems of settlement prediction

Assumptions used in settlement predictions must be accurately defined for each and every case. Numerous factors affect settlement prediction. These influences vary with soil type and loading systems.

6.2 Settlement

Settlement describes the vertical deformation that occurs when a loading system is imposed on a soil mass. The vertical deformation results in a denser packing of soil solids in a localized area. This localized area is mainly within a bulb of pressure extending down to at least 1,5 B or 2B (see Chapter 4).

For any settlement problem, points at which deformation and stress variations will occur, must be chosen. These points must be carefully selected so as to obtain an accurate settlement prediction. There are two approaches for the selection of these points.

The first method (see Figure 6.1) considers a number of points on different planes under the loaded area. For very accurate results a point under the centre of the footing and points under the centres of the edges of the footing should suffice. The number of horizontal planes considered, could be related to the breadth of the footing and the variability of the soil with depth.

The other method is to define an average point and to examine the behaviour of this single point. As the mass implies, the point should behave as an average of the points within the appropriate area of the soil mass. The position of the average point is defined as a function of B (see Figure 6.2(a) and 6.2(b)). The strain at this 'average point' is assumed to act over an effective compressible depth D (Sparks, Ref. 52). D is dependent upon the shape and size of the footing considered. This method is limited to soil masses which are homogeneous to a depth D.

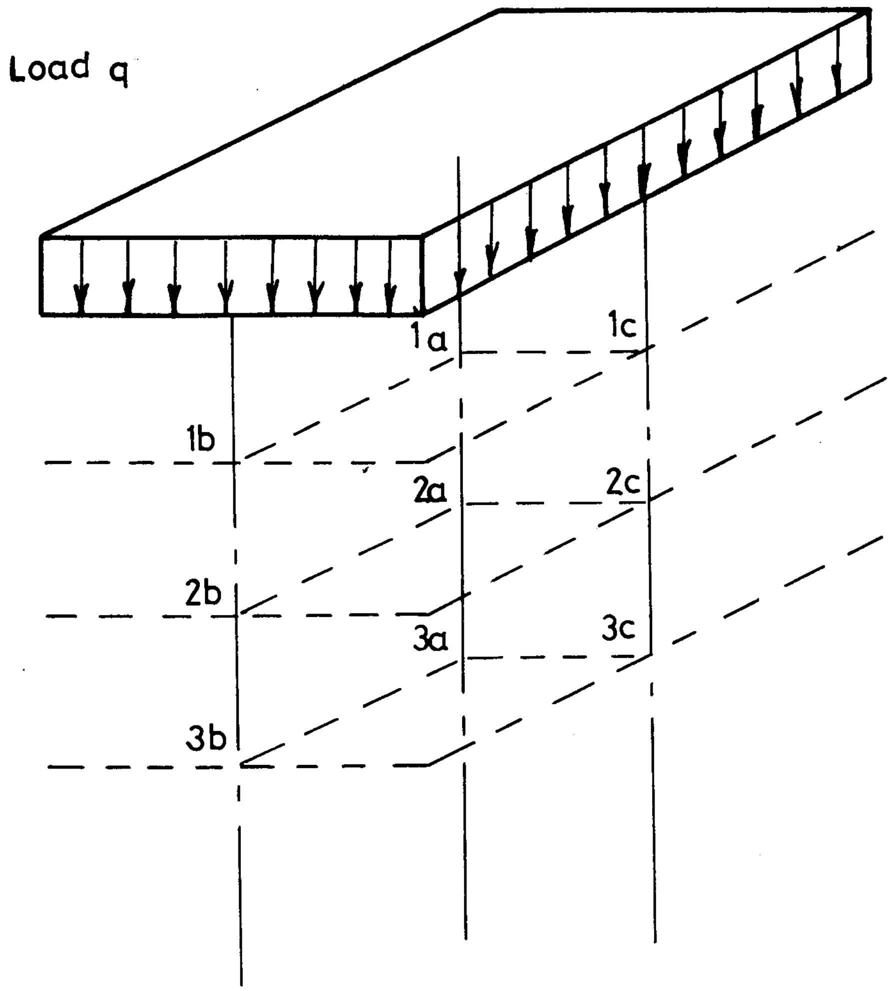


FIGURE 6.1 *Grid Type Layout for Choosing Points used in Settlement Prediction*

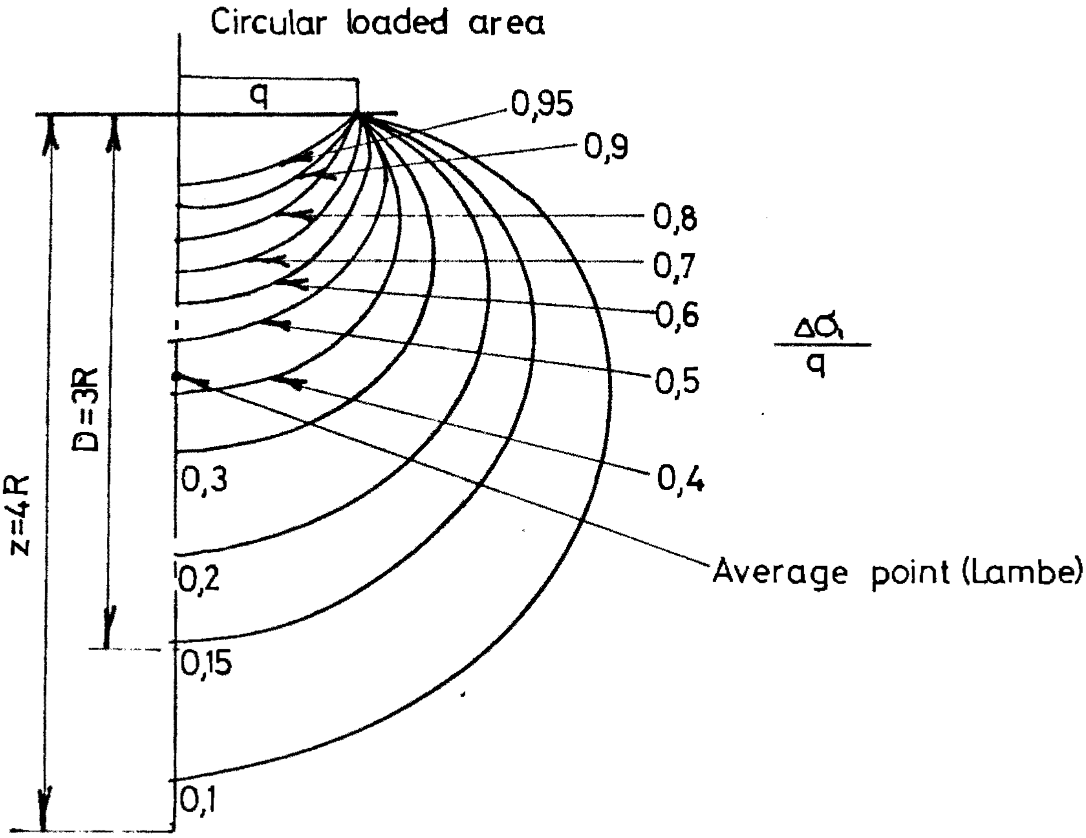


FIGURE 6.2(a) *Definition of the Average Point for a Circular Footing*

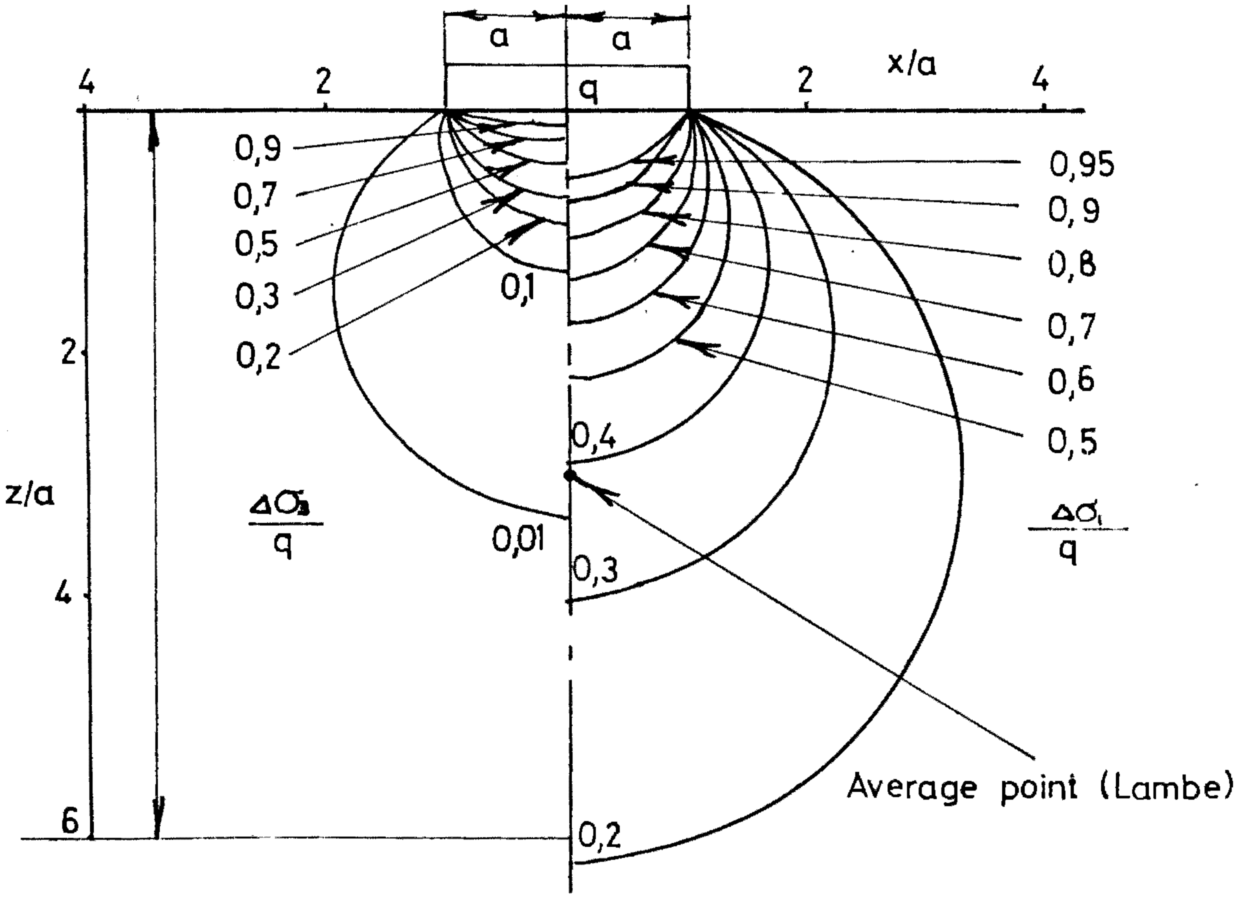


FIGURE 6.2(b) *Definition of the Average Point for a Strip Footing*

The cohesionless soils will deform immediately due to the loading of a localized area. Cohesive soils display a delayed consolidation characteristic. Consolidation is generally defined as the dissipation of excess water pressure with time.

The time of dissipation of excess water pressure should be a function of the volume of water which has to be forced out of the soil mass and the ease with which it can flow through the soil mass. This volume of water must in turn be a function of the stress change, the compressibility of the soil skeleton and the volume of the soil subjected to the stress change. The time should also be proportional to the velocity of flow.

Equation 6.1 can be used to determine the time for a certain percentage of the consolidation to take place.

$$t = \frac{H^2 T_v}{C_v} \tag{6.1}$$

where

t = time for a percentage of the consolidation process to take place

C_v = coefficient of consolidation

H = thickness of the soil mass or maximum distance to a drainage surface

T_v = time factor

From the formula it is evident that the time for a percentage of the consolidation to take place will:

1. Increase with increasing compressibility of the soil skeleton
2. Decrease with increasing permeability
3. Increase rapidly with increasing distance to drainage layer (H^2)
4. Not depend on the magnitude of the stress change. This magnitude of this stress change will only effect the magnitude of the settlement not the percentage of the final settlement

Equilibrium is finally established when the water pressure is equal to the static water pressure due to the water table. At this stage the effective vertical stress within the soil mass is equal to the initial overburden effective stress plus the increment due to the loading system.

Below are graphical representation of time settlement curves for a saturated clay and partly saturated clay.

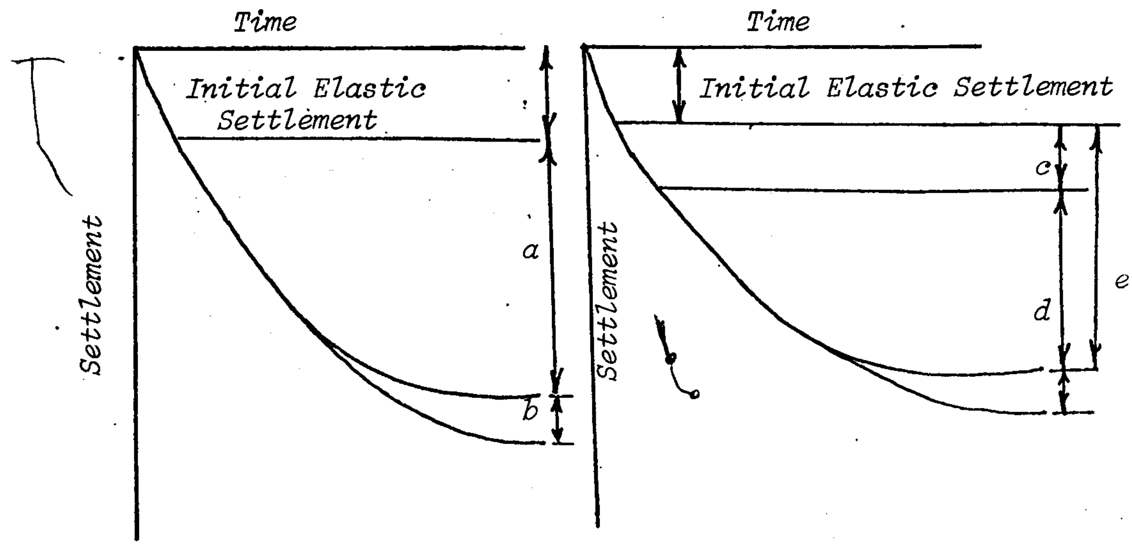


FIGURE 6.3 *Saturated Clay* *Partly Saturated Clay*

a - *Hydrodynamic consolidation settlement (obtained from consolidometer test)*

b - *Secondary consolidation due to time creep effects under constant load*

c - *Initial compression of air voids due to Boyle's law and Henry's law*

d - *Hydrodynamic consolidation due to outward movement of the water and air within the voids of the clay*

e - *Obtainable from a consolidometer test*

6.3 Settlement prediction

The movements with which the engineer is concerned are the maximum vertical settlement (S) the maximum differential settlement (Δ) and the maximum angular distortion δ/L (see Figure 6.4). The determining settlement is the settlement which causes the maximum amount of distortion to a part of the building only. The maximum angular distortion (δ/L) should be limited to $1/300$ for buildings with interior panels and walls and $1/150$ for buildings without interior partitions or brick walls.

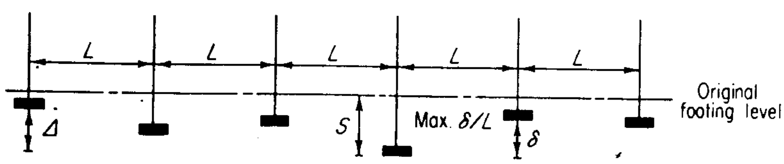
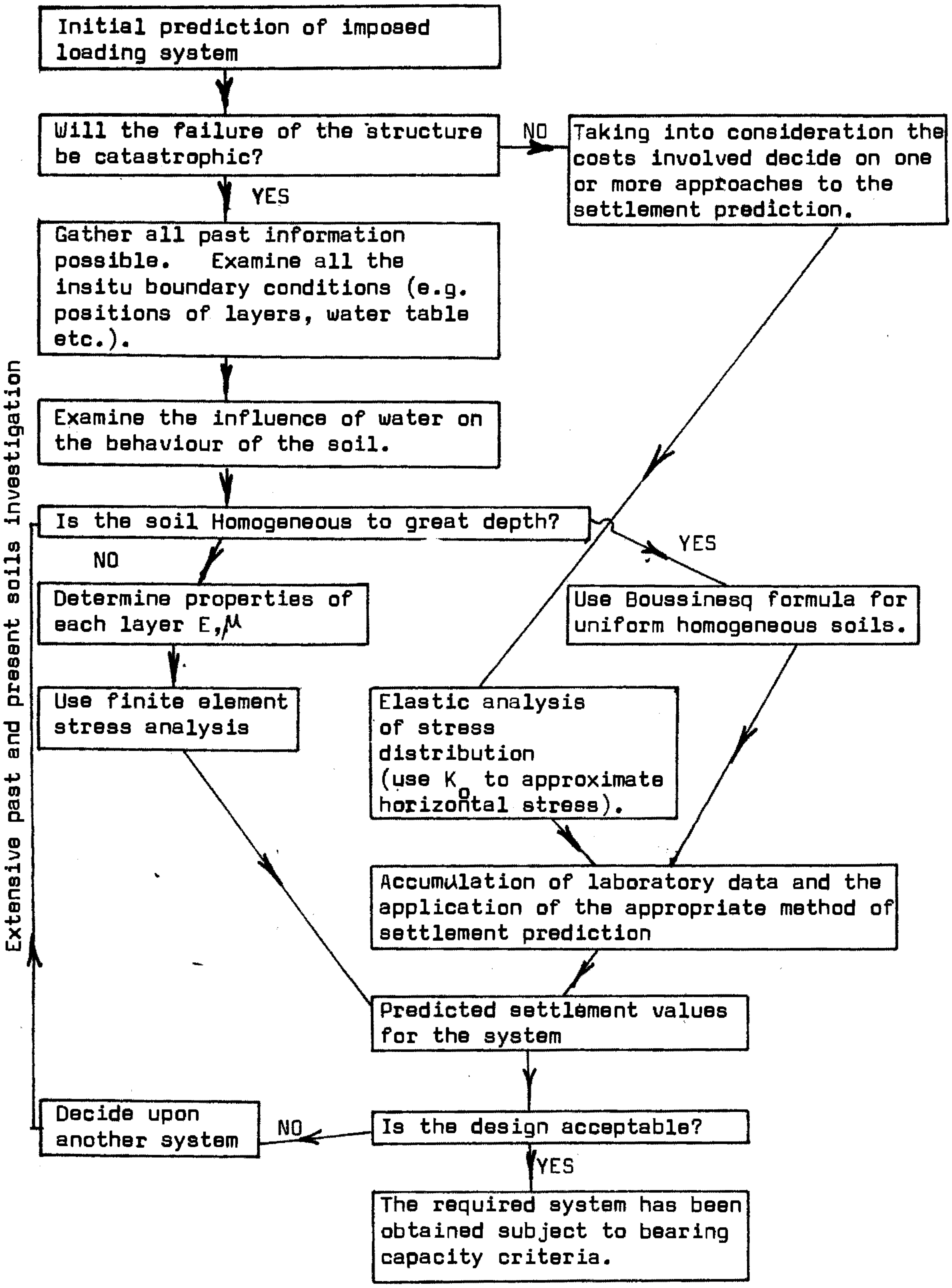


FIGURE 6.4 *Important Settlement Values*

Settlement prediction is not only concerned with stress variation. The techniques of theoretical soil mechanics involve the assumption that the site conditions approximate to the theoretical model (e.g. rock boundaries etc). If these assumptions are reasonable other additional influences on settlement prediction should be considered (e.g. stress history, rate of loading, variation of w_c etc).

The final cost of the structure will also influence settlement prediction as a detailed soil investigation is a costly process. A flow chart, describing the process involved from the initial design stage of the structure and foundation system to the final predicted settlements and design of the system, is shown.

The first column in the following table is based on Lambe and Whitman, Ref. 2.


Initial prediction of imposed loading system
Will the failure of the structure be catastrophic?
NO
Taking into consideration the costs involved decide on one or more approaches to the settlement prediction.
YES
Gather all past information possible. Examine all the insitu boundary conditions (e.g. positions of layers, water table etc.).
Examine the influence of water on the behaviour of the soil.
Is the soil Homogeneous to great depth?
YES
NO
Determine properties of each layer E, μ
Use Boussinesq formula for uniform homogeneous soils.
Use finite element stress analysis
Elastic analysis of stress distribution (use K_o to approximate horizontal stress).
Accumulation of laboratory data and the application of the appropriate method of settlement prediction
Predicted settlement values for the system
Decide upon another system
NO
Is the design acceptable?
YES
The required system has been obtained subject to bearing capacity criteria.
Extensive past and present soils investigation

Consequences of soil being a particulate system	Influences on settlement prediction
The deformation of a mass of soil is controlled by the interactions between individual particles especially by sliding between particles	The plot of stress-strain is not a straight line and is not unique for load-unload cycles. Changes in water content can affect the case with which the particles may slide relative to each other.
Soil is inherently multiphase, and the constituents of the pore phase will influence the nature of the mineral surfaces and hence the process of force transmission at the particle contacts	Settlement is dependent upon water content, and the water table at the moment of load transfer
Water can flow through the soil and thus interact with the mineral skeleton. This will alter the magnitude of forces at the contacts between particles, and influence the compression and shear resistance of the soil	Variation in water content and water table will produce variations in deformation, even though a loading system remains constant
When the load applied to a soil is suddenly changed, this change is carried jointly by the pore fluid and by the mineral skeleton. The change in pore pressure will cause water to move through the soil, hence the properties of the soil will change with time	Introduces a time-deformation relationship

6.4 Conclusion

Settlement prediction is not merely concerned with conditions at the time of loading. Subsequent variations of local conditions (e.g. rain) will influence soil behaviour after loading. Settlement predictions should therefore make allowances for subsequent changes in water content in the soil which may take place after construction of the building.

CHAPTER 7

THE STRESS PATH

7.1 Stress states that influence settlement predictions

In most methods of settlement prediction (other than the stress path method) the engineer is concerned with the initial in situ field stress state (before application of design loads), the stress state immediately after application of design loads and the final stress state (after dissipation of pore water pressures). The engineer has not taken into account the 'path' followed in going from one stress state to another.

This chapter will illustrate the importance of considering the actual stress paths, and the influence of these stress paths on the behaviour of the soil.

7.2 Stress equilibrium (two dimensional stress state)

Consider an element of soil subjected to stresses σ_1, σ_2 and σ_3. In Figure 7.1 it is assumed in this case that σ_2 = σ_3 (see Chapter 4). Hence the normal stress on any vertical section in Figure 7.1 is $\sigma_h = \sigma_2 = \sigma_3$.

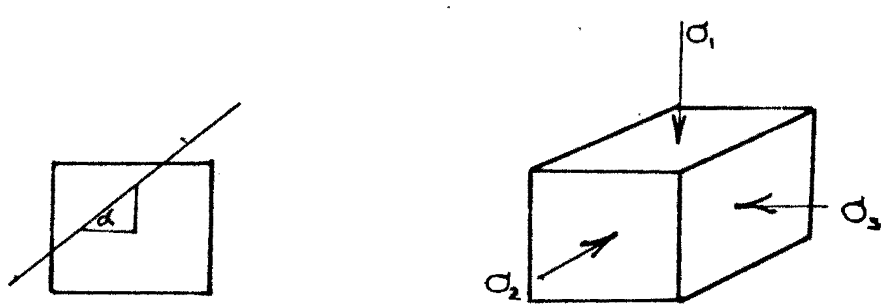


FIGURE 7.1 *Principal Stresses σ_1, σ_2, σ_3 (i.e. zero shear stress on surfaces shown)*

If the value of σ_1 is increased until shear failure occurs along an inclined face, the engineer would be interested in the stresses on the inclined face at failure (see Figure 7.1 and 7.2).

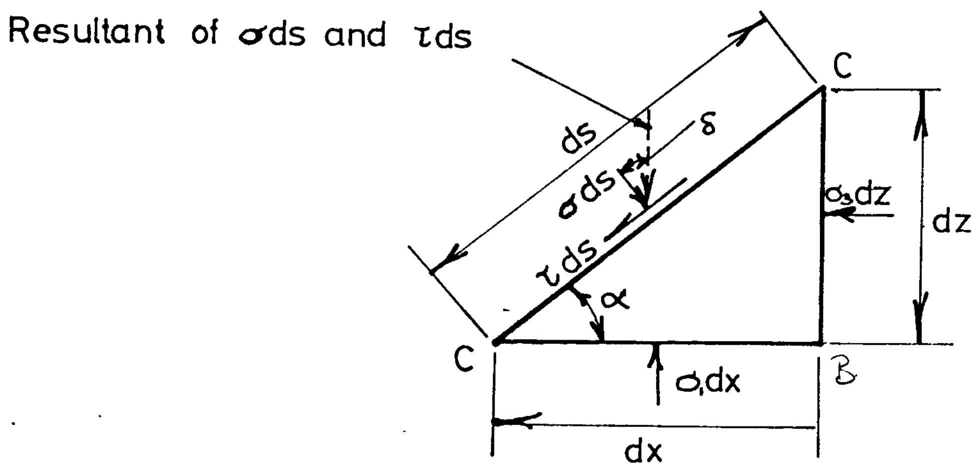


FIGURE 7.2 *Definition of Stresses and Forces on a Face c-c Inclined to the vertical CB*

For discussion of the stress paths, the assumption is made that under the footing, plane strain conditions are satisfied. Therefore it is only necessary to consider the stresses which act parallel to one vertical slice as in Figure 7.2.

Plane strain conditions (Lambe and Whitman, Ref. 2, Rauch, Ref. 17).

1. Every slice of earth orientated parallel to this plane is subjected to the same stress state. This implies a large loaded area.

2. Under normal conditions the soils engineer is dealing with a continuous mass of earth with a constant cross section and with outer boundaries perpendicular to a single vertical plane.

3. The thickness of the slice is not changed by a variation of stress conditions within the slice.

From the equilibrium of the element of soil in Figure 7.2 the following equations must be satisfied:

$$\Sigma \text{ Horizontal forces} = 0 \tag{7.1}$$

$$\Sigma \text{ Vertical forces} = 0 \tag{7.2}$$

Therefore from equation (7.1) and Figure 7.2

$$\sigma_3 \text{ Sin } \alpha \text{ ds} - \sigma \text{ Sin } \alpha \text{ ds} + \tau \text{ Cos } \alpha \text{ ds} = 0 \tag{7.3}$$

Similarly from equation (7.2) and Figure 7.2

$$\sigma_1 \text{ Cos}\alpha \text{ ds} - \sigma \text{ Cos}\alpha \text{ ds} - \tau \text{ Sin}\alpha \text{ ds} = 0 \tag{7.4}$$

Multiply equation (7.3) by Cosα to get:

$$\sigma_3 \text{ Sin}\alpha \text{ Cos}\alpha - \sigma\text{Sin}\alpha \text{ Cos}\alpha + \tau\text{Cos}^2\alpha = 0 \tag{7.5}$$

Similarly multiply equation (7.4) by Sinα to obtain:

$$\sigma_1 \text{ Sin}\alpha \text{ Cos}\alpha - \sigma\text{Sin}\alpha \text{ Cos}\alpha - \tau\text{Sin}^2\alpha = 0 \tag{7.6}$$

Subtract equation (7.5) from equation (7.6), hence:

$$(\sigma_1 - \sigma_3) \text{ Sin}\alpha \text{ Cos}\alpha - \tau(\text{Sin}^2\alpha + \text{Cos}^2\alpha) = 0$$

on simplification

$$\tau = \tfrac{1}{2}(\sigma_1 - \sigma_3) \text{ Sin2 } \alpha \tag{7.7}$$

Similarly from equations (7.5) and (7.6) the following can be obtained:

$$\sigma = \tfrac{1}{2}(\sigma_1 + \sigma_3) + \tfrac{1}{2}(\sigma_1 - \sigma_3) \text{ Cos}2\alpha \tag{7.8}$$

These formulae become rather cumbersome if for a specific value of α the orientation of the plane and the stress on that plane is required. Rather than perform these mathematical manipulations for each state of stress on a plane, a graphical method is used. The graphical construction is called Mohr's circle.

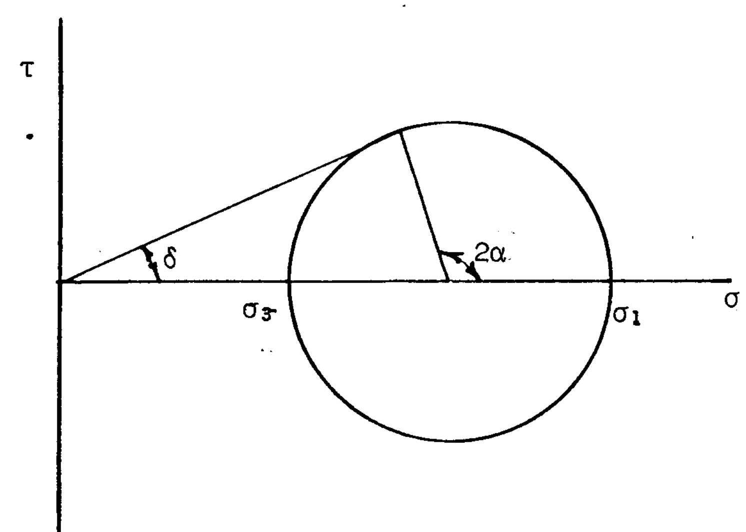


FIGURE 7.3 *Definition of Angles* α *and* δ *(in equations 7.7 & 7.8)*

In Figure 7.3 the compressive stress is plotted along the horizontal axis and the positive shear stress is plotted vertically from the horizontal axis. The resultant stress on the face c-c of the soil element (shown in Figure 7.2) acts at the angle of obliquity δ to the normal to the plane c-c. Mohr's diagram enables the engineer to determine the state of stress on any face of a soil element for a given stress condition.

7.3 The stress path

The Mohr's circle represents a method of graphic determination of stresses on various faces for one stress system. Therefore for every two dimensional stress system a Mohr's circle can be defined. Rather than draw a Mohr's circle for each stress system, use is made of a stress point. A stress point is a single point that fully defines the Mohr's circle in position and size (see Figure 7.4).

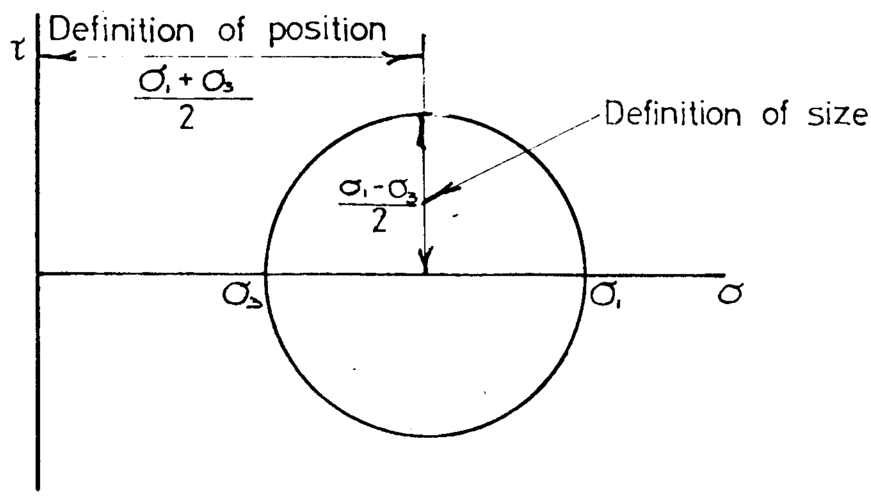


FIGURE 7.4 *Illustration of how a stress point effectively defines Mohr's Circle in Both Size and Position*

Figure 7.5 shows a number of Mohr's circles with their stress points. A stress path connects all these stress points.

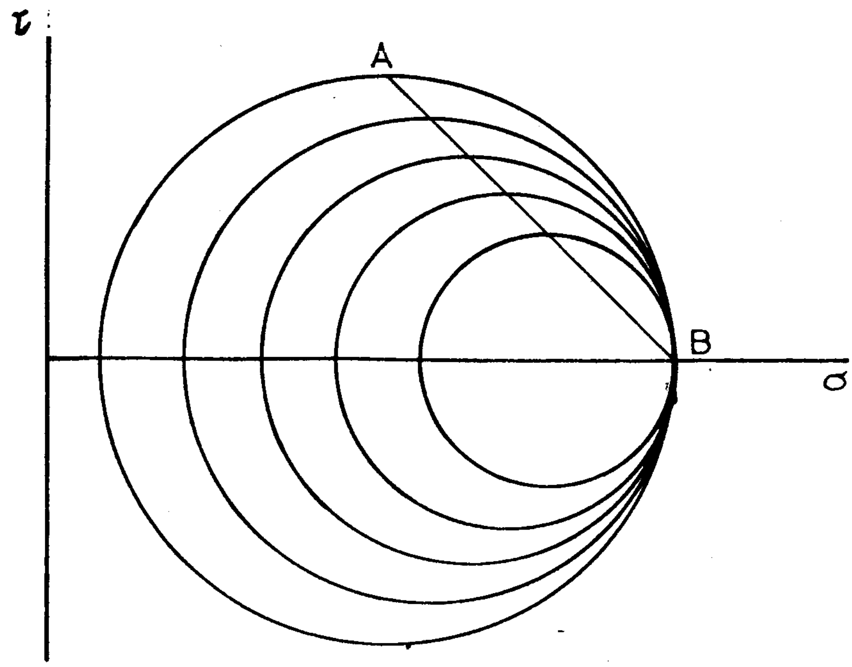


FIGURE 7.5 *The stress Path AB Represents the Application of an Increasing σ_3 with a constant σ_1. (In going from A to B)*

To define the changes in stress due to the loading of a soil element an infinite number of stress points have to be plotted. The line joining these stress points defines the stress path. Stress paths are plotted on p - q diagrams or $\bar{p}$ - q diagrams

$$p = \frac{\sigma_1 + \sigma_3}{2} \tag{7.9}$$

$$\bar{p} = \frac{\bar{\sigma}_1 + \bar{\sigma}_3}{2} \tag{7.10}$$

$$q = \frac{\sigma_1 - \sigma_3}{2} \tag{7.11}$$

$$\bar{q} = q \tag{7.12}$$

The total stress path defines the changes in total stress systems while the effective stress path is related to the effective stress changes.

7.3.1. Example of a stress path

Let ABC (see Figure 7.6) represent the effective stress path for a non-typical triaxial sample. The arrowheads indicate the loading sequence.

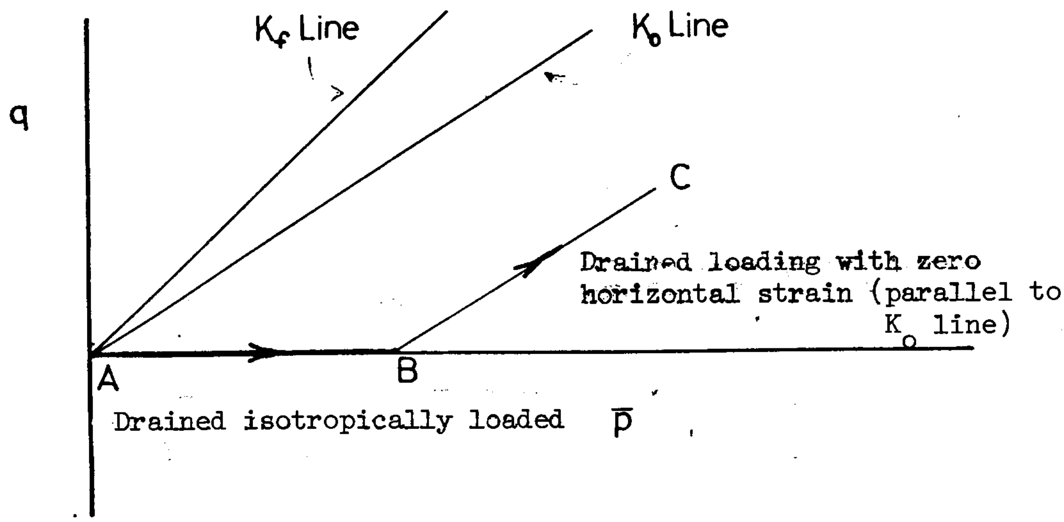


FIGURE 7.6 *Stress Path Example*

Section AB of the stress path will correspond to the drained isotropically loaded sample (final cell pressure is σ_B). Section BC corresponds to a drained loading condition with a zero horizontal strain (with cell pressure increasing from σ_B). This implies that the ratio of the increase of horizontal effective stress to the increase in vertical effective stress remains constant, and this ratio is equal to K_o.

For this stress path we can define any one stress point. For that stress point any stress conditions on any plane for this soil sample can be described.

7.4 The stress path method of settlement prediction

The ultimate aim of the civil engineer is to apply field conditions to 'undisturbed' samples and to use the results from the tested samples for prediction of field conditions.

For accurate settlement prediction it is necessary to establish whether to make calculations for either one or more 'average' points under the foundation or to integrate a strain-versus-depth curve obtained for several points.

The stress path method of settlement prediction consists basically of two steps (Lambe, Ref. 7).

1. The estimation of the history and variation of stress and strain for one or more elements of soil in the actual field structure.
2. The use of soil tests (laboratory and field) and analytical techniques which approximate the field stress and strain conditions before, during and after construction.

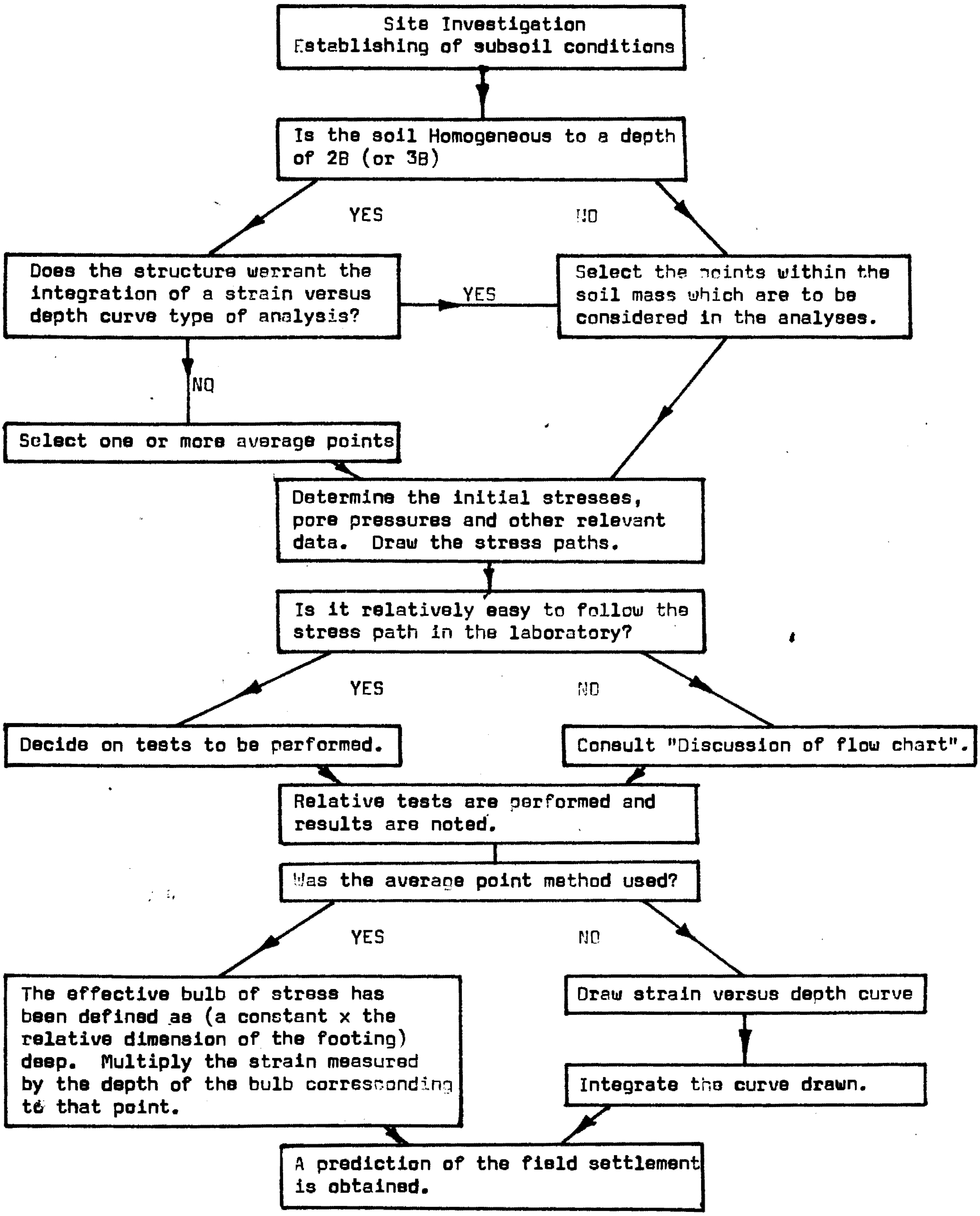
Lambe (Ref. 7) does not lay emphasis on the necessity of highly sophisticated apparatus, or three dimensional stress analysis and testing procedures. He does however emphasize that the most correct approximation of field conditions is essential for accurate settlement prediction.

The first step in the stress path method provides information on the consolidation stresses, or the initial stress system, before loading occurs. This information will denote the method of testing for the first stage of the test.

The second stage of the test involves the application of the imposed surface loads. From the stress path drawn from step two, the method of testing that will accurately duplicate the field conditions can be deduced. Figure 7.7 shows the flow chart for the stress path method of settlement prediction.

7.5 Discussion of the flow chart

Lambe does not provide a flow chart but the following is an example illustrating the method suggested by Lambe (Lambe, Ref. 7, Davis Poulos, Ref. 6). Consider a sample soil element in the field (in a triaxial cell) which is first allowed to consolidate


Site Investigation
Establishing of subsoil conditions
Is the soil Homogeneous to a depth of 2B (or 3B)
YES
NO
Does the structure warrant the integration of a strain versus depth curve type of analysis?
YES
Select the points within the soil mass which are to be considered in the analyses.
NO
Select one or more average points
Determine the initial stresses, pore pressures and other relevant data. Draw the stress paths.
Is it relatively easy to follow the stress path in the laboratory?
YES
NO
Decide on tests to be performed.
Consult "Discussion of flow chart".
Relative tests are performed and results are noted.
Was the average point method used?
YES
NO
The effective bulb of stress has been defined as (a constant x the relative dimension of the footing) deep. Multiply the strain measured by the depth of the bulb corresponding to that point.
Draw strain versus depth curve
Integrate the curve drawn.
A prediction of the field settlement is obtained.

under K_o conditions to the state A. Then it is subjected to an increase in vertical total stress (while the horizontal total stress remains constant). The sample is then allowed to consolidate under this loading.

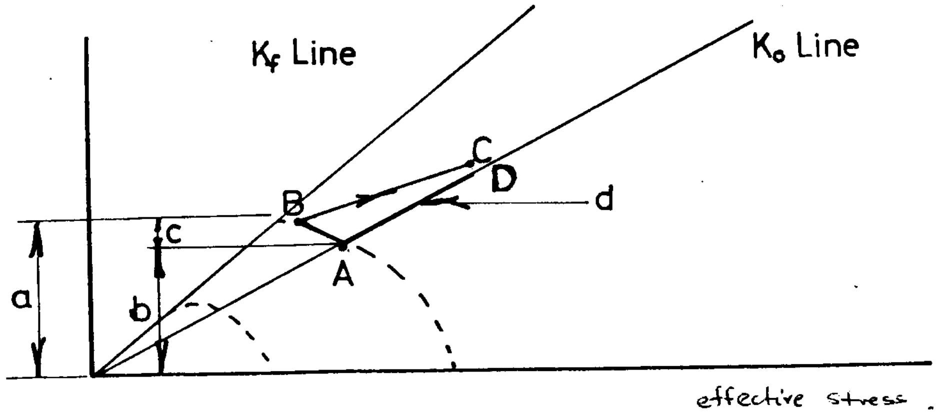


FIGURE 7.8 Example Illustrating the Stress Path Method used by Lambe (Ref. 7)

a = total undrained shear strength

b = shear stress developed due to application of K_o conditions

c = additional shear stress experienced during undrained shear

d = equivalent K_o stress path

Consider the field conditions to be described by the effective stress path ABC. Where AB shows the undrained loading stress variations, and BC represents the consolidation of the loaded soil.

The settlement will result from the stress variations in going from A to B and B to C.

Firstly the axial strain due to undrained compression is estimated. This can be found from an undrained triaxial test where the vertical deflections, in going from A to B, are recorded.

The next step followed by Lambe is to compute the volume change during consolidation (Σ volume consolidation) corresponding to the corresponding consolidation stress path along the K_o line AD for this same total stress change. This is done as follows:

The position of C is estimated by using increments from Boussinesq's equations. These increments are from the state A. The point D is obtained by drawing a curve (similar to the undrained loading effective stress path BA) from C to cut the K_o line at D. The appropriate stress path which could be used in an ordinary oedometer is then represented by AD. Most of the samples are tested in the oedometer, but these results must be modified by a correction factor which varies with soil types and stress paths. A consolidation in a triaxial cell must be performed to estimate this correction factor.

Using a triaxial test, the actual vertical axial strain during consolidation BC, of the soil element, is determined. This is achieved by performing a triaxial test which follows the actual stress path BC. From this an estimate of the ratio between the axial strain and the volumetric strain during consolidation is obtained. An expression which approximates this relationship is:

$$(\Sigma_{\text{axial consolidation}}) = \frac{1 + K_o - 2K\,K_o}{(1 - K_o)(1 + 2K)}\,(\Sigma_{\text{axial strains oedometer}}) \tag{7.13}$$

where

$(\Sigma_{\text{axial consolidation}})$ = actual axial strain during triaxial consolidation $(\Delta\ell/\ell_o)$

$(\Sigma_{\text{axial strains oedometer}})$ = volumetric strain obtained by the appropriate K_o test $(\Delta e/1+e_o)$

K_o = initial effective principal stress ratio (for state at A)

K = final effective principal stress ratio (for state at C)

Now the total axial strain for the in situ element subjected to triaxial stress can be estimated as follows. This value is the sum of the immediate axial strain during the undrained condition and the consolidation axial strain.

$$(\Sigma_{\text{total}}) = (\Sigma_{\text{undrained}}) + (\Sigma_{\text{axial consolidation}})$$

Lambe therefore suggests that only one (or maybe two) triaxial tests be performed following the stress path ABC and to find the K_o value and to estimate Σ undrained and to verify equation (7.13). The remaining tests can be carried out on the consolidometer following an appropriate K_o stress path. Equation (7.13) is applied to the oedometer results to obtain ($\Sigma_{\text{axial consol.}}$)

7.5.1. Modification suggested by the writer

From test results compute as before the axial strain due to undrained loading. Now examine the stress path. Does the end point of the stress path lie close to the assumed K_o line for this soil (i.e. is K approximately equal to K_o). If it is not, then carry on with Lambe's method (i.e. equation (7.13)).

If K approximates K_o, then only consolidometer tests or K_o triaxial tests need be considered for the appropriate K_o stress paths. The field consolidation axial strain will be approx equal to the volumetric strain determined by the K_o test. In the K_o triaxial test, the factor on the left-hand side of equation (7.13) is equal to the axial strain term in the brackets on the right-hand side of this equation. Note that this becomes possible when one uses $K = K_o$ in equation (7.13).

Does the portion of the stress path corresponding to drained consolidation (as calculated by using Boussinesq) have the same slope as the assumed K_o line ? If it does, then a K_o type triaxial test can be performed to obtain ($\Sigma_{\text{axial consolidation}}$) directly, instead of using equation (7.13). This K_o test must be done in a triaxial cell, and not in an oedometer.

This simplification will be appreciated by the triaxial machine technician because to simulate (as to follow) a relatively complicated stress path is a drawn out process which demands the highest degree of concentration.

7.6 Stress paths for standard laboratory testing procedures

The stress path that is in most cases the critical one for settlement is the effective stress path, as this is the stress path that the soil skeleton will experience on a macroscopic scale. It is this stress path that causes displacements in soils.

7.6.1 The consolidometer (i.e. the oedometer)

A typical stress path for a loading increment in consolidometer is shown in Figure 7.9. This is described in this section. The load is applied instantaneously to the sample. The soil is prevented from deforming laterally; that is, zero horizontal strain occurs (see Figure 7.10(a)). If we assume zero horizontal strain, then if the vertical stress increment is applied quickly to a saturated sample there is no volumetric strain and therefore no shear strain. This implies zero changes in effective stress and shear stresses during the instant of load application.

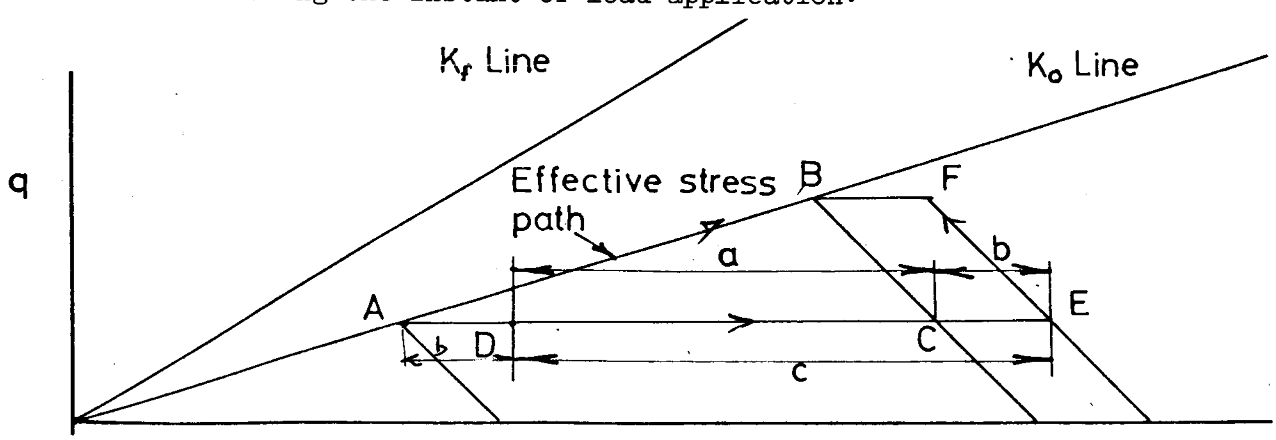
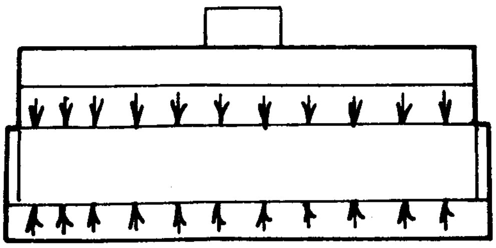


FIGURE 7.9 *Stress paths for Consolidometer Test (loading)*

a = *excess pore pressure* Δu *due to load increment*
b = *static pore water pressure* u_s *before loading*
c = *total pore pressure u immediately after loading*

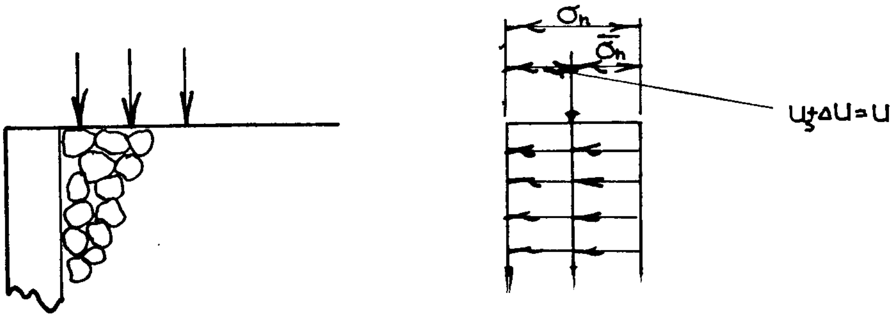
AB = *effective stress path*
DEF = *total stress path*
ACB = *(total -* u_{static}*) stress path*
u_{static} = *static pore water pressure*
u = *pore water pressure (total)*
For undrained loading: Effective stress path stays at A
Total stress path = DE



Consolidometer ring provides confining horizontal pressures

Bottom porous plate

FIGURE 10(a) *Consolidometer Sample*



Consolidometer ring

Horizontal pressures exerted on the ring

FIGURE 10(b) *Pressures Experienced by Consolidometer Ring*

If at the instant of load application there is no change in effective stresses or shear stresses then the excess water pressure must be equal to the load increment. The stress on the consolidometer ring (which equals the total horizontal stress) is equal to the effective stress plus the total pore water pressure. Thus at the instant of loading there is an increase in the total stresses while the effective stresses and shear stresses remain constant.

The effective stress path from A to B (see Figure 7.9) describes the sequence of effective stress systems imposed on the soil particles as dissipation of water pressure takes place.

The total stress path from E to F (see Figure 7.9) describes the total s\tress system imposed on the consolidometer ring during dissipation of excess water pressures.

During drainage, the horizontal and vertical effective stresses change, therefore a volume change and a shear strain will occur. The relationship of the vertical and horizontal effective stresses remain constant because K_o conditions are approximately satisfied in the oedometer.

7.6.2 Unloading

Figure 7.11 depicts a typical stress path for the unloading of a consolidometer sample. For undrained unloading the effective stress path stays at A and the total stress path is DE and the (total - u_{static}) stress path is AC.

When the specimen is unloaded, a decrease in pore pressure causes the water surrounding the sample to be sucked into the sample and the soil swells during the dissipation of the negative pore pressures.

During this swelling after unloading, the ratio of the vertical to horizontal effective stress does not remain constant, as the sample is not perfectly elastic in that each soil particle will not return to its original position before loading occurred.

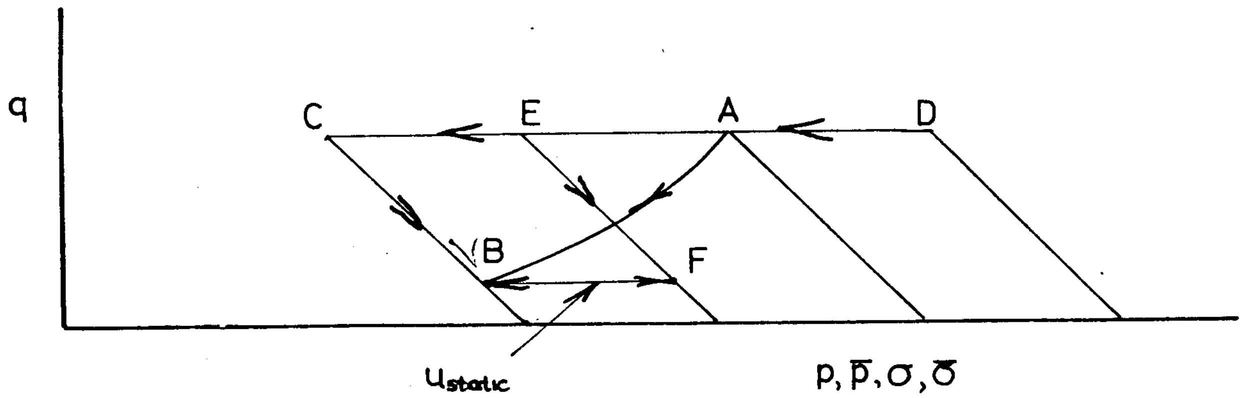


FIGURE 7.11 *Stress Path for Unloading of a Consolidometer Sample (Lambe, Ref. 7) (Horizontal stresses determined from other research workers results)*

AB = *effective stress path*
DEF = *total stress path*
ACB = *(total - u_{static}) stress path*
u_{static} = *static pore water pressure*
u = *total pore water pressure*
$u-u_{static}$ = *excess pore water pressure*

The curve in Figure 7.11 was drawn by Lambe and based on experimental results observed by Hendron, Brooker and Ireland in 1965. They performed consolidometer tests in which the horizontal and vertical stresses could be measured. They produced curves which related K_o, overconsolidation ratio and plasticity index P.I. The overconsolidation ratio can be defined as

$$\text{Overconsolidation ratio} = \frac{\bar{\sigma}_{vm}}{\bar{\sigma}_{vo}}$$

where

$\bar{\sigma}_{vm}$ = maximum previous vertical stress (e.g. if A lies on K_o line in Figure 7.11, then $\bar{\sigma}_{vm}$ corresponds to state A)

$\bar{\sigma}_{vo}$ = field stress (e.g. stress at state being considered; state B or state A)

7.6.3 The triaxial tests - (consolidated undrained)

The consolidated undrained loading in nature is regarded as consisting of two distinct stages. The first stage is the application of the stresses due to self weight of the soil mass. The second is the application of the stress increments due to a load being applied at some point on top of, or at some point within that soil mass.

The triaxial test results as shown, differ slightly from the in situ condition in that during the first stage of the triaxial test the soil is allowed to consolidate isotropically under the action of a stress system which does not represent the stresses induced due to the self weight of the soil mass. In nature this would correspond to a K_o condition. The second stage of the triaxial test is concerned with the undrained vertical loading of the sample. In the triaxial test this vertical loading is applied while the horizontal cell pressure remains constant (i.e. horizontal strain is permitted). In nature, horizontal strain is limited by the adjacent soil during this undrained shear. From the results of this type of triaxial test, the effective undrained loading stress paths can be drawn. Lambe superimposes undrained vertical strain contours on the stress paths to produce the 'pure form' of the stress path method of settlement prediction.

The method to determine the total settlement from the curves shown in Figure 7.12 is as follows. Firstly the field effective stress path must be superimposed on the diagram. The strain value corresponding to the initial state of stress is subtracted from the strain value of the final state of stress. This difference in strain value will be the total strain for that stress path. Where the total strain is the sum of the immediate strain due to undrained loading plus the hydrodynamic consolidation strain. The total settlement will be the total strain multiplied by the depth of the soil layer corresponding to the stress path.

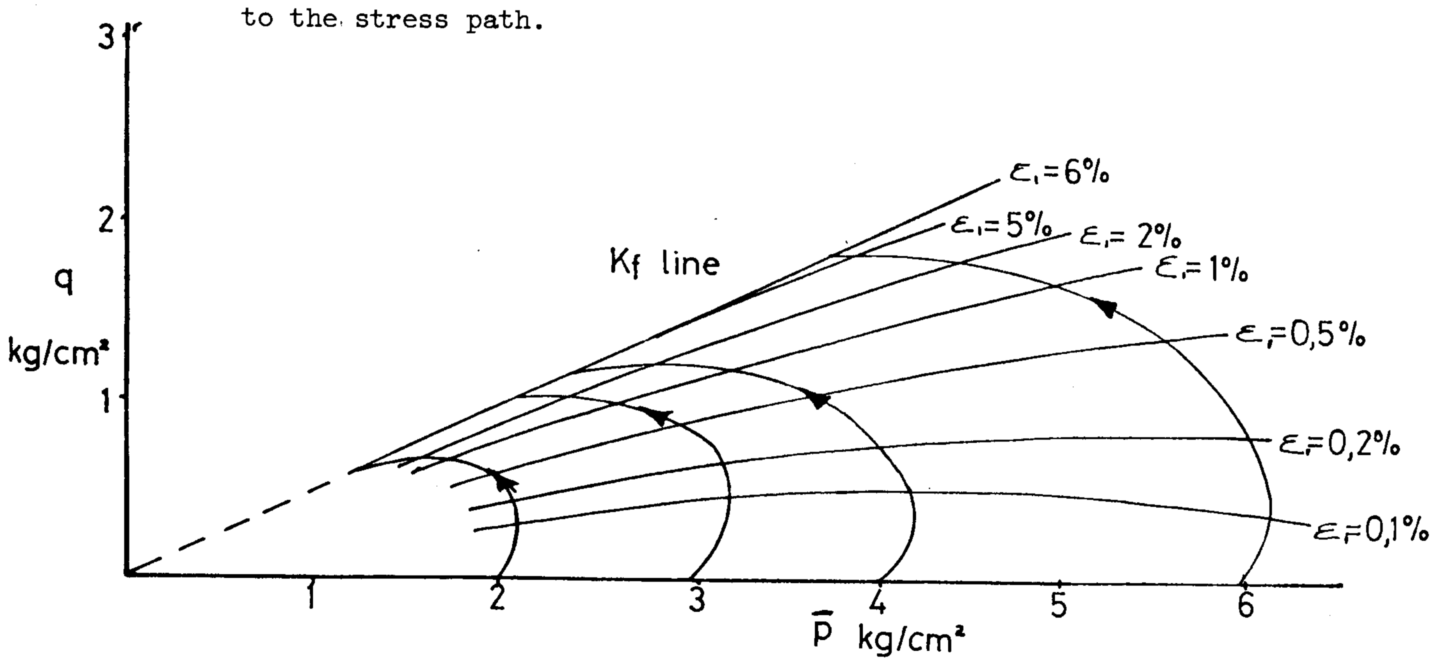


FIGURE 7.12 The Pure Form of the Stress Path Method (Lambe and Whitman, Ref. 2) Effective stress paths from consolidated undrained tests on a normally consolidated clay

7.6.4 Consolidated drained test

To be able to demonstrate the variation in drained stress paths from the undrained test, the first stage of the test will be considered similar to the above. The second stage is different in that the soil is allowed to drain during loading. This implies that the excess pore pressure will remain constant and equal to zero (see Figure 7.13) - Depending upon the rate of loading.

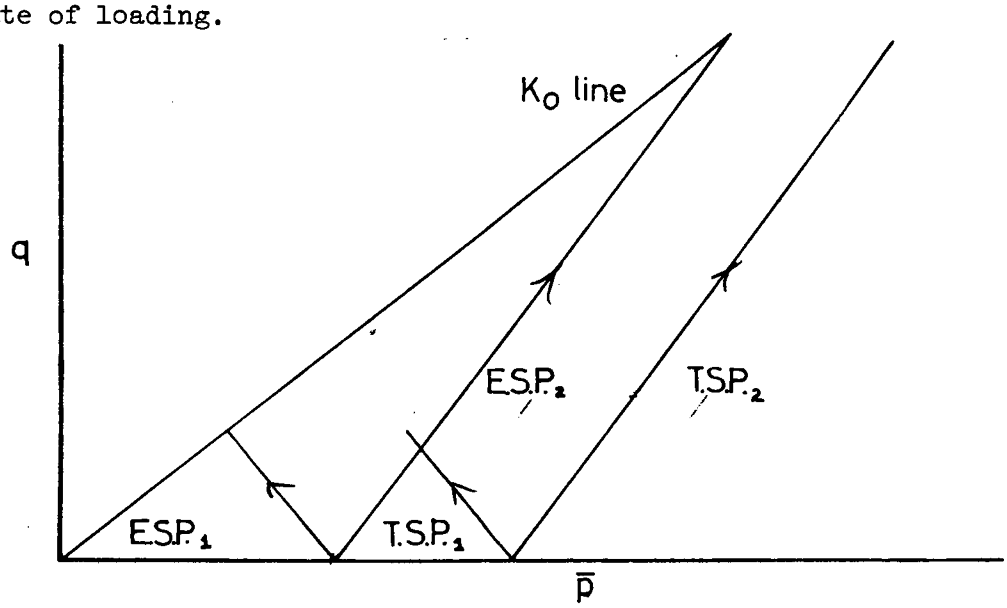


FIGURE 7.13 Stress Paths for Consolidated Drained Triaxial Tests

Each soil particle will immediately 'feel' the total stress variation and therefore the effective stress path and the total stress path will be parallel.

7.7 Deformations associated with various stress paths

In an elastic material subjected to a three dimensional stress system, the following formulae apply (see Chapter 4):

$$\varepsilon_x = \frac{1}{E}[\sigma_x - \mu(\sigma_y + \sigma_z)] \qquad (7.14)$$

$$\varepsilon_y = \frac{1}{E}[\sigma_y - \mu(\sigma_x + \sigma_z)] \quad (7.15)$$

$$\varepsilon_z = \frac{1}{E}[\sigma_z - \mu(\sigma_x + \sigma_y)] \quad (7.16)$$

From these formulae it is obvious that each component of strain is a function of the three dimensional stress system; and therefore the deformations of the elastic material are relative to the stress system applied to it. For a perfectly elastic body the particular stress system would provide sufficient information to calculate the deformations (if E and μ are known).

In the theory of soil mechanics an elastic stress distribution within a soil mass is assumed (i.e. elastic formulae are used to predict the extra total stress distribution within the soil mass - see Chapter 4). The soil mass, however does not generally behave elastically and it is therefore necessary to know the immediate and long term 'stress history' of a soil mass.

Under long term stress history all the past overburden pressures are considered. The immediate stress history would be represented by the stress path. The stress path being the variations in stress systems from immediately before construction until an equilibrium stress system is achieved. Equilibrium occurs when the stress system is such that the appropriate total stress minus the static pore pressure equals the effective stress. From the above it can be concluded that the deformation within a soil mass and the effective stress path are related.

The following examples are of stress paths and the deformation associated with them. The deformations are obtained from triaxial tests (Lambe, Ref. 7, Lambe and Whitman, Ref. 2, Moore and Spencer, Ref. 38, and E.D.'Appolonia, Ref. 24).

The triaxial samples in Figure 7.14 have been allowed to consolidate fully under K_o conditions. Drained compression along stress paths 1, 2 and 3 are applied to the consolidated samples in order to illustrate the relationship between types of deformation and the position of the effective stress path (see Table 7.1).

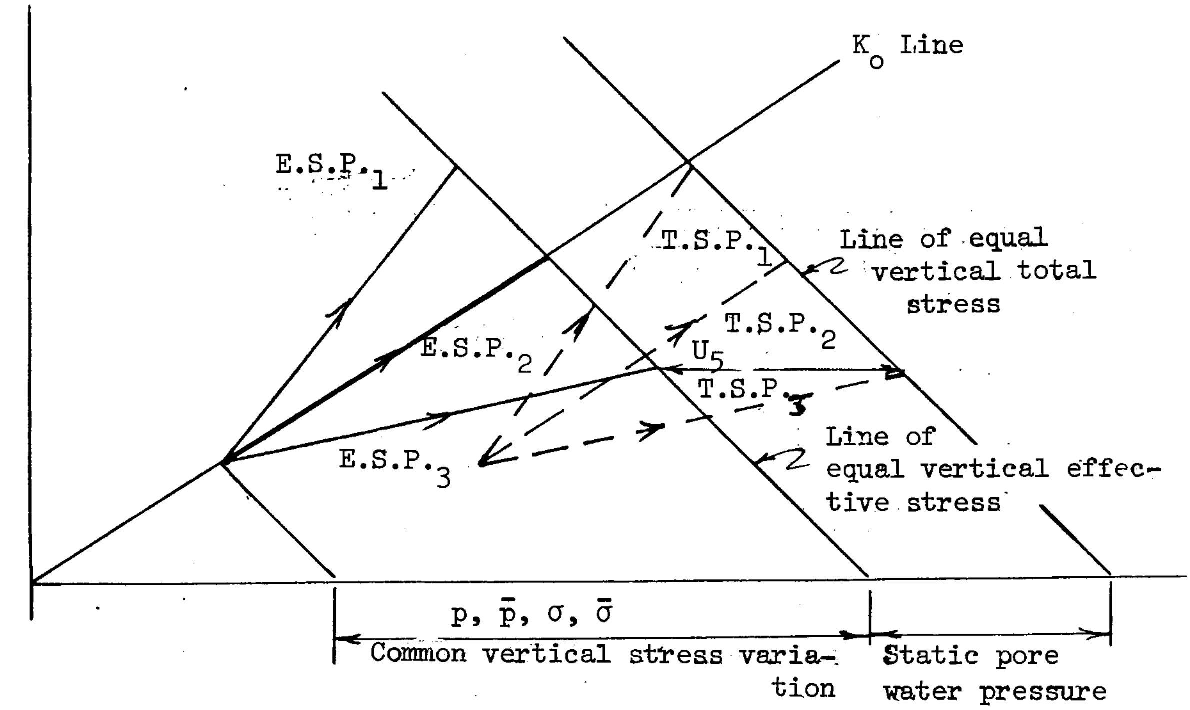
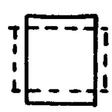
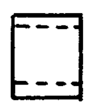
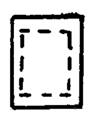


FIGURE 7.14 *The Deformations Associated with these Stress Paths are shown in Table 6.1*

----------- *Total stress path*

——————— *Effective stress path*

TABLE 7.1 Stress paths and their associated deformations

Effective Stress Path No	Deformation
1	
2	
3	

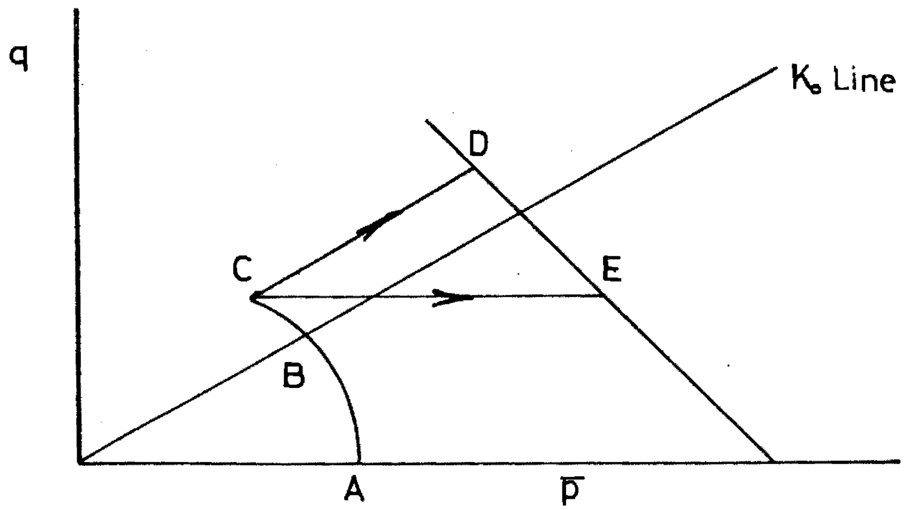
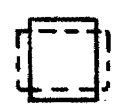
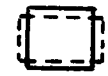
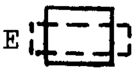


FIGURE 7.15 Examples of Stress Paths and their Associated Deformations (see Table 7.2)

TABLE 7.2

Stress Path	Description	Deformation
ACD	In the triaxial, the soil is initially isotropically consolidated (at state A). Increases in stress are then applied to the soil i.e. the vertical total stress is increased and the horizontal total stress (all pressure) is increased slightly while the stress path moves in an undrained condition from state A to C.	A → C 
CD	From C to D the loading remains constant, but the internal effective stress distribution changes. Dissipation of excess pore pressures take place.	In going from C to D there is no additional horizontal deformation as CD is parallel to the K_o line

Stress Path	Description	Deformation
ACE	Stress path AC is as before. Stress path CE is due to the dissipation of excess pore pressures. The slope of CE is different. This implies the mode of stress change during drainage is different and hence the deformations will be different (i.e. see Figure 7.12 which shows the vertical deformations)	A → C  C → E  For a effective stress path which is horizontal (CE), the ratio of the vertical strain to the volumetric strain $\approx 1/3$ (Lambe, Ref, 7)
BCD	Corresponds to ACD except that the initial condition satisfies the equation $\bar{\sigma}_3 = K_o \bar{\sigma}_1$	
BCE	Corresponds to ACE except that the initial condition satisfies the equation $\bar{\sigma}_3 = K_o \bar{\sigma}_1$	

7.8 Examples of field stress paths

(Lambe, Ref. 7, Lambe and Whitman, Ref. 2, Moore and Spancer, Ref. 38 and E.D.'Appolonia, Ref. 24)

Figure 7.16 describes various stress paths with their associated K_o approximated stress paths. It is necessary to establish whether the K_o approximation is valid (see Section 7.5).

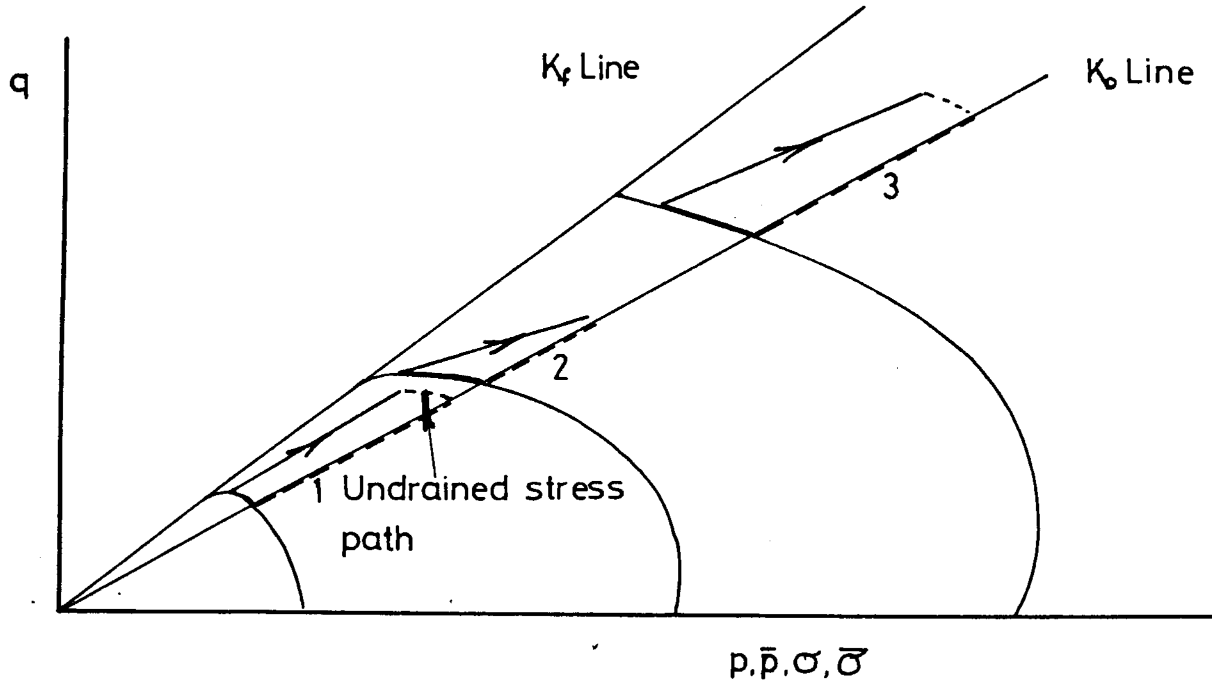


FIGURE 7.16 *Stress Paths with Equivalent K_o Conditions*

---------- *Equivalent K_o stress path*

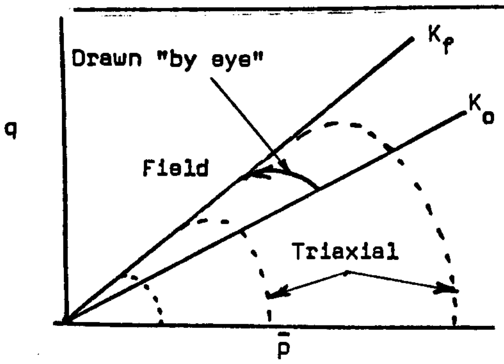
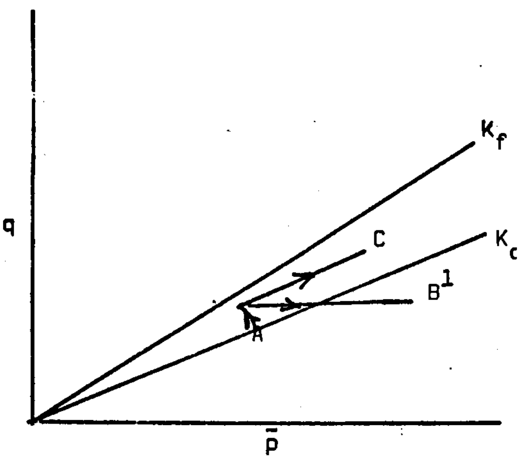
———— *Stress path*

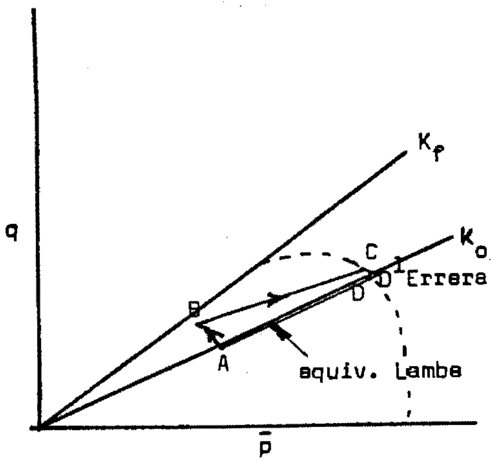
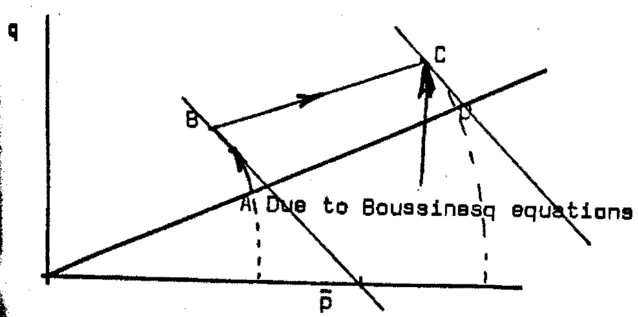
The K_f line is obtained from q_f versus $\bar{p}_f$ plots from consolidated drained tests

$$q_f = \frac{\sigma_1 - \sigma_3}{2} \quad \text{at failure} \qquad (7.17)$$

$$\bar{p}_f = \frac{\bar{\sigma}_1 + \bar{\sigma}_3}{2} \quad \text{at failure} \qquad (7.18)$$

The K_o line is obtained from a triaxial test allowing zero horizontal strain. From the data of this test the slope of the K_o line is obtained. The writer suggests the following general method for settlement analysis:

STRESS PATH	DETAILS
	First perform consolidated undrained triaxial tests in which the pore pressures are measured (Bishop, Ref. 9) The undrained stress paths (dotted) would be drawn before the field stress paths are drawn. The field undrained loading effective stress paths could be approximated knowing the shape of 3 or 4 of these undrained triaxial stress paths. This is used to draw the dotted line DC in the last diagram of this table
	ABC might be the stress path under a column footing for a bridge. The field stress distribution obeys the K_o criteria before application of the foundation load. AB is the immediate change in stress due to undrained loading at the time when the load is applied. Point B can be found from field measurement (i.e. peizometer tubes will indicate the excess pore pressure at state B. Total stresses are estimated by using Boussinesq's equations Hence the total stress point B' is known. B is found from B' by using the measured pore pressure). Alternatively laboratory measurements can be used (triaxial undrained test from state A to state B). The immediate settlement due to AB would be observed in the undrained triaxial test. The final stress system (at C) can be calculated from elastic formulae, (see Chapter 4). Looking at the flow chart drawn for settlement prediction using the stress path method it can be seen that the decision to be made is, 'is it relatively easy to follow the natural stress path in the triaxial machine'. The answer to this would be yes, as the slope BC on the 'q versus $\bar{p}$'' plot is parallel to the K_o line. The triaxial test corresponding to BC would then be a drained test with zero horizontal deflection (Chapter 10). The horizontal deflection is zero because BC is parallel to the line K_o. From these triaxial test results the hydrodynamic consolidation settlement during drainage can be computed by summing the vertical strains from state B to state C. To find the total settlement due to the load, this hydrodynamic settlement (due to drainage from state B to state C) should be added to the initial undrained settlement found above (due to loading from state A to state B).

STRESS PATH	DETAILS
	In most practical cases the line BC is not parallel to the K_o line. The field stress system obeys the K_o criteria (point A). Because the increment A to C is determined by Boussinesq's type equations, it does not follow that the point C will lie on the K_o line even when the soil has fully drained. Point C can be calculated relative to point A by using these Boussinesq's equations (see Chapter 4). To find the point D (which determines the simplified laboratory stress path A to D) one can assume that CD lies on the unstrained stress path from C to D. (The stress path CD can be sketched in by eye, knowing the shape of 3 or 4 typical curves. see Figure 7.12). Hence the stress path AD to be used in the laboratory K_o test is known. One can use a K_o triaxial test, or an oedometer test for the settlement prediction. AB is the immediate change in stress systems due to the undrained loading. BC is the consolidation stress path, due to drainage. AD could be the stress path used in a laboratory K_o test. The in situ stress path BC is not a relatively easy stress path to simulate in the laboratory [horizontal strain ≈ 1/3 volumetric strain during in situ drainage]. Hence the advantage of using the simpler stress path AD in the laboratory tests. Lambe uses the simplified stress path AD. Considering that point C is a stress system which approximates K_o conditions then Lambe's approximate K_o stress path would be appropriate. Lambe does not sketch in the line CD but assumes the same 45° line passes through C and D to the stress $\bar{\sigma}$, on the $\bar{p}$ axis. According to Lambe the immediate settlement would be computed as before by performing undrained triaxial tests or by using available curves such as Figure 7.12. It seems that Lambe determines the consolidation drained settlement from either consolidometer or triaxial tests.
	If the final state C deviates considerably from the K_o line the diagram is as shown. AB is the immediate stress path. BC is the consolidation (i.e. drained) stress path. The immediate settlement is calcualted as before. The point C is relatively distant from the K_o line and consequently Lambe's method (see Section 7.5) would have to be used. CD is on the undrained stress path from C to D.

<u>Cohesionless Soils</u>

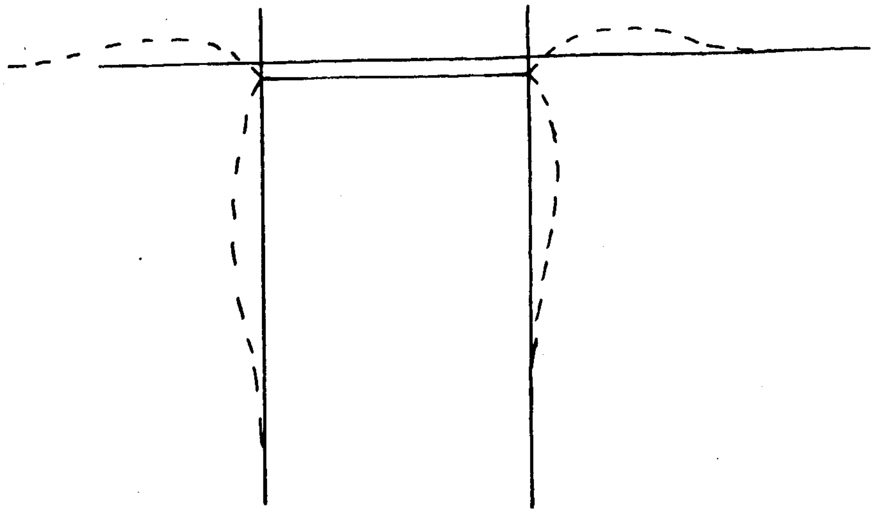


FIGURE 7.17 *Settlement Deformations Associated with Cohesionless Soils (D. Bond, Ref. 39)*

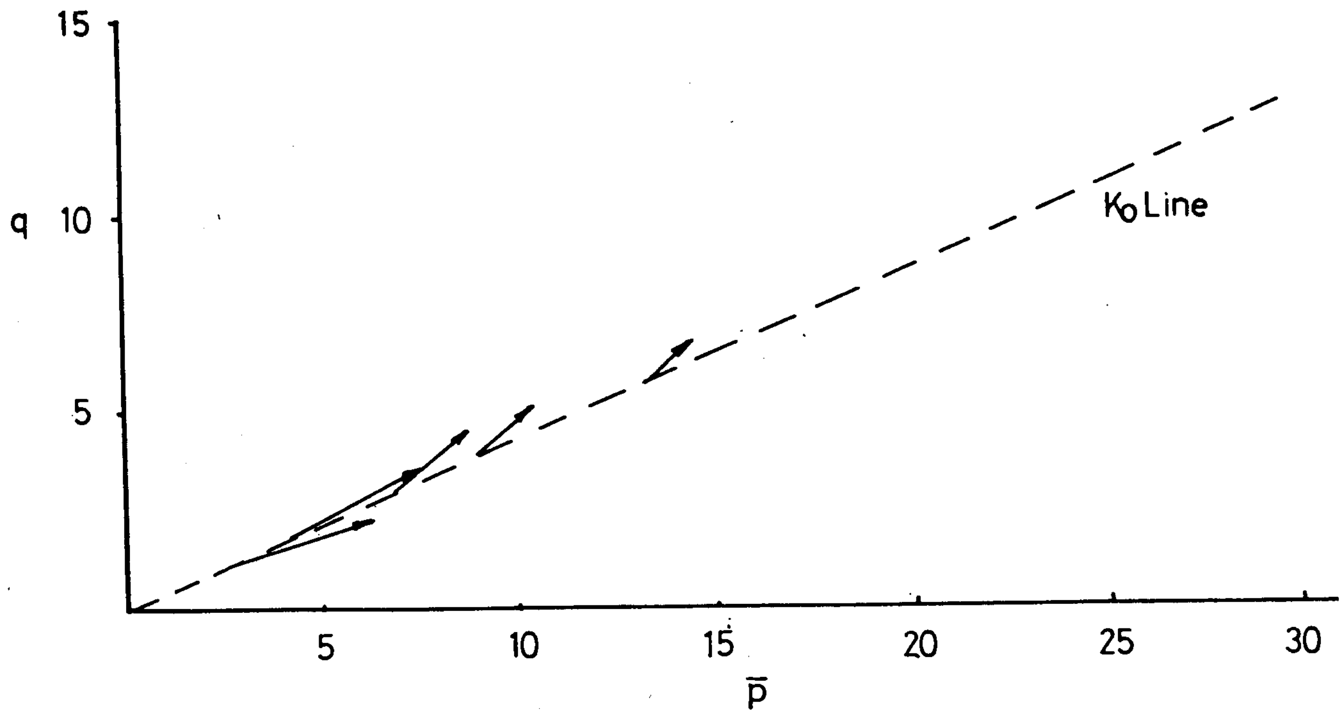


FIGURE 7.18 *Stress Paths for Cohesionless Granular Soil (fine to medium soil) (Lambe and Whitman, Ref. 2)*

The stress path for a granular cohesionless soil might start on the K_o line and end at some point relatively close to the K_o line after being subjected to some load system. Because the final state does not lie on the K_o line the inference is that a horizontal deformation has taken place. The magnitude of this horizontal deformation is however very small in comparison to the vertical deformation. It is generally considered to be negligible (see Chapter 4). The equivalent K_o stress path is considered to be appropriate for laboratory tests.

The settlement would then be computed by summing the vertical strains from a consolidometer or K_o triaxial test. If for some reason the initial stress system does not satisfy the K_o condition then a suitable triaxial test is imperitive.

7.9 Conclusion

The theory of the stress path method has been presented. The deformations and laboratory tests which are associated with field conditions have been described. A civil engineer must visit a proposed construction site to obtain a profile and soil samples. Field stress paths are predicted. Appropriate laboratory stress paths are followed in testing the soil. From this information described, an experienced civil engineer can without further visits to the site describe in some detail, the type of soil, the deformations occurring, the variation in the pore pressures and the immediate and drained consolidation settlement.

Collapsing and expansive strains due to subsequent changes in water content may occur and hence the laboratory tests should include these changes which would be applied after the laboratory sample has reached state C (see diagram on previous page).

Inspection of the predicted field stress path indicates the suitable laboratory testing procedure which can be used (i.e. special triaxial settlement tests; or K_o tests in triaxials or oedometers).

CHAPTER 8

METHODS OF SETTLEMENT PREDICTION - A REVIEW OF AVAILABLE METHODS

8.1 Introduction

It was necessary to describe the stress path method in Chapter 7 before attempting a historical review of methods of settlement prediction.

8.2 Historical notes (Lambe, Ref. 5, Lambe and Whitman, Ref. 2, D'Appolonia, Ref. 24)

Initially settlement prediction methods were limited to the use of elastic formulae applied to initial and final stress values. The initial stress value is the in situ state of stress before application of foundation loads. The final in situ stress state occurs after dissipation of excess water pressures caused by foundation loads. Terzaghi who is considered to be the 'Father of soil mechanics' first presented theories in 1924 for the computation of ultimate settlement and the rate of settlement. The original solution was developed for a layer of clay subjected to a pressure increment over a large area. Large areas were considered in order to limit the shear deformations and to obtain a uniform hydrostatic pressure within the clay layer itself. His theory related the ultimate settlement to the area of the 'vertical strain versus depth' curve.

In 1936 Casagrande recognised the effects of preconsolidation pressures on an e - $\bar{p}$ curve determined from standard consolidometer tests. The correlation of field tests and laboratory tests was improved by taking accout of this effect. The accuracy of settlement predictions were also improved.

In 1955 research workers Skempton, Peck and Mac Donald predicted values of settlement for six buildings in London and Chicago. The observed settlements agreed with their predictions. Immediate settlement ρ_i or instantaneous shear strains in the clay layers were calculated separately from consolidation settlements.

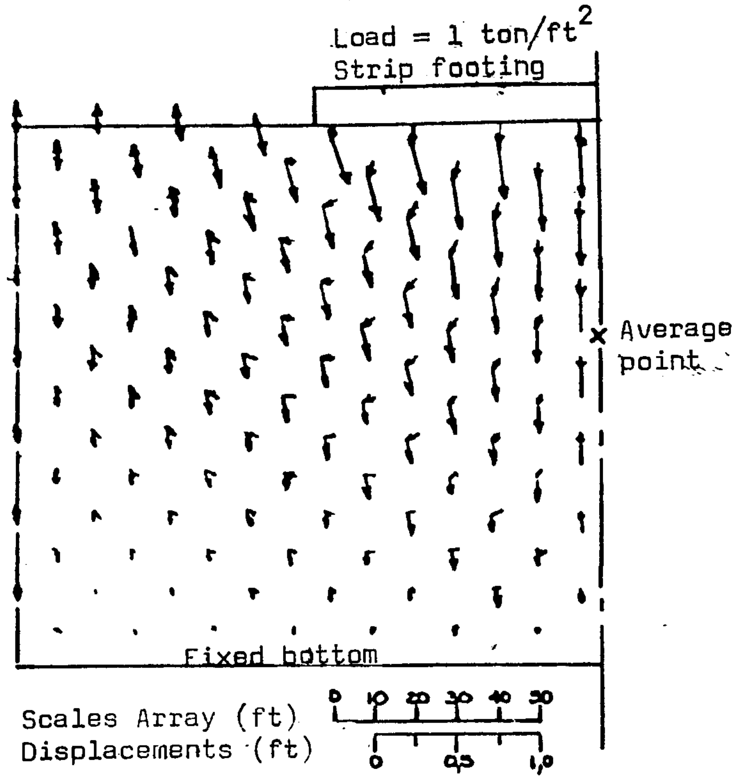


FIGURE 8.1 *Computed Displacements in Elastic Body Subjected to Strip Load. The first arrow is the displacement during undrained loading (shear strains for zero volume change). The second arrow is the displacement during subsequent consolidation (the volume decreases and additional shear strains arise) (Lambe and Whitman, Ref. 2)*

To predict this immediate settlement they used elastic Boussinesq's formula. They then stated (Seed, Ref. 4)

$$\rho_t = \rho_i + (\text{consolidation settlement}) \tag{8.1}$$

where (consolidation settlement) $= (\rho_{\substack{\text{conventional}\\\text{consolidometer}}} - \rho_i)$

$$\text{therefore } \rho_t = \rho_i + U\,(\rho_{\substack{\text{conventional}\\\text{consolidometer}}} - \rho_i) \tag{8.2}$$

$$\text{where } \rho_i = qB\left(\frac{1-\mu^2}{E}\right)I_\rho \tag{8.3}$$

U = degree of consolidation at time t

Boussinesq's formulae when applied to immediate settlement always over estimates the field value. This is attributed (Seed, Ref. 4) to the dependence of the in situ modulus of deformation upon (1) the stress level at which the modulus is measured, (2) the type of test, (3) the stress system used in the test, (4) the direction of the applied major principal stress during laboratory loading relative to the direction of the major principal stress during field consolidation.

In 1956 another two important factors were uncovered by Schmertmann. He proved that consolidation curves for samples with all degrees of disturbance merge together at a void ratio of approximately 40% of the initial void ratio. He also noted that swelling curves due to unloading have essentially the same slope regardless of the pressure at which load reduction is begun.

At about the same time it was shown by Crawford that $e - \bar{p}$ curves are greatly influenced by time intervals during load increments. More important was the discovery that preconsolidation values estimated from laboratory tests are dependent upon load durations during testing.

In 1958 Skempton and Bjerrum modified the formula for immediate settlement after realising that generally the immediate increase in pore pressure (Δu) is not equal to the increase in vertical load ($\Delta\sigma_1$). They expressed Δu as a function of $\Delta\sigma_3$, $\Delta\sigma_1$, and a pore water coefficient A. As A is rarely equal to one, Δu is rarely equal to $\Delta\sigma_1$

$$\Delta u = \Delta\sigma_3 + A(\Delta\sigma_1 - \Delta\sigma_3) \tag{8.4}$$

They therefore effectively reduced the increment in effective stress for consolidation settlement.

From the above it should already be obvious that not only are the initial and final in situ stress conditions important, but also the in situ effective stress path followed. In 1964 Lambe emphasized this point when putting forward the theory of the stress path method of settlement analysis.

8.3 Elastic methods of settlement prediction

Elastic theories state that stress is proportional to strain and that the law of superposition of stress and strain is valid. In Chapter 4 the extra vertical and extra average horizontal stresses due to a load on a finite area were computed.

Consider some point N' a certain distance away from the foundation. The strain curves in Figure 8.4 are for a point under the corner of a rectangle (Terzaghi, Ref. 1). The foundation therefore has to be broken up into a number of elemental rectangles. Each of the rectangles must have a common corner such that point N' is at this 'corner'.

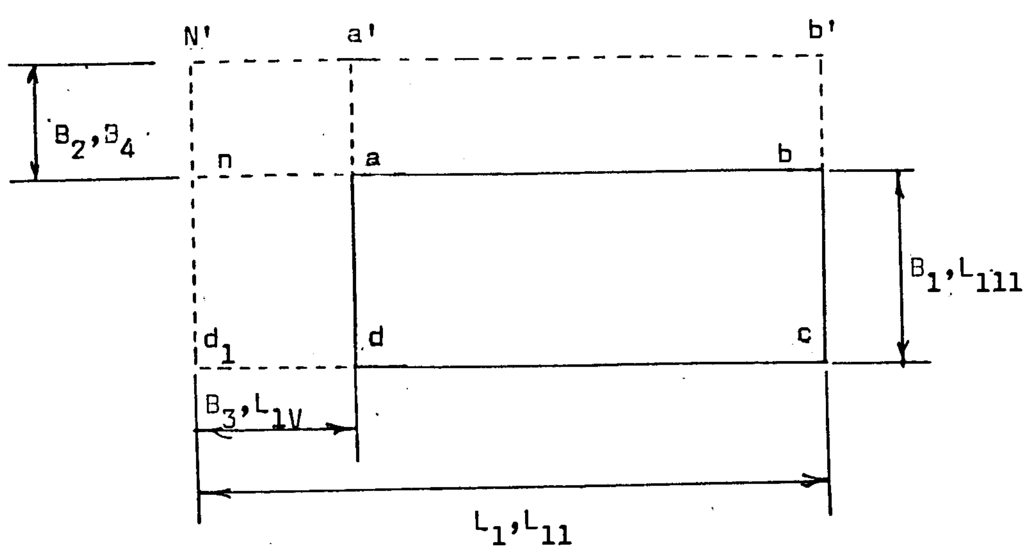


FIGURE 8.2 *Point N for which the settlement prediction is to be made*

8.3.1 Elastic formulae

In 1885 Boussinesq produced equations 8.5 and 8.6 for the vertical displacement and the horizontal displacement caused by a vertical point load at the soil surface and at internal points in elastic half-space (Terzaghi, Ref. 1).

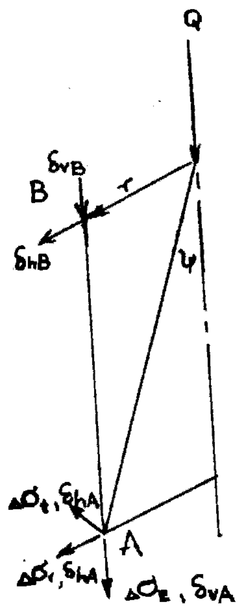


FIGURE 8.3 *Definition of stresses and strains associated with point load Q*

$\Delta\sigma$ = *change in stress*

δ = *displacement associated with change in stress*

Q = *vertical point load*

Sign convention:

δ_v; positive downward

δ_H; positive in outward direction

The displacements at point A are:

$$\delta_{vA} = \frac{Q}{2\pi r}\frac{1+\mu}{E}[2(1-\mu) + \mathrm{Cos}^2\psi]\ \mathrm{Sin}\psi \qquad (8.5)$$

$$\delta_{hA} = \frac{Q}{2\pi r}\frac{1+\mu}{E}[-1(1-2\mu) + \mathrm{Cos}\psi + \mathrm{Cos}^2\psi]\ \mathrm{Sin}\psi\ \mathrm{Tan}\frac{\psi}{2} \qquad (8.6)$$

Consider a point B at the surface (i.e. $\psi = 90^\circ$)

At B therefore, $\mathrm{Cos}\psi = 0$

$$\mathrm{Tan}\frac{\psi}{2} = 1$$

$$\mathrm{Sin}\psi = 1$$

Therefore at B the displacements of the soil surface are:

$$\delta_{vB} = \frac{Q}{2\pi r}\frac{1+\mu}{E}[2(1-\mu)]$$

$$= \frac{Q}{\pi r}\frac{1-\mu^2}{E} \qquad (8.7)$$

$$\delta_{hB} = \frac{Q}{2\pi r}\frac{1+\mu}{E}(-1+2\mu)$$

$$= -\frac{Q}{2\pi r}\frac{1-\mu-2\mu^2}{E} \qquad (8.8)$$

Equations 8.7 and 8.8 are for the settlement prediction at the surface for a surface load (or at founding level) due to a point load applied to a soil mass.

Consider now a uniformly distributed load acting on abcd (Figure 8.2). Divide abcd into elemental areas (dA = dx.dy). On each of these areas a ' concentrated' load dQ acts (dQ = qd.dy). By integration the vertical strain at a single point can be obtained (see Figure 8.4). For $\psi = 90^\circ$; that is for conditions at the surface or at founding level, the settlement under the corner of the footing is:

$$\Delta\rho = \delta v = qB\frac{1-\mu^2}{E}\frac{1}{\pi}\left[\ell \log\frac{1+\sqrt{\ell^2+1}}{\ell} + \log(\ell + \sqrt{\ell^2+1})\right] \qquad (8.9)$$

where $\ell = \frac{L}{B}$

substituting

$$I_\rho = \frac{1}{\pi}\left[\ell \log \frac{1 + \sqrt{\ell^2 + 1}}{\ell} + \log (\ell + \sqrt{\ell^2 + 1})\right] \text{ into 8.9}$$

gives

$$\Delta\rho = qB \frac{1 - \mu^2}{E} I_\rho \qquad (8.10)$$

I_ρ is a pure number and is analogous to I_σ (see Chapter 4). Numerous charts have been drawn up for various ℓ and depth values (see Figure 8.4).

For circular areas

$$\Delta\rho = \Delta q \frac{R}{E} I_\rho \qquad \text{(Lambe and Whitman, Ref. 2)} \qquad (8.11)$$

For a circular area I_ρ is equal to $2(1 - \mu^2)$

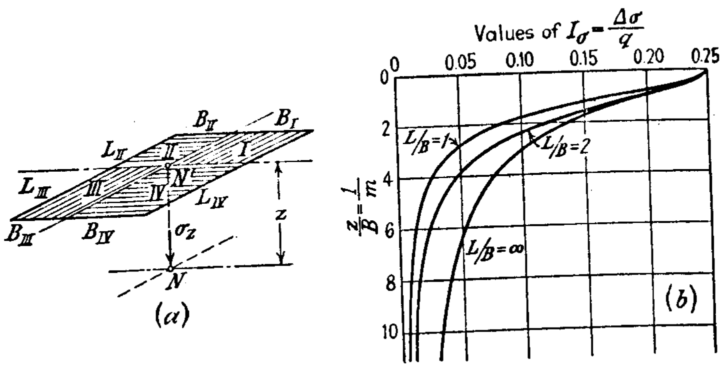


FIGURE 8.4 *Influence coefficient for settlement prediction of rectangular loaded area*

To determine the settlement (using equation 8.10) of point N' (Figure 8.2) the value of ℓ for each of the rectangles $N'b_1cd_1$, $N'b_1bn$, $N'a_1an$, $N'a_1dd_1$ has to be calculated.

For the ℓ values calculated I_ρ values are obtained from the chart (Figure 8.4). The settlement is then calculated as follows:

$$\rho = q\,\frac{1 - \mu^2}{E}\,(B_1 I_{\rho 1} - B_2 I_{\rho 2} - B_3 I_{\rho 3} + B_4 I_{\rho 4}) \qquad (8.12)$$

The effects of the other rectangles are subtracted or added to the effects of the large rectangle.

In 1934 Steinbrenner modified the values (Lambe and Whitman, Ref. 2)

$$\Delta\rho = (1 - \mu^2)\,F_1 + (1 - \mu - 2\mu^2)\,F_2 \qquad (8.13)$$

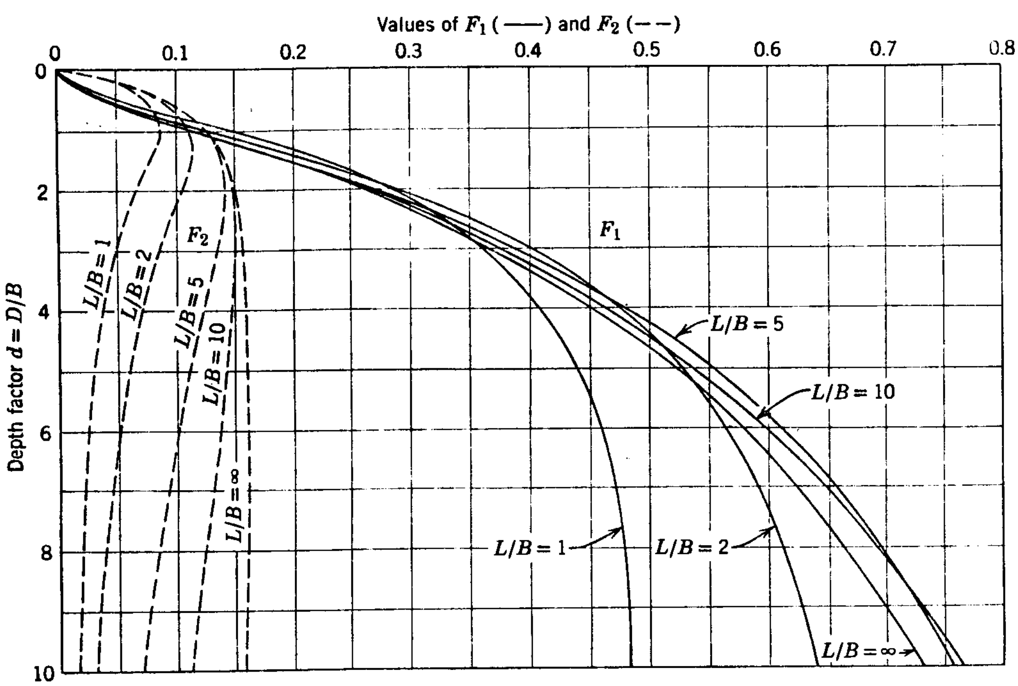


FIGURE 8.5 *Steinbrenner's modification alters Figure 8.4 to the chart shown in Figure 8.5*

8.3.2 Where an elastic method would be considered appropriate

1. Low cost structures where failure would not be catastrophic, or they do not involve large repair costs. Here accurate settlement prediction would not be justified (see flow chart Figure 7.7 Chapter 7). Plate loading tests (using square plates) can be conducted on typical soils to yield the factor $[\frac{1 - \mu^2}{E}]$ from equation 8.10. This could be done on a grid basis in a township by the local authority.

2. Where the behaviour of the soils produce an approximate linear relationship for $e - \bar{p}$ curves (for low $\Delta\bar{p}$ values). For single storey houses and similar types of structures where foundation loads are relatively small and the above condition is satisfied.

3. For the collapse settlement due to setting a soil under constant vertical loading (i.e. BC in Figure 8.6). Consider the stress path shown below.

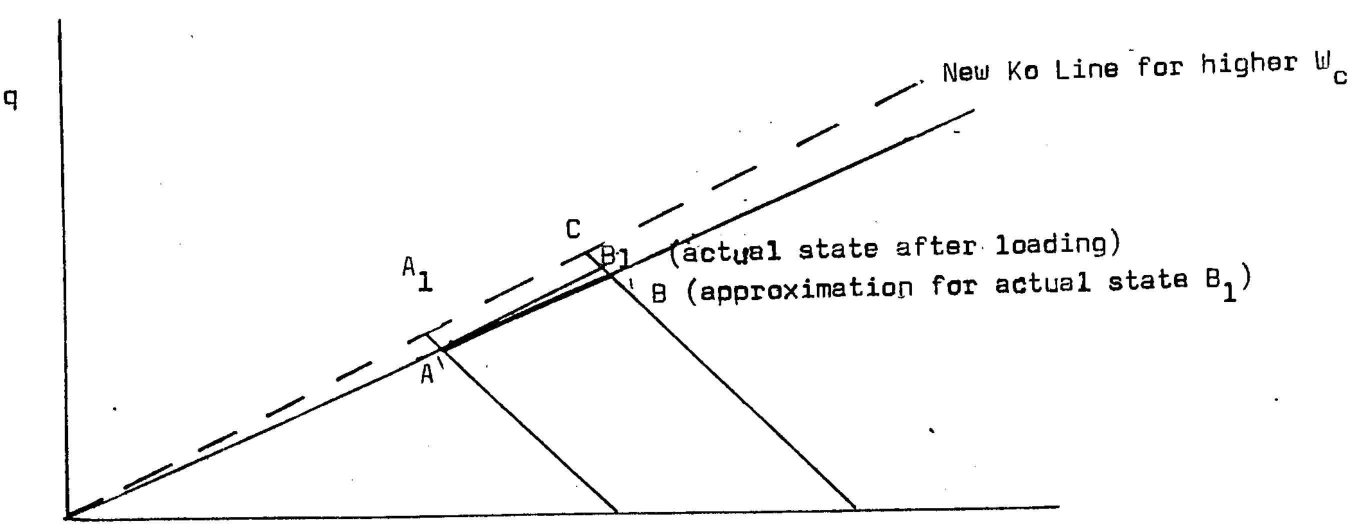


FIGURE 8.6 Typical stress paths (effective) for callapsing sands

Point A represents the initial in situ field stress state. Points B and B_1 represent in situ field stress states after loading, but at original field moisture content. The state B is the laboratory approximation for the actual field state B_1. B_1 differs from the position of B because collapsing sands, being granular material, are associated with a slight horizontal deformation which differs from the K_o conditions. This difference between B and B_1 is usually ignored, and for drained conditions, the stress path is approximated to the K_o line (see Chapter 4).

At collapse due to wetting (defined in Chapter 2) there is no alteration in vertical loading, therefore $\Delta\bar{\sigma}_1$ remains constant. If $\Delta\bar{\sigma}_1$ remains constant, there is no variation in vertical stress in going from B to C in Figure 8.6. This implies that any changes in effective stress must be in the horizontal direction, and it can be concluded that the stress path BC must be at 45° to the horizontal.

If the final moisture content (as at state C) had been originally used in K_o laboratory tests, the K_o line OC would have had a different slope from the line OB. That is, the collapsing sand would have displayed the properties of a different material. Therefore the effective stress path being at 45° discloses that the only cause for variation in horizontal effective stresses, is a variation in the properties of the material.

8.4 Terzaghi's method of settlement analysis for the consolidation of a clay layer

Assumptions involved in this theory of consolidation are: (Terzaghi, Ref. 1, Lambe and Whitman, Ref. 2, Lambe, Ref. 7).

a. All the voids of the soil are completely filled with water

b. The water and the solid constituents of the soil are perfectly incompressible

c. Darcy's law is valid

d. The coefficient of permeability (k) is constant

e. Consolidation is entirely due to the low permeability of the soil

f. There is lateral confinement and therefore no horizontal deformation

g. The effective and total stresses are the same for every point in any horizontal plane through the clay for every stage of the consolidation process

h. An increase in pressure from $\bar{\sigma}_{1o}$ to $\bar{\sigma}_1$ will cause a change in void ratio from e_o to e. (e_o is the initial void ratio before application of surface loads, e is the final void ratio after consolidation).

Table 8.1 The coefficient of compressibility and coefficient of elastic recovery

Coefficient of Compressibility	Coefficient of Elastic Recovery
$a_{vc} = \dfrac{e_o - e}{\bar{\sigma}_1 - \bar{\sigma}_{1o}}$	$a_{vs} = \dfrac{e' - e}{\bar{\sigma}_1 - \bar{\sigma}_1'}$
where	where
$e < e_o$	$e' > e$
$\bar{\sigma}_1 > \bar{\sigma}_{1o}$	$\bar{\sigma} > \bar{\sigma}'$
e_o and $\bar{\sigma}_{1o}$ are the initial values	$\bar{\sigma}$ and e are the initial values

From Table 8.1 a formula which relates the volume change to the stress change is produced.

$$e_o - e = a_{vc}(\bar{\sigma}_1 - \bar{\sigma}_{10}) \tag{8.14}$$

The initial volume of the soil block is $1 + e_o$.
Therefore:

$$\frac{\Delta e}{1 + e_o} = \frac{\text{volume change}}{1 + e_o} = \frac{e_o - e}{1 + e_o} = \frac{a_{vc}(\bar{\sigma}_1 - \bar{\sigma}_{1o})}{1 + e_o}$$

$$= m_{vc}(\bar{\sigma}_1 - \bar{\sigma}_{1o}) \qquad (8.15)$$

a_{vc} = coefficient of compressibility

a_{vs} = coefficient of elastic recovery

where m_{vc} = coefficient of volume decrease

From assumption f., $\Delta e/1+e_o$ is equal to the vertical strain. The settlement in Figure 8.7 would be the sum of each vertical strain multiplied by the corresponding vertical thickness of each horizontal layer.

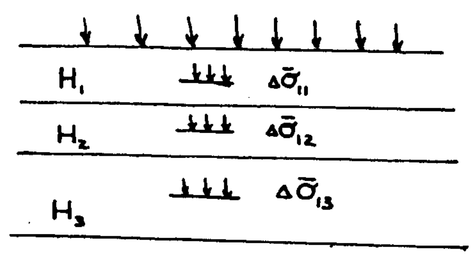


FIGURE 8.7 Determination of settlement of various soil layers

$$\text{Settlement} = \sum_{n=1}^{n} H_n \, \Delta\bar{\sigma}_{1n} \, m_{vc} \qquad (8.16)$$

Substituting $\Delta\bar{\sigma}_{1n} \, m_{vc}$ = vertical strain = ε_{vn}

$$\rho = \sum_{n=1}^{n} \varepsilon_{vn} H_n \qquad (8.17)$$

From this Terzaghi produced his formula (1924) equating the settlement to the integral of the (strain x height), integrated from depth 0 to z (equation 8.18)

$$\text{Settlement} = \int_{o}^{z} \varepsilon_v d_z \qquad (8.18)$$

where z is the depth below founding level.

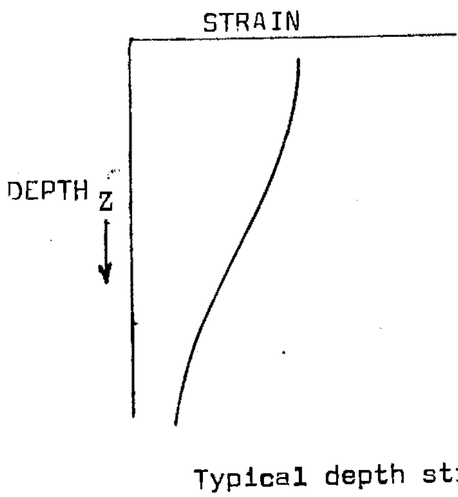


FIGURE 8.8 *Typical depth strain curve. Area of this diagram = settlement to some scale*

8.4.1 Where Terzaghi's method would be considered appropriate

Consider the stress paths shown in Figure 8.9. Terzaghi states that the increment in vertical stress is equal to the initial change in pore water pressure.

$$\Delta u_o = \bar{\sigma}_{1\ final} - \bar{\sigma}_{1\ initial}$$

$$= (\text{distance } \Delta u_o \text{ in Figure 8.9})$$

Terzaghi also states that the shear deformation is zero and that the initial settlement is zero (Terzaghi, Ref. 1, Lambe, Ref. 7).

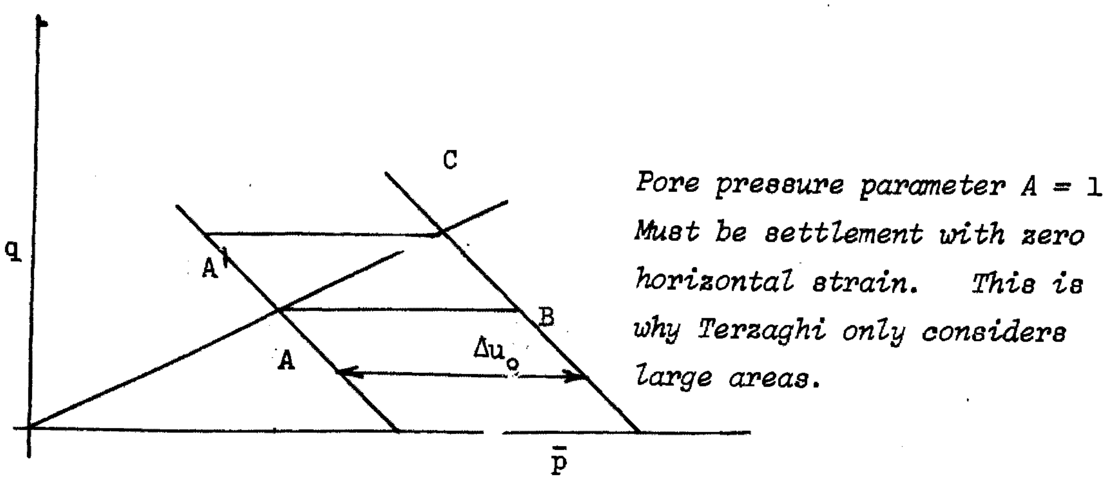


FIGURE 8.9 *Stress paths for Terzaghi's method of settlement prediction*

From the stress path it is obvious that there is an initial settlement. This settlement is not due to a change in vertical stress, but can be thought of as a shear settlement. Terzaghi looks at large loaded areas and therefore the shear settlement is kept to a minimum (compare shear movements at and the side of the footing in Figure 8.1). The stress path that should be followed for the consolidation settlement is A'C.

The stress path that is followed in the Terzaghi theory is AC. It should be noted that AC is the equivalent K_o stress path if the pore pressure parameter A was equal to one.

From above it is deduced that Terzaghi's method is appropriate and relatively accurate for settlement prediction on cohesive soils subject to the following conditions.

1. The pore water pressure parameter $A \approx 1$ and $\Delta u \approx \Delta\sigma_1$
2. The shear strain is limited, that is a large loaded area is considered.

This method is not justified where a catastrophic failure might occur.

8.4.2 The falacies of Terzaghi's method as revealed by using stress paths

The soil will show an initial settlement due to the fact that the change in pore pressure Δu can be defined via a pore parameter A (see equation 8.19). If the pore pressure parameter A is unity, then the stress path moves from point B to A in Figure 8.10.

From Chapter 7 it is known that the mode of deformation is relative to the stress path. From this it can be seen that each of the stress paths AC', AC" and AC'" (see Figure 8.10) must have different modes of deformation. Also assuming A = 1, the consolidation settlement determined by BD will only be accurate if:

a. the field stress path is parallel to the K_o line, and if
b. the field stress path is relatively close to the K_o line

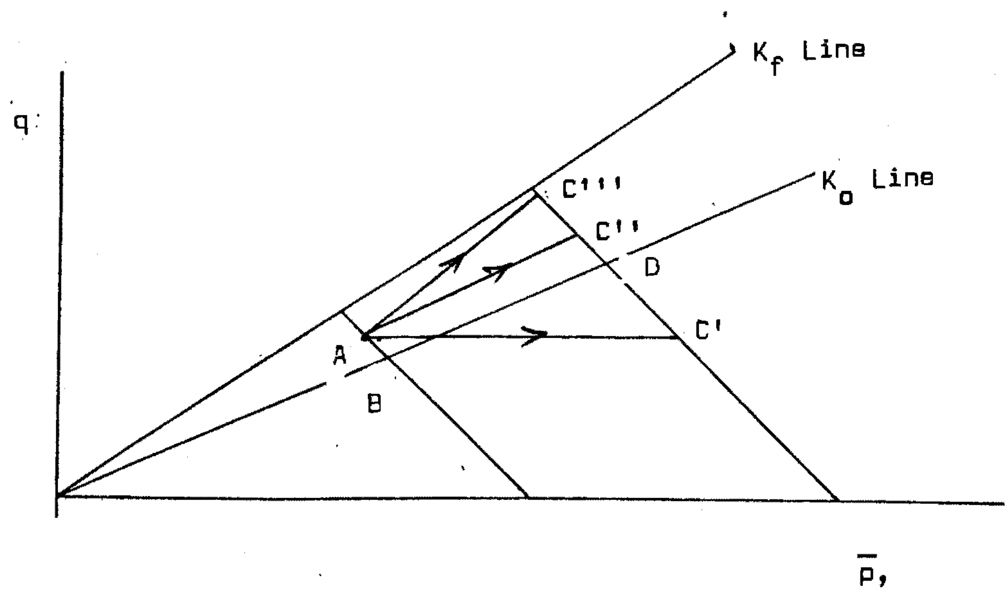


FIGURE 8.10 *Illustration of the falacies of Terzaghi's method BD is the equivalent K_o stress path AC', AC" and AC"' assuming that A = 1*

It is therefore evident that even in cases of field conditions approaching Terzaghi's boundary conditions for clay, his method should be approached with caution.

For relatively permeable material in which the release of excess pore pressure matches the rate at which loading is applied, the increase in pore water pressure is very nearly zero, the stress paths below might be obtained.

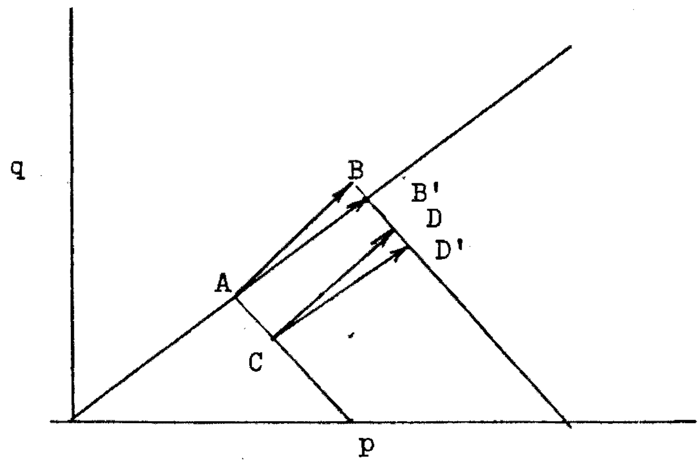


FIGURE 8.11 *Stress paths for permeable soil (very little cohesion)*

AB would be a typical stress path for an undisturbed (at zero) field condition. CD might be a typical stress path for a developed area where horizontal compressive strains have previously occurred due to the adjacent structures. The stress paths in both cases could be approximated by AB' and CD' respectively if the points B and B' and D and D' are relatively close to one another.

Therefore it can be concluded that the accuracy of this method is solely dependent upon the in situ effective stress path followed.

8.5 Skempton and Bjerrum method of settlement prediction

Skempton and Bjerrum considered the effects of pore pressure parameters on settlement prediction. The immediate settlement due to shear deformations was taken into account by recognising that in general $\Delta u \neq \Delta\sigma_1$

The formula introduced was:

$$\Delta u = \Delta\sigma_3 + A(\Delta\sigma_1 - \Delta\sigma_3) \qquad (8.19)$$

The formula relates the change in pore water pressure to the change in horizontal stress plus a pore pressure coefficient A multiplied by the change in deviator stress.

In general it is found that $A \neq 1$ and therefore Δu cannot be equal to $\Delta\sigma_1$. If $A = 1$ then equation (8.19) becomes:

$$\Delta u = \Delta\sigma_3 + 1(\Delta\sigma_1 - \Delta\sigma_3)$$

$$= \Delta\sigma_1$$

(This is what Terzaghi considered to be accurate for saturated undrained soils - see section 8.4)

Skempton and Bjerrum then altered Terzaghi's formula for consolidation settlement to incorporate this modification.

$$\int_c = \int_o^z m_v \Delta u_z \, dz \qquad (8.20)$$

(Consolidation settlement determined from excess pore pressures)

The Skempton and Bjerrum method of settlement prediction can be divided into three distinct stages (Lambe, Ref. 7, Davis Poulos, Ref. 6)

a. Determining of excess pore pressures due to the total stress changes (i.e. the factor A)

b. Determining the volume strains (i.e. vertical strain) due to excess pore pressures as determined from (a.). The volumetric strains are obtained in consolidometer tests in which $\Delta\sigma_1$ is applied such that $\Delta\sigma_1 = \Delta u$ where Δu is in formulae (8.20)

c. Determining the settlement from the volumetric strains K_o conditions are assumed, therefore the volumetric strain is equal to the vertical strain.

8.5.1 Critical examination of Skempton-Bjerrum method using stress paths

Consider the large cylindrical steel tank (see Figure 8.12). The maximum load imposed at the soil surface is equal to -q kN/m^2. To predict the consolidation settlement consider an average point H below the surface. (H being related to a depth D - see Chapter 4). For simplification assume that initially $\bar{\sigma}_1 = \bar{\sigma}_3$; and that the water table is deep. The initial change in vertical effective stress plus the original effective vertical stress $\bar{\sigma}_1$ due to the soil mass is $\bar{\sigma}_{1\ initial}$.

$$\bar{\sigma}_{1\ initial} = \bar{\sigma}_1 + \Delta\bar{\sigma}_1 - \Delta U_{initial} \qquad (8.21)$$

The final change in vertical effective stress $\Delta\bar{\sigma}_1$ plus the original effective stress $\bar{\sigma}_1$ due to the soil mass is $\bar{\sigma}_{1\ final}$.

$$\bar{\sigma}_{1\ final} = \bar{\sigma}_1 + \Delta\bar{\sigma}_1 \qquad (8.22)$$

($\Delta\bar{\sigma}_1 = \Delta\sigma_1 - U_{static}$ if U_{static} is constant)

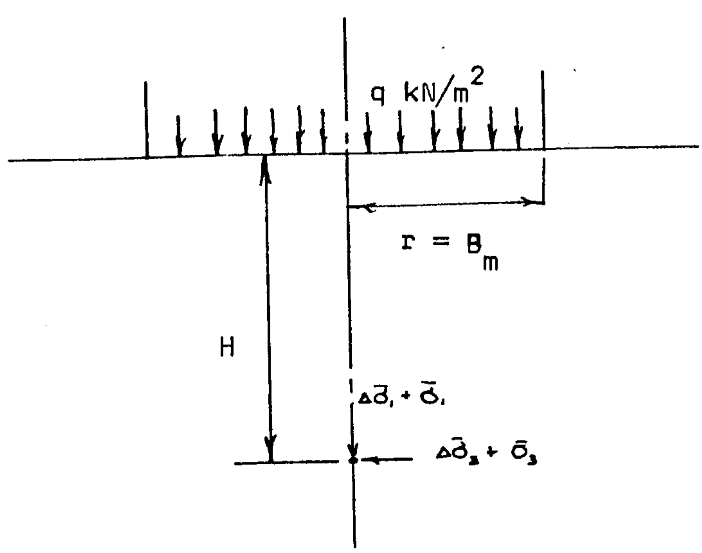


FIGURE 8.12 *Illustration of Skempton-Bjerrum method using stress paths*

The establishment of values for equations (8.21) and (8.22) are the first stage of the Skempton-Bjerrum method.

A soil specimen is now inserted in the consolidometer and subjected to a number of load increments. From the information obtained from the consolidometer tests an $e - \bar{p}$ curve can be plotted.

From the $e - \bar{p}$ curve $\Delta e/1+e_o$ can be obtained for the required $\bar{p}$ values ($\bar{\sigma}_1$). Since K_o conditions are assumed, the vertical strain $\varepsilon_v = \Delta e/1+e_o$. Consider the stress path shown below.

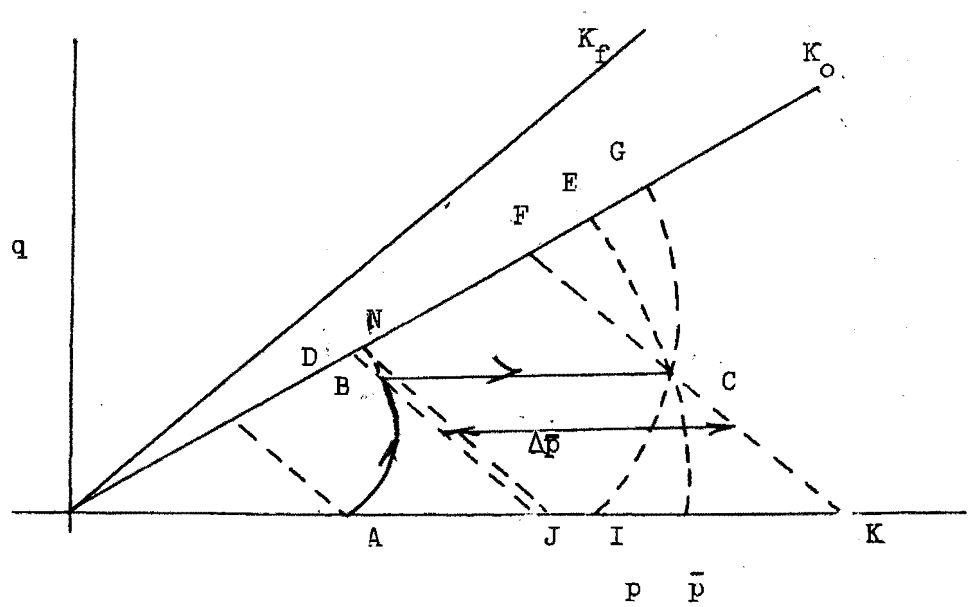


FIGURE 8.13 *Stress paths for the discussion of the Skempton-Bjerrum method*

The only stress states described by the Skempton-Bjerrum method for the problem in Figure 8.12 are A, B and C. Therefore the results of the settlement prediction are only dependent upon the pore pressures and pore pressure parameters. That is to say the shapes of stress paths between these points (A, B and C) are not important.

The actual field stress path (effective) which would be followed is ABC in Figure 8.12. BC would represent all the stress variations contributing to the hydrodynamic consolidation settlement.

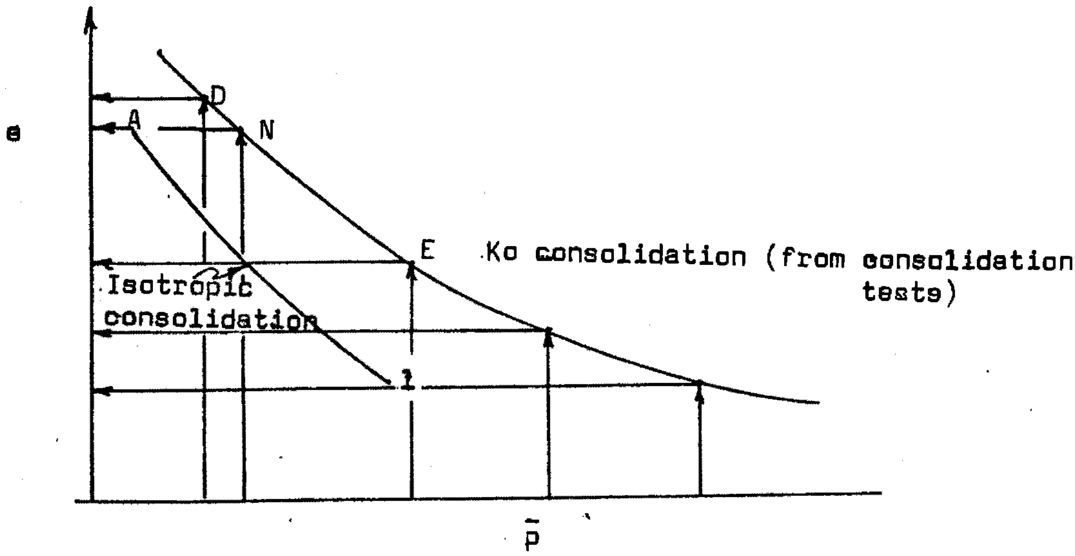


FIGURE 8.14 *Typical e - $\bar{p}$ curves*

With reference to Figure 8.14, from the Skempton-Bjerrum method the volumetric strain is $e_v - e_f / 1 + e_o$. In Figure 8.13, depending upon which is the undrained loading stress path through C, the equivalent portion of the K_o stress path for settlement prediction might be NE or NG. The Skempton-Bjerrum method and the stress path have the following similarities:

1. Both methods use pore pressure parameters (or field pore pressure measurement)
2. Both methods define identical points A, B and C
3. Skempton-Bjerrum use K_o tests (i.e. their method does not require the use of stress paths) These K_o test results can be used for certain stress path settlement predictions providing they are modified by using Lambe's formula (see Chapter 7).

The differences in settlement predictions arise because of the different methods of approximating K_o conditions. To approximate the K_o conditions Skempton-Bjerrum calculate $\bar{p}(\bar{\sigma}_1)$ for points B and C (Figure 8.13). Looking at the stress paths it can be seen that the equivalent construction will be lines at 45° from B and C to the horizontal axis and the K_o line. The distance between the intercepts describes $\Delta\bar{p} = \bar{\sigma}_{1\ final} - \bar{\sigma}_{1\ initial}$ for consolidation and DF is the equivalent portion of the K_o stress path. Once again a pore pressure parameter A = 1 is implied for this operation. Since immediately before this section attention was specifically drawn to the fact that A ≠ 1 in general, the Skempton-Bjerrum method is open to criticism where accurate settlement prediction is required.

The difference between the Skempton-Bjerrum method and Lambe's stress path method (which follows the K_o line) is that the K_o consolidation test for the first method would follow stress path DF (Figure 8.13), while the Lambe stress path method wouldfollow the stress path NE or NG depending upon the assumed undrained stress path through point C. The difference in results can be seen in the e - $\bar{p}$ plot in Figure 8.14. The points D, N, E, F, G in Figure 8.14 correspond to points which have the same labels in Figure 8.13.

8.5.2 Where the Skempton-Bjerrum method is applicable

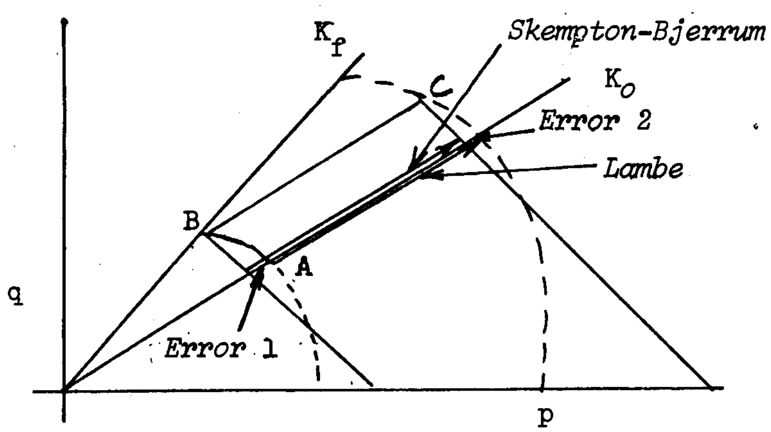


FIGURE 8.15 *Stress paths to indicate when the Skempton-Bjerrum method is applicable*

Figure 8.15 illustrates the differences between the Skempton-Bjerrum method and the Lambe stress path method. The Skempton-Bjerrum method would be applicable in the following instances:

a) If after studying the stress path it is decided that Error 1 and Error 2 do not contribute any major effects to the settlement prediction

b) Where failure is not catastrophic

To avoid criticism Skempton and Bjerrum would either have to adjust the testing procedures or draw undrained stress paths from B and C to the K_o line to produce an effective K_o stress path. Both of these solutions tend to approximate the stress path method of settlement prediction.

8.6 Davis Poulos method of settlement prediction

This is a three dimensional method of settlement analysis which relies on displacement theory for a homogeneous isotropic elastic body (Davis Poulos, Ref. 6). This method is similar to the other methods in that the settlement ρ, is composed of an immediate settlement, ρ_i, and a consolidation settlement ρ_c.

For rigid footings Davis Poulos assumes that the mean displacement is the average displacement under a flexible loaded area which settles in a parabolic shape. This implies that the centre and edge or corner displacements for a flexible footing define the mean displacement of a rigid footing.

For a circular rigid footing:

$$\text{Mean settlement} \approx \frac{1}{2}[\text{settlement centre} + \text{settlement edge}] \qquad (8.23)$$

For a rectangular rigid footing:

$$\text{Mean settlement} \simeq \frac{1}{3}[2(\text{settlement centre}) + \text{settlement corner}] \qquad (8.24)$$

For a strip rigid footing:

$$\text{Mean settlement} \simeq \frac{1}{2}[\text{settlement centre} + \text{settlement edge}] \qquad (8.25)$$

(Davis Poulos, Ref. 6)

Davis Poulos suggested the following elastic type formula

$$\rho_i = \frac{qB(1 - \mu^2)I_\rho}{E} \tag{8.26}$$

$$\rho = \frac{qB(1 - \mu'^2)I_\rho}{E'} \tag{8.27}$$

(Davis Poulos, Ref. 6.)

These formulae are for rectangular footings in elastic isotropic materials which are homogeneous to great depths. Davis Poulos also refers to an average point (usually $\frac{1}{3}$ depth of D) which is based on the following reasoning.

a) Extra vertical stress decreases with increasing depth

b) Compressibility decreases with increasing depth

The following formulae (equations 8.28 and 8.29) are for odd shaped footings. They also apply to layered materials with properties which vary with depth.

$$\rho_i = \sum_{n=1}^{n} \frac{1}{E_n} \left[\Delta\sigma_{1n} - 0,5(\Delta\sigma_{2n} + \Delta\sigma_{3n}) \right] \delta h_n \tag{8.28}$$

$$\rho = \sum_{n=1}^{n} \frac{1}{E'_n} \left[\Delta\sigma_{1n} - \mu'\Delta\sigma_{2n} - \mu'\Delta\sigma_{3n} \right] \delta h_n \tag{8.29}$$

where

E' = Young's modulus of soil skeleton

u' = Poisson's ratio for the soil skeleton

It should be noted that these values are for the appropriate stress changes within the soil mass.

I_ρ = Influence value in elastic displacement theory

B = Width of rectangular footing

μ_i = 0,5

E = Value obtained from the undrained triaxial test or the unconfined compression test

δh_n = Thickness of layer n

q = Stress at founding level due to design loads

$\Delta\bar{\sigma}_2$ & $\Delta\bar{\sigma}_3$ = Extra horizontal stresses due to foundation loading

$\Delta\bar{\sigma}_1$ = Extra vertical stress due to foundation loading

μ' and E' are found from the following formulae:

$$\mu' = \frac{\varepsilon_1 \Delta\bar{\sigma}_3 - \varepsilon_3 \Delta\bar{\sigma}_1}{\varepsilon_1(\Delta\bar{\sigma}_1 + \Delta\bar{\sigma}_3) - 2\varepsilon_3 \Delta\bar{\sigma}_3} \tag{8.30}$$

$$E' = \frac{\Delta\bar{\sigma}_1 - 2\mu' \Delta\bar{\sigma}_3}{\varepsilon_1} \tag{8.31}$$

8.6.1 Description of stresses and tests involved in the Davis Poulos method

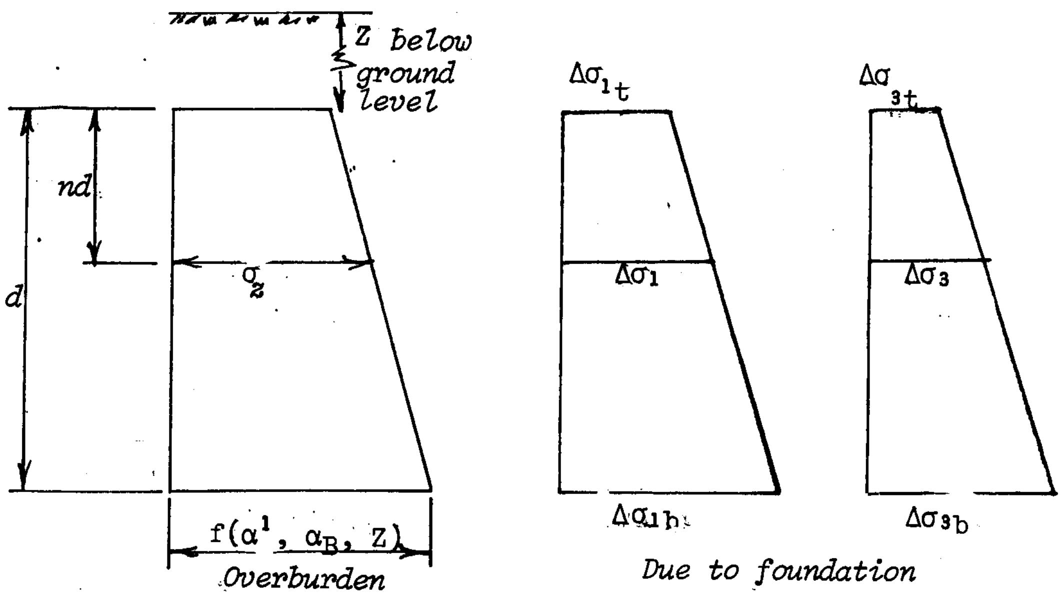


FIGURE 8.16 *Stress distribution within a soil layer*

$\Delta\sigma_{1t}$ is the vertical stress change at the top of the layer. $\Delta\sigma_{1b}$ represents the vertical stress change at the bottom of the layer. nd is a representative depth; it defines the average point. The factor n varies with the fraction $\Delta\sigma_{1b}/\Delta\sigma_{1t}$. For values of $\Delta\sigma_{1b}/\Delta\sigma_{1t}$ tending to zero, n tends to $\frac{1}{4}$. For values of $\Delta\sigma_{1b}/\Delta\sigma_{1t}$ tending to unity, n tends to $\frac{1}{3}$.

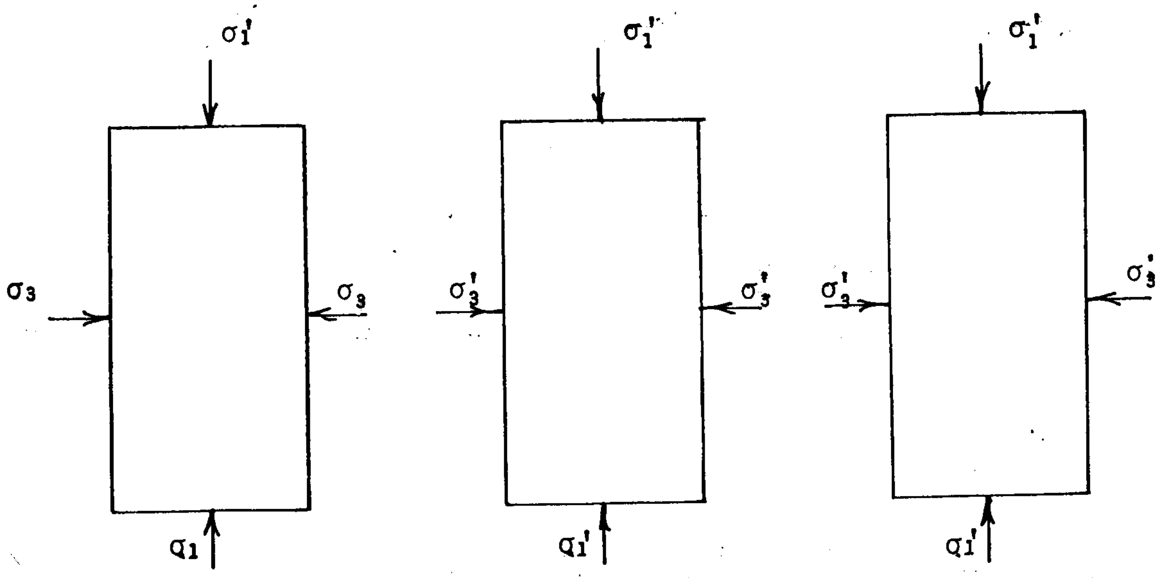


FIGURE 8.17 *Defining the triaxial test sequence*

σ_1 = *vertical stress at depth z due to overburden*

σ_3 = $K_o\sigma_1$

σ_1' = σ_1 + *extra vertical stress at depth z due to the foundation system*

σ_3' = $K_o\ \sigma_1$ + *extra horizontal stress at depth z*

The axial strain (ε_1) and the volumetric strain (ε_v) are measured. From these values the horizontal strain [$\varepsilon_3 = \frac{1}{2}(\varepsilon_v - \varepsilon_1)$] is calculated.

Applying all these values to the appropriate equations will produce a predicted settlement value for the foundation system.

It is obvious that the Davis Poulos method follows the field stress paths in the test procedures. The major difference between this method and the Lambe stress path method is that here the measured strains are not used directly. The information from the tests is rather used to define parameters such as E, μ, μ', and E'. The exact field stress path is followed in the test procedure. This is difficult to achieve i.e. the exact field conditions are simulated and then the direct strain results are ignored. It therefore seems to be a method which ignores the obvious route of integrating measured vertical strains.

CHAPTER 9

SOIL SAMPLING

9.1 Introduction to soil sampling

Once a testing procedure has been defined, it is necessary to obtain an undisturbed soil sample. There are three aspects to soil sampling:

a) the design and use of the sample box
b) the process of obtaining the soil sample and transporting it to the laboratory.
c) the care of the sample once it has reached the laboratory

These three factors must be approached separately. Unnecessary emphasis laid on any one of them will in no way provide a better end result.

9.2 The design and use of the sample box

A sample box must be easy to assemble, able to protect the sample during transportation and provide the maximum possible support and protection to the sample once the sample has been opened. Figure 9.1 shows a working drawing of the sample box as designed.

From Figure 9.2 it can be seen that should the top of the box and side D be removed, the sample will still be protected and supported on three sides and the bottom. The box has been designed so that the remaining sides are always firm.

9.3 The process of obtaining a soil sample (Krynine, Ref. 8)

The necessary equipment for taking a soil sample is the sample box, spades, wax, a pot for heating the wax and a gas or parafin stove. The wax is heated to just over 60° C. This temperature will convert the wax to a liquid but will not cause blistering of the skin if the hot wax should come into contact with it.

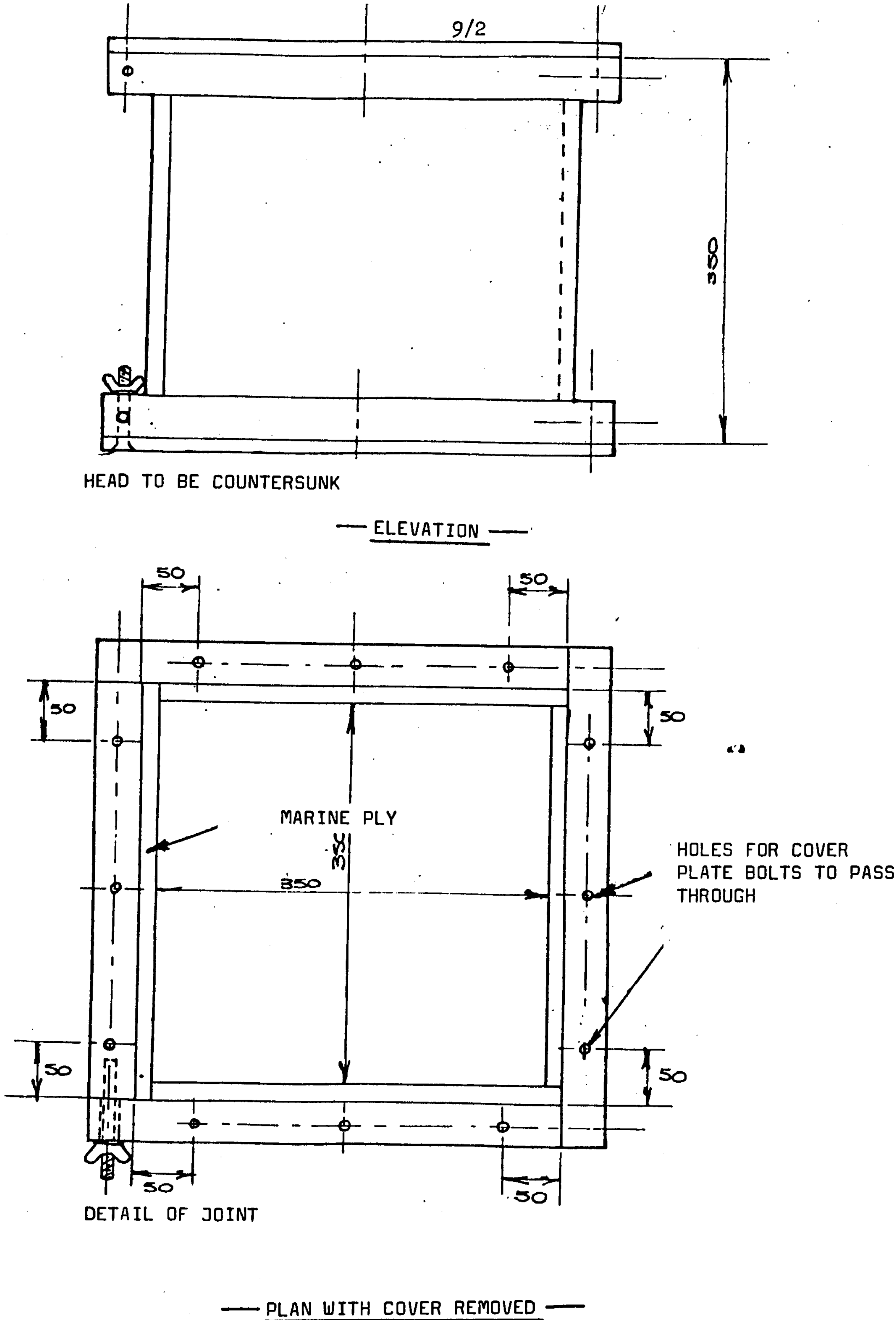


FIGURE 9.1 *Working drawing of the sample box*

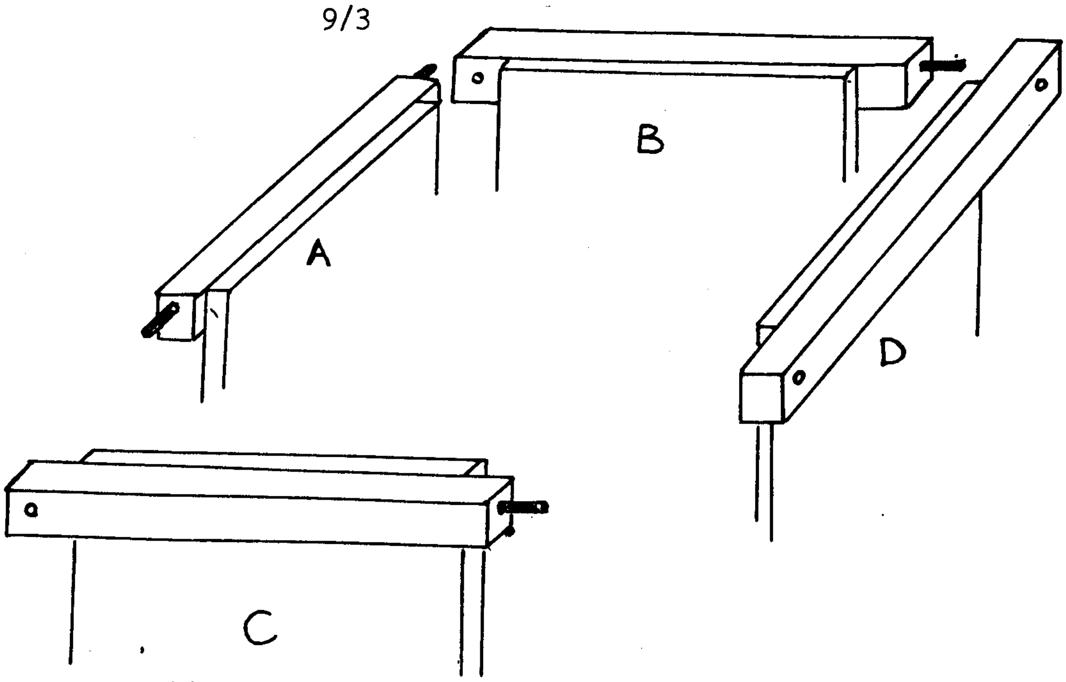


FIGURE 9.2 *Assembly of the sample box*

a) *stand side A upright*

b) *push sides B and C onto the studs of side A*

c) *push side D onto the studs of side B and C*

d) *the covers fit on the open sides. Each cover has its own marking so that all the holes will be aligned*

At the site where the sample is to be taken a 'tower' of soil is excavated. (see Figure 9.3). The sample box without the top or bottom is then fitted over this tower. The molten wax is poured into the 4 mm gap surrounding the sides of the soil sample. Once this operation is completed the top must be trimmed.

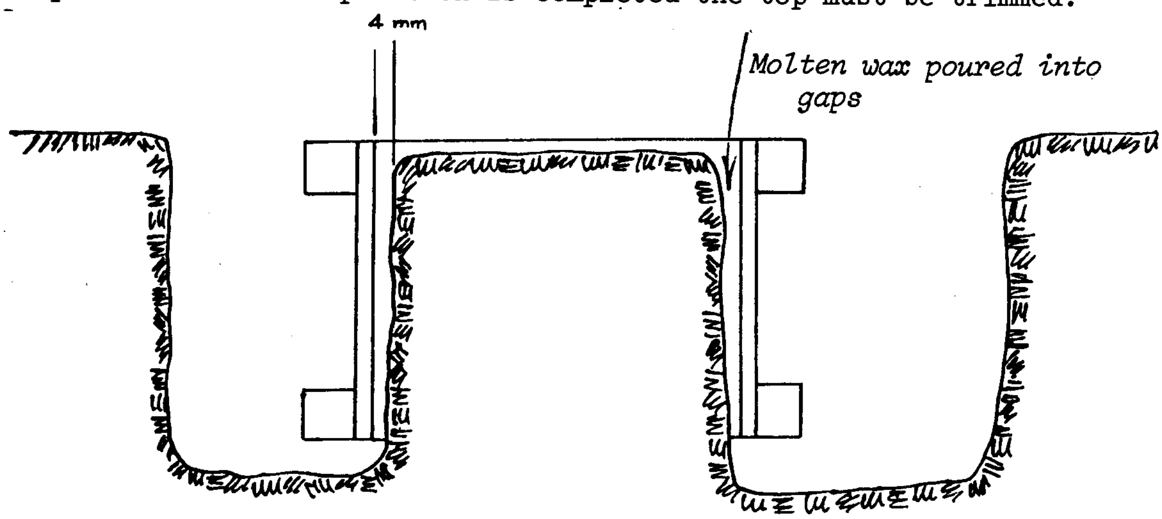


FIGURE 9.3 *Excavation for the soil sample*

Trimming the top of the soil must always be done from the sides inwards towards the centre (see Figure 9.4). This could be done with a small spade, but depending upon the material, a saw or piece of wire might prove much more useful. For the Constantia sample a saw and a small axe was used for the trimming of the sides and the edges of the sample.

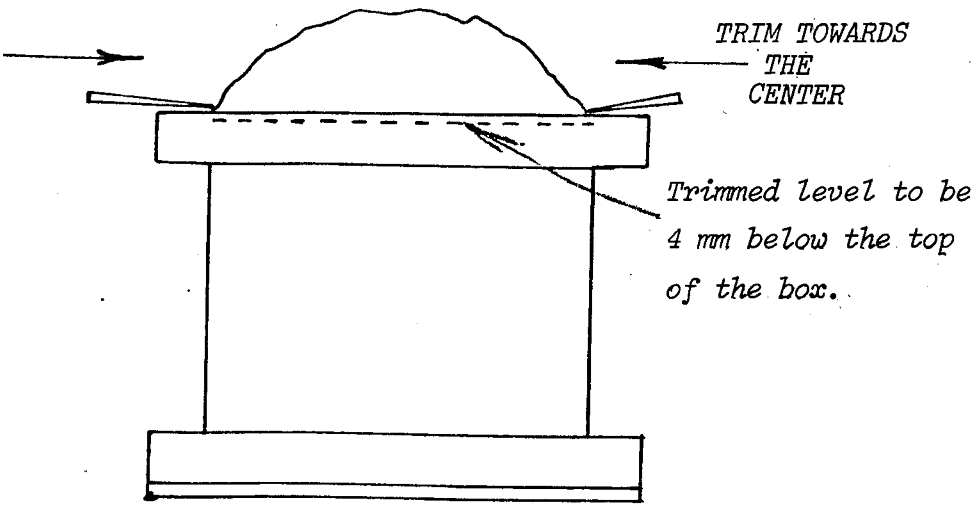


FIGURE 9.4 *Trimming the top or bottom of the sample*

After the top has been trimmed the wax must be poured over and levelled with the top of the sides of the box. Once the wax has cooled and hardened the top must be screwed tightly into place.

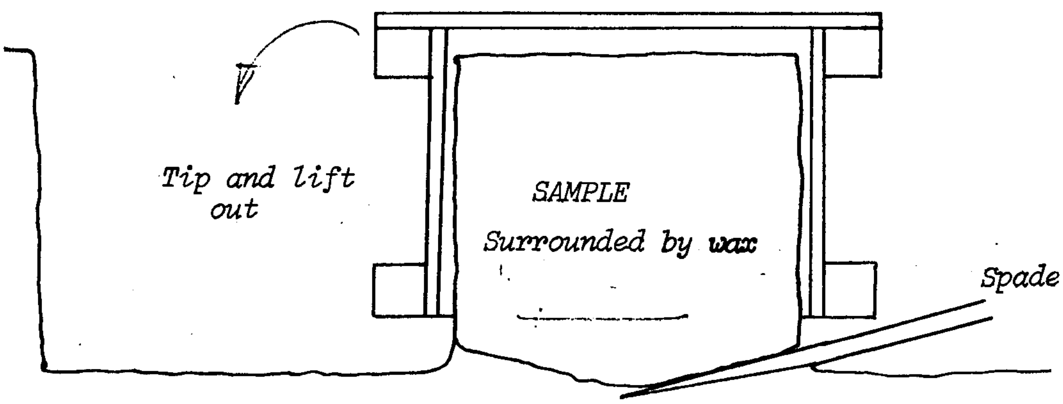


FIGURE 9.5 *Cutting off and inversion of the 'tower'*

The 'tower' must now be cut off. To do this a spade is struck at an angle under the one side of the box. The spade should be inserted until it is at least under the centre of the box. The sample and box are now tipped over and lifted out of the hole. It is now trimmed, waxed and sealed. It may now be carefully transported to the laboratories.

9.4 Caring of the sample after it has reached the laboratory

There are two main aspects of sample care, namely

a) storing of the sample, and
b) planning of sample usage

The sample should be stored in a place which allows free access to the user, but avoids general contact with the normal laboratory traffic. The protection that the sample box provides to the sample has already been discussed. Another precaution which might retard a continuous wetting or drying process due to long storage, is to wrap a large plastic bag around the open section of the sample.

The planning of sample usage is important for two reasons, the one is economics and the other is the availability of the sample. Depending upon the type of soil, one sample box should contain enough soil to allow most soil tests to be performed.

The soil sample for this thesis had to provide two consolidometer specimens, six to eight triaxial specimens and two or three model footing specimens. Figure 9.6 shows how the original sample was planned to accommodate these requirements.

9.5 Cutting out of individual samples for tests

Initially for tests, a rectangular piece of soil was cut off, (see Figure 9.7). The next step was to trim the sides down to the required dimensions after which the top and bottom ends were trimmed.

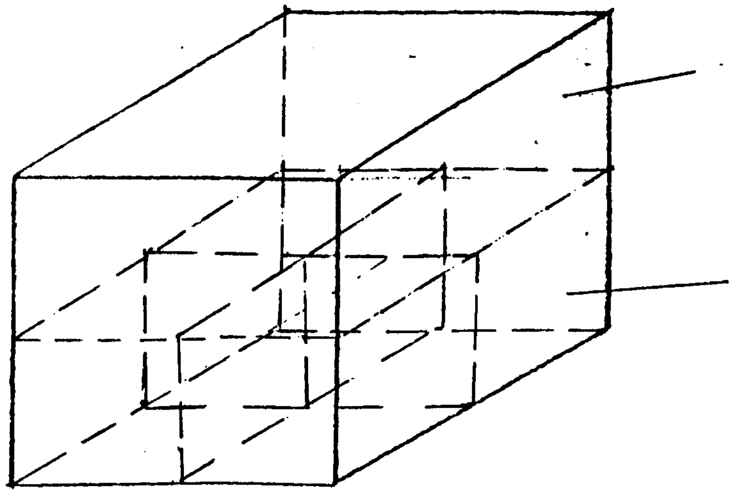


FIGURE 9.6 *Planning of sample usage*

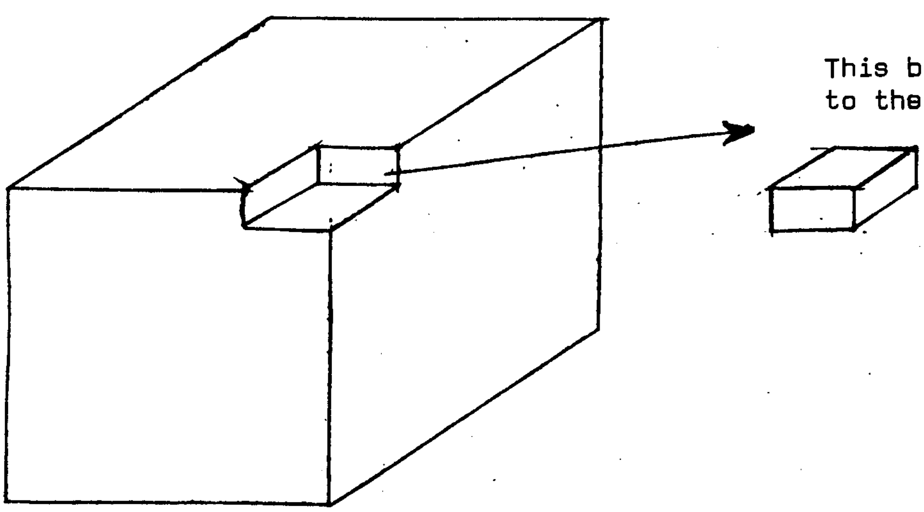
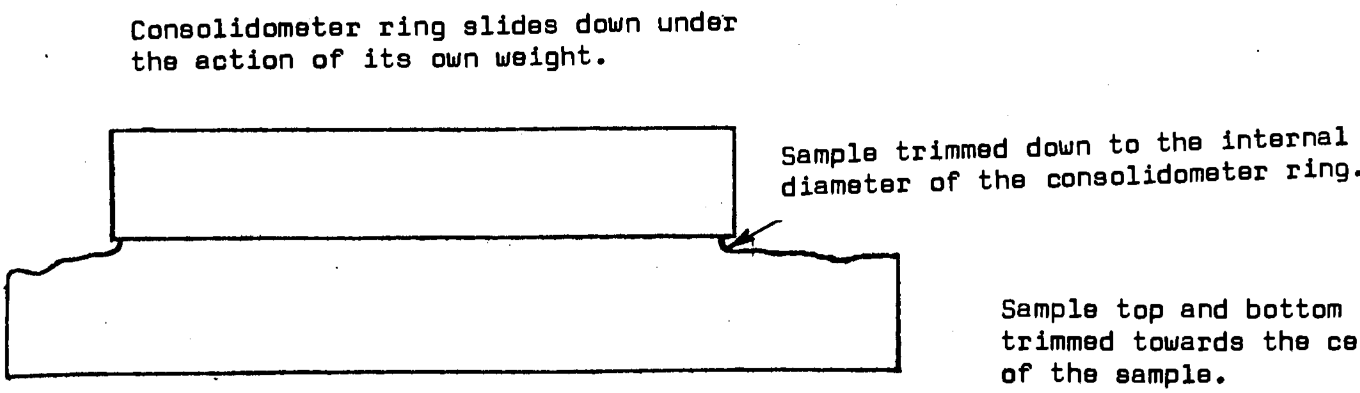


FIGURE 9.7 *First step in cutting out an undisturbed sample*

For the consolidometer tests the ring was put on a levelled surface of the soil block. The soil was then trimmed away from the sides of the ring. Ideally the trimming was carried on until the ring under the action of self weight slipped down over the cylinder of trimmed soil. The final operation was the trimming of the top and bottom of the sample.



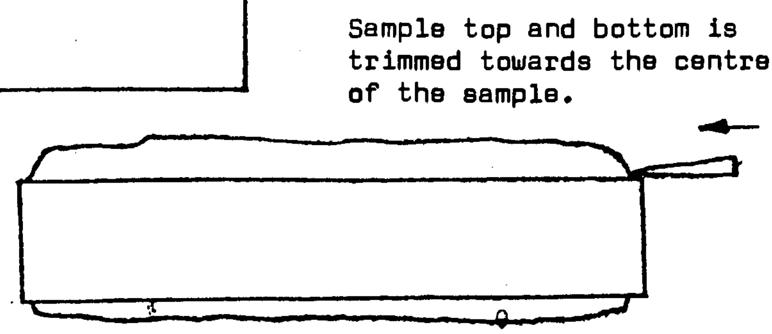


FIGURE 9.8(a)
Initial stages of trimming a consolidometer sample

FIGURE 9.8(b)
Final stage of trimming a consolidometer sample

For the triaxial sample a piece of apparatus which defines a vertical straight side and a horizontal cutting guide was used, (see Figure 9.9). Once the sides were approximately correct the sample ends were trimmed to their final sizes. Perspex discs were then placed on these ends and placed on a vertical line. Now the final trimming of the sides between these ends was done.

9.5.1 Berea road sample

This sample had been previously obtained by Professor Sparks. It had been air dried. There was only a very small piece of it left. From this a piece 90 mm x 90 mm x 40 mm was cut. For the initial cutting an ordinary hacksaw blade was used.

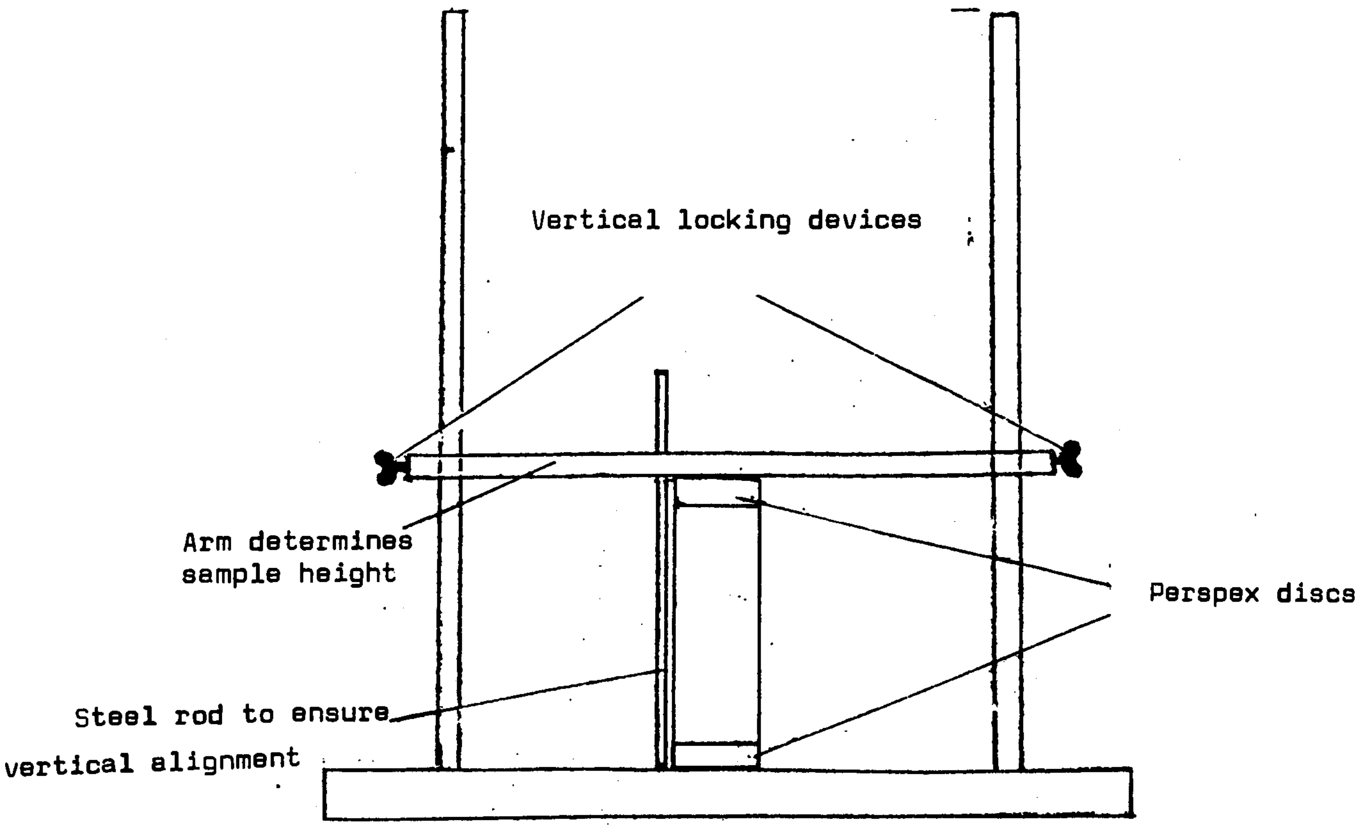


FIGURE 9.9 *Apparatus used to cut out triaxial sample*

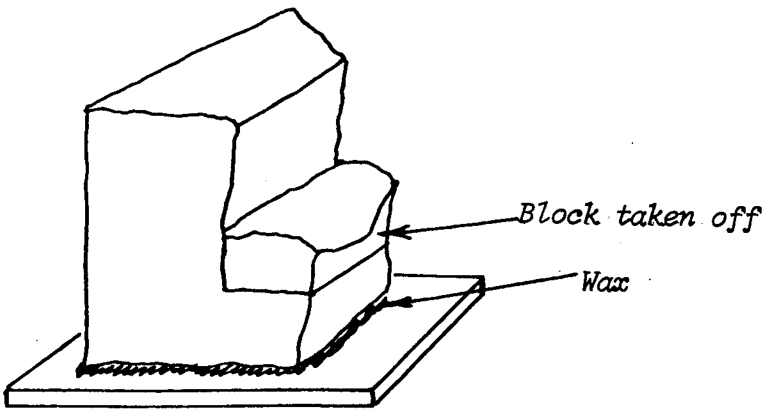


FIGURE 9.10 *Berea road sample*

For the trimming of the sides of the sample, old hacksaw blades were used. These old blades had been broken into lengths varying from 75 to 150 mm. The one side had the teeth on and the other was ground down to a knife edge which had a point.

The Berea road sample was the easiest sample to work with. It displayed relatively high cohesive properties and had no roots or large sized particles in it. The sample took approximately $3\frac{1}{2}$ hours to cut out.

9.5.2 Constantia sample (collapsing in situ decomposed granite)

This sample was obtained from the property 'Feathers' belonging to Mr P.A. Butters. The sample was taken at a depth of one metre and contained small amounts of roots. It has a large variation in particle size (see Chapter 2). The percentage of clay sized particles is very low and the material was therefore very brittle and tended to crack extremely easily. The sample was not sealed in wax as an immediate determination of field moisture content was initiated.

The original rectangles which had to be cut out had to be much bigger, approximately 120 x 120 x 50 mm, for the consolidometer and 110 x 50 x 50 mm for the triaxial specimens. The time taken for the cutting out of each sample varied from three hours to one and a half days for the consolidometer and six hours to three and a half days for each triaxial specimen.

The tools used for the trimming of the sample were hacksaw blades, parts of hacksaw blades, scribers and straightened paperclips. The excessive time taken to cut out samples was due to the fact that each large particle near the final surface had to be taken out separately. Three samples were lost because large stones were found in the centre of the specimens. It was also extremely difficult to obtain true end faces because of the voids left by the larger particles. These voids were filled with finer material. To get the triaxial specimens into the cell and ready for testing was another extremely delicate and tedious process.

9.5.3 The Sishen sample (collapsing windblown sand)

This sample was obtained by indirect means. The empty sample box was included in Mr W.M. Stern's air luggage to Sishen. There it was left together with the wax in the CSIR offices. Shortly after that Mr Donaldson from the CSIR took the sample. After taking the sample Mr Donaldson made arrangements with the main contractor, Murray and Stewart, to fly the sample down to Cape Town.

The sample was taken adjacent to an open trench excavation. The depth was approximately one metre. The wax that was sent up was not sufficient and the gap between soil and sample box was reduced to 3 mm.

The Sishen sample is a very loosely packed, weakly bonded collapsing sand. The samples tend to crumble very easily. The time taken to cut out the samples varied from three and a half hours to one day for a consolidometer sample and three and a half hours to one and a half days for each triaxial sample.

9.6 Conclusion

The three aspects of obtaining the undisturbed sample have been examined. It can be seen that each aspect should be given the same attention, as the end result is dependent directly on all three aspects.

The cutting out of the samples is a tedious but necessary process. The approach to the final trimming of the sample and the tools required is dependent upon the soil type.

The degree of sample disturbance is extremely important especially in cases where the increase in load is not high. It is therefore necessary to lay emphasis on this section of soil testing.

CHAPTER 10

THE CONSOLIDOMETER

10.1 Introduction

The consolidometer can be used effectively for settlement prediction (see Chapter 8). Knight suggests the use of the consolidometer for collapse settlement prediction. The test he prescribes is the double consolidometer test. This test however is uneconomical in sample usage. The method described (Sparks, Ref. 12) enables settlement prediction for any combination of moisture contents to be determined using a single sample.

10.2 The consolidometer test for collapse settlement prediction

The double consolidometer test has two distinct disadvantages. The one is the uneconomical sample usage and the other is the lack of information of intermediate moisture contents other than the initial field moisture content and the final moisture content of the inundated sample.

To eliminate these disadvantages a method of testing, which could enable prediction of collapse settlement for any variation in moisture content, using only one sample had to be devised. The single sample therefore had to be wetted during testing. After each increment in moisture content there had to be a period in which the water could enter and distribute itself within the sample.

In order to vary the moisture content and simulate a field condition, a means had to be devised to limit the strain of the sample while the added water was still concentrated at the point of application and before it had distributed itself within the sample. The sample cannot be unloaded as repetitive loading and unloading cycles introduce the hysteresis effect. The system shown below was designed by Professor Sparks.

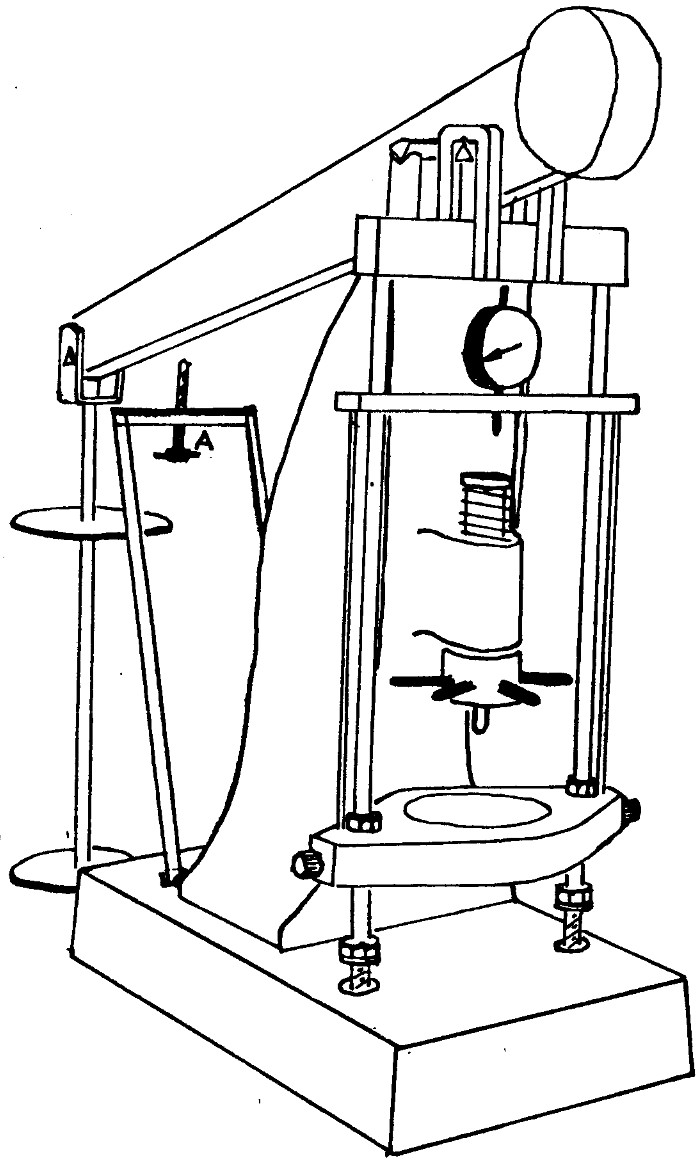


FIGURE 10.1 *The 'collapse settlement consolidometer'*

The arm with a screw device (A) is situated at the rear end of the consolidometer. This screw device can extend to the consolidometer arm. When it is raised or engaged it can either remove the load or simply limit the strain. For the limiting strain condition the screw is extended until there is a single division movement on the deflection dial gauge of the consolidometer.

The method for taking field samples, and the trimming of a consolidometer sample has been discussed in Chapter 8. Once the sample ring surrounding the sample has been placed in the consolidometer it is sealed with a plastic bag (see Figure 10.2). Access holes are made in four places around the sample. These hatches must be sealed when they are not in use (see Figure 10.2). This keeps the loss of moisture to a minimum during a test.

To add the water increments to the sample a syringe is used. The tube fitted to the syringe is passed through a hatch in the plastic covering to the filter paper at the bottom of the sample. The water is added in equal quantities at four points around the bottom of the sample. The water seeps into the sample via the filter paper. Weight corrections are made at the end of the test for the water retained within the filter paper, and lost by any evaporation.

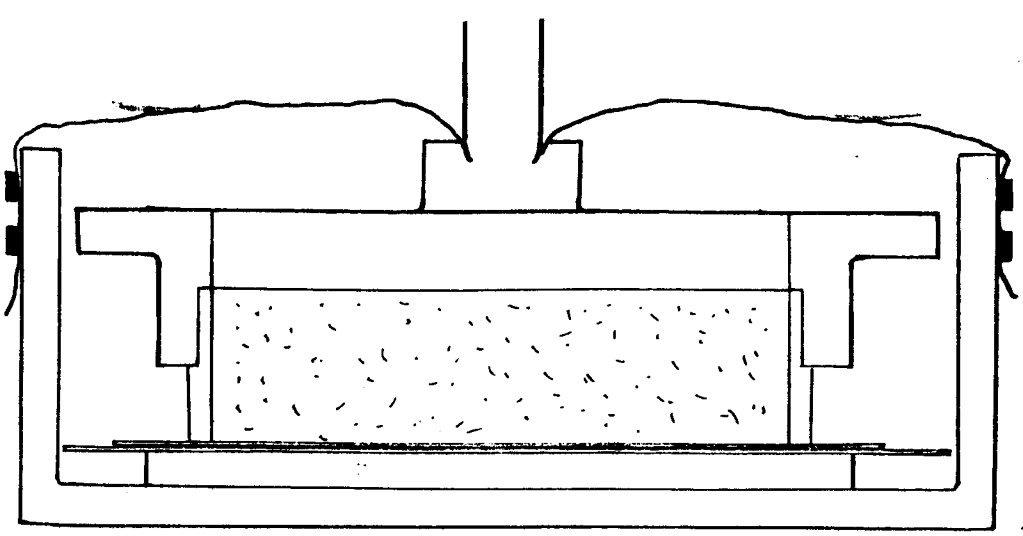


FIGURE 10.2(a)

Sealing of consolidometer sample

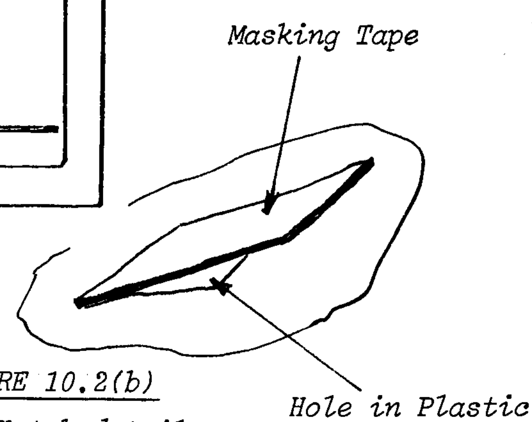


FIGURE 10.2(b)

Hatch detail

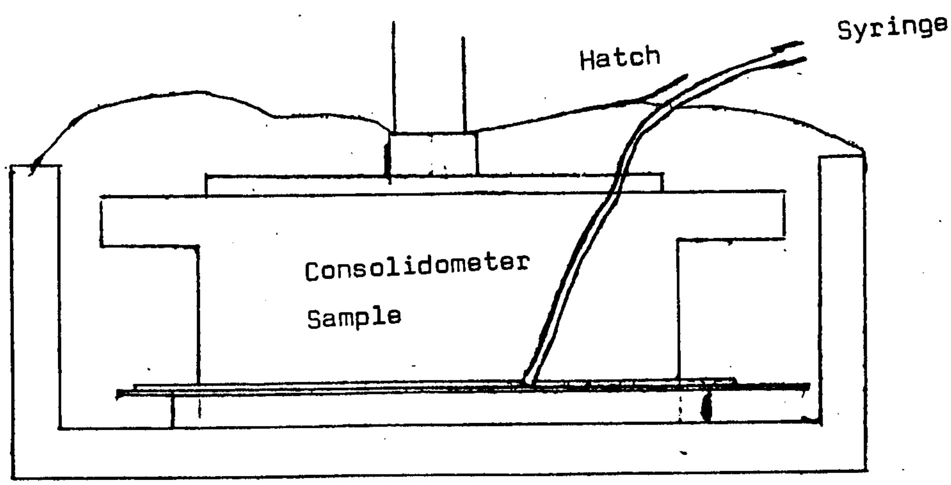


FIGURE 10.3 Addition of water to consolidometer sample

10.3 Test procedure

After it has been placed in the consolidometer and sealed, the sample is loaded at the original water content. The first load variations are zero to five pounds and five pounds to ten pounds (on the hanger). A load of ten pounds is equivalent to one long ton per square foot. The moisture content is kept constant during these loading operations.

After the ten pound load readings have been completed the strain is limited during the application of a water increment as previously described. The moisture content is then varied by adding water with the syringe at the four points around the sample. The amount of water added each time is predetermined and varies from one to two ml of water. The wetted sample is then allowed to soak for twenty four hours, after which the limitation imposed on the strain is released. A time-settlement curve is now observed until no further vertical strain occurs. Times up to three hours were required. The time intervals for loading of the sample should be kept as constant as possible as loading intervals do effect settlement prediction results.

Once the settlement readings for this new moisture content have been taken, the strain is once more limited. The moisture content is again changed and the sample is allowed to soak. The process is repeated until the total settlement due to increases in moisture content are negligible. The sample is then loaded to two tons/ft^2 and permitted to consolidate under this new load. Once this stage is reached the sample undergoes, at constant moisture content, the unloading cycle. The unloading cycle consists of two stages, i.e. two tons/ft^2 to a half-a-ton/ft^2; and then to a zero pressure.

10.4 Determination of T_{90} and effective T_{90}

T_{90} is determined in the usual wav for loading and unloading cycles. In Figure 10.4 the T_{90} for Berea Road soil is shown.

For a cycle which incorporates a change in moisture content there is an effective T_{90} value. This is not a true T_{90} value as there is no load variation associated with it. For consistency of results the writer attempted the start of new wetting cycles before secondary creep was evident (see Chapter 3) as secondary creep causes erratic results. However, in practice, secondary creep will occur in a soil, and should be allowed to occur in the laboratory tests. This would considerably lengthen the time of testing, which was more than 2 weeks per sample using the above abbreviated method. Figure 10.5 shows how T_{90} and effective T_{90} values were obtained for Berea Road sample.

In Figure 10.5 the values of the deflection dial gauge readings are plotted along the vertical axis. These readings are referred to a common origin. Refering each set of readings to a common origin facilitates the plotting of the results and also allows easier comparison of results.

The T_{90} and effective T_{90} curves for the Constantia samples (from 'Feathers') show some peculiarities at the short loading times. It would appear as if the curves have a kink at the beginning. This could be a result of any of the following reasons:

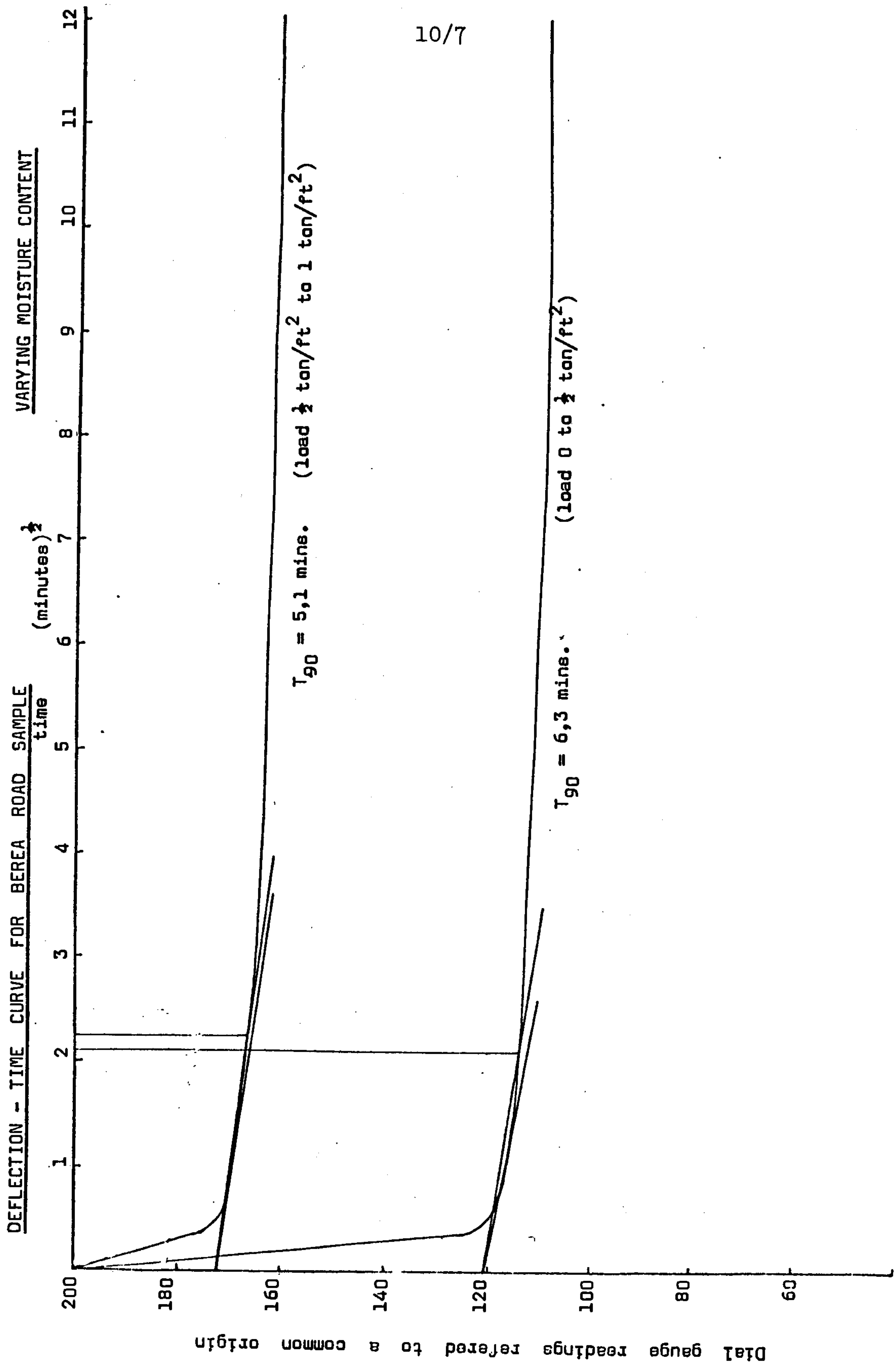
a) loading a thixotropic soil
b) the rupture of the cementing of particles
c) release of lateral side friction
d) unequal wetting within the sample

10.5 Deciding when to stop the addition of water to the sample

(Determining the limit of moisture content above which no further collapse occurs)

Ideally the moisture content should be varied from the field state to a state after which there is no collapse settlement under the design loading. To determine the latter stage accurately during experiments is difficult.

To overcome this problem a plot of $\Delta_W/(\Delta_W + \Delta_P)$ versus total water mass added is drawn during the experiment. Δ_W represents the deflection dial gauge difference between the start of the moisture content variation and the latest reading after settlement at the new moisture content. The amount of water added is the accumulative amount to the natural initial moisture added to the sample in mls. The additions of water should be stopped when the slope of the curve shown in Figure 10.7 approaches the horizontal.



<u>*FIGURE 10.4*</u> *Time - Deflection curves for Berea Road sample (For each loading increment. Constant W_c i.e. before wetting)*

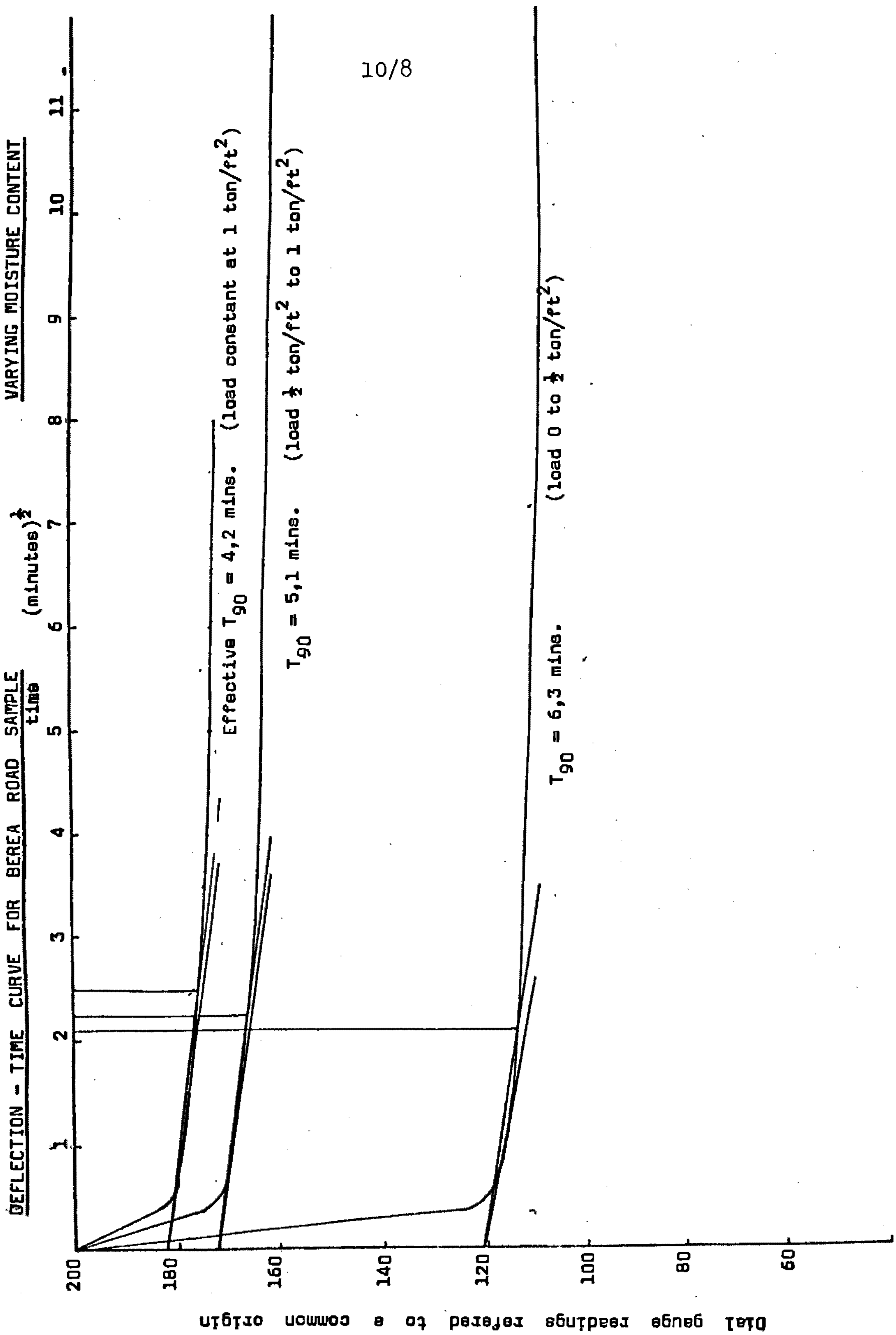


FIGURE 10.5 *Time - Deflection curves for Berea Road showing T_{90} and effective T_{90} values (For each load increment, or for each wetting increment at constant load)*

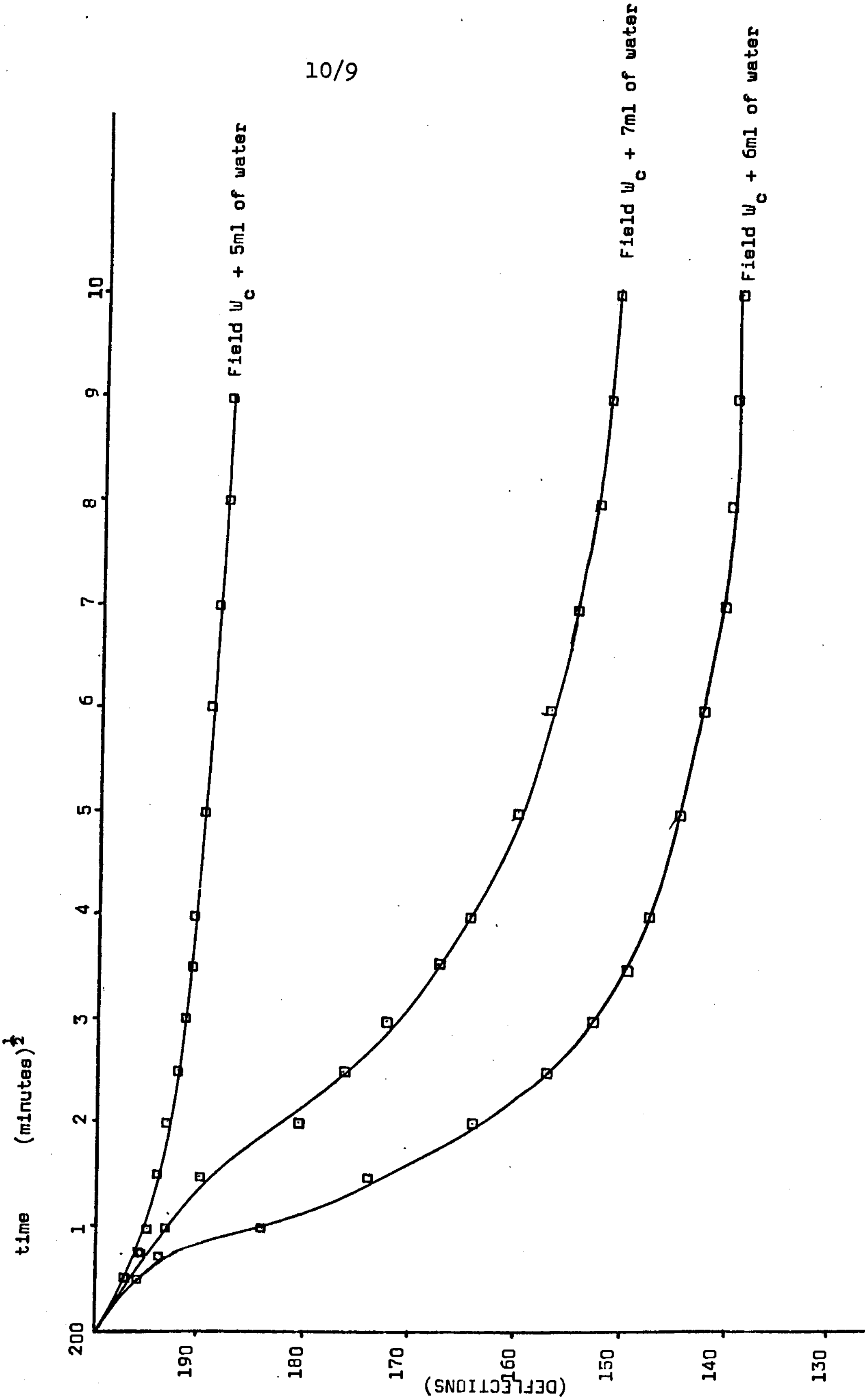


FIGURE 10.6 *Time - Deflection curves for Constantia sample*
(ex 'Feathers' farm)
(Wetting under constant load)

The effects of secondary creep must be controlled. By watching the time settlement curves under constant load for the moisture content variations it can be seen that the secondary creep produces a straight line of almost horizontal slope.

It is possible to observe the moisture content range over which collapse settlement occurs. The determination of the final moisture content beyond which collapse does not occur is shown in Figure 10.8. This is the water content at point X. If one waits for a period long enough to permit secondary creep of the wetted soil (under constant load), then the soil will show a larger collapse settlement Δ_W due to wetting. Hence the factor $\Delta_W/(\Delta_W + \Delta_P)$ is increased. Therefore the upper curve in Figure 10.8 is more correct than the lower curve which is observed in an abbreviated test in which loading or wetting increments are imposed before full settlement occurs due to secondary creep. Note that the upper limit of collapse water content has moved to the right from X to X'. The importance of the upper limit of collapse moisture content becomes obvious.

10.6 The void ratio-effective stress relationship

The one curve in Figure 10.9 is the e - $\bar{p}$ curve for the constant field moisture content, while the other is the one for the varying moisture content. The latter curve is important for estimating the possible collapse settlement.

The change in void ratio Δe_P is associated only with the variations in loading of the soil mass. The change in void ratio Δe_W is associated with the variation in moisture content. Therefore Δe_P represents the settlement due to the loading of the sample at constant water content while Δe_W represents the collapse settlement (see Chapter 2) for a specific moisture content variation. It must be noted that Δe_P is redefined for each initial moisture content.

For a certain collapsing soil, the higher the initial water content at loading, the larger the value of Δe_P and the smaller the subsequent value of Δe_W when wetting occurs up to the same water content. Taken to its natural conclusion, this implies that if the soil is saturated and loaded then total collapse will be immediately achieved. This method of precollapse was used by Robert Leslie and Partners at their Sishen contract.

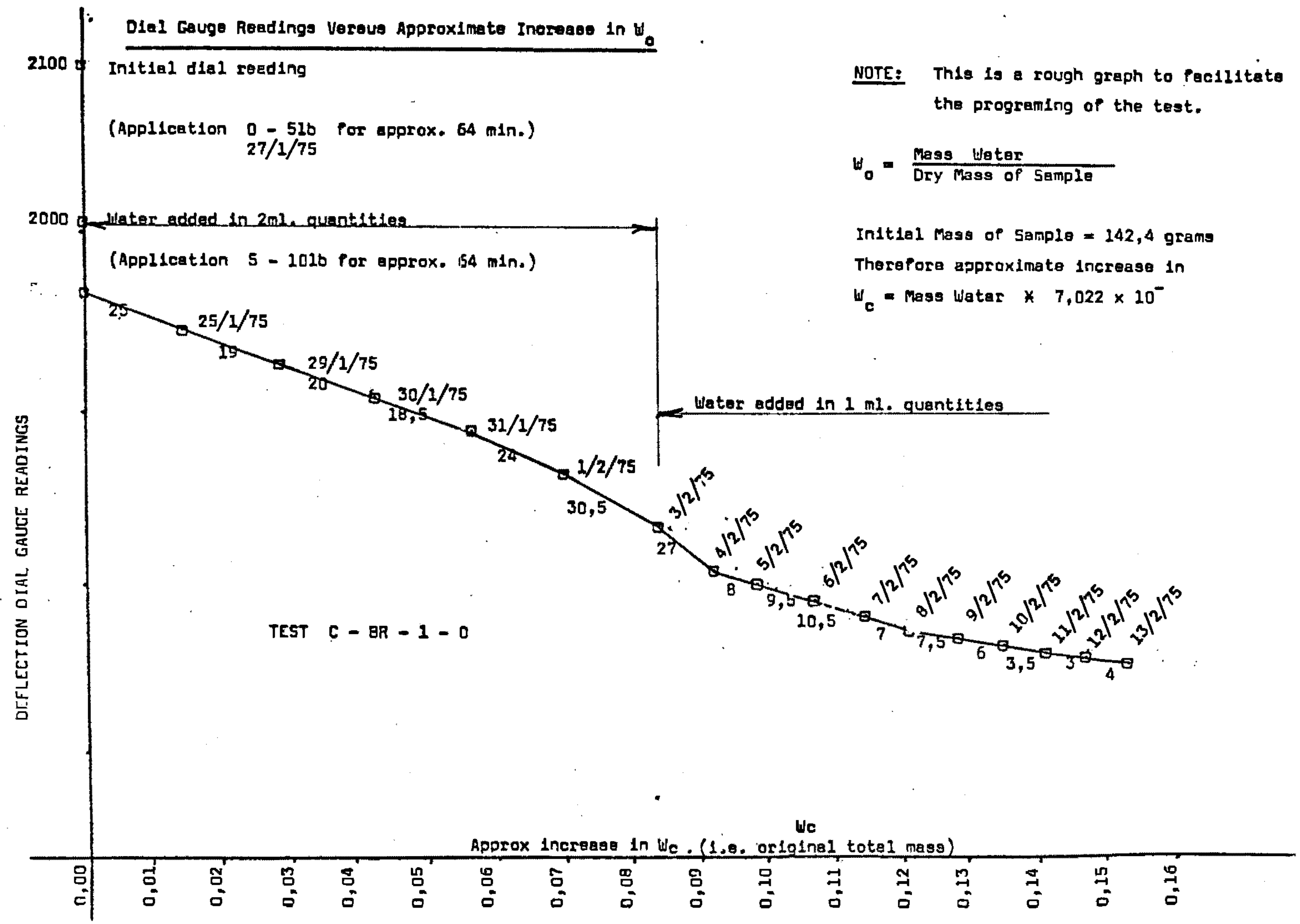
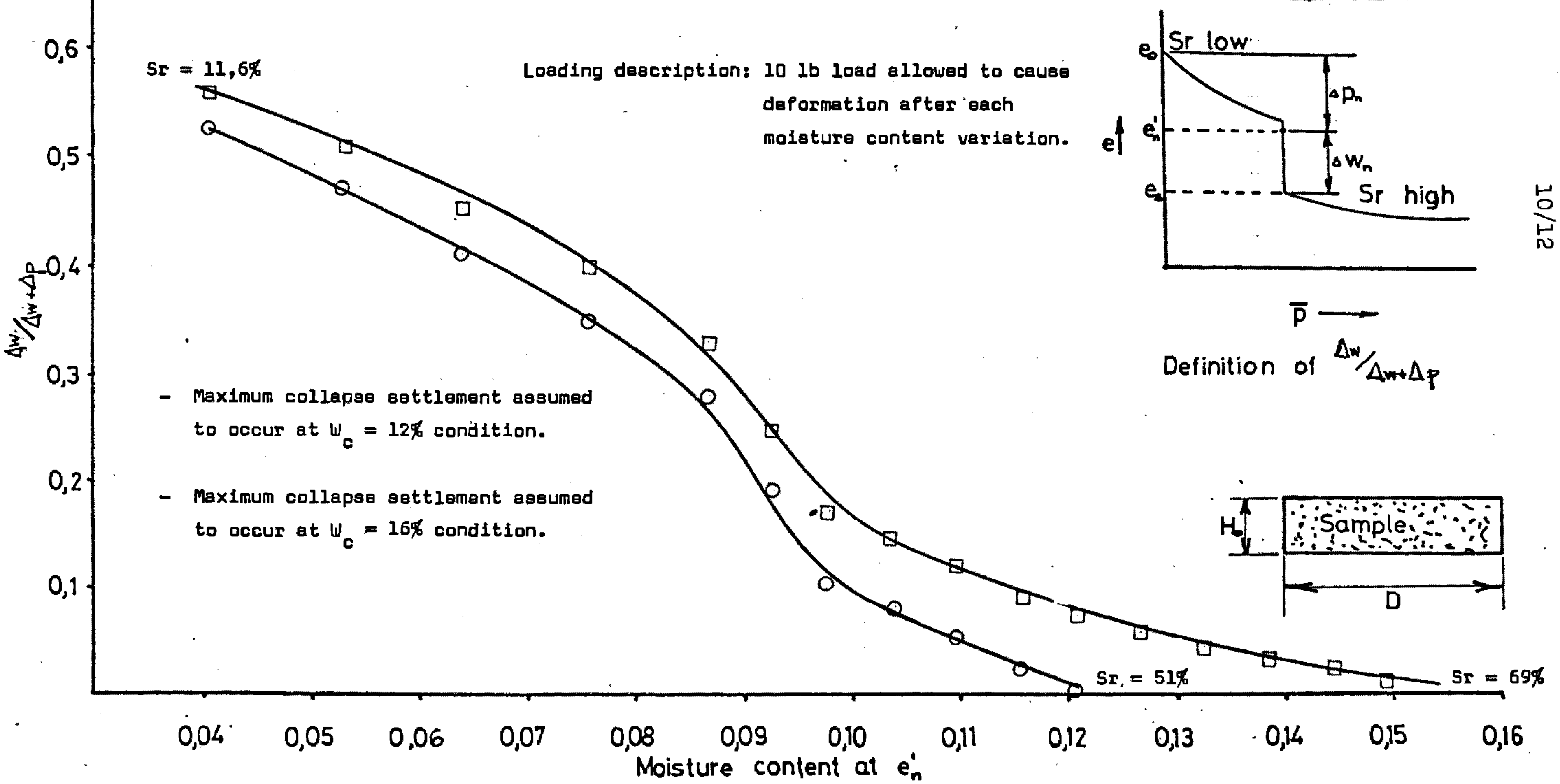


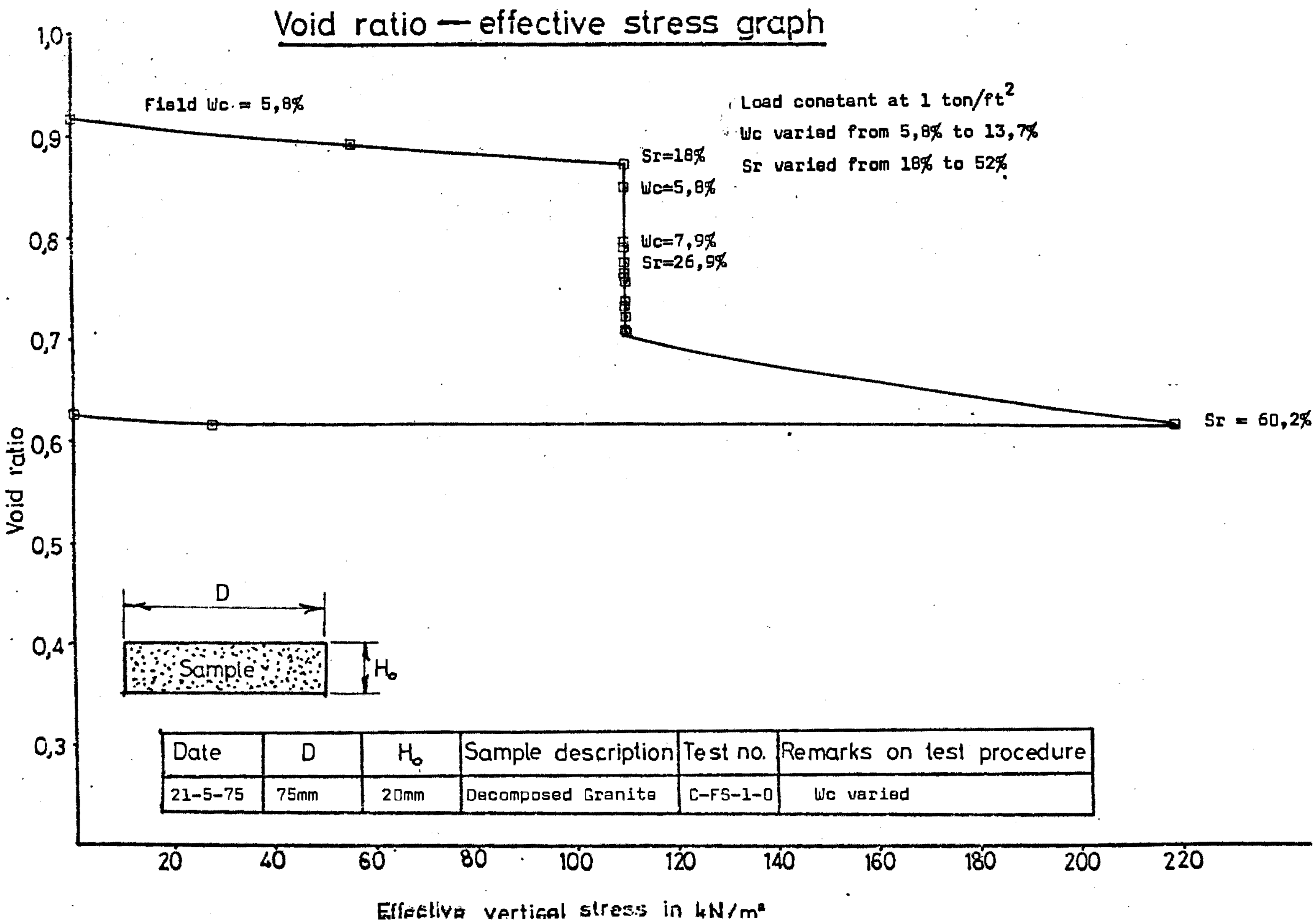
FIGURE 10.7 *Curve for determining the limit of moisture content above which collapse will not occur (under this constant vertical load)*

$\Delta w / (\Delta w + \Delta p)$ – moisture content graph

Date	D	H_o	e_o	e_s	% < 0,074 mm	Sample description	Clay content (%)	Test no.
18/2/75	75 mm	20 mm	0,712	0,636	19	collapsing sand	19	C-BR-1-0



10/12



Date	D	H_o	Sample description	Test no.	Remarks on test procedure
21-5-75	75mm	20mm	Decomposed Granite	C-FS-1-0	Wc varied

FIGURE 10.9 *The e - $\bar{p}$ curves for the Constantia sample*

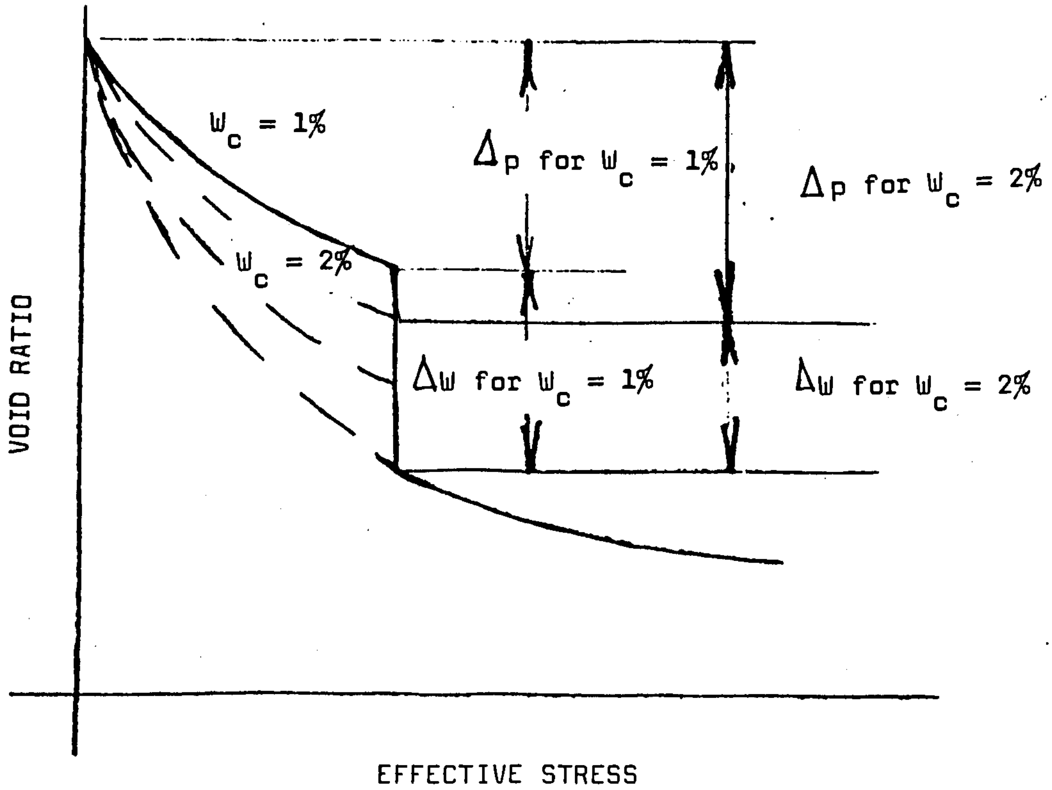


FIGURE 10.10 *Definition of Δe_W and Δe_P*

10.7 The accurate determination of moisture content throughout the test

a) Initially the following masses are noted:
Mass of consolidometer ring and sample at natural initial water content
Mass of consolidometer ring
Mass of porous plates
Dry mass of filter papers, clean plastic sheet

b) At the end of the test the following masses are noted:
Mass of consolidometer ring plus moistened sample
Mass of moist porous plates, moist filter papers etc
Mass of oven dried sample

c) The clean plastic sheet is used to enclose the consolidometer sample in a moisture-tight system. To find the mass of other water present in this consolidometer system at the end of the test a piece of dry filter paper is weighed; the container, plastic sheet and enclosed fittings are thoroughly wiped dry and the filter paper is quickly weighed once more.

d) Once the sample has been oven-dried the initial and final moiture contents of the sample can be exactly determined.

e) A separate check is maintained of the water mass increments added via the syringe. Inevitably there will be a difference in this total and the change of mass of the sample (e.g. due to water lost from the system and on to fittings). The difference in the initial and final masses of the porous plates, filter papers and plastic will be the total mass of water retained by them. This mass of water is added to the amount of water (by mass) added to the sample as found in step (d). The difference between this mass of water and the mass of water added by the syringe represents the water lost during the experiment. This value varied from 0,3 to 1,0 ml over a period of about two to three weeks.

f) When estimating intermediate water contents from the initial water content and the syringe increments, it is necessary to deduct some portions of this small mass of water which has been lost from the system.

These corrections can be made by assuming that the amount of water lost from the system in a certain period is either:

i) Proportional to the length of period, or

ii) Proportional to the total mass of water present in the system during this period, or

iii) Proportional to the product of the length of period and the total mass of water present, or

iv) Proportional to the amount of water added each time if water evaporates mainly when it is lying as a pool of free water which is being absorbed by the soil and porous plates via the filter paper.

v) Proportional to the total mass of water in excess of natural or initial water content.

In certain research at UCT, the systems (i), (ii) or (iii) are used. The writer however decided to use method (v). Note that the correction values are very small and the method used does not significantly affect the results.

To find the intermediate values of moisture content a correction factor had to be applied. This correction had to take into account the difference in water masses described. For each time period, this factor was assumed to be directly proportional to the total mass of water in excess of the natural water content at the beginning of the time period.

$$C_f = \text{Correction factor} = \frac{\text{(initial mass of water in sample + the mass water added by syringe) − (final mass of water in sample) − (water mass in porous plates, filter paper)}}{\text{(Total mass of water added by syringe)}}$$

This correction factor is per millilitre of water added. Therefore the actual amount of water in the sample at any stage is;
[(the initial mass of the water in the sample) + (the total mass of water added by syringe) − (the total mass of water added) x (the correction factor)]

Actual amount of water in the sample = Initial mass of water in the sample + $(1 - C_f)$ x mass of water added to the initial condition.

10.8 Computer program for the results

A computer program was drawn up to process the results of the tests. The program can be seen in Appendix B (page B/24)

The input data consists of the masses described, the number of stages associated with the test, the masses of water added and the deflection dial gauge readings. The output data includes the initial masses, volume and moisture content of the sample, the corrected moisture contents, the void ratios, the loading descriptions and the deflection dial gauge readings.

10.9 Conclusion

The advantages of this type of consolidometer test as compared to that of the double consolidometer test are listed at the beginning of the Chapter. The amount of information gained from a single test is not only plentiful, but also of great importance to the geotechnical engineer. The test procedure is simple, and the results are easy to interpret. The test helps to clearly define the range of water contents over which collapse settlement will, or will not occur due to wetting. In addition the method provides approximate void ratio versus effective pressure field curves for a large range of water contents.

CHAPTER 11

TRIAXIAL TESTS

11.1 Introduction

Tests were performed to find the soil parameters and settlement characteristics of collapsing soils. The tests departed in many cases from standard procedures. The versatility of the triaxial machine was emphasized.

11.2 Stress path tests for settlement prediction

Stress paths were followed to satisfy settlement requirements for 1 x 1 metre, 2 x 2 metre and 3 x 3 metre square footings (all at one metre founding depth). The stress paths and the approximated stress paths are shown in Figure 11.1. The validity of using the approximated stress paths is discussed in chapters 4 and 7.

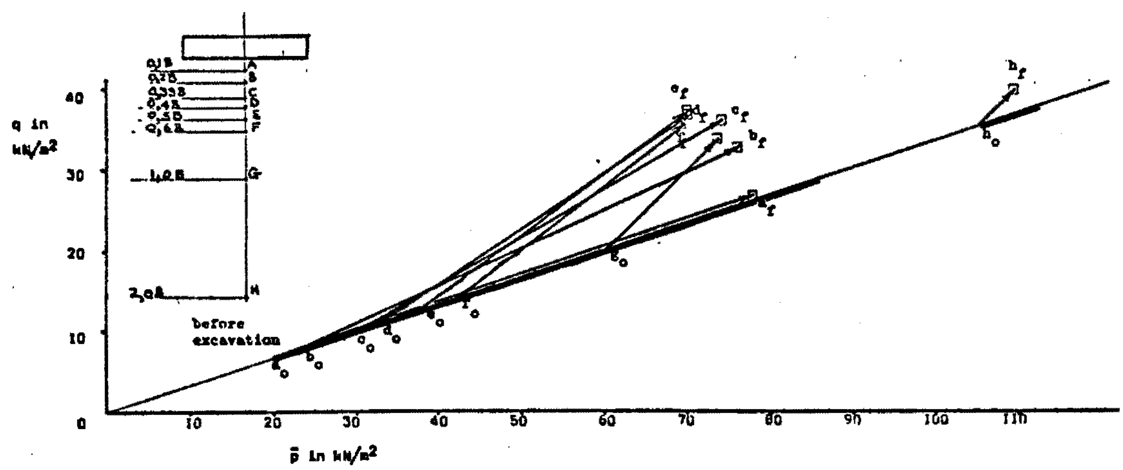


FIGURE 11.1 *Actual and approximated stress paths.*

To follow the shown stress path, the triaxial test must be a K_O consolidated drained test. In Appendix B the grouping of data for the tests can be seen. This grouping is justified because the field stress path during consolidation is similar to the stress path for the drained section of the K_o drained triaxial test. (See Figure 11.2)(Ref. Errera B.Sc.Thesis) This grouping of data enables the absolute minimum amount of samples to be tested.

Theoretically the values of σ_1 and σ_3 should be altered simultaneously throughout this K_o test so that no lateral strain occurs. If lateral strain is prevented by using suitable σ_3 values, then no shear will be developed across the ends of the sample. This should produce a uniform axial and volumetric strain throughout the sample length.

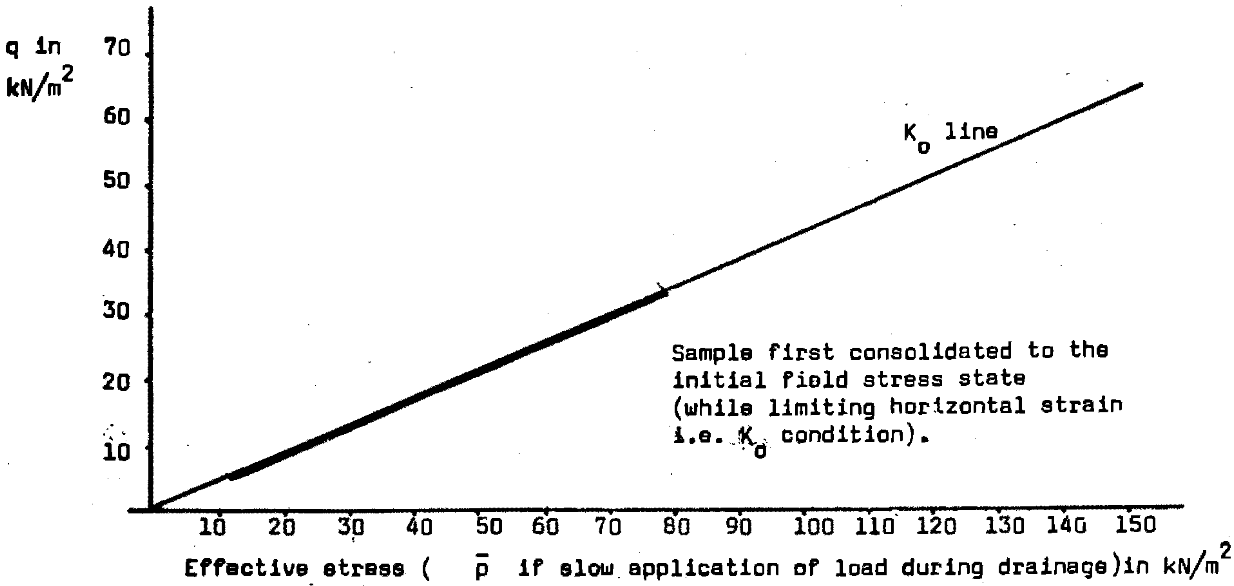
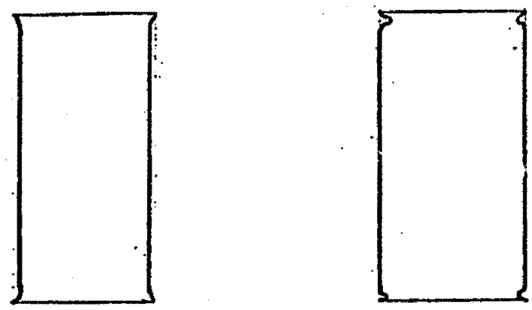


FIGURE 11.2 *Stress paths during K_o consolidation (i.e. drained test).*

In all the tests performed an adjustment to the external cell pressure was first carried out. This adjustment was one half of the theoretical (K_o) adjustment necessary to produce zero horizontal strain for that particular load increment. This adjustment causes a very minor reduction in the diameter of the sample which is resisted by the end restraints. As the vertical and horizontal stresses are then increased the sample will tend to revert to its original horizontal dimensions. This horizontal movement is once again resisted near the sample ends by the end restraints and by the cell pressure σ_3. The effects are shown in Figure 11.3. (Ref. 9 Bishop and Henkel)



Deformation associated with increase in cell pressure

Deformation associated with initial increase in cell pressure and subsequent increase in deviator stress.

<u>FIGURE 11.3</u> *End effects due to end restraints.*

The apparatus used for the K_o testing was not the usual triaxial machine. The reason for this is that the proving ring cannot provide a constant vertical pressure while the sample consolidates, i.e. it does not follow the field stress path. The field stress path has a constant vertical total pressure throughout the time necessary for deformation to occur. This is especially relevant when the soil collapses. It was therefore decided to apply the deviator stress via dead load masses which are directly supported by the test sample. (See Figure 11.4).

The masses used for loading are related directly to the stress variations in the field. The stresses they cause are in terms of kN/m^2. The deviator stresses vary from 1 kN/m^2 to 50 kN/m^2. These stresses are related to the masses via the cross-sectional area of the sample.

A lateral strain indicator was used to limit the lateral strain to zero. It is of the mercury bulb type. (See Figure 11.5.)

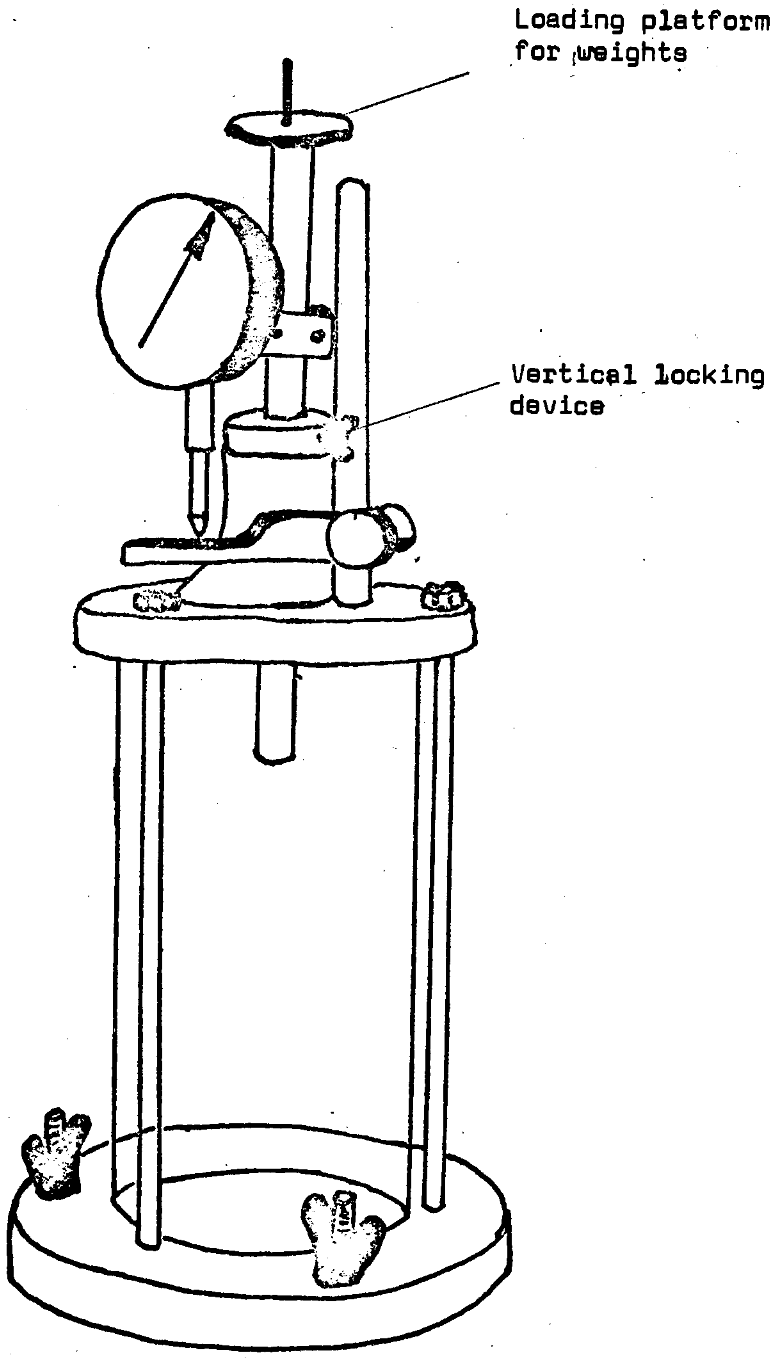
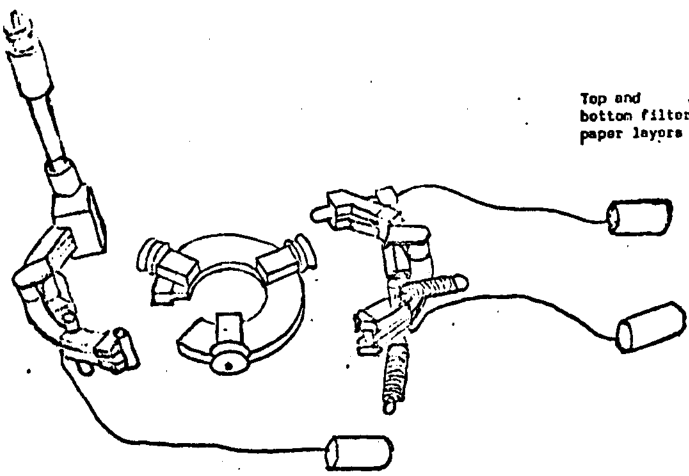


FIGURE 11.4 *Stress path apparatus (for K_o tests).*

Drainage at both top and bottom porous plates was allowed. To facilitate this drainage, vertical filter paper drains were placed at intervals around the sample. Each end of a vertical drain terminated at the centre of a porous plate where filter end caps were placed.



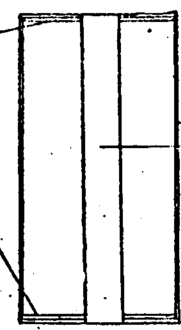


FIGURE 11.5

FIGURE 11.6 *Drainage facilities for the triaxial sample.*

The initial moist masses of the samples were measured. For each sample the moisture content was kept constant throughout the K_o test. Each K_o test consisted of a series of increments of vertical pressure with a corresponding manual change of the lateral cell pressure. Water was added to the moistened samples before the test was started. The amount of water added depended on the final estimated moisture content required. The water was added by syringe at numerous points on the surface of the sample. The sample was then surrounded with moist filter paper and allowed to soak for 24 hours in a cool place before being subjected to the K_o test.

For each increment in deviator stress, readings of the required cell pressure for K_o deformation and vertical deflections were taken. From the laboratory vertical deflection readings, strain depth curves for anticipated field settlement calculations can be drawn.

11.3 Triaxial tests for the determination of strength parameters

After the settlement tests the samples were tested to failure. The mode of failure for the moist collapsing soils was not the development of a failure plane, but rather a sudden excessive strain. No failure plane was seen in a dry natural soil of high void ratio and low strength from the Sishen area.

Figure 11.7 shows a typical stress strain curve for a clean, dry sand. It is difficult to define point A accurately.

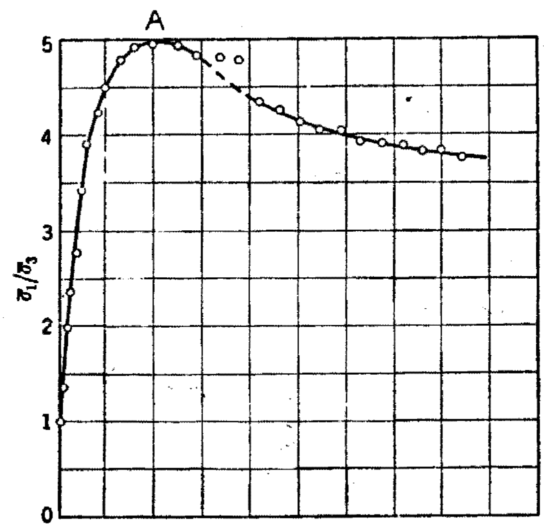


FIGURE 11.7 *The σ_1/σ_2 versus strain ε curve for a triaxial sample.*

Bishop and Henkel and Lambe refer to a certain strain value after which the sample is defined as failing. This was used as a guide during experimental stages, but in reality a small increase in load can take the strain from a value below this defined limit to a value which far exceeds it. Therefore the writer looked at the failure as occurring when a small load increment caused an exceptionally large strain. The failure strain value usually varied around the value given by Lambe and Bishop and Henkel.

TABLE 11.1 *Percentage strain values at failure of drained triaxial samples.*

Sample	Clay Content	Void Ratio	Moist Content during Shear	% Strain At Failure	Drained Shear Strength c	ϕ
Feathers	6%	0,918	13%	10%	13kN/m^2	29^o
Sishen	9%	0,802	2%	10%	26kN/m^2	22^o
Sishen	9%	0,802	10%	8%	17kN/m^2	23^o

From the final stress path point in Figure 11.2 on the K_o line, there are two methods of continuing the tests to determine c and ϕ. The first method is to merely increase the deviator stress until failure (at constant cell pressure) as in Figure 11.8.

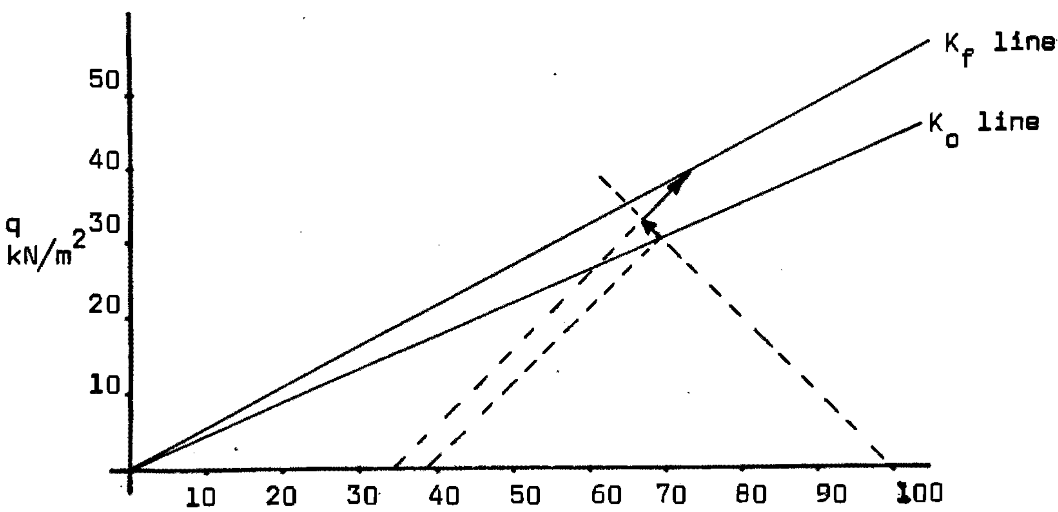


FIGURE 11.8 *The stress path followed during failure testing using method* 1.

The load increments were kept very small. As soon as the strain started becoming appreciable, load increments of deviation stress were confined to 1 kN/m^2.

The second method was to first vary the cell pressure for each sample prior to shearing. This is necessary to obtain a distribution of points on the K_f curves (i.e. one point for each sample tested). The cell pressure was varied slowly and magnitudes were such that they did not cause any large lateral deformation. Thereafter the deviator stress was increased to cause failure.

Bishop and Henkel state that for samples with ratio of length to diameter in the range of 1½ to 2½, the effect of end restraints on strength characteristics is not significant. They further state that if the strength results are related to the initial void ratio of the sample, then for sands, the non-uniformity of the void ratio within a sample at failure does not influence the consistency of the strength results (when plotted with respect to initial void ratio).

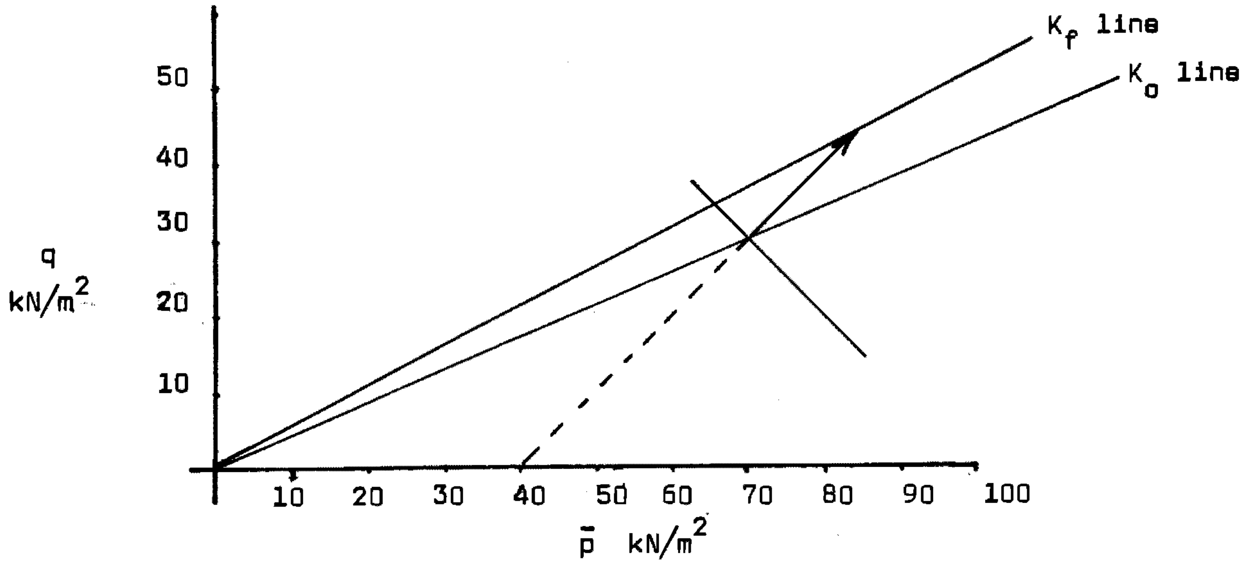


FIGURE 11.9 *One of the stress paths followed using method 2.*

11.4 Tests for E and μ with varying moisture content

The values of E and μ vary with moisture content (see chapters 7 and 10). The values of μ can be found for various water contents by performing K_o tests on soil samples of different water contents (Section 11.2). The value of μ can be found in each case from the K_o value ($\mu = K_o/1+K_o$)

The Young's modules E can be estimated by measuring the vertical and lateral strains of a soil sample subjected to a small lateral pressure and then using the μ values in the calculations to find E. The problem which now arises is can these soil parameters be determined at several moisture contents with economical usage of soil samples. The essential difference in testing procedures is therefore that the moisture content must be varied during the test (see Figure 11.10a and 11.10b). This test was devised at U.C.T.

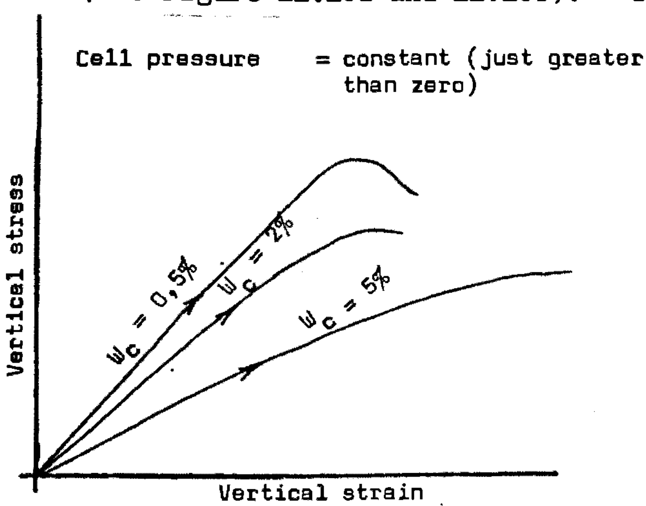


FIGURE 11.10a *Results using many samples.*

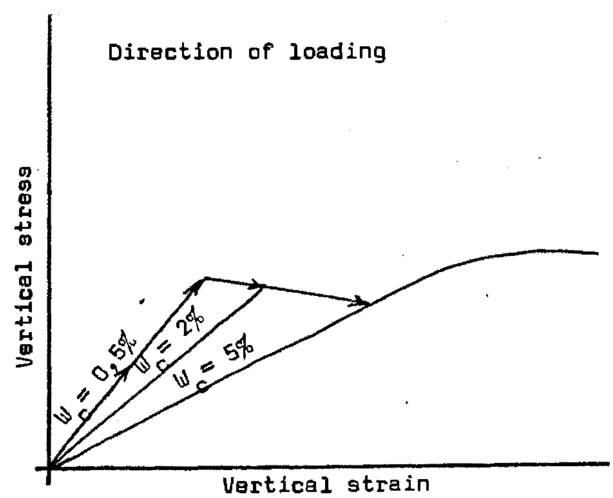


FIGURE 11.10b *Results using a single sample.*

In order to obtain a set of curves as shown in Figure 11.10b, a controlled volume of water must be allowed to enter the sample after each stage in the test. The additional water was allowed in at Point A (Figure 11.12). Point A is the drainage tap for the bottom hole. This tap was connected to a burette.

Initially the dry sample was put into the triaxial cell. A slight cell pressure of 1 kN/m^2 was applied by connecting the water pressure connection of the cell to a tube. The level of the water in this tube was kept constant. A vertical stress was now applied to the sample. The final deflection readings were noted and the vertical strain was then limited by the clamping device (see Figure 11.12). A small, known volume of water was now added to the sample.

The de-aired cold water was allowed through to the sample by opening both the tap of the burette and the triaxial cell tap (i.e. the exit for air). The open end of the burette was plugged with cottonwool to prevent evaporation. There must be no air bubbles in the connection from the burette to the sample. The difference in burette readings was taken as the additional volume of water. The water passed through the bottom drainage hole, through a perspex disc, through the bottom filter paper and to the sample. No porous plates were used so that the water storage outside the soil would be very small.

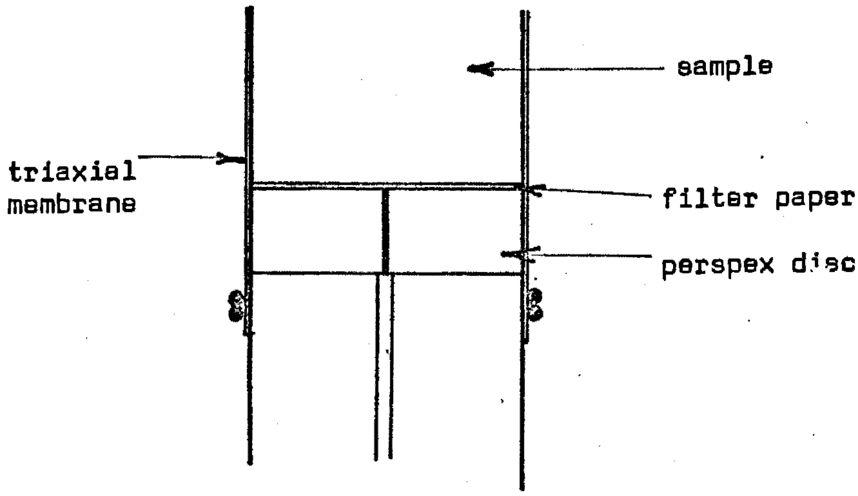


FIGURE 11.11 *Path of water from the bottom drainage hole to the soil sample.*

After a 24-hour period of soaking, the clamping device was released and further settlement was allowed. After the deflection readings had been noted the sample was once more clamped. Water was again added. The process was repeated until the sample was saturated.

Once the sample was saturated it was loaded to failure. The horizontal strain readings were measured on a band of light foil. A telescope was used to obtain the best readings on the foil.

FIGURE 11.12 *Apparatus for tests for* E *and* μ.

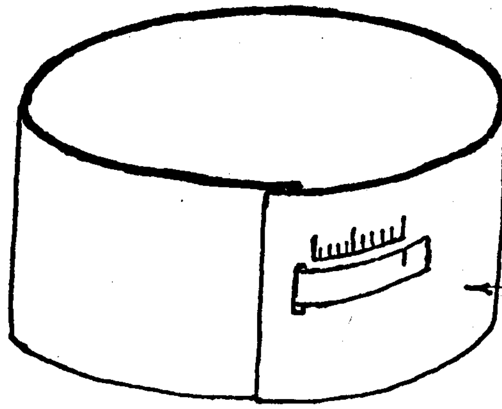


FIGURE 11.13 *Lateral strain gauge.*

Horizontal strain $\varepsilon_h = \frac{1}{E}[\sigma_h - \mu(\sigma_h + \sigma_v)]$

Vertical strain $\varepsilon_v = \frac{1}{E}[\sigma_v - 2\mu\sigma_h]$

therefore $\frac{\varepsilon_h}{\varepsilon_v} = \frac{\sigma_h - \mu(\sigma_h + \sigma_v)}{\sigma_v - 2\mu\sigma_h}$

If σ_h is negligible then:

$$\frac{\varepsilon_h}{\varepsilon_v} = -\mu$$

In the above case E was estimated by using a sample which was not restrained laterally. The horizontal pressure was small. The values of E and μ can also be found from a K_o test in which σ_h, σ_v and the vertical strain ε_v are observed:-

a) Poisson's ratio μ can be found from $\mu = (\frac{K_o}{1+K_o})$, where $K_o = \sigma_h/\sigma_v$

b) Young's modules E can then be estimated as the only unknown in the formula

$$\varepsilon_v = \frac{1}{E}[\sigma_v - 2\mu\sigma_h]$$

Professor Sparks has suggested that the above methods can be modified so that one dry soil sample may be subjected to K_o triaxial conditions and, thereafter, known increments of water volume are added each time to this collapsing soil sample while the vertical collapse settlement is restrained by the clamp in Figure 11.12. When the new water content has been established throughout the sample, the sample is permitted to settle further under K_o conditions which require a reduction in horizontal cell pressure or an increase in vertical pressure. Hence after each known increment of water, the soil consolidates to a new K_o line corresponding to this new water content. (See Figure 11.14b or Figure 11.14a)

The horizontal strain will always be made to remain approximately zero, by varying σ_h and hence μ can be calculated at each water content from each new K_o value ($\mu = K_o/1+K_o$). At each K_o condition the vertical stress can be increased by an amount $\Delta\sigma_v$ under K_o conditions causing changes of $\Delta\varepsilon_v$ and $\Delta\sigma_h$, while the moisture content remains constant. (The sample is not saturated.) (See Figure 11.14a.)

The Poisson's ratio μ and the measured values of $\Delta\sigma_v$ and $\Delta\sigma_h$ at the end of each collapse stage can be used with $\Delta\varepsilon_v$ to estimate the value of E, which applies if the soil is loaded in a moist condition.

(Use $\Delta\varepsilon_v = \frac{1}{E}[\Delta\sigma_v - 2\mu\Delta\sigma_h]$)

Alternatively one need not apply the above incremental K_o step. In this case ε_v is measured from the state of zero load and σ_h and σ_v are measured at the end of each collapse stage. The value of E is now an approximate effective value of E which applies only if the soil is loaded in a moist condition from the known initial void ratio at a zero stress state to the new stress condition.

It will be noticed that because ε_v increases as the water content is increased, it follows that the value of E will decrease in the following formula if the other parameters remain approximately unaltered:-

$$\varepsilon_v = \frac{1}{E}[\sigma_v - 2\mu\sigma_h]$$

It is known that E does decrease with an increase in water content.

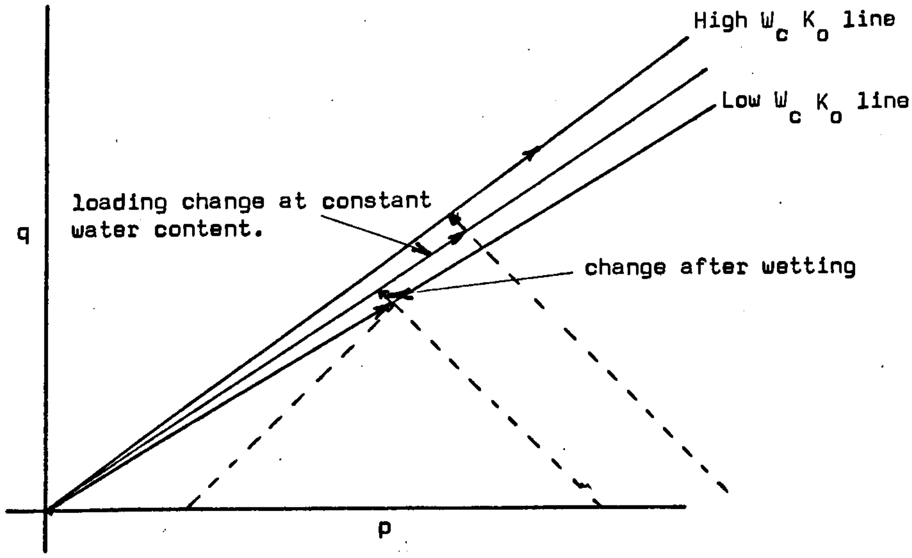


FIGURE 11.14a *A possible incremental method for estimating E and μ at different water contents using a single soil sample.*

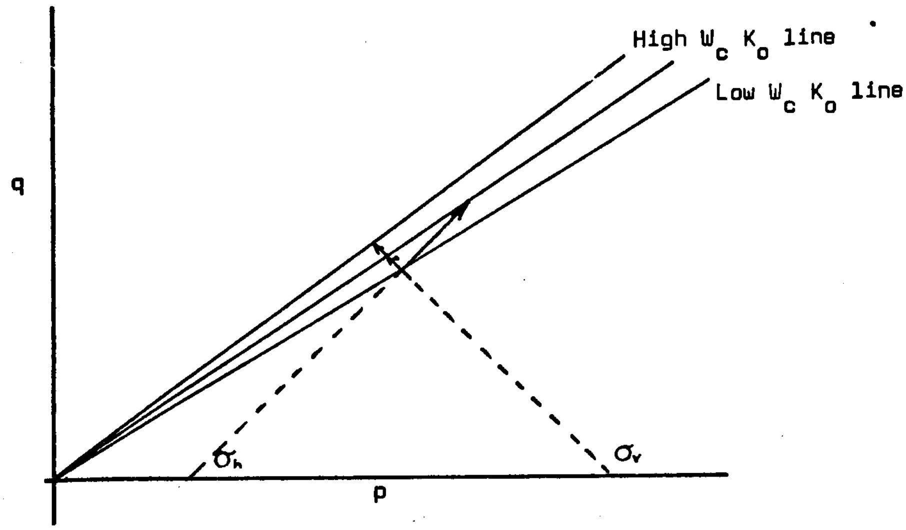


FIGURE 11.14b *A method for finding μ and an effective E at different water contents, from a single sample.*

11.5 Conclusion

The triaxial machine and the variation used by the writer are extremely versatile machines. The various tests used do not incorporate the most sophisticated test procedures in use today, but they do permit the anticipated insitu stress paths of the soil to be accurately followed.

CHAPTER 12

CONCLUSION

12.1 The Stress Path Method of Settlement Prediction

The stress path method of settlement prediction (as presented by Lambe) has been described and investigated. The writer however believes that Lambe's stress path method should rather be considered to be a sub-division of a more general stress path approach. (i.e. It would fall into a block of the flow chart as presented in Chapter 3.) The flow chart (Fig. 3.1) describes a "stress path approach to settlement prediction".

This stress path approach is divided into three sections:

i) the investigation of possible stress paths for different soil elements in the particular design problem

ii) the comparison of predicted actual stress paths (e.g. using Boussinesq elastic theory for both horizontal and vertical stress increments) and approximated stress paths,(i.e. by using K_o for estimating increases in horizontal stresses from estimated vertical stresses. The latter stresses are estimated by using Boussinesq theory.)

iii) the preselection of laboratory procedures and the performing of laboratory tests.

The investigation of possible stress paths includes the definition of the actual (Boussinesq) and the approximated (K_o theory) field stress paths. These two types of calculated stress paths can now be compared with available laboratory stress paths in order to decide which laboratory technique should be used for the settlement prediction. This comparison will also indicate the best method of analysis which should be used for the settlement prediction. The best method might not necessarily be the triaxial stress path method, and in fact the normal consolidometer test might be adequate.

Local authorities could on a grid basis produce proposed design stress paths for soils in their areas. On these charts case histories of all design failures could be mentioned. This would immediately define behaviour patterns of local soils to the design engineer and might also prevent costly repetition of similar types of failures.

12.2 Comparison of two methods for depicting stress path methods

There are two methods for defining stress paths. Lambe uses the p-q diagram which has already been discussed, while Simons (Ref. 52) draws stress paths on a chart which has the vertical and horizontal axis as the vertical and horizontal stresses respectively. (See Fig. 12.1).

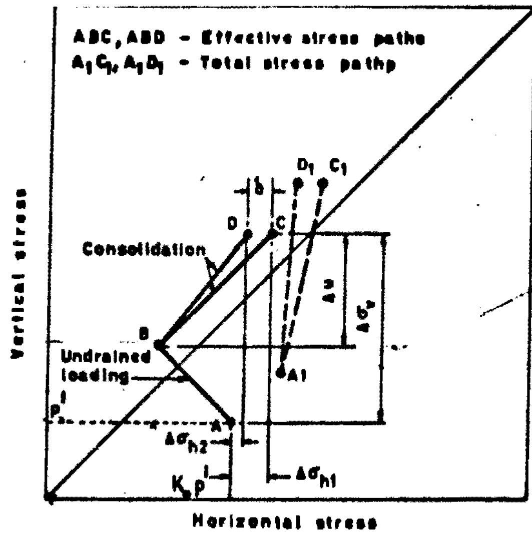


FIGURE 12.1 Stress paths (Simons) of a soil element

12.3 Skempton-Bjerrum equation for settlement prediction

Lambe (Ref. 7) and Davis Poulos (Ref. 6) quote equation 12.1 for the Skempton-Bjerrum method of settlement prediction while Simons (Ref. 52) relies on equation 12.2 for the same method.

$$\rho_c = \int_0^z m_v \Delta u_z \, dz \qquad 12.1$$

$$\rho_c = \mu \int_0^z m_v \Delta \sigma_z \, dz \qquad 12.2$$

where

Δu_z = $\Delta\sigma_3 + A(\Delta\sigma_1 - \Delta\sigma_3)$

$\Delta\sigma_z$ = increase in total vertical stress

m_v = volume compressibility determined in the standard oedomemet test.

The formula quoted by Simons (Ref. 52) is similar to the settlement formula as used by Terzaghi. The only difference is the constant μ. This constant depends upon A (pore pressure parameter) and the footing shape. The Terzaghi settlement value ($s = \Sigma(m_v \sigma_z D_z)$) is multiplied by this factor, μ, to predict the Skempton-Bjerrum settlement. Published test results (Ref. 6, Ref. 7, Ref. 52), using equation 12.1 compare more favourably with Lambe's or Simon's stress path methods than with the results from equation 12.2. This implies that equation 12.1, when used with the correct stress path, is the more accurate formula. (See Also Chapter 8.)

12.4 The triaxial tests

The triaxial tests as performed for this thesis allow the maximum number of results to be obtained with the minimum sample usage. These K_o triaxial stress path tests allow the settlement prediction to be calculated. From the same section of the tests the K_o value is calculated. Once the K_o value is known, μ (Poisson's ratio) can be calculated. After the stress path test is completed the sample is loaded until failure occurs.

Therefore from a set of six or seven samples in which one varies the initial water content, one can determine:

- the settlement values for different moisture contents
- the K_o value for different moisture contents
- the value of μ for different moisture contents
- values of c and ϕ for drained samples at different moisture contents. (In this latter case at least two samples are needed for each moisture content.)

The importance of planning test procedures to obtain economical sample usage is emphasized. The laboratory technician should not blindly follow standard procedures. He should rather examine what information is required for the soil to be tested before deciding on any particular testing procedure.

12.5 Comparison of results

For this thesis two important comparisons of results were made. The first was the relationship between footing size and settlement. The results were conclusive in that for the

1,0 m x 1,0 m, 2,0 m x 2,0 m and the 3,0 m x 3,0 m footings a definite relationship was established. For the collapsing granitic soil at low water content, the following settlement results were obtained:

Footing Sizes (All with D_f = 1 m)		Predicted Settlements (From K_o tests and stress path)
1,0 m x 1,0 m	-	9 mm
2,0 m x 2,0 m	-	18 mm
3,0 m x 3,0 m	-	26 mm

The second important comparison which was made was between the settlement values estimated from the different laboratory procedures. The settlement values from the consolidometer results were consistently greater than those based on the triaxial stress path method. For the samples tested at field moisture content (i.e. soil from Sishen and Constantia Nek), the calculated settlements based on consolidometer results were approximately thirty per cent greater than the settlements calculated from the triaxial stress path results. For the soaked samples, however, the calculated settlements from the consolidometer readings were about four per cent larger than the values obtained from the triaxial stress path.

The writer concludes that the large discrepancy in the dry sample results is perhaps a direct result of the sample shape. The supervisor of this thesis considers that an additional reason may be due to the fact that in the triaxial K_o stress path test, the experimenter is forced to respond by increasing the confining pressure σ_3 after a noticeable lateral strain has occurred. This procedure can result in overcompensation (i.e. σ_3 value may be too high). If the σ_3 value is too high, this can restrict the vertical settlement. In the case of the wetter samples, this effect is not as noticeable.

In table 12.1 the settlements calculated from the consolidometer results and the triaxial stress path results are tabulated. The discrepancy (in millimeters between predicted settlement for the same footing size for the soaked and moist case) appears to remain constant for all the tests. If this difference is expressed as a percentage of the settlements predicted by the triaxial stress path tests, then for the larger settlements, the factor

$$\frac{(\text{Predicted } \Delta(\text{consol.}) - \text{Predicted } \Delta(\text{triaxial})}{\text{Predicted } \Delta(\text{triaxial})} \times 100$$

approaches zero. Therefore for the larger predicted settlement values (i.e. for the soaked samples) the consolidometer and the triaxial stress path methods should give similar predicted settlement values.

The correlation (Table 12.3) between the observed settlements of model footing tests and the predicted settlements from the triaxial stress path method was less favourable. Figure 12.2 shows a typical q versus settlement curve for a 100 mm x 100 mm model footing on a collapsible residual granitic soil. Table 12.2 shows the observed settlements of the model footing tests done on the collapsing sand sample from Sishen. From these observed results it can be seen that the relationships between the observed settlements and the footing width (for q the same) of the different sized model footings was not even approximately linear. However, the predicted settlements of the larger footings using the stress path method of settlement prediction varied linearly with footing width (see first column, Table 12.3). The writer suggests that the 100 mm x 100 mm model footing should be the smallest sized model footing considered for an approximate predicted settlement for larger sized footings. The usual practice of using a 305 mm x 305 mm plate loading test is within this required size limit. Table 12.3 lists the predicted settlement values for the 1 m x 1 m, 2 m x 2 m and 3 m x 3 m footings using the three different methods of settlement prediction considered. The predicted settlements in the last column of Table 12.3 have been overestimated because a linear law was assumed between settlement and footing width for the figures in this column. Bearing pressure failures for the model footings occurred at values ranging from 40 kN/m^2 (for 50 mm x 50 mm footing on a collapsible granite at about 4% water content) to 113 kN/m^2 (for 50 mm x 50 mm footing on a collapsing sand at about 3% water content). These results are shown in Appendix B and Table 12.2.

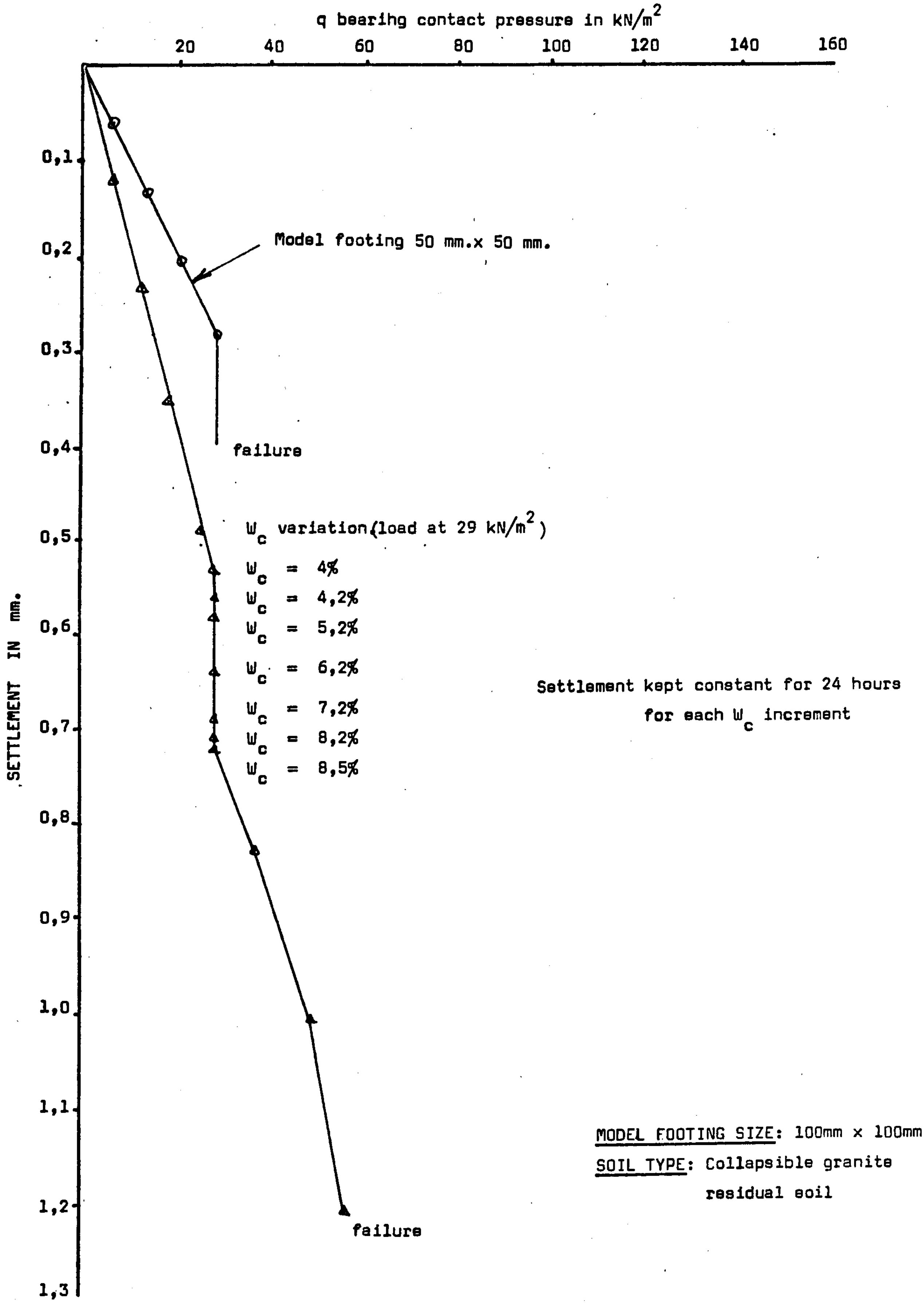


FIGURE 12.2 - q Versus settlement curve for model footings

TABLE 12.1 Predicted settlement values

<table>
<tr><td rowspan="2">Test used for Settlement Prediction</td><td colspan="3">SOIL TYPE : Collapsing residual granite (Constantia Nek)</td></tr>
<tr><td colspan="2">Field w_c = 3%</td><td>Soaked w_c = 12%</td></tr>
<tr><td rowspan="4">TRIAXIAL CELL
K_o and full drainage</td><td>Footing Size</td><td colspan="2"><u>Predicted Settlements</u>
for bearing pressure 100 kN/m^2
(includes self wt. of footing)</td></tr>
<tr><td>1 m x 1 m plan founded at 1 m</td><td>9 x B = 9 mm</td><td>70 x B = 70 mm</td></tr>
<tr><td>2 m x 2 m plan founded at 1 m</td><td>9,1 x B = 18 mm</td><td>65 x B = 130 mm</td></tr>
<tr><td>3 m x 3 m plan founded at 1 m</td><td>8,7 x B = 26 mm</td><td>60 x B = 180 mm</td></tr>
<tr><td rowspan="3">CONSOLIDOMETER with full drainage</td><td>1 m x 1 m plan founded at 1 m</td><td>14 x B = 14 mm</td><td>74 x B = 74 mm</td></tr>
<tr><td>2 m x 2 m plan founded at 1 m</td><td>13 x B = 26 mm</td><td>68 x B = 136 mm</td></tr>
<tr><td>3 m x 3 m plan founded at 1 m</td><td>12 x B = 36 mm</td><td>63 x B = 189 mm</td></tr>
</table>

<table>
<tr><td rowspan="3">$\dfrac{\text{Predicted } \Delta(\text{Consol}) - \text{Predicted } \Delta(\text{Triax})}{\text{Predicted } \Delta(\text{triaxial})}$
(i.e. for same size footing and same water content)</td><td>1m x 1m</td><td>55%</td><td>6%</td></tr>
<tr><td>2m x 2m</td><td>44%</td><td>5%</td></tr>
<tr><td>3m x 3m</td><td>38%</td><td>5%</td></tr>
</table>

TABLE 12.2 Model footing results, Collapsing sand (Sishen)

Model Footing Size	Settlement at bearing pressure at 25 kN/m^2	Settlement at bearing pressure of 100 kN/m^2	Maximum bearing pressure at failure	Linearly adjusted values of model footing settlements for 1,0m x 1,0 m footing (for 25 kN/m^2
50m x 50m	0,12 mm ($w_c \simeq 2\%$)	0,27 mm ($w_c \simeq 2\%$)	113 kN/m^2	10 mm
100m x 100m	0,15 mm ($w_c \simeq 2\%$)		56 kN/m^2 ($w_c \doteqdot 12\%$)	6 mm

TABLE 12.3 Settlement predictions for q = 100 kN/m^2, Collapsible Granite. (All at approximately 3% water content)

Model Footing Size	Predicted Settlement triaxial stress path	Predicted Settlement consolidometer	Predicted settlements using linearly adjusted observed model footing settlements from 100 mm x 100 mm footing
1 m x 1 m	9 mm	14 mm	18 mm
2 m x 2 m	18 mm	26 mm	36 mm
3 m x 3 m	26 mm	36 mm	54 mm

12.6 Conclusion

This thesis covered most of the approaches to settlement prediction currently in use. Emphasis was given to the limitations of various methods of settlement prediction. It is important to preplan the laboratory procedures to take into account soil type, probable loading and pressures in nature, possible future variations in moisture content which might occur on the site, and the number and size of suitable samples and the availability of suitable testing apparatus.

APPENDIX A

```
@RUN   SPROUX,A0505-4011/ROUX,ROUX,4,250

@HDG   ERRERA     HORIZONTAL STRESSES IN SOILS USING ELASTIC FORMALAE

@FOR,IS
FOR      5,106 09/13-14:23-
                DIMENSION Y(30),R(30),Z(12),COEFA(900),COEFB(900),COEFV(900),
               ,COEFW(900),ANSA(900),ANSB(900),ANSV(900),ANSW(900),BSTR(900),
               ,CSTR(900),DSTR(900),ESTR(900),FSTR(900),GSTR(900),RA(30)
                WRITE (5,100)
            100 FORMAT (1H1,4X,'Y(I)',6X,'RA(J)',6X,'Z(K)',6X,'BSTR(N)',1X,
               ,'CSTR(N)',1X,'DSTR(N)',1X,'ESTR(N)',1X,'FSTR(N)',1X,'GSTR(N)')
                K=1
                Z(K)=0.1
             10 J=1
                L=1
                RA(J)=0.05
              9 I=1
                Y(I)=0.05
                M=1
                COEFA(M)=0
                COEFB(M)=0
                COEFV(M)=0
                COEFW(M)=0
                N=1
              2 R(I)=(RA(J)**2+Y(I)**2)**0.5
                ANSA(L)=(Y(I)**2/(R(I)**2+Y(I)**2))*(3*(R(I)**2)*Z(K)+3*(Y(I)**2)
               ,*Z(K))/((R(I)**2+Z(K)**2+Y(I)**2)**2.5)
                ANSB(L)=(Y(I)**2/(R(I)**2+Y(I)**2))/(R(I)**2+Z(K)**2+Y(I)**2+
               ,Z(K)*((R(I)**2+Z(K)**2+Y(I)**2)**0.5))+(R(I)**2/(R(I)**2+Y(I)**2
               ,))*(Z(K)/((R(I)**2+Z(K)**2+Y(I)**2)**1.5)-1/(R(I)**2+Z(K)**2
               ,+Y(I)**2+Z(K)*((R(I)**2+Z(K)**2+Y(I)**2)**0.5)))
                ANSV(L)=(R(I)**2/(R(I)**2+Y(I)**2))*(3*(R(I)**2)*Z(K)+3*(Y(I)**2)
               ,*Z(K))/((R(I)**2+Z(K)**2+Y(I)**2)**2.5)
                ANSW(L)=(R(I)**2/(R(I)**2+Y(I)**2))/(R(I)**2+Z(K)**2+Y(I)**2+
               ,Z(K)*((R(I)**2+Z(K)**2+Y(I)**2)**0.5))+(Y(I)**2/(R(I)**2+Y(I)**2
               ,))*(Z(K)/((R(I)**2+Z(K)**2+Y(I)**2)**1.5)-1/(R(I)**2+Z(K)**2
               ,+Y(I)**2+Z(K)*((R(I)**2+Z(K)**2+Y(I)**2)**0.5)))
                COEFA(M+1)=COEFA(M)+ANSA(L)
                COEFB(M+1)=COEFB(M)+ANSB(L)
                COEFV(M+1)=COEFV(M)+ANSV(L)
                COEFW(M+1)=COEFW(M)+ANSW(L)
                L=L+1
                M=M+1
                BSTR(N)=COEFA(M)-0.34*COEFB(M)
                CSTR(N)=COEFA(M)-0.4*COEFB(M)
                DSTR(N)=COEFA(M)-0.5*COEFB(M)
                ESTR(N)=COEFV(M)-0.34*COEFW(M)
                FSTR(N)=COEFV(M)-0.4*COEFW(M)
                GSTR(N)=COEFV(M)-0.5*COEFW(M)
                PRINT 200,( Y(I),RA(J),Z(K),BSTR(N),CSTR(N),DSTR(N),ESTR(N),
               ,FSTR(N),GSTR(N))
            200 FORMAT (9(F10.3))
                N=N+1
                IF (I-30) 4,3,3
              4 Y(I+1)=Y(I)+0.1
                I=I+1
                GO TO 2
              3 IF (J-30) 5,6,6
              5 RA(J+1)=RA(J)+0.1
```

```
         GO TO 9
0155:  6 IF (K-6) 80,81,82
0156: 80 Z(K+1)=Z(K)+0.1
0157:    K=K+1
0160:    GO TO 10
0161: 81 Z(K+1)=Z(K)+0.4
0162:    K=K+1
0163:    GO TO 10
0164: 82 Z(K+1)=Z(K)+1.0
0165:    K=K+1
0166:    IF (K-12) 10,10,7
0167:  7 STOP
0170:    END
```

Y(I)	RA(J)	Z(K)	BSTR(N)	CSTR(N)	DSTR(N)	ESTR(N)	FSTR(N)	GSTR(N)
.050	.050	.100	12.410	11.233	9.538	28.491	26.927	24.402
.150	.050	.100	19.045	18.578	16.466	36.514	34.754	31.821
.250	.050	.100	22.218	20.098	18.597	38.930	37.106	34.066
.350	.050	.100	23.190	21.848	19.612	39.905	38.056	34.975
.450	.050	.100	23.670	22.318	20.065	40.384	38.523	35.422
.550	.050	.100	23.940	22.582	20.319	40.652	38.785	35.673
.650	.050	.100	24.106	22.744	20.475	40.817	38.946	35.828
.750	.050	.100	24.215	22.851	20.577	40.925	39.052	35.929
.850	.050	.100	24.290	22.924	20.648	41.000	39.125	35.999
.950	.050	.100	24.344	22.977	20.698	41.054	39.177	36.049
1.050	.050	.100	24.384	23.017	20.737	41.094	39.216	36.087
1.150	.050	.100	24.415	23.046	20.766	41.124	39.246	36.116
1.250	.050	.100	24.439	23.070	20.788	41.148	39.269	36.138
1.350	.050	.100	24.458	23.088	20.806	41.167	39.288	36.156
1.450	.050	.100	24.473	23.103	20.821	41.182	39.303	36.170
1.550	.050	.100	24.486	23.116	20.833	41.195	39.315	36.182
1.650	.050	.100	24.496	23.126	20.842	41.205	39.325	36.191
1.750	.050	.100	24.505	23.135	20.851	41.214	39.334	36.200
1.850	.050	.100	24.512	23.142	20.858	41.221	39.341	36.207
1.950	.050	.100	24.519	23.148	20.864	41.228	39.347	36.212
2.050	.050	.100	24.524	23.153	20.869	41.233	39.352	36.218
2.150	.050	.100	24.529	23.158	20.873	41.238	39.357	36.222
2.250	.050	.100	24.533	23.162	20.877	41.242	39.361	36.226
2.350	.050	.100	24.537	23.165	20.880	41.246	39.364	36.229
2.450	.050	.100	24.540	23.169	20.883	41.249	39.368	36.232
2.550	.050	.100	24.543	23.171	20.886	41.252	39.370	36.235
2.650	.050	.100	24.545	23.174	20.888	41.254	39.373	36.237
2.750	.050	.100	24.547	23.176	20.891	41.256	39.375	36.239
2.850	.050	.100	24.549	23.178	20.892	41.258	39.377	36.241
2.950	.050	.100	24.551	23.180	20.894	41.260	39.379	36.243
.050	.150	.100	3.390	3.502	3.689	22.224	21.285	19.721
.150	.150	.100	7.452	7.569	7.763	28.696	27.475	25.440
.250	.150	.100	9.306	9.414	9.593	30.793	29.485	27.305
.350	.150	.100	10.173	10.273	10.441	31.672	30.330	28.093
.450	.150	.100	10.626	10.722	10.882	32.114	30.756	28.492
.550	.150	.100	10.888	10.981	11.136	32.365	30.999	28.720
.650	.150	.100	11.052	11.143	11.294	32.521	31.149	28.862
.750	.150	.100	11.160	11.250	11.398	32.624	31.249	28.957
.850	.150	.100	11.236	11.324	11.471	32.696	31.318	29.022
.950	.150	.100	11.290	11.377	11.523	32.748	31.369	29.070
1.050	.150	.100	11.330	11.417	11.562	32.786	31.406	29.106
1.150	.150	.100	11.361	11.447	11.591	32.816	31.435	29.133
1.250	.150	.100	11.385	11.471	11.614	32.839	31.457	29.154
1.350	.150	.100	11.405	11.490	11.633	32.857	31.475	29.171
1.450	.150	.100	11.420	11.505	11.647	32.872	31.490	29.185
1.550	.150	.100	11.433	11.518	11.659	32.885	31.502	29.196
1.650	.150	.100	11.443	11.528	11.669	32.895	31.511	29.206
1.750	.150	.100	11.452	11.537	11.678	32.903	31.520	29.214
1.850	.150	.100	11.460	11.544	11.685	32.911	31.527	29.220
1.950	.150	.100	11.466	11.550	11.691	32.917	31.533	29.226
2.050	.150	.100	11.472	11.556	11.696	32.922	31.538	29.231
2.150	.150	.100	11.476	11.561	11.701	32.927	31.542	29.235
2.250	.150	.100	11.481	11.565	11.705	32.931	31.546	29.239
2.350	.150	.100	11.484	11.568	11.708	32.934	31.550	29.243
2.450	.150	.100	11.487	11.571	11.711	32.937	31.553	29.245
2.550	.150	.100	11.490	11.574	11.714	32.940	31.556	29.248
2.650	.150	.100	11.493	11.577	11.716	32.943	31.558	29.250
2.750	.150	.100	11.495	11.579	11.719	32.945	31.560	29.252
2.850	.150	.100	11.497	11.581	11.721	32.947	31.562	29.254

2.950	.150	.100	11.199	11.533	11.722	32.949	31.564	29.256
.050	.250	.100	1.920	2.179	2.612	8.615	8.078	7.181
.150	.250	.100	3.981	4.352	4.972	12.524	11.726	10.394
.250	.250	.100	5.273	5.681	6.363	14.090	13.186	11.679
.350	.250	.100	5.990	6.411	7.113	14.807	13.856	12.273
.450	.250	.100	6.400	6.826	7.535	15.183	14.211	12.590
.550	.250	.100	6.649	7.076	7.788	15.404	14.419	12.777
.650	.250	.100	6.809	7.236	7.949	15.543	14.551	12.897
.750	.250	.100	6.916	7.344	8.056	15.637	14.640	12.978
.850	.250	.100	6.992	7.419	8.132	15.702	14.702	13.036
.950	.250	.100	7.047	7.474	8.186	15.750	14.748	13.078
1.050	.250	.100	7.088	7.515	8.226	15.786	14.783	13.110
1.150	.250	.100	7.119	7.546	8.257	15.814	14.809	13.135
1.250	.250	.100	7.144	7.570	8.281	15.836	14.830	13.154
1.350	.250	.100	7.163	7.590	8.300	15.853	14.847	13.170
1.450	.250	.100	7.179	7.605	8.316	15.867	14.860	13.183
1.550	.250	.100	7.192	7.618	8.328	15.879	14.872	13.193
1.650	.250	.100	7.203	7.629	8.339	15.889	14.881	13.202
1.750	.250	.100	7.212	7.638	8.348	15.897	14.889	13.209
1.850	.250	.100	7.220	7.645	8.355	15.904	14.896	13.216
1.950	.250	.100	7.226	7.652	8.361	15.910	14.901	13.221
2.050	.250	.100	7.232	7.657	8.367	15.915	14.906	13.226
2.150	.250	.100	7.237	7.662	8.372	15.919	14.911	13.230
2.250	.250	.100	7.241	7.666	8.376	15.923	14.915	13.233
2.350	.250	.100	7.245	7.670	8.379	15.927	14.918	13.237
2.450	.250	.100	7.248	7.673	8.382	15.930	14.921	13.239
2.550	.250	.100	7.251	7.676	8.385	15.932	14.923	13.242
2.650	.250	.100	7.253	7.679	8.388	15.935	14.926	13.244
2.750	.250	.100	7.256	7.681	8.390	15.937	14.928	13.246
2.850	.250	.100	7.258	7.683	8.392	15.939	14.930	13.248
2.950	.250	.100	7.260	7.685	8.394	15.941	14.931	13.249
.050	.350	.100	1.324	1.539	1.897	3.465	3.132	2.578
.150	.350	.100	2.971	2.917	3.492	5.549	5.006	4.100
.250	.350	.100	3.480	3.887	4.566	6.587	5.936	4.850
.350	.350	.100	4.060	4.496	5.222	7.119	6.414	5.238
.450	.350	.100	4.423	4.872	5.620	7.417	6.683	5.460
.550	.350	.100	4.656	5.111	5.871	7.598	6.848	5.598
.650	.350	.100	4.810	5.269	6.035	7.716	6.956	5.689
.750	.350	.100	4.916	5.378	6.146	7.796	7.030	5.753
.850	.350	.100	4.992	5.454	6.225	7.854	7.084	5.800
.950	.350	.100	5.048	5.511	6.282	7.896	7.123	5.835
1.050	.350	.100	5.089	5.553	6.325	7.929	7.154	5.862
1.150	.350	.100	5.122	5.585	6.358	7.954	7.177	5.883
1.250	.350	.100	5.147	5.610	6.383	7.974	7.196	5.900
1.350	.350	.100	5.167	5.631	6.404	7.990	7.211	5.913
1.450	.350	.100	5.183	5.647	6.420	8.003	7.223	5.924
1.550	.350	.100	5.196	5.660	6.433	8.014	7.234	5.934
1.650	.350	.100	5.208	5.671	6.444	8.023	7.242	5.942
1.750	.350	.100	5.217	5.681	6.454	8.030	7.250	5.948
1.850	.350	.100	5.225	5.688	6.461	8.037	7.256	5.954
1.950	.350	.100	5.231	5.695	6.468	8.043	7.261	5.959
2.050	.350	.100	5.237	5.701	6.474	8.047	7.266	5.963
2.150	.350	.100	5.242	5.706	6.479	8.052	7.270	5.967
2.250	.350	.100	5.247	5.710	6.483	8.055	7.274	5.970
2.350	.350	.100	5.250	5.714	6.487	8.059	7.277	5.973
2.450	.350	.100	5.254	5.717	6.490	8.062	7.279	5.976
2.550	.350	.100	5.257	5.720	6.493	8.064	7.282	5.978
2.650	.350	.100	5.259	5.723	6.496	8.066	7.284	5.980
2.750	.350	.100	5.262	5.725	6.498	8.069	7.286	5.982
2.850	.350	.100	5.264	5.728	6.500	8.070	7.288	5.984

2.950	.350	.100	5.266	5.729	6.502	8.072	7.290	5.985
.050	.450	.100	.959	1.122	1.399	1.527	1.305	.934
.150	.450	.100	1.826	2.106	2.574	2.607	2.222	1.578
.250	.450	.100	2.500	2.850	3.433	3.244	2.759	1.950
.350	.450	.100	2.973	3.360	4.006	3.610	3.067	2.163
.450	.450	.100	3.292	3.700	4.379	3.829	3.254	2.295
.550	.450	.100	3.507	3.926	4.625	3.969	3.374	2.382
.650	.450	.100	3.655	4.081	4.791	4.063	3.455	2.443
.750	.450	.100	3.760	4.190	4.907	4.128	3.513	2.488
.850	.450	.100	3.836	4.268	4.989	4.177	3.556	2.522
.950	.450	.100	3.892	4.326	5.050	4.213	3.588	2.548
1.050	.450	.100	3.934	4.370	5.095	4.240	3.614	2.569
1.150	.450	.100	3.967	4.403	5.130	4.262	3.634	2.585
1.250	.450	.100	3.993	4.430	5.158	4.280	3.650	2.599
1.350	.450	.100	4.014	4.451	5.179	4.294	3.663	2.610
1.450	.450	.100	4.031	4.468	5.197	4.306	3.673	2.619
1.550	.450	.100	4.045	4.482	5.211	4.316	3.683	2.627
1.650	.450	.100	4.056	4.494	5.223	4.324	3.690	2.634
1.750	.450	.100	4.066	4.504	5.233	4.331	3.697	2.640
1.850	.450	.100	4.074	4.512	5.241	4.337	3.702	2.645
1.950	.450	.100	4.081	4.519	5.249	4.342	3.707	2.649
2.050	.450	.100	4.087	4.525	5.255	4.347	3.711	2.653
2.150	.450	.100	4.092	4.530	5.260	4.351	3.715	2.656
2.250	.450	.100	4.097	4.535	5.264	4.354	3.718	2.659
2.350	.450	.100	4.101	4.539	5.268	4.357	3.721	2.662
2.450	.450	.100	4.104	4.542	5.272	4.360	3.724	2.664
2.550	.450	.100	4.107	4.545	5.275	4.362	3.726	2.666
2.650	.450	.100	4.110	4.548	5.278	4.364	3.728	2.668
2.750	.450	.100	4.112	4.550	5.280	4.366	3.730	2.670
2.850	.450	.100	4.115	4.553	5.283	4.368	3.732	2.671
2.950	.450	.100	4.117	4.555	5.284	4.370	3.733	2.673
.050	.550	.100	.719	.874	1.052	.715	.556	.293
.150	.550	.100	1.366	1.592	1.964	1.271	.986	.511
.250	.550	.100	1.894	2.134	2.667	1.641	1.269	.648
.350	.550	.100	2.286	2.617	3.169	1.875	1.447	.733
.450	.550	.100	2.566	2.923	3.517	2.025	1.562	.791
.550	.550	.100	2.765	3.136	3.756	2.126	1.641	.832
.650	.550	.100	2.907	3.287	3.922	2.196	1.696	.864
.750	.550	.100	3.009	3.396	4.041	2.246	1.737	.890
.850	.550	.100	3.084	3.475	4.127	2.284	1.769	.910
.950	.550	.100	3.141	3.535	4.191	2.313	1.793	.927
1.050	.550	.100	3.185	3.590	4.239	2.336	1.813	.941
1.150	.550	.100	3.219	3.615	4.277	2.354	1.829	.952
1.250	.550	.100	3.245	3.643	4.306	2.369	1.841	.962
1.350	.550	.100	3.267	3.665	4.329	2.381	1.852	.970
1.450	.550	.100	3.284	3.683	4.348	2.392	1.861	.977
1.550	.550	.100	3.299	3.698	4.364	2.400	1.869	.984
1.650	.550	.100	3.311	3.710	4.376	2.407	1.875	.989
1.750	.550	.100	3.321	3.721	4.387	2.414	1.881	.993
1.850	.550	.100	3.329	3.729	4.396	2.419	1.886	.997
1.950	.550	.100	3.336	3.737	4.404	2.424	1.890	1.001
2.050	.550	.100	3.343	3.743	4.410	2.428	1.894	1.004
2.150	.550	.100	3.348	3.749	4.416	2.431	1.897	1.007
2.250	.550	.100	3.353	3.753	4.421	2.434	1.900	1.010
2.350	.550	.100	3.357	3.757	4.425	2.437	1.903	1.012
2.450	.550	.100	3.361	3.761	4.429	2.440	1.905	1.014
2.550	.550	.100	3.364	3.764	4.432	2.442	1.907	1.016
2.650	.550	.100	3.367	3.767	4.435	2.444	1.909	1.017
2.750	.550	.100	3.369	3.770	4.438	2.446	1.911	1.019
2.950	.550	.100	3.371	3.772	4.440	2.448	1.912	1.020

2.950	.550	.100	3.374	3.774	4.442	2.499	1.914	1.021
.050	.650	.100	.556	.653	.815	.339	.221	.025
.150	.650	.100	1.063	1.242	1.541	.619	.401	.038
.250	.650	.100	1.487	1.726	2.125	.822	.529	.041
.350	.650	.100	1.817	2.098	2.556	.960	.616	.041
.450	.650	.100	2.065	2.373	2.886	1.055	.675	.042
.550	.650	.100	2.248	2.574	3.115	1.121	.718	.046
.650	.650	.100	2.383	2.720	3.281	1.169	.750	.052
.750	.650	.100	2.482	2.827	3.402	1.205	.775	.059
.850	.650	.100	2.557	2.938	3.491	1.233	.796	.067
.950	.650	.100	2.615	2.968	3.553	1.255	.812	.074
1.050	.650	.100	2.659	3.015	3.609	1.273	.826	.081
1.150	.650	.100	2.693	3.052	3.649	1.287	.837	.087
1.250	.650	.100	2.721	3.081	3.680	1.299	.847	.093
1.350	.650	.100	2.743	3.104	3.705	1.309	.855	.098
1.450	.650	.100	2.761	3.123	3.726	1.317	.862	.103
1.550	.650	.100	2.776	3.139	3.742	1.324	.868	.107
1.650	.650	.100	2.799	3.152	3.756	1.331	.873	.111
1.750	.650	.100	2.799	3.163	3.768	1.336	.878	.114
1.850	.650	.100	2.808	3.172	3.777	1.340	.882	.117
1.950	.650	.100	2.816	3.180	3.786	1.345	.885	.120
2.050	.650	.100	2.822	3.185	3.793	1.348	.889	.123
2.150	.650	.100	2.828	3.192	3.799	1.351	.891	.125
2.250	.650	.100	2.833	3.197	3.804	1.354	.894	.127
2.350	.650	.100	2.837	3.202	3.809	1.357	.896	.129
2.450	.650	.100	2.841	3.205	3.813	1.359	.898	.130
2.550	.650	.100	2.845	3.209	3.816	1.361	.900	.132
2.650	.650	.100	2.848	3.212	3.819	1.363	.902	.133
2.750	.650	.100	2.850	3.215	3.822	1.364	.903	.134
2.850	.650	.100	2.853	3.217	3.825	1.366	.905	.136
2.950	.650	.100	2.855	3.219	3.827	1.367	.906	.137
.050	.750	.100	.442	.519	.648	.153	.062	-.090
.150	.750	.100	.849	.979	1.236	.284	.112	-.173
.250	.750	.100	1.196	1.377	1.728	.384	.148	-.243
.350	.750	.100	1.481	1.719	2.115	.456	.173	-.297
.450	.750	.100	1.701	1.966	2.409	.508	.192	-.335
.550	.750	.100	1.869	2.153	2.627	.546	.206	-.360
.650	.750	.100	1.996	2.279	2.790	.575	.219	-.376
.750	.750	.100	2.093	2.400	2.911	.598	.229	-.384
.850	.750	.100	2.167	2.480	3.002	.616	.239	-.389
.950	.750	.100	2.224	2.542	3.071	.631	.248	-.391
1.050	.750	.100	2.269	2.590	3.125	.644	.256	-.391
1.150	.750	.100	2.304	2.628	3.167	.654	.263	-.389
1.250	.750	.100	2.333	2.658	3.201	.663	.269	-.388
1.350	.750	.100	2.356	2.683	3.228	.670	.274	-.386
1.450	.750	.100	2.375	2.703	3.249	.677	.279	-.384
1.550	.750	.100	2.390	2.719	3.267	.683	.284	-.382
1.650	.750	.100	2.403	2.733	3.282	.688	.287	-.380
1.750	.750	.100	2.414	2.744	3.294	.692	.291	-.378
1.850	.750	.100	2.424	2.754	3.305	.696	.294	-.376
1.950	.750	.100	2.432	2.762	3.314	.699	.297	-.374
2.050	.750	.100	2.439	2.769	3.321	.702	.299	-.372
2.150	.750	.100	2.444	2.776	3.328	.705	.302	-.371
2.250	.750	.100	2.449	2.781	3.334	.707	.304	-.369
2.350	.750	.100	2.454	2.786	3.339	.710	.306	-.368
2.450	.750	.100	2.458	2.790	3.343	.712	.307	-.367
2.550	.750	.100	2.462	2.793	3.347	.713	.309	-.365
2.650	.750	.100	2.465	2.797	3.350	.715	.310	-.364
2.750	.750	.100	2.467	2.800	3.353	.716	.312	-.363
2.850	.750	.100	2.470	2.802	3.356	.718	.313	-.362

2.950	.750	.100	2.472	2.834	3.358	.719	.314	-.362
.050	.850	.100	.358	.421	.526	.055	-.017	-.138
.150	.850	.100	.692	.812	1.012	.103	-.034	-.264
.250	.850	.100	.985	1.152	1.429	.141	-.051	-.372
.350	.850	.100	1.229	1.432	1.770	.169	-.066	-.457
.450	.850	.100	1.426	1.655	2.038	.190	-.076	-.521
.550	.850	.100	1.580	1.829	2.244	.206	-.084	-.567
.650	.850	.100	1.700	1.963	2.401	.220	-.087	-.599
.750	.850	.100	1.793	2.066	2.522	.231	-.089	-.621
.850	.850	.100	1.866	2.146	2.614	.240	-.088	-.636
.950	.850	.100	1.923	2.209	2.685	.249	-.087	-.646
1.050	.850	.100	1.958	2.258	2.741	.256	-.084	-.652
1.150	.850	.100	2.004	2.297	2.785	.263	-.082	-.656
1.250	.850	.100	2.033	2.328	2.821	.269	-.079	-.659
1.350	.850	.100	2.057	2.354	2.849	.274	-.076	-.660
1.450	.850	.100	2.076	2.375	2.872	.279	-.073	-.660
1.550	.850	.100	2.093	2.392	2.892	.283	-.071	-.660
1.650	.850	.100	2.106	2.407	2.907	.287	-.068	-.660
1.750	.850	.100	2.119	2.419	2.921	.290	-.066	-.659
1.850	.850	.100	2.127	2.429	2.932	.293	-.064	-.659
1.950	.850	.100	2.136	2.438	2.942	.296	-.062	-.658
2.050	.850	.100	2.143	2.446	2.950	.298	-.060	-.657
2.150	.850	.100	2.149	2.452	2.957	.300	-.058	-.656
2.250	.850	.100	2.155	2.458	2.963	.302	-.057	-.655
2.350	.850	.100	2.157	2.463	2.968	.304	-.055	-.655
2.450	.850	.100	2.164	2.467	2.973	.306	-.054	-.654
2.550	.850	.100	2.167	2.471	2.977	.307	-.053	-.653
2.650	.850	.100	2.171	2.474	2.981	.309	-.052	-.652
2.750	.850	.100	2.173	2.477	2.984	.310	-.051	-.652
2.850	.850	.100	2.176	2.480	2.987	.311	-.050	-.651
2.950	.850	.100	2.178	2.483	2.990	.312	-.049	-.650
.050	.950	.100	.293	.340	.435	.003	-.056	-.154
.150	.950	.100	.575	.675	.842	.005	-.109	-.297
.250	.950	.100	.824	.965	1.200	.004	-.155	-.422
.350	.950	.100	1.036	1.210	1.500	.004	-.194	-.523
.450	.950	.100	1.212	1.411	1.744	.003	-.225	-.603
.550	.950	.100	1.353	1.572	1.937	.002	-.247	-.664
.650	.950	.100	1.455	1.679	2.088	.003	-.264	-.708
.750	.950	.100	1.556	1.800	2.206	.004	-.275	-.741
.850	.950	.100	1.627	1.879	2.299	.007	-.283	-.765
.950	.950	.100	1.683	1.941	2.371	.009	-.287	-.782
1.050	.950	.100	1.728	1.991	2.429	.012	-.290	-.794
1.150	.950	.100	1.765	2.031	2.475	.015	-.292	-.803
1.250	.950	.100	1.795	2.063	2.512	.018	-.292	-.809
1.350	.950	.100	1.819	2.090	2.542	.021	-.292	-.813
1.450	.950	.100	1.839	2.112	2.566	.024	-.291	-.817
1.550	.950	.100	1.856	2.130	2.587	.026	-.291	-.819
1.650	.950	.100	1.870	2.145	2.604	.029	-.290	-.820
1.750	.950	.100	1.882	2.158	2.618	.031	-.288	-.821
1.850	.950	.100	1.892	2.169	2.630	.033	-.287	-.821
1.950	.950	.100	1.901	2.178	2.640	.035	-.286	-.822
2.050	.950	.100	1.908	2.186	2.649	.037	-.285	-.822
2.150	.950	.100	1.915	2.193	2.657	.039	-.284	-.822
2.250	.950	.100	1.921	2.199	2.663	.040	-.283	-.822
[illegible]	.950	.100	1.926	2.204	2.669	.042	-.282	-.821
[illegible]	.950	.100	1.930	2.209	2.674	.043	-.281	-.821
2.550	.950	.100	1.934	2.213	2.679	.044	-.280	-.821
2.650	.950	.100	1.937	2.217	2.683	.045	-.279	-.820
2.750	.950	.100	1.940	2.220	2.686	.046	-.278	-.820
2.850	.950	.100	1.943	2.223	2.689	.047	-.278	-.819

2.950	.950	.100	1.945	2.226	2.692	.948	-.277	-.919
.050	1.050	.100	.249	.292	.365	-.026	-.074	-.156
.150	1.050	.100	.485	.569	.710	-.050	-.145	-.302
.250	1.050	.100	.692	.819	1.020	-.073	-.207	-.432
.350	1.050	.100	.875	1.035	1.285	-.092	-.261	-.541
.450	1.050	.100	1.042	1.216	1.507	-.108	-.304	-.630
.550	1.050	.100	1.172	1.365	1.687	-.121	-.338	-.699
.650	1.050	.100	1.279	1.485	1.831	-.130	-.363	-.753
.750	1.050	.100	1.363	1.532	1.946	-.136	-.383	-.794
.850	1.050	.100	1.432	1.659	2.038	-.140	-.397	-.824
.950	1.050	.100	1.484	1.721	2.111	-.143	-.407	-.847
1.050	1.050	.100	1.533	1.772	2.169	-.144	-.414	-.865
1.150	1.050	.100	1.570	1.812	2.217	-.144	-.419	-.878
1.250	1.050	.100	1.600	1.846	2.255	-.144	-.423	-.888
1.350	1.050	.100	1.625	1.873	2.286	-.144	-.425	-.895
1.450	1.050	.100	1.645	1.876	2.312	-.143	-.427	-.901
1.550	1.050	.100	1.663	1.914	2.334	-.142	-.428	-.905
1.650	1.050	.100	1.677	1.930	2.352	-.140	-.428	-.908
1.750	1.050	.100	1.690	1.944	2.367	-.139	-.428	-.910
1.850	1.050	.100	1.700	1.955	2.380	-.138	-.428	-.912
1.950	1.050	.100	1.710	1.965	2.391	-.137	-.428	-.914
2.050	1.050	.100	1.717	1.974	2.401	-.136	-.428	-.915
2.150	1.050	.100	1.724	1.981	2.409	-.134	-.427	-.915
2.250	1.050	.100	1.730	1.987	2.416	-.133	-.427	-.916
2.350	1.050	.100	1.735	1.993	2.422	-.132	-.426	-.916
2.450	1.050	.100	1.740	1.998	2.427	-.131	-.426	-.916
2.550	1.050	.100	1.744	2.002	2.432	-.130	-.425	-.916
2.650	1.050	.100	1.748	2.006	2.437	-.130	-.425	-.916
2.750	1.050	.100	1.751	2.010	2.440	-.129	-.424	-.916
2.850	1.050	.100	1.754	2.013	2.444	-.128	-.429	-.916
2.950	1.050	.100	1.757	2.015	2.447	-.127	-.423	-.916
.050	1.150	.100	.212	.249	.311	-.041	-.082	-.151
.150	1.150	.100	.419	.486	.607	-.080	-.160	-.294
.250	1.150	.100	.599	.703	.877	-.116	-.231	-.422
.350	1.150	.100	.764	.895	1.113	-.147	-.292	-.533
.450	1.150	.100	.905	1.058	1.313	-.173	-.343	-.626
.550	1.150	.100	1.024	1.195	1.480	-.194	-.384	-.700
.650	1.150	.100	1.123	1.309	1.617	-.210	-.416	-.760
.750	1.150	.100	1.204	1.401	1.728	-.223	-.442	-.806
.850	1.150	.100	1.271	1.476	1.818	-.232	-.461	-.843
.950	1.150	.100	1.326	1.538	1.891	-.239	-.476	-.871
1.050	1.150	.100	1.373	1.538	1.951	-.244	-.487	-.892
1.150	1.150	.100	1.407	1.629	1.999	-.247	-.496	-.909
1.250	1.150	.100	1.433	1.653	2.038	-.250	-.502	-.922
1.350	1.150	.100	1.463	1.691	2.071	-.251	-.507	-.933
1.450	1.150	.100	1.484	1.714	2.098	-.252	-.510	-.941
1.550	1.150	.100	1.502	1.734	2.121	-.252	-.513	-.947
1.650	1.150	.100	1.517	1.751	2.140	-.253	-.515	-.952
1.750	1.150	.100	1.530	1.765	2.156	-.252	-.516	-.955
1.850	1.150	.100	1.541	1.777	2.170	-.252	-.517	-.958
1.950	1.150	.100	1.551	1.787	2.131	-.252	-.518	-.961
2.050	1.150	.100	1.559	1.796	2.191	-.251	-.518	-.963
2.150	1.150	.100	1.566	1.804	2.200	-.251	-.518	-.964
2.250	1.150	.100	1.572	1.811	2.208	-.250	-.518	-.965
2.350	1.150	.100	1.578	1.816	2.214	-.249	-.518	-.966
2.450	1.150	.100	1.583	1.822	2.220	-.249	-.518	-.967
2.550	1.150	.100	1.587	1.826	2.225	-.248	-.518	-.967
2.650	1.150	.100	1.591	1.830	2.230	-.248	-.518	-.968
2.750	1.150	.100	1.594	1.834	2.234	-.247	-.517	-.968
2.850	1.150	.100	1.597	1.837	2.238	-.246	-.517	-.968

2.950	1.150	.100	1.600	1.840	2.241	-.246	-.517	-.969
.050	1.250	.100	.162	.214	.268	-.049	-.084	-.142
.150	1.250	.100	.357	.420	.524	-.096	-.164	-.278
.250	1.250	.100	.520	.610	.761	-.139	-.238	-.403
.350	1.250	.100	.666	.780	.971	-.176	-.302	-.512
.450	1.250	.100	.793	.928	1.154	-.209	-.357	-.605
.550	1.250	.100	.902	1.055	1.308	-.236	-.403	-.682
.650	1.250	.100	.995	1.161	1.438	-.258	-.440	-.745
.750	1.250	.100	1.072	1.249	1.544	-.275	-.470	-.796
.850	1.250	.100	1.136	1.322	1.632	-.289	-.494	-.836
.950	1.250	.100	1.189	1.382	1.704	-.299	-.512	-.868
1.050	1.250	.100	1.233	1.432	1.764	-.307	-.527	-.894
1.150	1.250	.100	1.270	1.473	1.813	-.313	-.538	-.914
1.250	1.250	.100	1.301	1.508	1.853	-.318	-.547	-.930
1.350	1.250	.100	1.326	1.536	1.887	-.321	-.554	-.942
1.450	1.250	.100	1.348	1.560	1.915	-.324	-.559	-.952
1.550	1.250	.100	1.366	1.581	1.938	-.325	-.564	-.960
1.650	1.250	.100	1.382	1.598	1.958	-.327	-.567	-.967
1.750	1.250	.100	1.395	1.613	1.975	-.328	-.569	-.972
1.850	1.250	.100	1.406	1.625	1.990	-.328	-.571	-.976
1.950	1.250	.100	1.416	1.636	2.002	-.328	-.573	-.980
2.050	1.250	.100	1.425	1.645	2.013	-.329	-.574	-.983
2.150	1.250	.100	1.432	1.653	2.022	-.329	-.575	-.985
2.250	1.250	.100	1.439	1.661	2.030	-.328	-.575	-.987
2.350	1.250	.100	1.445	1.667	2.037	-.328	-.576	-.988
2.450	1.250	.100	1.450	1.672	2.043	-.328	-.576	-.990
2.550	1.250	.100	1.454	1.677	2.049	-.328	-.576	-.991
2.650	1.250	.100	1.459	1.682	2.054	-.328	-.576	-.991
2.750	1.250	.100	1.462	1.685	2.058	-.327	-.576	-.992
2.850	1.250	.100	1.465	1.689	2.062	-.327	-.576	-.993
2.950	1.250	.100	1.469	1.692	2.065	-.327	-.576	-.993
.050	1.350	.100	.158	.186	.233	-.052	-.083	-.133
.150	1.350	.100	.311	.366	.457	-.103	-.162	-.261
.250	1.350	.100	.455	.534	.666	-.149	-.235	-.379
.350	1.350	.100	.585	.686	.855	-.191	-.301	-.485
.450	1.350	.100	.700	.820	1.021	-.227	-.358	-.576
.550	1.350	.100	.801	.937	1.164	-.258	-.407	-.654
.650	1.350	.100	.887	1.036	1.285	-.284	-.447	-.719
.750	1.350	.100	.960	1.120	1.387	-.305	-.480	-.772
.850	1.350	.100	1.021	1.190	1.472	-.321	-.506	-.815
.950	1.350	.100	1.073	1.249	1.543	-.335	-.528	-.850
1.050	1.350	.100	1.116	1.298	1.602	-.345	-.545	-.878
1.150	1.350	.100	1.153	1.340	1.651	-.354	-.559	-.901
1.250	1.350	.100	1.183	1.374	1.692	-.360	-.570	-.920
1.350	1.350	.100	1.209	1.403	1.727	-.366	-.579	-.934
1.450	1.350	.100	1.231	1.428	1.756	-.370	-.586	-.947
1.550	1.350	.100	1.250	1.449	1.780	-.373	-.592	-.956
1.650	1.350	.100	1.265	1.466	1.801	-.375	-.596	-.964
1.750	1.350	.100	1.279	1.481	1.819	-.377	-.600	-.971
1.850	1.350	.100	1.291	1.495	1.834	-.378	-.603	-.976
1.950	1.350	.100	1.301	1.506	1.847	-.379	-.605	-.981
2.050	1.350	.100	1.310	1.516	1.858	-.380	-.607	-.984
2.150	1.350	.100	1.318	1.524	1.868	-.381	-.608	-.988
2.250	1.350	.100	1.325	1.532	1.877	-.381	-.609	-.990
2.350	1.350	.100	1.331	1.538	1.884	-.381	-.610	-.992
2.450	1.350	.100	1.336	1.544	1.891	-.382	-.611	-.994
2.550	1.350	.100	1.341	1.549	1.897	-.382	-.612	-.995
2.650	1.350	.100	1.345	1.554	1.902	-.382	-.612	-.997
2.750	1.350	.100	1.349	1.558	1.906	-.382	-.613	-.998
2.850	1.350	.100	1.352	1.561	1.910	-.381	-.613	-.999

2.950	1.350	.100	1.355	1.565	1.915	-.381	-.613	-.999
.050	1.450	.100	.137	.163	.204	-.053	-.080	-.124
.150	1.450	.100	.274	.322	.402	-.104	-.156	-.243
.250	1.450	.100	.401	.471	.589	-.152	-.228	-.354
.350	1.450	.100	.519	.607	.757	-.196	-.293	-.455
.450	1.450	.100	.622	.730	.909	-.234	-.351	-.544
.550	1.450	.100	.715	.837	1.041	-.268	-.400	-.621
.650	1.450	.100	.795	.930	1.155	-.296	-.442	-.686
.750	1.450	.100	.864	1.009	1.252	-.319	-.477	-.740
.850	1.450	.100	.923	1.077	1.334	-.338	-.506	-.785
.950	1.450	.100	.973	1.134	1.404	-.354	-.530	-.823
1.050	1.450	.100	1.015	1.133	1.462	-.367	-.549	-.853
1.150	1.450	.100	1.051	1.223	1.511	-.377	-.565	-.878
1.250	1.450	.100	1.081	1.258	1.552	-.306	-.578	-.899
1.350	1.450	.100	1.107	1.287	1.587	-.392	-.589	-.915
1.450	1.450	.100	1.129	1.312	1.617	-.398	-.597	-.929
1.550	1.450	.100	1.149	1.333	1.642	-.402	-.604	-.941
1.550	1.450	.100	1.165	1.352	1.663	-.406	-.610	-.950
1.750	1.450	.100	1.179	1.357	1.682	-.408	-.615	-.958
1.850	1.450	.100	1.191	1.331	1.697	-.411	-.618	-.965
1.950	1.450	.100	1.201	1.392	1.711	-.412	-.621	-.970
2.050	1.450	.100	1.210	1.403	1.723	-.414	-.624	-.974
2.150	1.450	.100	1.219	1.412	1.733	-.415	-.626	-.978
2.250	1.450	.100	1.226	1.419	1.742	-.416	-.628	-.982
2.350	1.450	.100	1.232	1.426	1.750	-.416	-.629	-.984
2.450	1.450	.100	1.237	1.432	1.757	-.417	-.631	-.987
2.550	1.450	.100	1.242	1.438	1.764	-.417	-.632	-.988
2.650	1.450	.100	1.247	1.443	1.769	-.418	-.632	-.990
2.750	1.450	.100	1.251	1.447	1.774	-.418	-.633	-.992
2.350	1.450	.100	1.254	1.451	1.778	-.418	-.634	-.993
2.950	1.450	.100	1.257	1.454	1.782	-.418	-.634	-.994
.050	1.550	.100	.123	.145	.181	-.052	-.076	-.115
.150	1.550	.100	.243	.285	.356	-.103	-.149	-.226
.250	1.550	.100	.356	.418	.522	-.151	-.218	-.330
.350	1.550	.100	.461	.541	.675	-.195	-.282	-.426
.450	1.550	.100	.556	.653	.813	-.235	-.338	-.511
.550	1.550	.100	.641	.752	.936	-.269	-.388	-.586
.550	1.550	.100	.716	.839	1.043	-.299	-.431	-.650
.750	1.550	.100	.731	.914	1.135	-.324	-.467	-.705
.850	1.550	.100	.837	.979	1.214	-.345	-.497	-.751
.950	1.550	.100	.886	1.034	1.231	-.363	-.523	-.790
1.050	1.550	.100	.927	1.081	1.339	-.377	-.544	-.822
1.150	1.550	.100	.962	1.122	1.387	-.389	-.562	-.849
1.250	1.550	.100	.992	1.156	1.429	-.399	-.576	-.871
1.350	1.550	.100	1.018	1.195	1.464	-.407	-.588	-.890
1.450	1.550	.100	1.041	1.211	1.494	-.414	-.598	-.905
1.550	1.550	.100	1.060	1.232	1.520	-.419	-.606	-.918
1.650	1.550	.100	1.075	1.251	1.542	-.424	-.613	-.929
1.750	1.550	.100	1.090	1.267	1.561	-.427	-.619	-.938
1.850	1.550	.100	1.103	1.281	1.577	-.430	-.623	-.945
1.750	1.550	.100	1.114	1.293	1.591	-.433	-.627	-.951
2.050	1.550	.100	1.123	1.303	1.604	-.435	-.630	-.957
2.150	1.550	.100	1.132	1.313	1.615	-.436	-.633	-.961
2.250	1.550	.100	1.139	1.321	1.624	-.438	-.636	-.965
2.350	1.550	.100	1.145	1.328	1.632	-.439	-.637	-.969
2.450	1.550	.100	1.151	1.334	1.640	-.440	-.639	-.971
2.550	1.550	.100	1.156	1.340	1.646	-.440	-.640	-.974
2.650	1.550	.100	1.161	1.345	1.652	-.441	-.642	-.976
2.750	1.550	.100	1.165	1.350	1.657	-.441	-.643	-.978
2.850	1.550	.100	1.169	1.354	1.662	-.442	-.643	-.979

2.950	1.550	.100	1.172	1.337	1.666	-.492	-.649	-.981
.050	1.650	.100	.139	.129	.161	-.051	-.072	-.106
.150	1.650	.100	.215	.254	.318	-.101	-.141	-.209
.250	1.650	.100	.313	.374	.467	-.148	-.207	-.307
.350	1.650	.100	.413	.485	.606	-.191	-.268	-.397
.450	1.650	.100	.500	.587	.732	-.230	-.329	-.479
.550	1.650	.100	.579	.679	.845	-.265	-.372	-.551
.650	1.650	.100	.648	.760	.945	-.296	-.415	-.619
.750	1.650	.100	.710	.831	1.033	-.322	-.452	-.669
.850	1.650	.100	.763	.893	1.109	-.345	-.484	-.715
.950	1.650	.100	.810	.946	1.174	-.364	-.510	-.755
1.050	1.650	.100	.850	.992	1.230	-.379	-.533	-.788
1.150	1.650	.100	.884	1.032	1.278	-.393	-.552	-.816
1.250	1.650	.100	.914	1.056	1.319	-.404	-.567	-.840
1.350	1.650	.100	.940	1.075	1.355	-.413	-.581	-.860
1.450	1.650	.100	.962	1.121	1.385	-.421	-.592	-.876
1.550	1.650	.100	.981	1.143	1.411	-.427	-.601	-.890
1.650	1.650	.100	.993	1.161	1.434	-.433	-.609	-.902
1.750	1.650	.100	1.013	1.178	1.453	-.437	-.615	-.912
1.850	1.650	.100	1.025	1.192	1.470	-.441	-.621	-.921
1.950	1.650	.100	1.035	1.205	1.485	-.444	-.625	-.928
2.050	1.650	.100	1.045	1.215	1.498	-.446	-.629	-.934
2.150	1.650	.100	1.055	1.225	1.509	-.449	-.633	-.939
2.250	1.650	.100	1.062	1.233	1.519	-.450	-.635	-.944
2.350	1.650	.100	1.069	1.241	1.528	-.452	-.638	-.948
2.450	1.650	.100	1.075	1.248	1.535	-.453	-.640	-.951
2.550	1.650	.100	1.080	1.253	1.542	-.454	-.642	-.954
2.650	1.650	.100	1.085	1.259	1.548	-.455	-.643	-.957
2.750	1.650	.100	1.089	1.263	1.554	-.456	-.644	-.959
2.850	1.650	.100	1.093	1.268	1.559	-.456	-.646	-.961
2.950	1.650	.100	1.096	1.271	1.563	-.457	-.646	-.962
.050	1.750	.100	.098	.115	.144	-.049	-.067	-.098
.150	1.750	.100	.194	.228	.285	-.097	-.133	-.194
.250	1.750	.100	.286	.336	.420	-.142	-.196	-.285
.350	1.750	.100	.372	.438	.546	-.185	-.254	-.370
.450	1.750	.100	.452	.531	.662	-.224	-.308	-.447
.550	1.750	.100	.525	.615	.767	-.259	-.356	-.517
.650	1.750	.100	.593	.671	.861	-.289	-.398	-.579
.750	1.750	.100	.647	.750	.943	-.316	-.435	-.632
.850	1.750	.100	.698	.817	1.016	-.340	-.467	-.679
.950	1.750	.100	.743	.869	1.079	-.359	-.494	-.719
1.050	1.750	.100	.782	.914	1.134	-.376	-.518	-.753
1.150	1.750	.100	.815	.952	1.181	-.391	-.537	-.782
1.250	1.750	.100	.845	.986	1.222	-.403	-.554	-.807
1.350	1.750	.100	.870	1.015	1.257	-.413	-.569	-.828
1.450	1.750	.100	.892	1.041	1.288	-.422	-.581	-.845
1.550	1.750	.100	.912	1.063	1.314	-.429	-.591	-.860
1.650	1.750	.100	.929	1.082	1.337	-.435	-.600	-.873
1.750	1.750	.100	.943	1.098	1.357	-.440	-.607	-.884
1.850	1.750	.100	.956	1.113	1.374	-.445	-.613	-.894
1.950	1.750	.100	.967	1.126	1.389	-.448	-.618	-.902
2.050	1.750	.100	.977	1.137	1.403	-.452	-.623	-.909
2.150	1.750	.100	.986	1.147	1.414	-.454	-.627	-.915
2.250	1.750	.100	.994	1.155	1.425	-.456	-.630	-.920
2.350	1.750	.100	1.001	1.163	1.434	-.458	-.633	-.924
2.450	1.750	.100	1.007	1.170	1.442	-.460	-.635	-.928
2.550	1.750	.100	1.012	1.176	1.449	-.461	-.638	-.931
2.650	1.750	.100	1.017	1.182	1.456	-.463	-.639	-.934
2.750	1.750	.100	1.022	1.187	1.461	-.464	-.641	-.937
2.850	1.750	.100	1.025	1.191	1.466	-.464	-.642	-.939

2.950	1.750	.100	1.329	1.175	1.471	-.465	-.643	-.941
.050	1.850	.100	.039	.104	.130	-.047	-.063	-.091
.150	1.850	.100	.175	.206	.257	-.093	-.125	-.180
.250	1.850	.100	.253	.334	.380	-.136	-.185	-.265
.350	1.850	.100	.337	.376	.495	-.178	-.240	-.345
.450	1.850	.100	.410	.432	.601	-.216	-.292	-.418
.550	1.850	.100	.477	.550	.699	-.250	-.338	-.485
.650	1.850	.100	.533	.531	.786	-.281	-.380	-.544
.750	1.850	.100	.593	.695	.865	-.308	-.416	-.597
.850	1.850	.100	.641	.751	.934	-.331	-.448	-.643
.950	1.850	.100	.684	.800	.994	-.352	-.476	-.683
1.050	1.850	.100	.721	.844	1.048	-.370	-.500	-.717
1.150	1.850	.100	.754	.881	1.094	-.385	-.521	-.747
1.250	1.850	.100	.783	.915	1.134	-.398	-.538	-.772
1.350	1.850	.100	.809	.944	1.169	-.409	-.553	-.794
1.450	1.850	.100	.832	.969	1.200	-.418	-.566	-.813
1.550	1.850	.100	.849	.991	1.227	-.426	-.577	-.829
1.650	1.850	.100	.865	1.010	1.250	-.433	-.587	-.843
1.750	1.850	.100	.881	1.027	1.270	-.439	-.595	-.855
1.850	1.850	.100	.894	1.042	1.288	-.444	-.602	-.865
1.950	1.850	.100	.906	1.055	1.303	-.448	-.608	-.874
2.050	1.850	.100	.915	1.066	1.317	-.452	-.613	-.881
2.150	1.850	.100	.925	1.076	1.329	-.455	-.617	-.888
2.250	1.850	.100	.933	1.085	1.340	-.458	-.621	-.893
2.350	1.850	.100	.940	1.093	1.349	-.460	-.624	-.898
2.450	1.850	.100	.945	1.100	1.358	-.462	-.627	-.903
2.550	1.850	.100	.952	1.107	1.365	-.464	-.630	-.906
2.650	1.850	.100	.957	1.113	1.372	-.465	-.632	-.910
2.750	1.850	.100	.961	1.118	1.378	-.466	-.634	-.913
2.850	1.850	.100	.965	1.122	1.383	-.467	-.635	-.915
2.950	1.850	.100	.969	1.126	1.388	-.468	-.637	-.917
.050	1.950	.100	.080	.094	.118	-.045	-.059	-.084
.150	1.950	.100	.159	.187	.233	-.088	-.118	-.167
.250	1.950	.100	.235	.276	.345	-.130	-.174	-.246
.350	1.950	.100	.307	.361	.450	-.170	-.227	-.321
.450	1.950	.100	.374	.440	.548	-.207	-.276	-.391
.550	1.950	.100	.435	.512	.639	-.240	-.321	-.455
.650	1.950	.100	.493	.579	.721	-.270	-.361	-.512
.750	1.950	.100	.549	.638	.795	-.297	-.397	-.563
.850	1.950	.100	.593	.692	.861	-.321	-.429	-.608
.950	1.950	.100	.631	.739	.919	-.342	-.457	-.648
1.050	1.950	.100	.667	.781	.971	-.361	-.481	-.682
1.150	1.950	.100	.699	.818	1.016	-.376	-.502	-.712
1.250	1.950	.100	.727	.850	1.056	-.390	-.521	-.739
1.350	1.950	.100	.752	.879	1.070	-.402	-.536	-.761
1.450	1.950	.100	.774	.904	1.121	-.412	-.550	-.780
1.550	1.950	.100	.793	.926	1.147	-.420	-.562	-.797
1.650	1.950	.100	.810	.945	1.171	-.428	-.572	-.812
1.750	1.950	.100	.825	.962	1.191	-.434	-.581	-.824
1.850	1.950	.100	.839	.977	1.209	-.440	-.588	-.835
1.950	1.950	.100	.850	.991	1.225	-.445	-.595	-.845
2.050	1.950	.100	.863	1.002	1.239	-.449	-.600	-.853
2.150	1.950	.100	.869	1.013	1.252	-.452	-.605	-.860
2.250	1.950	.100	.877	1.022	1.263	-.455	-.609	-.866
2.350	1.950	.100	.885	1.030	1.273	-.458	-.613	-.872
2.450	1.950	.100	.891	1.038	1.281	-.460	-.616	-.876
2.550	1.950	.100	.897	1.044	1.289	-.462	-.619	-.881
2.650	1.950	.100	.902	1.050	1.296	-.464	-.622	-.884
2.750	1.950	.100	.907	1.055	1.302	-.466	-.624	-.888
2.850	1.950	.100	.911	1.060	1.308	-.467	-.626	-.890

2.950	1.950	.100	.715	1.064	1.313	-.468	-.627	-.893
.050	2.050	.100	.073	.036	.107	-.042	-.056	-.078
.150	2.050	.100	.145	.170	.213	-.084	-.111	-.155
.250	2.050	.100	.214	.252	.314	-.124	-.163	-.230
.350	2.050	.100	.280	.329	.411	-.162	-.214	-.300
.450	2.050	.100	.342	.402	.502	-.197	-.260	-.366
.550	2.050	.100	.400	.470	.586	-.230	-.304	-.426
.650	2.050	.100	.453	.532	.663	-.260	-.343	-.481
.750	2.050	.100	.501	.588	.733	-.286	-.378	-.531
.850	2.050	.100	.545	.639	.796	-.310	-.410	-.575
.950	2.050	.100	.584	.684	.852	-.331	-.437	-.614
1.050	2.050	.100	.619	.725	.902	-.350	-.462	-.649
1.150	2.050	.100	.650	.761	.946	-.366	-.483	-.679
1.250	2.050	.100	.677	.793	.985	-.380	-.502	-.705
1.350	2.050	.100	.702	.821	1.019	-.392	-.518	-.728
1.450	2.050	.100	.723	.846	1.049	-.403	-.533	-.748
1.550	2.050	.100	.742	.867	1.076	-.412	-.545	-.766
1.650	2.050	.100	.759	.887	1.099	-.420	-.556	-.781
1.750	2.050	.100	.774	.905	1.120	-.427	-.565	-.794
1.850	2.050	.100	.787	.919	1.138	-.433	-.573	-.805
1.750	2.050	.100	.799	.932	1.154	-.439	-.580	-.815
2.050	2.050	.100	.810	.944	1.169	-.443	-.586	-.824
2.150	2.050	.100	.819	.955	1.181	-.447	-.591	-.832
2.250	2.050	.100	.827	.964	1.193	-.450	-.596	-.839
2.350	2.050	.100	.835	.973	1.203	-.453	-.600	-.844
2.450	2.050	.100	.841	.980	1.212	-.456	-.604	-.850
2.650	2.050	.100	.847	.987	1.220	-.458	-.607	-.854
2.550	2.050	.100	.853	.993	1.227	-.460	-.610	-.858
2.750	2.050	.100	.858	.979	1.234	-.462	-.612	-.862
2.850	2.050	.100	.862	1.004	1.240	-.464	-.614	-.865
2.950	2.050	.100	.866	1.008	1.245	-.465	-.616	-.868
.050	2.150	.100	.067	.078	.098	-.040	-.052	-.073
.150	2.150	.100	.132	.156	.194	-.079	-.104	-.145
.250	2.150	.100	.196	.230	.288	-.118	-.154	-.214
.350	2.150	.100	.257	.302	.377	-.154	-.201	-.280
.450	2.150	.100	.314	.370	.461	-.188	-.246	-.342
.550	2.150	.100	.368	.433	.540	-.220	-.287	-.400
.650	2.150	.100	.418	.491	.612	-.249	-.325	-.453
.750	2.150	.100	.463	.544	.678	-.275	-.360	-.501
.850	2.150	.100	.505	.592	.738	-.298	-.390	-.544
.950	2.150	.100	.542	.635	.791	-.320	-.418	-.582
1.050	2.150	.100	.575	.674	.839	-.338	-.442	-.616
1.150	2.150	.100	.606	.709	.882	-.355	-.464	-.646
1.250	2.150	.100	.632	.740	.920	-.369	-.483	-.673
1.350	2.150	.100	.656	.768	.954	-.382	-.500	-.696
1.450	2.150	.100	.677	.772	.984	-.393	-.514	-.717
1.550	2.150	.100	.696	.814	1.010	-.403	-.527	-.734
1.650	2.150	.100	.713	.833	1.034	-.411	-.538	-.750
1.750	2.150	.100	.728	.851	1.055	-.419	-.548	-.764
1.850	2.150	.100	.741	.866	1.073	-.425	-.557	-.776
1.950	2.150	.100	.753	.879	1.089	-.431	-.564	-.786
2.050	2.150	.100	.764	.891	1.104	-.436	-.571	-.796
2.150	2.150	.100	.773	.902	1.117	-.440	-.576	-.804
2.250	2.150	.100	.782	.912	1.129	-.444	-.581	-.811
2.350	2.150	.100	.789	.920	1.139	-.447	-.586	-.817
2.450	2.150	.100	.795	.928	1.148	-.450	-.590	-.823
2.550	2.150	.100	.802	.935	1.157	-.452	-.593	-.828
2.650	2.150	.100	.808	.941	1.164	-.455	-.596	-.832
2.750	2.150	.100	.813	.947	1.171	-.457	-.599	-.836
2.850	2.150	.100	.817	.952	1.177	-.458	-.601	-.840

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2.950	2.150	.100	.821	.957	1.182	-.460	-.603	-.843
.050	2.250	.100	.061	.072	.090	-.038	-.049	-.068
.150	2.250	.100	.121	.143	.178	-.075	-.098	-.135
.250	2.250	.100	.182	.212	.264	-.111	-.145	-.200
.350	2.250	.100	.235	.278	.347	-.146	-.190	-.262
.450	2.250	.100	.290	.341	.425	-.179	-.232	-.321
.550	2.250	.100	.340	.399	.498	-.209	-.272	-.376
.650	2.250	.100	.386	.454	.566	-.238	-.308	-.426
.750	2.250	.100	.429	.504	.628	-.263	-.342	-.472
.850	2.250	.100	.469	.550	.685	-.286	-.372	-.514
.950	2.250	.100	.504	.591	.737	-.307	-.399	-.552
1.050	2.250	.100	.536	.629	.783	-.326	-.423	-.585
1.150	2.250	.100	.565	.663	.824	-.343	-.445	-.615
1.250	2.250	.100	.592	.693	.862	-.357	-.464	-.642
1.350	2.250	.100	.615	.720	.895	-.370	-.481	-.665
1.450	2.250	.100	.636	.744	.924	-.382	-.496	-.686
1.550	2.250	.100	.654	.765	.951	-.392	-.509	-.704
1.650	2.250	.100	.671	.785	.974	-.401	-.521	-.720
1.750	2.250	.100	.686	.802	.995	-.409	-.531	-.734
1.850	2.250	.100	.699	.817	1.013	-.415	-.540	-.747
1.950	2.250	.100	.711	.831	1.030	-.421	-.548	-.758
2.050	2.250	.100	.722	.843	1.045	-.427	-.555	-.768
2.150	2.250	.100	.731	.854	1.058	-.431	-.561	-.776
2.250	2.250	.100	.740	.864	1.070	-.435	-.566	-.784
2.350	2.250	.100	.748	.872	1.080	-.439	-.571	-.790
2.450	2.250	.100	.754	.880	1.090	-.442	-.575	-.796
2.550	2.250	.100	.761	.887	1.098	-.445	-.579	-.802
2.650	2.250	.100	.765	.894	1.106	-.448	-.582	-.806
2.750	2.250	.100	.772	.900	1.113	-.450	-.585	-.811
2.850	2.250	.100	.776	.905	1.119	-.452	-.588	-.814
2.950	2.250	.100	.780	.910	1.125	-.453	-.590	-.818
.050	2.350	.100	.056	.065	.083	-.036	-.046	-.064
.150	2.350	.100	.112	.131	.164	-.071	-.092	-.126
.250	2.350	.100	.166	.195	.244	-.106	-.136	-.187
.350	2.350	.100	.218	.255	.320	-.139	-.179	-.246
.450	2.350	.100	.268	.315	.393	-.170	-.219	-.301
.550	2.350	.100	.315	.370	.461	-.199	-.257	-.353
.650	2.350	.100	.359	.421	.525	-.227	-.292	-.401
.750	2.350	.100	.399	.468	.584	-.252	-.325	-.446
.850	2.350	.100	.436	.512	.638	-.275	-.354	-.486
.950	2.350	.100	.470	.552	.687	-.295	-.381	-.523
1.050	2.350	.100	.501	.588	.732	-.314	-.405	-.556
1.150	2.350	.100	.529	.620	.772	-.330	-.426	-.585
1.250	2.350	.100	.554	.650	.808	-.345	-.445	-.612
1.350	2.350	.100	.577	.675	.841	-.359	-.462	-.635
1.450	2.350	.100	.598	.700	.870	-.370	-.477	-.656
1.550	2.350	.100	.616	.721	.896	-.381	-.491	-.675
1.650	2.350	.100	.632	.740	.919	-.390	-.503	-.691
1.750	2.350	.100	.647	.757	.940	-.398	-.513	-.706
1.850	2.350	.100	.661	.772	.959	-.405	-.523	-.719
1.950	2.350	.100	.672	.786	.975	-.411	-.531	-.730
2.050	2.350	.100	.683	.798	.990	-.417	-.538	-.740
2.150	2.350	.100	.693	.809	1.003	-.422	-.545	-.749
2.250	2.350	.100	.701	.819	1.016	-.426	-.550	-.757
2.350	2.350	.100	.709	.828	1.026	-.430	-.555	-.764
2.450	2.350	.100	.715	.836	1.036	-.434	-.560	-.770
2.550	2.350	.100	.723	.843	1.045	-.437	-.564	-.776
2.650	2.350	.100	.729	.850	1.053	-.439	-.568	-.781
2.750	2.350	.100	.734	.856	1.060	-.442	-.571	-.786
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

2.950	2.350	.100	.743	.856	1.072	-.496	-.576	-.793
.050	2.450	.100	.052	.061	.076	-.034	-.044	-.059
.150	2.450	.100	.103	.122	.152	-.067	-.087	-.118
.250	2.450	.100	.153	.180	.226	-.100	-.128	-.175
.350	2.450	.100	.202	.237	.297	-.132	-.169	-.231
.450	2.450	.100	.248	.292	.364	-.162	-.207	-.283
.550	2.450	.100	.292	.343	.428	-.190	-.243	-.332
.650	2.450	.100	.333	.391	.488	-.216	-.277	-.379
.750	2.450	.100	.371	.436	.544	-.241	-.308	-.421
.850	2.450	.100	.407	.478	.595	-.263	-.337	-.460
.950	2.450	.100	.439	.515	.643	-.283	-.363	-.496
1.050	2.450	.100	.469	.550	.685	-.302	-.387	-.528
1.150	2.450	.100	.496	.582	.724	-.318	-.408	-.557
1.250	2.450	.100	.521	.610	.759	-.333	-.427	-.583
1.350	2.450	.100	.543	.636	.791	-.346	-.444	-.607
1.450	2.450	.100	.563	.659	.820	-.358	-.459	-.628
1.550	2.450	.100	.581	.680	.845	-.369	-.473	-.646
1.650	2.450	.100	.597	.699	.869	-.378	-.485	-.663
1.750	2.450	.100	.612	.716	.889	-.387	-.496	-.678
1.850	2.450	.100	.625	.731	.908	-.394	-.506	-.691
1.950	2.450	.100	.637	.745	.925	-.401	-.514	-.703
2.050	2.450	.100	.648	.757	.940	-.407	-.522	-.713
2.150	2.450	.100	.657	.768	.953	-.412	-.528	-.723
2.250	2.450	.100	.665	.778	.965	-.417	-.534	-.731
2.350	2.450	.100	.674	.737	.976	-.421	-.540	-.738
2.450	2.450	.100	.681	.796	.986	-.424	-.545	-.745
2.550	2.450	.100	.688	.803	.995	-.428	-.549	-.751
2.650	2.450	.100	.693	.810	1.003	-.431	-.553	-.756
2.750	2.450	.100	.699	.816	1.011	-.433	-.556	-.761
2.850	2.450	.100	.704	.821	1.017	-.436	-.559	-.765
2.950	2.450	.100	.708	.826	1.023	-.438	-.562	-.769
.050	2.550	.100	.048	.057	.071	-.032	-.041	-.056
.150	2.550	.100	.096	.113	.141	-.064	-.082	-.111
.250	2.550	.100	.142	.167	.209	-.095	-.121	-.165
.350	2.550	.100	.187	.220	.275	-.125	-.159	-.217
.450	2.550	.100	.231	.271	.339	-.154	-.196	-.266
.550	2.550	.100	.272	.319	.399	-.181	-.230	-.313
.650	2.550	.100	.310	.365	.455	-.206	-.263	-.357
.750	2.550	.100	.347	.407	.508	-.230	-.293	-.398
.850	2.550	.100	.380	.446	.557	-.251	-.321	-.436
.950	2.550	.100	.411	.483	.602	-.271	-.346	-.470
1.050	2.550	.100	.440	.516	.643	-.290	-.369	-.502
1.150	2.550	.100	.466	.546	.681	-.306	-.390	-.531
1.250	2.550	.100	.490	.574	.715	-.321	-.409	-.556
1.350	2.550	.100	.511	.599	.746	-.334	-.426	-.580
1.450	2.550	.100	.531	.622	.774	-.346	-.442	-.601
1.550	2.550	.100	.548	.642	.799	-.357	-.455	-.619
1.650	2.550	.100	.565	.661	.822	-.367	-.468	-.636
1.750	2.550	.100	.579	.678	.843	-.375	-.479	-.651
1.850	2.550	.100	.592	.693	.861	-.383	-.489	-.665
1.950	2.550	.100	.604	.707	.878	-.390	-.497	-.677
2.050	2.550	.100	.615	.719	.893	-.396	-.505	-.687
2.150	2.550	.100	.624	.730	.907	-.401	-.512	-.697
2.250	2.550	.100	.633	.740	.919	-.406	-.519	-.706
2.350	2.550	.100	.641	.750	.930	-.411	-.529	-.713
2.450	2.550	.100	.649	.758	.940	-.415	-.529	-.720
2.550	2.550	.100	.655	.765	.949	-.418	-.534	-.726
2.650	2.550	.100	.661	.772	.957	-.421	-.538	-.732
2.750	2.550	.100	.667	.778	.965	-.424	-.541	-.737
2.850	2.550	.100	.671	.734	.972	-.427	-.545	-.742

2.750	2.550	.100	.676	.739	.978	-.429	-.548	-.746
.050	2.650	.100	.045	.053	.066	-.030	-.039	-.052
.150	2.650	.100	.089	.105	.131	-.061	-.077	-.104
.250	2.650	.100	.132	.156	.195	-.090	-.114	-.155
.350	2.650	.100	.174	.205	.256	-.119	-.151	-.204
.450	2.650	.100	.215	.253	.316	-.146	-.185	-.251
.550	2.650	.100	.253	.298	.372	-.172	-.218	-.296
.650	2.650	.100	.290	.341	.425	-.197	-.249	-.338
.750	2.650	.100	.324	.381	.475	-.219	-.278	-.377
.850	2.650	.100	.356	.418	.522	-.241	-.305	-.413
.950	2.650	.100	.386	.453	.565	-.260	-.330	-.447
1.050	2.650	.100	.413	.485	.604	-.278	-.353	-.477
1.150	2.650	.100	.439	.514	.641	-.294	-.373	-.505
1.250	2.650	.100	.461	.541	.674	-.309	-.392	-.531
1.350	2.650	.100	.482	.565	.704	-.322	-.409	-.554
1.450	2.650	.100	.501	.588	.731	-.334	-.424	-.575
1.550	2.650	.100	.519	.608	.755	-.345	-.438	-.593
1.650	2.650	.100	.534	.626	.779	-.355	-.451	-.610
1.750	2.650	.100	.549	.643	.799	-.364	-.462	-.625
1.850	2.650	.100	.562	.658	.816	-.372	-.472	-.639
1.950	2.650	.100	.574	.671	.834	-.379	-.481	-.651
2.050	2.650	.100	.584	.684	.850	-.385	-.489	-.662
2.150	2.650	.100	.594	.695	.863	-.391	-.496	-.672
2.250	2.650	.100	.603	.705	.876	-.396	-.503	-.681
2.350	2.650	.100	.611	.714	.887	-.400	-.509	-.689
2.450	2.650	.100	.618	.723	.897	-.405	-.514	-.696
2.550	2.650	.100	.625	.730	.906	-.408	-.519	-.703
2.650	2.650	.100	.631	.737	.915	-.412	-.523	-.709
2.750	2.650	.100	.637	.744	.922	-.415	-.527	-.714
2.850	2.650	.100	.642	.750	.929	-.417	-.530	-.719
2.950	2.650	.100	.646	.755	.936	-.420	-.533	-.723
.050	2.750	.100	.042	.049	.061	-.029	-.037	-.049
.150	2.750	.100	.083	.098	.122	-.058	-.073	-.098
.250	2.750	.100	.123	.145	.181	-.086	-.108	-.146
.350	2.750	.100	.163	.191	.239	-.113	-.143	-.192
.450	2.750	.100	.201	.236	.295	-.139	-.176	-.237
.550	2.750	.100	.237	.279	.348	-.164	-.207	-.279
.650	2.750	.100	.272	.319	.398	-.187	-.237	-.319
.750	2.750	.100	.304	.357	.446	-.209	-.265	-.357
.850	2.750	.100	.334	.393	.490	-.230	-.291	-.392
.950	2.750	.100	.362	.426	.531	-.249	-.315	-.424
1.050	2.750	.100	.387	.455	.569	-.267	-.337	-.454
1.150	2.750	.100	.413	.484	.604	-.283	-.357	-.482
1.250	2.750	.100	.436	.510	.636	-.297	-.376	-.507
1.350	2.750	.100	.455	.534	.665	-.311	-.393	-.529
1.450	2.750	.100	.474	.556	.692	-.323	-.408	-.550
1.550	2.750	.100	.491	.576	.717	-.334	-.422	-.569
1.650	2.750	.100	.507	.594	.739	-.343	-.434	-.586
1.750	2.750	.100	.521	.610	.759	-.352	-.446	-.601
1.850	2.750	.100	.534	.625	.777	-.360	-.456	-.615
1.950	2.750	.100	.545	.639	.774	-.368	-.465	-.627
2.050	2.750	.100	.556	.651	.809	-.374	-.473	-.638
2.150	2.750	.100	.566	.662	.823	-.380	-.481	-.648
2.250	2.750	.100	.575	.672	.835	-.385	-.487	-.657
2.350	2.750	.100	.583	.682	.847	-.390	-.493	-.666
2.450	2.750	.100	.590	.690	.857	-.394	-.499	-.673
2.550	2.750	.100	.597	.698	.866	-.398	-.504	-.680
2.650	2.750	.100	.603	.705	.875	-.402	-.508	-.686
2.750	2.750	.100	.609	.711	.883	-.405	-.512	-.691
2.850	2.750	.100	.614	.717	.890	-.408	-.516	-.696

2.750	2.750	.100	.615	.723	.876	-.410	-.519	-.701
.050	2.850	.100	.039	.046	.057	-.027	-.035	-.046
.150	2.850	.100	.077	.071	.114	-.055	-.069	-.092
.250	2.850	.100	.115	.136	.159	-.081	-.102	-.138
.350	2.850	.100	.152	.179	.224	-.107	-.135	-.161
.450	2.850	.100	.188	.221	.276	-.132	-.166	-.224
.550	2.850	.100	.222	.261	.326	-.156	-.197	-.264
.650	2.850	.100	.254	.279	.374	-.179	-.225	-.302
.750	2.850	.100	.285	.335	.418	-.200	-.252	-.338
.850	2.850	.100	.314	.369	.461	-.220	-.277	-.372
.750	2.850	.100	.341	.401	.500	-.238	-.300	-.403
1.050	2.850	.100	.365	.430	.536	-.256	-.322	-.432
1.150	2.850	.100	.390	.457	.570	-.271	-.342	-.459
1.250	2.850	.100	.411	.482	.601	-.286	-.360	-.484
1.350	2.850	.100	.431	.505	.630	-.299	-.377	-.506
1.450	2.850	.100	.447	.527	.656	-.311	-.392	-.526
1.550	2.850	.100	.466	.546	.680	-.322	-.406	-.545
1.650	2.850	.100	.481	.564	.702	-.332	-.418	-.562
1.750	2.850	.100	.495	.580	.722	-.341	-.430	-.577
1.850	2.850	.100	.508	.595	.740	-.349	-.440	-.591
1.950	2.850	.100	.519	.608	.757	-.357	-.449	-.604
2.050	2.850	.100	.530	.621	.772	-.363	-.458	-.615
2.150	2.850	.100	.540	.632	.785	-.369	-.465	-.625
2.250	2.850	.100	.548	.642	.798	-.375	-.472	-.635
2.350	2.850	.100	.557	.651	.809	-.380	-.478	-.643
2.450	2.850	.100	.564	.660	.820	-.384	-.484	-.651
2.550	2.850	.100	.571	.668	.829	-.389	-.489	-.658
2.650	2.850	.100	.577	.675	.838	-.392	-.494	-.664
2.750	2.850	.100	.583	.681	.846	-.395	-.498	-.670
2.850	2.850	.100	.588	.687	.853	-.399	-.502	-.675
2.950	2.850	.100	.593	.693	.860	-.401	-.505	-.679
.050	2.950	.100	.035	.043	.054	-.026	-.033	-.044
.150	2.950	.100	.072	.085	.107	-.052	-.065	-.087
.250	2.950	.100	.108	.127	.159	-.077	-.097	-.130
.350	2.950	.100	.143	.168	.210	-.102	-.128	-.171
.450	2.950	.100	.176	.207	.259	-.126	-.158	-.212
.550	2.950	.100	.208	.245	.306	-.149	-.187	-.250
.650	2.950	.100	.239	.281	.351	-.171	-.214	-.287
.750	2.950	.100	.268	.315	.394	-.191	-.240	-.321
.850	2.950	.100	.295	.348	.434	-.210	-.264	-.354
.950	2.950	.100	.322	.378	.471	-.228	-.207	-.384
1.050	2.950	.100	.345	.406	.506	-.245	-.308	-.412
1.150	2.950	.100	.368	.432	.539	-.261	-.327	-.438
1.250	2.950	.100	.389	.456	.569	-.275	-.345	-.462
1.350	2.950	.100	.408	.479	.597	-.288	-.361	-.484
1.450	2.950	.100	.425	.500	.622	-.300	-.377	-.504
1.550	2.950	.100	.442	.519	.645	-.311	-.390	-.523
1.650	2.950	.100	.457	.536	.667	-.321	-.403	-.539
1.750	2.950	.100	.471	.552	.687	-.330	-.414	-.555
1.850	2.950	.100	.483	.566	.705	-.338	-.425	-.569
1.950	2.950	.100	.495	.580	.721	-.346	-.434	-.581
2.050	2.950	.100	.505	.592	.736	-.352	-.443	-.593
2.150	2.950	.100	.515	.603	.750	-.359	-.450	-.603
2.250	2.950	.100	.524	.613	.763	-.364	-.457	-.613
2.350	2.950	.100	.532	.623	.774	-.369	-.464	-.621
2.450	2.950	.100	.539	.631	.785	-.374	-.470	-.629
2.550	2.950	.100	.546	.639	.794	-.378	-.475	-.636
2.650	2.950	.100	.552	.646	.803	-.382	-.480	-.643
2.750	2.950	.100	.558	.653	.811	-.385	-.484	-.648
2.850	2.950	.100	.563	.659	.818	[illegible]	[illegible]	[illegible]

2.750	2.750	.100	[illegible]	[illegible]	.025	-.391	-.492	-.659
.050	.050	.200	-.[illegible]	-.[illegible]	-1.560	2.567	2.061	1.051
.150	.050	.200	5.615	3.[illegible]	2.542	7.224	7.077	5.665
.250	.050	.200	7.403	6.612	5.109	13.307	9.870	8.307
.350	.050	.200	8.317	7.949	6.452	12.273	11.295	9.665
.450	.050	.200	9.643	8.726	7.197	13.074	12.076	10.412
.550	.050	.200	10.117	9.109	7.641	13.550	12.540	10.857
.650	.050	.200	10.419	7.493	7.924	13.852	12.835	11.139
.750	.050	.200	10.522	9.631	8.119	14.055	13.033	11.329
.850	.050	.200	10.764	9.820	8.248	14.197	13.172	11.462
.950	.050	.200	10.865	9.921	8.345	14.300	13.272	11.559
1.050	.050	.200	10.945	9.997	8.417	14.378	13.348	11.632
1.150	.050	.200	11.004	10.055	8.473	14.437	13.406	11.687
1.250	.050	.200	11.051	10.101	8.517	14.483	13.451	11.731
1.350	.050	.200	11.083	10.137	8.552	14.521	13.487	11.766
1.450	.050	.200	11.119	10.166	8.580	14.551	13.517	11.794
1.550	.050	.200	11.143	10.190	8.603	14.575	13.541	11.817
1.650	.050	.200	11.163	10.211	8.625	14.596	13.561	11.836
1.750	.050	.200	11.18[illegible]	10.227	8.639	14.613	13.578	11.852
1.850	.050	.200	11.175	10.242	8.653	14.628	13.592	11.866
1.950	.050	.200	11.209	10.254	8.664	14.640	13.604	11.878
2.050	.050	.200	11.218	10.264	8.674	14.651	13.615	11.888
2.150	.050	.200	11.227	10.274	8.683	14.660	13.624	11.897
2.250	.050	.200	11.235	10.282	8.691	14.668	13.632	11.904
2.350	.050	.200	11.243	10.289	8.698	14.676	13.639	11.911
2.450	.050	.200	11.250	10.275	8.704	14.682	13.645	11.917
2.550	.050	.200	11.255	10.300	8.709	14.688	13.651	11.922
2.650	.050	.200	11.260	10.305	8.714	14.693	13.656	11.927
2.750	.050	.200	11.265	10.310	8.718	14.697	13.660	11.931
2.850	.050	.200	11.269	10.314	8.722	14.701	13.664	11.935
2.950	.050	.200	11.272	10.317	8.725	14.705	13.667	11.939
.050	.150	.200	.071	-.140	-.472	9.790	9.517	8.729
.150	.150	.200	3.002	2.680	2.142	15.819	15.116	13.946
.250	.150	.200	5.172	4.798	4.174	19.025	17.826	16.496
.350	.150	.200	6.435	5.926	5.353	20.333	19.190	17.786
.450	.150	.200	7.137	6.742	6.050	20.906	19.940	18.498
.550	.150	.200	7.525	7.132	6.476	21.257	20.388	18.924
.650	.150	.200	7.895	7.467	6.751	21.561	20.674	19.196
.750	.150	.200	8.094	7.661	6.938	21.759	20.866	19.379
.850	.150	.200	8.234	7.778	7.071	21.898	21.002	19.509
.950	.150	.200	8.336	7.898	7.167	21.999	21.100	19.603
1.050	.150	.200	8.413	7.973	7.240	22.075	21.174	19.673
1.150	.150	.200	8.472	8.031	7.295	22.133	21.231	19.728
1.250	.150	.200	8.519	8.076	7.340	22.179	21.276	19.771
1.350	.150	.200	8.563	8.112	7.375	22.216	21.312	19.805
1.450	.150	.200	8.585	8.142	7.403	22.246	21.341	19.832
1.550	.150	.200	8.613	8.166	7.426	22.270	21.369	19.855
1.650	.150	.200	8.632	8.186	7.446	22.290	21.384	19.874
1.750	.150	.200	8.647	8.203	7.462	22.307	21.401	19.890
1.850	.150	.200	8.662	8.217	7.476	22.322	21.415	19.903
1.950	.150	.200	8.675	8.230	7.488	22.334	21.427	19.915
2.050	.150	.200	8.685	8.240	7.498	22.345	21.437	19.925
2.150	.150	.200	8.695	8.249	7.507	22.354	21.446	19.934
2.250	.150	.200	8.703	8.257	7.515	22.362	21.454	19.941
2.350	.150	.200	8.710	8.264	7.521	22.369	21.461	19.948
2.450	.150	.200	8.717	8.271	7.527	22.376	21.467	19.954
2.550	.150	.200	8.722	8.276	7.533	22.381	21.473	19.959
2.650	.150	.200	8.727	8.281	7.539	22.386	21.478	19.964
2.750	.150	.200	8.732	8.286	7.542	22.391	21.482	19.968
2.850	.150	.200	8.735	8.289	7.546	22.395	21.486	19.972

2.950	.150	.200	8.739	8.223	7.519	22.393	21.490	19.975
.050	.250	.200	.357	.353	.339	8.403	8.069	7.513
.150	.250	.200	1.925	1.903	1.355	13.374	12.840	11.451
.250	.250	.200	3.357	3.326	3.275	15.852	15.220	14.166
.350	.250	.200	4.333	4.299	4.233	17.131	16.449	15.313
.450	.250	.200	4.959	4.918	4.841	17.846	17.137	15.956
.550	.250	.200	5.369	5.318	5.234	18.278	17.554	16.347
.650	.250	.200	5.640	5.586	5.496	18.556	17.822	16.599
.750	.250	.200	5.828	5.772	5.677	18.745	18.004	16.771
.850	.250	.200	5.963	5.905	5.807	18.878	18.133	16.893
.950	.250	.200	6.063	6.003	5.903	18.975	18.228	16.982
1.050	.250	.200	6.138	6.077	5.976	19.049	18.299	17.049
1.150	.250	.200	6.197	6.135	6.032	19.105	18.354	17.101
1.250	.250	.200	6.243	6.180	6.076	19.150	18.397	17.142
1.350	.250	.200	6.279	6.216	6.111	19.186	18.432	17.175
1.450	.250	.200	6.337	6.245	6.140	19.214	18.460	17.201
1.550	.250	.200	6.334	6.270	6.163	19.238	18.483	17.223
1.650	.250	.200	6.353	6.270	6.183	19.258	18.502	17.242
1.750	.250	.200	6.372	6.307	6.177	19.275	18.518	17.257
1.850	.250	.200	6.367	6.322	6.213	19.289	18.532	17.270
1.950	.250	.200	6.397	6.334	6.225	19.301	18.544	17.282
2.050	.250	.200	6.410	6.344	6.235	19.312	18.554	17.291
2.150	.250	.200	6.419	6.354	6.244	19.321	18.563	17.300
2.250	.250	.200	6.429	6.362	6.252	19.329	18.571	17.307
2.350	.250	.200	6.435	6.359	6.259	19.336	18.577	17.314
2.450	.250	.200	6.441	6.375	6.265	19.342	18.583	17.319
2.550	.250	.200	6.447	6.331	6.271	19.347	18.589	17.324
2.650	.250	.200	6.452	6.386	6.275	19.352	18.594	17.329
2.750	.250	.200	6.456	6.390	6.280	19.357	18.598	17.333
2.850	.250	.200	6.461	6.394	6.284	19.361	18.602	17.337
2.950	.250	.200	6.464	6.373	6.287	19.364	18.605	17.340
.050	.350	.200	.458	.528	.627	5.202	4.968	4.577
.150	.350	.200	1.366	1.463	1.624	8.709	8.310	7.646
.250	.350	.200	2.307	2.423	2.612	10.675	10.182	9.359
.350	.350	.200	3.010	3.130	3.361	11.763	11.217	10.307
.450	.350	.200	3.553	3.675	3.879	12.396	11.820	10.059
.550	.350	.200	3.936	4.029	4.233	12.787	12.193	11.202
.650	.350	.200	4.153	4.275	4.479	13.043	12.437	11.427
.750	.350	.200	4.329	4.450	4.653	13.219	12.605	11.582
.850	.350	.200	4.437	4.578	4.780	13.344	12.725	11.694
.950	.350	.200	4.553	4.674	4.875	13.436	12.813	11.776
1.050	.350	.200	4.527	4.747	4.947	13.506	12.880	11.838
1.150	.350	.200	4.634	4.804	5.003	13.560	12.932	11.887
1.250	.350	.200	4.730	4.819	5.047	13.602	12.973	11.925
1.350	.350	.200	4.765	4.835	5.083	13.636	13.006	11.956
1.450	.350	.200	4.796	4.919	5.111	13.664	13.033	11.981
1.550	.350	.200	4.821	4.939	5.135	13.687	13.055	12.002
1.650	.350	.200	4.811	4.959	5.155	13.706	13.074	12.019
1.750	.350	.200	4.859	4.976	5.172	13.723	13.089	12.034
1.850	.350	.250	4.873	4.991	5.186	13.736	13.103	12.047
1.950	.350	.200	4.886	5.003	5.178	13.748	13.114	12.057
2.050	.350	.200	4.897	5.014	5.209	13.758	13.124	12.067
2.150	.350	.200	4.935	5.023	5.218	13.767	13.133	12.075
2.250	.350	.200	4.915	5.031	5.226	13.775	13.140	12.082
2.350	.350	.200	4.922	5.039	5.233	13.782	13.147	12.088
2.450	.350	.200	4.928	5.045	5.239	13.788	13.153	12.094
2.550	.350	.200	4.934	5.051	5.245	13.793	13.158	12.099
2.650	.350	.200	4.739	5.056	5.250	13.798	13.163	12.103
2.750	.350	.200	4.944	5.060	5.254	13.803	13.167	12.107
2.850	.350	.200	4.945	5.064	5.250	13.806	13.171	12.111

2.950	.350	.200	4.932	5.263	5.261	13.310	14.174	12.114
.050	.450	.200	.460	.512	.653	3.073	2.903	2.620
.150	.450	.200	1.008	1.124	1.403	5.375	5.073	4.571
.250	.450	.200	1.709	1.858	2.132	6.828	6.441	5.795
.350	.450	.200	2.253	2.429	2.722	7.703	7.263	6.529
.450	.450	.200	2.666	2.851	3.160	8.240	7.767	6.979
.550	.450	.200	2.968	3.159	3.476	8.583	8.090	7.267
.650	.450	.200	3.139	3.382	3.704	8.812	8.306	7.461
.750	.450	.200	3.351	3.546	3.870	8.971	8.456	7.597
.850	.450	.200	3.472	3.659	3.993	9.086	8.565	7.696
.950	.450	.200	3.565	3.760	4.036	9.172	8.646	7.769
1.050	.450	.200	3.635	3.832	4.159	9.237	8.708	7.826
1.150	.450	.200	3.692	3.838	4.214	9.288	8.756	7.870
1.250	.450	.200	3.737	3.932	4.258	9.328	8.794	7.905
1.350	.450	.200	3.773	3.958	4.294	9.360	8.825	7.933
1.450	.450	.200	3.803	3.998	4.324	9.387	8.850	7.957
1.550	.450	.200	3.827	4.022	4.348	9.409	8.871	7.976
1.650	.450	.200	3.848	4.043	4.368	9.427	8.889	7.992
1.750	.450	.200	3.865	4.060	4.385	9.442	8.904	8.006
1.850	.450	.200	3.880	4.075	4.400	9.456	8.916	8.018
1.950	.450	.200	3.893	4.087	4.412	9.467	8.927	8.028
2.050	.450	.200	3.904	4.099	4.423	9.477	8.937	8.037
2.150	.450	.200	3.913	4.108	4.432	9.485	8.945	8.045
2.250	.450	.200	3.921	4.116	4.440	9.493	8.952	8.051
2.350	.450	.200	3.929	4.123	4.448	9.500	8.959	8.057
2.450	.450	.200	3.935	4.130	4.454	9.505	8.964	8.063
2.550	.450	.200	3.941	4.135	4.459	9.511	8.969	8.067
2.650	.450	.200	3.946	4.141	4.464	9.515	8.974	8.072
2.750	.450	.200	3.951	4.145	4.469	9.520	8.978	8.075
2.850	.450	.200	3.955	4.149	4.473	9.523	8.982	8.079
2.950	.450	.200	3.959	4.153	4.477	9.527	8.985	8.082
.050	.550	.200	.413	.479	.594	1.849	1.722	1.510
.150	.550	.200	.859	.974	1.201	3.339	3.107	2.719
.250	.550	.200	1.357	1.499	1.770	4.376	4.067	3.553
.350	.550	.200	1.751	1.937	2.248	5.052	4.693	4.095
.450	.550	.200	2.065	2.236	2.622	5.491	5.099	4.445
.550	.550	.200	2.343	2.553	2.903	5.783	5.369	4.679
.650	.550	.200	2.539	2.754	3.113	5.983	5.554	4.840
.750	.550	.200	2.657	2.906	3.270	6.124	5.686	4.954
.850	.550	.200	2.800	3.021	3.389	6.228	5.782	5.039
.950	.550	.200	2.883	3.110	3.481	6.306	5.855	5.103
1.050	.550	.200	2.957	3.130	3.552	6.365	5.911	5.152
1.150	.550	.200	3.012	3.235	3.608	6.412	5.955	5.192
1.250	.550	.200	3.056	3.280	3.653	6.450	5.990	5.223
1.350	.550	.200	3.091	3.316	3.689	6.480	6.018	5.249
1.450	.550	.200	3.121	3.345	3.719	6.505	6.042	5.270
1.550	.550	.200	3.145	3.370	3.744	6.525	6.061	5.287
1.650	.550	.200	3.166	3.390	3.764	6.543	6.078	5.302
1.750	.550	.200	3.183	3.409	3.782	6.558	6.092	5.315
1.850	.550	.200	3.193	3.423	3.797	6.570	6.104	5.326
1.950	.550	.200	3.211	3.435	3.810	6.581	6.114	5.335
2.050	.550	.200	3.222	3.445	3.821	6.590	6.123	5.344
2.150	.550	.200	3.232	3.456	3.830	6.599	6.131	5.351
2.250	.550	.200	3.240	3.464	3.838	6.606	6.138	5.357
2.350	.550	.200	3.247	3.472	3.846	6.612	6.144	5.363
2.450	.550	.200	3.254	3.478	3.852	6.618	6.149	5.368
2.550	.550	.200	3.260	3.484	3.858	6.623	6.154	5.372
2.650	.550	.200	3.265	3.489	3.863	6.627	6.158	5.376
2.750	.550	.200	3.270	3.494	3.868	6.631	6.162	5.380
2.850	.550	.200	3.274	3.498	3.872	6.635	6.166	5.383

2.950	.550	.200	3.229	3.532	3.570	6.633	6.169	5.386
.050	.650	.200	.335	.415	.517	1.149	1.051	.687
.150	.650	.200	.727	.835	1.022	2.422	1.939	1.633
.250	.650	.200	1.034	1.236	1.466	2.351	2.602	2.187
.350	.650	.200	1.411	1.590	1.837	3.361	3.065	2.572
.450	.650	.200	1.616	1.832	2.209	3.711	3.382	2.834
.550	.650	.200	1.925	2.114	2.461	3.952	3.601	3.016
.650	.650	.200	2.079	2.295	2.654	4.123	3.756	3.144
.750	.650	.200	2.214	2.435	2.803	4.246	3.868	3.238
.850	.650	.200	2.320	2.544	2.918	4.337	3.951	3.308
.950	.650	.200	2.403	2.632	3.007	4.407	4.015	3.362
1.050	.650	.200	2.459	2.677	3.078	4.461	4.065	3.404
1.150	.650	.200	2.522	2.732	3.134	4.503	4.104	3.438
1.250	.650	.200	2.565	2.775	3.179	4.538	4.136	3.465
1.350	.650	.200	2.601	2.831	3.216	4.566	4.161	3.488
1.450	.650	.200	2.630	2.851	3.246	4.589	4.183	3.507
1.550	.650	.200	2.654	2.886	3.271	4.608	4.201	3.522
1.650	.650	.200	2.675	2.906	3.273	4.624	4.216	3.536
1.750	.650	.200	2.692	2.924	3.310	4.638	4.229	3.547
1.850	.650	.200	2.707	2.939	3.326	4.650	4.240	3.557
1.950	.650	.200	2.720	2.952	3.337	4.660	4.250	3.566
2.050	.650	.200	2.731	2.963	3.350	4.669	4.258	3.573
2.150	.650	.200	2.741	2.973	3.360	4.677	4.265	3.580
2.250	.650	.200	2.749	2.932	3.369	4.684	4.272	3.586
2.350	.650	.200	2.757	2.939	3.376	4.697	4.278	3.591
2.450	.650	.200	2.764	2.995	3.333	4.695	4.283	3.595
2.550	.650	.200	2.759	3.032	3.339	4.700	4.287	3.600
2.650	.650	.200	2.775	3.007	3.394	4.704	4.291	3.603
2.750	.650	.200	2.779	3.012	3.399	4.708	4.295	3.607
2.850	.650	.200	2.784	3.016	3.403	4.712	4.298	3.610
2.950	.650	.200	2.788	3.020	3.407	4.715	4.301	3.613
.050	.750	.200	.334	.335	.444	.736	.653	.528
.150	.750	.200	.607	.707	.372	1.383	1.235	.989
.250	.750	.200	.901	1.037	1.254	1.894	1.690	1.350
.350	.750	.200	1.157	1.331	1.609	2.272	2.025	1.614
.450	.750	.200	1.397	1.540	1.336	2.545	2.267	1.803
.550	.750	.200	1.547	1.734	2.112	2.741	2.440	1.939
.650	.750	.200	1.711	1.947	2.271	2.883	2.566	2.038
.750	.750	.200	1.354	2.077	2.431	2.783	2.660	2.111
.850	.750	.200	1.952	2.177	2.512	3.060	2.730	2.168
.950	.750	.200	2.041	2.261	2.629	3.129	2.785	2.211
1.050	.750	.200	2.124	2.327	2.599	3.177	2.825	2.246
1.150	.750	.200	2.155	2.330	2.755	3.215	2.862	2.274
1.250	.750	.200	2.193	2.424	2.806	3.246	2.890	2.298
1.350	.750	.200	2.233	2.459	2.837	3.271	2.913	2.317
1.450	.750	.200	2.252	2.409	2.968	3.292	2.933	2.333
1.550	.750	.200	2.255	2.514	2.394	3.310	2.949	2.347
1.650	.750	.200	2.305	2.535	2.916	3.325	2.962	2.358
1.750	.750	.200	2.324	2.553	2.934	3.338	2.974	2.368
1.850	.750	.200	2.339	2.568	2.950	3.349	2.984	2.377
1.950	.750	.200	2.352	2.531	2.963	3.358	2.993	2.385
2.050	.750	.200	2.353	2.592	2.975	3.367	3.001	2.392
2.150	.750	.200	2.373	2.602	2.935	3.374	3.008	2.397
2.250	.750	.200	2.331	2.611	2.994	3.380	3.014	2.403
2.350	.750	.200	2.339	2.619	3.002	3.386	3.019	2.408
2.450	.750	.200	2.395	2.626	3.006	3.391	3.024	2.412
2.550	.750	.200	2.402	2.632	3.015	3.396	3.028	2.416
2.650	.750	.200	2.407	2.637	3.020	3.400	3.032	2.419
2.750	.750	.200	2.412	2.642	3.025	3.404	3.036	2.422
2.850	.750	.200	2.415	2.646	3.025	3.407	[illegible]	[illegible]

2.950	.750	.200	2.92[illegible]	2.653	3.033	3.310	3.042	2.428
.050	.850	.200	.260	.306	.331	.484	.421	.316
.150	.850	.200	.517	.613	.747	.920	.799	.596
.250	.850	.200	.751	.832	1.003	1.260	1.110	.827
.350	.850	.200	.935	1.132	1.378	1.559	1.350	1.004
.450	.850	.200	1.130	1.348	1.627	1.768	1.531	1.135
.550	.850	.200	1.315	1.523	1.832	1.929	1.665	1.232
.650	.850	.200	1.463	1.676	1.997	2.091	1.765	1.304
.750	.850	.200	1.596	1.796	2.130	2.129	1.840	1.360
.850	.850	.200	1.687	1.873	2.236	2.196	1.899	1.403
.950	.850	.200	1.761	1.971	2.321	2.249	1.945	1.437
1.050	.850	.200	1.822	2.035	2.370	2.291	1.981	1.464
1.150	.850	.200	1.872	2.087	2.445	2.325	2.011	1.487
1.250	.850	.200	1.913	2.130	2.491	2.352	2.035	1.506
1.350	.850	.200	1.947	2.155	2.529	2.375	2.055	1.522
1.450	.850	.200	1.976	2.175	2.560	2.394	2.072	1.535
1.550	.850	.200	2.000	2.220	2.586	2.410	2.086	1.546
1.650	.850	.200	2.020	2.241	2.608	2.424	2.098	1.556
1.750	.850	.200	2.033	2.259	2.627	2.435	2.109	1.565
1.850	.850	.200	2.050	2.274	2.643	2.445	2.118	1.573
1.950	.850	.200	2.065	2.288	2.657	2.454	2.126	1.579
2.050	.850	.200	2.077	2.299	2.669	2.462	2.133	1.585
2.150	.850	.200	2.087	2.309	2.680	2.469	2.139	1.590
2.250	.850	.200	2.095	2.318	2.689	2.475	2.145	1.595
2.350	.850	.200	2.103	2.326	2.697	2.480	2.150	1.599
2.450	.850	.200	2.110	2.333	2.704	2.485	2.154	1.603
2.550	.850	.200	2.116	2.339	2.710	2.489	2.158	1.607
2.650	.850	.200	2.122	2.345	2.716	2.493	2.162	1.610
2.750	.850	.200	2.127	2.350	2.721	2.497	2.165	1.612
2.850	.850	.200	2.131	2.354	2.726	2.500	2.168	1.616
2.950	.850	.200	2.135	2.358	2.730	2.503	2.171	1.617
.050	.950	.200	.224	.263	.329	.325	.273	.186
.150	.950	.200	.444	.519	.645	.623	.522	.355
.250	.950	.200	.652	.759	.936	.877	.734	.496
.350	.950	.200	.813	.975	1.195	1.081	.904	.608
.450	.950	.200	1.012	1.154	1.417	1.240	1.036	.694
.550	.950	.200	1.155	1.325	1.603	1.363	1.137	.760
.650	.950	.200	1.262	1.460	1.756	1.456	1.214	.810
.750	.950	.200	1.354	1.571	1.881	1.529	1.274	.850
.850	.950	.200	1.469	1.662	1.933	1.585	1.321	.881
.950	.950	.200	1.539	1.737	2.066	1.630	1.359	.906
1.050	.950	.200	1.597	1.778	2.133	1.666	1.389	.926
1.150	.950	.200	1.645	1.849	2.187	1.695	1.413	.944
1.250	.950	.200	1.686	1.871	2.235	1.719	1.434	.958
1.350	.950	.200	1.719	1.927	2.272	1.739	1.451	.971
1.450	.950	.200	1.747	1.956	2.304	1.756	1.466	.981
1.550	.950	.200	1.771	1.981	2.331	1.771	1.478	.991
1.650	.950	.200	1.792	2.002	2.353	1.783	1.487	.999
1.750	.950	.200	1.809	2.021	2.373	1.794	1.498	1.005
1.850	.950	.200	1.824	2.036	2.389	1.803	1.506	1.012
1.950	.950	.200	1.838	2.050	2.404	1.811	1.513	1.018
2.050	.950	.200	1.849	2.062	2.416	1.818	1.520	1.023
2.150	.950	.200	1.859	2.072	2.427	1.824	1.525	1.027
2.250	.950	.200	1.868	2.081	2.436	1.830	1.530	1.031
2.350	.950	.200	1.875	2.089	2.445	1.835	1.535	1.035
2.450	.950	.200	1.883	2.096	2.452	1.839	1.539	1.038
2.550	.950	.200	1.889	2.102	2.459	1.843	1.542	1.041
2.650	.950	.200	1.894	2.108	2.464	1.847	1.546	1.044
2.750	.950	.200	1.899	2.113	2.470	1.850	1.549	1.047
2.850	.950	.200	1.904	2.118	2.474	1.853	1.551	1.049

2.950	.950	.200	1.908	2.122	2.479	1.156	1.554	1.051
.050	1.050	.200	.179	.227	.265	.271	.177	.194
.150	1.050	.200	.339	.450	.530	.427	.342	.200
.250	1.050	.200	.564	.650	.815	.607	.485	.282
.350	1.050	.200	.733	.878	1.044	.756	.603	.349
.450	1.050	.200	.877	1.016	1.244	.875	.697	.401
.550	1.050	.200	1.009	1.160	1.413	.970	.772	.442
.650	1.050	.200	1.120	1.293	1.556	1.044	.830	.474
.750	1.050	.200	1.214	1.387	1.674	1.102	.876	.499
.850	1.050	.200	1.293	1.473	1.771	1.149	.913	.519
.950	1.050	.200	1.360	1.544	1.851	1.186	.942	.536
1.050	1.050	.200	1.415	1.603	1.916	1.217	.967	.551
1.150	1.050	.200	1.461	1.653	1.973	1.241	.987	.563
1.250	1.050	.200	1.500	1.695	2.018	1.262	1.004	.573
1.350	1.050	.200	1.533	1.729	2.056	1.280	1.010	.582
1.450	1.050	.200	1.561	1.759	2.088	1.294	1.030	.590
1.550	1.050	.200	1.585	1.784	2.115	1.307	1.041	.597
1.650	1.050	.200	1.605	1.805	2.139	1.318	1.050	.604
1.750	1.050	.200	1.623	1.824	2.158	1.327	1.058	.609
1.850	1.050	.200	1.638	1.840	2.175	1.335	1.065	.614
1.950	1.050	.200	1.651	1.853	2.190	1.343	1.071	.619
2.050	1.050	.200	1.663	1.865	2.203	1.349	1.077	.623
2.150	1.050	.200	1.673	1.875	2.214	1.355	1.082	.627
2.250	1.050	.200	1.682	1.885	2.224	1.360	1.086	.630
2.350	1.050	.200	1.690	1.893	2.232	1.364	1.090	.633
2.450	1.050	.200	1.697	1.901	2.240	1.368	1.094	.636
2.550	1.050	.200	1.703	1.907	2.247	1.372	1.097	.638
2.650	1.050	.200	1.709	1.913	2.253	1.376	1.100	.641
2.750	1.050	.200	1.714	1.918	2.258	1.379	1.103	.643
2.850	1.050	.200	1.718	1.923	2.263	1.381	1.105	.645
2.950	1.050	.200	1.722	1.927	2.267	1.384	1.107	.647
.050	1.150	.200	.170	.200	.249	.152	.115	.052
.150	1.150	.200	.335	.393	.490	.295	.222	.101
.250	1.150	.200	.493	.576	.715	.422	.317	.142
.350	1.150	.200	.639	.744	.919	.530	.397	.177
.450	1.150	.200	.770	.894	1.099	.618	.463	.204
.550	1.150	.200	.887	1.025	1.254	.690	.516	.225
.650	1.150	.200	.988	1.137	1.387	.748	.558	.242
.750	1.150	.200	1.075	1.233	1.498	.794	.592	.255
.850	1.150	.200	1.149	1.315	1.591	.832	.620	.267
.950	1.150	.200	1.211	1.383	1.669	.862	.643	.276
1.050	1.150	.200	1.264	1.440	1.734	.887	.661	.285
1.150	1.150	.200	1.309	1.488	1.788	.908	.677	.292
1.250	1.150	.200	1.347	1.529	1.833	.926	.691	.299
1.350	1.150	.200	1.379	1.564	1.872	.941	.702	.305
1.450	1.150	.200	1.406	1.593	1.904	.953	.712	.310
1.550	1.150	.200	1.430	1.618	1.931	.964	.721	.315
1.650	1.150	.200	1.450	1.639	1.955	.974	.728	.320
1.750	1.150	.200	1.469	1.658	1.975	.982	.735	.324
1.850	1.150	.200	1.483	1.674	1.992	.989	.741	.327
1.950	1.150	.200	1.496	1.688	2.008	.996	.746	.331
2.050	1.150	.200	1.508	1.700	2.021	1.001	.751	.334
2.150	1.150	.200	1.518	1.711	2.032	1.006	.755	.337
2.250	1.150	.200	1.527	1.720	2.042	1.011	.759	.340
2.350	1.150	.200	1.535	1.729	2.051	1.015	.763	.342
2.450	1.150	.200	1.542	1.736	2.059	1.019	.766	.344
2.550	1.150	.200	1.549	1.743	2.066	1.022	.769	.346
2.650	1.150	.200	1.554	1.749	2.072	1.025	.771	.348
2.750	1.150	.200	1.560	1.754	2.078	1.028	.774	.350
2.850	1.150	.200	1.564	1.759	2.083	1.030	.776	.352

2.750	1.250	.200	1.558	1.755	2.200	1.333	.778	.353
.050	1.250	.200	.149	.174	.219	.104	.072	.019
.150	1.250	.200	.295	.340	.432	.203	.141	.036
.250	1.250	.200	.434	.509	.632	.293	.202	.050
.350	1.250	.200	.563	.657	.819	.378	.259	.061
.450	1.250	.200	.631	.772	.977	.435	.298	.070
.550	1.250	.200	.736	.911	1.120	.489	.334	.076
.650	1.250	.200	.878	1.015	1.243	.533	.364	.061
.750	1.250	.200	.959	1.105	1.398	.569	.388	.085
.850	1.250	.200	1.027	1.181	1.437	.599	.407	.089
.950	1.250	.200	1.037	1.246	1.512	.623	.429	.092
1.050	1.250	.200	1.137	1.301	1.575	.643	.438	.095
1.150	1.250	.200	1.169	1.338	1.629	.660	.450	.099
1.250	1.250	.200	1.217	1.385	1.674	.675	.460	.102
1.350	1.250	.200	1.219	1.422	1.712	.687	.469	.105
1.450	1.250	.200	1.276	1.451	1.744	.698	.476	.107
1.550	1.250	.200	1.297	1.476	1.772	.707	.483	.110
1.650	1.250	.200	1.319	1.478	1.796	.715	.489	.113
1.750	1.250	.200	1.337	1.517	1.817	.722	.495	.116
1.850	1.250	.200	1.352	1.533	1.834	.728	.499	.118
1.950	1.250	.200	1.365	1.547	1.850	.734	.504	.120
2.050	1.250	.200	1.377	1.559	1.863	.739	.508	.123
2.150	1.250	.200	1.387	1.570	1.875	.743	.511	.125
2.250	1.250	.200	1.377	1.580	1.886	.747	.515	.127
2.350	1.250	.200	1.405	1.588	1.895	.751	.518	.129
2.450	1.250	.200	1.412	1.596	1.903	.754	.520	.130
2.550	1.250	.200	1.418	1.603	1.910	.757	.523	.132
2.650	1.250	.200	1.424	1.609	1.917	.760	.525	.134
2.750	1.250	.200	1.429	1.614	1.923	.763	.527	.135
2.850	1.250	.200	1.434	1.619	1.928	.765	.529	.136
2.950	1.250	.200	1.438	1.625	1.933	.767	.531	.138
.050	1.350	.200	.152	.155	.174	.071	.043	-.003
.150	1.350	.200	.281	.307	.333	.139	.085	-.007
.250	1.350	.200	.385	.451	.551	.201	.122	-.011
.350	1.350	.200	.502	.585	.726	.256	.154	-.016
.450	1.350	.200	.606	.715	.874	.303	.182	-.021
.550	1.350	.200	.701	.815	1.005	.342	.204	-.026
.650	1.350	.200	.786	.911	1.125	.375	.223	-.030
.750	1.350	.200	.863	.975	1.219	.402	.239	-.034
.850	1.350	.200	.925	1.067	1.304	.425	.252	-.037
.950	1.350	.200	.981	1.127	1.378	.444	.263	-.039
1.050	1.350	.200	1.027	1.182	1.436	.460	.272	-.040
1.150	1.350	.200	1.071	1.225	1.490	.473	.280	-.041
1.250	1.350	.200	1.108	1.267	1.535	.485	.288	-.041
1.350	1.350	.200	1.137	1.301	1.575	.495	.294	-.041
1.450	1.350	.200	1.159	1.329	1.605	.503	.300	-.040
1.550	1.350	.200	1.187	1.359	1.633	.511	.305	-.039
1.650	1.350	.200	1.207	1.376	1.657	.518	.309	-.038
1.750	1.350	.200	1.229	1.395	1.676	.524	.313	-.037
1.850	1.350	.200	1.240	1.411	1.698	.527	.317	-.036
1.950	1.350	.200	1.253	1.425	1.712	.534	.321	-.035
2.050	1.350	.200	1.265	1.438	1.726	.538	.324	-.033
2.150	1.350	.200	1.275	1.449	1.738	.542	.327	-.032
2.250	1.350	.200	1.285	1.459	1.749	.546	.329	-.031
2.350	1.350	.200	1.293	1.467	1.758	.549	.332	-.030
2.450	1.350	.200	1.300	1.475	1.767	.552	.334	-.028
2.550	1.350	.200	1.307	1.482	1.774	.554	.336	-.027
2.650	1.350	.200	1.313	[illegible]	1.781	.557	.338	-.026
2.750	1.350	.200	1.315	[illegible]	1.787	.559	.340	-.025
2.850	[illegible]	.200	[illegible]	1.499	1.793	.561	.342	-.024

2.950	1.350	.200	1.327	1.539	1.796	.563	.343	-.023
.050	1.450	.200	.118	.138	.173	.048	.023	-.018
.150	1.450	.200	.233	.273	.341	.094	.046	-.035
.250	1.450	.200	.343	.403	.501	.136	.066	-.052
.350	1.450	.200	.447	.523	.650	.174	.083	-.068
.450	1.450	.200	.543	.634	.786	.206	.098	-.082
.550	1.450	.200	.630	.734	.907	.234	.111	-.095
.650	1.450	.200	.708	.822	1.013	.258	.121	-.107
.750	1.450	.200	.777	.900	1.107	.278	.130	-.117
.850	1.450	.200	.837	.969	1.188	.294	.137	-.125
.950	1.450	.200	.890	1.028	1.257	.309	.143	-.132
1.050	1.450	.200	.936	1.079	1.317	.321	.149	-.137
1.150	1.450	.200	.976	1.123	1.368	.331	.154	-.141
1.250	1.450	.200	1.011	1.161	1.412	.340	.158	-.144
1.350	1.450	.200	1.041	1.194	1.450	.348	.162	-.146
1.450	1.450	.200	1.067	1.223	1.483	.355	.166	-.148
1.550	1.450	.200	1.090	1.248	1.511	.361	.170	-.149
1.650	1.450	.200	1.110	1.269	1.535	.366	.173	-.149
1.750	1.450	.200	1.127	1.288	1.556	.371	.176	-.150
1.850	1.450	.200	1.142	1.305	1.575	.375	.179	-.150
1.950	1.450	.200	1.155	1.319	1.591	.379	.181	-.149
2.050	1.450	.200	1.168	1.332	1.605	.383	.183	-.149
2.150	1.450	.200	1.179	1.343	1.618	.386	.186	-.149
2.250	1.450	.200	1.188	1.353	1.629	.389	.188	-.148
2.350	1.450	.200	1.196	1.362	1.638	.392	.190	-.147
2.450	1.450	.200	1.203	1.370	1.647	.395	.192	-.147
2.550	1.450	.200	1.210	1.377	1.655	.397	.193	-.146
2.650	1.450	.200	1.216	1.383	1.662	.399	.195	-.145
2.750	1.450	.200	1.221	1.389	1.668	.401	.196	-.145
2.850	1.450	.200	1.226	1.374	1.674	.403	.198	-.144
2.950	1.450	.200	1.231	1.399	1.679	.404	.199	-.143
.050	1.550	.200	.105	.124	.155	.031	.009	-.027
.150	1.550	.200	.207	.245	.306	.061	.018	-.053
.250	1.550	.200	.308	.361	.450	.089	.026	-.076
.350	1.550	.200	.402	.471	.586	.114	.033	-.102
.450	1.550	.200	.489	.572	.709	.135	.038	-.123
.550	1.550	.200	.539	.663	.821	.154	.043	-.143
.650	1.550	.200	.640	.745	.921	.170	.047	-.160
.750	1.550	.200	.705	.819	1.009	.184	.050	-.174
.850	1.550	.200	.762	.883	1.086	.196	.052	-.187
.950	1.550	.200	.812	.940	1.153	.206	.055	-.197
1.050	1.550	.200	.856	.989	1.211	.214	.057	-.206
1.150	1.550	.200	.894	1.032	1.261	.222	.059	-.213
1.250	1.550	.200	.928	1.069	1.304	.228	.061	-.218
1.350	1.550	.200	.957	1.101	1.342	.234	.063	-.223
1.450	1.550	.200	.983	1.129	1.374	.240	.065	-.226
1.550	1.550	.200	1.005	1.154	1.402	.244	.067	-.229
1.650	1.550	.200	1.025	1.175	1.427	.248	.069	-.231
1.750	1.550	.200	1.042	1.194	1.448	.252	.070	-.233
1.850	1.550	.200	1.057	1.211	1.467	.256	.072	-.234
1.950	1.550	.200	1.071	1.225	1.483	.259	.074	-.235
2.050	1.550	.200	1.083	1.238	1.498	.262	.075	-.235
2.150	1.550	.200	1.093	1.250	1.510	.264	.077	-.236
2.250	1.550	.200	1.103	1.260	1.522	.267	.078	-.236
2.350	1.550	.200	1.111	1.269	1.532	.269	.080	-.236
2.450	1.550	.200	1.119	1.277	1.541	.271	.081	-.236
2.550	1.550	.200	1.125	1.284	1.549	.273	.083	-.235
2.650	1.550	.200	1.131	1.291	1.556	.275	.084	-.235
2.750	1.550	.200	1.137	1.297	1.562	.277	.085	-.235
2.850	1.550	.200	1.142	1.302	1.568	.278	.086	[illegible]

2.950	1.550	.200	1.147	1.307	1.573	.209	.087	-.234
.050	1.650	.200	.095	.112	.139	.019	-.000	-.033
.150	1.650	.200	.188	.221	.275	.037	-.001	-.065
.250	1.650	.200	.278	.326	.407	.054	-.002	-.095
.350	1.650	.200	.363	.425	.533	.069	-.003	-.124
.450	1.650	.200	.442	.518	.643	.083	-.005	-.150
.550	1.650	.200	.516	.602	.747	.094	-.006	-.174
.650	1.650	.200	.582	.679	.840	.105	-.008	-.195
.750	1.650	.200	.642	.717	.923	.113	-.009	-.214
.850	1.650	.200	.696	.799	.996	.121	-.011	-.229
.950	1.650	.200	.743	.862	1.060	.127	-.012	-.243
1.050	1.650	.200	.785	.909	1.116	.133	-.012	-.254
1.150	1.650	.200	.822	.951	1.165	.138	-.013	-.264
1.250	1.650	.200	.855	.987	1.208	.142	-.013	-.272
1.350	1.650	.200	.883	1.019	1.245	.146	-.013	-.278
1.450	1.650	.200	.908	1.047	1.277	.150	-.013	-.283
1.550	1.650	.200	.930	1.071	1.305	.153	-.012	-.288
1.650	1.650	.200	.950	1.092	1.330	.156	-.011	-.291
1.750	1.650	.200	.967	1.111	1.351	.159	-.011	-.294
1.850	1.650	.200	.982	1.128	1.370	.162	-.010	-.296
1.950	1.650	.200	.996	1.142	1.387	.164	-.009	-.298
2.050	1.650	.200	1.008	1.155	1.402	.166	-.008	-.299
2.150	1.650	.200	1.018	1.167	1.415	.168	-.007	-.300
2.250	1.650	.200	1.028	1.177	1.426	.170	-.006	-.301
2.350	1.650	.200	1.035	1.186	1.437	.172	-.005	-.302
2.450	1.650	.200	1.044	1.195	1.446	.174	-.005	-.302
2.550	1.650	.200	1.051	1.202	1.454	.176	-.004	-.302
2.650	1.650	.200	1.057	1.209	1.461	.177	-.003	-.303
2.750	1.650	.200	1.062	1.215	1.468	.178	-.002	-.303
2.850	1.650	.200	1.069	1.220	1.474	.180	-.001	-.303
2.950	1.650	.200	1.072	1.225	1.479	.181	-.000	-.303
.050	1.750	.200	.086	.101	.126	.010	-.007	-.036
.150	1.750	.200	.170	.200	.250	.019	-.015	-.072
.250	1.750	.200	.252	.276	.369	.028	-.022	-.106
.350	1.750	.200	.329	.386	.481	.036	-.029	-.138
.450	1.750	.200	.402	.471	.586	.043	-.036	-.168
.550	1.750	.200	.470	.547	.682	.050	-.042	-.194
.650	1.750	.200	.532	.621	.769	.055	-.048	-.218
.750	1.750	.200	.588	.685	.847	.059	-.053	-.240
.850	1.750	.200	.638	.742	.917	.063	-.057	-.258
.950	1.750	.200	.683	.794	.978	.067	-.061	-.274
1.050	1.750	.200	.723	.839	1.032	.070	-.064	-.288
1.150	1.750	.200	.759	.879	1.080	.073	-.067	-.299
1.250	1.750	.200	.790	.914	1.121	.075	-.069	-.309
1.350	1.750	.200	.818	.945	1.158	.078	-.070	-.317
1.450	1.750	.200	.842	.973	1.190	.080	-.072	-.324
1.550	1.750	.200	.864	.997	1.218	.082	-.072	-.330
1.650	1.750	.200	.883	1.018	1.243	.084	-.073	-.334
1.750	1.750	.200	.900	1.037	1.264	.086	-.073	-.338
1.850	1.750	.200	.915	1.053	1.283	.087	-.073	-.342
1.950	1.750	.200	.929	1.069	1.300	.089	-.073	-.344
2.050	1.750	.200	.941	1.081	1.315	.091	-.073	-.346
2.150	1.750	.200	.951	1.093	1.328	.092	-.073	-.348
2.250	1.750	.200	.961	1.103	1.340	.094	-.073	-.350
2.350	1.750	.200	.970	1.113	1.351	.095	-.072	-.351
2.450	1.750	.200	.977	1.121	1.360	.096	-.072	-.352
2.550	1.750	.200	.984	1.128	1.369	.098	-.071	-.353
2.650	1.750	.200	.990	1.135	1.376	.099	-.071	-.353
2.750	1.750	.200	.995	1.141	1.383	.100	-.070	-.354
2.850	1.750	.200	1.001	1.147	1.389	.101	-.069	-.354

2.750	1.750	.200	[illegible]	1.132	1.395	.102	-.069	-.354
.050	1.850	.200	.070	.072	.115	.003	-.012	-.038
.150	1.850	.200	.145	.132	.227	.007	-.024	-.076
.250	1.850	.200	.227	.259	.336	.009	-.036	-.112
.350	1.850	.200	.300	.352	.439	.012	-.047	-.146
.450	1.850	.200	.367	.430	.536	.014	-.058	-.178
.550	1.850	.200	.430	.503	.625	.016	-.068	-.207
.650	1.850	.200	.437	.559	.706	.017	-.076	-.233
.750	1.850	.200	.540	.630	.730	.018	-.084	-.256
.950	1.850	.200	.587	.689	.846	.019	-.092	-.276
.950	1.850	.200	.630	.735	.905	.020	-.098	-.294
1.050	1.850	.200	.668	.776	.957	.021	-.103	-.310
1.150	1.850	.200	.732	.815	1.003	.022	-.107	-.323
1.250	1.850	.200	.733	.849	1.049	.023	-.111	-.334
1.350	1.850	.200	.760	.880	1.080	.024	-.114	-.344
1.450	1.850	.200	.763	.925	1.111	.025	-.117	-.352
1.550	1.850	.200	.805	.930	1.137	.026	-.119	-.359
1.650	1.850	.200	.824	.951	1.154	.027	-.120	-.365
1.750	1.850	.200	.841	.970	1.136	.028	-.122	-.370
1.850	1.850	.200	.855	.987	1.205	.029	-.122	-.374
1.950	1.850	.200	.869	1.001	1.222	.030	-.123	-.378
2.050	1.850	.200	.881	1.014	1.237	.031	-.124	-.381
2.150	1.850	.200	.892	1.026	1.250	.032	-.124	-.383
2.250	1.850	.200	.901	1.037	1.262	.033	-.124	-.385
2.350	1.850	.200	.910	1.046	1.273	.034	-.124	-.387
2.450	1.850	.200	.918	1.055	1.283	.035	-.124	-.389
2.550	1.850	.200	.925	1.062	1.292	.035	-.124	-.390
2.650	1.850	.200	.931	1.069	1.299	.036	-.124	-.391
2.750	1.850	.200	.937	1.075	1.306	.037	-.124	-.392
2.850	1.850	.200	.942	1.081	1.313	.038	-.123	-.392
2.950	1.850	.200	.947	1.086	1.319	.039	-.123	-.393
.050	1.950	.200	.071	.089	.105	-.001	-.016	-.039
.150	1.950	.200	.141	.166	.207	-.003	-.031	-.078
.250	1.950	.200	.209	.246	.307	-.005	-.046	-.115
.350	1.950	.200	.275	.322	.402	-.006	-.060	-.150
.450	1.950	.200	.330	.395	.491	-.008	-.073	-.183
.550	1.950	.200	.394	.462	.574	-.010	-.086	-.213
.650	1.950	.200	.450	.524	.651	-.011	-.097	-.241
.750	1.950	.200	.497	.581	.720	-.013	-.107	-.265
.850	1.950	.200	.542	.632	.783	-.014	-.117	-.287
.950	1.950	.200	.582	.679	.839	-.015	-.125	-.307
1.050	1.950	.200	.619	.720	.889	-.016	-.132	-.324
1.150	1.950	.200	.652	.758	.934	-.017	-.138	-.336
1.250	1.950	.200	.681	.771	.974	-.018	-.143	-.351
1.350	1.950	.200	.707	.820	1.009	-.018	-.147	-.362
1.450	1.950	.200	.731	.847	1.040	-.019	-.151	-.371
1.550	1.950	.200	.752	.870	1.065	-.019	-.154	-.379
1.650	1.950	.200	.770	.891	1.092	-.019	-.156	-.386
1.750	*1.950	.200	.787	.910	1.114	-.018	-.159	-.392
1.850	1.950	.200	.802	.926	1.133	-.018	-.160	-.397
1.950	1.950	.200	.815	.941	1.151	-.018	-.162	-.402
2.050	1.950	.200	.827	.954	1.166	-.017	-.163	-.405
2.150	1.950	.200	.838	.966	1.180	-.017	-.164	-.408
2.250	1.950	.200	.847	.977	1.192	-.016	-.164	-.411
2.350	1.950	.200	.856	.986	1.203	-.016	-.165	-.413
2.450	1.950	.200	.864	.995	1.213	-.015	-.165	-.415
2.550	1.950	.200	.871	1.002	1.221	-.015	-.166	-.417
2.650	1.950	.200	.877	1.009	1.229	-.014	-.166	-.418
2.750	1.950	.200	[illegible]	[illegible]	1.237	-.013	-.166	-.420

2.750	1.750	.200	.394	1.027	1.249	-.312	-.165	-.421
.050	2.050	.200	.065	.077	.096	-.005	-.018	-.039
.150	2.050	.200	.129	.152	.190	-.010	-.036	-.073
.250	2.050	.200	.192	.226	.282	-.015	-.053	-.115
.350	2.050	.200	.252	.278	.369	-.020	-.069	-.151
.450	2.050	.200	.309	.363	.452	-.024	-.084	-.185
.550	2.050	.200	.363	.426	.530	-.029	-.099	-.216
.650	2.050	.200	.413	.484	.601	-.033	-.112	-.244
.750	2.050	.200	.459	.537	.667	-.036	-.124	-.270
.850	2.050	.200	.502	.586	.726	-.040	-.135	-.293
.950	2.050	.200	.540	.630	.780	-.043	-.144	-.313
1.050	2.050	.200	.575	.670	.828	-.045	-.153	-.331
1.150	2.050	.200	.607	.705	.872	-.048	-.160	-.347
1.250	2.050	.200	.635	.738	.910	-.050	-.166	-.361
1.350	2.050	.200	.660	.767	.945	-.051	-.172	-.373
1.450	2.050	.200	.683	.793	.976	-.052	-.177	-.383
1.550	2.050	.200	.704	.816	1.003	-.053	-.181	-.392
1.650	2.050	.200	.722	.836	1.027	-.054	-.184	-.400
1.750	2.050	.200	.738	.855	1.049	-.055	-.187	-.407
1.850	2.050	.200	.753	.871	1.068	-.055	-.189	-.413
1.950	2.050	.200	.766	.886	1.086	-.055	-.191	-.418
2.050	2.050	.200	.778	.899	1.101	-.056	-.193	-.422
2.150	2.050	.200	.789	.911	1.115	-.056	-.194	-.426
2.250	2.050	.200	.799	.922	1.127	-.055	-.196	-.429
2.350	2.050	.200	.807	.931	1.138	-.055	-.197	-.432
2.450	2.050	.200	.815	.940	1.148	-.055	-.197	-.434
2.550	2.050	.200	.822	.948	1.157	-.055	-.198	-.436
2.650	2.050	.200	.829	.955	1.166	-.055	-.199	-.438
2.750	2.050	.200	.835	.952	1.173	-.054	-.199	-.440
2.850	2.050	.200	.840	.968	1.180	-.054	-.199	-.441
2.950	2.050	.200	.845	.973	1.186	-.054	-.199	-.442
.050	2.150	.200	.060	.070	.088	-.008	-.019	-.039
.150	2.150	.200	.119	.140	.175	-.015	-.039	-.077
.250	2.150	.200	.177	.208	.259	-.023	-.057	-.115
.350	2.150	.200	.232	.273	.341	-.030	-.075	-.150
.450	2.150	.200	.285	.335	.418	-.037	-.092	-.184
.550	2.150	.200	.335	.393	.490	-.043	-.108	-.215
.650	2.150	.200	.382	.448	.557	-.049	-.122	-.244
.750	2.150	.200	.425	.498	.619	-.054	-.135	-.270
.850	2.150	.200	.466	.544	.675	-.059	-.147	-.294
.950	2.150	.200	.502	.586	.727	-.064	-.158	-.315
1.050	2.150	.200	.536	.625	.773	-.068	-.168	-.334
1.150	2.150	.200	.566	.659	.815	-.071	-.176	-.351
1.250	2.150	.200	.593	.691	.853	-.074	-.184	-.365
1.350	2.150	.200	.618	.719	.887	-.077	-.190	-.378
1.450	2.150	.200	.640	.744	.917	-.079	-.196	-.390
1.550	2.150	.200	.660	.766	.944	-.081	-.200	-.400
1.650	2.150	.200	.678	.787	.968	-.082	-.205	-.408
1.750	2.150	.200	.694	.805	.739	-.084	-.208	-.416
1.850	2.150	.200	.709	.821	1.009	-.085	-.211	-.422
1.950	2.150	.200	.722	.836	1.026	-.086	-.214	-.428
2.050	2.150	.200	.734	.849	1.042	-.086	-.216	-.433
2.150	2.150	.200	.745	.861	1.056	-.087	-.218	-.437
2.250	2.150	.200	.754	.872	1.068	-.087	-.220	-.441
2.350	2.150	.200	.763	.882	1.079	-.087	-.221	-.444
2.450	2.150	.200	.771	.890	1.089	-.087	-.222	-.447
2.550	2.150	.200	.778	.898	1.099	-.088	-.223	-.450
[illegible]	2.150	.200	[illegible]	[illegible]	1.107	-.087	-.224	-.452
[illegible]	2.150	.200	.791	.912	1.115	-.087	-.225	-.454
[illegible]	2.150	.200	.796	[illegible]	1.123	-.087	-.225	[illegible]

2.750	2.150	.200	[illegible]	.929	1.129	[illegible]	-.226	-.457
.050	2.250	.200	.055	.065	.081	-.010	-.020	-.037
.150	2.250	.200	.110	.129	.161	-.019	-.040	-.076
.250	2.250	.200	.163	.192	.240	-.028	-.060	-.113
.350	2.250	.200	.215	.252	.315	-.037	-.079	-.148
.450	2.250	.200	.264	.310	.387	-.046	-.097	-.181
.550	2.250	.200	.311	.365	.454	-.054	-.113	-.213
.650	2.250	.200	.355	.416	.517	-.061	-.129	-.242
.750	2.250	.200	.395	.463	.576	-.068	-.143	-.268
.850	2.250	.200	.433	.507	.629	-.074	-.156	-.292
.950	2.250	.200	.466	.547	.679	-.080	-.168	-.314
1.050	2.250	.200	.500	.584	.723	-.085	-.178	-.333
1.150	2.250	.200	.529	.617	.764	-.089	-.188	-.351
1.250	2.250	.200	.555	.647	.800	-.093	-.196	-.366
1.350	2.250	.200	.579	.674	.833	-.097	-.203	-.380
1.450	2.250	.200	.601	.679	.863	-.100	-.209	-.392
1.550	2.250	.200	.620	.721	.889	-.102	-.215	-.403
1.650	2.250	.200	.638	.741	.913	-.105	-.220	-.412
1.750	2.250	.200	.654	.759	.935	-.107	-.224	-.420
1.850	2.250	.200	.669	.776	.954	-.108	-.228	-.427
1.950	2.250	.200	.682	.790	.971	-.110	-.231	-.434
2.050	2.250	.200	.693	.803	.987	-.111	-.234	-.439
2.150	2.250	.200	.704	.815	1.001	-.112	-.236	-.444
2.250	2.250	.200	.714	.826	1.013	-.112	-.238	-.448
2.350	2.250	.200	.723	.836	1.025	-.113	-.240	-.452
2.450	2.250	.200	.730	.845	1.035	-.113	-.242	-.455
2.550	2.250	.200	.738	.853	1.045	-.114	-.243	-.458
2.650	2.250	.200	.744	.860	1.053	-.114	-.244	-.461
2.750	2.250	.200	.750	.867	1.061	-.114	-.245	-.463
2.850	2.250	.200	.756	.873	1.068	-.114	-.246	-.465
2.950	2.250	.200	.761	.878	1.074	-.114	-.247	-.467
.050	2.350	.200	.051	.060	.075	-.011	-.021	-.037
.150	2.350	.200	.102	.120	.149	-.022	-.041	-.074
.250	2.350	.200	.151	.178	.222	-.032	-.062	-.110
.350	2.350	.200	.199	.234	.292	-.042	-.081	-.145
.450	2.350	.200	.245	.288	.359	-.052	-.099	-.178
.550	2.350	.200	.289	.339	.422	-.061	-.117	-.209
.650	2.350	.200	.330	.387	.482	-.070	-.133	-.236
.750	2.350	.200	.368	.432	.537	-.078	-.148	-.264
.850	2.350	.200	.404	.473	.588	-.085	-.161	-.288
.950	2.350	.200	.437	.511	.635	-.092	-.174	-.310
1.050	2.350	.200	.468	.546	.678	-.098	-.185	-.330
1.150	2.350	.200	.496	.579	.717	-.103	-.195	-.348
1.250	2.350	.200	.521	.608	.752	-.108	-.204	-.364
1.350	2.350	.200	.544	.634	.784	-.112	-.212	-.379
1.450	2.350	.200	.565	.658	.813	-.116	-.219	-.391
1.550	2.350	.200	.584	.680	.839	-.119	-.225	-.403
1.650	2.350	.200	.602	.700	.863	-.122	-.231	-.412
1.750	2.350	.200	.617	.717	.884	-.125	-.236	-.421
1.850	2.350	.200	.632	.734	.903	-.127	-.240	-.429
1.950	2.350	.200	.645	.748	.921	-.128	-.244	-.436
2.050	2.350	.200	.656	.761	.936	-.130	-.247	-.442
2.150	2.350	.200	.667	.773	.950	-.131	-.250	-.447
2.250	2.350	.200	.677	.784	.963	-.132	-.252	-.452
2.350	2.350	.200	.685	.794	.975	-.133	-.254	-.456
2.450	2.350	.200	.693	.803	.985	-.134	-.256	-.460
2.550	2.350	.200	.701	.811	.995	-.135	-.258	-.463
[illegible]	[illegible]	[illegible]	.707	.818	1.003	-.135	-.259	-.466
[illegible]	[illegible]	[illegible]	.713	.825	1.011	-.136	-.261	-.468

[illegible]	2.[illegible]	.200	.724	.[illegible]57	1.[illegible]25	-.136	-.263	-.473
.050	2.450	.200	.047	.056	.070	-.012	-.021	-.036
.150	2.450	.200	.094	.111	.139	-.024	-.042	-.072
.250	2.450	.200	.140	.165	.206	-.035	-.062	-.107
.350	2.450	.200	.185	.217	.271	-.046	-.082	-.141
.450	2.450	.200	.229	.266	.334	-.057	-.101	-.173
.550	2.450	.200	.269	.315	.393	-.067	-.118	-.204
.650	2.450	.200	.307	.361	.449	-.077	-.135	-.232
.750	2.450	.200	.344	.403	.502	-.085	-.150	-.259
.850	2.450	.200	.379	.442	.550	-.093	-.165	-.283
.950	2.450	.200	.409	.479	.595	-.101	-.178	-.305
1.050	2.450	.200	.438	.513	.636	-.108	-.189	-.326
1.150	2.450	.200	.465	.543	.674	-.114	-.200	-.344
1.250	2.450	.200	.490	.572	.708	-.117	-.210	-.360
1.350	2.450	.200	.512	.597	.739	-.124	-.218	-.375
1.450	2.450	.200	.533	.621	.768	-.128	-.226	-.388
1.550	2.450	.200	.551	.642	.793	-.132	-.233	-.400
1.650	2.450	.200	.568	.661	.817	-.136	-.239	-.410
1.750	2.450	.200	.584	.679	.838	-.139	-.244	-.420
1.850	2.450	.200	.578	.695	.857	-.141	-.249	-.428
1.950	2.450	.200	.610	.717	.874	-.143	-.253	-.435
2.050	2.450	.200	.622	.722	.893	-.145	-.256	-.442
2.150	2.450	.200	.633	.734	.904	-.147	-.260	-.447
2.250	2.450	.200	.642	.745	.917	-.148	-.263	-.453
2.350	2.450	.200	.651	.755	.928	-.150	-.265	-.457
2.450	2.450	.200	.659	.764	.939	-.151	-.267	-.461
2.550	2.450	.200	.666	.772	.948	-.152	-.269	-.465
2.650	2.450	.200	.673	.780	.957	-.153	-.271	-.468
2.750	2.450	.200	.679	.786	.965	-.153	-.272	-.471
2.850	2.450	.200	.685	.793	.972	-.154	-.274	-.473
2.950	2.450	.200	.690	.798	.979	-.154	-.275	-.476
.050	2.550	.200	.044	.052	.065	-.013	-.021	-.035
.150	2.550	.200	.088	.103	.129	-.025	-.042	-.070
.250	2.550	.200	.131	.154	.192	-.037	-.062	-.104
.350	2.550	.200	.172	.202	.253	-.049	-.082	-.137
.450	2.550	.200	.212	.255	.311	-.060	-.101	-.166
.550	2.550	.200	.251	.295	.367	-.071	-.119	-.198
.650	2.550	.200	.287	.337	.420	-.081	-.136	-.226
.750	2.550	.200	.322	.377	.470	-.091	-.151	-.253
.850	2.550	.200	.354	.415	.516	-.099	-.166	-.277
.950	2.550	.200	.384	.449	.559	-.107	-.179	-.299
1.050	2.550	.200	.412	.482	.598	-.115	-.191	-.319
1.150	2.550	.200	.437	.511	.635	-.121	-.203	-.338
1.250	2.550	.200	.461	.539	.668	-.127	-.213	-.354
1.350	2.550	.200	.483	.564	.698	-.133	-.222	-.370
1.450	2.550	.200	.503	.586	.726	-.138	-.230	-.383
1.550	2.550	.200	.521	.607	.751	-.142	-.237	-.395
1.650	2.550	.200	.537	.626	.774	-.146	-.243	-.406
1.750	2.550	.200	.553	.643	.795	-.149	-.249	-.416
1.850	2.550	.200	.566	.659	.814	-.152	-.254	-.425
1.950	2.550	.200	.577	.673	.831	-.155	-.259	-.432
2.050	2.550	.200	.591	.686	.846	-.157	-.263	-.439
2.150	2.550	.200	.601	.678	.860	-.159	-.267	-.445
2.250	2.550	.200	.611	.709	.873	-.161	-.270	-.451
2.350	2.550	.200	.617	.719	.885	-.163	-.273	-.456
2.450	2.550	.200	.627	.728	.896	-.164	-.275	-.460
2.550	2.550	.200	.635	.736	.905	-.165	-.277	-.464
2.650	2.550	.200	.641	.744	.914	-.166	-.279	-.468
2.750	2.550	.200	[illegible]	.751	.922	-.167	-.281	-.471
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.168	-.283	-.474

2.750	2.750	.200	.602	.699	.860	-.189	-.275	-.472
.050	2.850	.200	.036	.012	.053	-.013	-.020	-.032
.150	2.850	.200	.072	.034	.105	-.027	-.040	-.063
.250	2.850	.200	.107	.126	.157	-.039	-.060	-.094
.350	2.850	.200	.141	.166	.207	-.052	-.079	-.124
.450	2.850	.200	.174	.205	.256	-.064	-.097	-.152
.550	2.850	.200	.207	.243	.303	-.076	-.115	-.180
.650	2.850	.200	.237	.279	.347	-.087	-.132	-.206
.750	2.850	.200	.265	.313	.390	-.098	-.148	-.231
.850	2.850	.200	.294	.345	.430	-.107	-.163	-.254
.950	2.850	.200	.320	.375	.467	-.117	-.176	-.276
1.050	2.850	.200	.344	.404	.502	-.125	-.189	-.296
1.150	2.850	.200	.367	.430	.535	-.133	-.201	-.315
1.250	2.850	.200	.389	.454	.565	-.140	-.212	-.331
1.350	2.850	.200	.408	.477	.592	-.147	-.222	-.347
1.450	2.850	.200	.426	.498	.618	-.153	-.231	-.361
1.550	2.850	.200	.443	.519	.642	-.159	-.239	-.374
1.650	2.850	.200	.459	.535	.663	-.163	-.247	-.386
1.750	2.850	.200	.473	.552	.683	-.168	-.253	-.397
1.850	2.850	.200	.486	.567	.701	-.172	-.260	-.406
1.950	2.850	.200	.499	.581	.718	-.175	-.265	-.415
2.050	2.850	.200	.509	.575	.733	-.178	-.270	-.423
2.150	2.850	.200	.519	.605	.747	-.181	-.275	-.430
2.250	2.850	.200	.529	.616	.760	-.184	-.279	-.436
2.350	2.850	.200	.537	.625	.772	-.186	-.282	-.442
2.450	2.850	.200	.545	.634	.783	-.188	-.286	-.447
2.550	2.850	.200	.553	.643	.793	-.190	-.289	-.452
2.650	2.850	.200	.559	.650	.802	-.192	-.291	-.457
2.750	2.850	.200	.566	.657	.810	-.194	-.294	-.460
2.850	2.850	.200	.571	.664	.818	-.195	-.296	-.464
2.950	2.850	.200	.577	.670	.825	-.196	-.298	-.467
.050	2.950	.200	.033	.040	.050	-.013	-.020	-.030
.150	2.950	.200	.067	.079	.099	-.027	-.039	-.061
.250	2.950	.200	.100	.118	.147	-.039	-.059	-.090
.350	2.950	.200	.133	.156	.195	-.052	-.077	-.119
.450	2.950	.200	.164	.193	.241	-.064	-.095	-.147
.550	2.950	.200	.194	.228	.285	-.076	-.113	-.174
.650	2.950	.200	.223	.262	.327	-.087	-.129	-.200
.750	2.950	.200	.251	.295	.368	-.098	-.145	-.224
.850	2.950	.200	.277	.325	.406	-.108	-.160	-.246
.950	2.950	.200	.302	.354	.441	-.117	-.174	-.268
1.050	2.950	.200	.326	.382	.475	-.126	-.187	-.288
1.150	2.950	.200	.347	.407	.506	-.134	-.199	-.306
1.250	2.950	.200	.368	.431	.535	-.142	-.210	-.323
1.350	2.950	.200	.387	.453	.562	-.149	-.220	-.338
1.450	2.950	.200	.404	.473	.587	-.155	-.227	-.353
1.550	2.950	.200	.421	.492	.610	-.160	-.237	-.366
1.650	2.950	.200	.436	.509	.632	-.166	-.245	-.378
1.750	2.950	.200	.450	.525	.651	-.170	-.252	-.388
1.850	2.950	.200	.463	.540	.669	-.175	-.257	-.398
1.950	2.950	.200	.475	.554	.686	-.179	-.264	-.407
2.050	2.950	.200	.486	.566	.701	-.182	-.270	-.415
2.150	2.950	.200	.495	.578	.715	-.185	-.274	-.423
2.250	2.950	.200	.505	.588	.727	-.188	-.279	-.429
2.350	2.950	.200	.514	.598	.739	-.191	-.282	-.436
2.450	2.950	.200	.522	.607	.750	-.193	-.286	-.441
2.550	2.950	.200	.529	.616	.760	-.195	-.289	-.446
2.650	2.950	.200	.536	.623	.769	-.197	-.292	-.451
2.750	2.950	.200	.542	.630	.777	-.199	-.295	-.455
2.850	2.950	.200	[illegible]	.637	.785	-.200	-.297	-.459

2.950	2.950	.200	.553	.643	.792	-.201	-.299	-.452
.050	.050	.300	-.983	-1.172	-1.655	-.179	-.495	-.990
.150	.050	.300	1.025	.552	-.207	1.995	1.515	.712
.250	.050	.300	3.000	2.531	1.519	4.136	3.564	2.611
.350	.050	.300	4.493	3.895	2.904	5.572	4.954	3.923
.450	.050	.300	5.391	4.771	3.737	6.482	5.837	4.753
.550	.050	.300	5.975	5.339	4.280	7.069	6.408	5.308
.650	.050	.300	6.366	5.721	4.645	7.461	6.791	5.674
.750	.050	.300	6.638	5.996	4.899	7.734	7.057	5.928
.850	.050	.300	6.833	6.177	5.082	7.929	7.248	6.111
.950	.050	.300	6.978	6.318	5.218	8.074	7.389	6.247
1.050	.050	.300	7.087	6.425	5.320	8.183	7.496	6.349
1.150	.050	.300	7.172	6.507	5.400	8.268	7.578	6.429
1.250	.050	.300	7.239	6.573	5.463	8.335	7.644	6.491
1.350	.050	.300	7.293	6.625	5.513	8.389	7.696	6.542
1.450	.050	.300	7.336	6.669	5.554	8.433	7.739	6.583
1.550	.050	.300	7.373	6.703	5.588	8.467	7.774	6.617
1.650	.050	.300	7.403	6.733	5.616	8.499	7.803	6.645
1.750	.050	.300	7.423	6.757	5.640	8.524	7.828	6.669
1.850	.050	.300	7.449	6.778	5.660	8.545	7.849	6.689
1.950	.050	.300	7.463	6.777	5.678	8.564	7.867	6.706
2.050	.050	.300	7.484	6.812	5.692	8.580	7.883	6.721
2.150	.050	.300	7.499	6.826	5.705	8.594	7.896	6.734
2.250	.050	.300	7.510	6.837	5.717	8.606	7.908	6.745
2.350	.050	.300	7.520	6.848	5.727	8.616	7.918	6.755
2.450	.050	.300	7.530	6.857	5.736	8.626	7.923	6.764
2.550	.050	.300	7.538	6.865	5.744	8.634	7.936	6.772
2.650	.050	.300	7.545	6.872	5.751	8.642	7.943	6.779
2.750	.050	.300	7.552	6.879	5.757	8.649	7.950	6.785
2.850	.050	.300	7.558	6.885	5.762	8.654	7.955	6.791
2.950	.050	.300	7.564	6.890	5.768	8.660	7.961	6.796
.050	.150	.300	-.567	-.748	-1.054	3.262	2.990	2.559
.150	.150	.300	.815	.511	.006	6.422	5.990	5.270
.250	.150	.300	2.489	2.119	1.504	8.696	8.175	7.305
.350	.150	.300	3.726	3.320	2.695	10.132	9.563	8.613
.450	.150	.300	4.532	4.125	3.415	11.029	10.432	9.430
.550	.150	.300	5.102	4.652	3.930	11.606	10.993	9.971
.650	.150	.300	5.477	5.029	4.242	11.993	11.369	10.329
.750	.150	.300	5.745	5.236	4.530	12.261	11.630	10.579
.850	.150	.300	5.931	5.473	4.709	12.454	11.818	10.758
.950	.150	.300	6.073	5.612	4.843	12.597	11.957	10.891
1.050	.150	.300	6.181	5.717	4.945	12.705	12.063	10.992
1.150	.150	.300	6.265	5.800	5.024	12.789	12.145	11.070
1.250	.150	.300	6.331	5.864	5.086	12.855	12.209	11.132
1.350	.150	.300	6.385	5.917	5.137	12.909	12.261	11.182
1.450	.150	.300	6.429	5.959	5.178	12.952	12.303	11.223
1.550	.150	.300	6.464	5.994	5.211	12.988	12.338	11.256
1.650	.150	.300	6.494	6.024	5.240	13.017	12.367	11.284
1.750	.150	.300	6.519	6.048	5.263	13.043	12.392	11.307
1.850	.150	.300	6.541	6.069	5.284	13.064	12.413	11.327
1.950	.150	.300	6.557	6.087	5.301	13.082	12.431	11.345
2.050	.150	.300	6.575	6.103	5.316	13.098	12.446	11.359
2.150	.150	.300	6.589	6.117	5.329	13.112	12.460	11.372
2.250	.150	.300	6.601	6.128	5.340	13.124	12.471	11.384
2.350	.150	.300	6.617	6.139	5.350	13.134	12.482	11.393
2.450	.150	.300	6.621	6.148	5.359	13.144	12.491	11.402
2.550	.150	.300	[illegible]	6.156	5.367	13.152	12.499	11.410
[illegible]	.150	.300	[illegible]	6.163	5.374	13.160	12.506	11.417
[illegible]	[illegible]	[illegible]	[illegible]	6.170	5.380	13.166	12.513	11.423
[illegible]	.150	.300	[illegible]	6.175	5.386	13.172	12.518	11.429

2.950	.150	.300	6.655	[illegible]	5.391	13.178	12.524	11.434
.050	.250	.300	-.245	-.231	-.406	4.744	4.532	4.174
.150	.250	.300	[illegible]	.519	.287	8.315	7.756	7.356
.250	.250	.300	1.324	1.355	1.372	10.596	10.149	9.405
.350	.250	.300	[illegible]	2.612	2.292	11.988	11.492	10.664
.450	.250	.300	3.508	3.332	2.959	12.851	12.326	11.450
.550	.250	.300	4.000	3.785	3.426	13.403	12.864	11.959
.650	.250	.300	4.348	4.124	3.754	13.781	13.226	12.302
.750	.250	.300	4.574	4.368	3.990	14.042	13.479	12.541
.850	.250	.300	4.777	4.547	4.164	14.229	13.661	12.714
.950	.250	.300	4.914	4.681	4.294	14.368	13.796	12.843
1.050	.250	.300	5.019	4.735	4.394	14.474	13.899	12.940
1.150	.250	.300	5.101	4.835	4.472	14.557	13.979	13.017
1.250	.250	.300	5.165	4.927	4.534	14.622	14.042	13.077
1.350	.250	.300	5.219	4.981	4.584	14.674	14.093	13.125
1.450	.250	.300	5.262	5.023	4.625	14.716	14.135	13.165
1.550	.250	.300	5.293	5.058	4.659	14.752	14.169	13.196
1.650	.250	.300	5.327	5.087	4.687	14.781	14.197	13.225
1.750	.250	.300	5.353	5.112	4.711	14.806	14.222	13.248
1.850	.250	.300	5.374	5.133	4.731	14.827	14.242	13.268
1.950	.250	.300	5.392	5.151	4.748	14.845	14.260	13.284
2.050	.250	.300	5.408	5.166	4.763	14.861	14.275	13.299
2.150	.250	.300	5.422	5.180	4.776	14.874	14.288	13.312
2.250	.250	.300	5.434	5.192	4.788	14.886	14.300	13.323
2.350	.250	.300	5.445	5.202	4.798	14.897	14.310	13.332
2.450	.250	.300	5.454	5.211	4.807	14.906	14.319	13.341
2.550	.250	.300	5.463	5.220	4.815	14.914	14.327	13.349
2.650	.250	.300	5.470	5.227	4.822	14.921	14.334	13.356
2.750	.250	.300	5.477	5.233	4.828	14.928	14.341	13.362
2.850	.250	.300	5.483	5.239	4.834	14.934	14.346	13.367
2.950	.250	.300	5.488	5.245	4.839	14.939	14.352	13.372
.050	.350	.300	.030	.017	-.034	4.166	4.001	3.726
.150	.350	.300	.563	.539	.497	7.332	7.042	6.558
.250	.350	.300	1.353	1.310	1.259	9.388	9.017	8.397
.350	.350	.300	2.054	2.040	1.967	10.664	10.243	9.541
.450	.350	.300	2.655	2.605	2.520	11.467	11.015	10.262
.550	.350	.300	3.077	3.022	2.930	11.990	11.519	10.734
.650	.350	.300	3.387	3.326	3.229	12.344	11.860	11.054
.750	.350	.300	3.615	3.553	3.450	12.593	12.100	11.279
.850	.350	.300	3.785	3.722	3.615	12.773	12.274	11.442
.950	.350	.300	3.917	3.851	3.740	12.907	12.403	11.564
1.050	.350	.300	4.018	3.950	3.838	13.009	12.502	11.658
1.150	.350	.300	4.097	4.029	3.914	13.089	12.579	11.730
1.250	.350	.300	4.161	4.092	3.975	13.152	12.641	11.788
1.350	.350	.300	4.213	4.142	4.025	13.203	12.690	11.835
1.450	.350	.300	4.255	4.184	4.066	13.244	12.730	11.873
1.550	.350	.300	4.290	4.217	4.099	13.279	12.763	11.905
1.650	.350	.300	4.320	4.248	4.128	13.308	12.791	11.931
1.750	.350	.300	4.345	4.272	4.151	13.332	12.815	11.953
1.850	.350	.300	4.366	4.293	4.172	13.352	12.835	11.973
1.950	.350	.300	4.384	4.311	4.189	13.370	12.852	11.989
2.050	.350	.300	4.400	4.327	4.204	13.386	12.867	12.003
2.150	.350	.300	4.414	4.340	4.217	13.397	12.880	12.015
2.250	.350	.300	4.425	4.352	4.229	13.411	12.892	12.026
2.350	.350	.300	4.437	4.363	4.239	13.421	12.902	12.036
2.450	.350	.300	4.446	4.372	4.248	13.430	12.910	12.044
2.550	.350	.300	[illegible]	4.380	4.256	13.438	12.918	12.052
2.650	.350	.300	4.462	4.387	4.263	13.445	12.925	12.058
2.750	.350	.300	4.469	[illegible]	4.270	13.452	12.932	12.064
[illegible]	.350	.300	[illegible]	4.400	4.275	13.458	12.937	12.070

2.950	.350	.300	[illegible]	1.105	4.280	13.1[illegible]	12.942	12.[illegible]75
.150	.450	.300	.145	.163	.172	3.[illegible]95	2.936	2.753
.150	.450	.300	.522	.552	.601	[illegible]	5.331	4.999
.250	.450	.300	1.059	1.096	1.157	7.266	6.960	6.450
.350	.450	.300	1.595	1.639	1.699	8.373	8.016	7.428
.450	.450	.300	2.016	2.036	2.152	9.072	8.706	8.063
.550	.450	.300	2.400	2.439	2.505	9.570	9.164	8.487
.650	.450	.300	2.671	2.709	2.773	9.899	9.479	8.778
.750	.450	.300	2.877	2.914	2.976	10.132	9.702	8.985
.850	.450	.300	3.035	3.071	3.132	10.302	9.865	9.137
.950	.450	.300	3.157	3.193	3.252	10.429	9.987	9.251
1.050	.450	.300	3.253	3.288	3.346	10.527	10.081	9.338
1.150	.450	.300	3.330	3.364	3.421	10.603	10.155	9.407
1.250	.450	.300	3.392	3.425	3.481	10.664	10.213	9.462
1.350	.450	.300	3.442	3.475	3.530	10.713	10.261	9.506
1.450	.450	.300	3.484	3.516	3.570	10.754	10.299	9.542
1.550	.450	.300	3.518	3.550	3.604	10.787	10.332	9.573
1.650	.450	.300	3.547	3.579	3.632	10.815	10.359	9.598
1.750	.450	.300	3.572	3.604	3.655	10.839	10.381	9.620
1.850	.450	.300	3.593	3.624	3.676	10.859	10.401	9.638
1.950	.450	.300	3.611	3.642	3.694	10.876	10.415	9.654
2.050	.450	.300	3.627	3.658	3.709	10.891	10.432	9.667
2.150	.450	.300	3.641	3.671	3.722	10.904	10.445	9.679
2.250	.450	.300	3.653	3.683	3.734	10.915	10.456	9.690
2.350	.450	.300	3.664	3.694	3.744	10.926	10.466	9.699
2.450	.450	.300	3.673	3.703	3.753	10.934	10.474	9.707
2.550	.450	.300	3.681	3.711	3.761	10.942	10.482	9.715
2.650	.450	.300	3.689	3.719	3.768	10.950	10.489	9.721
2.750	.450	.300	3.696	3.725	3.775	10.956	10.495	9.727
2.850	.450	.300	3.702	3.731	3.781	10.962	10.501	9.732
2.950	.450	.300	3.707	3.737	3.786	10.967	10.506	9.737
.050	.550	.300	.189	.218	.267	2.182	2.081	1.912
.150	.550	.300	.455	.538	.627	4.004	3.817	3.505
.250	.550	.300	.871	.941	1.057	5.341	5.089	4.668
.350	.550	.300	1.269	1.350	1.483	6.261	5.963	5.466
.450	.550	.300	1.625	1.711	1.855	6.904	6.554	6.005
.550	.550	.300	1.917	2.037	2.157	7.310	6.959	6.375
.650	.550	.300	2.151	2.242	2.395	7.609	7.243	6.634
.750	.550	.300	2.334	2.427	2.581	7.824	7.447	6.820
.850	.550	.300	2.479	2.572	2.726	7.982	7.598	6.958
.950	.550	.300	2.593	2.686	2.841	8.102	7.712	7.063
1.050	.550	.300	2.684	2.777	2.931	8.194	7.800	7.144
1.150	.550	.300	2.757	2.850	3.004	8.266	7.869	7.206
1.250	.550	.300	2.816	2.909	3.063	8.324	7.925	7.259
1.350	.550	.300	2.865	2.958	3.112	8.371	7.970	7.301
1.450	.550	.300	2.905	2.998	3.152	8.410	8.007	7.335
1.550	.550	.300	2.940	3.032	3.185	8.442	8.037	7.363
1.650	.550	.300	2.969	3.060	3.213	8.469	8.063	7.387
1.750	.550	.300	2.993	3.085	3.237	8.492	8.085	7.408
1.850	.550	.300	3.014	3.105	3.258	8.511	8.104	7.425
1.950	.550	.300	3.032	3.123	3.275	8.528	8.120	7.440
2.050	.550	.300	3.049	3.139	3.290	8.542	8.134	7.453
2.150	.550	.300	3.061	3.152	3.304	8.555	8.146	7.465
2.250	.550	.300	3.073	3.164	3.316	8.566	8.157	7.475
2.350	.550	.300	3.084	3.175	3.326	8.576	8.167	7.484
2.450	.550	.300	3.093	3.184	3.335	8.585	8.175	7.492
[illegible]	.550	.300	3.102	3.192	3.343	8.593	8.182	7.499
[illegible]	.550	.300	3.109	3.200	3.350	8.600	8.189	7.505
[illegible]	[illegible]	.300	3.116	3.206	3.357	8.606	8.195	7.511
[illegible]	[illegible]	.300	3.122	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

2.950	.750	.300	[illegible]	[illegible]	2.728	[illegible]	4.917	4.360
.050	.850	.300	.178	.219	.253	.769	.714	.623
.150	.850	.300	.363	.422	.519	1.460	1.363	1.185
.250	.850	.300	.561	.611	.779	2.054	1.906	1.659
.350	.850	.300	.761	.831	1.027	2.518	2.334	2.029
.450	.850	.300	.951	1.055	1.254	2.872	2.662	2.311
.550	.850	.300	1.122	1.246	1.453	3.140	2.909	2.523
.650	.850	.300	1.272	1.403	1.622	3.342	3.095	2.683
.750	.850	.300	1.379	1.535	1.763	3.495	3.236	2.804
.850	.850	.300	1.505	1.646	1.880	3.613	3.345	2.898
.950	.850	.300	1.595	1.738	1.976	3.705	3.430	2.971
1.050	.850	.300	1.659	1.814	2.056	3.778	3.497	3.029
1.150	.850	.300	1.731	1.876	2.122	3.836	3.551	3.076
1.250	.850	.300	1.783	1.931	2.177	3.884	3.595	3.114
1.350	.850	.300	1.827	1.976	2.223	3.923	3.631	3.146
1.450	.850	.300	1.864	2.013	2.262	3.955	3.662	3.173
1.550	.850	.300	1.895	2.045	2.295	3.982	3.687	3.195
1.650	.850	.300	1.923	2.073	2.323	4.006	3.709	3.214
1.750	.850	.300	1.945	2.095	2.347	4.025	3.727	3.230
1.850	.850	.300	1.965	2.117	2.368	4.042	3.743	3.245
1.950	.850	.300	1.984	2.134	2.386	4.057	3.757	3.257
2.050	.850	.300	1.999	2.150	2.401	4.070	3.769	3.268
2.150	.850	.300	2.012	2.163	2.415	4.081	3.780	3.277
2.250	.850	.300	2.024	2.175	2.427	4.091	3.789	3.286
2.350	.850	.300	2.035	2.186	2.438	4.100	3.797	3.293
2.450	.850	.300	2.044	2.196	2.447	4.108	3.805	3.300
2.550	.850	.300	2.053	2.204	2.456	4.115	3.811	3.306
2.650	.850	.300	2.060	2.212	2.464	4.121	3.817	3.311
2.750	.850	.300	2.067	2.218	2.470	4.127	3.823	3.316
2.850	.850	.300	2.073	2.224	2.476	4.132	3.828	3.321
2.950	.850	.300	2.079	2.230	2.482	4.137	3.832	3.325
.050	.950	.300	.161	.187	.235	.559	.513	.436
.150	.950	.300	.326	.380	.470	1.075	.986	.837
.250	.950	.300	.495	.572	.699	1.519	1.392	1.181
.350	.950	.300	.665	.759	.917	1.882	1.724	1.461
.450	.950	.300	.825	.934	1.116	2.170	1.986	1.681
.550	.950	.300	.972	1.092	1.293	2.393	2.189	1.850
.650	.950	.300	1.103	1.231	1.445	2.565	2.346	1.981
.750	.950	.300	1.216	1.350	1.575	2.699	2.468	2.083
.850	.950	.300	1.312	1.451	1.684	2.803	2.563	2.162
.950	.950	.300	1.394	1.537	1.775	2.886	2.638	2.225
1.050	.950	.300	1.463	1.609	1.851	2.952	2.698	2.276
1.150	.950	.300	1.522	1.669	1.915	3.005	2.747	2.317
1.250	.950	.300	1.571	1.720	1.969	3.049	2.787	2.350
1.350	.950	.300	1.613	1.763	2.014	3.085	2.820	2.379
1.450	.950	.300	1.649	1.800	2.052	3.115	2.848	2.402
1.550	.950	.300	1.680	1.832	2.085	3.140	2.871	2.422
1.650	.950	.300	1.706	1.859	2.113	3.162	2.891	2.440
1.750	.950	.300	1.729	1.882	2.137	3.180	2.908	2.454
1.850	.950	.300	1.749	1.902	2.158	3.197	2.923	2.467
1.950	.950	.300	1.766	1.920	2.176	3.210	2.936	2.479
2.050	.950	.300	1.782	1.935	2.191	3.223	2.947	2.489
2.150	.950	.300	1.795	1.949	2.205	3.233	2.957	2.497
2.250	.950	.300	1.807	1.961	2.218	3.243	2.966	2.505
2.350	.950	.300	1.817	1.972	2.228	3.251	2.974	2.512
2.450	.950	.300	1.827	1.981	2.238	3.259	2.981	2.518
2.550	.950	.300	1.835	1.989	2.247	3.265	2.987	2.524
[illegible]	.950	.300	1.843	[illegible]	2.254	3.271	2.993	2.529
2.750	.950	.300	1.850	[illegible]	2.261	3.277	2.998	2.534
[illegible]	.950	.300	[illegible]	2.010	[illegible]	3.282	[illegible]	2.538

[illegible] HORIZONTAL STRESSES IN SOILS USING ELASTIC FORMULAE DATE 91377 PAGE 43

2.750	.750	.300	1.381	2.316	[illegible]	3.236	3.007	2.592
.050	1.050	.300	.145	.171	.213	[illegible]	.373	.307
.150	1.050	.300	.227	.342	.421	.797	.721	.594
.250	1.050	.300	.441	.511	.677	1.116	1.027	.895
.350	1.050	.300	.566	.674	.822	1.421	1.233	1.054
.450	1.050	.300	.725	.824	.999	1.652	1.491	1.223
.550	1.050	.300	.853	.967	1.157	1.837	1.657	1.357
.650	1.050	.300	.967	1.071	1.296	1.963	1.786	1.463
.750	1.050	.300	1.069	1.198	1.415	2.098	1.891	1.596
.850	1.050	.300	1.155	1.291	1.517	2.170	1.973	1.613
.950	1.050	.300	1.231	1.371	1.603	2.263	2.039	1.666
1.050	1.050	.300	1.296	1.435	1.676	2.322	2.092	1.709
1.150	1.050	.300	1.351	1.476	1.737	2.370	2.135	1.744
1.250	1.050	.300	1.373	1.545	1.770	2.410	2.171	1.774
1.350	1.050	.300	1.438	1.587	1.834	2.443	2.201	1.798
1.450	1.050	.300	1.473	1.622	1.872	2.471	2.226	1.819
1.550	1.050	.300	1.503	1.653	1.904	2.494	2.248	1.837
1.650	1.050	.300	1.529	1.680	1.932	2.515	2.266	1.852
1.750	1.050	.300	1.551	1.703	1.956	2.532	2.282	1.865
1.850	1.050	.300	1.571	1.723	1.977	2.547	2.296	1.877
1.950	1.050	.300	1.588	1.740	1.995	2.560	2.308	1.887
2.050	1.050	.300	1.603	1.756	2.011	2.571	2.318	1.896
2.150	1.050	.300	1.615	1.769	2.025	2.582	2.324	1.904
2.250	1.050	.300	1.623	1.781	2.037	2.591	2.336	1.911
2.350	1.050	.300	1.633	1.792	2.048	2.599	2.343	1.918
2.450	1.050	.300	1.644	1.802	2.058	2.606	2.350	1.923
2.550	1.050	.300	1.655	1.810	2.067	2.612	2.356	1.929
2.650	1.050	.300	1.664	1.818	2.075	2.618	2.361	1.933
2.750	1.050	.300	1.671	1.825	2.082	2.623	2.366	1.937
2.850	1.050	.300	1.677	1.831	2.088	2.628	2.370	1.941
2.950	1.050	.300	1.682	1.837	2.094	2.632	2.374	1.945
.050	1.150	.300	.131	.155	.193	.308	.274	.218
.150	1.150	.300	.253	.308	.343	.598	.532	.423
.250	1.150	.300	.394	.458	.566	.858	.763	.605
.350	1.150	.300	.521	.633	.739	1.082	.961	.761
.450	1.150	.300	.643	.738	.876	1.268	1.126	.890
.550	1.150	.300	.755	.852	1.041	1.420	1.260	.994
.650	1.150	.300	.857	.974	1.166	1.542	1.368	1.078
.750	1.150	.300	.943	1.072	1.278	1.641	1.455	1.145
.850	1.150	.300	1.025	1.157	1.373	1.721	1.525	1.199
.950	1.150	.300	1.097	1.231	1.455	1.785	1.582	1.243
1.050	1.150	.300	1.157	1.275	1.525	1.838	1.620	1.280
1.150	1.150	.300	1.209	1.350	1.584	1.881	1.667	1.309
1.250	1.150	.300	1.254	1.397	1.635	1.917	1.699	1.334
1.350	1.150	.300	1.293	1.437	1.678	1.947	1.725	1.356
1.450	1.150	.300	1.325	1.472	1.715	1.973	1.748	1.374
1.550	1.150	.300	1.355	1.502	1.747	1.994	1.767	1.389
1.650	1.150	.300	1.380	1.528	1.775	2.013	1.784	1.403
1.750	1.150	.300	1.402	1.551	1.799	2.029	1.798	1.419
1.850	1.150	.300	1.421	1.571	1.820	2.043	1.811	1.424
1.950	1.150	.300	1.439	1.588	1.838	2.055	1.822	1.434
2.050	1.150	.300	1.453	1.604	1.854	2.066	1.832	1.442
2.150	1.150	.300	1.467	1.617	1.869	2.075	1.840	1.449
2.250	1.150	.300	1.478	1.629	1.881	2.084	1.848	1.455
2.350	1.150	.300	1.489	1.640	1.892	2.091	1.855	1.461
2.450	1.150	.300	1.499	1.650	1.902	2.098	1.861	1.466
2.550	1.150	.300	1.507	1.658	1.911	2.104	1.867	1.471
2.650	1.150	.300	1.514	1.666	1.919	2.109	1.872	1.475
2.750	1.150	.300	1.521	1.673	1.926	2.114	1.876	1.479
2.850	1.150	.300	1.527	1.679	1.933	2.119	1.880	1.483

2.950	1.150	.300	1.533	1.635	1.939	2.123	1.834	1.486
.050	1.250	.300	.119	.140	.174	.232	.203	.154
.150	1.250	.300	.237	.273	.346	.453	.390	.301
.250	1.250	.300	.353	.412	.511	.654	.571	.433
.350	1.250	.300	.466	.541	.666	.830	.724	.546
.450	1.250	.300	.574	.663	.810	.980	.854	.644
.550	1.250	.300	.674	.774	.941	1.104	.962	.724
.650	1.250	.300	.766	.875	1.057	1.207	1.050	.790
.750	1.250	.300	.848	.965	1.160	1.291	1.123	.843
.850	1.250	.300	.921	1.044	1.249	1.359	1.182	.886
.950	1.250	.300	.985	1.113	1.326	1.415	1.230	.922
1.050	1.250	.300	1.041	1.173	1.393	1.462	1.271	.952
1.150	1.250	.300	1.090	1.225	1.450	1.500	1.304	.977
1.250	1.250	.300	1.133	1.270	1.500	1.533	1.332	.998
1.350	1.250	.300	1.170	1.309	1.542	1.560	1.356	1.015
1.450	1.250	.300	1.202	1.343	1.579	1.583	1.376	1.031
1.550	1.250	.300	1.230	1.373	1.610	1.603	1.393	1.044
1.650	1.250	.300	1.255	1.398	1.636	1.620	1.408	1.055
1.750	1.250	.300	1.276	1.421	1.652	1.635	1.421	1.066
1.850	1.250	.300	1.295	1.440	1.683	1.647	1.433	1.074
1.950	1.250	.300	1.312	1.458	1.701	1.659	1.443	1.082
2.050	1.250	.300	1.327	1.473	1.717	1.669	1.452	1.089
2.150	1.250	.300	1.340	1.487	1.732	1.678	1.459	1.096
2.250	1.250	.300	1.351	1.497	1.744	1.686	1.467	1.102
2.350	1.250	.300	1.362	1.510	1.756	1.693	1.473	1.107
2.450	1.250	.300	1.371	1.517	1.766	1.699	1.479	1.111
2.550	1.250	.300	1.380	1.528	1.775	1.705	1.484	1.116
2.650	1.250	.300	1.387	1.536	1.783	1.710	1.488	1.119
2.750	1.250	.300	1.394	1.543	1.790	1.714	1.493	1.123
2.850	1.250	.300	1.400	1.549	1.797	1.719	1.497	1.126
2.950	1.250	.300	1.406	1.555	1.803	1.723	1.500	1.129
.050	1.350	.300	.107	.126	.158	.177	.152	.109
.150	1.350	.300	.214	.251	.313	.347	.297	.213
.250	1.350	.300	.319	.372	.462	.503	.430	.307
.350	1.350	.300	.420	.439	.603	.642	.548	.391
.450	1.350	.300	.516	.598	.734	.762	.650	.463
.550	1.350	.300	.606	.699	.854	.864	.736	.523
.650	1.350	.300	.689	.791	.961	.949	.808	.573
.750	1.350	.300	.764	.874	1.057	1.019	.867	.614
.850	1.350	.300	.831	.947	1.141	1.078	.917	.648
.950	1.350	.300	.890	1.012	1.215	1.127	.958	.676
1.050	1.350	.300	.943	1.068	1.278	1.167	.992	.700
1.150	1.350	.300	.989	1.118	1.333	1.202	1.021	.720
1.250	1.350	.300	1.029	1.161	1.381	1.230	1.045	.737
1.350	1.350	.300	1.065	1.179	1.422	1.255	1.066	.752
1.450	1.350	.300	1.096	1.232	1.458	1.275	1.084	.764
1.550	1.350	.300	1.123	1.261	1.490	1.293	1.099	.776
1.650	1.350	.300	1.147	1.286	1.517	1.309	1.112	.785
1.750	1.350	.300	1.168	1.308	1.541	1.322	1.124	.794
1.850	1.350	.300	1.187	1.327	1.562	1.334	1.134	.801
1.950	1.350	.300	1.203	1.345	1.580	1.345	1.143	.808
2.050	1.350	.300	1.218	1.360	1.597	1.354	1.152	.814
2.150	1.350	.300	1.231	1.373	1.611	1.362	1.159	.820
2.250	1.350	.300	1.243	1.385	1.624	1.369	1.165	.825
2.350	1.350	.300	1.253	1.396	1.635	1.376	1.171	.829
2.450	1.350	.300	1.262	1.406	1.645	1.382	1.176	.833
2.550	1.350	.300	1.271	1.415	1.655	1.387	1.181	.837
[illegible]	1.350	.300	1.278	1.422	1.663	1.392	1.185	.841
[illegible]	1.350	.300	1.285	1.430	1.670	1.396	1.189	.844
[illegible]	1.350	.300	1.291	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]	[illegible]	.300	1.277	1.132	[illegible]	[illegible]	1.170	.449
.050	1.450	.300	.157	.115	.112	.136	.119	.076
.150	1.450	.300	.175	.225	.219	.267	.223	.143
.250	1.450	.300	.268	.337	.419	.389	.324	.215
.350	1.450	.300	.380	.443	.548	.492	.415	.275
.450	1.450	.300	.467	.542	.668	.595	.495	.327
.550	1.450	.300	.598	.634	.778	.678	.563	.371
.650	1.450	.300	.623	.719	.877	.749	.621	.408
.750	1.450	.300	.692	.775	.937	.808	.670	.439
.850	1.450	.300	.759	.853	1.045	.858	.711	.465
.950	1.450	.300	.839	.924	1.115	.900	.745	.487
1.050	1.450	.300	.853	.977	1.176	.935	.774	.505
1.150	1.450	.300	.902	1.025	1.229	.965	.798	.521
1.250	1.450	.300	.941	1.066	1.276	.990	.819	.535
1.350	1.450	.300	.974	1.103	1.316	1.012	.837	.546
1.450	1.450	.300	1.004	1.135	1.351	1.030	.853	.556
1.550	1.450	.300	1.031	1.163	1.382	1.047	.866	.565
1.650	1.450	.300	1.059	1.197	1.410	1.061	.878	.573
1.750	1.450	.300	1.075	1.209	1.433	1.073	.888	.580
1.850	1.450	.300	1.093	1.223	1.455	1.084	.897	.587
1.950	1.450	.300	1.107	1.216	1.473	1.093	.905	.592
2.050	1.450	.300	1.121	1.251	1.489	1.102	.913	.597
2.150	1.450	.300	1.137	1.274	1.504	1.109	.919	.602
2.250	1.450	.300	1.148	1.286	1.517	1.116	.925	.606
2.350	1.450	.300	1.154	1.297	1.528	1.122	.930	.610
2.450	1.450	.300	1.164	1.307	1.539	1.127	.935	.614
2.550	1.450	.300	1.176	1.315	1.549	1.132	.939	.617
2.650	1.450	.300	1.184	1.323	1.558	1.137	.943	.620
2.750	1.450	.300	1.191	1.331	1.564	1.141	.947	.623
2.850	1.450	.300	1.197	1.337	1.571	1.145	.950	.625
2.950	1.450	.300	1.203	1.343	1.577	1.148	.953	.628
.050	1.550	.300	.089	.131	.130	.105	.085	.052
.150	1.550	.300	.173	.207	.256	.207	.168	.101
.250	1.550	.300	.262	.337	.382	.303	.249	.147
.350	1.550	.300	.345	.433	.497	.389	.314	.189
.450	1.550	.300	.424	.493	.610	.467	.376	.225
.550	1.550	.300	.498	.578	.711	.534	.430	.256
.650	1.550	.300	.567	.656	.804	.592	.476	.283
.750	1.550	.300	.633	.726	.887	.642	.516	.305
.850	1.550	.300	.687	.790	.961	.684	.549	.324
.950	1.550	.300	.739	.847	1.027	.720	.577	.340
1.050	1.550	.300	.785	.873	1.036	.750	.601	.354
1.150	1.550	.300	.827	.943	1.137	.776	.622	.366
1.250	1.550	.300	.863	.983	1.182	.798	.640	.376
1.350	1.550	.300	.896	1.018	1.222	.817	.655	.385
1.450	1.550	.300	.925	1.049	1.256	.834	.668	.393
1.550	1.550	.300	.953	1.076	1.287	.843	.680	.400
1.650	1.550	.300	.973	1.101	1.314	.861	.690	.406
1.750	1.550	.300	.973	1.122	1.337	.872	.699	.412
1.850	1.550	.300	1.011	1.141	1.355	.881	.707	.417
1.950	1.550	.300	1.027	1.158	1.377	.890	.714	.421
2.050	1.550	.300	1.041	1.173	1.393	.898	.721	.425
2.150	1.550	.300	1.054	1.137	1.408	.905	.726	.429
2.250	1.550	.300	1.065	1.199	1.421	.911	.732	.433
2.350	1.550	.300	1.074	1.210	1.433	.916	.736	.436
2.450	1.550	.300	1.083	1.219	1.443	.921	.740	.439
2.550	1.550	.300	1.093	1.228	1.453	.926	.744	.442
2.650	1.550	.300	1.101	1.236	1.461	.930	.748	.444
2.750	1.550	.300	[illegible]	1.243	1.469	.934	.751	.447
2.850	1.550	.300	[illegible]	[illegible]	1.476	.938	.754	.449

2.950	1.550	.300	1.120	1.256	1.432	.941	.757	.451
.050	1.650	.300	.081	.095	.117	.082	.064	.034
.150	1.650	.300	.161	.189	.236	.161	.126	.066
.250	1.650	.300	.239	.280	.349	.236	.184	.097
.350	1.650	.300	.319	.368	.457	.305	.237	.124
.450	1.650	.300	.387	.451	.558	.367	.285	.148
.550	1.650	.300	.455	.529	.652	.421	.327	.169
.650	1.650	.300	.519	.600	.738	.469	.363	.187
.750	1.650	.300	.576	.656	.816	.510	.395	.202
.850	1.650	.300	.630	.726	.887	.545	.422	.215
.950	1.650	.300	.673	.793	.949	.576	.445	.226
1.050	1.650	.300	.721	.828	1.005	.602	.464	.236
1.150	1.650	.300	.761	.871	1.055	.624	.482	.244
1.250	1.650	.300	.795	.909	1.098	.643	.496	.251
1.350	1.650	.300	.827	.943	1.137	.660	.509	.258
1.450	1.650	.300	.854	.973	1.171	.674	.520	.263
1.550	1.650	.300	.879	1.000	1.201	.687	.530	.268
1.650	1.650	.300	.901	1.024	1.227	.698	.539	.273
1.750	1.650	.300	.921	1.045	1.251	.708	.547	.277
1.850	1.650	.300	.939	1.064	1.272	.717	.553	.281
1.950	1.650	.300	.954	1.080	1.290	.725	.560	.285
2.050	1.650	.300	.968	1.095	1.307	.732	.565	.288
2.150	1.650	.300	.981	1.109	1.322	.738	.570	.291
2.250	1.650	.300	.992	1.121	1.335	.743	.575	.294
2.350	1.650	.300	1.003	1.132	1.347	.749	.579	.296
2.450	1.650	.300	1.012	1.141	1.357	.753	.583	.299
2.550	1.650	.300	1.020	1.150	1.367	.757	.586	.301
2.650	1.650	.300	1.028	1.158	1.375	.761	.590	.303
2.750	1.650	.300	1.035	1.166	1.383	.765	.592	.305
2.850	1.650	.300	1.041	1.172	1.390	.768	.595	.307
2.950	1.650	.300	1.047	1.178	1.397	.771	.598	.309
.050	1.750	.300	.074	.087	.109	.064	.047	.020
.150	1.750	.300	.147	.173	.216	.126	.094	.040
.250	1.750	.300	.219	.256	.320	.185	.137	.059
.350	1.750	.300	.289	.337	.419	.239	.178	.075
.450	1.750	.300	.354	.413	.513	.288	.214	.090
.550	1.750	.300	.416	.485	.600	.332	.246	.103
.650	1.750	.300	.475	.552	.680	.371	.275	.114
.750	1.750	.300	.529	.613	.754	.405	.299	.123
.850	1.750	.300	.579	.669	.820	.435	.321	.131
.950	1.750	.300	.624	.720	.880	.460	.339	.137
1.050	1.750	.300	.665	.766	.933	.482	.355	.143
1.150	1.750	.300	.702	.807	.981	.501	.369	.148
1.250	1.750	.300	.736	.843	1.023	.518	.381	.153
1.350	1.750	.300	.766	.876	1.061	.532	.392	.157
1.450	1.750	.300	.792	.905	1.094	.545	.401	.161
1.550	1.750	.300	.816	.932	1.123	.556	.409	.164
1.650	1.750	.300	.839	.955	1.150	.566	.416	.167
1.750	1.750	.300	.857	.976	1.173	.574	.423	.170
1.850	1.750	.300	.874	.994	1.194	.582	.429	.173
1.950	1.750	.300	.890	1.011	1.212	.589	.434	.175
2.050	1.750	.300	.904	1.026	1.229	.595	.439	.178
2.150	1.750	.300	.916	1.039	1.244	.601	.443	.180
2.250	1.750	.300	.927	1.051	1.257	.606	.447	.182
2.350	1.750	.300	.938	1.062	1.269	.611	.451	.184
2.450	1.750	.300	.947	1.072	1.280	.615	.454	.186
2.550	1.750	.300	.955	1.081	1.289	.619	.457	.188
[illegible]	1.750	.300	.963	[illegible]	1.298	.622	.460	.190
2.750	1.750	.300	.970	1.096	1.306	.625	.463	.191
[illegible]	[illegible]	.300	.975	1.103	1.313	.628	.465	.193

1.950	1.750	.300	.7?2	1.139	1.320	.631	.467	.199
.050	1.650	.300	.068	.080	.100	.050	.035	.010
.150	1.650	.300	.1??	.159	.198	.074	.059	.021
.250	1.650	.300	.201	.236	.294	.144	.101	.030
.350	1.650	.300	.25?	.310	.335	.137	.131	.038
.450	1.650	.300	.325	.383	.472	.226	.159	.045
.550	1.650	.300	.383	.447	.553	.262	.183	.052
.650	1.650	.300	.437	.509	.620	.293	.205	.057
.750	1.650	.300	.488	.566	.697	.321	.224	.061
.850	1.650	.300	.534	.619	.760	.345	.240	.065
.950	1.650	.300	.577	.667	.817	.367	.255	.068
1.050	1.650	.300	.616	.710	.868	.385	.267	.071
1.150	1.650	.300	.651	.750	.914	.401	.278	.073
1.250	1.650	.300	.683	.785	.955	.415	.288	.075
1.350	1.650	.300	.711	.815	.992	.428	.296	.077
1.450	1.650	.300	.737	.845	1.024	.439	.304	.079
1.550	1.650	.300	.760	.873	1.053	.448	.311	.081
1.650	1.650	.300	.781	.873	1.079	.457	.317	.083
1.750	1.650	.300	.800	.913	1.102	.464	.322	.084
1.850	1.650	.300	.817	.932	1.123	.471	.327	.086
1.950	1.650	.300	.832	.948	1.141	.477	.331	.088
2.050	1.650	.300	.845	.963	1.158	.483	.335	.089
2.150	1.650	.300	.858	.976	1.173	.488	.339	.091
2.250	1.650	.300	.869	.988	1.186	.492	.342	.092
2.350	1.650	.300	.8??	.999	1.198	.477	.345	.093
2.450	1.650	.300	.889	1.007	1.209	.500	.348	.095
2.550	1.650	.300	.897	1.019	1.219	.504	.351	.096
2.650	1.650	.300	.905	1.026	1.228	.507	.353	.097
2.750	1.650	.300	.912	1.033	1.236	.510	.356	.098
2.850	1.650	.300	.919	1.040	1.243	.513	.358	.100
2.950	1.650	.300	.924	1.046	1.250	.515	.360	.101
.050	1.950	.300	.062	.073	.092	.039	.025	.003
.150	1.950	.300	.121	.145	.182	.076	.050	.006
.250	1.950	.300	.185	.217	.271	.112	.073	.008
.350	1.950	.300	.24?	.285	.355	.146	.095	.010
.450	1.950	.300	.3??	.351	.436	.177	.115	.012
.550	1.950	.300	.353	.413	.512	.205	.133	.013
.650	1.950	.300	.409	.471	.582	.231	.149	.013
.750	1.950	.300	.451	.523	.647	.253	.163	.014
.850	1.950	.300	.499	.574	.707	.273	.176	.014
.950	1.950	.300	.535	.619	.761	.291	.187	.014
1.050	1.950	.300	.571	.661	.810	.305	.196	.014
1.150	1.950	.300	.6?5	.698	.854	.320	.205	.014
1.250	1.950	.300	.635	.732	.893	.331	.212	.014
1.350	1.950	.300	.663	.763	.929	.342	.219	.014
1.450	1.950	.300	.6?8	.790	.961	.351	.225	.014
1.550	1.950	.300	.710	.815	.989	.359	.230	.014
1.650	1.950	.300	.732	.837	1.015	.367	.235	.015
1.750	1.950	.300	.749	.857	1.038	.373	.239	.015
1.850	1.950	.300	.765	.875	1.058	.379	.243	.016
1.950	1.950	.300	.780	.891	1.077	.385	.247	.017
2.050	1.950	.300	.794	.906	1.093	.390	.250	.017
2.150	1.950	.300	.8?5	.919	1.108	.394	.253	.018
2.250	1.950	.300	.817	.931	1.122	.398	.256	.019
2.350	1.950	.300	.827	.942	1.134	.402	.259	.020
2.450	1.950	.300	.836	.952	1.145	.405	.261	.021
2.550	1.950	.300	.845	.961	1.154	.408	.263	.021
2.650	1.950	.300	.852	.969	1.163	.411	.265	.022
2.750	1.950	.300	.857	.976	1.172	.414	.267	.023
2.850	1.950	.300	.865	.983	1.179	.416	.269	.024

2.950	1.950	.300	.871	.939	1.136	.410	.271	-.025
.050	2.050	.300	.059	.068	.085	.030	.014	-.003
.150	2.050	.300	.115	.135	.168	.059	.035	-.005
.250	2.050	.300	.171	.200	.250	.087	.051	-.008
.350	2.050	.300	.225	.264	.329	.113	.067	-.011
.450	2.050	.300	.277	.325	.404	.138	.081	-.014
.550	2.050	.300	.327	.382	.475	.160	.094	-.017
.650	2.050	.300	.374	.436	.541	.180	.105	-.020
.750	2.050	.300	.418	.487	.602	.198	.115	-.023
.850	2.050	.300	.459	.534	.658	.215	.124	-.026
.950	2.050	.300	.497	.577	.710	.229	.132	-.029
1.050	2.050	.300	.532	.616	.757	.241	.139	-.031
1.150	2.050	.300	.564	.652	.799	.253	.145	-.033
1.250	2.050	.300	.593	.684	.836	.262	.151	-.035
1.350	2.050	.300	.619	.714	.872	.271	.156	-.036
1.450	2.050	.300	.643	.741	.903	.279	.160	-.038
1.550	2.050	.300	.665	.765	.931	.286	.164	-.039
1.650	2.050	.300	.685	.787	.956	.292	.168	-.039
1.750	2.050	.300	.703	.806	.979	.298	.171	-.040
1.850	2.050	.300	.717	.824	.999	.303	.174	-.040
1.950	2.050	.300	.733	.840	1.018	.307	.177	-.040
2.050	2.050	.300	.747	.854	1.034	.312	.180	-.040
2.150	2.050	.300	.759	.868	1.049	.315	.182	-.040
2.250	2.050	.300	.770	.880	1.062	.319	.184	-.040
2.350	2.050	.300	.780	.890	1.074	.322	.186	-.040
2.450	2.050	.300	.789	.900	1.085	.325	.188	-.040
2.550	2.050	.300	.797	.909	1.095	.328	.190	-.039
2.650	2.050	.300	.805	.917	1.105	.330	.192	-.039
2.750	2.050	.300	.812	.925	1.113	.333	.194	-.038
2.850	2.050	.300	.818	.931	1.120	.335	.195	-.038
2.950	2.050	.300	.824	.939	1.127	.337	.197	-.037
.050	2.150	.300	.053	.063	.076	.023	.012	-.007
.150	2.150	.300	.106	.125	.156	.045	.023	-.014
.250	2.150	.300	.153	.185	.232	.067	.034	-.021
.350	2.150	.300	.208	.245	.305	.087	.044	-.027
.450	2.150	.300	.257	.301	.375	.106	.054	-.034
.550	2.150	.300	.303	.355	.441	.124	.062	-.040
.650	2.150	.300	.347	.406	.503	.140	.070	-.046
.750	2.150	.300	.389	.453	.561	.154	.077	-.052
.850	2.150	.300	.427	.497	.614	.167	.083	-.057
.950	2.150	.300	.463	.538	.664	.178	.088	-.062
1.050	2.150	.300	.495	.576	.708	.188	.093	-.066
1.150	2.150	.300	.525	.610	.749	.197	.097	-.070
1.250	2.150	.300	.554	.641	.786	.205	.101	-.073
1.350	2.150	.300	.580	.670	.820	.213	.104	-.076
1.450	2.150	.300	.603	.695	.850	.219	.107	-.079
1.550	2.150	.300	.624	.719	.878	.225	.110	-.081
1.650	2.150	.300	.643	.740	.903	.230	.113	-.083
1.750	2.150	.300	.661	.760	.925	.235	.115	-.084
1.850	2.150	.300	.675	.777	.945	.239	.117	-.086
1.950	2.150	.300	.691	.793	.963	.243	.119	-.087
2.050	2.150	.300	.704	.807	.980	.246	.121	-.087
2.150	2.150	.300	.716	.820	.994	.250	.123	-.088
2.250	2.150	.300	.727	.832	1.008	.253	.125	-.088
2.350	2.150	.300	.737	.843	1.020	.255	.126	-.089
2.450	2.150	.300	.745	.853	1.031	.258	.128	-.089
2.550	2.150	.300	.754	.862	1.041	.260	.129	-.089
2.650	2.150	.300	.762	.870	1.050	.263	.131	-.089
2.750	2.150	.300	.769	.877	1.057	.265	.132	-.089
2.850	2.150	.300	.775	.884	1.056	.267	.133	-.089

2.950	2.150	.300	.781	.179	1.075	.265	.135	-.069
.050	2.250	.300	.030	.055	.073	.017	.007	-.010
.150	2.250	.300	.179	.115	.195	.034	.013	-.022
.250	2.250	.300	.197	.172	.215	.051	.020	-.030
.350	2.250	.300	.159	.227	.245	.066	.127	-.040
.450	2.250	.300	.237	.280	.349	.081	.032	-.049
.550	2.250	.300	.282	.330	.411	.094	.037	-.058
.650	2.250	.300	.323	.378	.469	.106	.042	-.066
.750	2.250	.300	.362	.423	.524	.110	.046	-.074
.850	2.250	.300	.399	.465	.575	.120	.049	-.081
.950	2.250	.300	.432	.503	.622	.136	.052	-.088
1.050	2.250	.300	.464	.539	.665	.145	.055	-.094
1.150	2.250	.300	.493	.572	.704	.152	.058	-.099
1.250	2.250	.300	.517	.602	.740	.158	.060	-.104
1.350	2.250	.300	.544	.630	.772	.164	.062	-.108
1.450	2.250	.300	.566	.655	.802	.169	.064	-.112
1.550	2.250	.300	.587	.673	.829	.174	.066	-.115
1.650	2.250	.300	.605	.679	.853	.176	.067	-.118
1.750	2.250	.300	.622	.717	.875	.182	.069	-.120
1.850	2.250	.300	.634	.734	.895	.185	.070	-.122
1.950	2.250	.300	.652	.750	.914	.189	.072	-.124
2.050	2.250	.300	.665	.764	.929	.192	.073	-.125
2.150	2.250	.300	.677	.777	.944	.194	.074	-.126
2.250	2.250	.300	.689	.789	.958	.197	.075	-.127
2.350	2.250	.300	.697	.800	.970	.199	.076	-.128
2.450	2.250	.300	.705	.809	.981	.201	.078	-.129
2.550	2.250	.300	.715	.818	.991	.203	.079	-.129
2.650	2.250	.300	.722	.826	1.000	.205	.080	-.130
2.750	2.250	.300	.729	.834	1.009	.207	.081	-.130
2.850	2.250	.300	.735	.841	1.017	.209	.082	-.130
2.950	2.250	.300	.741	.847	1.024	.210	.083	-.130
.050	2.350	.300	.046	.059	.068	.013	.003	-.012
.150	2.350	.300	.072	.106	.135	.025	.007	-.025
.250	2.350	.300	.137	.160	.200	.030	.010	-.037
.350	2.350	.300	.180	.212	.264	.049	.012	-.049
.450	2.350	.300	.223	.261	.325	.060	.015	-.060
.550	2.350	.300	.263	.308	.384	.070	.017	-.071
.650	2.350	.300	.302	.353	.439	.079	.019	-.081
.750	2.350	.300	.333	.395	.490	.088	.021	-.090
.850	2.350	.300	.373	.435	.539	.095	.022	-.099
.950	2.350	.300	.405	.472	.583	.102	.024	-.107
1.050	2.350	.300	.435	.506	.625	.108	.025	-.115
1.150	2.350	.300	.462	.537	.662	.114	.026	-.121
1.250	2.350	.300	.488	.565	.697	.119	.027	-.127
1.350	2.350	.300	.511	.573	.729	.123	.027	-.133
1.450	2.350	.300	.533	.617	.757	.127	.028	-.137
1.550	2.350	.300	.553	.639	.784	.131	.029	-.142
1.650	2.350	.300	.571	.653	.808	.134	.030	-.145
1.750	2.350	.300	.588	.675	.829	.138	.030	-.148
1.850	2.350	.300	.603	.675	.847	.140	.031	-.151
1.950	2.350	.300	.617	.710	.867	.143	.032	-.154
2.050	2.350	.300	.629	.724	.883	.145	.033	-.156
2.150	2.350	.300	.641	.737	.898	.148	.033	-.157
2.250	2.350	.300	.652	.749	.911	.150	.034	-.159
2.350	2.350	.300	.651	.753	.923	.152	.035	-.160
2.450	2.350	.300	.670	.769	.935	.153	.035	-.161
2.550	2.350	.300	.671	.778	.945	.155	.036	-.162
2.650	2.350	.300	.686	.788	.954	.157	.037	-.163
2.750	2.350	.300	.673	.779	.963	.159	.038	-.163
2.850	2.350	.300	.677	.831	.970	.160	.038	-.164

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2.750	2.350	.300	.705	.317	.578	.161	.057	-.164
.050	2.450	.300	.043	.051	.063	.007	.000	-.014
.150	2.450	.300	.085	.111	.126	.011	.001	-.028
.250	2.450	.300	.127	.150	.137	.027	.001	-.042
.350	2.450	.300	.164	.178	.247	.035	.001	-.055
.450	2.450	.300	.209	.249	.304	.043	.001	-.068
.550	2.450	.300	.245	.288	.359	.050	.001	-.081
.650	2.450	.300	.252	.330	.411	.057	.001	-.092
.750	2.450	.300	.317	.370	.460	.063	.001	-.103
.850	2.450	.300	.349	.408	.506	.069	.001	-.113
.950	2.450	.300	.380	.443	.548	.074	.000	-.122
1.050	2.450	.300	.408	.475	.588	.078	-.000	-.131
1.150	2.450	.300	.435	.536	.624	.082	-.001	-.139
1.250	2.450	.300	.459	.534	.658	.086	-.001	-.146
1.350	2.450	.300	.482	.559	.688	.089	-.001	-.152
1.450	2.450	.300	.503	.583	.716	.093	-.001	-.158
1.550	2.450	.300	.522	.604	.742	.095	-.001	-.163
1.650	2.450	.300	.539	.624	.765	.098	-.001	-.167
1.750	2.450	.300	.555	.642	.787	.100	-.001	-.171
1.850	2.450	.300	.571	.659	.806	.102	-.001	-.174
1.950	2.450	.300	.584	.674	.824	.104	-.001	-.177
2.050	2.450	.300	.597	.688	.840	.106	-.001	-.180
2.150	2.450	.300	.608	.700	.855	.108	-.001	-.182
2.250	2.450	.300	.619	.712	.868	.110	-.001	-.184
2.350	2.450	.300	.628	.723	.880	.111	-.000	-.186
2.450	2.450	.300	.637	.732	.891	.113	.000	-.188
2.550	2.450	.300	.645	.741	.902	.114	.000	-.189
2.650	2.450	.300	.653	.749	.911	.115	.001	-.190
2.750	2.450	.300	.659	.757	.920	.117	.001	-.191
2.850	2.450	.300	.666	.764	.928	.118	.002	-.192
2.950	2.450	.300	.672	.770	.935	.119	.002	-.192
.050	2.550	.300	.045	.047	.059	.006	-.002	-.015
.150	2.550	.300	.080	.094	.117	.012	-.004	-.031
.250	2.550	.300	.119	.140	.175	.018	-.006	-.046
.350	2.550	.300	.157	.185	.231	.024	-.008	-.060
.450	2.550	.300	.195	.220	.285	.029	-.010	-.074
.550	2.550	.300	.230	.270	.336	.034	-.011	-.088
.650	2.550	.300	.265	.310	.385	.039	-.013	-.101
.750	2.550	.300	.297	.348	.432	.043	-.015	-.112
.850	2.550	.300	.328	.383	.476	.047	-.017	-.124
.950	2.550	.300	.357	.417	.516	.050	-.019	-.134
1.050	2.550	.300	.384	.448	.554	.053	-.020	-.143
1.150	2.550	.300	.409	.477	.589	.056	-.022	-.152
1.250	2.550	.300	.433	.504	.621	.059	-.023	-.160
1.350	2.550	.300	.455	.528	.651	.061	-.024	-.167
1.450	2.550	.300	.475	.551	.679	.063	-.025	-.173
1.550	2.550	.300	.493	.572	.704	.065	-.026	-.179
1.650	2.550	.300	.510	.591	.726	.067	-.027	-.184
1.750	2.550	.300	.526	.609	.747	.069	-.028	-.189
1.850	2.550	.300	.541	.625	.767	.070	-.028	-.193
1.950	2.550	.300	.554	.640	.784	.072	-.029	-.196
2.050	2.550	.300	.565	.654	.800	.073	-.029	-.199
2.150	2.550	.300	.579	.656	.815	.074	-.029	-.202
2.250	2.550	.300	.588	.678	.828	.076	-.029	-.205
2.350	2.550	.300	.597	.688	.840	.077	-.030	-.207
2.450	2.550	.300	.605	.698	.851	.078	-.030	-.209
2.550	2.550	.300	.613	.707	.862	.079	-.027	-.210
2.650	2.550	.300	.622	.715	.871	.080	-.027	-.212
2.750	2.550	.300	.627	.723	.880	.081	-.027	-.213
2.850	2.550	.300	.635	.733	[illegible]	.082	-.029	-.214

2.950	2.550	.300	.611	.716	[illegible]	[illegible]	-.029	-.215
.050	2.650	.300	.037	[illegible]	[illegible]	[illegible]	-.004	-.016
.150	2.650	.300	.075	[illegible]	.110	[illegible]	-.007	-.033
.250	2.650	.300	.112	.131	.159	.011	-.011	-.048
.350	2.650	.300	.143	.175	.216	.015	-.015	-.064
.450	2.650	.300	.182	.219	.267	.018	-.018	-.079
.550	2.650	.300	.216	.253	.316	.021	-.022	-.093
.650	2.650	.300	.248	.291	.362	.024	-.025	-.107
.750	2.650	.300	.279	.327	.406	.027	-.028	-.119
.850	2.650	.300	.308	.361	.448	.029	-.031	-.131
.950	2.650	.300	.336	.392	.487	.031	-.034	-.142
1.050	2.650	.300	.362	.422	.523	.033	-.037	-.153
1.150	2.650	.300	.386	.450	.557	.034	-.039	-.162
1.250	2.650	.300	.409	.478	.588	.036	-.041	-.170
1.350	2.650	.300	.430	.503	.617	.037	-.043	-.178
1.450	2.650	.300	.449	.522	.643	.039	-.045	-.185
1.550	2.650	.300	.467	.542	.668	.040	-.047	-.192
1.650	2.650	.300	.484	.561	.690	.041	-.048	-.197
1.750	2.650	.300	.499	.578	.711	.042	-.050	-.203
1.850	2.650	.300	.511	.594	.730	.043	-.051	-.207
1.950	2.650	.300	.524	.609	.747	.044	-.052	-.211
2.050	2.650	.300	.535	.623	.763	.045	-.052	-.215
2.150	2.650	.300	.547	.635	.777	.046	-.053	-.218
2.250	2.650	.300	.558	.646	.791	.047	-.054	-.221
2.350	2.650	.300	.567	.657	.803	.048	-.054	-.224
2.450	2.650	.300	.578	.666	.814	.048	-.054	-.226
2.550	2.650	.300	.586	.675	.824	.049	-.055	-.228
2.650	2.650	.300	.593	.683	.834	.050	-.055	-.230
2.750	2.650	.300	.600	.691	.842	.051	-.055	-.231
2.850	2.650	.300	.605	.698	.850	.051	-.055	-.233
2.950	2.650	.300	.612	.704	.858	.052	-.055	-.234
.050	2.750	.300	.035	.041	.052	.002	-.005	-.017
.150	2.750	.300	.070	.083	.103	.004	-.010	-.034
.250	2.750	.300	.105	.123	.154	.006	-.015	-.050
.350	2.750	.300	.138	.163	.203	.007	-.020	-.066
.450	2.750	.300	.171	.201	.251	.009	-.025	-.082
.550	2.750	.300	.203	.238	.297	.010	-.030	-.097
.650	2.750	.300	.234	.274	.341	.012	-.034	-.111
.750	2.750	.300	.263	.308	.383	.013	-.039	-.124
.850	2.750	.300	.291	.340	.423	.014	-.043	-.137
.950	2.750	.300	.317	.370	.460	.015	-.046	-.148
1.050	2.750	.300	.341	.399	.495	.016	-.050	-.159
1.150	2.750	.300	.365	.426	.527	.016	-.053	-.169
1.250	2.750	.300	.386	.450	.557	.017	-.056	-.178
1.350	2.750	.300	.407	.473	.585	.018	-.059	-.187
1.450	2.750	.300	.425	.495	.611	.018	-.062	-.194
1.550	2.750	.300	.443	.515	.635	.019	-.064	-.201
1.650	2.750	.300	.459	.533	.657	.019	-.066	-.207
1.750	2.750	.300	.474	.550	.677	.020	-.068	-.213
1.850	2.750	.300	.488	.566	.695	.020	-.069	-.218
1.950	2.750	.300	.501	.580	.712	.021	-.071	-.223
2.050	2.750	.300	.512	.593	.728	.021	-.072	-.227
2.150	2.750	.300	.523	.606	.742	.022	-.073	-.230
2.250	2.750	.300	.533	.617	.756	.022	-.074	-.234
2.350	2.750	.300	.543	.627	.768	.023	-.075	-.237
2.450	2.750	.300	.551	.637	.779	.023	-.075	-.239
2.550	2.750	.300	.559	.645	.789	.024	-.076	-.242
2.650	2.750	.300	.567	.654	.799	.024	-.076	-.244
2.750	2.750	.300	.573	.661	.807	.025	-.077	-.246
2.850	2.750	.300	[illegible]	[illegible]	.815	.025	-.077	-.247

2.950	2.750	.300	.565	.675	.823	.126	-.077	-.249
.050	2.850	.300	.033	.039	.047	.000	-.006	-.017
.150	2.850	.300 *	.056	.078	.097	.001	-.012	-.034
.250	2.850	.300	.078	.116	.145	.001	-.019	-.051
.350	2.850	.300	.132	.153	.191	.001	-.025	-.066
.450	2.850	.300	.161	.189	.236	.001	-.030	-.084
.550	2.850	.300	.191	.225	.280	.001	-.036	-.099
.650	2.850	.300	.220	.258	.322	.002	-.042	-.113
.750	2.850	.300	.248	.290	.361	.002	-.047	-.127
.850	2.850	.300	.274	.321	.399	.001	-.052	-.140
.950	2.850	.300	.299	.350	.435	.001	-.056	-.152
1.050	2.850	.300	.323	.377	.468	.001	-.061	-.164
1.150	2.850	.300	.345	.403	.499	.001	-.065	-.174
1.250	2.850	.300	.366	.427	.528	.001	-.068	-.184
1.350	2.850	.300	.385	.449	.556	.001	-.072	-.193
1.450	2.850	.300	.404	.470	.581	.001	-.075	-.201
1.550	2.850	.300	.420	.489	.604	.001	-.078	-.208
1.650	2.850	.300	.436	.507	.625	.001	-.080	-.215
1.750	2.850	.300	.451	.524	.645	.001	-.082	-.221
1.850	2.850	.300	.464	.539	.663	.001	-.084	-.226
1.950	2.850	.300	.477	.553	.680	.001	-.086	-.231
2.050	2.850	.300	.488	.566	.696	.001	-.088	-.236
2.150	2.850	.300	.499	.578	.710	.001	-.089	-.240
2.250	2.850	.300	.509	.589	.723	.001	-.091	-.244
2.350	2.850	.300	.518	.600	.735	.001	-.092	-.247
2.450	2.850	.300	.527	.609	.746	.002	-.093	-.250
2.550	2.850	.300	.535	.618	.756	.002	-.093	-.252
2.650	2.850	.300	.542	.626	.766	.002	-.094	-.255
2.750	2.850	.300	.547	.633	.775	.002	-.095	-.257
2.850	2.850	.300	.555	.640	.783	.003	-.095	-.259
2.950	2.850	.300	.561	.647	.790	.003	-.096	-.261
.050	2.950	.300	.031	.037	.046	-.001	-.007	-.017
.150	2.950	.300	.062	.073	.091	-.002	-.014	-.035
.250	2.950	.300	.093	.109	.136	-.003	-.021	-.052
.350	2.950	.300	.123	.144	.180	-.004	-.028	-.068
.450	2.950	.300	.152	.179	.223	-.005	-.035	-.085
.550	2.950	.300	.180	.212	.264	-.006	-.041	-.100
.650	2.950	.300	.208	.244	.304	-.007	-.047	-.115
.750	2.950	.300	.234	.274	.342	-.008	-.053	-.129
.850	2.950	.300	.259	.304	.378	-.009	-.059	-.142
.950	2.950	.300	.283	.331	.412	-.010	-.064	-.155
1.050	2.950	.300	.305	.357	.444	-.011	-.069	-.167
1.150	2.950	.300	.327	.382	.474	-.011	-.074	-.178
1.250	2.950	.300	.347	.405	.502	-.012	-.078	-.188
1.350	2.950	.300	.365	.427	.528	-.013	-.082	-.197
1.450	2.950	.300	.383	.447	.552	-.014	-.086	-.205
1.550	2.950	.300	.400	.466	.575	-.014	-.089	-.213
1.650	2.950	.300	.415	.483	.596	-.015	-.092	-.220
1.750	2.950	.300	.429	.499	.615	-.015	-.095	-.227
1.850	2.950	.300	.442	.514	.633	-.016	-.097	-.233
1.950	2.950	.300	.455	.528	.650	-.016	-.099	-.238
2.050	2.950	.300	.466	.541	.665	-.016	-.101	-.243
2.150	2.950	.300	.477	.553	.679	-.016	-.103	-.247
2.250	2.950	.300	.486	.564	.692	-.017	-.105	-.251
2.350	2.950	.300	.495	.574	.704	-.017	-.106	-.255
2.450	2.950	.300	.504	.583	.715	-.017	-.107	-.258
2.550	2.950	.300	.512	.592	.726	-.017	-.108	-.261
2.650	2.950	.300	.519	.600	.735	-.017	-.109	-.263
2.750	2.950	.300	.526	.608	.744	-.017	-.110	-.266
2.850	2.950	.300	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

2.950	2.950	[illegible]	.332	.621	.750	-.116	-.111	-.270
.050	.050	.400	-.719	-.872	-1.131	-.131	[illegible]	-.753
.150	.050	.400	-.054	-.332	[illegible]	.321	[illegible]	-.472
.250	.050	.400	1.247	.426	.200	1.635	1.251	.611
.350	.050	.400	2.330	1.799	1.230	2.736	2.356	1.530
.450	.050	.400	3.174	2.725	1.976	3.540	3.131	2.416
.550	.050	.400	3.777	3.310	2.532	4.247	3.770	2.975
.650	.050	.400	4.203	3.729	2.932	4.680	4.191	3.376
.750	.050	.400	4.520	4.034	3.223	4.994	4.496	3.668
.850	.050	.400	4.752	4.259	3.438	5.226	4.722	3.884
.950	.050	.400	4.927	4.430	3.602	5.401	4.893	4.047
1.050	.050	.400	5.062	4.532	3.728	5.536	5.025	4.173
1.150	.050	.400	5.167	4.665	3.827	5.642	5.120	4.272
1.250	.050	.400	5.252	4.747	3.906	5.726	5.211	4.351
1.350	.050	.400	5.320	4.814	3.970	5.794	5.277	4.415
1.450	.050	.400	5.375	4.868	4.022	5.850	5.332	4.468
1.550	.050	.400	5.422	4.914	4.056	5.896	5.377	4.511
1.650	.050	.400	5.461	4.951	4.102	5.735	5.415	4.547
1.750	.050	.400	5.499	4.933	4.133	5.968	5.447	4.578
1.850	.050	.400	5.522	5.011	4.157	5.996	5.474	4.604
1.950	.050	.400	5.545	5.034	4.182	6.020	5.498	4.627
2.050	.050	.400	5.564	5.054	4.201	6.041	5.518	4.646
2.150	.050	.400	5.585	5.072	4.218	6.059	5.535	4.663
2.250	.050	.400	5.600	5.088	4.233	6.075	5.551	4.678
2.350	.050	.400	5.614	5.101	4.246	6.089	5.565	4.691
2.450	.050	.400	5.627	5.113	4.258	6.101	5.577	4.703
2.550	.050	.400	5.639	5.124	4.268	6.112	5.587	4.713
2.650	.050	.400	5.648	5.134	4.277	6.122	5.597	4.722
2.750	.050	.400	5.656	5.142	4.285	6.130	5.606	4.731
2.850	.050	.400	5.654	5.150	4.273	6.138	5.613	4.738
2.950	.050	.400	5.671	5.157	4.300	6.146	5.620	4.745
.050	.150	.400	-.555	-.687	-.908	1.047	.884	.613
.150	.150	.400	-.025	-.258	-.645	2.543	2.261	1.787
.250	.150	.400	1.083	.747	.254	4.055	3.694	3.091
.350	.150	.400	2.051	1.716	1.157	5.247	4.839	4.159
.450	.150	.400	2.831	2.471	1.871	6.105	5.644	4.940
.550	.150	.400	3.460	3.025	2.393	6.709	6.254	5.495
.650	.150	.400	3.813	3.427	2.783	7.138	6.670	5.691
.750	.150	.400	4.116	3.722	3.065	7.449	6.973	6.179
.850	.150	.400	4.342	3.942	3.277	7.679	7.196	6.393
.950	.150	.400	4.513	4.110	3.437	7.852	7.366	6.554
1.050	.150	.400	4.646	4.239	3.562	7.986	7.496	6.679
1.150	.150	.400	4.750	4.342	3.660	8.091	7.599	6.777
1.250	.150	.400	4.834	4.423	3.738	8.175	7.680	6.855
1.350	.150	.400	4.902	4.439	3.802	8.243	7.746	6.917
1.450	.150	.400	4.957	4.543	3.854	8.298	7.800	6.970
1.550	.150	.400	5.003	4.539	3.897	8.344	7.845	7.014
1.650	.150	.400	5.042	4.626	3.934	8.383	7.883	7.050
1.750	.150	.400	5.074	4.658	3.964	8.416	7.915	7.080
1.850	.150	.400	5.102	4.685	3.990	8.443	7.942	7.106
1.950	.150	.400	5.125	4.709	4.013	8.467	7.965	7.128
2.050	.150	.400	5.147	4.729	4.032	8.488	7.985	7.148
2.150	.150	.400	5.165	4.747	4.049	8.506	8.003	7.165
2.250	.150	.400	5.181	4.762	4.064	8.522	8.018	7.179
2.350	.150	.400	5.195	4.776	4.077	8.536	8.032	7.193
2.450	.150	.400	5.207	4.788	4.089	8.548	8.044	7.204
2.550	.150	.400	5.218	4.798	4.099	8.559	8.055	7.214
2.650	.150	.400	5.228	4.808	4.109	8.569	8.064	7.223
2.750	.150	.400	5.237	4.817	4.117	8.577	8.073	7.232
2.850	.150	.400	5.244	4.824	4.124	8.585	8.080	7.239

2.750	.150	.400	5.252	4.831	4.151	8.592	[illegible]	7.296
.050	.250	.400	-.333	-.313	-.547	[illegible]	[illegible]	1.755
.150	.250	.400	.036	-.100	-.347	4.474	[illegible]	[illegible]
.250	.250	.400	.842	.654	.341	6.186	5.862	5.321
.350	.250	.400	1.663	1.416	1.036	7.409	7.034	6.421
.450	.250	.400	2.335	2.099	1.707	8.262	7.862	7.195
.550	.250	.400	2.345	2.577	2.134	8.356	8.437	7.738
.650	.250	.400	3.224	2.969	2.541	9.277	8.845	8.125
.750	.250	.400	3.510	3.247	2.809	9.382	9.141	8.406
.850	.250	.400	3.725	3.457	3.011	9.808	9.360	8.614
.950	.250	.400	3.890	3.619	3.167	9.978	9.526	8.772
1.050	.250	.400	4.019	3.745	3.286	10.110	9.654	8.894
1.150	.250	.400	4.121	3.845	3.334	10.213	9.755	8.990
1.250	.250	.400	4.203	3.925	3.462	10.296	9.835	9.067
1.350	.250	.400	4.269	3.990	3.524	10.363	9.900	9.129
1.450	.250	.400	4.324	4.043	3.576	10.418	9.954	9.180
1.550	.250	.400	4.369	4.088	3.619	10.463	9.998	9.222
1.650	.250	.400	4.408	4.125	3.655	10.501	10.035	9.258
1.750	.250	.400	4.440	4.157	3.686	10.534	10.067	9.288
1.850	.250	.400	4.468	4.184	3.712	10.561	10.093	9.314
1.950	.250	.400	4.491	4.207	3.734	10.585	10.116	9.336
2.050	.250	.400	4.512	4.225	3.754	10.605	10.136	9.355
2.150	.250	.400	4.530	4.245	3.771	10.623	10.154	9.371
2.250	.250	.400	4.546	4.261	3.786	10.639	10.169	9.386
2.350	.250	.400	4.560	4.274	3.799	10.653	10.182	9.399
2.450	.250	.400	4.572	4.286	3.810	10.665	10.194	9.410
2.550	.250	.400	4.583	4.297	3.821	10.676	10.205	9.420
2.650	.250	.400	4.593	4.307	3.830	10.685	10.214	9.430
2.750	.250	.400	4.601	4.315	3.838	10.694	10.223	9.438
2.850	.250	.400	4.609	4.323	3.846	10.702	10.231	9.445
2.950	.250	.400	4.616	4.330	3.852	10.709	10.238	9.452
.050	.350	.400	-.146	-.134	-.247	2.716	2.599	2.402
.150	.350	.400	.112	.042	-.074	5.007	4.793	4.436
.250	.350	.400	.683	.539	.432	6.715	6.433	5.963
.350	.350	.400	1.312	1.211	1.015	7.913	7.586	7.040
.450	.350	.400	1.863	1.739	1.533	8.739	8.382	7.787
.550	.350	.400	2.302	2.170	1.949	9.314	8.936	8.308
.650	.350	.400	2.641	2.503	2.271	9.721	9.330	8.679
.750	.350	.400	2.902	2.756	2.519	10.016	9.616	8.948
.850	.350	.400	3.102	2.955	2.710	10.235	9.823	9.149
.950	.350	.400	3.254	3.108	2.857	10.401	9.989	9.301
1.050	.350	.400	3.381	3.229	2.976	10.530	10.113	9.419
1.150	.350	.400	3.480	3.326	3.069	10.631	10.211	9.512
1.250	.350	.400	3.559	3.404	3.145	10.712	10.290	9.587
1.350	.350	.400	3.624	3.467	3.236	10.777	10.354	9.647
1.450	.350	.400	3.677	3.520	3.257	10.831	10.406	9.697
1.550	.350	.400	3.722	3.564	3.300	10.876	10.449	9.738
1.650	.350	.400	3.760	3.601	3.336	10.913	10.486	9.773
1.750	.350	.400	3.792	3.632	3.366	10.945	10.517	9.802
1.850	.350	.400	3.819	3.659	3.392	10.972	10.543	9.828
1.950	.350	.400	3.843	3.682	3.415	10.996	10.566	9.849
2.050	.350	.400	3.863	3.702	3.434	11.016	10.585	9.868
2.150	.350	.400	3.881	3.720	3.451	11.033	10.603	9.884
2.250	.350	.400	3.897	3.735	3.466	11.049	10.618	9.899
2.350	.350	.400	3.911	3.749	3.479	11.062	10.631	9.911
2.450	.350	.400	3.923	3.761	3.491	11.075	10.643	9.923
2.550	.350	.400	3.934	3.771	3.501	11.085	10.653	9.933
[illegible]	.350	[illegible]	3.943	3.781	3.510	11.095	10.662	9.941
[illegible]	.350	[illegible]	3.952	3.779	3.519	11.104	10.671	9.950
[illegible]	.350	[illegible]	3.960	3.777	3.526	11.111	10.678	9.957

2.950	.450	.400	3.427	3.339	[illegible]	11.118	10.685	9.963
.050	.450	.400	-.022	-.033	-.050	2.453	2.356	2.194
.150	.450	.400	.127	.136	.123	4.533	4.353	4.054
.250	.450	.400	.579	.551	.502	6.099	5.858	5.455
.350	.450	.400	1.047	1.013	.953	7.209	6.924	6.449
.450	.450	.400	1.487	1.445	1.374	7.982	7.667	7.143
.550	.450	.400	1.854	1.807	1.729	8.524	8.189	7.630
.650	.450	.400	2.149	2.099	2.015	8.911	8.561	7.977
.750	.450	.400	2.383	2.329	2.240	9.193	8.833	8.233
.850	.450	.400	2.566	2.510	2.417	9.403	9.036	8.424
.950	.450	.400	2.712	2.654	2.558	9.563	9.191	8.569
1.050	.450	.400	2.823	2.759	2.670	9.688	9.310	8.682
1.150	.450	.400	2.922	2.861	2.760	9.786	9.405	9.771
1.250	.450	.400	2.995	2.935	2.833	9.864	9.461	8.843
1.350	.450	.400	3.061	2.979	2.894	9.923	9.543	8.901
1.450	.450	.400	3.113	3.050	2.949	9.981	9.594	8.949
1.550	.450	.400	3.157	3.093	2.986	10.024	9.636	8.987
1.650	.450	.400	3.199	3.129	3.021	10.061	9.672	9.023
1.750	.450	.400	3.225	3.160	3.051	10.092	9.702	9.051
1.850	.450	.400	3.252	3.187	3.077	10.119	9.726	9.076
1.950	.450	.400	3.276	3.210	3.099	10.142	9.750	9.097
2.050	.450	.400	3.296	3.230	3.119	10.161	9.769	9.115
2.150	.450	.400	3.314	3.247	3.136	10.179	9.786	9.131
2.250	.450	.400	3.329	3.262	3.151	10.194	9.801	9.145
2.350	.450	.400	3.343	3.276	3.164	10.207	9.814	9.157
2.450	.450	.400	3.355	3.288	3.175	10.219	9.825	9.168
2.550	.450	.400	3.365	3.299	3.186	10.230	9.836	9.178
2.650	.450	.400	3.376	3.308	3.195	10.239	9.845	9.187
2.750	.450	.400	3.385	3.317	3.204	10.248	9.853	9.195
2.850	.450	.400	3.393	3.325	3.211	10.256	9.860	9.202
2.950	.450	.400	3.400	3.332	3.218	10.262	9.867	9.208
.050	.550	.400	.047	.055	.063	1.994	1.914	1.780
.150	.550	.400	.218	.227	.242	3.722	3.572	3.321
.250	.550	.400	.513	.524	.542	5.064	4.859	4.516
.350	.550	.400	.865	.875	.895	6.045	5.798	5.387
.450	.550	.400	1.208	1.217	1.238	6.744	6.468	6.009
.550	.550	.400	1.511	1.521	1.535	7.243	6.946	6.452
.650	.550	.400	1.764	1.773	1.787	7.604	7.292	6.773
.750	.550	.400	1.970	1.977	1.990	7.869	7.547	7.010
.850	.550	.400	2.135	2.142	2.150	8.069	7.739	7.188
.950	.550	.400	2.270	2.275	2.284	8.221	7.885	7.325
1.050	.550	.400	2.379	2.383	2.391	8.340	8.000	7.432
1.150	.550	.400	2.467	2.471	2.477	8.435	8.090	7.516
1.250	.550	.400	2.540	2.543	2.548	8.511	8.163	7.585
1.350	.550	.400	2.601	2.603	2.607	8.572	8.223	7.640
1.450	.550	.400	2.651	2.653	2.656	8.623	8.272	7.686
1.550	.550	.400	2.694	2.695	2.697	8.666	8.313	7.725
1.650	.550	.400	2.733	2.731	2.732	8.701	8.347	7.757
1.750	.550	.400	2.761	2.761	2.762	8.732	8.377	7.785
1.850	.550	.400	2.787	2.786	2.788	8.758	8.402	7.808
1.950	.550	.400	2.810	2.810	2.810	8.780	8.423	7.829
2.050	.550	.400	2.831	2.830	2.830	8.799	8.442	7.846
2.150	.550	.400	2.848	2.847	2.847	8.816	8.458	7.862
2.250	.550	.400	2.863	2.863	2.861	8.831	8.473	7.875
2.350	.550	.400	2.877	2.876	2.875	8.844	8.486	7.888
2.450	.550	.400	2.889	2.888	2.886	8.856	8.497	7.898
2.550	.550	.400	2.900	2.899	2.897	8.866	8.507	7.908
2.650	.550	.400	2.910	2.908	2.906	8.876	8.516	7.916
2.750	.550	.400	2.919	2.917	2.914	8.884	8.524	7.924
2.850	.550	.400	2.926	2.925	2.922	8.892	8.531	7.931

2.750	.650	.400	2.933	2.932	2.929	[illegible]	6.535	7.937
.050	.650	.400	.107	.103	.122	1.550	1.484	1.372
.150	.650	.400	.235	.253	.305	2.924	2.797	2.567
.250	.650	.400	.465	.479	.555	4.029	3.853	3.561
.350	.650	.400	.735	.774	.839	4.665	4.652	4.296
.450	.650	.400	1.006	1.049	1.120	5.479	5.238	4.836
.550	.650	.400	1.254	1.277	1.374	5.928	5.667	5.230
.650	.650	.400	1.469	1.515	1.572	6.259	5.982	5.520
.750	.650	.400	1.649	1.675	1.773	6.505	6.217	5.737
.850	.650	.400	1.778	1.844	1.922	6.692	6.396	5.901
.950	.650	.400	1.920	1.957	2.045	6.836	6.533	6.028
1.050	.650	.400	2.021	2.067	2.145	6.949	6.641	6.128
1.150	.650	.400	2.104	2.150	2.220	7.039	6.727	6.207
1.250	.650	.400	2.173	2.219	2.276	7.112	6.797	6.272
1.350	.650	.400	2.231	2.277	2.355	7.171	6.859	6.324
1.450	.650	.400	2.285	2.325	2.401	7.223	6.901	6.368
1.550	.650	.400	2.321	2.366	2.442	7.261	6.940	6.405
1.650	.650	.400	2.357	2.401	2.476	7.296	6.973	6.436
1.750	.650	.400	2.387	2.431	2.506	7.323	7.001	6.462
1.850	.650	.400	2.413	2.457	2.531	7.350	7.026	6.485
1.950	.650	.400	2.435	2.436	2.553	7.372	7.047	6.504
2.050	.650	.400	2.455	2.479	2.573	7.391	7.065	6.521
2.150	.650	.400	2.473	2.516	2.589	7.408	7.081	6.536
2.250	.650	.400	2.488	2.532	2.604	7.422	7.095	6.549
2.350	.650	.400	2.501	2.545	2.618	7.435	7.107	6.561
2.450	.650	.400	2.514	2.557	2.629	7.446	7.118	6.571
2.550	.650	.400	2.524	2.568	2.640	7.457	7.128	6.580
2.650	.650	.400	2.534	2.577	2.649	7.466	7.137	6.589
2.750	.650	.400	2.543	2.586	2.658	7.474	7.145	6.596
2.850	.650	.400	2.551	2.593	2.665	7.481	7.152	6.603
2.750	.650	.400	2.558	2.600	2.672	7.488	7.159	6.609
.050	.750	.400	.104	.121	.149	1.106	1.130	1.037
.150	.750	.400	.243	.275	.330	2.257	2.150	1.972
.250	.750	.400	.427	.472	.546	3.145	2.996	2.746
.350	.750	.400	.639	.693	.749	3.813	3.657	3.351
.450	.750	.400	.857	.919	1.019	4.372	4.161	3.809
.550	.750	.400	1.051	1.127	1.236	4.769	4.538	4.152
.650	.750	.400	1.243	1.312	1.426	5.067	4.820	4.409
.750	.750	.400	1.409	1.470	1.588	5.292	5.034	4.604
.850	.750	.400	1.533	1.604	1.724	5.465	5.196	4.753
.950	.750	.400	1.644	1.716	1.837	5.600	5.326	4.870
1.050	.750	.400	1.737	1.810	1.931	5.706	5.427	4.962
1.150	.750	.400	1.815	1.890	2.015	5.771	5.508	5.036
1.250	.750	.400	1.882	1.954	2.076	5.860	5.574	5.096
1.350	.750	.400	1.935	2.017	2.131	5.917	5.628	5.145
1.450	.750	.400	1.982	2.055	2.176	5.964	5.672	5.187
1.550	.750	.400	2.022	2.095	2.218	6.003	5.710	5.221
1.650	.750	.400	2.055	2.129	2.252	6.037	5.742	5.250
1.750	.750	.400	2.086	2.159	2.281	6.065	5.769	5.275
1.850	.750	.400	2.111	2.184	2.306	6.089	5.792	5.297
1.950	.750	.400	2.133	2.216	2.328	6.113	5.812	5.316
2.050	.750	.400	2.153	2.226	2.347	6.129	5.830	5.332
2.150	.750	.400	2.170	2.243	2.364	6.145	5.845	5.346
2.250	.750	.400	2.185	2.258	2.379	6.159	5.859	5.359
2.350	.750	.400	2.199	2.271	2.392	6.171	5.871	5.370
2.450	.750	.400	2.210	2.283	2.404	6.183	5.882	5.380
2.550	.750	.400	2.221	2.294	2.415	6.192	5.891	5.389
[illegible]	.750	.400	2.231	2.303	2.424	6.201	5.900	5.397
[illegible]	.750	.400	2.239	[illegible]	2.432	6.209	5.907	5.404
[illegible]	.750	.400	2.247	2.320	2.440	6.217	5.914	[illegible]

2.950	.750	.400	2.259	2.327	2.447	5.221	5.221	5.416
.050	.850	.400	.107	.129	.130	.905	.850	.779
.150	.850	.400	.208	.273	.332	1.734	1.645	1.493
.250	.850	.400	.392	.412	.525	2.445	2.315	2.100
.350	.850	.400	.565	.627	.725	3.013	2.857	2.590
.450	.850	.400	.799	.813	.730	3.466	3.201	2.971
.550	.850	.400	.719	.770	1.112	3.811	3.606	3.264
.650	.850	.400	1.367	1.150	1.204	4.076	3.856	3.469
.750	.850	.400	1.205	1.239	1.429	4.280	4.049	3.661
.850	.850	.400	1.324	1.410	1.553	4.438	4.197	3.796
.950	.850	.400	1.421	1.512	1.558	4.563	4.315	3.901
1.050	.850	.400	1.510	1.579	1.747	4.662	4.408	3.986
1.150	.850	.400	1.562	1.672	1.822	4.792	4.484	4.054
1.250	.850	.400	1.549	1.734	1.885	4.807	4.545	4.109
1.350	.850	.400	1.675	1.737	1.938	4.860	4.596	4.155
1.450	.850	.400	1.741	1.832	1.933	4.905	4.639	4.194
1.550	.850	.400	1.779	1.870	2.022	4.943	4.674	4.226
1.650	.850	.400	1.812	1.904	2.056	4.975	4.704	4.254
1.750	.850	.400	1.341	1.932	2.085	5.002	4.730	4.277
1.850	.850	.400	1.366	1.957	2.110	5.025	4.752	4.297
1.950	.850	.400	1.383	1.979	2.131	5.046	4.772	4.315
2.050	.850	.400	1.757	1.778	2.151	5.063	4.788	4.331
2.150	.850	.400	1.924	2.015	2.167	5.079	4.803	4.344
2.250	.850	.400	1.939	2.030	2.182	5.092	4.816	4.356
2.350	.850	.400	1.952	2.043	2.196	5.105	4.828	4.367
2.450	.850	.400	1.964	2.055	2.207	5.115	4.838	4.376
2.550	.850	.400	1.975	2.066	2.218	5.125	4.848	4.385
2.650	.850	.400	1.984	2.075	2.227	5.134	4.856	4.393
2.750	.850	.400	1.993	2.084	2.236	5.142	4.863	4.399
2.850	.850	.400	2.001	2.092	2.244	5.149	4.870	4.406
2.950	.850	.400	2.009	2.099	2.250	5.155	4.876	4.411
.050	.950	.400	.108	.127	.158	.694	.653	.566
.150	.950	.400	.227	.253	.322	1.339	1.261	1.130
.250	.950	.400	.361	.412	.497	1.902	1.790	1.604
.350	.950	.400	.508	.579	.675	2.379	2.230	1.996
.450	.950	.400	.655	.728	.850	2.746	2.583	2.310
.550	.950	.400	.799	.880	1.019	3.043	2.861	2.557
.650	.950	.400	.932	1.016	1.162	3.274	3.079	2.750
.750	.950	.400	1.051	1.142	1.293	3.458	3.249	2.901
.850	.950	.400	1.156	1.250	1.405	3.602	3.384	3.021
.950	.950	.400	1.285	1.344	1.504	3.716	3.491	3.115
1.050	.950	.400	1.326	1.424	1.537	3.808	3.577	3.192
1.150	.950	.400	1.373	1.492	1.658	3.882	3.647	3.254
1.250	.950	.400	1.451	1.531	1.718	3.943	3.704	3.305
1.350	.950	.400	1.501	1.602	1.770	3.999	3.751	3.347
1.450	.950	.400	1.543	1.645	1.914	4.036	3.791	3.383
1.550	.950	.400	1.565	1.682	1.852	4.072	3.825	3.413
1.650	.950	.400	1.617	1.719	1.885	4.102	3.853	3.438
1.750	.950	.400	1.649	1.742	1.713	4.129	3.878	3.460
1.850	.950	.400	1.661	1.767	1.934	4.151	3.899	3.479
1.950	.950	.400	1.686	1.788	1.760	4.173	3.917	3.496
2.050	.950	.400	1.705	1.807	1.979	4.187	3.933	3.511
2.150	.950	.400	1.721	1.824	1.995	4.202	3.948	3.524
2.250	.950	.400	1.736	1.839	2.010	4.215	3.960	3.535
2.350	.950	.400	1.749	1.852	2.023	4.227	3.971	3.545
2.450	.950	.400	1.761	1.864	2.035	4.237	3.981	3.554
2.550	.950	.400	1.771	1.874	2.046	4.247	3.990	3.562
2.650	.950	.400	1.781	1.884	2.055	4.255	3.993	3.569
2.750	.950	.400	1.779	1.892	2.064	4.263	4.005	3.576
[illegible]	.950	.400	1.797	1.900	2.072	4.270	4.012	3.582

2.250	.950	.400	1.863	1.907	2.079	1.276	4.018	3.568
.050	1.050	.400	.124	.122	.152	.536	.501	.443
.150	1.050	.400	.213	.218	.306	1.040	.972	.859
.250	1.050	.400	.332	.382	.465	1.488	1.390	1.227
.350	1.050	.400	.457	.520	.624	1.869	1.745	1.540
.450	1.050	.400	.584	.657	.779	2.182	2.037	1.796
.550	1.050	.400	.707	.788	.924	2.436	2.273	2.002
.650	1.050	.400	.822	.910	1.057	2.638	2.461	2.167
.750	1.050	.400	.927	1.020	1.175	2.800	2.611	2.297
.850	1.050	.400	1.021	1.118	1.279	2.929	2.731	2.402
.950	1.050	.400	1.104	1.203	1.370	3.033	2.828	2.486
1.050	1.050	.400	1.176	1.278	1.446	3.117	2.906	2.554
1.150	1.050	.400	1.238	1.342	1.515	3.186	2.970	2.610
1.250	1.050	.400	1.292	1.397	1.573	3.243	3.023	2.657
1.350	1.050	.400	1.339	1.445	1.622	3.290	3.067	2.695
1.450	1.050	.400	1.380	1.487	1.665	3.330	3.104	2.728
1.550	1.050	.400	1.415	1.523	1.702	3.364	3.136	2.756
1.650	1.050	.400	1.446	1.554	1.735	3.393	3.163	2.779
1.750	1.050	.400	1.473	1.582	1.763	3.417	3.186	2.800
1.850	1.050	.400	1.497	1.606	1.787	3.439	3.206	2.818
1.950	1.050	.400	1.518	1.627	1.809	3.457	3.223	2.833
2.050	1.050	.400	1.536	1.645	1.828	3.474	3.238	2.847
2.150	1.050	.400	1.552	1.662	1.844	3.488	3.252	2.859
2.250	1.050	.400	1.567	1.677	1.859	3.501	3.264	2.870
2.350	1.050	.400	1.580	1.690	1.872	3.512	3.275	2.879
2.450	1.050	.400	1.592	1.701	1.884	3.522	3.284	2.888
2.550	1.050	.400	1.602	1.712	1.895	3.531	3.293	2.895
2.650	1.050	.400	1.612	1.721	1.904	3.539	3.300	2.902
2.750	1.050	.400	1.620	1.730	1.913	3.546	3.307	2.908
2.850	1.050	.400	1.628	1.738	1.921	3.553	3.313	2.914
2.950	1.050	.400	1.635	1.745	1.928	3.559	3.319	2.919
.050	1.150	.400	.098	.115	.143	.410	.387	.337
.150	1.150	.400	.199	.232	.238	.813	.754	.656
.250	1.150	.400	.305	.353	.433	1.171	1.085	.943
.350	1.150	.400	.419	.475	.576	1.481	1.372	1.191
.450	1.150	.400	.525	.596	.715	1.742	1.613	1.398
.550	1.150	.400	.632	.712	.845	1.957	1.812	1.569
.650	1.150	.400	.733	.820	.965	2.132	1.973	1.706
.750	1.150	.400	.826	.919	1.073	2.275	2.104	1.820
.850	1.150	.400	.910	1.007	1.169	2.390	2.210	1.910
.950	1.150	.400	.985	1.085	1.253	2.484	2.296	1.984
1.050	1.150	.400	1.051	1.154	1.326	2.560	2.367	2.045
1.150	1.150	.400	1.109	1.214	1.390	2.624	2.425	2.095
1.250	1.150	.400	1.160	1.267	1.445	2.676	2.474	2.136
1.350	1.150	.400	1.204	1.312	1.493	2.721	2.515	2.172
1.450	1.150	.400	1.243	1.352	1.535	2.750	2.549	2.201
1.550	1.150	.400	1.277	1.387	1.571	2.789	2.578	2.226
1.650	1.150	.400	1.306	1.417	1.602	2.817	2.603	2.248
1.750	1.150	.400	1.332	1.444	1.630	2.840	2.625	2.267
1.850	1.150	.400	1.355	1.467	1.654	2.860	2.644	2.284
1.950	1.150	.400	1.376	1.488	1.675	2.878	2.660	2.298
2.050	1.150	.400	1.394	1.507	1.694	2.893	2.675	2.311
2.150	1.150	.400	1.410	1.523	1.711	2.907	2.688	2.322
2.250	1.150	.400	1.424	1.537	1.726	2.919	2.699	2.332
2.350	1.150	.400	1.437	1.550	1.739	2.930	2.709	2.341
2.450	1.150	.400	1.449	1.562	1.751	2.940	2.718	2.349
2.550	1.150	.400	1.459	1.573	1.762	2.948	2.726	2.356
2.650	1.150	.400	1.468	1.582	1.771	2.956	2.734	2.363
2.750	1.150	.400	1.477	1.591	1.780	2.963	2.740	2.368
2.850	1.150	.400	1.485	1.598	1.788	2.970	2.746	2.374

2.750	1.150	.400	1.922	1.635	1.795	2.976	2.752	2.379
.050	1.250	.400	.071	.107	.134	.323	.302	.257
.150	1.250	.400	.155	.216	.268	.642	.590	.503
.250	1.250	.400	.280	.326	.401	.928	.853	.727
.350	1.250	.400	.373	.435	.532	1.181	1.084	.922
.450	1.250	.400	.475	.543	.657	1.378	1.283	1.091
.550	1.250	.400	.559	.646	.775	1.580	1.449	1.231
.650	1.250	.400	.639	.743	.834	1.731	1.587	1.347
.750	1.250	.400	.742	.832	.983	1.855	1.700	1.442
.850	1.250	.400	.817	.913	1.072	1.957	1.793	1.520
.950	1.250	.400	.896	.935	1.150	2.042	1.870	1.584
1.050	1.250	.400	.946	1.047	1.219	2.111	1.934	1.636
1.150	1.250	.400	1.030	1.105	1.236	2.169	1.986	1.682
1.250	1.250	.400	1.078	1.155	1.332	2.218	2.031	1.719
1.350	1.250	.400	1.070	1.193	1.379	2.258	2.068	1.750
1.450	1.250	.400	1.127	1.236	1.419	2.293	2.100	1.777
1.550	1.250	.400	1.159	1.270	1.454	2.323	2.127	1.800
1.650	1.250	.400	1.189	1.299	1.485	2.348	2.150	1.820
1.750	1.250	.400	1.213	1.325	1.512	2.373	2.170	1.837
1.850	1.250	.400	1.235	1.348	1.536	2.389	2.188	1.852
1.950	1.250	.400	1.255	1.368	1.557	2.406	2.203	1.865
2.050	1.250	.400	1.273	1.387	1.576	2.421	2.217	1.877
2.150	1.250	.400	1.289	1.403	1.593	2.434	2.229	1.887
2.250	1.250	.400	1.303	1.417	1.608	2.445	2.240	1.897
2.350	1.250	.400	1.316	1.430	1.621	2.456	2.249	1.905
2.450	1.250	.400	1.327	1.442	1.633	2.465	2.258	1.912
2.550	1.250	.400	1.337	1.452	1.644	2.473	2.265	1.919
2.650	1.250	.400	1.346	1.461	1.653	2.481	2.272	1.925
2.750	1.250	.400	1.355	1.470	1.662	2.487	2.279	1.931
2.850	1.250	.400	1.362	1.478	1.670	2.494	2.284	1.936
2.950	1.250	.400	1.369	1.485	1.677	2.499	2.290	1.941
.050	1.350	.400	.035	.100	.125	.260	.237	.198
.150	1.350	.400	.171	.236	.249	.515	.464	.347
.250	1.350	.400	.253	.330	.371	.741	.674	.562
.350	1.350	.400	.335	.400	.490	.948	.861	.717
.450	1.350	.400	.432	.497	.605	1.128	1.025	.852
.550	1.350	.400	.516	.590	.713	1.282	1.164	.967
.650	1.350	.400	.596	.677	.813	1.411	1.281	1.063
.750	1.350	.400	.671	.758	.904	1.519	1.373	1.143
.850	1.350	.400	.739	.832	.986	1.609	1.460	1.210
.950	1.350	.400	.802	.898	1.059	1.685	1.527	1.265
1.050	1.350	.400	.853	.955	1.125	1.747	1.584	1.311
1.150	1.350	.400	.903	1.011	1.182	1.800	1.631	1.350
1.250	1.350	.400	.952	1.058	1.233	1.844	1.671	1.383
1.350	1.350	.400	.992	1.099	1.277	1.882	1.705	1.411
1.450	1.350	.400	1.027	1.135	1.316	1.914	1.734	1.435
1.550	1.350	.400	1.058	1.168	1.351	1.941	1.759	1.455
1.650	1.350	.400	1.086	1.196	1.381	1.965	1.781	1.473
1.750	1.350	.400	1.110	1.222	1.408	1.986	1.799	1.489
1.850	1.350	.400	1.132	1.244	1.431	2.004	1.816	1.502
1.950	1.350	.400	1.151	1.264	1.452	2.020	1.830	1.514
2.050	1.350	.400	1.169	1.282	1.471	2.034	1.843	1.525
2.150	1.350	.400	1.184	1.298	1.487	2.046	1.854	1.535
2.250	1.350	.400	1.199	1.312	1.502	2.057	1.864	1.543
2.350	1.350	.400	1.210	1.325	1.515	2.067	1.873	1.551
2.450	1.350	.400	1.222	1.336	1.527	2.076	1.881	1.558
2.550	1.350	.400	1.232	1.347	1.538	2.083	1.889	1.564
2.650	1.350	.400	1.241	1.356	1.548	2.091	1.895	1.570
2.750	1.350	.400	1.249	1.365	1.557	2.097	1.901	1.575
2.850	1.350	.400	1.257	1.372	1.565	2.103	1.907	1.580

2.950	1.350	.400	1.264	1.379	1.572	[illegible]	1.912	1.534
.050	1.450	.400	.077	.093	.116	[illegible]	.167	.152
.150	1.450	.400	.158	.185	.230	.457	.363	.295
.250	1.450	.400	.237	.277	.343	.576	.536	.436
.350	1.450	.400	.317	.368	.453	.765	.688	.559
.450	1.450	.400	.395	.456	.558	.915	.822	.667
.550	1.450	.400	.470	.540	.657	1.045	.938	.760
.650	1.450	.400	.543	.620	.749	1.155	1.037	.839
.750	1.450	.400	.610	.694	.833	1.249	1.120	.906
.850	1.450	.400	.673	.762	.910	1.329	1.191	.962
.950	1.450	.400	.730	.823	.979	1.395	1.250	1.009
1.050	1.450	.400	.782	.879	1.040	1.451	1.301	1.049
1.150	1.450	.400	.829	.929	1.095	1.499	1.343	1.083
1.250	1.450	.400	.870	.973	1.144	1.539	1.379	1.111
1.350	1.450	.400	.908	1.012	1.187	1.574	1.410	1.136
1.450	1.450	.400	.941	1.047	1.224	1.603	1.436	1.157
1.550	1.450	.400	.971	1.079	1.258	1.629	1.459	1.175
1.650	1.450	.400	.997	1.106	1.288	1.651	1.479	1.191
1.750	1.450	.400	1.021	1.131	1.314	1.670	1.496	1.205
1.850	1.450	.400	1.042	1.153	1.337	1.687	1.511	1.218
1.950	1.450	.400	1.061	1.172	1.358	1.702	1.524	1.226
2.050	1.450	.400	1.078	1.190	1.376	1.715	1.536	1.238
2.150	1.450	.400	1.093	1.205	1.393	1.727	1.547	1.247
2.250	1.450	.400	1.107	1.220	1.408	1.737	1.556	1.255
2.350	1.450	.400	1.119	1.232	1.421	1.746	1.565	1.262
2.450	1.450	.400	1.130	1.244	1.433	1.755	1.572	1.268
2.550	1.450	.400	1.140	1.254	1.444	1.762	1.579	1.274
2.650	1.450	.400	1.149	1.263	1.453	1.769	1.585	1.279
2.750	1.450	.400	1.158	1.272	1.462	1.775	1.591	1.284
2.850	1.450	.400	1.165	1.280	1.470	1.781	1.596	1.288
2.950	1.450	.400	1.172	1.287	1.478	1.786	1.601	1.292
.050	1.550	.400	.073	.086	.107	.167	.149	.118
.150	1.550	.400	.146	.171	.213	.333	.293	.231
.250	1.550	.400	.219	.256	.319	.482	.428	.338
.350	1.550	.400	.281	.339	.419	.621	.551	.435
.450	1.550	.400	.352	.420	.515	.746	.662	.521
.550	1.550	.400	.431	.497	.607	.855	.758	.596
.650	1.550	.400	.476	.570	.692	.950	.842	.661
.750	1.550	.400	.558	.638	.771	1.031	.913	.717
.850	1.550	.400	.615	.700	.842	1.101	.974	.764
.950	1.550	.400	.668	.758	.907	1.159	1.026	.804
1.050	1.550	.400	.716	.810	.965	1.210	1.070	.837
1.150	1.550	.400	.760	.856	1.017	1.252	1.108	.866
1.250	1.550	.400	.799	.897	1.064	1.289	1.140	.891
1.350	1.550	.400	.835	.936	1.105	1.320	1.167	.913
1.450	1.550	.400	.866	.970	1.142	1.348	1.191	.931
1.550	1.550	.400	.895	1.000	1.175	1.371	1.212	.947
1.650	1.550	.400	.920	1.027	1.204	1.391	1.230	.961
1.750	1.550	.400	.943	1.050	1.229	1.409	1.246	.974
1.850	1.550	.400	.963	1.072	1.252	1.425	1.260	.985
1.950	1.550	.400	.982	1.091	1.273	1.439	1.272	.994
2.050	1.550	.400	.998	1.108	1.291	1.451	1.283	1.003
2.150	1.550	.400	1.013	1.124	1.308	1.462	1.293	1.011
2.250	1.550	.400	1.027	1.138	1.322	1.472	1.302	1.018
2.350	1.550	.400	1.039	1.150	1.336	1.481	1.310	1.024
2.450	1.550	.400	1.050	1.162	1.348	1.489	1.317	1.030
2.550	1.550	.400	1.060	1.172	1.358	1.496	1.323	1.035
2.650	1.550	.400	1.069	1.181	1.368	1.502	1.329	1.040
2.750	1.550	.400	1.077	1.190	1.377	1.508	1.334	1.044
2.850	1.550	.400	1.085	1.197	1.385	1.513	1.339	1.048

2.950	1.550	.400	1.172	1.235	1.373	1.318	1.344	1.052
.050	1.650	.400	[illegible]	[illegible]	[illegible]	.136	.117	.071
.150	1.650	.400	[illegible]	.152	.178	.267	.230	.179
.250	1.650	.400	[illegible]	.237	.259	.372	.311	.262
.350	1.650	.400	.259	.315	.348	.497	.444	.335
.450	1.650	.400	.333	.387	.477	.611	.531	.407
.550	1.650	.400	.376	.458	.562	.703	.615	.467
.650	1.650	.400	.446	.525	.641	.784	.685	.520
.750	1.650	.400	.513	.588	.714	.854	.746	.565
.850	1.650	.400	.565	.646	.762	.915	.798	.604
.950	1.650	.400	.619	.700	.845	.967	.843	.638
1.050	1.650	.400	.659	.747	.896	1.011	.882	.666
1.150	1.650	.400	.700	.793	.943	1.039	.915	.691
1.250	1.650	.400	.737	.833	.972	1.062	.943	.712
1.350	1.650	.400	.776	.869	1.032	1.111	.966	.730
1.450	1.650	.400	.801	.901	1.068	1.136	.986	.746
1.550	1.650	.400	.825	.930	1.099	1.157	1.008	.760
1.650	1.650	.400	.852	.956	1.128	1.176	1.025	.772
1.750	1.650	.400	.875	.979	1.153	1.193	1.039	.783
1.850	1.650	.400	.894	1.000	1.176	1.207	1.052	.793
1.950	1.650	.400	.912	1.017	1.196	1.220	1.063	.802
2.050	1.650	.400	.929	1.036	1.214	1.231	1.073	.809
2.150	1.650	.400	.943	1.051	1.231	1.242	1.082	.816
2.250	1.650	.400	.956	1.065	1.245	1.251	1.090	.823
2.350	1.650	.400	.965	1.077	1.258	1.259	1.098	.828
2.450	1.650	.400	.979	1.088	1.270	1.267	1.104	.834
2.550	1.650	.400	.989	1.098	1.281	1.273	1.110	.838
2.650	1.650	.400	.993	1.108	1.291	1.279	1.116	.843
2.750	1.650	.400	1.006	1.116	1.300	1.285	1.121	.847
2.850	1.650	.400	1.013	1.124	1.308	1.290	1.125	.850
2.950	1.650	.400	1.020	1.131	1.315	1.295	1.129	.854
.050	1.750	.400	.033	.074	.092	.110	.095	.070
.150	1.750	.400	.125	.147	.183	.216	.183	.138
.250	1.750	.400	.187	.217	.273	.321	.276	.203
.350	1.750	.400	.243	.276	.363	.416	.356	.262
.450	1.750	.400	.303	.353	.443	.503	.433	.316
.550	1.750	.400	.365	.424	.521	.580	.499	.364
.650	1.750	.400	.420	.486	.595	.649	.558	.407
.750	1.750	.400	.473	.519	.669	.713	.610	.444
.850	1.750	.400	.521	.579	.727	.762	.655	.475
.950	1.750	.400	[illegible]	.639	.785	.808	.693	.503
1.050	1.750	.400	.609	.674	.837	.847	.727	.527
1.150	1.750	.400	.647	.738	.885	.881	.756	.547
1.250	1.750	.400	.682	.774	.927	.911	.781	.565
1.350	1.750	.400	.714	.809	.965	.937	.803	.581
1.450	1.750	.400	.743	.839	1.000	.959	.823	.595
1.550	1.750	.400	.769	.867	1.031	.979	.839	.606
1.650	1.750	.400	.792	.892	1.059	.996	.854	.617
1.750	1.750	.400	.819	.915	1.084	1.011	.867	.626
1.850	1.750	.400	.833	.935	1.106	1.025	.879	.635
1.950	1.750	.400	.850	.954	1.126	1.037	.889	.642
2.050	1.750	.400	.866	.970	1.144	1.048	.898	.649
2.150	1.750	.400	.880	.985	1.160	1.057	.906	.655
2.250	1.750	.400	.893	.999	1.175	1.066	.914	.661
2.350	1.750	.400	.905	1.011	1.188	1.073	.921	.666
2.450	1.750	.400	.915	1.022	1.200	1.080	.927	.671
2.550	1.750	.400	.926	1.033	1.211	1.087	.932	.675
2.650	1.750	.400	.934	1.042	1.221	1.092	.937	.679
2.750	1.750	.400	.943	1.050	1.230	1.098	.942	.682
2.850	1.750	.400	.950	1.058	1.238	1.103	.946	.686

.250	1.750	.400	.537	1.065	1.246	1.107	.75[illegible]	.689
.050	1.850	.400	.059	.057	.086	.070	.057	.054
.150	1.850	.400	.118	.137	.170	.179	.152	.107
.250	1.850	.400	.174	.209	.253	.263	.223	.156
.350	1.850	.400	.235	.269	.334	.342	.290	.232
.450	1.850	.400	.285	.332	.411	.415	.351	.244
.550	1.850	.400	.338	.373	.435	.480	.406	.282
.650	1.850	.400	.389	.451	.559	.539	.455	.316
.750	1.850	.400	.437	.505	.618	.591	.499	.345
.850	1.850	.400	.483	.556	.678	.637	.537	.371
.950	1.850	.400	.525	.603	.732	.677	.571	.394
1.050	1.850	.400	.564	.646	.782	.711	.600	.413
1.150	1.850	.400	.600	.686	.826	.742	.625	.430
1.250	1.850	.400	.633	.722	.869	.760	.647	.445
1.350	1.850	.400	.659	.755	.906	.792	.666	.458
1.450	1.850	.400	.671	.739	.939	.812	.683	.470
1.550	1.850	.400	.715	.811	.969	.830	.696	.480
1.650	1.850	.400	.739	.835	.996	.845	.712	.489
1.750	1.850	.400	.759	.857	1.021	.859	.723	.497
1.850	1.850	.400	.778	.877	1.043	.872	.734	.504
1.950	1.850	.400	.795	.895	1.062	.883	.743	.510
2.050	1.850	.400	.813	.912	1.080	.893	.751	.516
2.150	1.850	.400	.824	.926	1.096	.902	.759	.521
2.250	1.850	.400	.837	.940	1.111	.909	.766	.526
2.350	1.850	.400	.849	.952	1.124	.917	.772	.531
2.450	1.850	.400	.859	.963	1.136	.923	.778	.535
2.550	1.850	.400	.869	.973	1.147	.929	.783	.537
2.650	1.850	.400	.873	.982	1.157	.935	.787	.542
2.750	1.850	.400	.884	.991	1.166	.940	.792	.545
2.850	1.850	.400	.893	.999	1.174	.944	.796	.548
2.950	1.850	.400	.900	1.006	1.182	.948	.799	.551
.050	1.950	.400	.059	.064	.080	.074	.062	.041
.150	1.950	.400	.108	.127	.156	.147	.122	.081
.250	1.950	.400	.161	.189	.236	.217	.180	.119
.350	1.950	.400	.214	.250	.311	.283	.235	.154
.450	1.950	.400	.265	.309	.393	.343	.285	.187
.550	1.950	.400	.319	.365	.451	.399	.330	.216
.650	1.950	.400	.361	.417	.516	.449	.372	.243
.750	1.950	.400	.406	.470	.577	.493	.408	.266
.850	1.950	.400	.448	.517	.633	.533	.441	.287
.950	1.950	.400	.488	.562	.685	.568	.469	.305
1.050	1.950	.400	.525	.602	.732	.598	.494	.320
1.150	1.950	.400	.559	.640	.776	.625	.516	.334
1.250	1.950	.400	.590	.674	.815	.649	.535	.346
1.350	1.950	.400	.619	.706	.851	.670	.552	.357
1.450	1.950	.400	.645	.734	.883	.689	.567	.366
1.550	1.950	.400	.667	.750	.913	.704	.581	.375
1.650	1.950	.400	.691	.784	.939	.718	.592	.382
1.750	1.950	.400	.711	.805	.963	.731	.603	.389
1.850	1.950	.400	.729	.825	.985	.742	.612	.395
1.950	1.950	.400	.745	.842	1.004	.753	.620	.400
2.050	1.950	.400	.760	.858	1.022	.762	.628	.405
2.150	1.950	.400	.774	.873	1.038	.770	.635	.410
2.250	1.950	.400	.786	.885	1.052	.777	.641	.414
2.350	1.950	.400	.798	.898	1.065	.784	.647	.418
2.450	1.950	.400	.808	.909	1.077	.790	.652	.421
2.550	1.950	.400	.818	.919	1.088	.796	.656	.424
2.650	1.950	.400	.827	.928	1.098	.801	.661	.426
2.750	1.950	.400	.835	.937	1.107	.805	.665	.430
2.850	1.950	.400	.842	.945	1.116	.810	.668	.433

[illegible]	1.9[illegible]	.4[illegible]	[illegible]	.952	1.123	[illegible]	.672	.435
[illegible]	2.[illegible]	[illegible]	[illegible]	.059	.074	.051	[illegible]	.031
[illegible]	[illegible]	[illegible]	[illegible]	.1[illegible]	[illegible]	.121	.1[illegible]	.061
.250	2.050	[illegible]	[illegible]	.176	.226	.179	.146	.085
.350	2.050	.400	[illegible]	.233	.290	.239	.150	.116
.450	2.050	.400	.216	.290	.357	.285	.231	.141
.550	2.050	.400	.292	.340	.421	.332	.269	.163
.350	2.050	.400	.335	.371	.482	.374	.303	.184
.750	2.050	.400	.378	.438	.539	.412	.333	.202
.350	2.050	.400	.417	.483	.592	.447	.361	.216
.750	2.050	.400	.454	.525	.641	.477	.395	.232
1.050	2.050	.400	.497	.553	.687	.504	.406	.244
1.150	2.050	.400	.521	.599	.726	.527	.425	.255
1.250	2.050	.400	.551	.632	.766	.548	.442	.265
1.350	2.050	.400	.578	.662	.801	.567	.457	.273
1.450	2.050	.405	.604	.689	.832	.583	.470	.281
1.550	2.050	.400	.627	.714	.861	.598	.481	.287
1.550	2.050	.400	.649	.737	.887	.611	.492	.293
1.750	2.050	.400	.667	.758	.910	.622	.501	.299
1.[illegible]	2.050	.400	.685	.777	.931	.633	.509	.304
1.950	2.050	.400	.700	.794	.951	.642	.517	.308
2.[illegible]	2.050	.400	.715	.810	.958	.650	.524	.312
2.150	2.050	.400	.729	.824	.984	.658	.530	.316
2.250	2.050	.400	.741	.837	.998	.665	.535	.320
2.350	2.050	.400	.752	.849	1.012	.671	.540	.323
2.450	2.050	.400	.762	.860	1.023	.676	.545	.326
2.550	2.050	.400	.772	.870	1.034	.682	.549	.329
2.650	2.050	.400	.7[illegible]	.879	1.044	.686	.553	.331
2.750	2.050	.400	.788	.888	1.053	.691	.557	.334
2.[illegible]	2.050	.400	.775	.895	1.062	.695	.560	.336
2.7[illegible]	2.050	.400	.8[illegible]	.902	1.069	.698	.563	.338
.050	2.150	.400	.047	.055	.069	.051	.040	.022
.150	2.150	.400	.099	.110	.138	.100	.079	.044
.250	2.150	.400	.143	.164	.205	.147	.117	.066
.350	2.150	.400	.185	.217	.270	.194	.153	.085
.450	2.150	.400	.23[illegible]	.269	.334	.237	.187	.104
.550	2.150	.400	.272	.318	.394	.276	.218	.121
.650	2.150	.400	.313	.365	.451	.313	.246	.136
.750	2.150	.400	.353	.410	.505	.345	.272	.149
.850	2.150	.400	.390	.452	.555	.375	.295	.161
.950	2.150	.400	.425	.471	.602	.401	.315	.172
1.050	2.150	.400	.457	.520	.645	.429	.333	.181
1.150	2.150	.400	.488	.562	.685	.445	.349	.190
1.250	2.150	.400	.516	.575	.722	.464	.369	.197
1.350	2.150	.400	.542	.622	.755	.480	.376	.204
1.450	2.150	.400	.566	.648	.785	.495	.388	.209
1.550	2.150	.400	[illegible]	.673	.813	.508	.396	.215
1.650	2.150	.400	.608	.695	.838	.519	.407	.219
1.750	2.150	.400	.627	.715	.861	.530	.415	.224
1.850	2.150	.400	.644	.733	.882	.539	.422	.228
1.750	2.150	.400	.660	.750	.901	.548	.429	.231
2.050	2.150	.400	.674	.766	.919	.555	.435	.235
2.150	2.150	.400	.687	.780	.934	.562	.440	.238
2.250	2.150	.400	.699	.773	.949	.569	.445	.240
2.350	2.150	.400	.710	.804	.952	.574	.450	.243
2.450	2.150	.400	.720	.815	.974	.579	.454	.246
2.550	2.150	.400	.730	.825	.985	.584	.458	.248
2.650	2.150	.400	.738	.834	.997	.583	.462	.250
2.750	2.150	.400	.746	.843	1.004	.592	.465	.252
2.850	2.150	.400	.75[illegible]	.850	1.012	.596	.468	.254

2.250	2.150	[illegible]	[illegible]	.457	1.32[illegible]	[illegible]	.471	.256
.050	2.250	.400	[illegible]	.052	.035	.042	.032	.016
.150	2.250	.400	[illegible]	.130	.127	.083	.064	.032
.250	2.250	.400	.131	.151	.192	.123	.099	.047
.350	2.250	.400	.173	.203	.253	.161	.124	.061
.450	2.250	.400	.215	.251	.312	.197	.151	.074
.550	2.250	.400	.254	.297	.369	.231	.176	.086
.650	2.250	.400	.273	.342	.423	.261	.200	.097
.750	2.250	.400	.330	.384	.474	.289	.221	.107
.850	2.250	.400	.365	.423	.521	.314	.240	.115
.950	2.250	.400	.397	.461	.566	.337	.257	.123
1.050	2.250	.400	.428	.495	.607	.357	.272	.130
1.150	2.250	.400	.457	.528	.645	.376	.286	.136
1.250	2.250	.400	.484	.558	.681	.392	.298	.141
1.350	2.250	.400	[illegible]	.585	.713	.406	.309	.146
1.450	2.250	.400	.532	.611	.742	.417	.319	.150
1.550	2.250	.400	.552	.634	.769	.431	.327	.154
1.650	2.250	.400	.573	.656	.794	.442	.335	.158
1.750	2.250	.400	.591	.676	.817	.451	.342	.161
[illegible]	2.250	.400	.607	.694	.837	.459	.349	.164
[illegible]	2.250	.400	.623	.710	.856	.457	.354	.167
2.050	2.250	.400	[illegible]	.725	.873	.474	.360	.169
2.150	2.250	.400	[illegible]	.737	.888	.480	.364	.171
2.250	2.250	.400	[illegible]	.752	.903	.486	.369	.174
2.350	2.250	.400	.672	.753	.916	.491	.373	.176
2.450	2.250	.400	.682	.774	.927	.496	.377	.178
2.550	2.250	.400	.691	.784	.938	.500	.380	.180
2.650	2.250	.400	[illegible]	.793	.948	.504	.383	.181
2.750	2.250	.400	.707	.801	.953	.509	.386	.183
2.850	2.250	.400	.715	.809	.964	.511	.389	.184
2.950	2.250	.400	.721	.816	.974	.515	.391	.186
.050	2.350	.400	.021	.018	.061	.035	.026	.011
.150	2.350	.400	.062	.076	.121	.069	.051	.021
.250	2.350	.400	.122	.144	.180	.102	.076	.031
.350	2.350	.400	.152	.190	.237	.134	.099	.041
.450	2.350	.400	.231	.235	.293	.164	.121	.050
.550	2.350	.400	.259	.277	.346	.192	.142	.058
.650	2.350	.400	.274	.324	.397	.218	.161	.065
.750	2.350	.400	.329	.360	.445	.242	.176	.072
.850	2.350	.400	.342	.376	.491	.265	.194	.077
.950	2.350	.400	.373	.433	.533	.283	.208	.083
1.050	2.350	.400	.402	.466	.572	.301	.221	.087
1.150	2.350	.400	.430	.497	.609	.317	.232	.091
1.250	2.350	.400	.455	.526	.643	.331	.242	.095
1.350	2.350	.400	[illegible]	.552	.674	.344	.252	.098
1.450	2.350	.400	[illegible]	.577	.703	.355	.260	.101
1.550	2.350	.400	.522	.599	.729	.366	.267	.104
1.650	2.350	.400	.541	.620	.753	.375	.274	.106
1.750	2.350	.400	[illegible]	.639	.775	.383	.280	.108
1.850	2.350	.400	.574	.657	.795	.371	.286	.110
1.950	2.350	.400	.589	.673	.814	.378	.291	.112
2.050	2.350	.400	.602	.688	.830	.104	.295	.114
2.150	2.350	.400	.615	.702	.846	.110	.299	.116
2.250	2.350	.400	.627	.714	.860	.115	.303	.117
[illegible]	2.350	[illegible]	.637	.725	.873	.120	.307	.119
[illegible]	2.350	[illegible]	.647	.736	.884	.124	.310	.120
[illegible]	[illegible]	[illegible]	.654	.746	.376	.125	.313	.122
[illegible]	2.3[illegible]	[illegible]	[illegible]	.755	.705	.132	.316	.123
[illegible]	[illegible]	[illegible]	.672	.763	.715	.135	.319	.124

2.950	2.350	[illegible]	[illegible]	.775	.931	[illegible]	.323	.127
.050	2.450	.400	.039	.045	.057	.029	.020	.007
.150	2.450	.400	.077	.085	.113	.057	.041	.013
.250	2.450	.400	.115	.135	.168	.086	.060	.019
.350	2.450	.400	.152	.178	.222	.111	.077	.025
.450	2.450	.400	.189	.221	.275	.137	.097	.030
.550	2.450	.400	.224	.262	.325	.160	.113	.035
.650	2.450	.400	.258	.301	.373	.182	.129	.039
.750	2.450	.400	.290	.338	.419	.202	.143	.043
.850	2.450	.400	.321	.374	.462	.221	.155	.046
.950	2.450	.400	.351	.406	.504	.239	.167	.049
1.050	2.450	.400	.378	.439	.540	.253	.177	.052
1.150	2.450	.400	.405	.469	.575	.267	.187	.054
1.250	2.450	.400	.429	.496	.608	.279	.195	.056
1.350	2.450	.400	.452	.522	.633	.293	.203	.058
1.450	2.450	.400	.473	.545	.666	.300	.210	.060
1.550	2.450	.400	.493	.567	.691	.309	.216	.061
1.650	2.450	.400	.511	.587	.715	.318	.222	.063
1.750	2.450	.400	.528	.606	.736	.325	.227	.064
1.850	2.450	.400	.543	.623	.756	.332	.232	.065
1.950	2.450	.400	.558	.639	.774	.338	.236	.066
2.050	2.450	.400	.571	.654	.791	.344	.240	.067
2.150	2.450	.400	.583	.667	.806	.349	.244	.068
2.250	2.450	.400	.595	.679	.820	.353	.247	.070
2.350	2.450	.400	.605	.691	.833	.358	.250	.071
2.450	2.450	.400	.615	.701	.845	.362	.253	.072
2.550	2.450	.400	.624	.711	.856	.365	.256	.073
2.650	2.450	.400	.632	.720	.866	.369	.258	.073
2.750	2.450	.400	.640	.728	.875	.372	.260	.074
2.850	2.450	.400	.647	.735	.883	.375	.262	.075
2.950	2.450	.400	.653	.742	.891	.377	.264	.076
.050	2.550	.400	.036	.043	.053	.024	.016	.003
.150	2.550	.400	.072	.085	.106	.047	.032	.006
.250	2.550	.400	.109	.127	.158	.070	.047	.009
.350	2.550	.400	.144	.168	.209	.092	.062	.012
.450	2.550	.400	.177	.208	.259	.114	.076	.014
.550	2.550	.400	.210	.246	.306	.133	.089	.016
.650	2.550	.400	.242	.283	.352	.152	.102	.018
.750	2.550	.400	.273	.319	.375	.169	.113	.020
.850	2.550	.400	.302	.352	.436	.185	.123	.021
.950	2.550	.400	.330	.384	.475	.199	.133	.022
1.050	2.550	.400	.357	.414	.511	.212	.141	.023
1.150	2.550	.400	.382	.443	.545	.224	.149	.024
1.250	2.550	.400	.405	.469	.576	.235	.156	.024
1.350	2.550	.400	.427	.494	.605	.244	.162	.025
1.450	2.550	.400	.447	.516	.632	.253	.164	.025
1.550	2.550	.400	.466	.538	.657	.261	.173	.026
[illegible]	2.550	.400	.484	.557	.680	.268	.178	.026
1.750	2.550	.400	.500	.575	.701	.275	.182	.027
[illegible]	2.550	[illegible]	.515	.592	.720	.281	.186	.027
1.950	2.550	.400	.529	.607	.738	.287	.189	.028
[illegible]	2.550	.400	.542	.622	.754	.292	.193	.028
2.150	2.550	.400	.554	.635	.769	.296	.196	.029
2.250	2.550	.400	.565	.647	.783	.300	.199	.029
[illegible]	2.550	.400	.576	.658	.796	[illegible]	.201	.030
[illegible]	2.550	[illegible]	[illegible]	.669	.808	[illegible]	.204	.030
[illegible]	2.550	[illegible]	[illegible]	.678	.818	[illegible]	.206	.031
[illegible]	[illegible]	[illegible]	[illegible]	.687	.828	.314	.208	.031
[illegible]	[illegible]	[illegible]	[illegible]	.695	.836	.317	.210	.032
[illegible]	[illegible]	[illegible]	[illegible]	.715	[illegible]	[illegible]	[illegible]	[illegible]

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2.950	2.550	.400	.723	.710	.854	.322	.214	.033
.050	2.650	.400	.134	.040	.050	.020	.012	.000
.150	2.650	.400	.109	.030	.100	.039	.025	.001
.250	2.650	.400	.132	.119	.149	.058	.037	.001
.350	2.650	.400	.139	.158	.197	.077	.049	.001
.450	2.650	.400	.167	.176	.244	.094	.057	.001
.550	2.650	.400	.198	.232	.289	.111	.069	.001
.650	2.650	.400	.228	.267	.332	.126	.079	.001
.750	2.650	.400	.257	.301	.373	.140	.088	.000
.850	2.650	.400	.265	.333	.412	.154	.096	-.000
.950	2.650	.400	.312	.353	.449	.166	.103	-.001
1.050	2.650	.400	.337	.392	.495	.177	.110	-.001
1.150	2.650	.400	.358	.419	.516	.187	.116	-.002
1.250	2.650	.400	.393	.444	.546	.197	.122	-.002
1.350	2.650	.400	.409	.468	.574	.205	.127	-.003
1.450	2.650	.400	.420	.490	.600	.213	.132	-.003
1.550	2.650	.400	.432	.510	.624	.220	.136	-.004
1.650	2.650	.400	.459	.529	.647	.226	.140	-.004
1.750	2.650	.400	.474	.547	.667	.232	.143	-.005
1.850	2.650	.400	.497	.563	.686	.237	.146	-.005
1.950	2.650	.400	.503	.578	.704	.242	.149	-.005
2.050	2.650	.400	.515	.592	.720	.246	.152	-.005
2.150	2.650	.400	.527	.605	.735	.250	.155	-.005
2.250	2.650	.400	.538	.617	.749	.254	.157	-.005
2.350	2.650	.400	.544	.626	.761	.258	.159	-.005
2.450	2.650	.400	.558	.636	.773	.261	.161	-.005
2.550	2.650	.400	.566	.648	.784	.264	.163	-.005
2.650	2.650	.400	.574	.657	.794	.266	.165	-.005
2.750	2.650	.400	.582	.665	.803	.269	.167	-.004
2.850	2.650	.400	.587	.672	.811	.271	.168	-.004
2.950	2.650	.400	.595	.679	.819	.274	.170	-.004
.050	2.750	.400	.032	.038	.047	.016	.009	-.002
.150	2.750	.400	.064	.075	.094	.032	.017	-.004
.250	2.750	.400	.096	.112	.140	.048	.028	-.006
.350	2.750	.400	.127	.149	.186	.063	.037	-.007
.450	2.750	.400	.157	.184	.230	.078	.045	-.009
.550	2.750	.400	.187	.219	.272	.091	.053	-.011
.650	2.750	.400	.215	.252	.313	.104	.060	-.013
.750	2.750	.400	.243	.284	.353	.116	.067	-.015
.850	2.750	.400	.269	.314	.390	.128	.073	-.017
.950	2.750	.400	.274	.343	.425	.138	.079	-.019
1.050	2.750	.400	.319	.371	.458	.147	.084	-.021
1.150	2.750	.400	.341	.397	.489	.156	.087	-.023
1.250	2.750	.400	.362	.421	.518	.164	.093	-.024
1.350	2.750	.400	.383	.444	.546	.171	.097	-.026
1.450	2.750	.400	.401	.465	.571	.178	.101	-.027
1.550	2.750	.400	.419	.485	.594	.184	.104	-.029
1.650	2.750	.400	.435	.503	.616	.189	.107	-.030
1.750	2.750	.400	.451	.520	.636	.194	.110	-.031
1.850	2.750	.400	.465	.536	.655	.199	.112	-.032
1.950	2.750	.400	.474	.551	.672	.203	.115	-.033
2.050	2.750	.400	.491	.565	.688	.207	.117	-.033
2.150	2.750	.400	.502	.577	.703	.211	.119	-.034
2.250	2.750	.400	.513	.589	.716	.214	.121	-.034
2.350	2.750	.400	.523	.600	.729	.217	.123	-.034
2.450	2.750	.400	.532	.610	.740	.220	.124	-.035
2.550	2.750	.400	.541	.620	.751	.222	.126	-.035
2.650	2.750	.400	.550	.628	.761	.225	.127	-.035
2.750	2.750	.400	.558	.636	.770	.227	.129	-.035

2.750	2.750	.400	[illegible]	.751	.742	.231	.131	-.135
.050	2.850	.400	.032	.036	.042	.013	.007	-.004
.150	2.850	.400	.063	.071	.088	.026	.014	-.007
.250	2.850	.400	.096	.106	.133	.039	.021	-.011
.350	2.850	.400	.122	.141	.175	.052	.027	-.014
.450	2.850	.400	.149	.174	.217	.064	.033	-.018
.550	2.850	.400	.176	.207	.258	.075	.039	-.021
.650	2.850	.400	.203	.238	.296	.086	.044	-.025
.750	2.850	.400	.230	.269	.334	.096	.049	-.028
.850	2.850	.400	.255	.278	.369	.105	.054	-.031
.950	2.850	.400	.279	.325	.403	.114	.058	-.035
1.050	2.850	.400	.302	.351	.435	.122	.062	-.037
1.150	2.850	.400	.323	.376	.465	.129	.066	-.040
1.250	2.850	.400	.344	.400	.493	.136	.069	-.043
1.350	2.850	.400	.363	.422	.519	.142	.072	-.045
1.450	2.850	.400	.381	.442	.544	.148	.074	-.047
1.550	2.850	.400	.398	.461	.566	.153	.077	-.049
1.650	2.850	.400	.411	.479	.588	.157	.079	-.051
1.750	2.850	.400	.425	.496	.607	.162	.081	-.053
1.850	2.850	.400	.443	.511	.626	.166	.083	-.054
1.950	2.850	.400	.456	.526	.643	.169	.085	-.056
2.050	2.850	.400	.468	.539	.658	.173	.087	-.057
2.150	2.850	.400	.477	.552	.673	.176	.088	-.058
2.250	2.850	.400	.489	.563	.686	.179	.090	-.059
2.350	2.850	.400	.499	.574	.698	.181	.091	-.059
2.450	2.850	.400	.508	.584	.710	.184	.092	-.060
2.550	2.850	.400	.517	.593	.721	.186	.094	-.061
2.650	2.850	.400	.525	.602	.730	.188	.095	-.061
2.750	2.850	.400	.532	.610	.740	.190	.096	-.061
2.850	2.850	.400	.537	.617	.748	.192	.097	-.062
2.950	2.850	.400	.545	.624	.756	.194	.098	-.062
.050	2.950	.400	.029	.034	.042	.011	.005	-.005
.150	2.950	.400	.057	.067	.084	.022	.010	-.010
.250	2.950	.400	.085	.100	.125	.032	.014	-.015
.350	2.950	.400	.113	.133	.166	.042	.019	-.020
.450	2.950	.400	.140	.165	.205	.052	.023	-.025
.550	2.950	.400	.167	.196	.244	.061	.027	-.030
.650	2.950	.400	.193	.226	.281	.070	.031	-.034
.750	2.950	.400	.217	.254	.316	.078	.034	-.039
.850	2.950	.400	.241	.282	.350	.086	.038	-.043
.950	2.950	.400	.264	.307	.382	.093	.041	-.047
1.050	2.950	.400	.286	.334	.413	.100	.043	-.051
1.150	2.950	.400	.307	.357	.442	.106	.046	-.055
1.250	2.950	.400	.326	.380	.467	.112	.048	-.058
1.350	2.950	.400	.345	.401	.494	.117	.050	-.061
1.450	2.950	.400	.362	.421	.516	.121	.052	-.064
1.550	2.950	.400	.379	.439	.540	.126	.054	-.067
1.650	2.950	.400	.394	.457	.561	.130	.055	-.069
1.750	2.950	.400	.409	.473	.580	.134	.057	-.071
1.850	2.950	.400	.422	.488	.598	.137	.058	-.073
1.950	2.950	.400	.435	.502	.615	.140	.059	-.075
2.050	2.950	.400	.446	.515	.630	.143	.061	-.077
2.150	2.950	.400	.457	.528	.644	.146	.062	-.078
2.250	2.950	.400	.467	.539	.658	.148	.063	-.079
2.350	2.950	.400	.477	.550	.670	.150	.064	-.081
2.450	2.950	.400	.486	.559	.681	.153	.065	-.082
2.550	2.950	.400	.494	.568	.692	.155	.066	-.082
2.650	2.950	.400	.501	.577	.702	.157	.067	-.083
2.750	2.950	.400	.507	.585	.711	.158	.067	-.084
2.850	2.950	.400	.513	.592	.719	.160	.068	-.084

B[illegible] STRESSES [illegible] USING ELASTIC FORMULAE DATE 091377 PAGE 65

3.750	[illegible]	[illegible]	.522	.599	.727	.162	.067	-.085
.050	.050	.500	-.339	-.645	-.838	-.432	-.590	-.791
.150	.050	.500	-.355	-.561	-.934	-.183	-.352	-.796
.250	.050	.500	.352	.662	-.368	.561	.287	-.169
.350	.050	.500	1.164	.851	.331	1.391	1.075	.596
.450	.050	.500	1.872	1.531	.934	2.100	1.763	1.108
.550	.050	.500	2.432	2.073	1.474	2.672	2.306	1.701
.650	.050	.500	2.850	2.488	1.868	3.103	2.726	2.097
.750	.050	.500	3.167	2.806	2.170	3.431	3.044	2.400
.850	.050	.500	3.437	3.049	2.402	3.682	3.289	2.633
.950	.050	.500	3.632	3.236	2.583	3.877	3.478	2.814
1.050	.050	.500	3.784	3.397	2.726	4.030	3.627	2.956
1.150	.050	.500	3.906	3.536	2.539	4.151	3.796	3.070
1.250	.050	.500	4.004	3.632	2.731	4.250	3.842	3.162
1.350	.050	.500	4.084	3.690	3.096	4.330	3.920	3.237
[illegible]	.050	.500	4.150	3.779	3.050	4.396	3.985	3.299
[illegible]	.050	.500	4.206	3.775	3.120	4.451	4.030	3.350
[illegible]	.050	.500	4.232	3.895	3.153	4.478	4.065	3.374
[illegible]	.050	.500	4.292	3.892	3.200	4.537	4.122	3.431
[illegible]	.050	.500	4.325	3.915	3.232	4.571	4.155	3.463
[illegible]	.050	.500	4.354	3.944	3.259	4.600	4.184	3.490
2.050	.050	.500	4.380	3.931	3.233	4.625	4.208	3.513
2.150	.050	.500	4.402	3.996	3.303	4.647	4.230	3.534
[illegible]	.050	.500	4.421	4.019	3.322	4.667	4.249	3.552
[illegible]	.050	.500	4.438	4.025	3.338	4.684	4.266	3.568
[illegible]	.050	.500	4.453	4.040	3.352	4.699	4.280	3.583
[illegible]	.050	.500	4.467	4.053	3.364	4.712	4.293	3.595
[illegible]	.050	.500	4.477	4.055	3.376	4.725	4.305	3.606
[illegible]	.050	.500	4.499	4.076	3.336	4.735	4.316	3.617
[illegible]	.050	.500	4.499	4.085	3.395	4.745	4.325	3.626
2.950	.050	.500	4.508	4.094	3.403	4.754	4.334	3.634
[illegible]	.150	.500	-.450	-.646	-.706	.304	.195	.013
[illegible]	.150	.500	-.301	-.475	-.765	.967	.785	.457
[illegible]	.150	.500	.322	.092	-.292	1.957	1.644	1.207
[illegible]	.150	.500	1.361	.793	.315	2.774	2.487	1.961
[illegible]	.150	.500	1.721	1.427	.730	3.526	3.193	2.630
[illegible]	.150	.500	2.262	1.911	1.425	4.093	3.741	3.153
[illegible]	.150	.500	2.639	2.311	1.602	4.524	4.153	3.546
.750	.150	.500	2.962	2.613	2.095	4.850	4.475	3.849
[illegible]	.150	.500	3.227	2.866	2.325	5.100	4.717	4.030
[illegible]	.150	.500	3.415	3.072	2.556	5.293	4.906	4.260
[illegible]	.150	.500	3.565	3.210	2.590	5.445	5.054	4.401
[illegible]	.150	.500	[illegible]	3.335	2.753	5.566	5.172	4.514
[illegible]	.150	.500	3.782	3.430	2.844	5.664	5.267	4.605
1.350	.150	.500	3.861	3.533	2.918	5.744	5.345	4.680
[illegible]	.150	.500	3.927	3.572	2.780	5.810	5.409	4.741
[illegible]	.150	.500	3.982	3.625	3.031	5.865	5.462	4.792
[illegible]	.150	.500	4.026	3.670	3.074	5.911	5.508	4.836
[illegible]	.150	.500	4.067	3.739	3.111	5.950	5.546	4.873
[illegible]	.150	.500	4.101	3.743	3.143	5.984	5.579	4.904
1.950	.150	.500	4.130	3.770	3.170	6.013	5.607	4.931
[illegible]	.150	.500	4.155	3.775	3.194	6.038	5.632	4.955
2.150	.150	.500	4.177	3.816	3.211	6.060	5.654	4.975
[illegible]	.150	.500	4.196	3.835	3.232	6.077	5.672	4.993
2.350	.150	.500	4.213	[illegible]	3.249	6.096	[illegible]	5.009
[illegible]	.150	.500	[illegible]	[illegible]	3.253	6.111	[illegible]	5.023
[illegible]	.150	.500	[illegible]	[illegible]	3.275	6.125	[illegible]	5.036
[illegible]	.150	.500	[illegible]	[illegible]	[illegible]	6.137	[illegible]	5.047

2.350	[illegible]	.500	4.263	3.920	3.114	6.165	5.757	5.175
.050	.250	.500	-.329	-.372	-.547	1.156	1.057	.772
.150	.250	.500	-.256	-.336	-.517	2.357	2.175	1.573
.250	.250	.500	.237	.117	-.166	3.474	3.252	2.849
.350	.250	.500	.727	.737	.374	4.453	4.170	3.696
.450	.250	.500	1.405	1.264	.876	5.204	4.892	4.371
.550	.250	.500	1.765	1.729	1.337	5.772	5.441	4.888
.650	.250	.500	2.345	2.099	1.649	6.200	5.854	5.279
.750	.250	.500	2.642	2.339	1.956	6.523	6.167	5.575
.850	.250	.500	2.875	2.616	2.139	6.769	6.407	5.803
.950	.250	.500	3.304	2.774	2.335	6.961	6.593	5.980
1.050	.250	.500	3.263	2.936	2.472	7.111	6.739	6.119
1.150	.250	.500	3.322	3.051	2.531	7.231	6.855	6.230
1.250	.250	.500	3.415	3.143	2.691	7.327	6.949	6.320
1.350	.250	.500	3.493	3.220	2.764	7.406	7.025	6.393
1.450	.250	.500	3.558	3.283	2.825	7.471	7.090	6.454
1.550	.250	.500	3.612	3.336	2.876	7.525	7.143	6.505
1.650	.250	.500	3.657	3.380	2.919	7.572	7.188	6.548
1.750	.250	.500	3.696	3.418	2.955	7.611	7.226	6.584
1.850	.250	.500	3.730	3.451	2.987	7.644	7.250	6.615
1.950	.250	.500	3.758	3.479	3.011	7.673	7.286	6.642
2.050	.250	.500	3.733	3.504	3.037	7.699	7.311	6.665
2.150	.250	.500	3.305	3.526	3.056	7.720	7.332	6.686
2.250	.250	.500	3.325	3.544	3.076	7.739	7.351	6.703
2.350	.250	.500	3.392	3.559	3.092	7.755	7.367	6.719
2.450	.250	.500	3.357	3.575	3.106	7.771	7.382	6.733
2.550	.250	.500	3.376	3.588	3.119	7.784	7.395	6.746
2.650	.250	.500	3.862	3.600	3.130	7.796	7.406	6.757
2.750	.250	.500	3.873	3.611	3.140	7.807	7.417	6.767
2.850	.250	.500	3.903	3.620	3.149	7.817	7.426	6.776
2.950	.250	.500	3.711	3.629	3.158	7.825	7.435	6.784
.050	.350	.500	-.179	-.211	-.312	1.650	1.563	1.419
.150	.350	.500	-.109	-.139	-.321	3.161	3.000	2.732
.250	.350	.500	.264	.155	-.026	4.430	4.213	3.856
.350	.350	.500	.757	.626	.407	5.420	5.170	4.740
.450	.350	.500	1.233	1.092	.856	6.182	5.896	5.419
.550	.350	.500	1.654	1.477	1.236	6.745	6.439	5.929
.650	.350	.500	1.975	1.830	1.554	7.165	6.845	6.312
.750	.350	.500	2.267	2.076	1.810	7.432	7.152	6.602
.850	.350	.500	2.491	2.318	2.019	7.724	7.386	6.824
.950	.350	.500	2.557	2.477	2.177	7.911	7.568	6.996
1.050	.350	.500	2.795	2.613	2.308	8.059	7.711	7.132
1.150	.350	.500	2.703	2.723	2.415	8.177	7.826	7.241
1.250	.350	.500	2.977	2.813	2.501	8.272	7.918	7.328
1.350	.350	.500	3.075	2.887	2.573	8.350	7.994	7.400
1.450	.350	.500	3.133	2.949	2.633	8.414	8.056	7.460
1.550	.350	.500	3.171	3.001	2.683	8.468	8.108	7.510
1.650	.350	.500	3.236	3.045	2.726	8.513	8.152	7.552
1.750	.350	.500	3.275	3.082	2.762	8.551	8.193	7.587
1.850	.350	.500	3.307	3.115	2.773	8.584	8.222	7.618
1.950	.350	.500	3.335	3.143	2.820	8.613	8.250	7.644
2.050	.350	.500	3.361	3.167	2.843	8.638	8.274	7.667
2.150	.350	.500	3.387	3.189	2.864	8.659	8.295	7.687
2.250	.350	.500	3.402	3.207	2.882	8.678	8.313	7.705
2.350	.350	.500	3.413	3.221	2.898	8.695	8.330	7.721
2.450	.350	.500	3.433	3.233	2.912	8.710	8.344	7.735
2.550	.350	.500	3.447	3.251	2.925	8.723	8.357	7.747
[illegible]	.350	.500	[illegible]	3.263	2.938	[illegible]	8.369	[illegible]
[illegible]	[illegible]	[illegible]	3.467	3.273	[illegible]	[illegible]	[illegible]	[illegible]

2.950	.250	.500	[illegible]	[illegible]	2.964	8.759	8.397	7.745
.050	.450	.500	-.179	-.121	-.156	1.790	1.671	1.559
.150	.450	.500	-.312	-.051	-.132	3.310	3.170	2.936
.250	.450	.500	.257	.198	.109	4.565	4.393	4.073
.350	.450	.500	.635	.553	.449	5.557	5.337	4.953
.450	.450	.500	1.029	.943	.806	6.302	6.049	5.614
.550	.450	.500	1.375	1.236	1.137	6.848	6.570	6.106
.650	.450	.500	1.672	1.577	1.410	7.255	6.963	6.475
.750	.450	.500	1.916	1.817	1.650	7.563	7.260	6.754
.850	.450	.500	2.115	2.011	1.838	7.796	7.487	6.968
.950	.450	.500	2.275	2.159	1.991	7.980	7.663	7.135
1.050	.450	.500	2.406	2.277	2.116	8.124	7.803	7.266
1.150	.450	.500	2.513	2.432	2.218	8.237	7.914	7.372
1.250	.450	.500	2.601	2.459	2.302	8.332	8.004	7.457
1.350	.450	.500	2.679	2.560	2.371	8.409	8.078	7.527
1.450	.450	.500	2.735	2.621	2.430	8.471	8.139	7.585
1.550	.450	.500	2.787	2.671	2.479	8.524	8.190	7.633
1.650	.450	.500	2.831	2.715	2.521	8.569	8.233	7.675
1.750	.450	.500	2.866	2.751	2.557	8.606	8.270	7.709
1.850	.450	.500	2.901	2.783	2.587	8.639	8.302	7.739
1.950	.450	.500	2.927	2.811	2.614	8.657	8.329	7.765
2.050	.450	.500	2.953	2.835	2.637	8.691	8.353	7.788
2.150	.450	.500	2.975	2.856	2.658	8.713	8.373	7.808
2.250	.450	.500	2.995	2.879	2.676	8.731	8.391	7.825
2.350	.450	.500	3.010	2.891	2.692	8.748	8.408	7.840
2.450	.450	.500	3.025	2.905	2.706	8.763	8.422	7.854
2.550	.450	.500	3.033	2.918	2.718	8.776	8.435	7.866
2.650	.450	.500	3.051	2.930	2.730	8.787	8.446	7.877
2.750	.450	.500	3.061	2.941	2.740	8.798	8.456	7.887
2.850	.450	.500	3.071	2.950	2.749	8.807	8.465	7.895
2.950	.450	.500	3.079	2.959	2.757	8.816	8.474	7.903
.050	.550	.500	-.030	-.033	-.051	1.609	1.545	1.438
.150	.550	.500	.049	.034	.007	3.051	2.929	2.727
.250	.550	.500	.266	.235	.196	4.234	4.066	3.786
.350	.550	.500	.547	.519	.471	5.152	4.943	4.600
.450	.550	.500	.857	.823	.767	5.849	5.613	5.228
.550	.550	.500	1.147	1.119	1.046	6.362	6.111	5.692
.650	.550	.500	1.402	1.350	1.291	6.750	6.484	6.041
.750	.550	.500	1.617	1.573	1.498	7.044	6.767	6.307
.850	.550	.500	1.796	1.749	1.671	7.270	6.985	6.511
.950	.550	.500	1.943	1.874	1.813	7.446	7.155	6.670
1.050	.550	.500	2.065	2.014	1.930	7.585	7.269	6.796
1.150	.550	.500	2.165	2.113	2.027	7.696	7.397	6.897
1.250	.550	.500	2.249	2.196	2.107	7.787	7.484	6.979
1.350	.550	.500	2.319	2.265	2.175	7.861	7.556	7.047
1.450	.550	.500	2.373	2.323	2.232	7.923	7.615	7.103
1.550	.550	.500	2.425	2.373	2.280	7.974	7.665	7.150
1.650	.550	.500	2.471	2.415	2.321	8.018	7.707	7.190
1.750	.550	.500	2.502	2.451	2.356	8.055	7.743	7.224
1.850	.550	.500	2.537	2.482	2.386	8.087	7.774	7.253
1.950	.550	.500	2.567	2.519	2.413	8.114	7.801	7.276
2.050	.550	.500	2.591	2.533	2.436	8.139	7.824	7.300
2.150	.550	.500	2.612	2.554	2.456	8.159	7.844	7.319
2.250	.550	.500	2.631	2.572	2.474	8.178	7.862	7.336
2.350	.550	.500	2.648	2.588	2.490	8.194	7.878	7.351
2.450	.550	.500	2.662	2.603	2.504	8.208	7.892	7.365
2.550	.550	.500	2.675	2.616	2.517	8.221	7.904	7.377
2.650	.550	.500	2.687	2.627	2.528	8.233	7.916	7.387
2.750	.550	.500	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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2.950	.550	.500	2.716	2.636	2.556	[illegible]	7.945	7.613
.050	.650	.500	.015	.016	.016	1.377	1.322	1.231
.150	.650	.500	.073	.077	[illegible]	[illegible]	2.526	[illegible]
.250	.650	.500	.260	.252	.264	3.561	3.521	3.277
.350	.650	.500	.321	.335	.436	4.492	4.312	4.012
.450	.650	.500	.740	.740	.729	5.124	4.915	4.575
.550	.650	.500	.769	.956	.955	5.635	5.374	5.002
.650	.650	.500	1.135	1.102	1.177	5.966	5.726	5.326
.750	.650	.500	1.323	1.350	1.351	6.244	5.993	5.574
.850	.650	.500	1.532	1.526	1.517	6.459	6.197	5.766
.950	.650	.500	1.555	1.659	1.698	6.627	6.361	5.917
1.050	.650	.500	1.773	1.771	1.738	6.761	6.487	6.037
1.150	.650	.500	1.872	1.854	1.850	6.869	6.593	6.133
1.250	.650	.500	1.751	1.742	1.927	6.956	6.677	6.212
1.350	.650	.500	2.018	2.036	1.772	7.027	6.746	6.276
1.450	.650	.500	2.074	2.064	2.017	7.087	6.803	6.330
1.550	.650	.500	2.123	2.112	2.079	7.137	6.852	6.374
1.650	.650	.500	2.167	2.153	2.134	7.180	6.893	6.414
1.750	.650	.500	2.203	2.186	2.162	7.216	6.928	6.447
1.850	.650	.500	2.231	2.219	2.198	7.247	6.958	6.475
1.950	.650	.500	2.258	2.245	2.224	7.274	6.984	6.500
2.050	.650	.500	2.282	2.269	2.247	7.297	7.006	6.521
2.150	.650	.500	2.302	2.289	2.267	7.319	7.026	6.540
2.250	.650	.500	2.321	2.307	2.285	7.336	7.044	6.556
2.350	.650	.500	2.337	2.324	2.301	7.352	7.059	6.571
2.450	.650	.500	2.352	2.338	2.315	7.366	7.073	6.584
2.550	.650	.500	2.365	2.351	2.328	7.379	7.085	6.595
2.650	.650	.500	2.377	2.362	2.339	7.390	7.096	6.606
2.750	.650	.500	2.387	2.373	2.349	7.401	7.106	6.615
2.850	.650	.500	2.397	2.382	2.355	7.410	7.115	6.624
2.950	.650	.500	2.405	2.391	2.366	7.418	7.123	6.631
.050	.750	.500	.043	.049	.060	1.136	1.087	1.011
.150	.750	.500	.121	.137	.157	2.178	2.089	1.937
.250	.750	.500	.265	.277	.309	3.037	2.939	2.726
.350	.750	.500	.433	.458	.471	3.737	3.628	3.363
.450	.750	.500	.635	.657	.674	4.350	4.167	3.861
.550	.750	.500	.832	.855	.873	4.785	4.563	4.246
.650	.750	.500	1.014	1.038	1.077	5.120	4.903	4.541
.750	.750	.500	1.177	1.231	1.240	5.378	5.150	4.770
.850	.750	.500	1.313	1.372	1.381	5.580	5.344	4.949
.950	.750	.500	1.459	1.462	1.501	5.740	5.496	5.090
1.050	.750	.500	1.542	1.555	1.603	5.867	5.618	5.203
1.150	.750	.500	1.629	1.652	1.698	5.970	5.716	5.294
1.250	.750	.500	1.703	1.725	1.763	6.054	5.797	5.368
1.350	.750	.500	1.765	1.738	1.825	6.123	5.863	5.430
1.450	.750	.500	1.820	1.842	1.878	6.180	5.913	5.481
1.550	.750	.500	1.857	1.888	1.924	6.229	5.965	5.525
1.650	.750	.500	1.967	1.926	1.953	6.273	6.009	5.562
1.750	.750	.500	1.911	1.932	1.977	6.305	6.033	5.593
1.850	.750	.500	1.971	1.772	2.026	6.336	6.067	5.620
1.950	.750	.500	1.799	2.010	2.052	6.362	6.093	5.644
2.050	.750	.500	2.021	2.011	2.075	6.385	6.115	5.665
2.150	.750	.500	2.041	2.051	2.095	6.405	6.137	5.683
2.250	.750	.500	2.060	2.079	2.112	6.422	6.151	5.699
2.350	.750	.500	2.078	2.075	2.128	6.438	6.165	5.713
2.450	.750	.500	2.093	2.110	2.142	6.452	6.180	5.725
2.550	.750	.500	2.103	2.122	2.155	6.464	6.192	5.737
2.650	.750	.500	2.115	2.134	2.166	6.476	6.202	5.747
2.750	.750	.500	2.125	2.144	2.176	6.486	6.212	5.756
2.850	.750	.500	2.135	2.154	2.185	6.495	6.221	5.764

2.950	.750	.500	[illegible]	2.182	2.195	[illegible]	[illegible]	[illegible]
.050	.850	[illegible]	[illegible]	[illegible]	[illegible]	.721	[illegible]	[illegible]
.150	.850	.500	.100	.154	.145	1.775	1.697	1.567
.250	.850	.500	.265	.232	.325	2.520	2.467	2.221
.350	.850	.500	.411	.435	.525	3.135	2.995	2.761
.450	.850	.500	.562	.590	.656	3.428	3.465	3.193
.550	.850	.500	.725	.769	.829	4.017	3.835	3.533
.650	.850	.500	.880	.921	.959	4.321	4.125	3.799
.750	.850	.500	1.020	1.063	1.139	4.559	4.352	4.007
.850	.850	.500	1.145	1.188	1.261	4.747	4.531	4.171
.950	.850	.500	1.251	1.295	1.371	4.897	4.674	4.302
1.050	.850	.500	1.347	1.392	1.466	5.017	4.798	4.407
1.150	.850	.500	1.428	1.473	1.547	5.119	4.881	4.492
1.250	.850	.500	1.497	1.542	1.616	5.194	4.957	4.563
1.350	.850	.500	1.557	1.602	1.676	5.261	5.021	4.621
1.450	.850	.500	1.600	1.653	1.727	5.316	5.074	4.670
1.550	.850	.500	1.653	1.697	1.771	5.363	5.118	4.711
1.650	.850	.500	1.671	1.735	1.809	5.403	5.156	4.746
1.750	.850	.500	1.725	1.769	1.843	5.437	5.189	4.776
1.850	.850	.500	1.754	1.798	1.871	5.466	5.217	4.802
1.950	.850	.500	1.780	1.824	1.897	5.491	5.241	4.825
2.050	.850	.500	1.802	1.846	1.919	5.514	5.263	4.845
2.150	.850	.500	1.822	1.866	1.939	5.533	5.281	4.862
2.250	.850	.500	1.840	1.884	1.956	5.550	5.298	4.877
2.350	.850	.500	1.856	1.900	1.972	5.566	5.313	4.891
2.450	.850	.500	1.870	1.914	1.986	5.577	5.326	4.903
2.550	.850	.500	1.883	1.926	1.998	5.591	5.337	4.914
2.650	.850	.500	1.895	1.938	2.010	5.602	5.349	4.924
2.750	.850	.500	1.905	1.948	2.020	5.612	5.357	4.933
2.850	.850	.500	1.914	1.957	2.029	5.621	5.366	4.941
2.950	.850	.500	1.923	1.966	2.037	5.627	5.374	4.948
.050	.950	.500	.056	.077	.076	.742	.707	.650
.150	.950	.500	.146	.158	.214	1.437	1.367	1.255
.250	.950	.500	.249	.279	.330	2.050	1.954	1.790
.350	.950	.500	.371	.409	.473	2.573	2.449	2.242
.450	.950	.500	.505	.549	.622	3.000	2.859	2.612
.550	.950	.500	.641	.690	.771	3.342	3.180	2.908
.650	.950	.500	.773	.825	.912	3.615	3.430	3.144
.750	.950	.500	.893	.950	1.041	3.832	3.644	3.331
.850	.950	.500	1.005	1.061	1.155	4.006	3.809	3.480
.950	.950	.500	1.102	1.150	1.256	4.145	3.941	3.600
1.050	.950	.500	1.188	1.246	1.344	4.258	4.047	3.697
1.150	.950	.500	1.262	1.321	1.420	4.350	4.135	3.777
1.250	.950	.500	1.327	1.346	1.486	4.426	4.207	3.842
1.350	.950	.500	1.383	1.443	1.543	4.489	4.267	3.897
1.450	.950	.500	1.431	1.491	1.592	4.542	4.317	3.943
1.550	.950	.500	1.474	1.534	1.635	4.587	4.360	3.982
1.650	.950	.500	1.510	1.571	1.672	4.625	4.396	4.015
1.750	.950	.500	1.543	1.603	1.704	4.658	4.427	4.044
1.850	.950	.500	1.571	1.632	1.732	4.686	4.454	4.069
1.950	.950	.500	1.595	1.657	1.757	4.710	4.478	4.090
2.050	.950	.500	1.618	1.679	1.779	4.732	4.498	4.109
2.150	.950	.500	1.638	1.698	1.799	4.751	4.517	4.126
2.250	.950	.500	1.655	1.716	1.816	4.768	4.533	4.141
2.350	.950	.500	1.671	1.731	1.832	4.783	4.547	4.154
2.450	.950	.500	1.685	1.745	1.846	4.796	4.559	4.166
2.550	.950	.500	1.698	1.758	1.858	4.808	4.571	4.176
2.650	.950	.500	1.709	1.757	1.869	4.818	4.581	4.186
2.750	.950	.500	1.719	1.779	[illegible]	[illegible]	[illegible]	[illegible]

2.950	.950	.500	1.757	1.777	1.877	4.345	4.466	4.299
.050	1.050	.500	.060	.071	.131	.597	.556	.515
.150	1.050	.500	.157	.179	.226	1.162	1.102	1.011
.250	1.050	.500	.259	.275	.327	1.667	1.564	1.436
.350	1.050	.500	.359	.338	.455	2.105	1.976	1.812
.450	1.050	.500	.458	.506	.547	2.472	2.342	2.125
.550	1.050	.500	.574	.620	.718	2.771	2.625	2.380
.650	1.050	.500	.687	.732	.893	3.014	2.854	2.587
.750	1.050	.500	.774	.855	.958	3.210	3.039	2.754
.850	1.050	.500	.871	.955	1.062	3.368	3.188	2.888
.950	1.050	.500	.978	1.044	1.155	3.497	3.309	2.997
1.050	1.050	.500	1.056	1.123	1.236	3.602	3.408	3.086
1.150	1.050	.500	1.124	1.193	1.308	3.689	3.490	3.160
1.250	1.050	.500	1.169	1.259	1.370	3.769	3.558	3.220
1.350	1.050	.500	1.237	1.337	1.424	3.820	3.614	3.271
1.450	1.050	.500	1.282	1.353	1.471	3.870	3.662	3.315
1.550	1.050	.500	1.323	1.374	1.512	3.913	3.702	3.351
1.650	1.050	.500	1.359	1.430	1.543	3.949	3.737	3.382
1.750	1.050	.500	1.389	1.461	1.580	3.981	3.767	3.410
1.850	1.050	.500	1.417	1.488	1.608	4.008	3.792	3.433
1.950	1.050	.500	1.441	1.513	1.632	4.032	3.815	3.454
2.050	1.050	.500	1.463	1.534	1.654	4.053	3.835	3.472
2.150	1.050	.500	1.482	1.554	1.674	4.071	3.852	3.487
2.250	1.050	.500	1.499	1.571	1.691	4.087	3.868	3.502
2.350	1.050	.500	1.514	1.586	1.706	4.102	3.881	3.514
2.450	1.050	.500	1.528	1.600	1.720	4.114	3.894	3.525
2.550	1.050	.500	1.541	1.612	1.732	4.126	3.905	3.535
2.650	1.050	.500	1.552	1.624	1.744	4.136	3.914	3.544
2.750	1.050	.500	1.562	1.634	1.754	4.146	3.923	3.553
2.850	1.050	.500	1.571	1.643	1.763	4.154	3.931	3.560
2.950	1.050	.500	1.580	1.651	1.771	4.162	3.939	3.567
.050	1.150	.500	.069	.081	.101	.432	.455	.416
.150	1.150	.500	.199	.167	.206	.741	.930	.600
.250	1.150	.500	.225	.251	.318	1.359	1.232	1.154
.350	1.150	.500	.323	.313	.439	1.725	1.627	1.463
.450	1.150	.500	.418	.469	.553	2.037	1.920	1.726
.550	1.150	.500	.519	.575	.670	2.297	2.165	1.944
.650	1.150	.500	.617	.679	.731	2.511	2.366	2.124
.750	1.150	.500	.710	.776	.885	2.637	2.531	2.271
.850	1.150	.500	.797	.865	.980	2.830	2.665	2.391
.950	1.150	.500	.875	.946	1.065	2.948	2.776	2.489
1.050	1.150	.500	.946	1.019	1.141	3.045	2.867	2.570
1.150	1.150	.500	1.008	1.083	1.208	3.126	2.943	2.637
1.250	1.150	.500	1.064	1.140	1.267	3.193	3.006	2.693
1.350	1.150	.500	1.113	1.190	1.318	3.249	3.059	2.741
1.450	1.150	.500	1.157	1.234	1.363	3.297	3.103	2.781
1.550	1.150	.500	1.195	1.273	1.403	3.338	3.142	2.815
1.650	1.150	.500	1.229	1.307	1.435	3.373	3.174	2.844
1.750	1.150	.500	1.259	1.338	1.469	3.403	3.203	2.870
1.850	1.150	.500	1.285	1.364	1.496	3.429	3.227	2.892
1.950	1.150	.500	1.309	1.388	1.520	3.452	3.249	2.911
2.050	1.150	.500	1.330	1.409	1.542	3.472	3.266	2.928
2.150	1.150	.500	1.349	1.428	1.561	3.489	3.285	2.943
2.250	1.150	.500	1.365	1.445	1.578	3.505	3.299	2.957
2.350	1.150	.500	1.380	1.460	1.573	3.519	3.313	2.969
2.450	1.150	.500	1.394	1.474	1.607	3.531	3.324	2.979
2.550	1.150	.500	1.405	1.436	1.619	3.543	3.335	2.989
2.650	1.150	.500	1.417	1.477	1.630	3.553	3.344	2.998
2.750	1.150	.500	1.427	1.507	1.641	3.562	3.353	[illegible]

2.950	1.[illegible]	.500	1.445	1.525	1.656	3.077	[illegible]	3.[illegible]19
.050	1.250	.500	.061	.079	.079	.371	.367	.327
.150	1.250	.500	.1[illegible]7	.162	.200	.765	.71[illegible]	.640
.250	1.250	.500	.216	.249	.305	1.110	1.0[illegible]1	.927
.350	1.250	.500	.278	.311	.412	1.416	1.328	1.182
.450	1.250	.500	.364	.435	.519	1.682	1.577	1.401
.550	1.250	.500	.472	.529	.625	1.906	1.787	1.587
.650	1.250	.500	.559	.621	.726	2.095	1.962	1.742
.750	1.250	.500	.641	.708	.820	2.251	2.108	1.871
.850	1.250	.500	.719	.789	.907	2.381	2.229	1.977
.950	1.250	.500	.739	.863	.986	2.489	2.329	2.065
1.050	1.250	.500	.853	.929	1.056	2.577	2.413	2.138
1.150	1.250	.500	.711	.989	1.119	2.652	2.482	2.199
1.250	1.250	.500	.9[illegible]3	1.042	1.174	2.719	2.541	2.251
1.350	1.250	.500	1.007	1.[illegible]9	1.224	2.767	2.590	2.294
1.450	1.250	.500	1.049	1.131	1.267	2.812	2.632	2.331
1.550	1.250	.500	1.085	1.168	1.305	2.851	2.666	2.363
1.650	1.250	.500	1.119	1.201	1.339	2.884	2.699	2.390
1.750	1.250	.500	1.147	1.230	1.369	2.913	2.726	2.414
1.850	1.250	.500	1.172	1.256	1.396	2.938	2.749	2.435
1.950	1.250	.500	1.195	1.279	1.420	2.959	2.769	2.453
2.050	1.250	.500	1.216	1.300	1.441	2.979	2.788	2.469
2.150	1.250	.500	1.234	1.318	1.460	2.996	2.803	2.483
2.250	1.250	.500	1.250	1.335	1.476	3.011	2.818	2.496
2.350	1.250	.500	1.265	1.350	1.492	3.024	2.830	2.507
2.450	1.250	.500	1.278	1.363	1.505	3.036	2.842	2.517
2.550	1.250	.500	1.290	1.376	1.518	3.047	2.852	2.527
2.650	1.250	.500	1.301	1.387	1.529	3.057	2.861	2.535
2.750	1.250	.500	1.311	1.397	1.537	3.065	2.869	2.542
2.850	1.250	.500	1.320	1.405	1.548	3.073	2.877	2.549
2.950	1.250	.500	1.327	1.414	1.556	3.081	2.884	2.555
.050	1.350	.500	.065	.076	.075	.319	.297	.262
.150	1.350	.500	.132	.155	.192	.626	.584	.513
.250	1.350	.500	.2[illegible]	.235	.270	.911	.849	.747
.350	1.350	.500	.279	.317	.339	1.167	1.088	.956
.450	1.350	.500	.355	.405	.437	1.393	1.298	1.139
.550	1.350	.500	.432	.489	.534	1.586	1.478	1.297
.650	1.350	.500	.509	.571	.575	1.751	1.631	1.430
.750	1.350	.500	.582	.650	.762	1.890	1.759	1.542
.850	1.350	.500	.652	.723	.842	2.006	1.867	1.635
.950	1.350	.500	.716	.790	.914	2.103	1.957	1.713
1.050	1.350	.500	.774	.852	.980	2.185	2.033	1.779
1.150	1.350	.500	.829	.907	1.039	2.259	2.095	1.834
1.260	1.350	.500	.875	.957	1.092	2.312	2.150	1.881
1.350	1.350	.500	.919	1.001	1.139	2.361	2.196	1.921
1.450	1.350	.500	.957	1.041	1.180	2.404	2.235	1.955
1.550	1.350	.500	.992	1.076	1.217	2.440	2.269	1.984
1.650	1.350	.500	1.023	1.103	1.250	2.471	2.298	2.009
1.750	1.350	.500	1.050	1.136	1.280	2.498	2.323	2.031
1.850	1.350	.500	1.075	1.161	1.305	2.522	2.345	2.051
1.950	1.350	.500	1.097	1.184	1.329	2.543	2.365	2.068
2.050	1.350	.500	1.117	1.204	1.350	2.561	2.382	2.083
2.150	1.350	.500	1.134	1.222	1.368	2.578	2.377	2.096
2.250	1.350	.500	1.150	1.238	1.385	2.592	2.411	2.108
2.350	1.350	.500	1.165	1.253	1.400	2.605	2.423	2.119
2.450	1.350	.500	1.179	1.266	1.413	2.617	2.433	2.128
2.550	1.350	.500	1.190	1.273	1.426	2.627	2.443	2.137
2.650	1.350	.500	1.201	1.289	1.437	2.636	2.452	2.145
2.750	1.350	.500	1.211	1.297	1.447	2.645	2.459	2.152
2.[illegible]50	1.350	.500	1.217	1.308	1.456	2.653	[illegible]	[illegible]

2.950	1.350	.500	1.224	1.317	1.465	2.550	2.471	2.134
.050	1.450	.500	.062	.073	.091	.251	.242	.216
.150	1.450	.500	.122	.147	.183	.519	.476	.413
.250	1.450	.500	.171	.222	.275	.751	.695	.603
.350	1.450	.500	.257	.277	.356	.950	.895	.775
.450	1.450	.500	.324	.377	.457	1.157	1.071	.928
.550	1.450	.500	.399	.453	.545	1.324	1.225	1.061
.650	1.450	.500	.467	.520	.630	1.468	1.358	1.179
.750	1.450	.500	.533	.599	.709	1.590	1.471	1.271
.850	1.450	.500	.595	.665	.783	1.694	1.566	1.353
.950	1.450	.500	.653	.727	.851	1.782	1.647	1.422
1.050	1.450	.500	.707	.784	.912	1.857	1.715	1.480
1.150	1.450	.500	.756	.835	.968	1.920	1.774	1.530
1.250	1.450	.500	.801	.882	1.018	1.974	1.823	1.572
1.350	1.450	.500	.841	.924	1.062	2.020	1.865	1.608
1.450	1.450	.500	.877	.962	1.102	2.059	1.902	1.639
1.550	1.450	.500	.910	.996	1.138	2.093	1.933	1.656
1.650	1.450	.500	.940	1.026	1.170	2.123	1.960	1.690
1.750	1.450	.500	.966	1.053	1.198	2.148	1.984	1.710
1.850	1.450	.500	.990	1.078	1.224	2.171	2.005	1.728
1.950	1.450	.500	1.011	1.099	1.247	2.191	2.023	1.744
2.050	1.450	.500	1.030	1.119	1.267	2.208	2.037	1.758
2.150	1.450	.500	1.048	1.137	1.285	2.224	2.054	1.770
2.250	1.450	.500	1.063	1.153	1.302	2.237	2.066	1.781
2.350	1.450	.500	1.077	1.167	1.317	2.250	2.078	1.791
2.450	1.450	.500	1.090	1.180	1.330	2.261	2.088	1.800
2.550	1.450	.500	1.102	1.192	1.343	2.271	2.098	1.808
2.650	1.450	.500	1.113	1.203	1.354	2.280	2.105	1.816
2.750	1.450	.500	1.122	1.213	1.364	2.288	2.114	1.823
2.850	1.450	.500	1.131	1.222	1.373	2.296	2.121	1.829
2.950	1.450	.500	1.137	1.230	1.381	2.303	2.127	1.834
.050	1.550	.500	.059	.069	.086	.216	.198	.170
.150	1.550	.500	.113	.139	.173	.425	.391	.334
.250	1.550	.500	.179	.209	.259	.622	.572	.489
.350	1.550	.500	.242	.280	.345	.803	.738	.630
.450	1.550	.500	.305	.351	.429	.966	.888	.757
.550	1.550	.500	.363	.421	.510	1.109	1.019	.869
.650	1.550	.500	.430	.489	.586	1.235	1.134	.965
.750	1.550	.500	.489	.554	.661	1.342	1.232	1.049
.850	1.550	.500	.546	.615	.730	1.435	1.317	1.120
.950	1.550	.500	.599	.672	.793	1.514	1.389	1.181
1.050	1.550	.500	.649	.725	.851	1.582	1.451	1.232
1.150	1.550	.500	.694	.773	.903	1.639	1.503	1.277
1.250	1.550	.500	.736	.817	.951	1.689	1.548	1.314
1.350	1.550	.500	.774	.856	.994	1.731	1.587	1.347
1.450	1.550	.500	.808	.892	1.032	1.769	1.621	1.375
1.550	1.550	.500	.839	.924	1.066	1.800	1.650	1.400
1.650	1.550	.500	.867	.953	1.097	1.828	1.675	1.421
1.750	1.550	.500	.892	.980	1.125	1.852	1.697	1.440
1.850	1.550	.500	.915	1.003	1.150	1.873	1.717	1.456
1.950	1.550	.500	.935	1.021	1.172	1.892	1.734	1.471
2.050	1.550	.500	.955	1.044	1.192	1.909	1.749	1.484
2.150	1.550	.500	.971	1.061	1.210	1.923	1.763	1.495
2.250	1.550	.500	.987	1.077	1.227	1.937	1.775	1.506
2.350	1.550	.500	1.000	1.091	1.241	1.948	1.786	1.515
2.450	1.550	.500	1.013	1.104	1.255	1.959	1.796	1.524
2.550	1.550	.500	1.025	1.115	1.267	1.969	1.805	1.531
2.650	1.550	.500	1.035	1.126	1.278	1.977	1.813	1.538
2.750	1.550	.500	1.045	1.136	1.288	1.985	1.820	1.545
2.850	1.550	.500	1.053	1.145	1.297	1.992	1.827	1.550

2.750	1.550	.500	1.071	1.153	1.306	1.799	1.653	1.556
.050	1.650	.500	.055	.065	.082	.179	.163	.137
.150	1.650	.500	.112	.131	.163	.353	.322	.271
.250	1.650	.500	.168	.197	.244	.518	.472	.397
.350	1.650	.500	.225	.253	.324	.671	.612	.513
.450	1.650	.500	.284	.328	.402	.809	.738	.619
.550	1.650	.500	.341	.372	.477	.933	.850	.712
.650	1.650	.500	.397	.434	.550	1.042	.949	.794
.750	1.650	.500	.452	.514	.616	1.137	1.035	.866
.850	1.650	.500	.504	.571	.682	1.219	1.109	.927
.950	1.650	.500	.553	.623	.741	1.290	1.174	.986
1.050	1.650	.500	.598	.672	.796	1.351	1.229	1.026
1.150	1.650	.500	.640	.717	.845	1.403	1.277	1.065
1.250	1.650	.500	.679	.758	.890	1.449	1.318	1.099
1.350	1.650	.500	.715	.776	.931	1.488	1.353	1.128
1.450	1.650	.500	.747	.830	.966	1.522	1.384	1.154
1.550	1.650	.500	.777	.861	1.001	1.552	1.411	1.176
1.650	1.650	.500	.803	.889	1.031	1.578	1.434	1.195
1.750	1.650	.500	.828	.914	1.058	1.601	1.455	1.212
1.850	1.650	.500	.850	.937	1.082	1.621	1.473	1.227
1.950	1.650	.500	.869	.957	1.104	1.639	1.489	1.241
2.050	1.650	.500	.887	.976	1.124	1.654	1.504	1.253
2.150	1.650	.500	.904	.993	1.142	1.669	1.516	1.264
2.250	1.650	.500	.917	1.008	1.158	1.681	1.528	1.273
2.350	1.650	.500	.932	1.022	1.173	1.692	1.539	1.282
2.450	1.650	.500	.945	1.035	1.186	1.702	1.547	1.290
2.550	1.650	.500	.955	1.047	1.198	1.711	1.556	1.297
2.650	1.650	.500	.966	1.057	1.209	1.720	1.563	1.303
2.750	1.650	.500	.976	1.067	1.219	1.727	1.570	1.309
2.850	1.650	.500	.984	1.076	1.228	1.734	1.577	1.315
2.950	1.650	.500	.992	1.084	1.237	1.740	1.583	1.320
.050	1.750	.500	.052	.062	.077	.149	.135	.111
.150	1.750	.500	.105	.123	.154	.294	.266	.220
.250	1.750	.500	.159	.185	.229	.433	.392	.323
.350	1.750	.500	.211	.246	.304	.562	.508	.419
.450	1.750	.500	.264	.307	.377	.681	.615	.506
.550	1.750	.500	.317	.366	.447	.787	.711	.585
.650	1.750	.500	.369	.423	.515	.882	.796	.654
.750	1.750	.500	.417	.479	.579	.965	.871	.715
.850	1.750	.500	.466	.531	.638	1.038	.937	.768
.950	1.750	.500	.511	.580	.694	1.101	.994	.814
1.050	1.750	.500	.554	.626	.745	1.157	1.043	.854
1.150	1.750	.500	.593	.668	.792	1.204	1.086	.888
1.250	1.750	.500	.627	.707	.835	1.246	1.123	.918
1.350	1.750	.500	.663	.742	.874	1.282	1.155	.945
1.450	1.750	.500	.693	.775	.910	1.313	1.184	.967
1.550	1.750	.500	.721	.804	.942	1.341	1.208	.987
1.650	1.750	.500	.747	.831	.971	1.365	1.230	1.005
1.750	1.750	.500	.770	.855	.997	1.386	1.249	1.020
1.850	1.750	.500	.791	.877	1.021	1.405	1.266	1.034
1.950	1.750	.500	.810	.897	1.042	1.422	1.281	1.046
2.050	1.750	.500	.828	.916	1.062	1.437	1.295	1.057
2.150	1.750	.500	.844	.932	1.079	1.451	1.307	1.067
2.250	1.750	.500	.859	.947	1.095	1.462	1.317	1.076
2.350	1.750	.500	.872	.961	1.110	1.473	1.327	1.084
2.450	1.750	.500	.884	.973	1.123	1.482	1.336	1.091
2.550	1.750	.500	.895	.985	1.135	1.491	1.344	1.098
2.650	1.750	.500	.905	.995	1.146	1.499	1.351	1.104
2.750	1.750	.500	.914	1.005	1.156	1.506	1.358	1.109
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.165	1.513	1.364	1.115

2.950	1.750	.500	.931	1.022	1.173	1.319	1.369	1.119
.050	1.850	.500	.049	.058	.072	.125	.112	.090
.150	1.850	.500	.097	.115	.145	.242	.221	.179
.250	1.850	.500	.143	.173	.216	.359	.326	.263
.350	1.850	.500	.190	.231	.286	.473	.424	.342
.450	1.850	.500	.247	.287	.359	.575	.515	.414
.550	1.850	.500	.296	.342	.421	.666	.596	.480
.650	1.850	.500	.343	.395	.484	.749	.670	.538
.750	1.850	.500	.389	.437	.542	.822	.735	.590
.850	1.850	.500	.433	.495	.579	.886	.792	.636
.950	1.850	.500	.475	.541	.651	.943	.843	.675
1.050	1.850	.500	.514	.584	.700	.993	.887	.710
1.150	1.850	.500	.551	.623	.744	1.036	.925	.740
1.250	1.850	.500	.585	.660	.785	1.074	.959	.767
1.350	1.850	.500	.617	.694	.823	1.107	.988	.790
1.450	1.850	.500	.646	.725	.857	1.136	1.014	.810
1.550	1.850	.500	.672	.753	.886	1.161	1.036	.828
1.650	1.850	.500	.695	.777	.916	1.184	1.056	.844
1.750	1.850	.500	.719	.802	.941	1.204	1.074	.858
1.850	1.850	.500	.739	.824	.965	1.221	1.090	.870
1.950	1.850	.500	.758	.843	.986	1.237	1.104	.882
2.050	1.850	.500	.775	.861	1.005	1.251	1.116	.891
2.150	1.850	.500	.790	.877	1.022	1.264	1.127	.900
2.250	1.850	.500	.804	.892	1.038	1.275	1.137	.909
2.350	1.850	.500	.817	.905	1.052	1.285	1.147	.916
2.450	1.850	.500	.829	.917	1.065	1.294	1.155	.923
2.550	1.850	.500	.840	.929	1.077	1.303	1.162	.929
2.650	1.850	.500	.850	.939	1.088	1.310	1.167	.934
2.750	1.850	.500	.859	.949	1.098	1.317	1.175	.939
2.850	1.850	.500	.867	.957	1.107	1.323	1.181	.944
2.950	1.850	.500	.875	.955	1.115	1.329	1.186	.948
.050	1.950	.500	.045	.055	.068	.155	.093	.073
.150	1.950	.500	.078	.112	.135	.243	.185	.145
.250	1.950	.500	.132	.163	.203	.357	.272	.214
.350	1.950	.500	.185	.216	.266	.409	.355	.279
.450	1.950	.500	.231	.259	.332	.487	.431	.339
.550	1.950	.500	.276	.320	.394	.566	.501	.394
.650	1.950	.500	.320	.370	.453	.633	.565	.443
.750	1.950	.500	.363	.413	.509	.702	.621	.487
.850	1.950	.500	.404	.453	.562	.759	.671	.526
.950	1.950	.500	.442	.506	.612	.809	.716	.560
1.050	1.950	.500	.477	.546	.658	.854	.755	.590
1.150	1.950	.500	.514	.534	.700	.893	.789	.616
1.250	1.950	.500	.545	.618	.739	.927	.819	.639
1.350	1.950	.500	.575	.650	.775	.950	.846	.660
1.450	1.950	.500	.603	.680	.808	.784	.869	.678
1.550	1.950	.500	.629	.707	.835	1.008	.890	.694
1.650	1.950	.500	.651	.732	.865	1.029	.908	.708
1.750	1.950	.500	.673	.754	.890	1.047	.924	.720
1.850	1.950	.500	.692	.775	.913	1.064	.939	.731
1.950	1.950	.500	.719	.794	.933	1.079	.952	.741
2.050	1.950	.500	.727	.811	.952	1.091	.963	.750
2.150	1.950	.500	.742	.827	.969	1.103	.974	.758
2.250	1.950	.500	.755	.841	.985	1.114	.983	.766
2.350	1.950	.500	.768	.855	.999	1.123	.992	.773
2.450	1.950	.500	.781	.867	1.012	1.132	1.000	.779
2.550	1.950	.500	.796	.873	1.024	1.140	1.007	.784
2.650	1.950	.500	.800	.886	1.035	1.147	1.013	.789
2.750	1.950	.500	.809	.897	1.044	1.154	1.019	.794
2.850	1.950	.500	.817	.906	1.054	1.160	1.024	.798

2.950	1.950	[illegible]	.32?	.919	[illegible]	1.163	1.029	.662
.050	2.050	[illegible]	[illegible]	.051	.054	.087	.078	.066
.150	2.050	[illegible]	[illegible]	.102	.124	.176	.154	.116
.250	2.050	[illegible]	.131	.153	.171	.260	.223	.175
.350	2.050	[illegible]	.175	.203	.252	.327	.298	.223
.450	2.050	.500	.217	.253	.312	.414	.363	.277
.550	2.050	.500	.259	.300	.370	.482	.422	.323
.650	2.050	.500	.299	.347	.426	.545	.477	.364
.750	2.050	.500	.339	.392	.479	.601	.526	.401
.850	2.050	.500	.377	.431	.529	.651	.570	.434
.950	2.050	.500	.413	.474	.575	.696	.609	.463
1.050	2.050	.500	.446	.512	.619	.736	.643	.489
1.150	2.050	.500	.480	.547	.650	.771	.674	.512
1.250	2.050	.500	.510	.580	.677	.802	.701	.532
1.350	2.050	.500	.539	.611	.732	.839	.725	.550
1.450	2.050	.500	.564	.639	.753	.854	.746	.565
1.550	2.050	.500	.585	.665	.792	.876	.765	.579
1.650	2.050	.500	.611	.687	.819	.895	.781	.592
1.750	2.050	.500	.631	.711	.843	.912	.796	.603
1.850	2.050	.500	.652	.731	.865	.929	.810	.613
1.950	2.050	.500	.667	.757	.885	.941	.822	.622
2.050	2.050	.500	.683	.766	.904	.954	.832	.630
2.150	2.050	.500	.698	.771	.922	.965	.842	.637
2.250	2.050	.500	.711	.776	.936	.975	.851	.644
2.350	2.050	.500	.724	.810	.950	.984	.859	.650
2.450	2.050	.500	.735	.820	.963	.992	.866	.655
2.550	2.050	.500	.746	.831	.974	1.000	.872	.660
2.650	2.050	.500	.755	.841	.985	1.006	.878	.665
2.750	2.050	.500	.764	.851	.995	1.013	.884	.669
2.850	2.050	.500	.772	.857	1.004	1.018	.889	.673
2.950	2.050	.500	.780	.867	1.013	1.024	.894	.677
.050	2.150	.500	.041	.038	.050	.075	.065	.049
.150	2.150	.500	.082	.076	.120	.149	.129	.096
.250	2.150	.500	.123	.144	.180	.221	.191	.142
.350	2.150	.500	.163	.171	.238	.289	.250	.186
.450	2.150	.500	.203	.237	.279	.353	.305	.226
.550	2.150	.500	.242	.282	.349	.412	.357	.264
.650	2.150	.500	.281	.326	.401	.466	.403	.296
.750	2.150	.500	.319	.363	.451	.516	.446	.329
.850	2.150	.500	.353	.408	.498	.560	.484	.357
.950	2.150	.500	.387	.445	.543	.600	.516	.382
1.050	2.150	.500	.417	.481	.584	.635	.549	.404
1.150	2.150	.500	.450	.515	.623	.667	.576	.423
1.250	2.150	.500	.478	.546	.659	.695	.600	.441
1.350	2.150	.500	.505	.575	.692	.721	.621	.456
1.450	2.150	.500	.530	.602	.722	.743	.640	.470
1.550	2.150	.500	.553	.627	.750	.763	.657	.482
1.650	2.150	.500	.574	.650	.776	.780	.673	.493
1.750	2.150	.500	.594	.671	.799	.796	.686	.503
1.850	2.150	.500	.612	.690	.821	.811	.698	.512
1.950	2.150	.500	.629	.709	.841	.823	.709	.520
2.050	2.150	.500	.644	.725	.859	.835	.719	.527
2.150	2.150	.500	.658	.740	.875	.845	.728	.533
2.250	2.150	.500	.671	.754	.891	.855	.736	.537
2.350	2.150	.500	.683	.765	.904	.863	.744	.545
2.450	2.150	.500	.695	.778	.917	.871	.750	.550
2.550	2.150	.500	.705	.789	.929	.878	.756	.554
2.650	2.150	.500	.714	.799	.940	.884	.762	.558
2.750	2.150	.500	.723	.808	.949	.890	.767	.562
2.850	2.150	.500	.731	.815	.959	.896	.772	.566

2.750	2.150	.500	.737	.824	.867	.781	.776	.564
.050	2.250	.500	.039	.048	.057	.059	.055	.039
.150	2.250	.500	.077	.091	.113	.122	.107	.076
.250	2.250	.500	.116	.138	.169	.183	.161	.115
.350	2.250	.500	.159	.183	.224	.247	.211	.151
.450	2.250	.500	.191	.223	.277	.302	.258	.184
.550	2.250	.500	.228	.266	.329	.353	.301	.215
.650	2.250	.500	.259	.307	.376	.400	.341	.244
.750	2.250	.500	.279	.346	.425	.443	.376	.269
.850	2.250	.500	.332	.384	.470	.482	.411	.293
.950	2.250	.500	.364	.419	.512	.518	.441	.313
1.050	2.250	.500	.394	.453	.552	.550	.468	.332
1.150	2.250	.500	.423	.485	.589	.578	.492	.349
1.250	2.250	.500	.449	.515	.623	.604	.514	.364
1.350	2.250	.500	.475	.542	.655	.626	.533	.377
1.450	2.250	.500	.498	.558	.684	.647	.550	.389
1.550	2.250	.500	.520	.592	.711	.665	.565	.399
1.650	2.250	.500	.541	.614	.736	.681	.579	.409
1.750	2.250	.500	.560	.634	.759	.696	.591	.417
1.850	2.250	.500	.577	.653	.780	.709	.603	.425
1.950	2.250	.500	.593	.671	.800	.721	.613	.432
2.050	2.250	.500	.608	.687	.817	.732	.622	.438
2.150	2.250	.500	.622	.701	.834	.741	.630	.444
2.250	2.250	.500	.635	.715	.849	.750	.637	.449
2.350	2.250	.500	.647	.727	.862	.758	.644	.454
2.450	2.250	.500	.658	.739	.875	.765	.650	.459
2.550	2.250	.500	.668	.750	.886	.772	.655	.463
2.650	2.250	.500	.677	.759	.897	.778	.661	.467
2.750	2.250	.500	.685	.769	.907	.784	.666	.470
2.850	2.250	.500	.693	.777	.916	.787	.670	.473
2.950	2.250	.500	.701	.785	.924	.773	.674	.476
.050	2.350	.500	.036	.043	.054	.055	.046	.032
.150	2.350	.500	.073	.086	.107	.108	.091	.063
.250	2.350	.500	.107	.124	.160	.161	.135	.093
.350	2.350	.500	.145	.170	.211	.211	.178	.122
.450	2.350	.500	.180	.210	.261	.258	.217	.149
.550	2.350	.500	.211	.250	.310	.303	.255	.175
.650	2.350	.500	.248	.287	.357	.344	.289	.198
.750	2.350	.500	.281	.325	.401	.382	.321	.219
.850	2.350	.500	.312	.351	.444	.416	.350	.238
.950	2.350	.500	.342	.395	.484	.448	.376	.256
1.050	2.350	.500	.371	.427	.522	.476	.399	.272
1.150	2.350	.500	.398	.458	.557	.502	.421	.286
1.250	2.350	.500	.423	.486	.590	.525	.440	.298
1.350	2.350	.500	.447	.512	.621	.545	.457	.309
1.450	2.350	.500	.470	.537	.649	.564	.472	.319
1.550	2.350	.500	.491	.560	.675	.580	.486	.329
1.650	2.350	.500	.510	.581	.700	.595	.498	.337
1.750	2.350	.500	.527	.601	.722	.609	.509	.344
1.850	2.350	.500	.545	.619	.742	.621	.520	.351
1.950	2.350	.500	.561	.636	.761	.632	.529	.357
2.050	2.350	.500	.576	.652	.779	.642	.537	.362
2.150	2.350	.500	.589	.666	.795	.651	.544	.367
2.250	2.350	.500	.601	.677	.810	.657	.551	.372
2.350	2.350	.500	.613	.692	.823	.666	.558	.376
2.450	2.350	.500	.624	.703	.836	.673	.563	.380
2.550	2.350	.500	.634	.714	.847	.677	.569	.384
2.650	2.350	.500	.643	.723	.856	.685	.573	.387
2.750	2.350	.500	.651	.732	.867	.670	.578	.390
[illegible]	2.350	.500	.659	.741	.876	.675	.582	.393

2.750	2.350	.500	.564	.718	.835	.703	.536	.396
.050	2.450	.500	.034	.040	.051	.047	.039	.025
.150	2.450	.500	.067	.081	.101	.093	.077	.050
.250	2.450	.500	.103	.121	.151	.138	.114	.075
.350	2.450	.500	.135	.160	.179	.181	.150	.098
.450	2.450	.500	.170	.199	.247	.222	.184	.120
.550	2.450	.500	.202	.236	.293	.260	.215	.141
.650	2.450	.500	.234	.272	.337	.296	.245	.160
.750	2.450	.500	.264	.306	.380	.329	.272	.177
.850	2.450	.500	.294	.341	.420	.360	.297	.193
.950	2.450	.500	.322	.373	.458	.388	.320	.207
1.050	2.450	.500	.347	.404	.494	.413	.341	.220
1.150	2.450	.500	.375	.432	.526	.436	.359	.232
1.250	2.450	.500	.377	.459	.556	.456	.376	.242
1.350	2.450	.500	.422	.485	.589	.475	.391	.252
1.450	2.450	.500	.444	.509	.617	.492	.405	.260
1.550	2.450	.500	.462	.531	.642	.507	.417	.268
1.650	2.450	.500	.483	.551	.665	.520	.428	.275
1.750	2.450	.500	.500	.570	.687	.533	.438	.281
1.850	2.450	.500	.516	.588	.707	.544	.443	.287
1.950	2.450	.500	.532	.604	.726	.554	.456	.292
2.050	2.450	.500	.546	.620	.743	.563	.463	.297
2.150	2.450	.500	.559	.634	.759	.572	.470	.301
2.250	2.450	.500	.571	.647	.773	.579	.476	.305
2.350	2.450	.500	.582	.657	.737	.586	.482	.309
2.450	2.450	.500	.592	.670	.799	.593	.487	.312
2.550	2.450	.500	.602	.680	.810	.598	.492	.315
2.650	2.450	.500	.611	.690	.821	.604	.497	.318
2.750	2.450	.500	.619	.679	.831	.607	.501	.321
2.850	2.450	.500	.627	.707	.840	.613	.505	.324
2.950	2.450	.500	.634	.714	.848	.617	.508	.326
.050	2.550	.500	.033	.038	.048	.040	.033	.020
.150	2.550	.500	.065	.076	.095	.080	.065	.040
.250	2.550	.500	.097	.114	.142	.118	.096	.059
.350	2.550	.500	.129	.151	.188	.155	.126	.078
.450	2.550	.500	.160	.188	.233	.171	.155	.096
.550	2.550	.500	.191	.223	.277	.224	.182	.112
.650	2.550	.500	.221	.257	.319	.255	.207	.127
.750	2.550	.500	.250	.271	.359	.285	.231	.141
.850	2.550	.500	.275	.323	.370	.311	.252	.154
.950	2.550	.500	.304	.353	.434	.336	.272	.166
1.050	2.550	.500	.330	.382	.469	.358	.290	.177
1.150	2.550	.500	.354	.409	.501	.379	.307	.186
1.250	2.550	.500	.377	.435	.531	.397	.321	.195
1.350	2.550	.500	.399	.457	.560	.414	.335	.203
1.450	2.550	.500	.420	.482	.586	.429	.347	.210
1.550	2.550	.500	.437	.504	.611	.443	.358	.216
1.650	2.550	.500	.457	.523	.634	.455	.368	.222
1.750	2.550	.500	.474	.542	.655	.467	.377	.227
1.850	2.550	.500	.493	.559	.674	.477	.385	.232
1.950	2.550	.500	.504	.575	.693	.486	.392	.236
2.050	2.550	.500	.518	.590	.709	.495	.399	.240
2.150	2.550	.500	.531	.604	.725	.502	.405	.244
2.250	2.550	.500	.543	.616	.739	.509	.411	.247
2.350	2.550	.500	.554	.628	.752	.516	.416	.251
2.450	2.550	.500	.564	.639	.765	.522	.421	.253
2.550	2.550	.500	.573	.649	.776	.527	.426	.256
2.650	2.550	.500	.582	.659	.786	.532	.430	.259
2.750	2.550	.500	.5??	.667	.796	.537	.433	.261
2.850	2.550	.500	.593	.678	.805	.541	.437	[illegible]

2.950	2.650	.500	.605	.633	.813	[illegible]	[illegible]	.265
.050	2.650	.500	.031	.036	.045	.039	.027	.016
.150	2.650	.500	.061	.072	.09[illegible]	.07[illegible]	.059	.031
.250	2.650	.500	.092	.108	.135	.102	.081	.047
.350	2.650	.500	.122	.143	.178	.134	[illegible]	.061
.450	2.650	.500	.151	.177	.221	.164	.131	.075
.550	2.650	.500	.181	.211	.262	.193	.154	.088
.650	2.650	.500	.209	.244	.302	.221	.175	.100
.750	2.650	.500	.236	.275	.340	.246	.196	.111
.850	2.650	.500	.262	.305	.377	.270	.214	.122
.950	2.650	.500	.288	.334	.412	.291	.231	.131
1.050	2.650	.500	.312	.362	.445	.311	.247	.140
1.150	2.650	.500	.335	.388	.476	.329	.261	.147
1.250	2.650	.500	.357	.413	.505	.346	.274	.154
1.350	2.650	.500	.379	.436	.533	.361	.286	.161
1.450	2.650	.500	.398	.458	.559	.375	.297	.166
1.550	2.650	.500	.416	.478	.582	.387	.306	.172
1.650	2.650	.500	.434	.498	.604	.398	.315	.176
1.750	2.650	.500	.450	.516	.625	.409	.323	.181
1.850	2.650	.500	.465	.532	.644	.418	.331	.185
1.950	2.650	.500	.477	.545	.652	.427	.337	.186
2.050	2.650	.500	.493	.552	.678	.434	.343	.191
2.150	2.650	.500	.505	.576	.693	.442	.349	.194
2.250	2.650	.500	.517	.588	.707	.448	.354	.197
2.350	2.650	.500	.527	.600	.720	.454	.359	.200
2.450	2.650	.500	.547	.610	.733	.460	.363	.202
2.550	2.650	.500	.547	.620	.744	.465	.367	.205
2.650	2.650	.500	.555	.630	.754	.469	.371	.207
2.750	2.650	.500	.563	.639	.764	.474	.374	.209
2.850	2.650	.500	.571	.647	.773	.478	.378	.211
2.950	2.650	.500	.575	.654	.741	.481	.380	.212
.050	2.750	.500	.029	.034	.043	.030	.023	.012
.150	2.750	.500	.058	.068	.085	.059	.046	.024
.250	2.750	.500	.087	.102	.127	.087	.066	.036
.350	2.750	.500	.115	.135	.169	.115	.070	.047
.450	2.750	.500	.143	.168	.209	.142	.110	.058
.550	2.750	.500	.171	.200	.248	.167	.130	.068
.650	2.750	.500	.197	.231	.286	.191	.148	.077
.750	2.750	.500	.223	.261	.323	.213	.165	.086
.850	2.750	.500	.248	.289	.358	.234	.181	.094
.950	2.750	.500	.273	.317	.391	.253	.196	.101
1.050	2.750	.500	.296	.343	.423	.270	.209	.108
1.150	2.750	.500	.318	.368	.453	.286	.222	.114
1.250	2.750	.500	.339	.392	.481	.301	.233	.120
1.350	2.750	.500	.357	.414	.507	.315	.243	.125
1.450	2.750	.500	.374	.435	.532	.327	.253	.129
1.550	2.750	.500	.395	.455	.555	.338	.261	.133
1.650	2.750	.500	.412	.474	.577	.347	.267	.137
1.750	2.750	.500	.423	.471	.597	.358	.276	.140
1.850	2.750	.500	.443	.507	.615	.367	.283	.144
1.950	2.750	.500	.45[illegible]	.522	.633	.374	.289	.146
2.050	2.750	.500	.469	.536	.649	.381	.294	.149
2.150	2.750	.500	.481	.550	.664	.388	.299	.152
2.250	2.750	.500	.492	.562	.678	.394	.304	.154
2.350	2.750	.500	.503	.573	.691	.400	.308	.156
2.450	2.750	.500	.513	.584	.702	.405	.312	.158
2.550	2.750	.500	.522	.594	.714	.410	.316	.160
2.650	2.750	.500	.531	.603	.724	.414	.319	.162
2.750	2.750	.500	.539	.611	.733	.418	.322	.163
2.850	2.750	.500	[illegible]	.617	.742	.421	.325	.165

2.750	2.750	.500	.503	.527	.751	.425	.328	.156
.050	2.850	.500	.029	.032	.041	.025	.019	.009
.150	2.850	.500	.055	.065	.081	.051	.038	.018
.250	2.850	.500	.082	.097	.121	.075	.057	.027
.350	2.850	.500	.107	.124	.160	.099	.075	.035
.450	2.850	.500	.136	.159	.198	.122	.093	.043
.550	2.850	.500	.162	.190	.236	.144	.109	.051
.650	2.850	.500	.187	.219	.272	.165	.125	.058
.750	2.850	.500	.212	.247	.307	.184	.139	.065
.850	2.850	.500	.236	.275	.340	.202	.153	.071
.950	2.850	.500	.259	.301	.372	.219	.166	.076
1.050	2.850	.500	.281	.326	.402	.235	.177	.081
1.150	2.850	.500	.302	.350	.431	.249	.188	.086
1.250	2.850	.500	.322	.373	.458	.262	.198	.090
1.350	2.850	.500	.341	.394	.483	.274	.207	.094
1.450	2.850	.500	.357	.415	.507	.286	.215	.097
1.550	2.850	.500	.376	.434	.530	.296	.222	.100
1.650	2.850	.500	.392	.452	.551	.305	.229	.103
1.750	2.850	.500	.407	.468	.570	.313	.236	.106
1.850	2.850	.500	.421	.484	.589	.321	.241	.108
1.950	2.850	.500	.435	.499	.605	.328	.247	.110
2.050	2.850	.500	.447	.513	.621	.335	.251	.112
2.150	2.850	.500	.459	.525	.636	.341	.256	.114
2.250	2.850	.500	.470	.537	.650	.346	.260	.116
2.350	2.850	.500	.480	.547	.662	.351	.264	.118
2.450	2.850	.500	.490	.557	.674	.356	.267	.119
2.550	2.850	.500	.499	.569	.685	.360	.271	.121
2.650	2.850	.500	.507	.578	.695	.364	.274	.122
2.750	2.850	.500	.515	.586	.705	.369	.276	.124
2.850	2.850	.500	.522	.594	.714	.372	.279	.125
2.950	2.850	.500	.529	.601	.722	.375	.282	.126
.050	2.950	.500	.026	.031	.038	.022	.016	.007
.150	2.950	.500	.052	.061	.077	.049	.032	.013
.250	2.950	.500	.078	.072	.115	.065	.048	.019
.350	2.950	.500	.104	.122	.152	.085	.063	.025
.450	2.950	.500	.129	.151	.188	.105	.076	.031
.550	2.950	.500	.154	.180	.224	.124	.091	.037
.650	2.950	.500	.179	.208	.256	.142	.105	.042
.750	2.950	.500	.201	.235	.292	.159	.117	.046
.850	2.950	.500	.224	.261	.323	.175	.129	.051
.950	2.950	.500	.246	.286	.354	.190	.139	.055
1.050	2.950	.500	.267	.310	.383	.204	.149	.058
1.150	2.950	.500	.287	.333	.411	.217	.158	.062
1.250	2.950	.500	.305	.355	.437	.228	.167	.065
1.350	2.950	.500	.324	.376	.461	.239	.175	.067
1.450	2.950	.500	.342	.395	.484	.249	.182	.070
1.550	2.950	.500	.359	.414	.506	.258	.188	.072
1.650	2.950	.500	.374	.431	.527	.266	.194	.074
1.750	2.950	.500	.389	.447	.546	.274	.200	.076
1.850	2.950	.500	.402	.462	.563	.281	.205	.078
1.950	2.950	.500	.415	.477	.580	.288	.209	.079
2.050	2.950	.500	.427	.490	.595	.294	.214	.081
2.150	2.950	.500	.439	.503	.610	.299	.218	.082
2.250	2.950	.500	.449	.514	.623	.304	.221	.083
2.350	2.950	.500	.457	.525	.636	.309	.225	.085
2.450	2.950	.500	.468	.536	.648	.313	.228	.086
2.550	2.950	.500	.477	.545	.658	.317	.231	.087
2.650	2.950	.500	.485	.554	.669	.321	.233	.088
2.750	2.950	.500	.493	.562	.678	.324	.236	.089
[illegible]	2.950	.500	.500	.570	.687	.327	.238	.090

2.950	2.950	[illegible]	[illegible]	.575	.375	.339	.241	.291
.050	.050	[illegible]	-.161	-.431	-.315	-.550	-.532	-.567
.150	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.471	-.722
.250	[illegible]	[illegible]	-.327	-.231	-.537	.084	-.120	-.466
.350	[illegible]	[illegible]	.223	.235	-.115	.559	[illegible]	.309
.450	[illegible]	[illegible]	1.379	.512	.357	1.212	.913	.495
.550	.050	.600	1.563	1.273	.333	1.731	1.413	.933
.650	.050	.600	1.961	1.653	1.165	2.101	1.800	1.297
.750	.050	.600	2.281	1.972	1.458	2.422	2.110	1.591
.850	.050	.600	2.535	2.219	1.672	2.577	2.358	1.826
.950	.050	.600	2.738	2.415	1.833	2.839	2.556	2.014
1.050	.050	.600	2.901	2.575	2.032	3.044	2.715	2.166
1.150	.050	.600	3.033	2.714	2.155	3.176	2.844	2.289
1.250	.050	.600	3.142	2.827	2.256	3.264	2.919	2.370
1.350	.050	.600	3.231	2.897	2.339	3.374	3.036	2.474
1.450	.050	.600	3.305	2.959	2.409	3.448	3.109	2.543
1.550	.050	.600	3.364	3.033	2.467	3.511	3.170	2.602
1.650	.050	.600	3.421	3.092	2.517	3.564	3.222	2.651
1.750	.050	.600	3.466	3.126	2.557	3.609	3.266	2.694
1.850	.050	.600	3.505	3.164	2.576	3.648	3.304	2.730
1.950	.050	.600	3.539	3.197	2.627	3.682	3.337	2.762
2.050	.050	.600	3.568	3.225	2.655	3.711	3.365	2.789
2.150	.050	.600	3.594	3.251	2.679	3.737	3.391	2.813
2.250	.050	.600	3.615	3.273	2.700	3.759	3.413	2.834
2.350	.050	.600	3.635	3.292	2.719	3.779	3.432	2.853
2.450	.050	.600	3.654	3.310	2.735	3.797	3.449	2.870
2.550	.050	.600	3.670	3.325	2.750	3.813	3.465	2.885
2.650	.050	.600	3.684	3.339	2.764	3.827	3.479	2.898
2.750	.050	.600	3.697	3.351	2.776	3.840	3.491	2.910
2.850	.050	.600	3.708	3.363	2.786	3.851	3.502	2.921
2.950	.050	.600	3.719	3.373	2.795	3.862	3.513	2.931
.050	.150	.600	[illegible]	-.125	[illegible]	.039	-.039	-.169
.150	.150	.600	-.366	-.077	-.719	.335	.190	-.052
.250	.150	.600	-.221	-.231	-.502	.875	.677	.345
.350	.150	.600	[illegible]	.279	-.064	1.493	1.262	.871
.450	.150	.600	1.012	.772	.373	2.082	1.820	1.383
.550	.150	.600	1.479	1.216	.737	2.577	2.295	1.828
.650	.150	.600	1.867	1.537	1.137	2.950	2.685	2.194
.750	.150	.600	[illegible]	1.837	1.421	3.280	2.995	2.487
.850	.150	.600	2.415	2.125	1.661	3.554	3.242	2.722
.950	.150	.600	2.615	2.322	[illegible]	3.757	3.439	2.909
1.050	.150	.600	2.779	2.478	1.985	3.920	3.597	3.060
1.150	.150	.600	2.909	2.605	2.105	4.052	3.726	3.183
1.250	.150	.600	3.011	2.709	2.206	4.160	3.831	3.283
1.350	.150	.600	3.100	2.796	2.287	4.249	3.918	3.366
1.450	.150	.600	3.175	2.868	2.358	4.323	3.990	3.435
1.550	.150	.600	3.237	2.928	2.416	4.385	4.051	3.493
1.650	.150	.600	3.289	2.980	2.465	4.438	4.102	3.543
1.750	.150	.600	3.334	3.024	2.507	4.483	4.146	3.585
1.850	.150	.600	3.372	3.062	2.544	4.522	4.184	3.621
1.950	.150	.600	3.406	3.094	2.575	4.556	4.217	3.653
2.050	.150	.600	3.435	3.123	2.603	4.585	4.246	3.680
2.150	.150	.600	3.461	3.149	2.627	4.611	4.271	3.704
2.250	.150	.600	3.483	3.170	2.648	4.633	4.293	3.725
2.350	.150	.600	3.503	3.189	2.666	4.653	4.312	3.744
2.450	.150	.600	3.521	3.207	2.683	4.671	4.329	3.760
2.550	.150	.600	3.537	3.222	2.698	4.686	4.345	3.775
2.650	.150	.600	3.551	3.236	2.711	4.701	4.358	3.788
2.750	.150	.600	3.565	3.249	2.723	4.713	4.371	3.800
2.850	.150	.600	3.575	3.260	2.734	4.725	4.382	3.811

[illegible]	.1	.	[illegible]	[illegible]	2.741	4.735	4.572	3.621
[illegible]	[illegible]	[illegible]	-.2[illegible]1	-.137	-.131	.553	.976	.375
.150	[illegible]	[illegible]	-.272	-.075	-.271	1.233	1.177	.171
.250	[illegible]	[illegible]	[illegible]	-.11[illegible]	-.337	1.765	1.709	1.470
.350	.25[illegible]	[illegible]	.437	.255	-.127	2.571	2.459	2.676
.450	[illegible]	[illegible]	.971	.736	.381	3.257	3.035	2.673
.550	[illegible]	[illegible]	1.352	1.112	.751	3.792	3.525	3.077
.650	[illegible]	[illegible]	1.677	1.457	1.047	4.197	3.915	3.445
.750	.250	.600	1.976	1.740	1.356	4.516	4.229	3.737
.850	.250	[illegible]	2.207	1.976	1.576	4.769	4.469	3.969
.950	[illegible]	[illegible]	2.3[illegible]	2.137	1.759	4.970	4.665	4.155
1.050	[illegible]	[illegible]	[illegible]	2.306	1.899	5.132	4.821	4.304
1.150	[illegible]	[illegible]	2.6[illegible]	2.032	2.017	5.263	4.999	4.425
1.250	[illegible]	[illegible]	2.735	[illegible]	2.113	5.373	5.05[illegible]	4.525
1.350	[illegible]	[illegible]	2.872	2.617	2.176	5.458	5.137	4.607
1.450	[illegible]	[illegible]	[illegible]	2.659	2.265	5.532	5.211	4.675
1.550	[illegible]	[illegible]	[illegible]	2.749	2.322	5.594	5.271	4.733
1.650	[illegible]	[illegible]	3.05[illegible]	2.830	2.371	5.646	5.322	4.782
1.750	[illegible]	[illegible]	3.102	2.914	2.413	5.691	5.366	4.824
1.850	.25[illegible]	[illegible]	3.1[illegible]	2.861	2.449	5.730	5.405	4.860
1.950	[illegible]	[illegible]	3.179	2.914	[illegible]	5.763	5.436	4.891
2.050	[illegible]	[illegible]	3.203	2.912	2.507	5.792	5.464	4.918
2.150	[illegible]	[illegible]	3.22[illegible]	2.957	2.531	5.817	5.487	4.942
2.250	.250	.500	3.251	2.999	2.552	5.840	5.511	4.963
2.350	[illegible]	[illegible]	3.27[illegible]	3.033	2.571	5.860	5.535	4.981
2.450	[illegible]	[illegible]	3.2[illegible]	3.025	2.587	5.877	5.547	4.996
2.550	[illegible]	[illegible]	3.304	3.041	2.602	5.893	5.563	5.012
2.650	[illegible]	.500	3.316	3.055	2.616	5.907	5.576	5.025
2.750	[illegible]	[illegible]	3.331	3.[illegible]57	2.624	5.920	5.589	5.037
2.850	[illegible]	[illegible]	3.342	3.073	2.636	5.931	5.600	5.046
2.950	.250	[illegible]	3.352	3.08[illegible]	2.646	5.941	5.610	5.053
.050	[illegible]	[illegible]	-.251	-.240	-.337	.984	.915	.609
.150	[illegible]	[illegible]	-.232	-.273	-.405	1.745	1.622	1.615
.250	[illegible]	[illegible]	.023	-.002	-.257	2.838	2.667	2.393
.350	.350	[illegible]	.324	.255	.045	3.614	3.403	3.064
.450	.350	.500	.777	.635	.379	4.254	4.022	3.635
.550	.350	.520	1.149	.972	.730	4.766	4.515	4.096
.650	[illegible]	[illegible]	1.479	1.333	1.025	5.178	4.909	4.462
.750	.35[illegible]	[illegible]	1.738	1.559	1.275	5.487	5.211	4.751
.850	.350	[illegible]	1.950	1.779	1.480	5.737	5.453	4.980
.950	[illegible]	[illegible]	2.139	1.955	1.599	5.936	5.646	5.163
1.050	.350	[illegible]	2.287	2.1[illegible]	1.708	6.095	5.801	5.310
1.150	[illegible]	[illegible]	2.407	2.219	1.703	6.224	5.925	5.429
1.250	.350	[illegible]	2.510	2.318	1.778	6.333	6.029	5.527
1.350	.350	.500	2.595	2.409	2.077	6.417	6.119	5.607
1.450	[illegible]	[illegible]	2.565	2.470	2.149	6.490	6.164	5.675
1.550	[illegible]	[illegible]	2.7[illegible]5	2.529	2.200	6.551	6.249	5.732
1.650	.350	[illegible]	2.776	2.578	2.298	6.603	6.295	5.780
1.750	.350	.550	2.820	2.621	2.270	6.649	6.338	5.821
1.850	.350	[illegible]	2.859	2.658	2.325	6.686	6.375	5.857
1.950	.350	[illegible]	2.891	2.693	2.356	6.719	6.407	5.887
2.050	[illegible]	[illegible]	2.92[illegible]	2.713	2.383	6.748	6.435	5.914
2.150	.350	[illegible]	2.945	2.743	2.407	6.773	6.460	5.938
2.250	[illegible]	[illegible]	2.967	2.75[illegible]	2.426	6.795	6.481	5.958
2.350	[illegible]	[illegible]	2.987	2.784	2.447	6.815	6.501	5.977
2.450	.350	[illegible]	3.004	2.801	2.465	6.832	6.518	5.993
2.550	.350	[illegible]	3.02[illegible]	2.817	2.478	6.848	6.533	6.008
2.650	.350	[illegible]	3.034	[illegible]	2.491	6.862	6.546	6.021
2.750	.35[illegible]	[illegible]	3.046	2.843	2.503	6.875	6.557	6.032

2.950	.350	[illegible]	2.759	[illegible]	2.523	[illegible]	6.500	6.053
.050	.450	[illegible]	-.127	-.133	[illegible]	1.190	1.131	1.039
.150	.450	[illegible]	-.120	[illegible]	-.251	[illegible]	[illegible]	[illegible]
.250	.450	[illegible]	.055	-.015	-.127	3.271	3.117	2.669
.350	.450	.500	.382	.257	.115	4.173	3.890	3.577
.450	.450	.600	.667	.570	.400	4.726	4.512	4.156
.550	.450	.600	.953	.875	.678	5.236	5.033	4.615
.650	.450	.600	1.265	1.150	.960	5.634	5.337	4.976
.750	.450	[illegible]	1.516	1.336	1.136	5.946	5.688	5.252
.850	.450	.600	1.709	1.533	1.376	6.191	5.926	5.483
.950	.450	[illegible]	1.875	1.743	1.539	6.386	6.115	5.662
1.050	.450	.600	2.015	1.854	1.666	6.543	6.266	5.805
1.150	.450	.600	2.121	1.972	1.775	6.670	6.387	5.921
1.250	.450	.600	2.223	2.092	1.867	6.773	6.490	6.017
1.350	.450	.600	2.309	2.172	1.944	6.859	6.573	6.096
1.450	.450	.600	2.377	2.239	2.009	6.931	6.643	6.162
1.550	.450	.600	2.435	2.295	2.069	6.991	6.701	6.218
1.650	.450	.600	2.486	2.345	2.111	7.043	6.751	6.265
1.750	.450	.600	2.529	2.387	2.152	7.086	6.799	6.305
1.850	.450	.600	2.566	2.424	2.187	7.124	6.830	6.340
1.950	.450	.600	2.578	2.455	2.216	7.157	6.862	6.370
2.050	.450	.600	2.626	2.483	2.245	7.185	6.890	6.397
2.150	.450	.600	2.651	2.507	2.266	7.210	6.914	6.420
2.250	.450	.600	2.673	2.529	2.289	7.232	6.935	6.440
2.350	.450	.600	2.693	2.548	2.307	7.252	6.954	6.458
2.450	.450	.600	2.710	2.565	2.324	7.269	6.971	6.475
2.550	.450	.600	2.725	2.580	2.338	7.284	6.986	6.489
2.650	.450	.600	2.737	2.594	2.352	7.298	7.000	6.502
2.750	.450	.600	2.752	2.606	2.364	7.311	7.012	6.513
2.850	.450	.600	2.763	2.617	2.374	7.322	7.023	6.524
2.950	.450	.600	2.774	2.627	2.384	7.332	7.033	6.533
.050	.550	.600	-.075	-.084	-.106	1.216	1.165	1.079
.150	.550	.600	-.058	-.078	-.125	2.339	2.241	2.077
.250	.550	.600	.147	.049	-.017	3.308	3.170	2.940
.350	.550	.600	.312	.263	.180	4.103	3.933	3.650
.450	.550	.600	.576	.513	.422	4.736	4.542	4.218
.550	.550	.600	[illegible]	.776	.659	5.232	5.019	4.664
.650	.550	.600	1.083	1.013	.897	5.620	5.392	5.013
.750	.550	.600	1.295	1.222	1.079	5.723	5.689	5.287
.850	.550	.600	1.478	1.401	1.273	6.152	5.915	5.504
.950	.550	.600	1.633	1.553	1.419	6.351	6.098	5.676
1.050	.550	.600	1.762	1.680	1.543	6.504	6.246	5.815
1.150	.550	.600	1.871	1.787	1.646	6.628	6.366	5.926
1.250	.550	.600	1.963	1.877	1.739	6.729	6.464	6.021
1.350	.550	.600	2.040	1.953	1.808	6.814	6.545	6.098
1.450	.550	.600	2.106	2.019	1.871	6.884	6.613	6.162
1.550	.550	.600	2.163	2.073	1.925	6.943	6.671	6.217
1.650	.550	.600	2.211	2.121	1.971	6.993	6.719	6.263
1.750	.550	.600	2.253	2.162	2.011	7.036	6.761	6.303
1.850	.550	.600	2.289	2.195	2.045	7.074	6.797	6.337
1.950	.550	.600	2.321	2.229	2.075	7.106	6.826	6.366
2.050	.550	.600	2.349	2.256	2.102	7.134	6.856	6.392
2.150	.550	.600	2.373	2.280	2.125	7.153	6.880	6.415
2.250	.550	.600	2.375	2.301	2.146	7.180	6.901	6.435
2.350	.550	.600	2.414	2.320	2.165	7.199	6.917	6.453
2.450	.550	.600	2.431	2.337	2.181	7.216	6.936	6.468
2.550	.550	.600	2.446	2.352	2.195	7.232	6.951	6.483
2.650	.550	.600	2.460	2.365	2.208	7.245	6.964	6.495
2.750	.550	.600	2.473	2.378	2.220	7.258	6.976	6.507
2.850	.550	.600	2.484	2.389	2.231	7.269	6.987	6.517

[illegible]	[illegible]	[illegible]	2.4[illegible]	2.3[illegible]	2.241	7.279	6.997	6.526
.050	.500	[illegible]	-.327	-.334	-.339	1.139	1.089	1.013
.150	.500	[illegible]	.353	-.315	-.320	2.163	2.095	1.951
.250	.500	.600	.116	.097	.087	3.091	2.960	2.763
.350	.500	.600	.293	.270	.232	3.[illegible]	3.686	3.433
.450	.500	.600	.565	.478	.432	4.440	4.264	3.970
.550	.500	.600	.724	.673	.631	4.912	4.717	4.393
.650	.500	.600	.931	.877	.816	5.282	5.073	4.726
.750	.500	.600	1.117	1.030	1.010	5.572	5.353	4.987
.850	.500	.600	1.266	1.240	1.175	5.802	5.574	5.194
.950	.500	.600	1.419	1.370	1.310	5.986	5.751	5.360
1.050	.500	.600	1.539	1.496	1.425	6.134	5.894	5.494
1.150	.500	.600	1.644	1.596	1.522	6.254	6.010	5.602
1.250	.500	.600	1.727	1.671	1.605	6.353	6.105	5.692
1.350	.500	.600	1.830	1.754	1.676	6.435	6.184	5.766
1.450	.500	.600	1.303	1.815	1.737	6.503	6.250	5.829
1.550	.500	.600	1.717	1.869	1.749	6.561	6.306	5.862
1.650	.650	.600	1.964	1.915	1.834	6.610	6.359	5.926
1.750	.500	.600	2.005	1.955	1.873	6.652	6.395	5.965
1.850	.500	.600	2.010	1.995	1.907	6.689	6.430	5.998
1.950	.600	.600	2.071	2.021	1.937	6.720	6.460	6.027
2.050	.500	.600	2.098	2.047	1.965	6.748	6.487	6.052
2.150	.500	.600	2.127	2.071	1.986	6.772	6.511	6.074
2.250	.500	.600	2.149	2.092	2.006	6.794	6.531	6.094
2.350	.500	.600	2.163	2.111	2.024	6.813	6.550	6.111
2.450	.600	.600	2.183	2.127	2.041	6.829	6.566	6.127
2.550	.500	.600	2.195	2.142	2.055	6.844	6.581	6.141
2.650	.500	.600	2.233	2.156	2.068	6.858	6.594	6.153
2.750	.500	.600	2.221	2.159	2.080	6.870	6.605	6.164
2.850	.500	.600	2.232	2.174	2.091	6.881	6.615	6.174
2.950	.500	.600	2.242	2.187	2.100	6.891	6.626	6.184
.050	.750	.600	.302	.311	.300	1.003	.963	.897
.150	.750	.600	.042	.040	.032	1.936	1.860	1.732
.250	.750	.600	.136	.134	.130	2.753	2.644	2.462
.350	.750	.600	.277	.273	.270	3.436	3.299	3.071
.450	.750	.600	.451	.446	.438	3.988	3.829	3.564
.550	.750	.600	.632	.626	.615	4.428	4.251	3.957
.650	.750	.600	.807	.800	.787	4.775	4.585	4.267
.750	.750	.600	.967	.958	.945	5.051	4.849	4.514
.850	.750	.600	1.113	1.104	1.086	5.270	5.060	4.709
.950	.750	.600	1.239	1.227	1.209	5.446	5.229	4.867
1.050	.750	.600	1.343	1.335	1.315	5.588	5.365	4.994
1.150	.750	.600	1.442	1.429	1.406	5.704	5.477	5.098
1.250	.750	.600	1.522	1.503	1.485	5.799	5.569	5.184
1.350	.750	.600	1.572	1.577	1.553	5.879	5.645	5.256
1.450	.750	.600	1.652	1.636	1.611	5.945	5.709	5.316
1.550	.750	.600	1.724	1.636	1.661	6.002	5.764	5.367
1.650	.750	.600	1.719	1.732	1.705	6.050	5.810	5.410
1.750	.750	.600	1.732	1.771	1.743	6.091	5.850	5.447
1.850	.750	.600	1.822	1.805	1.776	6.126	5.884	5.460
1.950	.750	.600	1.852	1.835	1.805	6.157	5.914	5.508
2.050	.750	.600	1.879	1.861	1.831	6.184	5.940	5.532
2.150	.750	.600	1.902	1.884	1.853	6.208	5.963	5.554
2.250	.750	.600	1.923	1.905	1.874	6.229	5.983	5.573
2.350	.750	.600	1.712	1.923	1.892	6.248	6.001	5.590
2.450	.750	.600	1.757	1.940	1.908	6.264	6.017	5.605
2.550	.750	.600	1.974	1.954	1.922	6.279	6.031	5.618
2.650	.750	.600	1.987	1.968	1.935	6.292	6.044	5.631
2.750	.750	.600	1.999	1.980	1.947	6.304	6.056	5.642

2.250	.750	[illegible]	2.222	2.011	1.767	[illegible]	6.026	5.660
.050	.850	[illegible]	.221	.025	.030	[illegible]	.626	.767
.150	.850	[illegible]	.357	[illegible]	[illegible]	1.867	[illegible]	1.537
.250	.850	[illegible]	.151	.159	.173	[illegible]	2.285	2.124
.350	.850	[illegible]	[illegible]	.272	.295	[illegible]	2.667	2.663
.450	.850	[illegible]	.407	.420	.439	[illegible]	3.345	3.106
.550	.850	[illegible]	.551	.571	[illegible]	[illegible]	3.733	3.463
.650	.850	[illegible]	[illegible]	.723	.739	4.213	4.037	3.749
.750	.850	[illegible]	.848	.859	.879	4.470	4.285	3.977
.850	.850	.600	.975	.986	1.005	4.677	4.483	4.161
.950	.850	.600	1.087	1.098	1.117	[illegible]	4.643	4.309
1.050	.850	.600	1.165	1.177	1.215	4.979	4.773	4.429
1.150	.850	.600	1.273	1.283	1.306	5.093	4.860	4.528
1.250	.850	.600	1.348	1.358	1.374	5.132	4.968	4.610
1.350	.850	.600	1.413	1.423	1.439	5.259	5.041	4.679
1.450	.850	.600	1.472	1.479	1.494	5.323	5.103	4.736
1.550	.850	.600	1.512	[illegible]	1.548	5.373	5.158	4.785
1.650	.850	.600	1.563	1.571	1.585	5.425	5.200	4.827
1.750	.850	.600	1.609	1.608	1.622	5.465	5.239	4.863
1.850	.850	.600	1.634	1.641	1.654	5.499	5.272	4.894
1.950	.850	.600	1.663	1.670	1.683	5.533	5.301	4.921
2.050	.850	.600	1.689	1.676	1.703	5.556	5.327	4.945
2.150	.850	.600	1.712	1.719	1.730	5.577	5.349	4.966
2.250	.850	.600	1.732	1.739	1.750	5.600	5.369	4.984
2.350	.850	.600	[illegible]	1.757	1.768	5.618	5.386	5.001
2.450	.850	.600	1.767	1.775	1.785	5.634	5.402	5.015
2.550	.850	.600	1.782	1.783	1.799	5.647	5.416	5.028
2.650	.850	.600	1.795	1.801	1.811	5.662	5.429	5.040
2.750	.850	.600	1.807	1.813	1.823	5.673	5.440	5.051
2.850	.850	.600	[illegible]	1.824	1.834	5.684	5.450	5.061
2.950	[illegible]	[illegible]	[illegible]	1.834	[illegible]	5.694	5.460	5.069
.050	.750	.600	[illegible]	.039	[illegible]	.726	.695	.644
.150	.750	[illegible]	[illegible]	.075	.112	1.412	1.352	1.252
.250	.750	[illegible]	.159	.174	.199	[illegible]	1.942	1.797
.350	.750	[illegible]	[illegible]	.277	[illegible]	[illegible]	2.449	2.266
.450	.750	[illegible]	.375	[illegible]	.433	3.002	2.872	2.657
.550	.750	[illegible]	.512	.526	.566	3.365	3.220	2.977
.650	.750	[illegible]	.629	.654	.696	3.660	3.501	3.237
.750	.750	[illegible]	.747	.776	.819	[illegible]	3.729	3.446
.850	.750	[illegible]	[illegible]	.888	[illegible]	4.091	3.913	3.616
.950	.750	[illegible]	.963	.939	[illegible]	4.248	4.063	3.754
1.050	.750	[illegible]	[illegible]	1.079	1.125	4.377	4.166	3.867
1.150	.750	[illegible]	[illegible]	[illegible]	1.204	4.492	4.237	3.960
1.250	.750	.600	[illegible]	1.228	1.279	4.570	4.371	4.038
1.350	.750	.600	1.261	1.289	1.335	4.644	4.441	4.103
1.450	.750	.600	1.315	1.342	1.386	4.706	4.500	4.156
1.550	.750	.600	[illegible]	1.387	1.435	4.759	4.551	4.205
1.650	.750	.600	1.403	1.430	1.475	[illegible]	4.594	4.245
1.750	.750	.600	1.439	1.466	1.511	4.853	4.631	4.279
1.850	.750	.600	1.471	1.498	1.543	4.876	4.669	4.309
1.950	.750	.600	[illegible]	1.526	1.571	4.905	4.692	4.335
2.050	.750	.600	1.525	1.551	1.595	4.931	4.716	4.358
2.150	.750	.600	1.547	1.573	1.617	4.954	4.738	4.378
2.250	.750	.600	1.567	[illegible]	1.637	4.974	4.757	4.396
2.350	.750	.600	1.585	1.611	1.655	4.992	4.774	4.412
2.450	.750	.600	1.601	1.627	1.670	[illegible]	4.790	4.426
2.550	.750	.600	1.615	1.642	1.685	5.022	4.803	4.439
2.650	.750	.600	1.629	1.655	1.697	5.035	4.816	4.450
2.750	.750	.600	1.641	1.666	1.709	5.046	4.827	4.461
2.850	.750	.600	1.652	1.677	1.720	5.057	4.837	4.470

2.950	.750	.500	1.582	1.637	1.729	5.066	4.846	4.479
.050	1.350	.600	.041	.045	.060	.608	.581	.535
.150	1.350	.600	.073	.107	.130	1.185	1.133	1.044
.250	1.350	.600	.152	.132	.215	1.711	1.634	1.505
.350	1.350	.600	.249	.273	.319	2.170	2.071	1.907
.450	1.350	.600	.349	.377	.425	2.559	2.443	2.248
.550	1.350	.600	.456	.488	.541	2.884	2.752	2.532
.650	1.350	.600	.564	.578	.656	3.151	3.006	2.765
.750	1.350	.600	.669	.705	.766	3.369	3.214	2.955
.850	1.350	.600	.757	.805	.868	3.548	3.384	3.111
.950	1.350	.600	.857	.376	.950	3.695	3.523	3.238
1.050	1.350	.600	.938	.978	1.043	3.815	3.638	3.344
1.150	1.350	.600	1.011	1.051	1.117	3.916	3.734	3.431
1.250	1.350	.600	1.075	1.115	1.183	3.999	3.813	3.504
1.350	1.350	.600	1.132	1.173	1.240	4.070	3.880	3.565
1.450	1.350	.600	1.182	1.225	1.291	4.129	3.937	3.617
1.550	1.350	.600	1.227	1.269	1.336	4.180	3.985	3.661
1.650	1.350	.600	1.265	1.307	1.375	4.223	4.027	3.700
1.750	1.350	.600	1.301	1.342	1.410	4.261	4.063	3.733
1.850	1.350	.600	1.332	1.372	1.441	4.293	4.094	3.761
1.950	1.350	.600	1.359	1.400	1.466	4.322	4.121	3.786
2.050	1.350	.600	1.383	1.424	1.492	4.347	4.145	3.808
2.150	1.350	.600	1.405	1.445	1.514	4.369	4.166	3.828
2.250	1.350	.600	1.425	1.465	1.533	4.398	4.185	3.845
2.350	1.350	.600	1.442	1.483	1.550	4.406	4.201	3.860
2.450	1.350	.600	1.458	1.479	1.566	4.421	4.216	3.874
2.550	1.350	.600	1.472	1.513	1.580	4.435	4.229	3.886
2.650	1.350	.600	1.485	1.526	1.593	4.448	4.241	3.898
2.750	1.350	.600	1.497	1.537	1.604	4.459	4.252	3.908
2.850	1.350	.600	1.508	1.548	1.615	4.469	4.262	3.917
2.950	1.350	.600	1.519	1.558	1.625	4.478	4.271	3.925
.050	1.150	.600	.046	.053	.057	.507	.483	.443
.150	1.150	.600	.098	.119	.139	.992	.945	.865
.250	1.150	.600	.162	.134	.221	1.437	1.368	1.253
.350	1.150	.600	.239	.257	.314	1.832	1.743	1.596
.450	1.150	.600	.325	.358	.413	2.172	2.066	1.890
.550	1.150	.600	.417	.454	.516	2.459	2.339	2.139
.650	1.150	.600	.511	.551	.619	2.699	2.567	2.346
.750	1.150	.600	.602	.645	.717	2.893	2.755	2.517
.850	1.150	.600	.687	.734	.809	3.062	2.911	2.659
.950	1.150	.600	.769	.816	.894	3.198	3.040	2.776
1.050	1.150	.600	.843	.891	.971	3.311	3.147	2.874
1.150	1.150	.600	.909	.958	1.039	3.405	3.236	2.955
1.250	1.150	.600	.969	1.018	1.101	3.485	3.312	3.023
1.350	1.150	.600	1.022	1.072	1.155	3.552	3.375	3.081
1.450	1.150	.600	1.069	1.119	1.203	3.608	3.429	3.130
1.550	1.150	.600	1.111	1.162	1.246	3.657	3.475	3.172
1.650	1.150	.600	1.148	1.179	1.284	3.599	3.515	3.208
1.750	1.150	.600	1.181	1.233	1.318	3.735	3.547	3.239
1.850	1.150	.600	1.211	1.262	1.348	3.766	3.579	3.266
1.950	1.150	.600	1.237	1.239	1.374	3.794	3.605	3.290
2.050	1.150	.600	1.261	1.312	1.398	3.819	3.628	3.311
2.150	1.150	.600	1.282	1.334	1.419	3.839	3.649	3.330
2.250	1.150	.600	1.301	1.353	1.438	3.859	3.666	3.346
2.350	1.150	.600	1.319	1.370	1.455	3.875	3.682	3.361
2.450	1.150	.600	1.334	1.385	1.471	3.893	3.697	3.379
2.550	1.150	.600	1.349	1.399	1.485	3.904	3.710	3.386
2.650	1.150	.600	1.361	1.412	1.497	3.916	3.721	3.397
2.750	1.150	.600	1.372	1.424	1.509	3.927	3.732	3.407
2.850	1.150	.600	1.383	1.434	1.519	3.937	3.741	3.416

2.750	1.150	.500	1.392	[illegible]	1.529	[illegible]	3.750	3.429
.050	1.250	.500	.013	.036	.069	.423	.402	.365
.150	1.250	.500	.100	.116	.143	[illegible]	.787	.717
.250	1.250	.500	.155	.173	.222	1.237	1.199	1.091
.350	1.250	.500	.223	.248	.306	1.545	1.465	1.331
.450	1.250	.500	.304	.340	.399	1.593	1.749	1.595
.550	1.250	.500	.355	.435	.492	2.073	1.963	1.801
.650	1.250	.500	.456	.510	.584	2.307	2.186	1.984
.750	1.250	.500	.547	.574	.673	2.485	2.355	2.137
.850	1.250	.500	.623	.674	.757	2.637	2.497	2.265
.950	1.250	.500	.696	.748	.839	2.762	2.616	2.372
1.050	1.250	.500	.762	.815	.935	2.867	2.715	2.461
1.150	1.250	.500	.823	.878	.959	2.955	2.798	2.536
1.250	1.250	.500	.972	.934	1.027	3.033	2.869	2.599
1.350	1.250	.500	.927	.939	1.076	3.093	2.928	2.653
1.450	1.250	.600	.971	1.027	1.124	3.147	2.979	2.699
1.550	1.250	.500	1.011	1.069	1.165	3.194	3.023	2.739
1.650	1.250	.500	1.047	1.105	1.201	3.234	3.061	2.773
1.750	1.250	.500	1.079	1.137	1.234	3.263	3.094	2.803
1.850	1.250	.500	1.107	1.165	1.263	3.299	3.122	2.828
1.950	1.250	.500	1.132	1.191	1.289	3.325	3.147	2.851
2.050	1.250	.500	1.155	1.214	1.312	3.349	3.169	2.871
2.150	1.250	.500	1.176	1.235	1.333	3.369	3.189	2.889
2.250	1.250	.500	1.194	1.253	1.352	3.387	3.206	2.905
2.350	1.250	.500	1.211	1.270	1.369	3.404	3.222	2.919
2.450	1.250	.500	1.226	1.285	1.384	3.419	3.236	2.932
2.550	1.250	.500	1.240	1.299	1.395	3.432	3.248	2.943
2.650	1.250	.500	1.252	1.311	1.410	3.443	3.260	2.954
2.750	1.250	.500	1.264	1.323	1.422	3.454	3.270	2.963
2.850	1.250	.500	1.274	1.333	1.432	3.459	3.279	2.971
2.950	1.250	.500	1.284	1.343	1.442	3.473	3.288	2.979
.050	1.350	.500	.049	.056	.076	.459	.334	.302
.150	1.350	.500	.097	.115	.143	.695	.657	.593
.250	1.350	.500	.155	.179	.219	1.011	.958	.864
.350	1.350	.500	.219	.249	.305	1.303	1.231	1.110
.450	1.350	.500	.285	.322	.383	1.557	1.472	1.327
.550	1.350	.500	.355	.378	.459	1.791	1.681	1.514
.650	1.350	.500	.427	.475	.551	1.971	1.860	1.675
.750	1.350	.500	.503	.549	.632	2.132	2.012	1.811
.850	1.350	.500	.563	.621	.709	2.269	2.140	1.926
.950	1.350	.500	.633	.688	.730	2.394	2.248	2.022
1.050	1.350	.500	.679	.751	.846	2.481	2.340	2.104
1.150	1.350	.500	.747	.808	.905	2.564	2.417	2.173
1.250	1.350	.500	.800	.860	.960	2.634	2.483	2.231
1.350	1.350	.600	.846	.907	1.008	2.693	2.539	2.281
1.450	1.350	.500	.887	.949	1.052	2.744	2.587	2.324
1.550	1.350	.500	.925	.987	1.091	2.783	2.628	2.361
1.650	1.350	.500	.958	1.021	1.126	2.826	2.664	2.393
1.750	1.350	.500	.983	1.052	1.158	2.860	2.695	2.421
1.850	1.350	.600	1.016	1.080	1.186	2.889	2.723	2.446
1.950	1.350	.600	1.040	1.109	1.211	2.914	2.747	2.467
2.050	1.350	.600	1.062	1.127	1.234	2.935	2.768	2.486
2.150	1.350	.500	1.082	1.147	1.254	2.956	2.787	2.503
2.250	1.350	.500	1.100	1.165	1.273	2.974	2.803	2.518
2.350	1.350	.600	1.117	1.181	1.289	2.989	2.818	2.532
2.450	1.350	.500	1.131	1.196	1.304	3.004	2.832	2.544
2.550	1.350	.500	1.145	1.210	1.318	3.017	2.844	2.555
2.650	1.350	.500	1.157	1.222	1.331	3.028	2.855	2.565
2.750	1.350	.500	1.168	1.233	1.342	3.039	2.865	2.574
2.850	1.350	.500	1.177	1.244	1.352	3.048	2.874	2.582

2.750	1.350	[illegible]	1.113	1.233	1.332	3.157	2.862	2.590
.050	1.450	.600	.017	.036	.045	.297	.279	.250
.150	1.450	.600	.327	.113	.145	.594	.547	.492
.250	1.450	.600	.150	.174	.219	.854	.803	.719
.350	1.450	.600	.207	.235	.249	1.101	1.036	.926
.450	1.450	.600	.259	.305	.367	1.323	1.243	1.111
.550	1.450	.600	.332	.374	.449	1.517	1.425	1.273
.650	1.450	.600	.376	.443	.521	1.685	1.583	1.413
.750	1.450	.600	.467	.510	.575	1.820	1.719	1.533
.850	1.450	.600	.521	.575	.655	1.954	1.834	1.636
.950	1.450	.600	.580	.637	.731	2.059	1.933	1.723
1.050	1.450	.600	.635	.674	.792	2.140	2.017	1.797
1.150	1.450	.600	.685	.717	.848	2.225	2.088	1.860
1.250	1.450	.600	.733	.775	.879	2.290	2.149	1.914
1.350	1.450	.600	.775	.839	.915	2.346	2.201	1.960
1.450	1.450	.600	.814	.879	.937	2.394	2.246	2.000
1.550	1.450	.600	.849	.915	1.024	2.436	2.285	2.034
1.650	1.450	.600	.881	.947	1.056	2.472	2.319	2.065
1.750	1.450	.600	.910	.977	1.088	2.504	2.349	2.091
1.850	1.450	.600	.936	1.003	1.116	2.531	2.375	2.114
1.950	1.450	.600	.960	1.027	1.140	2.556	2.398	2.134
2.050	1.450	.600	.981	1.049	1.162	2.577	2.418	2.152
2.150	1.450	.600	1.000	1.069	1.182	2.596	2.436	2.168
2.250	1.450	.600	1.018	1.086	1.201	2.613	2.452	2.182
2.350	1.450	.600	1.034	1.102	1.217	2.629	2.466	2.195
2.450	1.450	.600	1.048	1.117	1.232	2.642	2.479	2.207
2.550	1.450	.600	1.061	1.130	1.245	2.655	2.491	2.217
2.650	1.450	.600	1.073	1.142	1.258	2.666	2.501	2.227
2.750	1.450	.600	1.084	1.154	1.269	2.676	2.511	2.235
2.850	1.450	.600	1.094	1.164	1.279	2.685	2.520	2.243
2.950	1.450	.600	1.104	1.173	1.289	2.694	2.527	2.250
.050	1.550	.600	.046	.054	.063	.250	.234	.207
.150	1.550	.600	.099	.110	.135	.492	.461	.456
.250	1.550	.600	.149	.167	.206	.722	.675	.598
.350	1.550	.600	.197	.227	.273	.733	.873	.773
.450	1.550	.600	.252	.289	.350	1.125	1.052	.931
.550	1.550	.600	.310	.352	.422	1.294	1.211	1.071
.650	1.550	.600	.368	.414	.472	1.443	1.349	1.193
.750	1.550	.600	.425	.476	.553	1.573	1.470	1.299
.850	1.550	.600	.480	.535	.625	1.684	1.574	1.390
.950	1.550	.600	.534	.571	.636	1.780	1.663	1.468
1.050	1.550	.600	.559	.644	.743	1.862	1.739	1.535
1.150	1.550	.600	.531	.673	.796	1.932	1.805	1.592
1.250	1.550	.600	.674	.738	.844	1.993	1.861	1.641
1.350	1.550	.600	.714	.779	.887	2.046	1.910	1.684
1.450	1.550	.600	.753	.817	.927	2.091	1.952	1.721
1.550	1.550	.600	.793	.851	.963	2.130	1.989	1.753
1.650	1.550	.600	.814	.832	.775	2.164	2.021	1.781
1.750	1.550	.600	.841	.910	1.025	2.195	2.048	1.805
1.850	1.550	.600	.866	.936	1.051	2.221	2.073	1.627
1.950	1.550	.600	.889	.959	1.075	2.244	2.095	1.846
2.050	1.550	.600	.907	.930	1.077	2.265	2.114	1.863
2.150	1.550	.600	.924	.979	1.117	2.233	2.131	1.878
2.250	1.550	.600	.945	1.016	1.134	2.300	2.147	1.891
2.350	1.550	.600	.960	1.032	1.151	2.314	2.160	1.904
2.450	1.550	.600	.774	1.016	1.165	2.328	2.173	1.915
2.550	1.550	.600	.937	1.059	1.179	2.340	2.184	1.924
2.650	1.550	.600	.979	1.071	1.191	2.350	2.194	1.733
2.750	1.550	.600	1.012	1.332	1.212	2.360	2.203	1.942
2.850	1.550	.600	1.023	1.672	1.212	2.369	2.212	1.944

2.953	[illegible]	[illegible]	1.327	1.101	1.222	2.377	2.215	1.956
.050	[illegible]	[illegible]	.015	.052	.066	.211	.195	.172
.150	[illegible]	[illegible]	.072	.130	.131	.115	.385	.346
.250	1.650	[illegible]	.135	.166	.197	.332	.570	.499
.350	1.650	[illegible]	.157	.212	.252	.733	.737	.657
.450	1.650	[illegible]	.233	.273	.333	.959	.892	.781
.550	1.650	[illegible]	.273	.331	.403	1.107	1.030	.902
.650	1.650	[illegible]	.342	.385	.455	1.239	1.152	1.008
.750	1.650	[illegible]	.379	.435	.528	1.359	1.259	1.100
.850	1.650	[illegible]	.415	.479	.539	1.459	1.352	1.181
.950	1.650	[illegible]	.423	[illegible]	.616	1.541	1.432	1.250
1.050	1.650	[illegible]	.537	.579	.677	1.616	1.502	1.311
1.150	1.650	[illegible]	.573	.645	.710	1.681	1.562	1.363
1.250	1.650	[illegible]	.623	.687	.773	1.737	1.619	1.403
1.350	1.650	[illegible]	.652	.725	.835	1.786	1.659	1.446
1.450	1.650	[illegible]	.678	.751	.873	1.829	1.698	1.480
1.550	1.650	[illegible]	.725	.794	.907	1.865	1.732	1.510
1.650	1.650	[illegible]	.754	.823	.936	1.898	1.762	1.536
1.750	1.650	[illegible]	.783	[illegible]	.957	1.925	1.789	1.559
1.850	1.650	[illegible]	.809	.875	.992	1.952	1.812	1.579
1.950	1.650	[illegible]	.825	.897	1.016	1.974	1.832	1.597
2.050	1.650	.600	.846	.917	1.037	1.994	1.851	1.613
2.150	1.650	[illegible]	.854	.936	1.056	2.011	1.867	1.627
2.250	1.650	.610	.883	.953	1.074	2.027	1.882	1.640
2.350	1.650	.610	.895	.959	1.090	2.041	1.895	1.651
2.450	1.650	.620	.909	.982	1.107	2.054	1.907	1.661
2.550	1.650	.620	.922	.995	1.117	2.065	1.917	1.671
2.650	1.650	.620	.933	1.007	1.129	2.076	1.927	1.679
2.750	1.650	.630	.944	1.018	1.140	2.085	1.936	1.687
2.850	1.650	.630	.951	1.027	1.151	2.094	1.944	1.694
2.950	1.650	[illegible]	.962	1.037	1.155	2.102	1.951	1.701
.050	1.750	[illegible]	.043	.030	[illegible]	.179	.165	.144
.150	1.750	[illegible]	.086	.111	.126	.354	.327	.284
.250	1.750	[illegible]	.131	.153	.195	.520	.462	.418
.350	1.750	[illegible]	.177	.205	.253	.677	.626	.542
.450	1.750	[illegible]	.224	.257	.316	.820	.759	.657
.550	1.750	[illegible]	.272	.312	.379	.959	.879	.760
.650	1.750	[illegible]	.322	.365	.438	1.065	.985	.852
.750	1.750	[illegible]	.357	.417	.479	1.169	1.080	.933
.850	1.750	[illegible]	.414	.457	.535	1.258	1.163	1.004
.950	1.750	[illegible]	.459	.514	.598	1.337	1.235	1.066
1.050	1.750	[illegible]	.508	.580	.658	1.405	1.298	1.120
1.150	1.750	[illegible]	.540	.632	.705	1.465	1.353	1.167
1.250	1.750	[illegible]	.573	.641	.747	1.517	1.401	1.207
1.350	1.750	[illegible]	.612	.678	.787	1.562	1.442	1.243
1.450	1.750	[illegible]	.645	.711	.823	1.602	1.479	1.274
1.550	1.750	[illegible]	.674	.712	.856	1.637	1.511	1.301
1.650	1.750	[illegible]	.701	.771	.886	1.667	1.539	1.325
1.750	1.750	[illegible]	.726	.795	.914	1.694	1.564	1.346
1.850	1.750	[illegible]	.749	.820	.938	1.718	1.585	1.365
1.950	1.750	[illegible]	.770	.842	.961	1.739	1.605	1.382
2.050	1.750	[illegible]	.789	.861	.982	1.758	1.622	1.396
2.150	1.750	[illegible]	.806	.879	1.001	1.775	1.638	1.410
2.250	1.750	[illegible]	.822	.896	1.018	1.790	1.652	1.422
2.350	1.750	[illegible]	.837	.911	1.033	1.803	1.664	1.433
2.450	1.750	[illegible]	.850	.924	1.048	1.815	1.675	1.442
2.550	1.750	[illegible]	.863	.937	1.061	1.826	1.686	1.451
2.650	1.750	[illegible]	.874	.949	1.073	1.836	1.695	1.459
2.750	1.750	[illegible]	.884	.959	[illegible]	1.846	1.703	1.467
2.850	1.750	[illegible]	.894	.969	[illegible]	1.854	1.711	1.473

2.750	1.750	.600	.763	.978	1.133	1.762	1.718	1.460
.050	1.850	.600	.021	[illegible]	.036	.152	.140	.120
.150	1.850	.600	.062	.077	.121	.301	.277	.237
.250	1.850	.600	.125	.138	.181	.444	.409	.350
.350	1.850	.600	.164	.175	.241	.577	.533	.456
.450	1.850	.600	.211	.245	.300	.703	.647	.553
.550	1.850	.600	.256	.274	.359	.817	.751	.641
.650	1.850	.600	.300	.343	.416	.919	.845	.721
.750	1.850	.600	.343	.371	.471	1.010	.928	.792
.850	1.850	.600	.386	.430	.524	1.091	1.002	.854
.950	1.850	.600	.427	.482	.574	1.162	1.067	.909
1.050	1.850	.600	.465	.521	.621	1.224	1.124	.957
1.150	1.850	.600	.503	.554	.665	1.279	1.174	.999
1.250	1.850	.600	.535	.601	.705	1.327	1.218	1.036
1.350	1.850	.600	.570	.635	.743	1.369	1.256	1.068
1.450	1.850	.600	.601	.667	.777	1.406	1.290	1.096
1.550	1.850	.600	.629	.675	.809	1.433	1.319	1.121
1.650	1.850	.600	.654	.723	.838	1.467	1.345	1.143
1.750	1.850	.600	.679	.748	.865	1.492	1.369	1.163
1.850	1.850	.600	.700	.771	.889	1.515	1.389	1.180
1.950	1.850	.600	.720	.791	.911	1.535	1.408	1.196
2.050	1.850	.600	.738	.811	.931	1.553	1.424	1.210
2.150	1.850	.600	.756	.828	.949	1.569	1.437	1.222
2.250	1.850	.600	.771	.844	.966	1.583	1.452	1.233
2.350	1.850	.600	.785	.859	.982	1.595	1.464	1.243
2.450	1.850	.600	.798	.872	.995	1.608	1.474	1.252
2.550	1.850	.600	.810	.884	1.009	1.618	1.484	1.261
2.650	1.850	.600	.821	.895	1.021	1.628	1.493	1.268
2.750	1.850	.600	.831	.906	1.031	1.637	1.501	1.275
2.850	1.850	.600	.841	.916	1.041	1.645	1.507	1.282
2.950	1.850	.600	.849	.925	1.051	1.652	1.515	1.287
.050	1.950	.600	.039	.046	.057	.130	.119	.101
.150	1.950	.600	.077	.092	.115	.256	.236	.199
.250	1.950	.600	.119	.139	.172	.381	.343	.294
.350	1.950	.600	.159	.185	.229	.497	.454	.383
.450	1.950	.600	.210	.232	.285	.605	.553	.466
.550	1.950	.600	.241	.278	.340	.704	.643	.542
.650	1.950	.600	.281	.324	.394	.794	.726	.611
.750	1.950	.600	.322	.366	.446	.875	.799	.672
.850	1.950	.600	.361	.411	.475	.948	.865	.727
.950	1.950	.600	.399	.453	.542	1.012	.923	.775
1.050	1.950	.600	.435	.492	.587	1.058	.975	.818
1.150	1.950	.600	.470	.529	.628	1.118	1.020	.856
1.250	1.950	.600	.502	.564	.667	1.162	1.060	.889
1.350	1.950	.600	.533	.595	.702	1.201	1.095	.918
1.450	1.950	.600	.561	.627	.735	1.236	1.126	.944
1.550	1.950	.600	.588	.654	.766	1.266	1.154	.966
1.650	1.950	.600	.612	.680	.794	1.293	1.175	.987
1.750	1.950	.600	.635	.704	.819	1.317	1.200	1.005
1.850	1.950	.600	.656	.726	.843	1.338	1.219	1.021
1.950	1.950	.600	.675	.746	.864	1.357	1.236	1.035
2.050	1.950	.600	.693	.764	.884	1.374	1.251	1.048
2.150	1.950	.600	.709	.781	.902	1.389	1.265	1.059
2.250	1.950	.600	.724	.797	.919	1.403	1.278	1.070
2.350	1.950	.600	.738	.811	.934	1.415	1.289	1.079
2.450	1.950	.600	.752	.824	.948	1.426	1.299	1.088
2.550	1.950	.600	.762	.837	.961	1.436	1.308	1.095
2.650	1.950	.600	.773	.848	.972	1.446	1.317	1.102
2.750	1.950	.600	.783	.858	.983	1.454	1.325	1.109
2.850	[illegible]							

2.950	[illegible]	[illegible]	[illegible]	.875	1.002	1.567	1.534	1.121
.050	2.050	[illegible]	.037	.019	.055	.112	.101	.085
.150	2.050	[illegible]	.075	[illegible]	.137	.221	.201	.167
.250	2.050	[illegible]	.112	.132	.154	.327	.297	.247
.350	2.050	[illegible]	.155	.176	[illegible]	.423	.389	.323
.450	2.050	[illegible]	.192	.219	.271	.522	.474	.393
.550	2.050	[illegible]	.227	.263	.323	.609	.553	.458
.650	2.050	.600	.265	.305	.373	.689	.624	.518
.750	2.050	.600	.302	.347	.422	.761	.689	.571
.850	2.050	.600	.339	.387	.469	.825	.748	.619
.950	2.050	.600	.374	.426	.513	.883	.800	.662
1.050	2.050	.600	.408	.463	.555	.934	.846	.699
1.150	2.050	[illegible]	.443	.478	.594	.780	.887	.733
1.250	2.050	.600	.470	.531	.631	1.020	.924	.763
1.350	2.050	.600	.479	.561	.665	1.056	.956	.789
1.450	2.050	.600	.525	.590	.697	1.088	.984	.812
1.550	2.050	[illegible]	.551	.617	.726	1.116	1.010	.833
1.650	2.050	.600	.574	.641	.753	1.141	1.032	.851
1.750	2.050	[illegible]	.596	.659	.776	1.164	1.053	.868
1.850	2.050	[illegible]	.616	.685	.801	1.184	1.071	.882
1.950	2.050	.600	.634	.705	.822	1.201	1.087	.895
2.050	2.050	.600	.651	.722	.841	1.217	1.101	.907
2.150	2.050	[illegible]	.667	.739	.858	1.232	1.114	.918
2.250	2.050	.600	.682	.754	.875	1.245	1.126	.928
2.350	2.050	[illegible]	.695	.758	.890	1.257	1.136	.936
2.450	2.050	.600	.707	.731	.903	1.267	1.146	.944
2.550	2.050	.600	.717	.773	.916	1.277	1.155	.952
2.650	2.050	.600	.730	.804	.927	1.286	1.163	.958
2.750	2.050	.600	.739	.814	.938	1.294	1.170	.964
2.850	2.050	.600	.748	.823	.948	1.301	1.177	.970
2.950	2.050	.600	.757	.832	.957	1.308	1.183	.975
.050	2.150	.600	.035	.042	.052	.096	.087	.071
.150	2.150	.600	.071	.093	.109	.191	.172	.141
.250	2.150	.600	.137	.125	.156	.282	.254	.208
.350	2.150	.600	.142	.167	.207	.370	.333	.272
.450	2.150	.600	.173	.206	.257	.452	.407	.332
.550	2.150	.600	.219	.249	.306	.528	.476	.388
.650	2.150	.600	.250	.289	.354	.598	.539	.439
.750	2.150	.600	.284	.320	.400	.662	.596	.485
.850	2.150	.600	.318	.365	.444	.720	.648	.527
.950	2.150	.600	.351	.402	.486	.772	.694	.564
1.050	2.150	.600	.383	.436	.526	.818	.735	.598
1.150	2.150	.600	.413	.469	.563	.860	.773	.629
1.250	2.150	.600	.442	.500	.578	.897	.806	.654
1.350	2.150	.600	.467	.529	.631	.930	.835	.676
1.450	2.150	.600	.494	.557	.661	.959	.862	.699
1.550	2.150	.600	.518	.582	.609	.986	.885	.717
1.650	2.150	.600	.540	.606	.715	1.009	.906	.734
1.750	2.150	.600	.561	.628	.739	1.030	.925	.749
1.850	2.150	.600	.540	.648	.761	1.049	.941	.762
1.950	2.150	.600	.578	.667	.782	1.066	.956	.774
2.050	2.150	.600	.614	.614	.801	1.081	.970	.785
2.150	2.150	.600	.629	.700	.818	1.094	.982	.795
2.250	2.150	.600	.643	.715	.834	1.107	.993	.804
2.350	2.150	.600	.656	.728	.848	1.113	1.003	.812
2.450	2.150	.600	.666	.711	.862	1.128	1.012	.819
2.550	2.150	.600	[illegible]	.753	.874	1.137	1.021	.826
2.650	2.150	.600	.693	.763	.886	1.146	1.028	.832
2.750	2.150	.600	.703	.773	.876	1.153	1.035	.836
2.850	2.150	.600	.703	.783	.906	1.161	1.042	.843

2.750	2.150	.600	.717	.771	.915	1.137	1.047	.848
.050	2.250	.600	.031	.036	.050	.063	.079	.050
.150	2.250	.600	.067	.077	.095	.155	.147	.118
.250	2.250	.600	.101	.117	.140	.244	.218	.175
.350	2.250	.600	.135	.150	.178	.320	.286	.230
.450	2.250	.600	.167	.177	.244	.392	.353	.281
.550	2.250	.600	.202	.235	.290	.459	.410	.328
.650	2.250	.600	.235	.273	.335	.521	.465	.372
.750	2.250	.650	.268	.310	.379	.578	.516	.412
.850	2.250	.600	.300	.345	.421	.630	.562	.449
.950	2.250	.600	.331	.379	.461	.676	.603	.481
1.050	2.250	.600	.360	.412	.478	.718	.641	.511
1.150	2.250	.600	.389	.443	.534	.756	.674	.537
1.250	2.250	.600	.416	.473	.567	.790	.705	.561
1.350	2.250	.600	.441	.500	.579	.820	.731	.582
1.450	2.250	.600	.465	.526	.626	.847	.755	.600
1.550	2.250	.600	.488	.551	.655	.872	.776	.617
1.650	2.250	.600	.509	.573	.680	.894	.796	.632
1.750	2.250	.600	.529	.594	.703	.913	.813	.646
1.850	2.250	.600	.547	.619	.725	.931	.829	.658
1.951	2.250	.600	.564	.632	.745	.946	.842	.669
2.050	2.250	.600	.550	.649	.753	.961	.855	.679
2.150	2.250	.600	.595	.659	.735	.774	.866	.688
2.250	2.250	.600	.608	.679	.776	.985	.877	.696
2.350	2.250	.600	.621	.692	.810	.996	.886	.704
2.450	2.250	.600	.633	.704	.823	1.006	.895	.710
2.550	2.250	.600	.644	.716	.836	1.014	.903	.717
2.650	2.250	.600	.654	.726	.847	1.022	.910	.722
2.750	2.250	.600	.663	.736	.857	1.030	.916	.728
2.850	2.250	.600	.672	.745	.867	1.037	.923	.733
2.950	2.250	.600	.680	.754	.876	1.043	.929	.737
.050	2.350	.600	.032	.038	.047	.072	.064	.050
.150	2.350	.600	.064	.075	.094	.145	.127	.100
.250	2.350	.600	.096	.113	.140	.212	.186	.148
.350	2.350	.600	.123	.150	.186	.278	.247	.194
.450	2.350	.600	.150	.157	.231	.341	.302	.237
.550	2.350	.600	.191	.223	.276	.400	.354	.278
.650	2.350	.600	.223	.259	.318	.455	.403	.316
.750	2.350	.600	.253	.293	.360	.505	.447	.350
.850	2.350	.600	.283	.327	.379	.552	.488	.382
.950	2.350	.600	.312	.359	.437	.594	.525	.410
1.050	2.350	.600	.340	.370	.473	.632	.556	.436
1.150	2.350	.600	.367	.419	.507	.666	.588	.459
1.250	2.350	.600	.392	.447	.539	.697	.615	.480
1.350	2.350	.600	.416	.474	.569	.725	.640	.499
1.450	2.350	.600	.439	.498	.597	.750	.662	.515
1.550	2.350	.600	.460	.522	.623	.772	.682	.531
1.650	2.350	.600	.481	.543	.643	.792	.699	.544
1.750	2.350	.600	.499	.563	.670	.810	.715	.556
1.850	2.350	.600	.517	.592	.691	.827	.730	.567
1.950	2.350	.600	.534	.600	.710	.842	.743	.577
2.050	2.350	.600	.549	.616	.728	.855	.754	.586
2.150	2.350	.590	.563	.631	.745	.867	.765	.595
2.250	2.350	.600	.576	.645	.760	.878	.775	.602
2.350	2.350	.600	.589	.658	.774	.888	.784	.609
2.450	2.350	.600	.600	.670	.787	.898	.792	.615
2.550	2.350	.600	.611	.682	.779	.906	.797	.621
2.650	2.350	.600	.621	.692	.811	.914	.806	.626
2.750	2.350	.600	.632	.702	.821	.921	.812	.631
2.850	2.350	.600	.638	.711	.831	.927	.818	.636

2.950	[illegible]	[illegible]	[illegible]	.719	[illegible]	[illegible]	.623	.690
.050	[illegible]	[illegible]	.030	.036	.045	.063	.055	.042
.150	[illegible]	[illegible]	.061	.072	[illegible]	.124	.109	.084
.250	[illegible]	[illegible]	.091	.107	.126	[illegible]	.162	.124
.350	2.450	[illegible]	.122	.142	.177	.242	.213	.163
.450	2.450	.600	.152	.177	.220	.297	.261	.200
.550	2.450	.600	.181	.212	.262	.349	.307	.235
.650	2.450	.600	.211	.245	.302	.393	.349	.267
.750	2.450	.600	.243	.278	.342	.443	.388	.297
.850	2.450	.600	.268	.310	.379	.484	.424	.324
.950	2.450	.600	.295	.345	.415	.522	.457	.349
1.050	2.450	.600	.321	.369	.450	.556	.487	.372
1.150	2.450	.600	.348	.377	.482	.587	.514	.392
1.250	2.450	.600	.375	.424	.513	.615	.539	.410
1.350	2.450	.600	.393	.419	.542	.641	.561	.427
1.450	2.450	.600	.415	.473	.569	.664	.581	.442
1.550	2.450	.600	.435	.495	.574	.685	.599	.455
1.650	2.450	.600	.455	.516	.617	.703	.615	.467
1.750	2.450	.600	.473	.535	.639	.720	.630	.478
1.850	2.450	.600	.490	.553	.657	.736	.643	.488
1.950	2.450	.600	.506	.570	.678	.750	.655	.497
2.050	2.450	.600	.520	.586	.676	.762	.666	.505
2.150	2.450	.600	.534	.601	.712	.774	.676	.513
2.250	2.450	.600	.547	.614	.727	.784	.685	.520
2.350	2.450	.600	.559	.627	.741	.793	.693	.526
2.450	2.450	.600	.570	.639	.754	.802	.701	.532
2.550	2.450	.600	.581	.650	.766	.810	.708	.537
2.650	2.450	.600	.590	.660	.777	.817	.714	.542
2.750	2.450	.600	.599	.670	.787	.824	.720	.546
2.850	2.450	.600	.608	.679	.797	.830	.725	.550
2.950	2.450	.600	.615	.687	.805	.835	.730	.554
.050	2.550	.600	.029	.034	.043	.054	.047	.036
.150	2.550	.600	.058	.068	.085	.108	.094	.071
.250	2.550	.600	.087	.102	.127	.161	.140	.106
.350	2.550	.600	.115	.135	.166	.212	.184	.138
.450	2.550	.600	.144	.168	.207	.260	.226	.169
.550	2.550	.600	.172	.201	.249	.306	.266	.199
.650	2.550	.600	.200	.233	.287	.349	.303	.226
.750	2.550	.600	.227	.264	.325	.389	.337	.252
.850	2.550	.600	.253	.294	.361	.426	.369	.275
.950	2.550	.600	.279	.323	.395	.459	.398	.297
1.050	2.550	.600	.304	.350	.428	.490	.425	.316
1.150	2.550	.600	.328	.377	.459	.519	.449	.334
1.250	2.550	.600	.351	.402	.488	.544	.471	.350
1.350	2.550	.600	.372	.426	.516	.568	.492	.365
1.450	2.550	.600	.393	.449	.542	.587	.510	.378
1.550	2.550	.600	.413	.470	.566	.608	.526	.390
1.650	2.550	.600	.431	.490	.589	.625	.541	.400
1.750	2.550	.600	.448	.509	.610	.641	.554	.410
1.850	2.550	.600	.465	.527	.630	.655	.567	.419
1.950	2.550	.600	.480	.543	.648	.668	.578	.427
2.050	2.550	.600	.494	.558	.665	.680	.588	.435
2.150	2.550	.600	.508	.573	.681	.691	.597	.441
2.250	2.550	.600	.521	.586	.696	.700	.606	.447
2.350	2.550	.600	.532	.598	.710	.709	.613	.453
2.450	2.550	.600	.542	.610	.722	.718	.620	.458
2.550	2.550	.600	.553	.621	.734	.725	.627	.463
2.650	2.550	.600	.562	.631	.745	.732	.633	.467
2.750	2.550	.600	.571	.640	.755	.738	.638	.472
2.850	2.550	.600	.579	.649	.765	.744	.643	.475

2.950	2.550	.600	.5[illegible]7	.[illegible]57	.[illegible]71	.650	.618	.479
.050	2.650	.600	.0[illegible]	.032	.0[illegible]	.046	.041	.030
.150	2.650	.600	.0[illegible]	.0[illegible]	.0[illegible]	.0[illegible]	.081	.059
.250	2.650	.600	.092	.077	.121	.141	.121	.088
.350	2.650	.600	.115	.124	.160	.1[illegible]	.159	.116
.450	2.650	.600	.137	.159	.197	.220	.196	.142
.550	2.650	.600	.163	.191	.237	.258	.230	.167
.650	2.650	.600	.190	.221	.273	.306	.263	.191
.750	2.650	.600	.215	.250	.309	.342	.293	.213
.850	2.650	.600	.240	.279	.343	.375	.322	.233
.950	2.650	.600	.265	.306	.376	.405	.347	.251
1.050	2.650	.600	.288	.333	.407	.433	.371	.268
1.150	2.650	.600	.311	.359	.437	.459	.393	.284
1.250	2.650	.600	.333	.382	.465	.482	.413	.298
1.350	2.650	.600	.353	.405	.492	.503	.431	.311
1.450	2.650	.600	.373	.427	.517	.523	.447	.322
1.550	2.650	.600	.372	.447	.540	.540	.462	.333
1.650	2.650	.600	.409	.467	.562	.556	.476	.342
1.750	2.650	.600	.426	.485	.583	.571	.488	.351
1.850	2.650	.600	.442	.502	.602	.584	.500	.359
1.950	2.650	.600	.456	.513	.623	.596	.510	.365
2.050	2.650	.600	.470	.533	.637	.607	.519	.372
2.150	2.650	.600	.483	.546	.652	.617	.528	.378
2.250	2.650	.600	.495	.559	.667	.626	.535	.384
2.350	2.650	.600	.506	.572	.680	.635	.543	.389
2.450	2.650	.600	.517	.583	.693	.643	.549	.394
2.550	2.650	.600	.527	.593	.704	.650	.555	.398
2.650	2.650	.600	.536	.603	.715	.656	.561	.402
2.750	2.650	.600	.545	.612	.725	.662	.566	.406
2.850	2.650	.600	.553	.621	.735	.668	.571	.409
2.950	2.650	.600	.560	.629	.743	.673	.575	.412
.050	2.750	.600	.026	.031	.039	.042	.035	.025
.150	2.750	.600	.052	.062	.077	.083	.070	.050
.250	2.750	.600	.078	.092	.115	.123	.105	.074
.350	2.750	.600	.104	.122	.152	.162	.138	.097
.450	2.750	.600	.130	.152	.189	.200	.170	.120
.550	2.750	.600	.155	.182	.225	.236	.200	.141
.650	2.750	.600	.180	.210	.260	.269	.229	.161
.750	2.750	.600	.205	.238	.294	.301	.255	.179
.850	2.750	.600	.229	.265	.327	.330	.280	.196
.950	2.750	.600	.251	.291	.358	.358	.303	.212
1.050	2.750	.600	.274	.317	.388	.383	.324	.227
1.150	2.750	.600	.295	.341	.417	.406	.344	.240
1.250	2.750	.600	.316	.364	.444	.427	.362	.252
1.350	2.750	.600	.336	.386	.470	.447	.378	.263
1.450	2.750	.600	.354	.407	.494	.464	.393	.274
1.550	2.750	.600	.372	.426	.516	.481	.406	.283
1.650	2.750	.600	.389	.445	.538	.495	.419	.291
1.750	2.750	.600	.405	.462	.558	.509	.430	.299
1.850	2.750	.600	.420	.479	.576	.521	.440	.306
1.950	2.750	.600	.434	.494	.594	.532	.450	.312
2.050	2.750	.600	.448	.509	.610	.543	.458	.318
2.150	2.750	.600	.461	.522	.625	.552	.466	.323
2.250	2.750	.600	.472	.535	.640	.561	.473	.328
2.350	2.750	.600	.483	.547	.653	.569	.480	.333
2.450	2.750	.600	.493	.559	.665	.576	.486	.337
2.550	2.750	.600	.503	.568	.677	.582	.492	.341
2.650	2.750	.600	.512	.578	.687	.589	.497	.344
2.750	2.750	.600	.520	.587	.697	.594	.502	.348
2.850	2.750	[illegible]	.52[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

2.750	2.750	[illegible]	.535	[illegible]	.715	[illegible]	.510	.354
.050	2.[illegible]	[illegible]	[illegible]	.027	.047	.035	.031	.021
.150	2.[illegible]	[illegible]	[illegible]	[illegible]	.073	.073	.061	.041
.250	2.[illegible]	[illegible]	.073	[illegible]	.107	[illegible]	.091	.062
.350	2.[illegible]	[illegible]	.092	.117	.135	.142	.119	.081
.450	2.[illegible]	[illegible]	.124	.145	.136	.176	.147	.100
.550	2.[illegible]	[illegible]	.143	.173	.215	.207	.174	.113
.650	2.850	.600	.171	.206	.240	.237	.197	.135
.750	2.850	[illegible]	.193	.227	.280	.265	.222	.150
.850	2.850	.600	.217	.253	.312	.292	.244	.165
.950	2.850	.600	.232	.273	.342	.316	.265	.179
1.050	2.850	.600	.260	.302	.370	.339	.283	.191
1.150	2.850	.600	.281	.325	.398	.360	.301	.202
1.250	2.850	.600	.303	.347	.424	.377	.317	.213
1.350	2.850	.600	.317	.360	.449	.397	.331	.222
1.450	2.850	.600	.337	.388	.472	.413	.345	.231
1.550	2.850	.600	.351	.407	.494	.428	.357	.239
1.650	2.850	.600	.371	.425	.515	.441	.368	.247
1.750	2.850	.600	.3[illegible]	.441	.534	.454	.379	.253
1.850	2.850	.600	.403	.457	.552	.465	.388	.259
1.950	2.850	.600	.414	.472	.567	.476	.397	.265
2.050	2.850	.600	.427	.486	.583	.485	.405	.270
2.150	2.850	.600	.439	.499	.598	.494	.412	.275
2.250	2.850	.600	.451	.512	.614	.502	.418	.279
2.350	2.850	.600	.461	.523	.627	.509	.425	.283
2.450	2.850	.600	.471	.534	.639	.515	.430	.287
2.550	2.850	.600	.481	.544	.650	.523	.435	.290
2.650	2.850	.600	.490	.554	.661	.528	.440	.293
2.750	2.850	.600	.497	.563	.671	.534	.445	.296
2.850	2.850	.600	.506	.571	.680	.539	.449	.299
2.950	2.850	.600	.513	.579	.688	.543	.453	.302
.050	2.950	.600	.029	.028	.035	.032	.027	.017
.150	2.950	.600	.049	.056	.070	.059	.053	.034
.250	2.950	.600	.071	.084	.104	.095	.079	.051
.350	2.950	.600	.095	.111	.136	.125	.104	.068
.450	2.950	.600	.117	.138	.172	.154	.125	.083
.550	2.950	.600	.141	.165	.205	.182	.151	.098
.650	2.950	.600	.163	.191	.237	.209	.173	.112
.750	2.950	.600	.185	.216	.263	.234	.193	.125
.850	2.950	.600	.207	.241	.297	.258	.213	.138
.950	2.950	.600	.226	.265	.326	.280	.231	.149
1.050	2.950	.600	.247	.287	.354	.300	.248	.160
1.150	2.950	.600	.267	.310	.380	.319	.263	.170
1.250	2.950	.600	.286	.331	.405	.337	.277	.179
1.350	2.950	.600	.304	.351	.429	.353	.290	.187
1.450	2.950	.600	.321	.370	.451	.369	.303	.194
1.550	2.950	.600	.335	.388	.473	.391	.314	.201
1.650	2.950	.600	.353	.406	.493	.374	.324	.207
1.750	2.950	.600	.363	.422	.512	.405	.333	.213
1.850	2.950	.600	.382	.437	.529	.416	.342	.218
1.950	2.950	.600	.395	.452	.546	.425	.350	.223
2.050	2.950	.600	.408	.465	.561	.434	.357	.228
2.150	2.950	.600	.420	.478	.576	.442	.363	.232
2.250	2.950	.600	.431	.490	.590	.450	.370	.236
2.350	2.950	.600	.441	.502	.602	.457	.375	.239
2.450	2.950	.600	.451	.512	.614	.463	.380	.243
2.550	2.950	.600	.460	.522	.625	.469	.385	.246
2.650	2.950	.600	.469	.531	.636	.474	.390	.248
2.750	2.950	.600	.477	.540	.646	.480	.394	.251
2.850	2.950	.600	.481	.549	.655	.484	.398	.254

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2.750	2.950	[illegible]	.597	.558	.633	.159	.401	.256
.350	.250	1.000	-.167	-.175	-.237	-.151	-.163	-.233
.150	.250	1.000	-.257	-.315	-.312	[illegible]	-.304	-.400
.250	.250	1.000	-.261	-.344	-.432	-.264	-.326	-.465
.350	.250	1.000	-.172	-.276	-.447	-.150	-.254	-.429
.450	.050	1.000	-.015	-.137	-.340	.015	-.113	-.117
.550	.050	1.000	.179	.042	-.186	.205	.066	-.160
.650	.050	1.000	.334	.236	-.012	.412	.263	.015
.750	.050	1.000	.535	.427	.153	.614	.455	.191
.850	.050	1.000	.772	.606	.329	.802	.635	.357
.950	.050	1.000	.941	.769	.481	.971	.798	.510
1.050	.050	1.000	1.091	.913	.617	1.122	.943	.696
1.150	.050	1.000	1.223	1.041	.746	1.254	1.071	.767
1.250	.050	1.000	1.333	1.153	.843	1.369	1.183	.872
1.350	.050	1.000	1.437	1.250	.936	1.469	1.280	.965
1.450	.050	1.000	1.525	1.335	1.017	1.557	1.365	1.046
1.550	.050	1.000	1.603	1.419	1.089	1.634	1.440	1.117
1.650	.050	1.000	1.673	1.475	1.150	1.701	1.505	1.179
1.750	.050	1.000	1.729	1.532	1.204	1.760	1.562	1.234
1.850	.050	1.000	1.783	1.582	1.253	1.812	1.613	1.282
1.950	.050	1.000	1.825	1.627	1.275	1.857	1.657	1.324
2.050	.050	1.000	1.867	1.667	1.333	1.898	1.697	1.362
2.150	.050	1.000	1.903	1.702	1.367	1.934	1.732	1.396
2.250	.050	1.000	1.935	1.735	1.397	1.966	1.764	1.426
2.350	.050	1.000	1.964	1.761	1.425	1.995	1.792	1.453
2.450	.050	1.000	1.990	1.736	1.446	2.021	1.817	1.477
2.550	.050	1.000	2.013	1.807	1.469	2.044	1.840	1.499
2.650	.050	1.000	2.034	1.830	1.489	2.065	1.860	1.519
2.750	.050	1.000	2.053	1.848	1.507	2.084	1.879	1.536
2.850	.050	1.000	2.071	1.865	1.523	2.102	1.896	1.553
2.950	.050	1.000	2.086	1.881	1.538	2.113	1.911	1.567
.050	.150	1.000	-.153	-.132	-.227	-.076	-.125	-.174
.150	.150	1.000	-.217	-.333	-.395	-.146	-.195	-.290
.250	.150	1.000	-.251	-.330	-.452	-.098	-.179	-.316
.350	.150	1.000	-.165	-.265	-.431	.022	-.061	-.253
.450	.150	1.000	-.013	-.130	-.326	.196	.077	-.125
.550	.150	1.000	.175	.043	-.176	.403	.267	.041
.650	.150	1.000	.375	.232	-.006	.616	.468	.222
.750	.150	1.000	.571	.419	.165	.820	.663	.401
.850	.150	1.000	.755	.575	.328	1.010	.845	.569
.950	.150	1.000	.921	.753	.478	1.180	1.000	.723
1.050	.150	1.000	1.069	.897	.612	1.331	1.154	.859
1.150	.150	1.000	1.179	1.023	.731	1.463	1.282	.980
1.250	.150	1.000	1.313	1.134	.836	1.578	1.393	1.086
1.350	.150	1.000	1.417	1.230	.927	1.679	1.491	1.178
1.450	.150	1.000	1.479	1.315	1.006	1.766	1.576	1.259
1.550	.150	1.000	1.575	1.339	1.070	1.843	1.650	1.330
1.650	.150	1.000	1.642	1.453	1.140	1.910	1.715	1.392
1.750	.150	1.000	1.720	1.510	1.174	1.963	1.773	1.446
1.850	.150	1.000	1.752	1.560	1.242	2.029	1.823	1.494
1.950	.150	1.000	1.797	1.605	1.284	2.066	1.868	1.537
2.050	.150	1.000	1.833	1.644	1.322	2.106	1.907	1.575
2.150	.150	1.000	1.874	1.679	1.355	2.142	1.942	1.608
2.250	.150	1.000	1.906	1.711	1.385	2.175	1.973	1.638
2.350	.150	1.000	1.939	1.737	1.412	2.203	2.002	1.665
2.450	.150	1.000	1.963	1.761	1.436	2.229	2.027	1.689
2.550	.150	1.000	1.993	1.736	1.458	2.253	2.049	1.711
2.650	.150	1.000	2.019	1.817	1.477	2.274	[illegible]	[illegible]

2.950	.150	1.000	2.127	1.833	1.527	2.326	2.121	1.779
.050	.250	1.000	-.191	-.167	-.210	[illegible]	-.024	-.072
.150	.250	1.000	-.257	-.270	[illegible]	.092	-.016	[illegible]
.250	.250	1.000	-.231	-.333	-.429	.156	.076	-.055
.350	.250	1.000	-.151	-.343	-.377	.321	.221	.033
.450	.250	1.000	-.115	-.118	-.296	.524	.408	.211
.550	.250	1.000	.167	.116	-.156	.742	.616	.395
.650	.250	1.000	.367	.225	.005	.971	.826	.535
.750	.250	1.000	.545	.414	.169	1.191	1.027	.775
.850	.250	1.000	.722	.574	.326	1.373	1.211	.941
.950	.250	1.000	.853	.729	.471	1.545	1.376	1.096
1.050	.250	1.000	1.024	.867	.602	1.676	1.522	1.233
1.150	.250	1.000	1.153	.990	.718	1.829	1.650	1.354
1.250	.250	1.000	1.265	1.078	.821	1.944	1.762	1.459
1.350	.250	1.000	1.362	1.173	.911	2.044	1.860	1.552
1.450	.250	1.000	1.443	1.276	.990	2.132	1.944	1.632
1.550	.250	1.000	1.523	1.349	1.059	2.206	2.019	1.703
1.650	.250	1.000	1.588	1.413	1.120	2.275	2.084	1.765
1.750	.250	1.000	1.646	1.469	1.174	2.333	2.141	1.819
1.850	.250	1.000	1.697	1.519	1.221	2.385	2.191	1.867
1.950	.250	1.000	1.742	1.563	1.263	2.431	2.235	1.909
2.050	.250	1.000	1.782	1.602	1.301	2.471	2.274	1.947
2.150	.250	1.000	1.819	1.636	1.334	2.507	2.309	1.980
2.250	.250	1.000	1.850	1.668	1.364	2.539	2.341	2.010
2.350	.250	1.000	1.878	1.695	1.390	2.568	2.369	2.037
2.450	.250	1.000	1.904	1.720	1.414	2.594	2.374	2.061
2.550	.250	1.000	1.927	1.743	1.436	2.617	2.416	2.083
2.650	.250	1.000	1.948	1.763	1.456	2.639	2.437	2.102
2.750	.250	1.000	1.967	1.782	1.473	2.657	2.456	2.120
2.850	.250	1.000	1.984	1.799	1.490	2.674	2.472	2.136
2.950	.250	1.000	2.002	1.814	1.504	2.690	2.488	2.151
.050	.350	1.000	-.124	-.115	-.189	.123	.096	.050
.150	.350	1.000	-.201	-.245	-.315	.272	.213	.130
.250	.350	1.000	-.209	-.268	-.375	.453	.301	.254
.350	.350	1.000	-.133	-.219	-.349	.679	.582	.420
.450	.350	1.000	-.005	-.100	-.250	.919	.805	.614
.550	.350	1.000	.158	.050	-.135	1.163	1.039	.820
.650	.350	1.000	.335	.217	.021	1.371	1.257	1.023
.750	.350	1.000	.511	.395	.175	1.614	1.465	1.215
.850	.350	1.000	.675	.575	.324	1.810	1.652	1.389
.950	.350	1.000	.831	.673	.453	1.903	1.817	1.545
1.050	.350	1.000	.969	.826	.588	2.135	1.966	1.683
1.150	.350	1.000	1.092	.945	.710	2.268	2.094	1.804
1.250	.350	1.000	1.200	1.050	.800	2.383	2.205	1.909
1.350	.350	1.000	1.294	1.142	.887	2.483	2.303	2.001
1.450	.350	1.000	1.373	1.223	.965	2.570	2.387	2.082
1.550	.350	1.000	1.451	1.274	1.033	2.646	2.461	2.152
1.650	.350	1.000	1.515	1.337	1.092	2.713	2.526	2.213
1.750	.350	1.000	1.572	1.412	1.115	2.771	2.582	2.267
1.850	.350	1.000	1.622	1.461	1.192	2.823	2.632	2.315
1.950	.350	1.000	1.667	1.514	1.234	2.868	2.676	2.357
2.050	.350	1.000	1.706	1.543	1.271	2.903	2.716	2.395
2.150	.350	1.000	1.741	1.577	1.304	2.944	2.750	2.420
2.250	.350	1.000	1.773	1.609	1.333	2.976	2.782	2.457
2.350	.350	1.000	1.831	1.636	1.360	3.005	2.809	2.484
2.450	.350	1.000	1.827	1.660	1.383	3.030	2.834	2.508
2.550	.350	1.000	1.850	1.683	1.405	3.053	2.857	2.530
2.650	.350	1.000	1.873	1.703	1.424	3.074	2.877	2.549
2.750	.350	1.000	1.889	1.722	1.442	3.093	2.896	2.567
2.850	.350	1.000	1.906	1.738	1.460	3.110	2.913	2.583

2.950	[illegible]	1.000	1.722	1.755	1.473	3.126	2.920	2.577
.050	.450	1.000	-.105	-.124	-.136	.237	.211	.168
.150	.450	1.000	-.170	-.218	-.270	[illegible]	.433	.350
.250	.450	1.000	-.173	-.237	-.316	.750	.677	.555
.350	.450	1.000	-.111	-.150	-.275	1.026	.932	.770
.450	.450	1.000	.063	-.079	-.215	1.301	1.191	1.009
.550	.450	1.000	.159	.057	-.092	1.666	1.443	1.237
.650	.450	1.000	.310	.209	.040	1.313	1.678	1.453
.750	.450	1.000	.473	.359	.192	2.037	1.872	1.651
.850	.450	1.000	.620	.513	.322	2.236	2.083	1.829
.950	.450	1.000	.772	.652	.452	2.511	2.252	1.937
1.050	.450	1.000	.907	.778	.571	2.563	2.399	2.125
1.150	.450	1.000	1.019	.871	.679	2.695	2.527	2.246
1.250	.450	1.000	1.123	.972	.774	2.810	2.638	2.351
1.350	.450	1.000	1.214	1.051	.857	2.913	2.735	2.442
1.450	.450	1.000	1.295	1.139	.934	2.997	2.819	2.522
1.550	.450	1.000	1.364	1.229	1.000	3.073	2.892	2.592
1.650	.450	1.000	1.427	1.270	1.059	3.139	2.956	2.653
1.750	.450	1.000	1.484	1.344	1.110	3.197	3.013	2.706
1.850	.450	1.000	1.533	1.372	1.156	3.248	3.062	2.753
1.950	.450	1.000	1.577	1.433	1.197	3.293	3.106	2.795
2.050	.450	1.000	1.616	1.472	1.234	3.333	3.145	2.832
2.150	.450	1.000	1.650	1.506	1.266	3.369	3.180	2.865
2.250	.450	1.000	1.681	1.537	1.295	3.400	3.211	2.895
2.350	.450	1.000	1.709	1.564	1.322	3.429	3.238	2.921
2.450	.450	1.000	1.734	1.590	1.315	3.454	3.263	2.945
2.550	.450	1.000	1.757	1.611	1.366	3.477	3.286	2.966
2.650	.450	1.000	1.775	1.631	1.385	3.498	3.306	2.986
2.750	.450	1.000	1.795	1.649	1.403	3.517	3.324	3.003
2.850	.450	1.000	1.813	1.656	1.419	3.534	3.341	3.019
2.950	.450	1.000	1.829	1.671	1.434	3.550	3.356	3.034
.050	.550	1.000	-.085	-.101	-.127	.330	.305	.265
.150	.550	1.000	-.139	-.159	-.221	.660	.613	.533
.250	.550	1.000	-.110	-.145	-.259	.989	.920	.805
.350	.550	1.000	-.055	-.113	-.230	1.310	1.222	1.076
.450	.550	1.000	.012	-.055	-.150	1.616	1.512	1.339
.550	.550	1.000	.142	.035	-.063	1.900	1.782	1.586
.650	.550	1.000	.256	.201	.061	2.157	2.028	1.813
.750	.550	1.000	.433	.342	.191	2.386	2.249	2.017
.850	.550	1.000	.576	.490	.319	2.568	2.441	2.197
.950	.550	1.000	.739	.609	.411	2.763	2.611	2.356
1.050	.550	1.000	.832	.727	.553	2.716	2.750	2.494
1.150	.550	1.000	.942	.834	.655	3.043	2.885	2.614
1.250	.550	1.000	1.040	.930	.716	3.163	2.996	2.719
1.350	.550	1.000	1.127	1.015	.827	3.262	3.092	2.809
1.450	.550	1.000	1.205	1.079	.899	3.348	3.176	2.889
1.550	.550	1.000	1.274	1.157	.964	3.423	3.248	2.958
1.650	.550	1.000	1.334	1.217	1.020	3.489	3.312	3.018
1.750	.550	1.000	1.388	1.269	1.071	3.546	3.368	3.071
1.850	.550	1.000	1.436	1.316	1.115	3.597	3.417	3.118
1.950	.550	1.000	1.479	1.358	1.156	3.642	3.461	3.159
2.050	.550	1.000	1.517	1.395	1.192	3.681	3.499	3.196
2.150	.550	1.000	1.551	1.426	1.224	3.717	3.534	3.228
2.250	.550	1.000	1.581	1.456	1.252	3.748	3.564	3.258
2.350	.550	1.000	1.609	1.435	1.278	3.776	3.592	3.284
2.450	.550	1.000	1.634	1.509	1.301	3.802	3.616	3.307
2.550	.550	1.000	1.655	1.531	1.323	3.825	3.639	3.329
2.650	.550	1.000	1.676	1.551	1.342	3.845	3.659	3.348
2.750	.550	1.000	1.673	1.567	1.359	3.864	3.677	3.365

2.950	.550	1.000	1.727	[illegible]	1.349	[illegible]	3.709	3.395
.050	.650	1.000	-.067	-.079	-.100	[illegible]	.372	.334
.150	.650	1.000	-.103	-.123	-.173	[illegible]	.735	.563
.250	.650	1.000	-.103	-.143	-.212	[illegible]	[illegible]	.904
.350	.650	1.000	[illegible]	-.107	[illegible]	[illegible]	1.427	1.255
.450	.650	1.000	.023	-.030	-.120	[illegible]	1.739	1.575
.550	.650	1.000	.135	.074	[illegible]	2.134	2.022	1.836
.550	.650	1.000	.263	.175	.062	2.373	2.275	2.070
.750	.650	1.000	.375	.322	.200	2.635	2.498	2.278
.850	.650	1.000	.525	.447	.317	2.833	2.693	2.460
.950	.650	1.000	.543	.566	.430	3.009	2.862	2.619
1.050	.650	1.000	.761	.676	.534	3.161	3.007	2.756
1.150	.650	1.000	.849	.776	.630	3.292	3.136	2.876
1.250	.650	1.000	.957	.856	.716	3.436	3.246	2.979
1.350	.650	1.000	1.040	.947	.773	3.534	3.341	3.069
1.450	.650	1.000	1.114	1.019	.863	3.589	3.423	3.147
1.550	.650	1.000	1.179	1.084	.924	3.664	3.495	3.215
1.650	.650	1.000	1.233	1.141	.979	3.729	3.558	3.275
1.750	.650	1.000	1.293	1.192	1.028	3.796	3.614	3.327
1.850	.650	1.000	1.335	1.237	1.072	3.836	3.662	3.373
1.950	.650	1.000	1.373	1.278	1.111	[illegible]	3.705	3.414
2.050	.650	1.000	1.415	1.314	1.146	3.920	3.744	3.450
2.150	.650	1.000	1.443	1.347	1.176	3.955	3.778	3.483
2.250	.650	1.000	1.479	1.376	1.206	3.986	3.808	3.511
2.350	.650	1.000	1.505	1.402	1.231	4.014	3.835	3.537
2.450	.650	1.000	1.530	1.426	1.254	4.039	3.860	3.561
2.550	.650	1.000	1.552	1.448	1.275	4.062	3.882	3.582
2.650	.650	1.000	1.572	1.458	1.294	4.082	3.902	3.601
2.750	.650	1.000	1.592	1.485	1.311	4.101	3.920	3.618
2.850	.650	1.000	1.608	1.502	1.327	4.119	3.936	3.633
2.950	.650	1.000	1.622	1.516	1.341	4.133	3.951	3.646
.050	.750	1.000	[illegible]	[illegible]	-.075	.451	.409	.374
.150	.750	1.000	[illegible]	-.129	-.130	[illegible]	.809	.740
.250	.750	1.000	-.078	-.105	-.150	1.250	1.190	1.089
.350	.750	1.000	-.033	-.073	-.130	1.522	1.544	1.415
.450	.750	1.000	.035	-.006	-.075	1.760	1.868	1.713
.550	.750	1.000	.132	.085	.006	2.253	2.157	1.982
.650	.750	1.000	.244	.191	.104	2.530	2.413	2.220
.750	.750	1.000	.361	.304	.209	2.763	2.637	2.428
.850	.750	1.000	.478	.417	.315	2.765	2.832	2.610
.950	.750	1.000	.589	.525	.418	3.140	3.000	2.768
1.050	.750	1.000	.693	.627	.515	3.290	3.145	2.904
1.150	.750	1.000	.739	.720	.604	3.420	3.271	3.022
1.250	.750	1.000	.876	.805	.636	3.532	3.379	3.124
1.350	.750	1.000	.954	.881	.759	3.630	3.473	3.212
1.450	.750	1.000	1.024	.950	.825	3.714	3.555	3.289
1.550	.750	1.000	1.087	1.011	.884	3.787	3.626	3.356
1.650	.750	1.000	1.143	1.066	.937	3.852	3.688	3.415
1.750	.750	1.000	1.193	1.115	.985	3.910	3.742	3.467
1.850	.750	1.000	1.237	1.159	1.027	3.758	3.791	3.512
1.950	.750	1.000	1.273	1.193	1.055	4.001	3.833	3.552
2.050	.750	1.000	1.319	1.234	1.099	4.040	3.871	3.588
2.150	.750	1.000	1.347	1.265	1.130	4.075	3.904	3.620
2.250	.750	1.000	1.376	1.274	1.157	4.106	3.934	3.648
2.350	.750	1.000	1.402	1.320	1.132	4.134	3.961	3.674
2.450	.750	1.000	1.423	1.343	1.205	4.153	3.985	3.697
2.550	.750	1.000	1.448	1.365	1.226	4.181	4.007	3.718
2.650	.750	1.000	1.463	1.384	1.244	4.201	4.027	3.736
2.750	.750	1.000	1.486	1.402	1.261	4.220	4.045	3.754
2.850	.750	1.000	1.502	1.418	1.277	4.236	4.061	3.769

2.750	.750	1.000	1.417	1.432	1.271	4.252	4.076	3.783
.050	.850	1.000	-.036	-.043	-.059	.443	.423	.391
.150	.850	1.000	-.057	-.073	-.093	.874	.835	.773
.250	.850	1.000	-.052	-.071	-.109	1.281	1.224	1.130
.350	.850	1.000	-.015	-.032	-.083	1.657	1.584	1.464
.450	.850	1.000	.047	.016	-.039	1.997	1.910	1.766
.550	.850	1.000	.130	.095	.037	2.299	2.200	2.035
.650	.850	1.000	.220	.139	.124	2.564	2.455	2.272
.750	.850	1.000	.331	.289	.218	2.795	2.677	2.479
.850	.850	1.000	.435	.370	.314	2.995	2.869	2.659
.950	.850	1.000	.536	.483	.405	3.167	3.035	2.819
1.050	.850	1.000	.631	.531	.497	3.316	3.178	2.948
1.150	.850	1.000	.717	.657	.540	3.444	3.301	3.064
1.250	.850	1.000	.800	.746	.655	3.554	3.408	3.164
1.350	.850	1.000	.873	.815	.725	3.653	3.500	3.251
1.450	.850	1.000	.940	.883	.730	3.733	3.580	3.326
1.550	.850	1.000	.999	.941	.849	3.805	3.650	3.392
1.650	.850	1.000	1.053	.994	.895	3.868	3.711	3.450
1.750	.850	1.000	1.101	1.041	.940	3.924	3.765	3.500
1.850	.850	1.000	1.144	1.083	.731	3.973	3.812	3.545
1.950	.850	1.000	1.183	1.121	1.013	4.016	3.854	3.585
2.050	.850	1.000	1.219	1.155	1.052	4.054	3.891	3.620
2.150	.850	1.000	1.249	1.186	1.082	4.089	3.925	3.651
2.250	.850	1.000	1.278	1.214	1.109	4.119	3.954	3.679
2.350	.850	1.000	1.304	1.240	1.133	4.147	3.981	3.704
2.450	.850	1.000	1.327	1.263	1.155	4.171	4.005	3.727
2.550	.850	1.000	1.348	1.283	1.176	4.193	4.026	3.747
2.650	.850	1.000	1.367	1.302	1.194	4.214	4.046	3.766
2.750	.850	1.000	1.385	1.320	1.211	4.232	4.063	3.783
2.850	.850	1.000	1.401	1.336	1.226	4.249	4.080	3.798
2.950	.850	1.000	1.415	1.350	1.240	4.264	4.094	3.812
.050	.950	1.000	-.024	-.027	-.037	.437	.419	.389
.150	.950	1.000	-.037	-.046	-.061	.862	.826	.756
.250	.950	1.000	-.029	-.042	-.064	1.262	1.210	1.123
.350	.950	1.000	.003	-.014	-.043	1.632	1.564	1.452
.450	.950	1.000	.057	.037	.002	1.965	1.884	1.750
.550	.950	1.000	.130	.106	.065	2.262	2.169	2.014
.650	.950	1.000	.214	.137	.142	2.521	2.418	2.247
.750	.950	1.000	.305	.276	.226	2.747	2.636	2.449
.850	.950	1.000	.398	.366	.312	2.943	2.823	2.625
.950	.950	1.000	.489	.454	.397	3.111	2.986	2.776
1.050	.950	1.000	.575	.539	.479	3.257	3.126	2.907
1.150	.950	1.000	.656	.618	.556	3.382	3.246	3.021
1.250	.950	1.000	.731	.692	.627	3.490	3.351	3.118
1.350	.950	1.000	.799	.759	.692	3.584	3.441	3.203
1.450	.950	1.000	.861	.820	.751	3.666	3.520	3.277
1.550	.950	1.000	.918	.875	.805	3.737	3.589	3.342
1.650	.950	1.000	.968	.925	.853	3.799	3.649	3.398
1.750	.950	1.000	1.014	.970	.897	3.853	3.701	3.448
1.850	.950	1.000	1.056	1.011	.937	3.902	3.748	3.492
1.950	.950	1.000	1.093	1.048	.972	3.944	3.789	3.530
2.050	.950	1.000	1.127	1.081	1.005	3.982	3.826	3.565
2.150	.950	1.000	1.157	1.111	1.034	4.016	3.858	3.596
2.250	.950	1.000	1.185	1.136	1.060	4.046	3.887	3.623
2.350	.950	1.000	1.210	1.163	1.084	4.073	3.913	3.648
2.450	.950	1.000	1.233	1.185	1.106	4.097	3.937	3.670
2.550	.950	1.000	1.254	1.206	1.126	4.119	3.958	3.690
2.650	.950	1.000	1.273	1.224	1.144	4.139	3.978	3.708

2.750	.950	1.000	1.323	1.271	1.170	4.151	4.025	3.754
.050	1.050	1.000	-.015	-.017	-.022	.419	.402	.374
.150	1.050	1.000	-.022	-.026	-.035	.825	.792	.737
.250	1.050	1.000	-.012	-.019	-.032	1.210	1.162	1.081
.350	1.050	1.000	.020	.019	-.007	1.565	1.533	1.393
.450	1.050	1.000	.067	.054	.032	1.886	1.811	1.685
.550	1.050	1.000	.135	.115	.049	2.172	2.085	1.940
.650	1.050	1.000	.209	.136	.156	2.423	2.326	2.165
.750	1.050	1.000	.239	.264	.233	2.641	2.536	2.361
.850	1.050	1.000	.364	.345	.310	2.831	2.718	2.531
.950	1.050	1.000	.417	.425	.388	2.994	2.876	2.678
1.050	1.050	1.000	.525	.532	.462	3.136	3.012	2.805
1.150	1.050	1.000	.599	.574	.533	3.258	3.129	2.915
1.250	1.050	1.000	.668	.642	.599	3.361	3.231	3.010
1.350	1.050	1.000	.732	.705	.660	3.455	3.319	3.092
1.450	1.050	1.000	.790	.762	.716	3.535	3.396	3.164
1.550	1.050	1.000	.843	.814	.767	3.604	3.463	3.227
1.650	1.050	1.000	.891	.862	.813	3.665	3.522	3.282
1.750	1.050	1.000	.935	.905	.855	3.719	3.573	3.331
1.850	1.050	1.000	.974	.944	.893	3.766	3.619	3.374
1.950	1.050	1.000	1.010	.979	.928	3.808	3.659	3.412
2.050	1.050	1.000	1.043	1.011	.959	3.845	3.695	3.445
2.150	1.050	1.000	1.072	1.040	.987	3.879	3.727	3.475
2.250	1.050	1.000	1.099	1.067	1.013	3.908	3.756	3.502
2.350	1.050	1.000	1.123	1.091	1.036	3.935	3.782	3.527
2.450	1.050	1.000	1.145	1.113	1.058	3.959	3.805	3.548
2.550	1.050	1.000	1.166	1.133	1.077	3.980	3.826	3.568
2.650	1.050	1.000	1.184	1.151	1.095	4.000	3.845	3.586
2.750	1.050	1.000	1.201	1.168	1.111	4.018	3.862	3.602
2.850	1.050	1.000	1.217	1.183	1.126	4.034	3.878	3.617
2.950	1.050	1.000	1.231	1.197	1.140	4.049	3.892	3.631
.050	1.150	1.000	-.027	-.008	-.010	.393	.377	.351
.150	1.150	1.000	-.007	-.009	-.014	.775	.744	.693
.250	1.150	1.000	.026	.012	-.005	1.137	1.092	1.017
.350	1.150	1.000	.033	.023	.019	1.472	1.414	1.317
.450	1.150	1.000	.076	.069	.058	1.776	1.706	1.589
.550	1.150	1.000	.131	.123	.113	2.043	1.967	1.832
.650	1.150	1.000	.195	.136	.171	2.287	2.197	2.046
.750	1.150	1.000	.265	.255	.238	2.497	2.398	2.233
.850	1.150	1.000	.338	.327	.308	2.679	2.573	2.396
.950	1.150	1.000	.411	.398	.378	2.837	2.724	2.538
1.050	1.150	1.000	.481	.468	.447	2.973	2.856	2.660
1.150	1.150	1.000	.549	.535	.512	3.092	2.969	2.766
1.250	1.150	1.000	.612	.597	.573	3.194	3.068	2.858
1.350	1.150	1.000	.671	.656	.630	3.283	3.154	2.938
1.450	1.150	1.000	.725	.709	.683	3.361	3.229	3.008
1.550	1.150	1.000	.775	.758	.731	3.429	3.294	3.069
1.650	1.150	1.000	.820	.803	.775	3.488	3.351	3.123
1.750	1.150	1.000	.862	.844	.815	3.541	3.402	3.170
1.850	1.150	1.000	.900	.882	.851	3.587	3.446	3.212
1.950	1.150	1.000	.934	.915	.885	3.628	3.486	3.249
2.050	1.150	1.000	.965	.946	.915	3.665	3.521	3.282
2.150	1.150	1.000	.994	.974	.942	3.697	3.552	3.311
2.250	1.150	1.000	1.020	1.000	.967	3.726	3.581	3.337
2.350	1.150	1.000	1.043	1.023	.990	3.753	3.606	3.361
2.450	1.150	1.000	1.065	1.045	1.011	3.776	3.629	3.383
2.550	1.150	1.000	1.085	1.064	1.030	3.797	3.649	3.402
2.650	1.150	1.000	1.103	1.082	1.048	3.817	3.668	3.419
2.75	1.150	1.000	1.119	1.098	1.064	3.834	3.685	3.435
2.850	1.150	1.000	1.135	1.113	1.079	3.850	3.700	3.450

2.950	1.150	1.000	1.149	1.127	1.072	[illegible]	3.714	3.463
.050	1.250	1.000	[illegible]	-.001	-.001	.363	.319	.325
.150	1.250	1.000	[illegible]	.014	.013	.717	.666	.641
.250	1.250	1.000	.019	.018	.017	1.056	1.011	.792
.350	1.250	1.000	[illegible]	.049	.042	1.365	1.311	1.221
.450	1.250	1.000	[illegible]	.081	.077	1.650	1.584	1.475
.550	1.250	1.000	.131	.127	.126	1.905	1.829	1.703
.650	1.250	1.000	.188	.185	.181	2.132	2.047	1.905
.750	1.250	1.000	.249	.247	.242	2.330	2.238	2.083
.850	1.250	1.000	.314	.311	.305	2.509	2.409	2.238
.950	1.250	1.000	.379	.375	.369	2.655	2.549	2.373
1.050	1.250	1.000	.443	.439	.432	2.786	2.675	2.490
1.150	1.250	1.000	[illegible]	.500	.472	2.900	2.785	2.592
1.250	1.250	1.000	.562	.557	.549	3.000	2.880	2.680
1.350	1.250	1.000	.617	.611	.602	3.086	2.963	2.758
1.450	1.250	1.000	.657	.661	.651	3.161	3.035	2.825
1.550	1.250	1.000	.714	.707	.697	3.227	3.099	2.884
1.650	1.250	1.000	.757	.750	.738	3.285	3.154	2.936
1.750	1.250	1.000	.796	.739	.777	3.336	3.204	2.982
1.850	1.250	1.000	.832	.824	.812	3.382	3.247	3.023
1.950	1.250	1.000	.865	.857	.844	3.422	3.286	3.059
2.050	1.250	1.000	.875	.836	.873	3.458	3.320	3.091
2.150	1.250	1.000	.922	.914	.879	3.490	3.351	3.120
2.250	1.250	1.000	.947	.938	.924	3.518	3.378	3.145
2.350	1.250	1.000	.971	.961	.946	3.544	3.403	3.168
2.450	1.250	1.000	.991	.932	.966	3.567	3.425	3.189
2.550	1.250	1.000	1.012	1.001	.985	3.588	3.446	3.208
2.650	1.250	1.000	1.028	1.018	1.002	3.607	3.464	3.225
2.750	1.250	1.000	1.049	1.034	1.018	3.624	3.481	3.241
2.850	1.250	1.000	1.059	1.049	1.032	3.640	3.496	3.255
2.950	1.250	1.000	1.073	1.062	1.046	3.654	3.510	3.268
.050	1.350	1.000	.004	.005	.006	.332	.319	.297
.150	1.350	1.000	.013	.014	.016	.656	.630	.586
.250	1.350	1.000	.029	.030	.033	.965	.926	.861
.350	1.350	1.000	.053	.056	.060	1.255	1.202	1.119
.450	1.350	1.000	.088	.091	.095	1.517	1.456	1.354
.550	1.350	1.000	.131	.134	.139	1.755	1.684	1.566
.650	1.350	1.000	.181	.184	.190	1.967	1.888	1.755
.750	1.350	1.000	.236	.239	.245	2.154	2.067	1.922
.850	1.350	1.000	.294	.297	.302	2.319	2.225	2.068
.950	1.350	1.000	.352	.355	.360	2.463	2.363	2.196
1.050	1.350	1.000	.410	.412	.417	2.588	2.483	2.300
1.150	1.350	1.000	.465	.468	.473	2.697	2.588	2.405
1.250	1.350	1.000	.519	.521	.525	2.793	2.679	2.490
1.350	1.350	1.000	.567	.571	.575	2.876	2.759	2.564
1.450	1.350	1.000	.616	.618	.621	2.949	2.829	2.629
1.550	1.350	1.000	.659	.651	.664	3.013	2.890	2.686
1.650	1.350	1.000	.705	.701	.704	3.069	2.945	2.736
1.750	1.350	1.000	.737	.738	.741	3.119	2.992	2.781
1.850	1.350	1.000	.771	.772	.774	3.163	3.035	2.820
1.950	1.350	1.000	.802	.803	.805	3.202	3.072	2.855
2.050	1.350	1.000	.831	.831	.833	3.237	3.106	2.886
2.150	1.350	1.000	.857	.858	.859	3.269	3.136	2.914
2.250	1.350	1.000	.881	.882	.882	3.297	3.163	2.939
2.350	1.350	1.000	.903	.903	.904	3.322	3.187	2.962
2.450	1.350	1.000	.923	.924	.924	3.345	3.209	2.982
2.550	1.350	1.000	.942	.942	.942	3.365	3.227	3.001
2.650	1.350	1.000	.959	.959	.959	3.384	3.246	3.018
2.750	1.350	1.000	.975	.975	.974	3.401	3.263	3.033
[illegible]	1.35[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

2.750	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3.291	3.068
.050	1.450	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.287	[illegible]
.150	1.450	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.571	.531
.250	1.450	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
.350	1.450	[illegible]	[illegible]	.065	[illegible]	1.111	1.097	1.016
.450	1.450	1.000	.092	.098	.108	1.539	1.327	1.232
.550	1.450	1.000	.131	.133	.149	[illegible]	1.538	1.428
.650	1.450	1.000	.175	.183	.195	1.892	1.728	1.604
.750	1.450	1.000	.225	.232	.246	1.978	1.896	1.759
.850	1.450	1.000	.275	.284	.296	2.132	2.044	1.897
.950	1.450	1.000	.328	.337	.351	2.269	2.179	2.017
1.050	1.450	1.000	.380	.389	.404	2.388	2.288	2.123
1.150	1.450	1.000	.431	.440	.455	2.492	2.388	2.215
1.250	1.450	1.000	.480	.487	.504	2.534	2.476	2.296
1.350	1.450	1.000	.526	.535	.550	2.654	2.552	2.367
1.450	1.450	1.000	.570	.579	.594	2.734	2.620	2.429
1.550	1.450	1.000	.610	.619	.634	2.796	2.679	2.484
1.650	1.450	1.000	.648	.657	.672	2.850	2.731	2.533
1.750	1.450	1.000	.683	.692	.706	2.899	2.778	2.576
1.850	1.450	1.000	.716	.724	.739	2.942	2.819	2.614
1.950	1.450	1.000	.745	.754	.768	2.980	2.855	2.648
2.050	1.450	1.000	.773	.781	.795	3.014	2.888	2.678
2.150	1.450	1.000	.798	.806	.820	3.044	2.917	2.705
2.250	1.450	1.000	.821	.829	.843	3.072	2.943	2.729
2.350	1.450	1.000	.842	.850	.864	3.096	2.967	2.751
2.450	1.450	1.000	.862	.870	.883	3.119	2.988	2.771
2.550	1.450	1.000	.880	.885	.901	3.139	3.008	2.789
2.650	1.450	1.000	.897	.905	.917	3.157	3.025	2.806
2.750	1.450	1.000	.912	.920	.932	3.174	3.041	2.820
2.850	1.450	1.000	.926	.934	.946	3.169	3.055	2.834
2.950	1.450	1.000	.940	.947	.959	3.203	3.069	2.846
.050	1.550	1.000	.011	.013	.016	.272	.261	.242
.150	1.550	1.000	.021	.025	.034	.538	.516	.478
.250	1.550	1.000	.042	.047	.056	.794	.760	.705
.350	1.550	1.000	.065	.072	.084	1.039	.998	.916
.450	1.550	1.000	.095	.103	.117	1.256	1.204	1.115
.550	1.550	1.000	.132	.140	.156	1.459	1.398	1.295
.650	1.550	1.000	.173	.181	.199	1.642	1.573	1.456
.750	1.550	1.000	.219	.226	.245	1.806	1.729	1.601
.850	1.550	1.000	.250	.273	.293	1.951	1.868	1.729
.950	1.550	1.000	.303	.321	.342	2.079	1.990	1.842
1.050	1.550	1.000	.355	.368	.371	2.192	2.098	1.942
1.150	1.550	1.000	[illegible]	.415	.416	2.291	2.193	2.029
1.250	1.550	1.000	.496	.460	.484	2.378	2.276	2.106
1.350	1.550	1.000	.483	.503	.527	2.455	2.350	2.174
1.450	1.550	1.000	.527	.543	.566	2.523	2.414	2.233
1.550	1.550	1.000	.567	.581	.606	2.582	2.471	2.286
1.650	1.550	1.000	.602	.617	.641	2.635	2.522	2.332
1.750	1.550	1.000	.635	.650	.675	2.682	2.566	2.373
1.850	1.550	1.000	.665	.681	.705	2.724	2.606	2.410
1.950	1.550	1.000	.694	.709	.733	2.761	2.641	2.443
2.050	1.550	1.000	.720	.735	.759	2.794	2.673	2.472
2.150	1.550	1.000	.744	.759	.783	2.823	2.702	2.498
2.250	1.550	1.000	.767	.781	.806	2.850	2.727	2.522
2.350	1.550	1.000	.787	.802	.826	2.874	2.750	2.543
2.450	1.550	1.000	.805	.821	.845	2.896	2.771	2.563
2.550	1.550	1.000	.824	.838	.862	2.916	2.790	2.580
2.650	1.550	1.000	.840	.854	.878	2.934	2.807	2.596
2.750	1.550	1.000	.855	.869	.893	2.950	2.823	2.611
2.850	1.550	1.000	.867	.883	.907	2.965	2.837	2.624

2.950	1.550	1.300	.863	.875	.915	2.779	2.850	2.636
.050	1.650	1.300	.213	.215	.217	.245	.239	.214
.150	1.650	1.300	.025	.032	.042	.486	.464	.429
.250	1.650	1.300	.045	.053	.064	.715	.684	.633
.350	1.650	1.300	.069	.079	.092	.934	.893	.825
.450	1.650	1.300	.097	.107	.124	1.136	1.087	1.004
.550	1.650	1.300	.129	.131	.161	1.322	1.265	1.168
.650	1.650	1.300	.166	.179	.201	1.491	1.426	1.317
.750	1.650	1.300	.205	.220	.244	1.643	1.571	1.450
.850	1.650	1.300	.247	.262	.288	1.778	1.700	1.569
.950	1.650	1.300	.290	.306	.333	1.899	1.815	1.675
1.050	1.650	1.300	.332	.350	.378	2.005	1.916	1.768
1.150	1.650	1.300	.375	.392	.422	2.099	2.006	1.851
1.250	1.650	1.300	.416	.434	.464	2.182	2.085	1.923
1.350	1.650	1.300	.455	.474	.505	2.255	2.155	1.988
1.450	1.650	1.300	.492	.512	.543	2.320	2.217	2.044
1.550	1.650	1.300	.528	.547	.579	2.377	2.271	2.095
1.650	1.650	1.300	.561	.581	.613	2.428	2.320	2.139
1.750	1.650	1.300	.592	.612	.645	2.473	2.363	2.179
1.850	1.650	1.300	.621	.641	.674	2.514	2.401	2.214
1.950	1.650	1.300	.648	.668	.701	2.549	2.435	2.245
2.050	1.650	1.300	.673	.693	.726	2.582	2.466	2.274
2.150	1.650	1.300	.696	.716	.749	2.611	2.494	2.299
2.250	1.650	1.300	.717	.737	.771	2.637	2.519	2.322
2.350	1.650	1.300	.737	.757	.790	2.660	2.541	2.343
2.450	1.650	1.300	.755	.775	.809	2.681	2.561	2.361
2.550	1.650	1.300	.772	.792	.826	2.701	2.580	2.378
2.650	1.650	1.300	.788	.808	.841	2.718	2.597	2.394
2.750	1.650	1.300	.803	.823	.856	2.734	2.612	2.408
2.850	1.650	1.300	.816	.836	.869	2.749	2.626	2.421
2.950	1.650	1.300	.829	.849	.882	2.762	2.639	2.433
.050	1.750	1.300	.015	.017	.021	.223	.210	.193
.150	1.750	1.300	.031	.036	.044	.435	.416	.383
.250	1.750	1.300	.049	.057	.069	.644	.615	.566
.350	1.750	1.300	.072	.081	.097	.841	.803	.740
.450	1.750	1.300	.098	.109	.129	1.025	.979	.902
.550	1.750	1.300	.128	.141	.164	1.196	1.141	1.051
.650	1.750	1.300	.161	.176	.202	1.351	1.289	1.187
.750	1.750	1.300	.197	.214	.242	1.491	1.423	1.310
.850	1.750	1.300	.235	.253	.283	1.617	1.543	1.420
.950	1.750	1.300	.273	.293	.325	1.729	1.650	1.518
1.050	1.750	1.300	.312	.333	.366	1.829	1.745	1.605
1.150	1.750	1.300	.351	.372	.407	1.918	1.830	1.683
1.250	1.750	1.300	.389	.410	.446	1.997	1.905	1.751
1.350	1.750	1.300	.425	.447	.484	2.066	1.971	1.812
1.450	1.750	1.300	.460	.483	.520	2.129	2.030	1.866
1.550	1.750	1.300	.493	.516	.554	2.183	2.082	1.914
1.650	1.750	1.300	.524	.546	.586	2.232	2.129	1.956
1.750	1.750	1.300	.553	.577	.616	2.276	2.170	1.994
1.850	1.750	1.300	.581	.605	.644	2.314	2.207	2.028
1.950	1.750	1.300	.606	.630	.670	2.349	2.240	2.056
2.050	1.750	1.300	.630	.654	.694	2.380	2.270	2.085
2.150	1.750	1.300	.652	.676	.717	2.408	2.296	2.110
2.250	1.750	1.300	.673	.697	.738	2.434	2.321	2.132
2.350	1.750	1.300	.692	.716	.757	2.457	2.342	2.152
2.450	1.750	1.300	.709	.734	.775	2.477	2.362	2.170
2.550	1.750	1.300	.726	.750	.791	2.496	2.380	2.187
2.650	1.750	1.300	.741	.765	.806	2.513	2.395	2.202
2.750	1.750	1.300	.755	.779	.820	2.529	2.411	2.215

2.950	1.750	1.000	[illegible]	[illegible]	[illegible]	[illegible]	2.438	2.239
.050	1.850	[illegible]	[illegible]	.016	.023	.197	.188	.173
.150	1.850	[illegible]	[illegible]	.033	.047	[illegible]	.373	.342
.250	1.850	[illegible]	.051	.059	.073	.578	.551	.506
.350	1.850	1.000	[illegible]	.085	.101	.757	.721	.662
.450	1.850	1.000	.095	.111	.132	.924	.881	.806
.550	1.850	1.000	.125	.131	.165	1.079	1.028	.944
.650	1.850	1.000	.154	.173	.201	1.221	1.164	1.068
.750	1.850	1.000	.187	.238	.238	1.351	1.287	1.180
.850	1.850	1.000	.224	.245	.277	1.460	1.398	1.282
.950	1.850	1.000	.259	.230	.316	1.572	1.498	1.373
1.050	1.850	1.000	.293	.317	.354	1.666	1.587	1.454
1.150	1.850	1.000	.317	.354	.392	1.759	1.666	1.527
1.250	1.850	1.000	.365	.389	.429	1.824	1.737	1.591
1.350	1.850	1.000	.397	.429	.465	1.892	1.799	1.648
1.450	1.850	1.000	.431	.456	.477	1.949	1.855	1.699
1.550	1.850	1.000	.452	.433	.531	2.001	1.905	1.745
1.650	1.850	1.000	.491	.517	.552	2.048	1.950	1.785
1.750	1.850	1.000	.513	.545	.570	2.090	1.989	1.821
1.850	1.850	1.000	.544	.571	.617	2.128	2.025	1.854
1.950	1.850	1.000	.569	.595	.642	2.161	2.057	1.893
2.050	1.850	1.000	.591	.617	.665	2.191	2.085	1.909
2.150	1.850	1.000	.612	.640	.686	2.219	2.111	1.932
2.250	1.850	1.000	.632	.660	.706	2.243	2.135	1.954
2.350	1.850	1.000	.650	.678	.725	2.265	2.156	1.973
2.450	1.850	1.000	.667	.675	.742	2.286	2.175	1.991
2.550	1.850	1.000	.683	.711	.758	2.304	2.192	2.006
2.650	1.850	1.000	.693	.725	.773	2.321	2.208	2.021
2.750	1.850	1.000	.712	.710	.737	2.336	2.223	2.034
2.850	1.850	1.000	.724	.733	.800	2.350	2.236	2.047
2.950	1.850	1.000	.735	.765	.812	2.363	2.248	2.058
.050	1.950	1.000	.016	.019	.024	.177	.166	.154
.150	1.950	1.000	.033	.039	.049	.351	.334	.305
.250	1.950	1.000	.053	.061	.075	.519	.494	.452
.350	1.950	1.000	.074	.085	.103	.680	.647	.592
.450	1.950	1.000	.097	.111	.133	.832	.791	.724
.550	1.950	1.000	.124	.139	.165	.973	.925	.846
.650	1.950	1.000	.152	.173	.199	1.104	1.049	.959
.750	1.950	1.000	.182	.232	.234	1.223	1.162	1.062
.850	1.950	1.000	.214	.235	.270	1.331	1.265	1.156
.950	1.950	1.000	.245	.269	.307	1.428	1.357	1.240
1.050	1.950	1.000	.277	.303	.343	1.516	1.440	1.315
1.150	1.950	1.000	.312	.337	.379	1.594	1.515	1.383
1.250	1.950	1.000	.344	.370	.413	1.664	1.581	1.443
1.350	1.950	1.000	.375	.402	.447	1.727	1.641	1.497
1.450	1.950	1.000	.405	.433	.479	1.783	1.694	1.545
1.550	1.950	1.000	.434	.462	.509	1.833	1.741	1.588
1.650	1.950	1.000	.461	.490	.538	1.878	1.783	1.626
1.750	1.950	1.000	.487	.516	.565	1.918	1.821	1.661
1.850	1.950	1.000	.511	.541	.591	1.754	1.856	1.692
1.950	1.950	1.000	.534	.564	.615	1.986	1.886	1.720
2.050	1.950	1.000	.555	.536	.537	2.015	1.914	1.745
2.150	1.950	1.000	.574	.607	.655	2.042	1.939	1.767
2.250	1.950	1.000	.595	.626	.677	2.065	1.961	1.788
2.350	1.950	1.000	.612	.643	.695	2.087	1.982	1.806
2.450	1.950	1.000	.629	.650	.712	2.107	2.000	1.823
2.550	1.950	1.000	.644	.675	.728	2.125	2.017	1.839
2.650	1.950	1.000	.658	.670	.742	2.141	2.033	1.853
2.750	1.950	1.000	.672	.703	.756	2.156	2.047	1.866
2.850	1.950	1.000	.684	.716	.733	2.169	2.060	1.877

2.950	1.950	1.000	[illegible]	.727	[illegible]	2.132	2.072	1.886
.050	2.050	1.000	.017	.020	.025	.155	.150	.137
.150	2.050	1.000	.031	.040	.050	.315	.299	.272
.250	2.050	1.000	.053	.062	.076	.466	.443	.403
.350	2.050	1.000	.071	.085	.104	.612	.581	.529
.450	2.050	1.000	.096	.110	.134	.749	.711	.640
.550	2.050	1.000	.121	.137	.164	.878	.833	.758
.650	2.050	1.000	.147	.156	.197	.997	.946	.861
.750	2.050	1.000	.175	.196	.230	1.106	1.049	.955
.850	2.050	1.000	.205	.227	.264	1.206	1.144	1.041
.950	2.050	1.000	.234	.258	.298	1.296	1.229	1.118
1.050	2.050	1.000	.265	.290	.332	1.378	1.307	1.188
1.150	2.050	1.000	.295	.321	.365	1.451	1.376	1.251
1.250	2.050	1.000	.324	.352	.398	1.517	1.439	1.307
1.350	2.050	1.000	.353	.382	.430	1.577	1.495	1.358
1.450	2.050	1.000	.381	.411	.460	1.630	1.545	1.403
1.550	2.050	1.000	.408	.439	.489	1.677	1.590	1.444
1.650	2.050	1.000	.434	.465	.516	1.720	1.630	1.480
1.750	2.050	1.000	.459	.490	.542	1.759	1.666	1.513
1.850	2.050	1.000	.482	.513	.566	1.793	1.699	1.542
1.950	2.050	1.000	.503	.536	.589	1.824	1.729	1.567
2.050	2.050	1.000	.524	.556	.611	1.852	1.755	1.593
2.150	2.050	1.000	.543	.576	.631	1.878	1.779	1.615
2.250	2.050	1.000	.561	.594	.650	1.901	1.801	1.634
2.350	2.050	1.000	.579	.611	.667	1.922	1.821	1.652
2.450	2.050	1.000	.594	.627	.683	1.941	1.839	1.668
2.550	2.050	1.000	.609	.642	.699	1.958	1.855	1.683
2.650	2.050	1.000	.622	.656	.713	1.974	1.870	1.697
2.750	2.050	1.000	.635	.659	.726	1.989	1.884	1.709
2.850	2.050	1.000	.647	.681	.738	2.002	1.896	1.721
2.950	2.050	1.000	.659	.693	.750	2.014	1.908	1.731
.050	2.150	1.000	.017	.020	.025	.142	.135	.122
.150	2.150	1.000	.035	.041	.051	.282	.268	.243
.250	2.150	1.000	.053	.062	.077	.419	.397	.360
.350	2.150	1.000	.073	.085	.104	.550	.521	.473
.450	2.150	1.000	.095	.109	.133	.675	.639	.579
.550	2.150	1.000	.118	.135	.163	.792	.750	.679
.650	2.150	1.000	.143	.162	.193	.900	.852	.772
.750	2.150	1.000	.169	.190	.225	1.001	.947	.858
.850	2.150	1.000	.196	.219	.257	1.093	1.034	.937
.950	2.150	1.000	.224	.248	.289	1.176	1.113	1.008
1.050	2.150	1.000	.252	.273	.321	1.253	1.185	1.073
1.150	2.150	1.000	.280	.307	.353	1.321	1.250	1.131
1.250	2.150	1.000	.307	.336	.384	1.333	1.308	1.183
1.350	2.150	1.000	.334	.364	.413	1.439	1.361	1.231
1.450	2.150	1.000	.360	.391	.442	1.489	1.408	1.273
1.550	2.150	1.000	.385	.417	.469	1.535	1.451	1.312
1.650	2.150	1.000	.410	.442	.496	1.575	1.489	1.346
1.750	2.150	1.000	.433	.465	.520	1.612	1.524	1.377
1.850	2.150	1.000	.454	.488	.544	1.645	1.555	1.405
1.950	2.150	1.000	.475	.509	.566	1.675	1.583	1.430
2.050	2.150	1.000	.495	.529	.586	1.702	1.609	1.453
2.150	2.150	1.000	.513	.548	.606	1.727	1.632	1.474
2.250	2.150	1.000	.530	.565	.624	1.749	1.653	1.493
2.350	2.150	1.000	.547	.582	.641	1.769	1.672	1.510
2.450	2.150	1.000	.562	.597	.657	1.788	1.689	1.526
2.550	2.150	1.000	.576	.612	.671	1.804	1.705	1.540
2.650	2.150	1.000	.589	.625	.685	1.820	1.720	1.553
2.750	2.150	1.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

2.950	[illegible]	[illegible]	[illegible]	.661	.721	[illegible]	1.737	1.586
.050	2.250	1.000	[illegible]	.020	[illegible]	[illegible]	.121	.109
.150	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.2[illegible]	.240	.217
.250	2.250	1.000	.053	.062	.077	.377	.356	.321
.350	2.250	1.000	.073	[illegible]	[illegible]	.495	[illegible]	.422
.450	2.250	1.000	.093	.106	.132	.608	.574	.518
.550	2.250	1.000	.115	.132	.160	.714	.675	.609
.650	2.250	1.000	.139	.150	.190	.814	.768	.693
.750	2.250	1.000	.163	.184	.220	.906	.855	.771
.850	2.250	1.000	.188	.211	.250	.990	.935	.843
.950	2.250	1.000	.214	.239	.281	1.068	1.008	.908
1.050	2.250	1.000	.240	.266	.311	1.139	1.075	.968
1.150	2.250	1.000	.265	.294	.341	1.203	1.135	1.022
1.250	2.250	1.000	.291	.321	.370	1.261	1.190	1.071
1.350	2.250	1.000	.317	.347	.398	1.314	1.239	1.115
1.450	2.250	1.000	.341	.373	.425	1.361	1.284	1.155
1.550	2.250	1.000	.365	.397	.451	1.404	1.324	1.191
1.650	2.250	1.000	.387	.421	.476	1.443	1.361	1.224
1.750	2.250	1.000	.407	.443	.500	1.478	1.393	1.253
1.850	2.250	1.000	.4[illegible]	.464	.522	1.509	1.423	1.279
1.950	2.350	1.000	.449	.485	.543	1.538	1.450	1.304
2.050	2.250	1.000	.465	.504	.563	1.564	1.474	1.325
2.150	2.250	1.000	.484	.522	.582	1.588	1.497	1.345
2.250	2.250	1.000	.502	.539	.579	1.609	1.517	1.363
2.350	2.250	1.000	.518	.554	.616	1.629	1.535	1.380
2.450	2.250	1.000	.532	.569	.631	1.646	1.552	1.395
2.550	2.250	1.000	.546	.583	.646	1.663	1.567	1.408
2.650	2.250	1.000	.559	.596	.659	1.678	1.581	1.421
2.750	2.250	1.000	.571	.609	.672	1.691	1.594	1.432
2.850	2.250	1.000	.582	.621	.683	1.704	1.606	1.443
2.950	2.250	1.000	.593	.631	.695	1.716	1.617	1.453
.050	2.350	1.000	.017	.020	.025	.115	.108	.097
.150	2.350	1.000	.035	.040	.050	.228	.215	.193
.250	2.350	1.000	.053	.061	.075	.339	.320	.287
.350	2.350	1.000	.072	.083	.103	.446	.420	.377
.450	2.350	1.000	.091	.106	.130	.548	.517	.464
.550	2.350	1.000	.112	.129	.157	.645	.608	.545
.650	2.350	1.000	.134	.154	.186	.736	.693	.622
.750	2.350	1.000	.157	.179	.214	.820	.772	.693
.850	2.350	1.000	.181	.204	.243	.894	.846	.758
.950	2.350	1.000	.205	.230	.272	.970	.913	.818
1.050	2.350	1.000	.229	.256	.301	1.035	.975	.873
1.150	2.350	1.000	.253	.282	.329	1.095	1.031	.923
1.250	2.350	1.000	.277	.307	.357	1.150	1.082	.969
1.350	2.350	1.000	.301	.332	.383	1.199	1.128	1.010
1.450	2.350	1.000	.324	.356	.409	1.244	1.170	1.047
1.550	2.350	1.000	.346	.379	.434	1.285	1.208	1.081
1.650	2.350	1.000	.367	.401	.458	1.321	1.243	1.112
1.750	2.350	1.000	.328	.422	.480	1.355	1.274	1.140
1.850	2.350	1.000	.407	.443	.502	1.385	1.302	1.165
1.950	2.350	1.000	.425	.462	.522	1.412	1.328	1.188
2.050	2.350	1.000	.444	.480	.541	1.437	1.351	1.208
2.150	2.350	1.000	.460	.497	.559	1.460	1.373	1.227
2.250	2.350	1.000	.475	.519	.576	1.481	1.392	1.244
2.350	2.350	1.000	.491	.529	.592	1.500	1.410	1.260
2.450	2.350	1.000	.505	.543	.607	1.517	1.426	1.274
2.550	2.350	1.000	.513	.557	.621	1.533	1.441	1.287
2.650	2.350	1.000	.531	.570	.634	1.547	1.454	1.300
2.750	2.350	1.000	.543	.582	.647	1.560	1.467	1.311
2.850	2.350	1.000	.554	.593	.658	1.573	1.476	1.321

2.950	2.350	1.000	.584	.693	.669	1.559	1.489	1.330
.050	2.450	1.000	.017	.020	.025	.103	.097	.087
.150	2.450	1.000	.034	.040	.051	.206	.193	.173
.250	2.450	1.000	.052	.061	.075	.306	.287	.257
.350	2.450	1.000	.073	.082	.101	.402	.378	.338
.450	2.450	1.000	.089	.104	.127	.495	.465	.415
.550	2.450	1.000	.109	.126	.154	.583	.548	.489
.650	2.450	1.000	.130	.149	.181	.666	.625	.558
.750	2.450	1.000	.152	.173	.209	.743	.698	.623
.850	2.450	1.000	.174	.197	.236	.815	.765	.682
.950	2.450	1.000	.195	.222	.264	.881	.827	.737
1.050	2.450	1.000	.219	.245	.291	.942	.884	.786
1.150	2.450	1.000	.242	.270	.318	.998	.937	.834
1.250	2.450	1.000	.264	.294	.344	1.049	.984	.877
1.350	2.450	1.000	.285	.317	.369	1.095	1.028	.915
1.450	2.450	1.000	.303	.340	.394	1.137	1.067	.950
1.550	2.450	1.000	.323	.362	.416	1.176	1.103	.981
1.650	2.450	1.000	.349	.383	.440	1.211	1.135	1.010
1.750	2.450	1.000	.369	.403	.462	1.242	1.165	1.036
1.850	2.450	1.000	.387	.423	.483	1.271	1.192	1.060
1.950	2.450	1.000	.404	.441	.502	1.297	1.217	1.082
2.050	2.450	1.000	.421	.459	.521	1.321	1.239	1.101
2.150	2.450	1.000	.437	.475	.538	1.343	1.259	1.119
2.250	2.450	1.000	.452	.491	.555	1.363	1.278	1.136
2.350	2.450	1.000	.467	.505	.570	1.381	1.295	1.151
2.450	2.450	1.000	.480	.519	.585	1.398	1.310	1.164
2.550	2.450	1.000	.493	.533	.598	1.413	1.325	1.177
2.650	2.450	1.000	.505	.545	.611	1.427	1.338	1.189
2.750	2.450	1.000	.517	.556	.623	1.440	1.350	1.199
2.850	2.450	1.000	.527	.567	.634	1.452	1.361	1.209
2.950	2.450	1.000	.537	.578	.645	1.463	1.371	1.218
.050	2.550	1.000	.017	.020	.025	.093	.087	.078
.150	2.550	1.000	.034	.039	.049	.185	.174	.154
.250	2.550	1.000	.051	.060	.074	.276	.258	.229
.350	2.550	1.000	.069	.080	.099	.363	.340	.302
.450	2.550	1.000	.087	.101	.125	.447	.419	.372
.550	2.550	1.000	.106	.123	.151	.527	.494	.439
.650	2.550	1.000	.124	.145	.177	.603	.565	.501
.750	2.550	1.000	.146	.168	.203	.674	.631	.560
.850	2.550	1.000	.167	.191	.229	.740	.693	.614
.950	2.550	1.000	.189	.214	.256	.801	.750	.665
1.050	2.550	1.000	.210	.237	.282	.858	.803	.711
1.150	2.550	1.000	.231	.259	.307	.910	.851	.754
1.250	2.550	1.000	.252	.282	.332	.957	.896	.793
1.350	2.550	1.000	.273	.304	.356	1.001	.936	.829
1.450	2.550	1.000	.293	.325	.380	1.040	.973	.861
1.550	2.550	1.000	.313	.345	.402	1.077	1.007	.891
1.650	2.550	1.000	.332	.366	.424	1.110	1.038	.916
1.750	2.550	1.000	.350	.386	.445	1.140	1.066	.942
1.850	2.550	1.000	.368	.404	.465	1.167	1.091	.965
1.950	2.550	1.000	.385	.422	.483	1.192	1.115	.985
2.050	2.550	1.000	.401	.438	.501	1.215	1.136	1.004
2.150	2.550	1.000	.416	.454	.518	1.236	1.155	1.021
2.250	2.550	1.000	.431	.469	.534	1.255	1.173	1.036
2.350	2.550	1.000	.444	.484	.549	1.273	1.189	1.051
2.450	2.550	1.000	.457	.497	.563	1.289	1.204	1.064
2.550	2.550	1.000	.470	.510	.576	1.303	1.218	1.076
2.650	2.550	1.000	.481	.522	.589	1.317	1.231	1.087
2.750	2.550	1.000	.492	.533	.601	1.329	1.242	1.097
[illegible]	2.550	1.000	[illegible]	.544	[illegible]	[illegible]	[illegible]	[illegible]

2.750	2.550	1.000	.313	.334	.422	1.152	1.263	1.115
.050	2.650	1.000	[illegible]	.019	.024	[illegible]	.079	.069
.150	2.650	[illegible]	[illegible]	[illegible]	[illegible]	.157	.156	.132
.250	2.650	[illegible]	[illegible]	[illegible]	.070	[illegible]	.233	.205
.350	2.650	1.000	.067	.078	.097	.325	.307	.271
.450	2.650	1.000	.085	.079	.124	.405	.378	.334
.550	2.650	1.000	.103	.120	.147	[illegible]	.446	.394
.650	2.650	1.000	.122	.141	.172	.547	.511	.450
.750	2.650	1.000	.141	.162	.197	.612	.571	.504
.850	2.650	1.000	.161	.184	.223	.673	.628	.553
.950	2.650	1.000	.181	.206	.248	.729	.680	.599
1.050	2.650	1.000	.201	.228	.272	.781	.729	.642
1.150	2.650	1.000	.221	.249	.297	.830	.774	.681
1.250	2.650	1.000	.241	.271	.321	.874	.815	.718
1.350	2.650	1.000	.260	.292	.344	.915	.853	.751
1.450	2.650	1.000	.279	.312	.366	.952	.888	.781
1.550	2.650	1.000	.278	.332	[illegible]	.986	.920	.809
1.650	2.650	1.000	.316	.351	.409	1.018	.949	.834
1.750	2.650	1.000	.334	.369	.429	1.046	.975	.857
1.850	2.650	1.000	[illegible]	.387	.448	1.072	1.000	.878
1.950	2.650	1.000	.365	.404	.466	1.096	1.022	.897
2.050	2.650	1.000	.382	.420	.483	1.113	1.042	.915
2.150	2.650	1.000	.395	.435	.499	1.138	1.061	.931
2.250	2.650	1.000	.410	.449	.514	1.156	1.078	.946
2.350	2.650	1.000	.424	.463	.529	1.173	1.093	.960
2.450	2.650	1.000	.435	.475	.543	1.187	1.107	.972
2.550	2.650	1.000	.448	.488	.556	1.203	1.121	.983
2.650	2.650	1.000	.459	.500	.568	1.216	1.133	.994
2.750	2.650	1.000	.470	.511	.579	1.228	1.144	1.004
2.850	2.650	1.000	.480	.521	.590	1.239	1.154	1.013
2.950	2.650	1.000	.490	.531	.611	1.250	1.164	1.021
.050	2.750	1.000	.016	.019	.024	.076	.071	.062
.150	2.750	1.000	.032	.038	.047	.151	.141	.124
.250	2.750	1.000	.049	.057	.071	.225	.210	.184
.350	2.750	1.000	.065	.076	.095	.297	.277	.243
.450	2.750	1.000	.083	.096	.119	.367	.342	.299
.550	2.750	1.000	.100	.116	.143	.433	.403	.354
.650	2.750	1.000	.118	.137	.167	.495	.462	.405
.750	2.750	1.000	.136	.157	.192	.555	.517	.453
.850	2.750	1.000	.155	.178	.216	.612	.569	.499
.950	2.750	1.000	.174	.199	.240	.664	.618	.541
1.050	2.750	1.000	.193	.219	.264	.713	.663	.580
1.150	2.750	1.000	.212	.240	.287	.758	.705	.616
1.250	2.750	1.000	.230	.260	.310	.799	.743	.650
1.350	2.750	1.000	.249	.280	.332	.837	.778	.680
1.450	2.750	1.000	.267	.299	.353	.872	.811	.708
1.550	2.750	1.000	.285	.318	.374	.904	.841	.734
1.650	2.750	1.000	.302	.336	.394	.934	.868	.758
1.750	2.750	1.000	.318	.354	.413	.961	.893	.779
1.850	2.750	1.000	.334	.371	.431	.986	.916	.799
1.950	2.750	1.000	.350	.387	.447	1.009	.937	.817
2.050	2.750	1.000	.364	.402	.465	1.029	.956	.834
2.150	2.750	1.000	.378	.417	.481	1.049	.974	.849
2.250	2.750	1.000	.392	.431	.496	1.065	.990	.863
2.350	2.750	1.000	.404	.444	.510	1.082	1.005	.876
2.450	2.750	1.000	.416	.457	.524	1.097	1.019	.888
2.550	2.750	1.000	.428	.469	.536	1.111	1.031	.899
2.650	2.750	1.000	.439	.480	.548	1.123	1.043	.909
2.750	2.750	1.000	.449	.490	.559	1.135	1.054	.919
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.146	1.064	.927

2.950	2.750	1.000	[illegible]	.510	.540	1.155	1.073	.935
.050	2.850	1.000	[illegible]	.018	.023	.069	.064	.056
.150	2.850	1.000	.031	.037	.046	.137	.127	.111
.250	2.850	1.000	.047	.056	.069	.204	.190	.165
.350	2.850	1.000	[illegible]	.079	.092	.270	.250	.218
.450	2.850	1.000	.080	.094	.116	.333	.309	.269
.550	2.850	1.000	.097	.113	.139	.393	.365	.316
.650	2.850	1.000	.114	.132	.163	.451	.419	.364
.750	2.850	1.000	.132	.152	.186	.506	.467	.408
.850	2.850	1.000	.150	.172	.209	.557	.517	.449
.950	2.850	1.000	.167	.172	.232	.605	.561	.488
1.050	2.850	1.000	.185	.211	.255	.650	.603	.524
1.150	2.850	1.000	.203	.231	.277	.692	.642	.557
1.250	2.850	1.000	.221	.250	.299	.731	.677	.586
1.350	2.850	1.000	.238	.269	.320	.767	.710	.616
1.450	2.850	1.000	.255	.287	.341	.799	.741	.643
1.550	2.850	1.000	.272	.305	.361	.830	.769	.667
1.650	2.850	1.000	.289	.323	.380	.858	.794	.689
1.750	2.850	1.000	.304	.339	.398	.883	.818	.709
1.850	2.850	1.000	.317	.356	.416	.907	.840	.728
1.950	2.850	1.000	.331	.371	.433	.928	.859	.745
2.050	2.850	1.000	.343	.386	.449	.948	.878	.760
2.150	2.850	1.000	.361	.400	.464	.967	.895	.775
2.250	2.850	1.000	.374	.413	.479	.983	.910	.788
2.350	2.850	1.000	.387	.426	.492	.999	.924	.800
2.450	2.850	1.000	.398	.439	.505	1.013	.938	.812
2.550	2.850	1.000	.409	.450	.518	1.026	.950	.822
2.650	2.850	1.000	.420	.461	.529	1.038	.961	.832
2.750	2.850	1.000	.430	.471	.540	1.050	.971	.841
2.850	2.850	1.000	.439	.481	.551	1.060	.981	.849
2.950	2.850	1.000	.448	.490	.561	1.070	.990	.856
.050	2.950	1.000	[illegible]	.019	.022	.062	.058	.050
.150	2.950	1.000	.031	.036	.045	.124	.115	.100
.250	2.950	1.000	.046	.054	.067	.185	.171	.146
.350	2.950	1.000	.062	.072	.090	.245	.226	.196
.450	2.950	1.000	.078	.091	.113	.302	.280	.242
.550	2.950	1.000	.094	.110	.135	.359	.331	.286
.650	2.950	1.000	.111	.128	.156	.410	.380	.328
.750	2.950	1.000	.127	.147	.180	.461	.426	.368
.850	2.950	1.000	.144	.166	.203	.508	.470	.405
.950	2.950	1.000	.161	.185	.225	.553	.511	.441
1.050	2.950	1.000	.178	.204	.247	.594	.549	.474
1.150	2.950	1.000	.195	.222	.268	.633	.585	.504
1.250	2.950	1.000	.212	.241	.289	.669	.618	.533
1.350	2.950	1.000	.229	.259	.309	.702	.649	.559
1.450	2.950	1.000	.245	.276	.329	.733	.677	.583
1.550	2.950	1.000	.261	.293	.348	.762	.703	.605
1.650	2.950	1.000	.276	.310	.367	.788	.727	.626
1.750	2.950	1.000	.291	.326	.384	.812	.750	.645
1.850	2.950	1.000	.305	.342	.401	.835	.770	.662
1.950	2.950	1.000	.319	.356	.418	.855	.789	.678
2.050	2.950	1.000	.333	.371	.433	.874	.806	.693
2.150	2.950	1.000	.345	.384	.448	.891	.822	.707
2.250	2.950	1.000	.358	.397	.462	.909	.837	.719
2.350	2.950	1.000	.370	.410	.475	.922	.851	.731
2.450	2.950	1.000	.381	.421	.488	.936	.863	.742
2.550	2.950	1.000	.392	.432	.500	.949	.875	.752
2.650	2.950	1.000	.402	.443	.511	.960	.886	.761
2.750	[illegible]	1.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

2.[illegible]50	2.750	1.[illegible]00	.43[illegible]	.372	.532	.491	.913	.764
.050	.050	2.000	-.047	-.019	-.032	-.041	-.049	-.061
.150	.050	2.000	[illegible]	-.079	-.119	-.079	-.094	-.118
.250	.050	2.000	-.107	-.131	-.168	-.105	-.130	-.167
.350	.050	2.000	-.123	-.157	-.205	-.127	-.156	-.204
.450	.050	2.000	-.135	-.171	-.229	-.133	-.169	-.228
.550	.050	2.000	-.133	-.171	-.240	-.128	-.169	-.238
.650	.050	2.000	-.113	-.160	-.238	-.110	-.157	-.236
.750	.050	2.000	-.085	-.137	-.224	-.082	-.135	-.222
.850	.050	2.000	-.049	-.106	-.201	-.046	-.103	-.198
.950	.050	2.000	-.007	-.068	-.170	-.004	-.065	-.167
1.050	.050	2.000	.040	-.025	-.134	.043	-.022	-.130
1.150	.050	2.000	.092	.021	-.093	.093	.024	-.090
1.250	.050	2.000	.141	.069	-.050	.144	.073	-.047
1.350	.050	2.000	.193	.119	-.006	.196	.121	-.003
1.450	.050	2.000	.243	.165	.038	.247	.170	.041
1.550	.050	2.000	.293	.214	.081	.297	.217	.085
1.650	.050	2.000	.341	.259	.124	.345	.263	.127
1.750	.050	2.000	.387	.303	.165	.390	.307	.168
1.850	.050	2.000	.430	.345	.204	.434	.349	.207
1.950	.050	2.000	.471	.385	.241	.475	.388	.244
2.050	.050	2.000	.510	.422	.276	.514	.426	.277
2.150	.050	2.000	.546	.457	.309	.550	.461	.312
2.250	.050	2.000	.580	.490	.340	.584	.494	.343
2.350	.050	2.000	.612	.521	.369	.615	.525	.373
2.450	.050	2.000	.642	.550	.396	.646	.554	.400
2.550	.050	2.000	.670	.577	.422	.674	.581	.425
2.650	.050	2.000	.696	.602	.446	.700	.606	.449
2.750	.050	2.000	.721	.626	.468	.725	.630	.472
2.850	.050	2.000	.743	.648	.489	.747	.652	.493
2.950	.050	2.000	.764	.668	.509	.769	.672	.512
.050	.150	2.000	-.041	-.049	-.051	-.038	-.045	-.058
.150	.150	2.000	-.079	-.093	-.118	-.071	-.086	-.111
.250	.150	2.000	-.109	-.130	-.166	-.097	-.119	-.156
.350	.150	2.000	-.127	-.155	-.203	-.113	-.141	-.189
.450	.150	2.000	-.134	-.169	-.227	-.117	-.152	-.211
.550	.150	2.000	-.129	-.169	-.238	-.107	-.150	-.219
.650	.150	2.000	-.111	-.158	-.235	-.089	-.136	-.214
.750	.150	2.000	-.084	-.136	-.222	-.063	-.112	-.199
.850	.150	2.000	-.049	-.105	-.199	-.023	-.080	-.174
.950	.150	2.000	-.007	-.067	-.168	.021	-.040	-.142
1.050	.150	2.000	.040	-.025	-.132	.068	.003	-.105
1.150	.150	2.000	.087	.021	-.092	.119	.050	-.064
1.250	.150	2.000	.140	.069	-.049	.171	.099	-.020
1.350	.150	2.000	.191	.118	-.005	.223	.148	.024
1.450	.150	2.000	.242	.166	.038	.274	.197	.069
1.550	.150	2.000	.291	.213	.082	.324	.244	.112
1.650	.150	2.000	.339	.258	.124	.372	.290	.155
1.750	.150	2.000	.384	.302	.164	.417	.334	.196
1.850	.150	2.000	.428	.344	.203	.461	.376	.235
1.950	.150	2.000	.469	.383	.240	.502	.416	.272
2.050	.150	2.000	.507	.420	.275	.541	.453	.307
2.150	.150	2.000	.544	.455	.308	.577	.488	.340
2.250	.150	2.000	.577	.488	.339	.612	.521	.371
2.350	.150	2.000	.609	.519	.368	.643	.552	.400
2.450	.150	2.000	.639	.548	.395	.673	.581	.428
2.550	.150	2.000	.667	.575	.421	.701	.608	.453
2.650	.150	2.000	.693	.600	.445	.727	.634	.477
2.750	.150	2.000	.717	.623	.467	.751	.657	.500
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

2.750	.150	2.300	.751	.656	.503	.795	.700	.540
.050	.250	2.300	-.041	-.010	-.060	-.033	-.033	-.050
.150	.250	2.300	-.077	-.071	-.115	-.057	-.071	-.096
.250	.250	2.300	-.103	-.127	-.152	-.076	-.090	-.134
.350	.250	2.300	-.121	-.152	-.179	-.035	-.119	-.162
.450	.250	2.300	-.131	-.165	-.222	-.034	-.119	-.178
.550	.250	2.300	-.125	-.166	-.233	-.072	-.113	-.181
.650	.250	2.300	-.159	-.155	-.231	-.049	-.096	-.173
.750	.250	2.300	-.033	-.133	-.217	-.017	-.069	-.155
.850	.250	2.300	-.048	-.103	-.175	.023	-.034	-.128
.950	.250	2.300	-.005	-.056	-.155	.068	.007	-.094
1.050	.250	2.300	.039	-.024	-.129	.117	.053	-.055
1.150	.250	2.300	.083	.022	-.099	.159	.101	-.013
1.250	.250	2.300	.138	.069	-.047	.221	.150	.031
1.350	.250	2.300	.197	.117	-.004	.274	.200	.076
1.450	.250	2.300	.237	.159	.039	.325	.249	.121
1.550	.250	2.300	.288	.211	.092	.376	.297	.165
1.650	.250	2.300	.335	.256	.124	.424	.343	.208
1.750	.250	2.300	.380	.299	.154	.470	.387	.249
1.850	.250	2.300	.423	.340	.203	.514	.429	.288
1.950	.250	2.300	.464	.379	.239	.555	.469	.325
2.050	.250	2.300	.502	.416	.274	.594	.506	.361
2.150	.250	2.300	.539	.451	.307	.630	.541	.394
2.250	.250	2.300	.572	.434	.337	.664	.574	.425
2.350	.250	2.300	.603	.514	.366	.696	.605	.454
2.450	.250	2.300	.633	.543	.394	.726	.634	.481
2.550	.250	2.300	.660	.570	.419	.754	.661	.507
2.650	.250	2.300	.686	.595	.443	.780	.687	.531
2.750	.250	2.300	.711	.619	.465	.804	.710	.553
2.850	.250	2.300	.733	.640	.486	.827	.732	.574
2.950	.250	2.300	.754	.661	.505	.848	.753	.594
.050	.350	2.300	-.037	-.046	-.050	-.020	-.027	-.039
.150	.350	2.300	-.074	-.088	-.111	-.036	-.051	-.075
.250	.350	2.300	-.102	-.123	-.157	-.046	-.068	-.103
.350	.350	2.300	-.120	-.147	-.192	-.047	-.075	-.123
.450	.350	2.300	-.127	-.160	-.215	-.039	-.073	-.131
.550	.350	2.300	-.122	-.161	-.225	-.020	-.061	-.128
.650	.350	2.300	-.106	-.150	-.223	.009	-.038	-.115
.750	.350	2.300	-.080	-.129	-.211	.044	-.007	-.092
.850	.350	2.300	-.045	-.100	-.189	.087	.031	-.062
.950	.350	2.300	-.006	-.063	-.159	.135	.075	-.025
1.050	.350	2.300	.039	-.022	-.124	.186	.122	.016
1.150	.350	2.300	.087	.022	-.085	.239	.172	.059
1.250	.350	2.300	.136	.068	-.044	.293	.222	.105
1.350	.350	2.300	.185	.115	-.002	.346	.273	.151
1.450	.350	2.300	.235	.162	.041	.399	.323	.196
1.550	.350	2.300	.283	.208	.083	.449	.371	.241
1.650	.350	2.300	.327	.252	.124	.498	.418	.284
1.750	.350	2.300	.374	.295	.164	.544	.462	.325
1.850	.350	2.300	.415	.336	.202	.588	.504	.364
1.950	.350	2.300	.456	.374	.238	.629	.544	.402
2.050	.350	2.300	.499	.411	.272	.668	.582	.437
2.150	.350	2.300	.530	.445	.305	.705	.617	.470
2.250	.350	2.300	.563	.478	.335	.737	.650	.501
2.350	.350	2.300	.594	.508	.364	.771	.681	.530
2.450	.350	2.300	.624	.535	.391	.801	.710	.558
2.550	.350	2.300	.651	.563	.418	.829	.737	.583
2.650	.350	2.300	.677	.589	.446	.855	.762	.607
2.750	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	.633	[illegible]	[illegible]	.023	.675
.050	.450	[illegible]	-.107	[illegible]	[illegible]	[illegible]	-.019	-.026
.150	.450	[illegible]	[illegible]	-.125	-.147	-.011	-.025	-.049
.250	.450	[illegible]	[illegible]	-.118	-.181	[illegible]	-.031	-.056
.350	.450	[illegible]	-.11[illegible]	-.131	[illegible]	[illegible]	-.023	-.075
.450	.450	[illegible]	-.127	-.152	-.206	.017	-.017	-.074
.550	.450	2.300	-.137	-.154	-.216	.045	.004	-.063
.650	.450	2.300	-.132	-.149	-.214	.079	.033	-.043
.750	.450	2.300	-.077	-.121	-.202	.123	.069	-.015
.850	.450	2.300	-.044	-.075	-.131	.167	.111	.019
.950	.450	2.300	-.005	-.060	-.152	.218	.158	.059
1.050	.450	2.300	.038	-.020	-.118	.271	.208	.103
1.150	.450	2.300	.085	.023	-.081	.326	.260	.148
1.250	.450	2.300	.134	.058	-.018	.381	.312	.195
1.350	.450	2.300	.181	.114	.001	.436	.363	.242
1.450	.450	2.300	.229	.159	.043	.487	.414	.288
1.550	.450	2.300	.276	.204	.084	.540	.463	.333
1.650	.450	2.300	.322	.248	.124	.589	.510	.377
1.750	.450	2.300	.365	.290	.163	.636	.554	.419
1.850	.450	2.300	.407	.330	.211	.680	.597	.458
1.950	.450	2.300	.447	.368	.236	.721	.637	.496
2.050	.450	2.300	.484	.404	.270	.760	.674	.531
2.150	.450	2.300	.517	.438	.302	.797	.710	.564
2.250	.450	2.300	.552	.470	.332	.831	.743	.595
2.350	.450	2.300	.583	.500	.361	.863	.774	.624
2.450	.450	2.300	.612	.528	.387	.893	.802	.652
2.550	.450	2.300	.637	.554	.412	.921	.829	.677
2.650	.450	2.300	.665	.579	.436	.947	.855	.701
2.750	.450	2.300	.691	.602	.458	.971	.878	.724
2.850	.450	2.300	.713	.623	.478	.994	.900	.744
2.950	.450	2.300	.731	.643	.497	1.015	.921	.764
.050	.550	2.300	-.03[illegible]	-.042	-.052	.007	.000	-.012
.150	.550	2.300	-.067	-.080	-.101	.017	.003	-.020
.250	.550	2.300	-.093	-.112	-.143	.032	.011	-.024
.350	.550	2.300	-.109	-.134	-.175	.053	.025	-.020
.450	.550	2.300	-.115	-.146	-.195	.081	.047	-.009
.550	.550	2.300	-.111	-.146	-.205	.115	.076	.010
.650	.550	2.300	-.096	-.137	-.203	.157	.112	.038
.750	.550	2.300	-.073	-.117	-.192	.205	.155	.072
.850	.550	2.300	-.041	-.090	-.171	.256	.202	.111
.950	.550	2.300	-.004	-.056	-.144	.311	.252	.155
1.050	.550	2.300	.039	-.018	-.111	.367	.305	.201
1.150	.550	2.300	.083	.024	-.075	.425	.359	.249
1.250	.550	2.300	.129	.067	-.036	.481	.412	.297
1.350	.550	2.300	.176	.112	.004	.537	.465	.346
1.450	.550	2.300	.223	.156	.045	.591	.517	.393
1.550	.550	2.300	.269	.200	.085	.643	.566	.439
1.650	.550	2.300	.313	.242	.125	.692	.614	.483
1.750	.550	2.300	.356	.283	.163	.739	.659	.524
1.850	.550	2.300	.397	.323	.199	.784	.701	.564
1.950	.550	2.300	.435	.360	.234	.825	.741	.602
2.050	.550	2.300	.472	.395	.266	.864	.779	.637
2.150	.550	2.300	[illegible]	.429	.297	.901	.815	.671
2.250	.550	2.300	.537	.460	.327	.935	.848	.702
2.350	.550	2.300	.567	.490	.357	.967	.879	.731
2.450	.550	2.300	[illegible]	.517	.383	.997	.908	.758
2.550	.550	2.300	.625	.543	.408	1.025	.935	.784
2.650	.550	2.300	.65[illegible]	[illegible]	.431	1.051	.960	.808
2.750	.550	2.300	.673	.571	.453	1.075	.983	.830
2.850	.550	2.300	.695	.592	.473	1.098	1.005	.851

2.950	.550	2.000	.710	.632	.492	1.119	1.026	.870
.050	.650	2.000	-.033	-.039	-.047	.022	.016	.009
.150	.650	2.000	-.063	-.075	-.076	.047	.033	.010
.250	.650	2.000	-.087	-.105	-.139	.075	.055	.021
.350	.650	2.000	-.103	-.126	-.164	.106	.081	.037
.450	.650	2.000	-.109	-.137	-.189	.197	.114	.059
.550	.650	2.000	-.104	-.137	-.193	.191	.153	.086
.650	.650	2.000	-.091	-.128	-.191	.241	.197	.123
.750	.650	2.000	-.068	-.110	-.180	.274	.245	.169
.850	.650	2.000	-.039	-.084	-.161	.351	.297	.208
.950	.650	2.000	-.003	-.052	-.139	.419	.352	.256
1.050	.650	2.000	.037	-.015	-.103	.469	.408	.305
1.150	.650	2.000	.080	.025	-.068	.529	.464	.356
1.250	.650	2.000	.125	.057	-.031	.597	.519	.406
1.350	.650	2.000	.172	.110	.008	.644	.574	.456
1.450	.650	2.000	.215	.153	.048	.679	.626	.504
1.550	.650	2.000	.260	.195	.087	.752	.676	.550
1.650	.650	2.000	.303	.236	.125	.802	.724	.595
1.750	.650	2.000	.345	.276	.162	.849	.770	.637
1.850	.650	2.000	.385	.315	.198	.894	.812	.677
1.950	.650	2.000	.422	.351	.232	.936	.853	.715
2.050	.650	2.000	.459	.386	.265	.975	.891	.751
2.150	.650	2.000	.492	.418	.296	1.011	.926	.784
2.250	.650	2.000	.524	.449	.325	1.046	.959	.815
2.350	.650	2.000	.554	.478	.352	1.078	.990	.844
2.450	.650	2.000	.582	.506	.378	1.108	1.019	.872
2.550	.650	2.000	.609	.531	.402	1.135	1.046	.897
2.650	.650	2.000	.633	.555	.425	1.161	1.071	.921
2.750	.650	2.000	.656	.576	.447	1.186	1.095	.943
2.850	.650	2.000	.673	.599	.467	1.208	1.117	.964
2.950	.650	2.000	.693	.618	.486	1.229	1.137	.983
.050	.750	2.000	-.031	-.036	-.046	.038	.031	.020
.150	.750	2.000	-.059	-.070	-.088	.077	.063	.041
.250	.750	2.000	-.081	-.097	-.124	.119	.099	.065
.350	.750	2.000	-.095	-.117	-.152	.164	.138	.094
.450	.750	2.000	-.101	-.127	-.171	.214	.182	.128
.550	.750	2.000	-.097	-.128	-.179	.267	.230	.166
.650	.750	2.000	-.084	-.119	-.178	.325	.281	.210
.750	.750	2.000	-.063	-.102	-.167	.385	.337	.257
.850	.750	2.000	-.035	-.076	-.149	.446	.394	.307
.950	.750	2.000	-.001	-.047	-.124	.509	.453	.358
1.050	.750	2.000	.037	-.012	-.094	.572	.511	.411
1.150	.750	2.000	.078	.026	-.061	.634	.570	.464
1.250	.750	2.000	.121	.066	-.025	.694	.627	.516
1.350	.750	2.000	.164	.107	.013	.752	.683	.567
1.450	.750	2.000	.208	.149	.051	.808	.736	.616
1.550	.750	2.000	.251	.190	.088	.862	.787	.663
1.650	.750	2.000	.293	.230	.125	.912	.836	.708
1.750	.750	2.000	.333	.269	.162	.960	.882	.751
1.850	.750	2.000	.372	.306	.196	1.005	.925	.791
1.950	.750	2.000	.403	.341	.230	1.047	.965	.829
2.050	.750	2.000	.443	.375	.262	1.086	1.003	.865
2.150	.750	2.000	.476	.407	.292	1.123	1.039	.898
2.250	.750	2.000	.508	.437	.320	1.157	1.072	.930
2.350	.750	2.000	.537	.466	.347	1.189	1.103	.959
2.450	.750	2.000	.564	.493	.373	1.219	1.132	.986
2.550	.750	2.000	.590	.518	.397	1.247	1.159	1.012
2.650	.750	2.000	.615	.541	.419	1.273	1.184	1.035
2.750	.750	2.000	.637	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]	[illegible]	[illegible]	.079	.034	.177	1.312	1.217	1.094
[illegible]	[illegible]	[illegible]	-.370	-.053	-.142	.052	.045	.034
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.105	.522	.170
[illegible]	[illegible]	[illegible]	-.379	-.039	-.114	.160	.141	.136
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.172	.142
[illegible]	[illegible]	[illegible]	[illegible]	-.117	-.157	.270	.216	.194
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.304	.242
[illegible]	[illegible]	[illegible]	-.377	-.110	-.164	.405	.363	.293
.750	[illegible]	2.300	[illegible]	-.124	-.154	.571	.425	.346
.350	.850	2.000	-.331	-.076	-.136	.538	.437	.401
.750	.850	[illegible]	.301	-.342	-.113	.635	.550	.457
[illegible]	[illegible]	2.000	.337	-.009	-.065	.571	.612	.513
[illegible]	[illegible]	[illegible]	.375	.026	-.033	.735	.672	.568
[illegible]	[illegible]	[illegible]	.117	.055	-.016	.797	.732	.622
[illegible]	[illegible]	[illegible]	.153	[illegible]	.017	.857	.788	.675
[illegible]	[illegible]	[illegible]	.203	.195	.051	.914	.843	.725
[illegible]	[illegible]	[illegible]	.231	.134	.070	.760	.895	.772
1.350	[illegible]	[illegible]	.241	.223	.126	1.019	.944	.819
1.750	[illegible]	[illegible]	.323	.251	.161	1.067	.990	.862
1.250	[illegible]	[illegible]	.363	.277	.195	1.112	1.033	.902
[illegible]	[illegible]	[illegible]	.393	.331	.227	1.154	1.074	.940
2.250	[illegible]	2.000	.427	.369	.258	1.193	1.112	.976
2.150	[illegible]	[illegible]	[illegible]	.395	[illegible]	1.230	1.147	1.009
[illegible]	[illegible]	[illegible]	.470	.425	.315	1.265	1.181	1.041
[illegible]	[illegible]	[illegible]	.507	.452	.342	1.297	1.211	1.070
[illegible]	[illegible]	[illegible]	.545	.479	.367	1.326	1.240	1.097
2.550	[illegible]	[illegible]	.571	.513	.390	1.354	1.267	1.122
2.550	.950	2.000	.595	.526	.412	1.380	1.292	1.146
2.750	.950	2.000	.617	.548	.433	1.404	1.316	1.168
2.550	[illegible]	2.000	.639	.569	.453	1.427	1.337	1.189
[illegible]	[illegible]	[illegible]	.658	.518	.471	1.448	1.358	1.208
[illegible]	[illegible]	[illegible]	-.725	-.041	-.335	.065	.057	.048
[illegible]	[illegible]	[illegible]	-.357	[illegible]	-.374	.131	.119	.097
[illegible]	.750	[illegible]	-.363	-.062	-.184	.195	.183	.148
.350	.950	2.000	-.063	-.093	-.123	.267	.242	.201
.450	.950	2.000	-.055	-.107	-.144	.337	.306	.255
.550	.950	2.000	-.081	-.137	-.151	.408	.372	.312
.550	.950	2.000	-.073	-.130	-.147	.480	.439	.370
.750	.750	2.000	-.052	-.085	-.140	.552	.506	.430
.350	.950	2.000	-.027	-.063	-.123	.623	.573	.490
.950	.950	2.000	.003	-.036	-.131	.699	.639	.549
1.050	.950	2.000	.037	-.005	-.075	.762	.704	.608
1.150	.950	2.000	.071	.029	-.044	.829	.768	.666
1.250	.950	2.000	.112	.066	-.012	.892	.828	.722
1.350	.950	2.000	.152	.103	.022	.953	.887	.775
1.450	.950	2.000	.192	.141	.057	1.011	.942	.826
1.550	.950	2.000	.231	.179	.092	1.066	.994	.875
1.650	.950	2.000	.270	.215	.127	1.117	1.044	.921
1.750	.950	2.000	.307	.252	.160	1.166	1.090	.965
1.850	.950	2.000	.343	.287	.193	1.211	1.134	1.005
1.950	.950	2.000	.378	.320	.225	1.253	1.175	1.043
2.050	.950	2.000	.411	.352	.255	1.293	1.213	1.079
2.150	.950	2.000	.442	.383	.283	1.330	1.248	1.113
2.250	[illegible]	2.000	.472	.411	.310	1.364	1.281	1.144
2.350	.950	2.000	.501	.438	.336	1.396	1.312	1.173
2.450	.950	2.000	.525	.464	.361	1.426	1.341	1.200
2.550	.950	2.000	.551	.488	.384	1.453	1.368	1.226
2.650	.950	2.000	.574	.511	.405	1.479	1.393	1.249
2.750	.950	2.000	.595	.532	.425	1.503	1.416	1.271
2.850	.950	2.000	.517	.552	.445	1.526	1.438	1.292

2.950	.750	2.000	.636	.571	.463	1.517	1.450	1.311
.050	1.050	2.000	-.023	-.020	-.031	.077	.071	.061
.150	1.050	2.000	-.049	-.053	-.057	.155	.142	.122
.250	1.050	2.000	-.061	-.071	-.079	.232	.214	.183
.350	1.050	2.000	-.072	-.087	-.116	.311	.285	.246
.450	1.050	2.000	-.076	-.096	-.130	.389	.359	.310
.550	1.050	2.000	-.073	-.097	-.136	.468	.433	.374
.650	1.050	2.000	-.063	-.090	-.134	.546	.506	.439
.750	1.050	2.000	-.045	-.076	-.125	.623	.579	.504
.850	1.050	2.000	-.022	-.055	-.110	.699	.650	.569
.950	1.050	2.000	.005	-.030	-.089	.772	.720	.632
1.050	1.050	2.000	.037	-.001	-.064	.844	.787	.694
1.150	1.050	2.000	.072	.032	-.036	.912	.853	.753
1.250	1.050	2.000	.108	.066	-.005	.978	.915	.811
1.350	1.050	2.000	.146	.102	.028	1.040	.974	.865
1.450	1.050	2.000	.184	.138	.061	1.098	1.030	.917
1.550	1.050	2.000	.221	.174	.094	1.154	1.083	.967
1.650	1.050	2.000	.258	.209	.127	1.205	1.133	1.013
1.750	1.050	2.000	.294	.244	.160	1.254	1.180	1.057
1.850	1.050	2.000	.327	.277	.191	1.300	1.224	1.098
1.950	1.050	2.000	.362	.310	.222	1.342	1.265	1.136
2.050	1.050	2.000	.394	.340	.251	1.381	1.303	1.172
2.150	1.050	2.000	.425	.370	.279	1.418	1.338	1.205
2.250	1.050	2.000	.453	.398	.305	1.453	1.371	1.236
2.350	1.050	2.000	.480	.424	.330	1.484	1.402	1.265
2.450	1.050	2.000	.506	.449	.354	1.514	1.431	1.293
2.550	1.050	2.000	.530	.473	.376	1.542	1.458	1.318
2.650	1.050	2.000	.553	.495	.398	1.567	1.483	1.341
2.750	1.050	2.000	.575	.516	.418	1.591	1.506	1.363
2.850	1.050	2.000	.595	.535	.436	1.614	1.528	1.384
2.950	1.050	2.000	.614	.554	.454	1.635	1.548	1.403
.050	1.150	2.000	-.021	-.025	-.031	.087	.081	.071
.150	1.150	2.000	-.040	-.047	-.060	.174	.162	.142
.250	1.150	2.000	-.055	-.066	-.084	.261	.243	.214
.350	1.150	2.000	-.065	-.079	-.103	.348	.329	.285
.450	1.150	2.000	-.068	-.086	-.116	.434	.405	.357
.550	1.150	2.000	-.065	-.086	-.121	.519	.485	.426
.650	1.150	2.000	-.055	-.079	-.120	.602	.564	.499
.750	1.150	2.000	-.039	-.066	-.111	.684	.641	.569
.850	1.150	2.000	-.018	-.048	-.097	.763	.716	.637
.950	1.150	2.000	.008	-.024	-.077	.840	.787	.703
1.050	1.150	2.000	.039	.003	-.054	.913	.857	.767
1.150	1.150	2.000	.070	.034	-.027	.984	.926	.829
1.250	1.150	2.000	.105	.066	.002	1.050	.989	.887
1.350	1.150	2.000	.140	.100	.033	1.113	1.050	.943
1.450	1.150	2.000	.176	.134	.065	1.173	1.106	.996
1.550	1.150	2.000	.212	.169	.097	1.228	1.160	1.046
1.650	1.150	2.000	.247	.202	.128	1.281	1.210	1.073
1.750	1.150	2.000	.281	.236	.159	1.329	1.257	1.136
1.850	1.150	2.000	.315	.268	.190	1.375	1.301	1.177
1.950	1.150	2.000	.347	.299	.219	1.417	1.342	1.216
2.050	1.150	2.000	.377	.329	.247	1.457	1.380	1.252
2.150	1.150	2.000	.407	.357	.274	1.494	1.415	1.285
2.250	1.150	2.000	.435	.384	.300	1.528	1.448	1.316
2.350	1.150	2.000	.461	.410	.324	1.560	1.479	1.345
2.450	1.150	2.000	.486	.434	.347	1.589	1.508	1.372
2.550	1.150	2.000	.509	.457	.369	1.617	1.534	1.397
2.650	1.150	2.000	.532	.478	.393	1.643	1.559	1.421
2.750	1.150	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.769	1.629	1.482
.050	[illegible]	[illegible]	-.019	-.022	-.027	.095	.070	.063
.150	1.250	[illegible]	[illegible]	-.032	[illegible]	.193	.177	.159
.250	[illegible]	[illegible]	[illegible]	-.035	-.070	[illegible]	.250	.229
.350	1.250	[illegible]	-.107	-.071	-.092	[illegible]	.350	.316
.450	1.250	2.000	-.069	-.076	-.133	.473	.412	.376
.550	1.250	2.000	-.057	-.076	-.117	.561	.528	.473
.650	1.250	2.000	-.048	-.072	-.105	.649	.611	.548
.750	1.250	2.000	-.033	-.057	-.097	.734	.622	.622
.850	1.250	2.000	-.013	-.040	-.064	.816	.770	.693
.950	1.250	2.000	.011	-.013	[illegible]	.895	.845	.762
1.050	1.250	2.000	.038	.009	-.043	.971	.917	.828
1.150	1.250	2.000	.069	.036	-.016	1.042	.985	.891
1.250	1.250	2.000	.101	.067	.009	1.110	1.050	.951
1.350	1.250	2.000	.134	.098	.039	1.173	1.111	1.008
1.450	1.250	2.000	.162	.131	.069	1.233	1.169	1.061
1.550	1.250	2.000	[illegible]	.153	.099	1.289	1.223	1.111
1.650	1.250	2.000	.236	.176	.129	1.342	1.273	1.158
1.750	1.250	2.000	.269	.227	.159	1.391	1.320	1.202
1.850	1.250	2.000	.300	.255	.188	1.436	1.364	1.243
1.950	1.250	2.000	.331	.286	.215	1.477	1.405	1.281
2.050	1.250	2.000	.361	.317	.243	1.519	1.443	1.317
2.150	1.250	2.000	.389	.344	.269	1.555	1.478	1.350
2.250	1.250	2.000	.416	.370	.294	1.589	1.511	1.381
2.350	1.250	2.000	.441	.395	.316	1.621	1.542	1.410
2.450	1.250	2.000	.466	.419	.340	1.650	1.570	1.437
2.550	1.250	2.000	[illegible]	.441	.362	1.678	1.597	1.462
2.650	1.250	2.000	.510	.462	.382	1.703	1.622	1.485
2.750	1.250	2.000	.531	.482	.401	1.727	1.645	1.507
2.850	1.250	2.000	.550	.501	.419	1.749	1.666	1.528
2.950	1.250	2.000	.568	.518	.435	1.770	1.686	1.546
.050	1.350	2.000	-.016	-.017	-.024	.102	.096	.087
.150	1.350	2.000	-.031	-.037	-.046	.203	.192	.173
.250	1.350	2.000	-.043	-.051	-.066	.303	.285	.259
.350	1.350	2.000	-.050	-.061	-.080	.402	.380	.343
.450	1.350	2.000	-.052	-.066	-.090	.499	.472	.427
.550	1.350	2.000	-.049	-.066	-.073	.593	.561	.508
.650	1.350	2.000	-.041	-.060	-.091	.684	.648	.587
.750	1.350	2.000	-.027	-.043	-.084	.773	.732	.664
.850	1.350	2.000	-.009	-.032	-.071	.857	.812	.738
.950	1.350	2.000	.014	-.012	-.054	.938	.889	.809
1.050	1.350	2.000	.037	.012	-.033	1.015	.963	.876
1.150	1.350	2.000	.067	.039	-.009	1.087	1.032	.941
1.250	1.350	2.000	.098	.067	.017	1.156	1.098	1.001
1.350	1.350	2.000	.129	.097	.044	1.223	1.159	1.058
1.450	1.350	2.000	.161	.128	.072	1.280	1.217	1.112
1.550	1.350	2.000	.193	.159	.101	1.336	1.271	1.162
1.650	1.350	2.000	.225	.189	.130	1.389	1.322	1.210
1.750	1.350	2.000	.256	.220	.158	1.438	1.369	1.254
1.850	1.350	2.000	.287	.249	.186	1.483	1.413	1.295
1.950	1.350	2.000	.316	.278	.213	1.526	1.453	1.333
2.050	1.350	2.000	.344	.305	.239	1.565	1.491	1.368
2.150	1.350	2.000	.372	.331	.265	1.602	1.527	1.402
2.250	1.350	2.000	.398	.357	.289	1.635	1.559	1.432
2.350	1.350	2.000	.422	.381	.311	1.667	1.590	1.461
2.450	1.350	2.000	.446	.404	.333	1.696	1.618	1.488
2.550	1.350	2.000	.468	.425	.354	1.724	1.645	1.513
2.650	1.350	2.000	.489	.446	.374	1.749	1.669	1.536
2.750	1.350	2.000	.509	.465	.392	1.773	1.692	1.557
2.850	1.350	2.000	.528	.483	.410	1.795	1.713	1.578

2.950	1.450	2.000	.545	.511	.127	[illegible]	1.733	1.596
.050	1.450	2.000	[illegible]	-.017	[illegible]	.106	.101	.092
.150	1.450	2.000	-.027	-.032	[illegible]	.211	.201	.183
.250	1.450	2.000	-.037	-.044	-.057	.315	.300	.273
.350	1.450	2.000	-.042	-.053	-.071	.419	.398	.362
.450	1.450	2.000	-.045	-.057	-.078	.519	.493	.449
.550	1.450	2.000	-.042	-.056	-.080	.616	.585	.534
.650	1.450	2.000	-.034	-.051	-.078	.710	.675	.616
.750	1.450	2.000	-.021	-.040	-.071	.800	.761	.695
.850	1.450	2.000	-.007	-.025	-.059	.887	.843	.771
.950	1.450	2.000	.016	-.008	-.043	.968	.922	.843
1.050	1.450	2.000	.043	.017	-.023	1.046	.996	.912
1.150	1.450	2.000	.067	.041	-.001	1.119	1.066	.977
1.250	1.450	2.000	.095	.068	.024	1.188	1.132	1.038
1.350	1.450	2.000	.124	.096	.049	1.253	1.194	1.096
1.450	1.450	2.000	.154	.125	.075	1.313	1.252	1.150
1.550	1.450	2.000	.185	.154	.103	1.369	1.306	1.200
1.650	1.450	2.000	.215	.183	.131	1.422	1.356	1.247
1.750	1.450	2.000	.244	.212	.158	1.471	1.403	1.291
1.850	1.450	2.000	.273	.240	.185	1.516	1.447	1.332
1.950	1.450	2.000	.302	.267	.210	1.558	1.488	1.370
2.050	1.450	2.000	.329	.294	.236	1.597	1.525	1.405
2.150	1.450	2.000	.355	.319	.258	1.634	1.561	1.436
2.250	1.450	2.000	.380	.343	.283	1.668	1.593	1.469
2.350	1.450	2.000	.404	.367	.305	1.699	1.624	1.498
2.450	1.450	2.000	.426	.389	.326	1.728	1.652	1.524
2.550	1.450	2.000	.448	.410	.346	1.755	1.678	1.549
2.650	1.450	2.000	.468	.430	.366	1.781	1.702	1.572
2.750	1.450	2.000	.487	.449	.384	1.804	1.725	1.593
2.850	1.450	2.000	.506	.466	.401	1.826	1.746	1.613
2.950	1.450	2.000	.523	.483	.417	1.847	1.766	1.632
.050	1.550	2.000	-.012	-.019	-.018	.109	.104	.095
.150	1.550	2.000	-.023	-.027	-.035	.218	.207	.190
.250	1.550	2.000	-.032	-.038	-.049	.325	.309	.284
.350	1.550	2.000	-.037	-.045	-.058	.430	.409	.375
.450	1.550	2.000	-.038	-.049	-.066	.532	.507	.465
.550	1.550	2.000	-.035	-.048	-.068	.631	.601	.552
.650	1.550	2.000	-.028	-.042	-.066	.727	.693	.636
.750	1.550	2.000	-.016	-.032	-.059	.818	.780	.716
.850	1.550	2.000	.000	-.018	-.047	.905	.863	.793
.950	1.550	2.000	.019	.000	-.032	.988	.942	.866
1.050	1.550	2.000	.042	.021	-.014	1.066	1.017	.936
1.150	1.550	2.000	.066	.045	.007	1.139	1.087	1.001
1.250	1.550	2.000	.092	.069	.030	1.208	1.154	1.063
1.350	1.550	2.000	.120	.095	.055	1.273	1.216	1.120
1.450	1.550	2.000	.148	.123	.080	1.333	1.273	1.174
1.550	1.550	2.000	.177	.150	.105	1.389	1.327	1.224
1.650	1.550	2.000	.205	.178	.132	1.442	1.378	1.271
1.750	1.550	2.000	.233	.205	.158	1.490	1.425	1.315
1.850	1.550	2.000	.261	.232	.183	1.535	1.468	1.356
1.950	1.550	2.000	.288	.258	.208	1.577	1.509	1.394
2.050	1.550	2.000	.314	.283	.232	1.616	1.546	1.429
2.150	1.550	2.000	.339	.307	.255	1.653	1.581	1.462
2.250	1.550	2.000	.362	.331	.277	1.686	1.613	1.492
2.350	1.550	2.000	.385	.353	.298	1.717	1.643	1.520
2.450	1.550	2.000	.407	.374	.319	1.746	1.671	1.547
2.550	1.550	2.000	.428	.395	.339	1.773	1.698	1.571
2.650	1.550	2.000	.448	.414	.357	1.798	1.722	1.594
2.750	1.550	2.000	.467	.432	.375	1.822	1.744	1.615
2.850	1.550	2.000	[illegible]	.450	[illegible]	[illegible]	[illegible]	[illegible]

2.750	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.765	1.654
.050	1.650	2.000	-.010	-.012	-.015	.111	.106	.097
.150	1.650	2.000	[illegible]	[illegible]	-.027	.221	.211	.194
.250	1.650	2.000	-.027	-.032	-.041	.329	.314	.289
.350	1.650	2.000	-.031	-.036	-.050	.435	.416	.383
.450	1.650	2.000	-.032	-.031	-.056	.539	.519	.474
.550	1.650	2.000	-.029	-.039	-.057	.639	.610	.562
.650	1.650	2.000	-.021	-.034	-.054	.735	.702	.647
.750	1.650	2.000	-.010	-.024	-.047	.827	.790	.728
.850	1.650	2.000	.004	-.011	-.036	.914	.873	.806
.950	1.650	2.000	.022	.006	-.022	.997	.953	.879
1.050	1.650	2.000	.042	.025	-.004	1.075	1.028	.949
1.150	1.650	2.000	.065	.047	.015	1.148	1.098	1.014
1.250	1.650	2.000	.090	.070	.037	1.217	1.164	1.076
1.350	1.650	2.000	.115	.095	.060	1.281	1.226	1.133
1.450	1.650	2.000	.142	.120	.084	1.341	1.283	1.187
1.550	1.650	2.000	.169	.146	.108	1.397	1.337	1.237
1.650	1.650	2.000	.196	.172	.133	1.449	1.387	1.284
1.750	1.650	2.000	.223	.198	.157	1.498	1.434	1.327
1.850	1.650	2.000	.249	.223	.181	1.542	1.477	1.368
1.950	1.650	2.000	.274	.248	.205	1.584	1.517	1.405
2.050	1.650	2.000	.299	.272	.228	1.623	1.554	1.440
2.150	1.650	2.000	.323	.296	.251	1.659	1.589	1.473
2.250	1.650	2.000	.346	.318	.272	1.692	1.621	1.503
2.350	1.650	2.000	.368	.340	.293	1.723	1.651	1.531
2.450	1.650	2.000	.389	.360	.313	1.752	1.679	1.557
2.550	1.650	2.000	.409	.380	.331	1.779	1.704	1.581
2.650	1.650	2.000	.428	.399	.349	1.803	1.729	1.604
2.750	1.650	2.000	.446	.416	.357	1.827	1.751	1.625
2.850	1.650	2.000	.464	.433	.363	1.848	1.772	1.644
2.950	1.650	2.000	.480	.449	.378	1.868	1.791	1.663
.050	1.750	2.000	-.007	-.010	-.013	.111	.106	.098
.150	1.750	2.000	-.016	-.019	-.025	.221	.212	.196
.250	1.750	2.000	-.022	-.027	-.034	.330	.316	.292
.350	1.750	2.000	-.025	-.032	-.042	.436	.417	.386
.450	1.750	2.000	-.025	-.033	-.046	.540	.516	.477
.550	1.750	2.000	-.022	-.031	-.046	.640	.612	.566
.650	1.750	2.000	-.016	-.026	-.043	.735	.704	.651
.750	1.750	2.000	-.005	-.017	-.036	.827	.792	.732
.850	1.750	2.000	.009	-.004	-.026	.914	.875	.810
.950	1.750	2.000	.025	.011	-.012	.997	.954	.883
1.050	1.750	2.000	.044	.029	.004	1.074	1.029	.952
1.150	1.750	2.000	.065	.047	.023	1.147	1.099	1.017
1.250	1.750	2.000	.088	.071	.043	1.216	1.164	1.079
1.350	1.750	2.000	.112	.094	.064	1.279	1.225	1.136
1.450	1.750	2.000	.137	.118	.087	1.339	1.283	1.189
1.550	1.750	2.000	.162	.143	.110	1.394	1.336	1.239
1.650	1.750	2.000	.187	.167	.133	1.446	1.386	1.285
1.750	1.750	2.000	.213	.192	.157	1.494	1.432	1.328
1.850	1.750	2.000	.237	.216	.180	1.538	1.475	1.368
1.950	1.750	2.000	.262	.240	.202	1.580	1.514	1.405
2.050	1.750	2.000	.285	.263	.225	1.618	1.551	1.440
2.150	1.750	2.000	.308	.285	.246	1.654	1.586	1.472
2.250	1.750	2.000	.330	.306	.267	1.687	1.617	1.502
2.350	1.750	2.000	.351	.327	.287	1.717	1.647	1.530
2.450	1.750	2.000	.372	.347	.306	1.746	1.674	1.556
2.550	1.750	2.000	.391	.366	.324	1.772	1.700	1.580
2.650	1.750	2.000	.409	.384	.342	1.797	1.724	1.602
2.750	1.750	2.000	.427	.401	.358	1.820	1.746	1.623
2.850	1.750	2.000	.444	.416	.374	1.841	1.767	1.642

2.950	1.750	2.[illegible]	.463	.4[illegible]	.[illegible]	1.[illegible]	1.766	1.640
.050	1.[illegible]	2.[illegible]	-.007	-.0[illegible]	-.010	.119	.106	.096
.150	1.[illegible]	2.[illegible]	-.[illegible]	-.01[illegible]	-.020	.220	.210	.195
.250	1.[illegible]	2.[illegible]	-.013	-.022	-.026	.32[illegible]	.314	.291
.350	1.[illegible]	2.[illegible]	-.022	-.025	-.039	.433	.415	.385
.450	1.650	2.000	-.020	-.026	-.037	.536	.514	.476
.550	1.[illegible]	2.000	-.017	-.024	-.036	.635	.608	.564
.650	1.650	2.000	-.019	-.019	-.033	.730	.699	.648
.750	1.650	2.000	-.000	-.010	-.026	.821	.756	.729
.850	1.650	2.000	.012	.002	-.016	.907	.869	.806
.950	1.650	2.000	.028	.016	-.003	.989	.947	.879
1.050	1.650	2.000	.045	.033	.012	1.066	1.021	.948
1.150	1.650	2.000	.065	.052	.030	1.138	1.091	1.012
1.250	1.650	2.000	.085	.072	.049	1.205	1.156	1.073
1.350	1.650	2.000	.109	.079	.062	1.259	1.216	1.129
1.450	1.650	2.000	.132	.116	.090	1.327	1.273	1.182
1.550	1.650	2.000	.155	.139	.112	1.382	1.326	1.231
1.650	1.650	2.000	.180	.163	.134	1.433	1.375	1.277
1.750	1.650	2.000	.203	.180	.156	1.481	1.420	1.320
1.850	1.650	2.000	.227	.209	.178	1.525	1.463	1.357
1.950	1.650	2.000	.255	.231	.200	1.566	1.502	1.396
2.050	1.650	2.000	.272	.253	.221	1.603	1.538	1.430
2.150	1.650	2.000	.294	.274	.242	1.639	1.572	1.462
2.250	1.650	2.000	.315	.295	.262	1.671	1.604	1.491
2.350	1.650	2.000	.335	.315	.281	1.702	1.633	1.519
2.450	1.650	2.000	.355	.334	.299	1.730	1.660	1.544
2.550	1.650	2.000	.374	.352	.317	1.756	1.686	1.568
2.650	1.650	2.000	.391	.370	.334	1.781	1.709	1.590
2.750	1.650	2.000	.408	.386	.350	1.803	1.731	1.611
2.850	1.650	2.000	.425	.402	.365	1.825	1.752	1.630
2.950	1.650	2.000	.443	.417	.380	1.844	1.771	1.646
.050	1.750	2.000	-.005	-.017	-.008	.109	.104	.097
.150	1.750	2.000	-.011	-.013	-.016	.217	.208	.193
.250	1.750	2.000	-.014	-.017	-.022	.323	.310	.287
.350	1.750	2.000	-.016	-.020	-.027	.427	.409	.380
.450	1.750	2.000	-.015	-.020	-.028	.528	.506	.470
.550	1.750	2.000	-.012	-.017	-.027	.626	.600	.557
.650	1.750	2.000	-.005	-.012	-.023	.719	.690	.641
.750	1.750	2.000	.004	-.004	-.017	.809	.776	.720
.850	1.750	2.000	.015	.007	-.007	.874	.857	.796
.950	1.750	2.000	.030	.021	.005	.974	.934	.868
1.050	1.750	2.000	.047	.037	.020	1.050	1.007	.936
1.150	1.750	2.000	.065	.054	.036	1.121	1.075	.999
1.250	1.750	2.000	.085	.073	.054	1.189	1.139	1.059
1.350	1.750	2.000	.106	.094	.073	1.250	1.199	1.115
1.450	1.750	2.000	.128	.115	.093	1.308	1.255	1.167
1.550	1.750	2.000	.150	.136	.114	1.362	1.307	1.216
1.650	1.750	2.000	.172	.156	.135	1.413	1.356	1.261
1.750	1.750	2.000	.175	.180	.156	1.459	1.401	1.303
1.850	1.750	2.000	.217	.232	.177	1.503	1.442	1.342
1.950	1.750	2.000	.237	.223	.197	1.543	1.481	1.378
2.050	1.750	2.000	.263	.219	.218	1.581	1.517	1.412
2.150	1.750	2.000	.281	.265	.237	1.615	1.551	1.443
2.250	1.750	2.000	.311	.234	.256	1.648	1.582	1.472
2.350	1.750	2.000	.320	.303	.275	1.678	1.611	1.499
2.450	1.750	2.000	.337	.322	.293	1.706	1.638	1.524
2.[illegible]	1.750	2.[illegible]	.357	.339	.310	1.732	1.663	1.548
[illegible]	1.[illegible]	2.[illegible]	.374	.356	.326	1.756	1.686	1.570
2.7[illegible]	1.750	2.[illegible]	.391	.372	.342	1.778	1.708	1.590
[illegible]	1.750	2.[illegible]	.40[illegible]	.[illegible]	.357	1.799	1.728	1.609

2.[illegible]	4.[illegible]	2.[illegible]	[illegible]	[illegible]	[illegible]	1.[illegible]	1.747	1.627
[illegible]	[illegible]	[illegible]	-.00[illegible]	[illegible]	-.0[illegible]7	[illegible]	.102	.095
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.212	[illegible]	.189
.25[illegible]	4.[illegible]	[illegible]	-.011	[illegible]	-.017	.316	.303	.282
[illegible]	[illegible]	2.[illegible]	-.012	[illegible]	-.020	.410	.401	.373
.350	[illegible]	2.[illegible]	-.01[illegible]	[illegible]	-.021	.517	.496	.461
[illegible]	[illegible]	[illegible]	-.0[illegible]7	[illegible]	[illegible]	.612	.588	.546
[illegible]	[illegible]	[illegible]	-.0[illegible]1	[illegible]	-.01[illegible]	.709	.676	.628
[illegible]	[illegible]	2.[illegible]	[illegible]	.002	[illegible]	.792	.760	.707
[illegible]	[illegible]	2.[illegible]	.019	.013	.001	.875	.840	.781
.95[illegible]	[illegible]	[illegible]	.0[illegible]3	[illegible]	[illegible]	.954	.915	.852
[illegible]	[illegible]	[illegible]	.043	.042	.027	1.027	.987	.918
1.1[illegible]	[illegible]	2.[illegible]	.06[illegible]	[illegible]	.042	1.[illegible]	1.05[illegible]	.981
1.2[illegible]	[illegible]	2.[illegible]	.08[illegible]	.074	.059	1.164	1.117	1.039
1.3[illegible]	[illegible]	[illegible]	.1[illegible]1	[illegible]	.077	1.225	1.176	1.094
1.4[illegible]	[illegible]	2.[illegible]	.1[illegible]	.115	.096	1.282	1.231	1.146
[illegible]	[illegible]	[illegible]	[illegible]	.134	.116	1.336	1.282	1.193
1.[illegible]	[illegible]	[illegible]	.1[illegible]5	.154	.[illegible]35	1.385	1.330	1.238
1.7[illegible]	[illegible]	[illegible]	[illegible]	.175	[illegible]	1.431	1.374	1.279
1.8[illegible]	[illegible]	2.0[illegible]	.2[illegible]	.196	.175	1.474	1.415	1.317
1.950	[illegible]	2.[illegible]	.224	.216	.195	1.514	1.454	1.353
2.0[illegible]	[illegible]	[illegible]	.247	.236	.214	1.551	1.489	1.386
2.15[illegible]	[illegible]	[illegible]	.263	.255	.233	1.585	1.522	1.417
2.250	[illegible]	[illegible]	.28[illegible]	.274	.252	1.617	1.553	1.446
2.350	[illegible]	2.[illegible]	.30[illegible]	.292	.2[illegible]	1.647	1.581	1.473
2.4[illegible]	[illegible]	[illegible]	.324	.310	.286	1.674	1.608	1.497
2.55[illegible]	[illegible]	2.[illegible]	.3[illegible]	.327	.303	1.700	1.633	1.521
2.6[illegible]	[illegible]	2.[illegible]	.351	.343	.319	1.724	1.656	1.542
2.75[illegible]	[illegible]	2.[illegible]	.37[illegible]	.359	.335	1.746	1.677	1.562
2.8[illegible]	[illegible]	2.[illegible]	.387	.374	.346	1.767	1.697	1.581
2.95[illegible]	[illegible]	2.[illegible]	.4[illegible]	.388	.362	1.786	1.716	1.598
[illegible]	[illegible]	[illegible]	-.003	-.009	-.00[illegible]	.103	.079	.072
.1[illegible]	4.1[illegible]	[illegible]	-.0[illegible]	-.0[illegible]7	-.009	.205	.193	.184
.25[illegible]	[illegible]	[illegible]	[illegible]	-.010	-.010	.308	.295	.275
.350	[illegible]	[illegible]	-.0[illegible]8	-.0[illegible]	-.01[illegible]	.407	.390	.363
.45[illegible]	[illegible]	[illegible]	-.005	-.0[illegible]	-.014	.503	.483	.450
.55[illegible]	[illegible]	[illegible]	-.002	-.0[illegible]	-.012	.596	.573	.533
.65[illegible]	4.1[illegible]	2.[illegible]	.001	-.001	-.007	.685	.658	.613
.75[illegible]	4.15[illegible]	2.[illegible]	.012	.007	-.008	.771	.741	.689
.8[illegible]	[illegible]	2.[illegible]	.02[illegible]	.017	.009	.853	.819	.762
[illegible]	[illegible]	2.[illegible]	.035	.029	.020	.930	.893	.831
1.0[illegible]	[illegible]	2.[illegible]	.049	.043	.033	1.003	.963	.896
1.1[illegible]	[illegible]	2.[illegible]	.065	.059	.048	1.071	1.028	.957
1.25[illegible]	4.15[illegible]	[illegible]	.082	.075	.064	1.135	1.090	1.015
1.35[illegible]	4.15[illegible]	2.[illegible]	.101	.093	.081	1.195	1.148	1.069
1.450	4.15[illegible]	2.[illegible]	.120	.112	.099	1.251	1.202	1.119
1.55[illegible]	4.1[illegible]	2.[illegible]	.13[illegible]	.131	.117	1.304	1.252	1.166
[illegible]	4.1[illegible]	[illegible]	.15[illegible]	.150	.136	1.352	1.299	1.209
1.75[illegible]	[illegible]	[illegible]	.179	.170	.155	1.397	1.342	1.250
1.85[illegible]	[illegible]	[illegible]	.199	.190	.174	1.440	1.383	1.287
1.950	[illegible]	[illegible]	.219	.209	.193	1.479	1.420	1.323
2.05[illegible]	[illegible]	2.[illegible]	.239	.228	.211	1.515	1.455	1.355
2.15[illegible]	[illegible]	2.[illegible]	.257	.246	.229	1.549	1.488	1.386
2.25[illegible]	4.1[illegible]	[illegible]	.275	.264	.247	1.580	1.518	1.414
2.35[illegible]	4.15[illegible]	[illegible]	.293	.282	.264	1.609	1.546	1.440
[illegible]	[illegible]	[illegible]	.31[illegible]	.299	.280	1.637	1.572	1.465
[illegible]	[illegible]	[illegible]	.327	.315	.295	1.662	1.596	1.487
[illegible]	[illegible]	[illegible]	.343	.331	.311	1.686	1.619	1.509
2.7[illegible]	[illegible]	[illegible]	.35[illegible]	.346	.326	1.708	1.640	1.528
						1.7[illegible]	1.660	1.547

2.750	2.150	2.000	.313	.374	.354	1.747	1.679	1.569
.050	2.250	2.000	-.002	-.003	-.003	.100	.096	.090
.150	2.250	2.000	-.003	-.005	-.005	.200	.192	.179
.250	2.250	2.000	-.005	-.006	-.005	.290	.286	.266
.350	2.250	2.000	-.005	-.006	-.007	.394	.376	.352
.450	2.250	2.000	-.005	-.005	-.006	.488	.468	.436
.550	2.250	2.000	.001	-.001	-.005	.578	.555	.517
.650	2.250	2.000	.007	.004	-.000	.665	.639	.595
.750	2.250	2.000	.015	.012	.007	.748	.718	.669
.850	2.250	2.000	.025	.022	.015	.827	.795	.740
.950	2.250	2.000	.037	.033	.026	.902	.867	.807
1.050	2.250	2.000	.050	.046	.039	.973	.935	.870
1.150	2.250	2.000	.065	.061	.053	1.040	.999	.930
1.250	2.250	2.000	.081	.076	.066	1.103	1.059	.986
1.350	2.250	2.000	.099	.093	.084	1.161	1.115	1.039
1.450	2.250	2.000	.116	.111	.101	1.216	1.168	1.086
1.550	2.250	2.000	.135	.127	.119	1.267	1.217	1.134
1.650	2.250	2.000	.153	.147	.136	1.315	1.263	1.176
1.750	2.250	2.000	.172	.156	.154	1.359	1.306	1.216
1.850	2.250	2.000	.191	.184	.172	1.401	1.345	1.253
1.950	2.250	2.000	.209	.202	.186	1.439	1.382	1.287
2.050	2.250	2.000	.228	.220	.206	1.475	1.417	1.317
2.150	2.250	2.000	.246	.238	.223	1.508	1.449	1.349
2.250	2.250	2.000	.263	.255	.242	1.539	1.478	1.377
2.350	2.250	2.000	.280	.272	.258	1.568	1.506	1.403
2.450	2.250	2.000	.297	.289	.274	1.595	1.532	1.427
2.550	2.250	2.000	.313	.304	.290	1.620	1.556	1.449
2.650	2.250	2.000	.328	.319	.304	1.643	1.578	1.470
2.750	2.250	2.000	.343	.334	.319	1.664	1.599	1.490
2.850	2.250	2.000	.357	.348	.332	1.685	1.618	1.508
2.950	2.250	2.000	.372	.361	.345	1.704	1.637	1.525
.050	2.350	2.000	-.001	-.002	-.002	.097	.093	.086
.150	2.350	2.000	-.002	-.003	-.004	.193	.185	.172
.250	2.350	2.000	-.003	-.003	-.005	.287	.276	.257
.350	2.350	2.000	-.002	-.003	-.004	.380	.365	.340
.450	2.350	2.000	.001	-.002	-.003	.471	.452	.421
.550	2.350	2.000	.005	.003	.001	.558	.536	.499
.650	2.350	2.000	.011	.009	.006	.642	.617	.574
.750	2.350	2.000	.018	.016	.013	.723	.694	.646
.850	2.350	2.000	.028	.025	.022	.800	.768	.715
.950	2.350	2.000	.039	.036	.032	.872	.838	.780
1.050	2.350	2.000	.052	.049	.044	.941	.904	.842
1.150	2.350	2.000	.065	.062	.057	1.006	.966	.900
1.250	2.350	2.000	.081	.077	.072	1.067	1.025	.955
1.350	2.350	2.000	.097	.093	.087	1.124	1.080	1.006
1.450	2.350	2.000	.113	.109	.103	1.178	1.131	1.054
1.550	2.350	2.000	.131	.125	.120	1.228	1.179	1.098
1.650	2.350	2.000	.149	.144	.137	1.275	1.224	1.140
1.750	2.350	2.000	.166	.161	.154	1.318	1.266	1.179
1.850	2.350	2.000	.184	.179	.171	1.358	1.305	1.215
1.950	2.350	2.000	.201	.196	.188	1.396	1.341	1.249
2.050	2.350	2.000	.219	.213	.205	1.431	1.375	1.280
2.150	2.350	2.000	.236	.230	.221	1.464	1.406	1.309
2.250	2.350	2.000	.252	.247	.238	1.494	1.435	1.337
2.350	2.350	2.000	[illegible]	.263	.254	1.523	1.462	1.362
2.450	2.350	2.000	[illegible]	.278	.269	1.549	1.488	1.386
2.550	2.350	2.000	.299	.293	.283	1.573	1.511	1.408
2.650	2.350	2.000	.319	.306	.298	1.596	1.533	1.428
2.750	2.350	2.000	.328	.322	.311	1.619	1.554	1.447
2.850	2.350	2.000	.342	.335	.325	1.638	1.573	1.465

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.552
[illegible]	[illegible]	[illegible]	[illegible]	-.031	-.031	[illegible]	.087	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.120	.165
[illegible]	[illegible]	[illegible]	[illegible]	-.031	-.031	.275	.265	.247
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.351	.327
[illegible]	[illegible]	[illegible]	[illegible]	.013	.002	.453	.435	.405
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.537	.516	.480
[illegible]	[illegible]	[illegible]	[illegible]	.013	.011	.618	.599	.553
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.668	.622
[illegible]	[illegible]	[illegible]	[illegible]	.029	.027	.770	.740	.689
[illegible]	[illegible]	[illegible]	[illegible]	.039	.037	[illegible]	[illegible]	.752
[illegible]	[illegible]	[illegible]	.052	.051	.049	.900	.872	.812
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.061	.971	.932	.868
[illegible]	[illegible]	[illegible]	[illegible]	.075	.075	1.030	.987	.921
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.042	.970
[illegible]	[illegible]	[illegible]	[illegible]	.133	[illegible]	1.135	1.092	1.017
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.122	[illegible]	1.139	1.061
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.137	1.232	1.183	1.101
[illegible]	[illegible]	[illegible]	[illegible]	.157	.153	1.274	1.221	1.139
[illegible]	[illegible]	[illegible]	.177	.179	.169	1.314	1.262	1.174
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.186	1.351	1.297	1.207
[illegible]	[illegible]	[illegible]	[illegible]	.237	.232	1.385	1.330	1.238
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.417	1.361	1.267
[illegible]	[illegible]	[illegible]	[illegible]	.237	.233	1.447	1.389	1.293
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.473	1.416	1.318
[illegible]	[illegible]	[illegible]	[illegible]	.259	.253	1.501	1.441	1.341
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.277	1.525	1.464	1.363
[illegible]	[illegible]	[illegible]	[illegible]	.297	.291	1.547	1.486	1.383
[illegible]	[illegible]	[illegible]	[illegible]	.331	.309	1.563	1.506	1.402
[illegible]	[illegible]	[illegible]	.322	.329	.317	1.583	1.525	1.420
[illegible]	[illegible]	[illegible]	.341	.336	.327	1.600	1.542	1.436
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.089	.085	.080
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.175	.170	.159
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.254	.237
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.351	.337	.313
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.434	.417	.388
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.011	.515	.495	.461
[illegible]	[illegible]	[illegible]	.017	.016	.016	.593	.570	.530
.750	[illegible]	[illegible]	.024	.024	.024	.668	.642	.597
[illegible]	[illegible]	[illegible]	.032	.032	.032	.740	.711	.661
[illegible]	[illegible]	[illegible]	[illegible]	.042	.042	.808	.776	.722
[illegible]	[illegible]	[illegible]	.053	[illegible]	.053	.873	.838	.780
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.065	.934	.896	.834
[illegible]	[illegible]	[illegible]	.079	.079	.078	.991	.951	.886
1.550	[illegible]	[illegible]	.093	.093	.092	1.045	1.003	.934
1.450	[illegible]	[illegible]	.105	.107	.106	1.096	1.052	.979
[illegible]	[illegible]	[illegible]	.123	.124	.121	1.143	1.097	1.021
[illegible]	[illegible]	[illegible]	[illegible]	.138	.137	1.187	1.140	1.061
[illegible]	[illegible]	[illegible]	[illegible]	.154	.152	1.229	1.180	1.098
[illegible]	[illegible]	[illegible]	.172	[illegible]	.168	1.267	1.217	1.132
[illegible]	[illegible]	[illegible]	.188	[illegible]	.183	1.303	1.251	1.164
[illegible]	[illegible]	[illegible]	[illegible]	.201	.199	1.337	1.284	1.194
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.214	1.369	1.314	1.222
2.250	[illegible]	[illegible]	[illegible]	.231	.229	1.398	1.342	1.246
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.243	1.425	1.368	1.273
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.253	1.450	1.392	1.295
[illegible]	[illegible]	[illegible]	.275	[illegible]	.271	1.474	1.415	1.317
[illegible]	[illegible]	[illegible]	[illegible]	.287	.285	1.496	1.436	1.336
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.297	1.517	1.456	1.355

2.450	2.550	2.300	.327	.325	.322	1.454	1.492	1.388
.050	2.650	2.300	.001	.001	.001	.085	.082	.076
.150	2.650	2.[illegible]	.002	.002	.002	.175	.163	.152
.250	2.650	2.300	.003	.004	.004	.253	.243	.226
.350	2.650	2.300	[illegible]	.003	.007	.335	.322	.300
.450	2.650	2.300	.009	.009	.010	.415	.399	.371
.550	2.650	2.300	.013	.014	.015	.493	.473	.441
.650	2.650	2.300	.019	.020	.021	.568	.545	.507
.750	2.650	2.300	.025	.027	.028	.640	.614	.572
.850	2.650	2.300	.034	.035	.036	.709	.681	.633
.950	2.650	2.300	.044	.044	.046	.775	.744	.692
1.050	2.650	2.300	.054	.055	.057	.837	.803	.747
1.150	2.650	2.300	.067	.067	.069	.896	.860	.800
1.250	2.650	2.300	.078	.079	.081	.951	.913	.850
1.350	2.650	2.300	.091	.092	.094	1.004	.963	.896
1.450	2.650	2.300	.105	.106	.106	1.053	1.011	.940
1.550	2.650	2.300	.120	.121	.122	1.099	1.055	.981
1.650	2.650	2.300	.134	.135	.137	1.142	1.096	1.019
1.750	2.650	2.300	.149	.150	.151	1.182	1.135	1.055
1.850	2.650	2.300	.164	.165	.166	1.220	1.171	1.089
1.950	2.650	2.300	.179	.180	.181	1.255	1.205	1.120
2.050	2.650	2.300	.194	.195	.196	1.288	1.236	1.149
2.150	2.650	2.300	.209	.209	.210	1.319	1.266	1.177
2.250	2.650	2.300	.223	.224	.225	1.347	1.293	1.202
2.350	2.650	2.300	.237	.238	.239	1.374	1.319	1.226
2.450	2.650	2.300	.251	.252	.252	1.399	1.342	1.248
2.550	2.650	2.300	.264	.265	.265	1.422	1.363	1.269
2.650	2.650	2.300	.277	.278	.278	1.444	1.386	1.288
2.750	2.650	2.300	.290	.290	.291	1.464	1.405	1.306
2.850	2.650	2.300	.302	.302	.303	1.483	1.423	1.323
2.950	2.650	2.300	.314	.314	.314	1.501	1.440	1.339
.050	2.750	2.300	.001	.001	.002	.081	.078	.073
.150	2.750	2.300	.003	.003	.004	.162	.155	.145
.250	2.750	2.300	.005	.005	.006	.242	.232	.216
.350	2.750	2.300	.007	.008	.010	.320	.307	.286
.450	2.750	2.300	.011	.012	.014	.397	.381	.354
.550	2.750	2.300	.015	.017	.019	.471	.452	.420
.650	2.750	2.300	.021	.022	.025	.543	.521	.484
.750	2.750	2.300	.028	.029	.032	.612	.587	.546
.850	2.750	2.300	.035	.037	.040	.678	.651	.605
.950	2.750	2.300	.045	.046	.049	.741	.711	.661
1.050	2.750	2.300	.055	.057	.060	.801	.769	.715
1.150	2.750	2.300	.066	.068	.071	.858	.823	.765
1.250	2.750	2.300	.077	.080	.083	.912	.875	.813
1.350	2.750	2.300	.090	.092	.096	.962	.923	.858
1.450	2.750	2.300	.103	.105	.109	1.010	.969	.901
1.550	2.750	2.300	.117	.119	.123	1.055	1.012	.940
1.650	2.750	2.300	.130	.133	.136	1.097	1.052	.978
1.750	2.750	2.300	.144	.147	.151	1.136	1.089	1.012
1.850	2.750	2.300	.159	.161	.165	1.172	1.125	1.045
1.950	2.750	2.300	.173	.175	.179	1.207	1.157	1.076
2.050	2.750	2.300	.187	.189	.193	1.239	1.188	1.104
2.150	2.750	2.300	.201	.203	.207	1.269	1.217	1.131
2.250	2.750	2.300	.215	.217	.221	1.297	1.244	1.155
2.350	2.750	2.300	.228	.230	.234	1.323	1.269	1.179
2.450	2.750	2.300	.241	.244	.247	1.347	1.292	1.200
2.550	2.750	2.300	.254	.255	.258	1.370	1.314	1.221
2.650	2.750	2.300	.267	.267	.272	1.391	1.334	1.240
2.750	2.750	[illegible]	.279	.281	[illegible]	1.411	1.354	1.25[illegible]
[illegible]	2.750	[illegible]	.29[illegible]	.293	[illegible]	1.430	1.371	[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	.104	[illegible]	1.457	1.396	1.269
[illegible]	[illegible]	[illegible]	[illegible]	.072	.003	.077	.074	.069
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.138
[illegible]	[illegible]	[illegible]	[illegible]	.037	[illegible]	.230	.221	.263
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.012	.308	.273	.272
[illegible]	[illegible]	[illegible]	.313	.019	.017	.378	.363	.337
[illegible]	[illegible]	[illegible]	[illegible]	.12?	.022	.347	.431	.400
.550	[illegible]	[illegible]	.323	.025	.028	.510	.497	.462
.750	[illegible]	[illegible]	[illegible]	.032	.035	.551	.560	.521
.550	[illegible]	2.300	[illegible]	.063	[illegible]	.547	.521	.577
[illegible]	[illegible]	4.310	[illegible]	.098	.053	.708	.679	.631
[illegible]	[illegible]	[illegible]	.355	.053	.063	.766	.734	.662
[illegible]	[illegible]	[illegible]	[illegible]	.059	.073	.829	.737	.731
[illegible]	[illegible]	[illegible]	.377	[illegible]	.085	.872	.837	.777
[illegible]	[illegible]	[illegible]	[illegible]	.092	.097	.921	.883	.820
[illegible]	[illegible]	[illegible]	[illegible]	.138	[illegible]	.957	.927	.861
[illegible]	[illegible]	[illegible]	.115	[illegible]	.125	[illegible]	.767	.900
[illegible]	[illegible]	[illegible]	.127	.133	.136	1.051	1.008	.936
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.082	1.044	.969
[illegible]	[illegible]	[illegible]	.153	.157	.153	1.125	1.078	1.001
[illegible]	[illegible]	[illegible]	.137	.171	.177	1.159	1.110	1.031
[illegible]	[illegible]	[illegible]	[illegible]	.184	.190	1.189	1.140	1.058
[illegible]	[illegible]	[illegible]	[illegible]	.197	[illegible]	1.219	1.163	1.064
2.250	[illegible]	2.300	.207	.210	.217	1.246	1.194	1.100
[illegible]	[illegible]	[illegible]	.223	.225	.240	1.271	1.217	1.131
[illegible]	[illegible]	[illegible]	.232	.234	.242	1.295	1.242	1.152
[illegible]	[illegible]	[illegible]	.245	.246	.255	1.310	1.263	1.172
[illegible]	[illegible]	[illegible]	.257	.260	.256	1.339	1.283	1.191
[illegible]	[illegible]	[illegible]	.255	.272	.276	1.358	1.302	1.208
[illegible]	[illegible]	[illegible]	.279	.253	.289	1.376	1.319	1.224
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.394	1.336	1.240
[illegible]	[illegible]	[illegible]	.302	[illegible]	[illegible]	.074	.071	.066
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.147	.141	.131
.250	[illegible]	[illegible]	[illegible]	[illegible]	.010	.219	.210	.195
[illegible]	[illegible]	[illegible]	[illegible]	.012	[illegible]	.290	.278	.259
[illegible]	[illegible]	[illegible]	.019	.015	.019	.363	.345	.320
[illegible]	4.750	2.350	.319	.021	.025	.428	.410	.361
.550	[illegible]	[illegible]	.025	.027	.031	.493	.473	.439
.750	[illegible]	[illegible]	[illegible]	.034	.038	.557	.534	.495
.850	[illegible]	2.300	[illegible]	.011	.046	.617	.592	.549
[illegible]	[illegible]	[illegible]	[illegible]	.030	.055	.675	.647	.601
1.050	[illegible]	[illegible]	.056	.059	.065	.731	.701	.650
1.150	[illegible]	[illegible]	.064	.069	.076	.783	.751	.697
1.250	2.950	2.300	.176	.080	.087	.833	.799	.741
1.350	2.950	[illegible]	[illegible]	.091	.098	.880	.844	.783
1.450	[illegible]	[illegible]	[illegible]	.103	.110	.925	.886	.822
1.550	[illegible]	[illegible]	.111	.115	.123	.967	.926	.859
[illegible]	[illegible]	[illegible]	[illegible]	.129	.135	1.005	.954	.894
1.750	2.950	[illegible]	.136	.141	.149	1.043	.999	.927
1.850	2.950	[illegible]	.149	.153	.161	1.078	1.033	.957
[illegible]	2.950	2.300	.151	.166	.174	1.110	1.064	.986
2.050	[illegible]	2.095	.174	.179	.187	1.140	1.093	1.013
2.150	[illegible]	[illegible]	.187	.192	.200	1.169	1.120	1.038
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.213	1.196	1.145	1.062
[illegible]	[illegible]	[illegible]	[illegible]	.217	[illegible]	1.220	1.169	1.084
[illegible]	[illegible]	[illegible]	.224	.229	.237	1.244	1.192	1.105
[illegible]	[illegible]	[illegible]	.235	.241	.249	1.266	1.213	1.124
[illegible]	[illegible]	[illegible]	.247	.252	[illegible]	1.286	1.232	1.142
[illegible]	[illegible]	[illegible]	.258	[illegible]	.272	1.305	1.250	1.159
[illegible]	4.750	[illegible]	[illegible]	.274	[illegible]	1.323	1.260	1.175

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.254	1.196
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.022	-.026
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.053	-.059
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.063	-.079
[illegible]	[illegible]	[illegible]	[illegible]	-.130	[illegible]	-.067	-.068	-.101
[illegible]	[illegible]	[illegible]	[illegible]	-.074	-.121	-.077	-.074	-.121
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.137	[illegible]	-.104	-.135
[illegible]	[illegible]	[illegible]	[illegible]	-.112	-.145	-.087	-.111	-.158
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.082	-.114	-.156
[illegible]	[illegible]	3.30?	[illegible]	-.1?4	-.160	-.086	-.114	-.159
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.079	-.109	-.159
[illegible]	[illegible]	[illegible]	-.075	-.132	-.156	-.089	-.101	-.156
[illegible]	[illegible]	[illegible]	-.1?7	[illegible]	-.149	-.056	[illegible]	-.149
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.140	-.140	-.077	-.139
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.023	-.062	-.127
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.113	-.054	-.044	-.113
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.017	[illegible]	-.097
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.039	[illegible]	-.079
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.101	.015	-.061
[illegible]	[illegible]	[illegible]	[illegible]	.035	-.013	.084	.036	-.042
1.23?	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.107	.053	-.023
[illegible]	[illegible]	[illegible]	.12?	.079	[illegible]	.129	.080	-.003
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.015	.152	.101	.016
[illegible]	[illegible]	[illegible]	.173	.122	[illegible]	.175	.123	.036
[illegible]	[illegible]	[illegible]	[illegible]	.133	[illegible]	.197	.149	.055
[illegible]	[illegible]	[illegible]	.217	[illegible]	.073	.216	.169	.074
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.239	.184	.093
[illegible]	[illegible]	[illegible]	[illegible]	.202	.110	.259	.203	.111
[illegible]	[illegible]	3.30?	.277	.221	.127	.278	.222	.128
[illegible]	[illegible]	[illegible]	.29?	.239	.144	.297	.240	.145
[illegible]	[illegible]	[illegible]	.311	[illegible]	.160	.315	.256	.161
[illegible]	.15?	[illegible]	[illegible]	-.027	-.026	-.013	-.021	-.027
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.054	-.035	-.042	-.053
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.079	[illegible]	-.060	-.077
[illegible]	[illegible]	[illegible]	-.087	[illegible]	[illegible]	-.069	-.077	-.095
[illegible]	[illegible]	[illegible]	[illegible]	-.079	-.120	-.074	-.090	-.117
[illegible]	[illegible]	[illegible]	[illegible]	-.100	-.133	-.081	-.100	-.132
[illegible]	[illegible]	[illegible]	[illegible]	-.111	-.140	-.084	-.106	-.143
[illegible]	[illegible]	[illegible]	[illegible]	-.111	-.155	-.099	-.117	-.150
[illegible]	[illegible]	[illegible]	[illegible]	-.113	-.159	[illegible]	-.118	-.154
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.159	-.073	-.103	-.153
[illegible]	[illegible]	[illegible]	[illegible]	-.102	-.156	-.062	-.095	-.149
1.15?	[illegible]	3.?00	-.056	-.071	-.149	-.049	-.089	-.142
1.?50	[illegible]	[illegible]	-.041	-.078	-.139	-.034	-.070	-.132
1.353	.15?	[illegible]	-.024	-.032	-.127	-.016	-.055	-.120
[illegible]	[illegible]	[illegible]	-.005	[illegible]	-.113	.039	-.037	-.105
[illegible]	[illegible]	3.30?	.015	[illegible]	-.097	.024	-.01?	-.089
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.046	.002	-.072
1.7??	[illegible]	[illegible]	[illegible]	.019	-.052	.069	.023	-.053
[illegible]	[illegible]	[illegible]	[illegible]	.035	-.033	.091	.044	-.034
1.95?	[illegible]	[illegible]	[illegible]	.057	-.023	.114	.066	-.015
[illegible]	[illegible]	[illegible]	.123	.077	-.004	.137	.08?	.005
2.10?	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.160	.107	.025
[illegible]	[illegible]	[illegible]	.175	.121	[illegible]	.183	.131	.044
[illegible]	[illegible]	[illegible]	[illegible]	.112	[illegible]	.205	.157	.063
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.226	.172	.082
[illegible]	[illegible]	[illegible]	.227	[illegible]	.072	.247	.192	.101
[illegible]	[illegible]	3.30?	.257	[illegible]	[illegible]	.267	.212	.119
[illegible]	[illegible]	[illegible]	.277	[illegible]	.127	.287	.23?	.136
[illegible]	[illegible]	[illegible]	.275	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]	[illegible]	3.000	[illegible]	.253	[illegible]	.353	.306	.210
.050	.450	3.000	-.015	-.021	-.026	-.011	-.015	-.020
.150	.450	3.000	-.035	-.041	-.052	-.022	-.029	-.039
.250	.450	3.000	[illegible]	-.060	-.075	-.031	-.041	-.057
.350	.450	3.000	[illegible]	-.076	-.097	-.038	-.051	-.073
.450	.450	3.000	-.074	-.090	-.115	-.043	-.059	-.086
.550	.450	3.000	[illegible]	[illegible]	-.130	-.045	-.064	-.095
.650	.450	3.000	-.065	-.110	-.142	-.044	-.065	-.102
.750	.450	3.000	[illegible]	[illegible]	-.149	-.039	-.064	-.105
.850	.450	3.000	-.062	-.139	-.153	-.032	-.059	-.104
.950	.450	3.000	-.076	-.135	-.153	-.021	-.051	-.100
1.050	.450	3.000	-.068	-.077	-.149	-.008	-.040	-.093
1.150	.450	3.000	-.054	-.037	-.143	.008	-.026	-.084
1.250	.450	3.000	-.029	-.075	-.133	.026	-.011	-.071
1.350	.450	3.000	-.023	-.050	-.122	.045	.007	-.057
1.450	.450	3.000	-.009	-.043	-.108	.066	.026	-.041
1.550	.450	3.000	.015	-.025	-.093	.088	.046	-.024
1.650	.450	3.000	.037	-.006	-.076	.111	.067	-.005
1.750	.450	3.000	[illegible]	.015	-.058	.134	.089	.014
1.850	.450	3.000	.037	.035	-.040	.153	.111	.034
1.950	.450	3.000	.103	.056	-.021	.182	.134	.054
2.050	.450	3.000	.125	.077	-.002	.205	.156	.074
2.150	.450	3.000	.147	.098	.017	.228	.178	.094
2.250	.450	3.000	.167	.119	.036	.251	.200	.114
2.350	.450	3.000	.179	.140	.055	.273	.221	.134
2.450	.450	3.000	.211	.160	.074	.295	.242	.153
2.550	.450	3.000	.232	.177	.092	.316	.262	.171
2.650	.450	3.000	.251	.175	.109	.336	.281	.190
2.750	.450	3.000	.270	.216	.125	.356	.300	.207
2.850	.450	3.000	.287	.234	.143	.375	.316	.224
2.950	.450	3.000	.307	.251	.157	.393	.336	.241
.050	.550	3.000	-.017	-.021	-.026	-.008	-.011	-.017
.150	.550	3.000	[illegible]	-.040	-.050	-.015	-.022	-.033
.250	.550	3.000	-.047	-.056	-.074	-.021	-.031	-.047
.350	.550	3.000	-.062	-.071	-.095	-.026	-.038	-.060
.450	.550	3.000	-.072	-.087	-.113	-.027	-.043	-.070
.550	.550	3.000	-.079	-.097	-.127	-.026	-.045	-.077
.650	.550	3.000	-.083	-.104	-.138	-.023	-.044	-.080
.750	.550	3.000	[illegible]	-.107	-.146	-.016	-.040	-.081
.850	.550	3.000	-.081	-.105	-.149	-.007	-.034	-.079
.950	.550	3.000	-.074	-.102	-.149	.006	-.024	-.073
1.050	.550	3.000	-.065	-.095	-.146	.020	-.011	-.064
1.150	.550	3.000	-.053	-.085	-.139	.037	.003	-.053
1.250	.550	3.000	-.038	-.073	-.130	.056	.020	-.040
1.350	.550	3.000	-.022	-.058	-.119	.077	.039	-.025
1.450	.550	3.000	-.004	-.042	-.105	.099	.059	-.008
1.550	.550	3.000	.016	-.024	-.090	.121	.080	.010
1.650	.550	3.000	.036	-.005	-.074	.145	.101	.029
1.750	.550	3.000	.058	.015	-.056	.169	.124	.049
1.850	.550	3.000	.079	.035	-.038	.193	.146	.069
1.950	.550	3.000	.101	.056	-.020	.216	.169	.089
2.050	.550	3.000	.123	.077	-.001	.240	.191	.110
2.150	.550	3.000	.145	.097	.018	.264	.214	.130
2.250	.550	3.000	.167	.116	.037	.286	.235	.150
2.350	.550	3.000	.188	.136	.055	.309	.257	.170
2.450	.550	3.000	.209	.156	.074	.331	.278	.189
2.550	.550	3.000	.229	.177	.092	.352	.296	.208
2.650	.550	3.000	.243	.196	.109	.372	.317	.226
2.750	.550	3.000	.267	.211	.126	.392	.336	.244

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.029	.372	.277
[illegible]	[illegible]	3.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.007	-.013
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.014	-.025
[illegible]	[illegible]	3.[illegible]	[illegible]	-.057	-.072	-.010	-.020	-.036
[illegible]	[illegible]	3.[illegible]	[illegible]	-.072	-.092	-.011	-.024	-.045
[illegible]	[illegible]	3.100	-.070	-.055	-.109	-.009	-.025	-.051
[illegible]	[illegible]	3.[illegible]	-.077	[illegible]	-.124	[illegible]	-.029	-.055
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.001	-.021	-.056
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.014	-.054
[illegible]	[illegible]	[illegible]	-.078	[illegible]	-.145	.022	-.005	-.050
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.135	.036	[illegible]	-.092
[illegible]	[illegible]	[illegible]	-.063	-.073	[illegible]	.052	.021	-.032
[illegible]	[illegible]	3.[illegible]	[illegible]	[illegible]	[illegible]	.071	.037	-.019
[illegible]	[illegible]	3.[illegible]	[illegible]	-.071	-.127	.091	.055	-.005
[illegible]	[illegible]	[illegible]	-.021	-.057	-.115	.113	.075	.012
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.135	.096	.029
[illegible]	[illegible]	[illegible]	[illegible]	-.023	[illegible]	.159	.117	.048
[illegible]	[illegible]	3.[illegible]	[illegible]	[illegible]	-.271	[illegible]	.140	.066
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.207	.163	.038
[illegible]	[illegible]	[illegible]	[illegible]	.035	-.037	.232	.186	.109
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.256	.209	.130
[illegible]	.650	[illegible]	.121	.076	.000	.283	.231	.151
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.019	.304	.254	.171
[illegible]	[illegible]	[illegible]	[illegible]	.117	.037	.327	.276	.191
[illegible]	[illegible]	[illegible]	[illegible]	.137	[illegible]	.349	.298	.211
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.079	.371	.317	.231
[illegible]	[illegible]	[illegible]	[illegible]	.175	[illegible]	[illegible]	.339	.250
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.413	.359	.268
[illegible]	[illegible]	[illegible]	[illegible]	.212	.126	[illegible]	[illegible]	.287
[illegible]	[illegible]	[illegible]	[illegible]	.229	.142	.452	.396	.303
[illegible]	.650	[illegible]	[illegible]	.245	[illegible]	.473	.413	.319
[illegible]	.700	[illegible]	[illegible]	-.017	-.024	[illegible]	-.003	-.009
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.097	[illegible]	[illegible]	-.017
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.002	-.007	-.023
[illegible]	[illegible]	[illegible]	[illegible]	-.073	[illegible]	[illegible]	-.007	-.028
[illegible]	.750	[illegible]	[illegible]	[illegible]	[illegible]	.010	-.005	-.031
[illegible]	.750	3.[illegible]	-.075	-.072	-.120	.017	-.001	-.032
[illegible]	.750	3.100	-.073	-.098	-.130	.027	.005	-.030
[illegible]	.750	3.[illegible]	-.079	[illegible]	-.137	.039	.015	-.025
[illegible]	.75	[illegible]	-.075	-.100	-.140	.053	.026	-.016
[illegible]	.750	3.[illegible]	-.073	-.078	-.140	.067	.040	-.008
[illegible]	.750	3.[illegible]	-.061	-.070	-.137	.087	.056	.004
[illegible]	.750	3.[illegible]	-.050	-.033	-.131	.100	.074	.018
[illegible]	.750	3.000	-.036	-.063	-.123	.129	.094	.034
1.350	.750	3.000	-.023	-.055	-.112	.152	.114	.052
[illegible]	.750	3.000	-.003	-.039	-.099	.176	.136	.071
[illegible]	.750	3.000	.014	-.022	[illegible]	.200	.159	.090
[illegible]	.750	3.[illegible]	.035	[illegible]	-.067	.225	.182	.111
[illegible]	.750	3.[illegible]	[illegible]	.015	-.052	.250	.205	.132
[illegible]	.750	3.000	.077	.035	-.034	.274	.229	.153
[illegible]	.750	3.000	.094	.055	-.016	.299	.252	.174
[illegible]	.750	3.000	.119	.075	.002	.324	.275	.195
[illegible]	.750	3.[illegible]	.141	.095	.020	.347	.298	.216
[illegible]	.750	3.[illegible]	.161	.115	.038	.371	.320	.236
[illegible]	.750	3.[illegible]	[illegible]	[illegible]	[illegible]	.394	.342	.256
[illegible]	.750	3.[illegible]	[illegible]	.159	.074	.416	.363	.276
[illegible]	.750	3.[illegible]	.221	.173	.092	.437	.384	.295
[illegible]	.750	3.[illegible]	[illegible]	.191	.109	.458	.404	.313
[illegible]	.750	3.[illegible]	.257	[illegible]	.125	.477	.423	.331

2.750	.750	3.000	.294	.213	.157	.515	.459	.345
.050	.850	3.000	[illegible]	-.019	-.020	.004	.001	-.004
.150	.850	3.000	[illegible]	-.034	-.046	.009	.003	-.008
.250	.850	3.000	[illegible]	-.053	-.067	.015	.005	-.010
.350	.850	3.000	[illegible]	-.067	[illegible]	.022	.010	-.011
.450	.850	3.000	-.065	-.079	-.102	.031	.015	-.010
.550	.850	3.000	-.072	-.086	-.115	.041	.023	-.007
.650	.850	3.000	-.076	-.094	-.125	.054	.033	-.002
.750	.850	3.000	-.075	-.097	-.132	.069	.045	.006
.850	.850	3.000	-.073	-.096	-.135	.085	.059	.016
.950	.850	3.000	-.067	-.093	-.135	.104	.075	.028
1.050	.850	3.000	-.059	-.086	-.132	.124	.093	.042
1.150	.850	3.000	-.046	-.077	-.126	.146	.113	.058
1.250	.850	3.000	-.035	-.066	-.118	.169	.134	.075
1.350	.850	3.000	-.019	-.052	-.107	.193	.156	.094
1.450	.850	3.000	-.002	-.037	-.095	.218	.179	.114
1.550	.850	3.000	.014	-.020	[illegible]	.243	.203	.135
1.650	.850	3.000	.035	-.003	-.055	.269	.227	.156
1.750	.850	3.000	.055	.016	-.017	.294	.251	.178
1.850	.850	3.000	.075	.035	-.032	.320	.275	.199
1.950	.850	3.000	.095	.055	-.015	.345	.298	.221
2.050	.850	3.000	.117	.074	.003	.370	.322	.242
2.150	.850	3.000	.137	.094	.021	.394	.345	.264
2.250	.850	3.000	.156	.113	.039	.417	.368	.284
2.350	.850	3.000	.175	.133	.057	.440	.389	.305
2.450	.850	3.000	[illegible]	.152	.074	.463	.411	.324
2.550	.850	3.000	.217	.170	.092	.484	.431	.343
2.650	.850	3.000	.235	.188	.108	.505	.451	.362
2.750	.850	3.000	.254	.206	.125	.525	.470	.380
2.850	.850	3.000	.272	.224	.141	.544	.489	.397
2.950	.850	3.000	.289	.239	.155	.562	.506	.414
.050	.950	3.000	-.015	-.018	-.022	.009	.006	.001
.150	.950	3.000	-.029	-.035	-.044	.018	.012	.002
.250	.950	3.000	-.043	-.051	-.064	.028	.019	.003
.350	.950	3.000	-.054	-.064	-.082	.039	.027	.007
.450	.950	3.000	-.060	-.076	-.098	.052	.037	.011
.550	.950	3.000	-.069	-.085	-.110	.066	.048	.018
.650	.950	3.000	-.072	-.090	-.120	.082	.061	.027
.750	.950	3.000	-.073	-.093	-.127	.100	.076	.037
.850	.950	3.000	-.070	-.093	-.130	.119	.093	.050
.950	.950	3.000	-.065	-.089	-.130	.140	.112	.065
1.050	.950	3.000	-.056	-.083	-.127	.163	.132	.081
1.150	.950	3.000	-.046	-.074	-.121	.186	.153	.099
1.250	.950	3.000	-.033	-.065	-.113	.211	.176	.118
1.350	.950	3.000	-.018	-.050	-.103	.236	.197	.138
1.450	.950	3.000	-.002	-.035	-.091	.262	.224	.159
1.550	.950	3.000	.016	-.019	-.077	.288	.248	.181
1.650	.950	3.000	.034	-.002	-.062	.315	.273	.203
1.750	.950	3.000	.054	.016	-.046	.341	.297	.225
1.850	.950	3.000	.074	.035	-.030	.367	.322	.247
1.950	.950	3.000	.094	.054	-.012	.392	.346	.270
2.050	.950	3.000	.114	.073	.005	.417	.370	.291
2.150	.950	3.000	.134	.092	.023	.442	.394	.313
2.250	.950	3.000	.155	.112	.040	.466	.416	.334
2.350	.950	3.000	.173	.131	.056	.489	.438	.354
2.450	.950	3.000	.191	.149	.075	.511	.460	.374
2.550	.950	3.000	.213	.167	.092	.533	.481	.393
2.650	.950	[illegible]	.231	.185	.110	.554	.501	.412
2.750	.950	[illegible]	.247	.202	.124	.574	.520	.430

2.950	[illegible]	[illegible]	.243	.235	.155	.511	.556	.464
.050	[illegible]	[illegible]	-.119	-.017	-.021	.013	.010	.005
.150	[illegible]	[illegible]	-.024	[illegible]	-.042	.027	.021	.011
.250	1.050	[illegible]	-.041	[illegible]	-.051	.041	.032	.017
.350	1.050	[illegible]	[illegible]	[illegible]	-.074	.057	.045	.025
.450	1.050	[illegible]	-.060	-.032	-.093	.073	.058	.033
.550	1.050	3.000	-.066	-.051	-.105	.091	.073	.044
.650	1.050	3.000	-.069	-.056	-.115	.110	.090	.056
.750	1.050	3.000	-.072	-.049	-.121	.131	.108	.070
.850	1.050	3.000	-.067	-.039	-.124	.153	.128	.065
.950	[illegible]	[illegible]	-.062	-.035	-.124	.177	.147	.102
1.050	1.050	3.000	-.059	-.077	-.121	.201	.171	.121
1.150	[illegible]	[illegible]	-.049	-.071	-.116	.226	.194	.140
1.250	1.050	3.000	-.031	-.055	-.108	.253	.218	.161
1.350	1.050	3.000	-.017	-.047	-.098	.279	.243	.183
1.450	1.050	3.000	-.001	-.033	-.086	.306	.268	.205
1.550	1.050	3.000	.016	-.017	-.073	.334	.294	.228
1.650	1.050	3.000	.034	-.001	-.058	.361	.319	.250
1.750	1.050	3.000	.053	.017	-.043	.388	.345	.273
1.850	1.050	3.000	.072	.035	-.027	.414	.370	.296
1.950	1.050	3.000	.092	.054	-.010	.440	.395	.319
2.050	1.050	3.000	.112	.072	.007	.466	.419	.341
2.150	1.050	3.000	.131	.091	.024	.490	.443	.363
2.250	1.050	3.000	.151	.110	.041	.515	.466	.384
2.350	1.050	3.000	.170	.128	.058	.538	.488	.405
2.450	1.050	3.000	.189	.146	.075	.560	.510	.425
2.550	1.050	3.000	[illegible]	[illegible]	.092	.582	.530	.444
2.650	1.050	3.000	.225	.182	.108	.603	.550	.463
2.750	1.050	3.000	.243	.199	.124	.623	.570	.481
2.850	1.050	3.000	.261	.215	.139	.642	.588	.498
2.950	1.050	3.000	.277	.231	.154	.661	.606	.515
.050	1.150	3.000	-.019	-.016	-.020	.010	.015	.010
.150	1.150	3.000	-.027	-.032	-.040	.036	.030	.020
.250	1.150	3.000	-.039	-.046	-.058	.054	.045	.031
.350	1.150	3.000	-.049	-.059	-.074	.074	.062	.042
.450	1.150	3.000	-.057	-.069	[illegible]	.094	.079	.055
.550	1.150	3.000	-.063	-.077	-.100	.116	.093	.069
.650	1.150	3.000	-.066	-.082	-.109	.138	.116	.085
.750	1.150	3.000	-.066	-.084	-.115	.162	.139	.101
.850	1.150	3.000	-.064	-.084	-.118	.187	.162	.120
.950	1.150	3.000	-.059	-.081	-.118	.212	.185	.139
1.050	1.150	3.000	-.051	-.075	-.115	.239	.209	.160
1.150	1.150	3.000	-.041	-.067	-.110	.266	.234	.181
1.250	1.150	3.000	-.029	-.057	-.102	.294	.260	.204
1.350	1.150	3.000	-.016	-.045	-.073	.322	.286	.227
1.450	1.150	3.000	-.000	-.031	-.031	.350	.313	.250
1.550	1.150	3.000	.016	-.016	-.069	.378	.339	.274
1.650	1.150	3.000	.034	.001	-.055	.406	.365	.297
1.750	1.150	3.000	.052	.018	-.040	.434	.392	.321
1.850	1.150	3.000	.071	.035	-.024	.461	.417	.344
1.950	1.150	3.000	.090	.053	-.008	.488	.443	.368
2.050	1.150	3.000	.109	.071	.009	.513	.467	.390
2.150	1.150	3.000	.128	.090	.025	.539	.491	.412
2.250	1.150	3.000	.147	.108	.042	.563	.514	.434
2.350	1.150	3.000	.166	.126	.059	.586	.537	.455
2.450	1.150	3.000	.185	.144	.076	.609	.559	.475
2.550	1.150	3.000	.203	.161	.092	.631	.580	.494
2.650	1.150	3.000	.221	.178	.108	.652	.600	.513
2.750	1.150	3.000	.239	.195	.123	.672	.619	.531
2.850	1.150	3.000	.257	.211	.138	.691	.638	.549

2.950	1.150	3.000	.271	.226	.155	.710	.656	.565
.050	1.250	3.000	-.013	-.018	-.019	.022	.019	.014
.150	[illegible]	[illegible]	[illegible]	-.030	-.037	.044	.036	.029
.250	1.250	[illegible]	[illegible]	-.045	-.055	.067	.056	.044
.350	1.250	3.000	-.053	-.055	-.072	.096	.079	.059
.450	1.250	3.000	-.054	-.065	-.084	.114	.100	.076
.550	1.250	3.000	-.057	-.072	-.098	.139	.122	.094
.650	1.250	3.000	-.067	-.078	-.105	.165	.145	.112
.750	1.250	3.000	-.063	-.080	-.109	.192	.169	.132
.850	1.250	3.000	-.060	-.077	-.112	.219	.194	.153
.950	1.250	3.000	[illegible]	-.076	-.112	.247	.220	.175
1.050	1.250	3.000	[illegible]	-.071	-.109	.276	.247	.198
1.150	1.250	3.000	-.037	-.063	-.104	.305	.274	.221
1.250	1.250	3.000	-.027	-.053	-.097	.334	.301	.245
1.350	1.250	3.000	-.013	-.042	-.087	.364	.328	.270
1.450	1.250	3.000	.005	-.026	-.076	.393	.356	.274
1.550	1.250	3.000	.015	-.014	-.064	.422	.383	.319
1.650	1.250	3.000	.035	.002	-.051	.451	.410	.343
1.750	1.250	3.000	.051	.019	-.035	.479	.437	.368
1.850	1.250	3.000	.069	.035	-.021	.507	.463	.392
1.950	1.250	3.000	.087	.053	-.005	.534	.489	.415
2.050	1.250	3.000	.105	.070	.011	.560	.514	.438
2.150	1.250	3.000	.125	.088	.027	.585	.538	.461
2.250	1.250	3.000	.143	.106	.044	.610	.562	.482
2.350	1.250	3.000	.162	.124	.060	.634	.585	.503
2.450	1.250	3.000	.180	.141	.076	.656	.607	.524
2.550	1.250	3.000	.198	.158	.092	.678	.628	.543
2.650	1.250	3.000	.215	.175	.107	.700	.648	.562
2.750	1.250	3.000	.232	.191	.123	.720	.668	.581
2.850	1.250	3.000	.249	.207	.137	.737	.686	.598
2.950	1.250	3.000	.259	.222	.152	.756	.704	.615
.050	1.350	3.000	-.012	-.014	-.016	.026	.023	.018
.150	1.350	3.000	-.024	-.029	-.035	.052	.047	.037
.250	1.350	3.000	-.034	-.041	-.051	.079	.070	.056
.350	1.350	3.000	-.043	-.052	-.065	.106	.095	.076
.450	1.350	3.000	-.051	-.061	-.079	.134	.120	.096
.550	1.350	3.000	-.056	-.066	-.089	.162	.145	.117
.650	1.350	3.000	-.059	-.073	-.097	.191	.171	.139
.750	1.350	3.000	-.057	-.075	-.102	.220	.198	.162
.850	1.350	3.000	-.057	-.075	-.105	.250	.226	.185
.950	1.350	3.000	-.052	-.072	-.105	.280	.254	.209
1.050	1.350	3.000	-.045	-.067	-.103	.311	.282	.234
1.150	1.350	3.000	-.036	-.059	-.098	.342	.311	.259
1.250	1.350	3.000	-.025	-.050	-.091	.372	.340	.285
1.350	1.350	3.000	-.013	-.039	-.082	.403	.368	.311
1.450	1.350	3.000	.001	-.026	-.071	.433	.397	.336
1.550	1.350	3.000	.017	-.012	-.059	.463	.425	.362
1.650	1.350	3.000	.033	.003	-.045	.493	.453	.387
1.750	1.350	3.000	.050	.019	-.032	.522	.481	.412
1.850	1.350	3.000	.067	.036	-.016	.550	.508	.437
1.950	1.350	3.000	.085	.052	-.002	.577	.534	.461
2.050	1.350	3.000	.103	.070	.013	.604	.559	.484
2.150	1.350	3.000	.121	.037	.029	.630	.584	.507
2.250	1.350	3.000	.140	.104	.045	.655	.607	.529
2.350	1.350	3.000	.157	.121	.061	.679	.630	.550
2.450	1.350	3.000	.175	.138	.076	.702	.653	.571
2.550	1.350	3.000	.192	.155	.092	.724	.674	.590
2.650	1.350	3.000	.209	.171	.107	.745	.694	.609
2.750	1.350	3.000	.225	.187	.122	.765	.714	.628
2.850	1.350	3.000	.242	.202	.136	.785	.732	.645

[illegible]	[illegible]	[illegible]	.257	.217	.131	[illegible]	.780	.662
[illegible]	1.450	[illegible]	[illegible]	-.013	[illegible]	.030	.027	.022
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.060	.054	.045
.250	[illegible]	[illegible]	-.032	[illegible]	-.048	.090	.082	.068
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.121	.110	.091
[illegible]	1.450	[illegible]	-.040	[illegible]	-.075	.152	.138	.115
[illegible]	1.450	[illegible]	-.042	[illegible]	[illegible]	.183	.167	.139
.650	1.450	3.000	[illegible]	-.067	-.091	.215	.196	.164
.750	1.450	3.000	-.055	-.071	-.090	.247	.225	.189
.850	1.450	3.000	-.053	-.070	-.079	.279	.255	.215
.950	1.450	[illegible]	-.047	-.067	-.079	.311	.285	.242
1.050	1.450	[illegible]	-.032	-.052	-.076	.344	.315	.268
1.150	[illegible]	3.000	-.039	-.055	-.071	.376	.346	.295
1.250	[illegible]	3.000	-.022	-.046	-.055	.408	.376	.322
1.350	[illegible]	[illegible]	-.011	[illegible]	-.070	.440	.406	.349
1.450	1.450	3.000	.002	-.023	-.056	.472	.436	.376
[illegible]	1.450	[illegible]	.017	[illegible]	-.050	.502	.465	.402
1.650	[illegible]	3.000	.031	.005	-.042	.533	.494	.428
1.750	1.450	[illegible]	.047	.022	-.029	.562	.522	.454
1.850	1.450	3.000	.066	.035	-.014	.591	.549	.479
1.950	[illegible]	3.000	.081	.052	.002	.619	.576	.504
2.050	1.450	3.000	.101	.069	.016	.646	.601	.527
2.150	[illegible]	3.000	.115	[illegible]	[illegible]	.672	.626	.550
2.250	1.450	3.000	.134	.102	.046	.697	.650	.573
2.350	1.450	3.000	.151	.119	.062	.721	.673	.594
2.450	[illegible]	3.000	.171	.135	.077	.744	.696	.615
2.550	[illegible]	[illegible]	.187	.151	.092	.766	.717	.635
2.650	1.450	3.000	.203	.167	.107	.788	.737	.654
2.750	1.450	3.000	.219	.183	.121	.808	.757	.672
2.850	[illegible]	3.000	.235	.176	.136	.827	.776	.690
2.950	1.450	3.000	[illegible]	.212	.145	[illegible]	.794	.706
[illegible]	1.500	3.000	-.011	[illegible]	-.016	.033	.031	.026
.150	1.500	[illegible]	-.021	[illegible]	-.031	.067	.061	.052
.250	[illegible]	3.000	[illegible]	[illegible]	-.045	.101	.092	.079
.350	1.500	[illegible]	[illegible]	[illegible]	[illegible]	.134	.123	.105
.450	1.500	3.000	-.039	-.054	-.067	.168	.155	.132
.550	1.500	3.000	-.044	[illegible]	-.078	.203	.186	.159
.650	1.500	3.000	-.051	-.064	-.085	.237	.218	.187
.750	[illegible]	3.000	-.042	-.057	-.078	.271	.250	.215
.850	1.500	[illegible]	-.038	-.050	-.078	.306	.282	.243
.950	1.500	3.000	-.033	[illegible]	-.072	.340	.314	.271
1.050	1.500	3.000	-.039	-.050	-.070	.374	.346	.300
1.150	1.500	3.000	-.031	-.051	-.085	.408	.378	.328
1.250	1.500	3.000	-.021	-.043	-.079	.441	.410	.357
1.350	1.500	3.000	-.009	-.032	-.071	.474	.441	.385
1.450	1.500	3.000	.003	-.021	-.061	.507	.471	.413
1.550	1.500	3.000	.017	-.008	-.050	.538	.501	.440
1.650	1.500	3.000	.032	.006	-.038	.569	.531	.467
1.750	1.500	3.000	.049	.021	-.025	.599	.559	.493
1.850	1.500	3.000	.064	.036	-.011	.628	.587	.516
1.950	1.500	3.000	.081	.052	.003	.657	.614	.543
2.050	1.500	3.000	.098	.068	.018	.684	.640	.567
2.150	1.500	3.000	.115	.084	.033	.710	.665	.591
2.250	1.500	3.000	.132	.100	.048	.735	.690	.613
2.350	1.500	3.000	.147	.116	.063	.760	.713	.635
2.450	1.500	3.000	.165	.132	.077	.783	.735	.656
2.550	1.500	3.000	.182	.148	.092	.805	.757	.676
2.650	1.500	3.000	[illegible]	[illegible]	.107	.827	.777	.695
2.750	1.500	3.000	.213	.179	.121	.847	.797	.713
[illegible]	[illegible]	[illegible]	.228	.175	.135	.867	.816	.731

[illegible]	[illegible]	3.	.213	.236	.113	.865	.834	.798
.050	1.500	3.002	-.013	-.017	-.115	.037	.034	.029
.150	[illegible]	[illegible]	-.019	-.025	-.029	.073	.068	.059
.250	[illegible]	3.000	-.023	-.033	-.042	.110	.102	.084
.350	[illegible]	3.000	-.035	-.042	[illegible]	.147	.136	.116
.450	[illegible]	3.000	-.041	-.050	-.064	.183	.170	.148
.550	1.550	3.000	-.045	-.055	-.073	.220	.204	.178
.650	1.550	3.000	-.045	-.056	-.079	.257	.238	.208
.750	1.550	[illegible]	-.047	-.051	-.084	.293	.273	.238
.850	1.650	3.000	-.044	-.051	-.080	.330	.307	.268
.950	1.650	[illegible]	-.042	-.058	-.085	.366	.341	.299
1.050	[illegible]	3.000	-.036	-.054	-.085	.401	.374	.329
1.150	[illegible]	3.000	-.025	-.047	-.077	.437	.407	.359
1.250	1.600	[illegible]	-.012	-.037	-.073	.471	.440	.368
1.350	[illegible]	[illegible]	[illegible]	-.029	-.065	.505	.472	.417
1.450	[illegible]	[illegible]	.005	-.018	-.056	.538	.504	.446
1.550	1.550	[illegible]	.017	-.006	-.045	.571	.535	.474
1.650	[illegible]	3.000	[illegible]	.006	-.033	.602	.565	.502
1.750	1.550	3.000	.047	.022	-.021	.633	.594	.528
1.850	1.550	3.000	.060	.037	-.008	.663	.622	.554
1.950	1.550	[illegible]	.079	.052	.026	.691	.649	.580
2.050	1.550	[illegible]	.095	.067	.020	.719	.676	.604
2.150	1.550	3.000	.112	.083	.035	.745	.701	.627
2.250	1.550	3.000	.123	.098	.049	.771	.725	.650
2.350	1.550	3.000	.114	.114	.059	.795	.749	.672
2.450	1.650	3.000	.160	.129	.073	.818	.771	.693
2.550	1.650	3.000	.175	.145	.092	.841	.793	.715
2.650	[illegible]	3.000	.192	.160	.106	.862	.813	.732
2.750	1.550	[illegible]	.207	.175	.120	.883	.833	.751
2.850	1.550	[illegible]	.222	[illegible]	.134	.902	.852	.768
2.950	1.650	[illegible]	.235	.203	.147	.921	.870	.785
.050	1.700	[illegible]	-.007	-.011	-.014	.039	.037	.032
.150	1.700	[illegible]	-.015	-.021	-.027	.079	.073	.065
.250	1.700	[illegible]	-.025	-.031	-.037	.118	.110	.097
.350	1.700	[illegible]	-.033	-.039	-.052	.157	.147	.129
.450	1.700	3.000	[illegible]	-.046	-.060	.197	.184	.162
.550	1.700	[illegible]	-.042	-.052	-.067	.236	.220	.194
.650	1.700	3.000	-.044	-.055	-.073	.274	.256	.227
.750	1.700	3.000	-.044	-.057	-.077	.313	.293	.259
.850	1.700	3.000	-.042	-.056	-.079	.351	.328	.291
.950	1.700	3.000	-.037	-.054	-.079	.389	.364	.323
1.050	1.700	3.000	-.033	-.047	-.077	.426	.399	.354
1.150	1.700	3.000	-.026	-.033	-.073	.462	.433	.386
1.250	1.700	3.000	-.016	-.035	-.067	.498	.467	.416
1.350	1.700	3.000	-.005	-.025	-.059	.533	.500	.446
1.450	1.700	3.000	.006	-.015	-.050	.567	.533	.476
1.550	1.700	3.000	.019	-.003	-.040	.600	.564	.505
1.650	1.700	3.000	.032	.007	-.029	.632	.595	.533
1.750	1.700	3.000	.047	.023	-.017	.663	.624	.560
1.850	1.700	3.000	.062	.037	-.004	.693	.653	.586
1.950	1.700	3.000	.077	.052	.009	.722	.681	.612
2.050	1.700	3.000	.093	.066	.023	.749	.707	.637
2.150	1.700	[illegible]	.113	.081	.037	.776	.733	.660
2.250	1.700	3.000	.129	.097	.051	.802	.757	.683
2.350	1.700	[illegible]	[illegible]	.112	.065	.826	.781	.705
2.450	1.700	3.000	.155	.127	.079	.850	.803	.726
2.550	1.700	3.000	.171	.142	.092	.872	.825	.746
2.650	1.700	[illegible]	.185	.156	[illegible]	.894	.846	.766
2.750	1.700	[illegible]	[illegible]	.170	[illegible]	.914	.865	[illegible]

2.750	[illegible]	[illegible]	[illegible]	.126	.146	.252	.902	.815
.050	[illegible]	[illegible]	-.015	-.011	-.012	.042	.037	.035
.150	[illegible]	[illegible]	-.017	[illegible]	[illegible]	[illegible]	.076	.070
.250	[illegible]	[illegible]	-.021	-.029	-.036	.125	.118	.105
.350	[illegible]	[illegible]	-.033	[illegible]	-.045	.167	.157	.139
.450	[illegible]	[illegible]	-.035	-.113	-.055	.208	.195	.174
.550	[illegible]	[illegible]	-.037	[illegible]	-.062	[illegible]	.233	.209
.650	[illegible]	3.000	-.041	-.131	-.068	.290	.272	.243
.750	1.300	[illegible]	-.041	-.072	-.071	.330	.310	.277
.850	[illegible]	[illegible]	-.039	-.052	-.073	.369	.347	.311
.950	[illegible]	[illegible]	[illegible]	-.049	-.073	[illegible]	.384	.344
1.050	[illegible]	[illegible]	[illegible]	-.045	-.075	.447	.421	.377
1.150	[illegible]	[illegible]	-.023	-.039	[illegible]	.484	.455	.409
1.250	[illegible]	[illegible]	[illegible]	-.132	-.061	.521	.491	.441
1.350	[illegible]	[illegible]	[illegible]	-.123	-.053	.556	.525	.472
1.450	[illegible]	[illegible]	.007	-.115	-.045	.591	.558	.502
1.550	[illegible]	[illegible]	[illegible]	-.131	-.035	.625	.590	.532
1.650	[illegible]	[illegible]	.032	.011	-.025	.657	.621	.560
1.750	[illegible]	[illegible]	.045	.124	-.013	[illegible]	.651	.586
1.850	[illegible]	3.000	.060	.037	-.001	.719	.680	.615
1.950	[illegible]	[illegible]	.075	.051	.012	.743	.708	.640
2.050	[illegible]	[illegible]	.073	.066	.025	.776	.735	.665
2.150	[illegible]	[illegible]	.105	[illegible]	[illegible]	.803	.762	.689
2.250	[illegible]	3.000	.121	.075	.052	.827	.785	.712
2.350	[illegible]	[illegible]	.135	.107	.066	.853	.809	.734
2.450	[illegible]	[illegible]	.151	.124	.079	.877	.831	.755
2.550	[illegible]	[illegible]	.165	.138	.093	.899	.853	.775
2.650	[illegible]	[illegible]	[illegible]	.152	.106	.921	.874	.795
2.750	[illegible]	[illegible]	.197	[illegible]	.119	.941	.895	.813
2.850	[illegible]	[illegible]	[illegible]	[illegible]	.132	.961	.912	.831
2.950	[illegible]	[illegible]	.223	.173	.146	[illegible]	.930	.848
.050	[illegible]	[illegible]	[illegible]	-.007	[illegible]	.044	.041	.037
.150	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.083	.074
.250	[illegible]	[illegible]	-.022	-.025	-.035	.131	.124	.111
.350	[illegible]	[illegible]	[illegible]	-.033	-.042	.175	.165	.148
.450	[illegible]	[illegible]	[illegible]	-.037	-.051	.216	.205	.185
.550	[illegible]	[illegible]	[illegible]	-.049	-.057	.261	.246	.221
.650	[illegible]	[illegible]	-.037	[illegible]	-.062	.303	.286	.257
.750	[illegible]	[illegible]	-.037	[illegible]	-.065	.344	.325	.293
.850	[illegible]	[illegible]	[illegible]	-.047	-.067	.385	.364	.320
.950	[illegible]	[illegible]	[illegible]	[illegible]	-.066	.425	.402	.362
1.050	[illegible]	[illegible]	-.027	-.041	-.064	.465	.439	.396
1.150	1.900	3.000	-.020	-.035	-.060	.503	.475	.430
1.250	[illegible]	[illegible]	-.012	-.028	-.055	.540	.511	.462
1.350	[illegible]	[illegible]	-.002	-.020	-.048	.577	.546	.494
1.450	[illegible]	[illegible]	.008	-.010	-.040	.612	.577	.525
1.550	[illegible]	[illegible]	.020	[illegible]	[illegible]	.646	.612	.555
1.650	[illegible]	[illegible]	.032	.013	-.020	.677	.643	.584
1.750	1.900	[illegible]	[illegible]	.025	-.007	.711	.674	.612
1.850	[illegible]	3.000	.059	[illegible]	.003	.741	.703	.639
1.950	[illegible]	[illegible]	.073	.051	.015	.771	.731	.665
2.050	[illegible]	[illegible]	[illegible]	.065	.028	.799	.758	.690
2.150	[illegible]	[illegible]	[illegible]	.079	.040	.826	.784	.714
2.250	[illegible]	[illegible]	.117	[illegible]	.054	.852	.809	.737
2.350	[illegible]	[illegible]	.132	.107	.067	.876	.832	.759
2.450	1.900	[illegible]	.145	.121	.080	.900	.855	.780
2.550	[illegible]	3.000	.161	.135	.093	.922	.877	.800
2.650	1.900	[illegible]	.175	[illegible]	.106	.944	.897	.820
2.750	1.950	[illegible]	[illegible]	[illegible]	.118	.964	.917	.838
[illegible]	[illegible]	3.000	.202	.176	[illegible]	.984	.936	.856

[illegible]	1.[illegible]	[illegible]	.215	.130	.143	1.003	.959	.873
.050	2.[illegible]	3.[illegible]	-.007	-.009	-.010	.046	.043	.039
.150	[illegible]	[illegible]	-.014	-.018	-.021	.091	.086	.078
.250	[illegible]	[illegible]	-.020	-.029	-.030	.136	.127	.117
.350	[illegible]	[illegible]	-.025	-.033	-.037	.181	.172	.155
.450	[illegible]	[illegible]	-.030	-.036	-.046	.226	.214	.193
.550	[illegible]	[illegible]	-.032	-.040	-.052	.270	.255	.231
.650	[illegible]	[illegible]	-.034	-.042	-.057	.313	.297	.269
.750	2.150	[illegible]	-.034	-.043	-.060	.355	.337	.306
.850	2.150	3.0[illegible]	-.032	-.043	-.061	.393	.377	.342
.950	2.1[illegible]	3.[illegible]	-.029	-.041	-.061	.439	.416	.378
1.050	[illegible]	[illegible]	-.024	-.037	-.058	.479	.459	.412
1.150	[illegible]	[illegible]	-.017	-.031	-.054	.517	.492	.447
1.250	[illegible]	[illegible]	-.010	-.024	-.049	.557	.526	.480
1.350	[illegible]	[illegible]	-.001	-.016	-.042	.593	.563	.512
1.450	[illegible]	[illegible]	.009	-.007	-.035	.629	.597	.544
1.550	[illegible]	[illegible]	.020	.003	-.026	.664	.630	.574
1.650	[illegible]	[illegible]	.032	.014	-.016	.697	.662	.603
1.750	[illegible]	[illegible]	.045	.026	-.005	.729	.692	.632
1.850	[illegible]	3.0[illegible]	.059	.039	.006	.760	.722	.659
1.950	[illegible]	[illegible]	.072	.051	.018	.789	.750	.685
2.050	[illegible]	3.000	.086	.065	.030	.817	.777	.710
2.150	[illegible]	[illegible]	.1[illegible]	.078	.042	.844	.803	.734
2.250	2.150	3.000	.117	.092	.055	.870	.828	.758
2.350	2.150	3.000	.128	.105	.068	.895	.852	.780
2.450	[illegible]	[illegible]	.142	.119	.080	.919	.875	.801
2.550	[illegible]	[illegible]	.155	.132	.093	.941	.896	.821
2.650	[illegible]	[illegible]	.169	.145	.106	.963	.917	.840
2.750	[illegible]	[illegible]	.183	.157	.118	.983	.937	.859
2.850	[illegible]	[illegible]	.196	.171	.130	1.003	.955	.877
2.950	[illegible]	[illegible]	.209	.134	.142	1.021	.973	.893
.050	2.150	3.000	-.009	-.010	-.012	.047	.045	.040
.150	2.150	[illegible]	-.013	-.015	-.019	.094	.089	.081
.250	2.150	3.000	-.017	-.022	-.027	.140	.133	.121
.350	2.150	3.000	-.023	-.026	-.035	.187	.177	.161
.450	2.150	3.000	-.027	-.033	-.042	.232	.220	.201
.550	2.150	3.000	-.029	-.036	-.047	.278	.263	.240
.650	2.150	3.000	-.031	-.039	-.052	.322	.306	.278
.750	2.150	3.000	-.030	-.039	-.054	.366	.347	.316
.850	2.150	3.000	-.029	-.039	-.055	.409	.388	.354
.950	2.150	3.000	-.025	-.036	-.054	.450	.428	.390
1.050	2.150	3.000	-.021	-.033	-.052	.491	.467	.426
1.150	2.150	3.000	-.015	-.027	-.049	.531	.504	.460
1.250	2.150	3.000	-.007	-.021	-.043	.569	.541	.494
1.350	2.150	3.000	.001	-.013	-.037	.607	.577	.527
1.450	2.150	3.000	.011	-.004	-.030	.643	.611	.559
1.550	2.150	3.000	.021	.005	-.021	.677	.645	.590
1.650	2.150	3.000	.033	.016	-.012	.711	.677	.619
1.750	2.150	3.000	.045	.027	-.001	.743	.707	.648
1.850	2.150	3.000	.057	.039	.009	.774	.737	.675
1.950	2.150	3.000	.070	.052	.021	.804	.765	.702
2.050	2.150	3.000	.083	.064	.032	.832	.793	.727
2.150	2.150	3.000	.097	.077	.044	.859	.819	.751
2.250	2.150	3.000	.110	.090	.056	.885	.843	.774
2.350	2.150	3.000	.124	.103	.069	.910	.867	.796
2.450	2.150	3.000	.138	.116	.081	.933	.890	.818
2.550	2.150	3.000	.151	.129	.093	.956	.912	.838
2.650	[illegible]	[illegible]	.164	.142	.105	.977	.932	.857
2.750	[illegible]	[illegible]	.177	.155	.117	.978	.952	.876
[illegible]	[illegible]	[illegible]	.190	.167	.129	1.017	.971	.895

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.910
[illegible]	[illegible]	[illegible]	[illegible]	-.037	[illegible]	[illegible]	.046	.042
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.017	.096	.091	.083
[illegible]	[illegible]	[illegible]	-.017	-.030	-.025	.143	.135	.125
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.191	.181	.166
[illegible]	4.250	[illegible]	[illegible]	-.029	-.033	.237	.226	.206
[illegible]	[illegible]	[illegible]	[illegible]	-.033	[illegible]	[illegible]	.269	.246
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.017	.329	.313	.286
[illegible]	[illegible]	[illegible]	-.027	[illegible]	[illegible]	.373	.355	.325
[illegible]	[illegible]	[illegible]	[illegible]	-.035	[illegible]	.415	.396	.363
[illegible]	[illegible]	[illegible]	[illegible]	-.032	[illegible]	.459	.437	.400
[illegible]	[illegible]	[illegible]	-.015	-.029	-.037	.500	.476	.436
[illegible]	[illegible]	[illegible]	-.012	-.024	-.043	.540	.514	.471
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.030	.579	.551	.506
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.617	.587	.539
[illegible]	[illegible]	[illegible]	.012	-.002	-.025	.653	.622	.571
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.017	[illegible]	.656	.602
[illegible]	[illegible]	[illegible]	.033	[illegible]	[illegible]	.721	.688	.632
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.754	.719	.660
[illegible]	[illegible]	[illegible]	[illegible]	.010	.013	.785	.746	.688
[illegible]	[illegible]	[illegible]	[illegible]	.022	.023	[illegible]	.777	.714
[illegible]	[illegible]	[illegible]	[illegible]	.054	.035	[illegible]	.804	.740
[illegible]	[illegible]	[illegible]	[illegible]	.075	[illegible]	[illegible]	.830	.764
[illegible]	[illegible]	[illegible]	.117	[illegible]	[illegible]	[illegible]	.855	.787
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.921	.879	.809
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.901	.830
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.967	.923	.851
[illegible]	[illegible]	[illegible]	[illegible]	.137	[illegible]	[illegible]	.944	.870
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.117	[illegible]	.963	.888
[illegible]	2.250	[illegible]	[illegible]	.155	.128	1.029	.982	.906
[illegible]	4.250	[illegible]	.175	.175	[illegible]	[illegible]	1.000	.922
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.049	.046	.043
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.097	.093	.085
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.139	.127
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	-.022	-.026	[illegible]	.241	.229	.210
[illegible]	[illegible]	[illegible]	[illegible]	-.027	[illegible]	.287	.274	.251
[illegible]	[illegible]	[illegible]	[illegible]	-.031	[illegible]	[illegible]	.316	.291
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.041	[illegible]	.360	.331
[illegible]	[illegible]	[illegible]	-.023	-.031	-.045	.422	.402	.369
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.443	.407
[illegible]	[illegible]	[illegible]	-.015	-.025	-.041	.506	.483	.444
[illegible]	2.350	[illegible]	-.010	[illegible]	[illegible]	.547	.521	.479
1.250	[illegible]	[illegible]	-.003	-.014	-.033	.586	.559	.514
[illegible]	[illegible]	[illegible]	.005	-.007	-.027	.623	.595	.547
1.450	2.350	3.000	.013	.001	-.020	.660	.630	.579
[illegible]	4.350	[illegible]	.023	.010	-.012	.695	.663	.611
[illegible]	4.350	[illegible]	.033	.019	-.004	.729	.696	.641
[illegible]	[illegible]	3.000	.044	.030	.006	.761	.727	.669
[illegible]	[illegible]	[illegible]	.055	.041	.016	.792	.756	.697
[illegible]	[illegible]	[illegible]	.067	.052	.026	.822	.785	.723
2.050	2.350	[illegible]	.079	.064	.037	.850	.812	.749
[illegible]	[illegible]	3.000	.092	.075	.046	.877	.838	.773
[illegible]	4.350	[illegible]	.104	.087	.059	.903	.863	.796
[illegible]	[illegible]	[illegible]	.117	.100	.071	.923	.887	.818
[illegible]	4.350	3.000	.129	.112	.082	.951	.909	.839
[illegible]	4.350	[illegible]	.142	.125	.094	.973	.931	.859
[illegible]	[illegible]	[illegible]	.154	.136	.105	.995	.951	.879
2.750	4.350	3.000	.166	.148	.116	1.015	.971	.897
[illegible]	4.350	[illegible]	.178	[illegible]	.127	1.034	.989	.914

2.750	2.450	3.000	.170	.171	.158	1.053	1.007	.931
.050	2.450	3.000	-.005	-.006	-.007	.049	.047	.043
.150	2.450	3.000	-.007	-.011	-.014	.098	.094	.086
.250	2.450	3.000	-.013	-.016	-.020	.147	.140	.129
.350	2.450	3.000	-.017	-.022	-.026	.195	.186	.171
.450	2.450	3.000	-.020	-.024	-.031	.243	.232	.213
.550	2.450	3.000	-.021	-.026	-.034	.290	.277	.255
.650	2.450	3.000	-.022	-.028	-.037	.336	.321	.295
.750	2.450	3.000	-.021	-.028	-.039	.381	.364	.335
.850	2.450	3.000	-.020	-.027	-.039	.425	.406	.374
.950	2.450	3.000	-.017	-.025	-.038	.468	.447	.412
1.050	2.450	3.000	-.013	-.021	-.036	.510	.487	.449
1.150	2.450	3.000	-.007	-.017	-.032	.550	.525	.485
1.250	2.450	3.000	-.001	-.011	-.028	.590	.563	.519
1.350	2.450	3.000	.006	-.004	-.022	.627	.599	.553
1.450	2.450	3.000	.015	.003	-.016	.664	.634	.585
1.550	2.450	3.000	.024	.012	-.008	.699	.666	.616
1.650	2.450	3.000	.035	.021	.000	.733	.700	.646
1.750	2.450	3.000	.044	.031	.009	.765	.731	.675
1.850	2.450	3.000	.055	.041	.019	.796	.761	.703
1.950	2.450	3.000	.066	.052	.029	.825	.789	.729
2.050	2.450	3.000	.077	.063	.039	.854	.816	.754
2.150	2.450	3.000	.089	.075	.050	.881	.842	.779
2.250	2.450	3.000	.101	.086	.061	.906	.867	.802
2.350	2.450	3.000	.113	.098	.072	.931	.891	.824
2.450	2.450	3.000	.125	.110	.083	.954	.913	.845
2.550	2.450	3.000	.137	.121	.094	.977	.935	.865
2.650	2.450	3.000	.150	.133	.105	.998	.955	.884
2.750	2.450	3.000	.161	.144	.116	1.018	.975	.902
2.850	2.450	3.000	.173	.155	.126	1.037	.993	.919
2.950	2.450	3.000	.184	.167	.137	1.056	1.011	.936
.050	2.550	3.000	-.004	-.005	-.006	.049	.047	.044
.150	2.550	3.000	-.008	-.010	-.012	.099	.094	.087
.250	2.550	3.000	-.012	-.014	-.018	.149	.141	.130
.350	2.550	3.000	-.015	-.018	-.023	.196	.187	.173
.450	2.550	3.000	-.017	-.021	-.027	.246	.233	.215
.550	2.550	3.000	-.019	-.023	-.031	.291	.278	.257
.650	2.550	3.000	-.019	-.024	-.033	.337	.322	.297
.750	2.550	3.000	-.017	-.024	-.034	.382	.365	.337
.850	2.550	3.000	-.017	-.023	-.034	.427	.405	.376
.950	2.550	3.000	-.014	-.021	-.033	.470	.449	.415
1.050	2.550	3.000	-.010	-.018	-.031	.511	.489	.452
1.150	2.550	3.000	-.005	-.015	-.027	.552	.528	.487
1.250	2.550	3.000	.001	-.008	-.023	.591	.565	.522
1.350	2.550	3.000	.008	-.002	-.015	.629	.601	.556
1.450	2.550	3.000	.016	.006	-.011	.665	.636	.588
1.550	2.550	3.000	.024	.014	-.003	.700	.670	.619
1.650	2.550	3.000	.034	.023	.004	.734	.702	.649
1.750	2.550	3.000	.044	.032	.013	.766	.733	.678
1.850	2.550	3.000	.053	.042	.022	.797	.762	.705
1.950	2.550	3.000	.065	.052	.031	.826	.791	.732
2.050	2.550	3.000	.075	.063	.041	.854	.818	.757
2.150	2.550	3.000	.087	.074	.052	.881	.843	.781
2.250	2.550	3.000	.099	.085	.062	.907	.868	.804
2.350	2.550	3.000	.110	.096	.073	.931	.892	.826
2.450	2.550	3.000	.122	.107	.083	.955	.914	.847
2.550	2.550	3.000	.134	.119	.095	.977	.936	.867
2.650	2.550	3.000	.145	.130	.105	.998	.956	.886
2.750	2.550	3.000	.156	.141	.115	1.018	.975	.904

2.750	2.650	3.000	.179	.162	.136	1.055	1.011	.938
.050	2.650	3.000	-.008	-.017	-.036	.049	.047	.044
.150	2.650	3.000	[illegible]	[illegible]	-.011	[illegible]	[illegible]	.087
.250	2.650	3.000	-.011	-.015	-.010	.147	.141	.130
.350	2.650	3.000	-.012	-.017	-.020	.196	.187	.173
.450	2.650	3.000	-.015	-.018	-.024	.244	.233	.216
.550	2.650	3.000	-.015	-.020	-.027	.291	.278	.257
.650	2.650	3.000	-.017	-.021	-.029	.337	.322	.298
.750	2.650	3.000	-.015	-.021	-.030	.382	.365	.338
.850	2.650	3.000	-.014	-.020	-.030	.426	.403	.377
.950	2.650	3.000	-.011	-.018	-.028	.469	.449	.415
1.050	2.650	3.000	-.008	-.015	-.026	.511	.489	.452
1.150	2.650	3.000	-.003	-.010	-.022	.551	.527	.488
1.250	2.650	3.000	.004	-.005	-.018	.590	.565	.523
1.350	2.650	3.000	.011	.001	-.013	.628	.601	.556
1.450	2.650	3.000	.017	.008	-.007	.654	.636	.589
1.550	2.650	3.000	.025	.016	[illegible]	.699	.669	.620
1.650	2.650	3.000	.034	.024	.006	.732	.701	.649
1.750	2.650	3.000	.044	.033	.015	.764	.732	.678
1.850	2.650	3.000	.053	.043	.025	.795	.761	.705
1.950	2.650	3.000	.064	.053	.034	.824	.789	.732
2.050	2.650	3.000	.074	.063	.043	.852	.816	.757
2.150	2.650	3.000	.085	.073	.053	.879	.842	.781
2.250	2.650	3.000	.096	.084	.063	.904	.866	.804
2.350	2.650	3.000	.107	.095	.074	.929	.890	.825
2.450	2.650	3.000	.119	.106	.084	.952	.912	.846
2.550	2.650	3.000	.130	.116	.094	.974	.933	.866
2.650	2.650	3.000	.141	.127	.104	.995	.954	.885
2.750	2.650	3.000	.152	.138	.115	1.015	.973	.903
2.850	2.650	3.000	.163	.148	.125	1.034	.991	.920
2.950	2.650	3.000	.173	.159	.135	1.052	1.009	.936
.050	2.750	3.000	-.003	-.009	-.005	.049	.047	.044
.150	2.750	3.000	[illegible]	-.013	[illegible]	.098	.094	.087
.250	2.750	3.000	[illegible]	-.011	-.014	.147	.141	.130
.350	2.750	3.000	-.012	-.014	-.018	.195	.187	.173
.450	2.750	3.000	-.013	-.016	-.021	.242	.232	.215
.550	2.750	3.000	-.014	-.018	-.023	.289	.277	.257
.650	2.750	3.000	-.014	-.018	-.025	.335	.321	.297
.750	2.750	3.000	-.013	-.018	-.026	.380	.364	.337
.850	2.750	3.000	-.012	-.017	-.025	.424	.406	.376
.950	2.750	3.000	-.009	-.015	-.024	.467	.447	.414
1.050	2.750	3.000	-.005	-.011	-.022	.508	.487	.451
1.150	2.750	3.000	-.001	-.007	-.018	.548	.525	.487
1.250	2.750	3.000	.005	-.002	-.014	.587	.562	.521
1.350	2.750	3.000	.011	.004	-.009	.624	.598	.555
1.450	2.750	3.000	.019	.010	-.003	.660	.633	.587
1.550	2.750	3.000	.025	.018	.004	.695	.666	.618
1.650	2.750	3.000	.034	.026	.011	.728	.698	.647
1.750	2.750	3.000	.043	.034	.019	.760	.728	.676
1.850	2.750	3.000	.053	.043	.027	.790	.757	.703
1.950	2.750	3.000	.063	.053	.036	.819	.785	.729
2.050	2.750	3.000	.073	.063	.046	.847	.812	.754
2.150	2.750	3.000	.083	.073	.055	.874	.838	.778
2.250	2.750	3.000	.094	.083	.065	.899	.862	.800
2.350	2.750	3.000	.105	.093	.074	.923	.885	.822
2.450	2.750	3.000	.115	.104	.084	.946	.907	.843
2.550	2.750	3.000	.126	.114	.079	.969	.928	.862
2.650	2.750	3.000	.137	.124	.104	.989	.948	.881
2.750	2.750	3.000	.147	.135	.114	1.009	.968	.899

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.065	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.039	.047	.043
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.097	.094	.086
[illegible]	[illegible]	[illegible]	[illegible]	-.010	-.012	.146	.139	.129
[illegible]	[illegible]	[illegible]	-.012	-.012	-.015	.193	.185	.172
[illegible]	[illegible]	[illegible]	-.011	-.014	-.019	.240	.230	.214
.550	[illegible]	[illegible]	-.012	-.015	-.020	.287	.275	.255
[illegible]	[illegible]	3.000	-.012	-.015	-.021	.332	.319	.296
[illegible]	[illegible]	[illegible]	-.011	-.015	-.022	.377	.361	.335
[illegible]	[illegible]	[illegible]	-.009	-.014	-.021	.420	.403	.374
[illegible]	[illegible]	[illegible]	-.007	-.012	-.020	.463	.444	.412
[illegible]	[illegible]	[illegible]	-.003	-.009	-.017	.504	.483	.448
1.150	[illegible]	[illegible]	.001	-.004	-.014	.544	.521	.484
[illegible]	[illegible]	3.000	[illegible]	.030	-.010	.582	.558	.518
[illegible]	[illegible]	[illegible]	.013	[illegible]	-.005	.619	.593	.551
[illegible]	[illegible]	[illegible]	.019	.012	.001	.655	.628	.583
[illegible]	[illegible]	[illegible]	.027	.019	.007	.689	.661	.613
[illegible]	[illegible]	[illegible]	.035	.027	.014	.722	.692	.643
[illegible]	[illegible]	[illegible]	.045	.035	.022	.753	.723	.671
[illegible]	[illegible]	3.000	.057	.044	.030	.784	.751	.698
1.950	2.950	[illegible]	.052	.053	.039	.812	.779	.724
2.050	2.950	3.000	.073	.063	.047	.840	.806	.749
2.150	[illegible]	[illegible]	[illegible]	.072	.057	.866	.831	.772
2.250	[illegible]	3.000	.092	.082	.066	.891	.855	.795
[illegible]	[illegible]	[illegible]	.102	.092	.075	.915	.878	.816
[illegible]	[illegible]	[illegible]	.112	.102	.085	.939	.900	.837
[illegible]	[illegible]	[illegible]	.122	.112	.094	.961	.921	.856
[illegible]	[illegible]	[illegible]	.133	.122	.104	.981	.941	.875
2.750	[illegible]	3.000	.143	.132	.114	1.000	.960	.892
[illegible]	[illegible]	[illegible]	.153	.142	.123	1.019	.978	.909
[illegible]	[illegible]	[illegible]	.163	.151	.132	1.037	.995	.925
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.005	.049	.046	.043
.150	2.950	3.000	-.005	-.006	-.007	.096	.092	.086
.250	2.950	3.000	-.007	[illegible]	-.010	.144	.138	.128
.350	2.950	3.000	[illegible]	[illegible]	-.013	.191	.183	.170
.450	2.950	3.000	-.010	-.012	-.015	.238	.228	.212
.550	2.950	3.000	-.010	-.013	-.017	.284	.272	.253
.650	2.950	3.000	-.010	-.013	-.018	.329	.315	.293
.750	2.950	3.000	-.009	-.012	-.018	.373	.357	.332
.850	2.950	3.000	-.007	-.011	-.017	.416	.399	.370
.950	2.950	3.000	-.005	-.009	-.016	.457	.437	.408
1.050	2.950	3.000	-.001	-.006	-.013	.498	.478	.444
1.150	2.950	3.000	.003	-.002	-.010	.537	.515	.479
1.250	2.950	3.000	.008	.003	-.006	.575	.552	.513
1.350	2.950	3.000	.014	.010	-.001	.612	.587	.546
1.450	2.950	3.000	.022	.014	.004	.647	.621	.577
1.550	2.950	3.000	[illegible]	.021	.011	.681	.654	.607
1.650	2.950	3.000	.032	.029	.017	.714	.685	.637
1.750	2.950	3.000	.043	.035	.025	.745	.715	.664
1.850	2.950	3.000	.052	.045	.033	.775	.744	.691
1.950	2.950	3.000	.061	.053	.041	.803	.771	.717
2.050	2.950	3.000	.070	.062	.049	.831	.797	.741
2.150	2.950	3.000	.080	.072	.058	.857	.822	.765
2.250	2.950	3.000	.089	.081	.067	.882	.845	.787
2.350	2.950	3.000	.099	.091	.076	.905	.867	.808
2.450	2.950	3.000	.109	.100	.085	.929	.891	.828
2.550	2.950	3.000	.119	.110	.095	.949	.911	[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.131	1.325	.955	.916
.050	.050	[illegible]	-.011	-.012	-.016	-.011	-.012	-.016
.150	.050	[illegible]	-.021	-.025	-.031	-.021	-.025	-.031
.250	.050	[illegible]	-.031	-.036	-.046	-.031	-.036	-.046
.350	.050	[illegible]	-.040	-.047	-.059	-.040	-.047	-.059
.450	.050	[illegible]	-.048	-.057	-.072	-.048	-.057	-.072
.550	.050	[illegible]	[illegible]	[illegible]	[illegible]	-.059	-.065	-.084
.650	.050	[illegible]	-.060	-.073	-.094	-.060	-.073	-.094
.750	.050	[illegible]	-.064	-.078	-.102	-.064	-.078	-.102
.850	.050	[illegible]	-.067	-.085	-.109	-.066	-.082	-.109
.950	.050	[illegible]	-.067	-.085	-.115	-.067	-.085	-.114
1.050	.050	[illegible]	-.067	-.086	-.118	-.067	-.086	-.118
1.150	.050	[illegible]	-.065	-.085	-.120	-.064	-.085	-.120
1.250	.050	[illegible]	-.061	-.083	-.120	-.061	-.083	-.120
1.350	.050	[illegible]	-.056	-.080	-.119	-.056	-.079	-.119
1.450	.050	[illegible]	-.050	-.075	-.116	-.050	-.074	-.116
1.550	.050	[illegible]	-.042	-.069	-.112	-.042	-.068	-.112
1.650	.050	[illegible]	-.034	-.061	-.107	-.034	-.061	-.107
1.750	.050	[illegible]	-.025	-.053	-.100	-.024	-.053	-.100
1.850	.050	[illegible]	-.014	-.014	-.093	-.014	-.044	-.093
1.950	.050	[illegible]	-.003	-.034	-.085	-.003	-.034	-.085
2.050	.050	9.000	.008	-.024	-.076	.008	-.023	-.076
2.150	.050	9.000	.020	-.013	-.067	.020	-.012	-.066
2.250	.050	9.000	.032	-.001	-.057	.033	-.001	-.056
2.350	.050	[illegible]	.045	.011	-.047	.045	.011	-.046
2.450	.050	9.000	.059	.023	-.036	.059	.023	-.036
2.550	.050	9.000	.071	.035	-.025	.071	.035	-.025
2.650	.050	9.000	.083	.047	-.014	.084	.047	-.014
2.750	.050	[illegible]	.096	.059	-.003	.097	.059	-.003
2.850	.050	9.000	.109	.071	.008	.110	.072	.008
2.950	.050	[illegible]	.122	.083	.019	.122	.084	.019
.050	.150	[illegible]	-.011	-.012	-.016	-.010	-.012	-.015
.150	.150	[illegible]	-.021	-.025	-.031	-.020	-.024	-.030
.250	.150	[illegible]	-.031	-.036	-.045	-.030	-.035	-.045
.350	.150	[illegible]	-.040	-.047	-.059	-.037	-.046	-.058
.450	.150	[illegible]	-.048	-.057	-.072	-.046	-.056	-.071
.550	.150	[illegible]	-.054	-.065	-.084	-.053	-.064	-.082
.650	.150	9.000	-.060	-.073	-.094	-.058	-.071	-.092
.750	.150	[illegible]	-.064	-.078	-.102	-.062	-.076	-.100
.850	.150	[illegible]	-.066	-.082	-.107	-.064	-.080	-.107
.950	.150	[illegible]	-.067	-.085	-.114	-.065	-.083	-.112
1.050	.150	[illegible]	-.067	-.086	-.118	-.064	-.084	-.116
1.150	.150	[illegible]	-.065	-.085	-.120	-.062	-.083	-.117
1.250	.150	9.000	-.061	-.083	-.120	-.058	-.080	-.117
1.350	.150	[illegible]	-.056	-.080	-.119	-.053	-.077	-.116
1.450	.150	9.000	-.050	-.075	-.116	-.047	-.072	-.113
1.550	.150	[illegible]	-.042	-.063	-.112	-.039	-.065	-.109
1.650	.150	[illegible]	-.034	-.061	-.107	-.031	-.058	-.104
1.750	.150	[illegible]	-.025	-.053	-.100	-.021	-.050	-.097
1.850	.150	[illegible]	-.014	-.044	-.093	-.011	-.040	-.090
1.950	.150	[illegible]	-.003	-.034	-.085	.000	-.031	-.082
2.050	.150	9.000	.009	-.023	-.076	.012	-.020	-.073
2.150	.150	[illegible]	.020	-.012	-.067	.024	-.009	-.063
2.250	.150	[illegible]	.032	-.001	-.057	.036	.003	-.053
2.350	.150	[illegible]	.045	.011	-.046	.047	.014	-.043
2.450	.150	9.000	.058	.023	-.036	.061	.026	-.032
2.550	.150	9.000	.071	.035	-.025	.074	.038	-.021
2.650	.150	9.000	.083	.047	-.014	.087	.051	-.010
2.750	.150	[illegible]	.095	.059	-.003	.100	.063	.001
2.850	.150	[illegible]	.109	.071	.008	.113	.075	.012

2.75[illegible]	[illegible]	4.[illegible]	[illegible]	.034	.019	.126	.067	.023
.050	.250	4.000	-.010	-.012	-.015	-.010	-.012	-.015
.150	.250	4.000	-.021	-.024	-.031	-.019	-.023	-.029
.250	.250	4.000	[illegible]	-.036	-.045	-.028	-.034	-.043
.350	.250	4.000	[illegible]	-.047	-.059	-.037	-.044	-.056
.450	.250	4.000	-.017	-.056	-.072	-.044	-.053	-.069
.550	.250	4.000	[illegible]	-.065	-.083	-.050	-.061	-.079
.650	.250	4.000	-.037	-.072	-.093	-.055	-.068	-.089
.750	.250	4.000	-.033	-.078	-.102	-.059	-.073	-.097
.850	.250	4.000	-.036	-.082	-.109	-.060	-.077	-.103
.950	.250	4.000	-.037	-.084	-.114	-.061	-.079	-.108
1.050	.250	4.000	-.036	-.085	-.117	-.060	-.079	-.111
1.150	.250	4.000	-.034	-.085	-.119	-.057	-.078	-.112
1.250	.250	4.000	-.031	-.083	-.117	-.053	-.075	-.112
1.350	.250	4.000	[illegible]	-.079	-.118	-.048	-.071	-.111
1.450	.250	4.000	[illegible]	-.074	-.115	-.041	-.066	-.108
1.550	.250	4.000	-.032	-.068	-.111	-.034	-.060	-.103
1.650	.250	4.000	-.034	-.061	-.106	-.025	-.052	-.098
1.750	.250	4.000	-.024	-.053	-.100	-.015	-.044	-.091
1.850	.250	4.000	-.011	-.044	-.092	-.005	-.034	-.084
1.950	.250	4.000	-.003	-.034	-.084	.006	-.024	-.075
2.050	.250	4.000	.009	-.023	-.076	.018	-.014	-.066
2.150	.250	4.000	.020	-.012	-.065	.030	-.003	-.057
2.250	.250	4.000	.032	-.001	-.056	.042	.009	-.047
2.350	.250	4.000	.045	.011	-.046	.055	.021	-.036
2.450	.250	4.000	.057	.023	-.036	.068	.033	-.026
2.550	.250	4.000	.070	.035	-.025	.081	.045	-.015
2.650	.250	4.000	[illegible]	.047	-.014	.094	.057	-.004
2.750	.250	4.000	.096	.059	-.003	.107	.070	.007
2.850	.250	4.000	.107	.071	.008	.120	.082	.019
2.950	.250	4.000	.121	.083	.019	.132	.094	.030
.050	.350	4.000	[illegible]	-.012	-.015	-.009	-.011	-.014
.150	.350	4.000	-.021	-.024	-.030	-.018	-.022	-.028
.250	.350	4.000	-.030	-.036	-.045	-.026	-.032	-.041
.350	.350	4.000	-.039	-.046	-.058	-.034	-.041	-.054
.450	.350	4.000	-.047	-.056	-.071	-.041	-.050	-.065
.550	.350	4.000	-.054	-.064	-.082	-.046	-.057	-.075
.650	.350	4.000	-.059	-.072	-.092	-.050	-.063	-.084
.750	.350	4.000	-.063	-.077	-.101	-.053	-.068	-.092
.850	.350	4.000	[illegible]	-.081	-.108	-.055	-.071	-.097
.950	.350	4.000	-.064	-.084	-.113	-.055	-.072	-.102
1.050	.350	4.000	-.066	-.085	-.116	-.053	-.072	-.104
1.150	.350	4.000	-.064	-.084	-.118	-.050	-.071	-.105
1.250	.350	4.000	-.060	-.082	-.118	-.046	-.068	-.105
1.350	.350	4.000	-.055	-.078	-.117	-.040	-.064	-.103
1.450	.350	4.000	-.049	-.074	-.114	-.033	-.058	-.099
1.550	.350	4.000	-.042	-.065	-.110	-.025	-.051	-.095
1.650	.350	4.000	-.033	-.060	-.105	-.016	-.044	-.089
1.750	.350	4.000	-.024	-.052	-.099	-.007	-.035	-.082
1.850	.350	4.000	-.014	-.043	-.092	.004	-.025	-.074
1.950	.350	4.000	-.003	-.033	-.084	.015	-.015	-.066
2.050	.350	4.000	.004	-.023	-.075	.027	-.004	-.057
2.150	.350	4.000	.020	-.012	-.065	.039	.007	-.047
2.250	.350	4.000	.032	-.001	-.056	.052	.019	-.037
2.350	.350	4.000	.045	.011	-.046	.065	.030	-.027
2.450	.350	4.000	.057	.023	-.035	.078	.043	-.016
2.550	.350	4.000	.070	.035	-.024	.091	.055	-.005
2.650	.350	4.000	.083	.047	-.014	.104	.067	.006
2.750	.350	4.000	[illegible]	.059	-.003	.117	.079	.017

2.950	.350	4.000	.121	.033	.017	.142	.104	.090
.050	.450	4.000	-.010	-.012	-.015	-.008	-.010	-.013
.150	.450	4.000	-.022	-.024	-.030	-.016	-.020	-.026
.250	.450	4.000	-.030	-.035	-.044	-.024	-.029	-.030
.350	.450	4.000	-.042	-.046	-.058	-.030	-.038	-.050
.450	.450	4.000	-.045	-.055	-.070	-.036	-.045	-.061
.550	.450	4.000	-.053	-.064	-.082	-.041	-.052	-.070
.650	.450	4.000	-.058	-.071	-.091	-.044	-.057	-.076
.750	.450	4.000	-.062	-.075	-.100	-.047	-.061	-.085
.850	.450	4.000	-.065	-.080	-.106	-.047	-.063	-.090
.950	.450	4.000	-.065	-.083	-.112	-.047	-.064	-.093
1.050	.450	4.000	-.065	-.084	-.115	-.045	-.064	-.095
1.150	.450	4.000	-.063	-.083	-.117	-.041	-.062	-.096
1.250	.450	4.000	-.060	-.081	-.117	-.036	-.058	-.095
1.350	.450	4.000	-.055	-.078	-.116	-.030	-.054	-.092
1.450	.450	4.000	-.049	-.073	-.113	-.023	-.048	-.089
1.550	.450	4.000	-.041	-.067	-.109	-.015	-.041	-.084
1.650	.450	4.000	-.033	-.060	-.104	-.005	-.032	-.078
1.750	.450	4.000	-.024	-.052	-.098	.005	-.023	-.071
1.850	.450	4.000	-.014	-.043	-.091	.016	-.014	-.063
1.950	.450	4.000	-.003	-.033	-.083	.027	-.003	-.054
2.050	.450	4.000	.008	-.023	-.074	.039	.008	-.045
2.150	.450	4.000	.020	-.012	-.065	.051	.019	-.035
2.250	.450	4.000	.032	-.001	-.055	.064	.031	-.024
2.350	.450	4.000	.044	.011	-.045	.077	.043	-.014
2.450	.450	4.000	.057	.023	-.035	.090	.055	-.003
2.550	.450	4.000	.067	.034	-.024	.103	.068	.008
2.650	.450	4.000	.082	.045	-.013	.116	.080	.019
2.750	.450	4.000	.095	.058	-.002	.129	.092	.031
2.850	.450	4.000	.107	.070	.009	.142	.105	.042
2.950	.450	4.000	.120	.082	.020	.155	.117	.053
.050	.550	4.000	-.010	-.012	-.015	-.007	-.009	-.012
.150	.550	4.000	-.023	-.025	-.030	-.014	-.018	-.024
.250	.550	4.000	-.027	-.035	-.044	-.020	-.026	-.035
.350	.550	4.000	-.037	-.043	-.057	-.026	-.033	-.045
.450	.550	4.000	-.046	-.055	-.069	-.031	-.040	-.055
.550	.550	4.000	-.052	-.063	-.080	-.034	-.045	-.063
.650	.550	4.000	-.059	-.070	-.090	-.037	-.050	-.071
.750	.550	4.000	-.061	-.075	-.098	-.038	-.053	-.076
.850	.550	4.000	-.064	-.079	-.105	-.038	-.054	-.081
.950	.550	4.000	-.065	-.082	-.110	-.037	-.054	-.083
1.050	.550	4.000	-.064	-.083	-.114	-.034	-.053	-.085
1.150	.550	4.000	-.062	-.082	-.115	-.030	-.050	-.084
1.250	.550	4.000	-.059	-.080	-.116	-.025	-.046	-.083
1.350	.550	4.000	-.054	-.077	-.115	-.018	-.041	-.080
1.450	.550	4.000	-.044	-.072	-.112	-.010	-.035	-.076
1.550	.550	4.000	-.041	-.065	-.108	-.001	-.027	-.070
1.650	.550	4.000	-.033	-.059	-.103	.008	-.019	-.064
1.750	.550	4.000	-.024	-.051	-.097	.019	-.009	-.056
1.850	.550	4.000	-.014	-.042	-.089	.030	.001	-.048
1.950	.550	4.000	-.003	-.033	-.082	.042	.011	-.039
2.050	.550	4.000	.008	-.022	-.073	.054	.023	-.030
2.150	.550	4.000	.020	-.012	-.064	.066	.034	-.020
2.250	.550	4.000	.032	-.001	-.054	.079	.046	-.009
2.350	.550	4.000	.044	.011	-.044	.092	.058	.002
2.450	.550	4.000	.056	.023	-.034	.105	.071	.013
2.550	.550	4.000	.069	.034	-.023	.119	.083	.024
2.650	.550	4.000	.082	.046	-.013	.132	.096	.035
2.750	.550	4.000	.095	.058	-.002	.145	.108	.047

[illegible]	.650	4.000	.119	.042	.028	.171	.133	.069
.050	.750	4.000	-.010	-.012	-.015	-.006	-.008	-.011
.150	.650	4.000	[illegible]	-.023	-.029	-.011	-.015	-.021
.250	.650	4.000	-.027	-.034	-.043	-.016	-.022	-.031
.350	.650	4.000	-.037	-.044	-.056	-.021	-.028	-.040
.450	.650	4.000	-.045	-.054	-.068	-.024	-.033	-.049
.550	.650	4.000	-.051	-.062	-.079	-.027	-.036	-.056
.650	.650	4.000	-.057	-.069	-.089	-.028	-.041	-.062
.750	.650	4.000	-.061	-.074	-.097	-.029	-.043	-.066
.850	.650	4.000	-.063	-.078	-.105	-.028	-.043	-.070
.950	.650	4.000	-.064	-.081	-.108	-.025	-.043	-.072
1.050	.650	4.000	-.063	-.081	-.112	-.022	-.041	-.072
1.150	.650	4.000	-.061	-.081	-.114	-.017	-.037	-.071
1.250	.650	4.000	-.058	-.079	-.114	-.011	-.033	-.069
1.350	.650	4.000	-.053	-.075	-.113	-.004	-.027	-.065
1.450	.650	4.000	-.047	-.071	-.110	.005	-.020	-.060
1.550	.650	4.000	[illegible]	-.065	-.106	.014	-.012	-.055
1.650	.650	4.000	-.032	-.058	-.101	.024	-.003	-.048
1.750	.650	4.000	-.023	-.050	-.095	.035	.007	-.040
1.850	.650	4.000	-.013	-.041	-.088	.046	.017	-.031
1.950	.650	4.000	-.003	-.032	-.080	.058	.028	-.022
2.050	.650	4.000	.009	-.022	-.072	.071	.040	-.012
2.150	.650	4.000	.020	-.011	-.063	.084	.052	-.002
2.250	.650	4.000	.031	-.000	-.053	.097	.064	.009
2.350	.650	4.000	.044	.011	-.043	.110	.076	.020
2.450	.650	4.000	.055	.023	-.033	.123	.089	.031
2.550	.650	4.000	.068	.035	-.023	.137	.101	.042
2.650	.650	4.000	.081	.046	-.012	.150	.114	.054
2.750	.650	4.000	.095	.058	-.001	.163	.126	.065
2.850	.650	4.000	.108	.070	.009	.176	.139	.076
2.950	.650	4.000	.113	.081	.020	.189	.151	.088
.050	.750	4.000	-.010	-.012	-.014	-.004	-.006	-.009
.150	.750	4.000	-.019	-.023	-.027	-.008	-.012	-.018
.250	.750	4.000	-.027	-.034	-.042	-.012	-.017	-.027
.350	.750	4.000	-.037	-.044	-.055	-.015	-.022	-.034
.450	.750	4.000	-.044	-.053	-.067	-.017	-.026	-.041
.550	.750	4.000	-.050	-.061	-.078	-.019	-.029	-.047
.650	.750	4.000	-.055	-.067	-.087	-.019	-.031	-.052
.750	.750	4.000	-.059	-.073	-.095	-.018	-.032	-.055
.850	.750	4.000	-.062	-.077	-.101	-.016	-.032	-.053
.950	.750	4.000	-.063	-.079	-.106	-.013	-.030	-.059
1.050	.750	4.000	-.062	-.080	-.110	-.008	-.027	-.058
1.150	.750	4.000	-.060	-.079	-.111	-.002	-.023	-.056
1.250	.750	4.000	-.057	-.077	-.112	.004	-.017	-.053
1.350	.750	4.000	-.052	-.074	-.110	.012	-.011	-.049
1.450	.750	4.000	-.046	-.070	-.108	.021	-.003	-.043
1.550	.750	4.000	-.039	-.064	-.104	.031	.006	-.037
1.650	.750	4.000	-.032	-.057	-.099	.042	.015	-.030
1.750	.750	4.000	-.023	-.049	-.093	.053	.025	-.021
1.850	.750	4.000	-.013	-.041	-.086	.065	.036	-.012
1.950	.750	4.000	-.003	-.031	-.079	.077	.047	-.003
2.050	.750	4.000	.008	-.021	-.070	.090	.059	.007
2.150	.750	4.000	.019	-.011	-.061	.103	.071	.018
2.250	.750	4.000	.031	-.000	-.052	.116	.084	.029
2.350	.750	4.000	.043	.011	-.042	.130	.096	.040
2.450	.750	4.000	.055	.023	-.032	.143	.109	.051
2.550	.750	4.000	.068	.034	-.022	.157	.122	.063
2.650	.750	4.000	[illegible]	.046	-.011	.170	.134	.074
2.750	.750	4.000	.092	.057	-.001	.184	.147	.086
2.850	.750	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.210	.172	.109
[illegible]	[illegible]	[illegible]	[illegible]	-.011	-.019	[illegible]	-.004	-.008
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.009	-.015
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.041	-.007	-.013	-.022
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.009	-.016	-.028
[illegible]	[illegible]	[illegible]	-.043	-.052	-.065	-.009	-.018	-.033
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.009	-.020	-.038
[illegible]	[illegible]	[illegible]	[illegible]	-.066	-.085	-.008	-.021	-.041
[illegible]	[illegible]	[illegible]	[illegible]	-.071	[illegible]	-.006	-.020	-.043
[illegible]	[illegible]	[illegible]	[illegible]	-.075	-.099	-.003	-.019	-.044
[illegible]	[illegible]	[illegible]	-.061	-.077	[illegible]	.001	-.016	-.044
[illegible]	[illegible]	[illegible]	-.061	-.078	-.107	.007	-.012	-.043
[illegible]	[illegible]	[illegible]	[illegible]	-.079	[illegible]	.014	-.006	-.040
[illegible]	[illegible]	[illegible]	[illegible]	-.076	-.109	.021	-.000	-.036
[illegible]	[illegible]	[illegible]	[illegible]	-.075	[illegible]	.031	.007	-.031
[illegible]	[illegible]	[illegible]	-.075	[illegible]	[illegible]	.040	.015	-.025
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.025	-.011
[illegible]	[illegible]	[illegible]	-.051	-.056	-.097	.061	.035	-.010
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.073	.045	-.001
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.085	.056	.008
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.077	[illegible]	.066	.018
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.111	.080	.029
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.125	.093	.040
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.138	.105	.051
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.152	.118	.062
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.165	.131	.074
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.179	.144	.086
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.193	.157	.097
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.206	.170	.109
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.219	.182	.120
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.021	[illegible]	.195	.132
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.003	-.006
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.027	[illegible]	-.005	-.011
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.007	-.016
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.002	-.009	-.021
[illegible]	[illegible]	[illegible]	-.042	-.050	[illegible]	-.001	-.010	-.025
[illegible]	[illegible]	[illegible]	[illegible]	-.058	[illegible]	.000	-.010	-.028
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.003	-.009	-.030
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.091	[illegible]	-.007	-.031
[illegible]	[illegible]	[illegible]	[illegible]	-.073	[illegible]	.011	-.005	-.030
[illegible]	[illegible]	[illegible]	[illegible]	-.075	[illegible]	.016	-.001	-.029
[illegible]	[illegible]	[illegible]	[illegible]	-.074	-.105	.023	.005	-.026
[illegible]	[illegible]	[illegible]	[illegible]	-.076	[illegible]	.031	.011	-.023
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.107	.039	.018	-.016
[illegible]	[illegible]	[illegible]	[illegible]	-.071	[illegible]	.049	.026	-.012
[illegible]	[illegible]	[illegible]	[illegible]	-.066	-.103	.059	.035	-.005
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.100	.070	.045	.003
[illegible]	[illegible]	[illegible]	[illegible]	-.054	[illegible]	.082	.056	.012
[illegible]	[illegible]	[illegible]	[illegible]	-.047	[illegible]	.094	.067	.021
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.107	.078	.031
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.075	.120	.091	.041
[illegible]	[illegible]	[illegible]	[illegible]	-.025	[illegible]	.134	.103	.052
[illegible]	[illegible]	[illegible]	[illegible]	-.010	[illegible]	.147	.116	.063
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.161	.129	.075
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.175	.142	.086
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.035	.189	.155	.098
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.203	.168	.110
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.009	.217	.181	.122
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.230	.194	.133
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.244	.207	.145

[illegible]	[illegible]	[illegible]	[illegible]	.079	[illegible]	.257	.219	.157
[illegible]	1.[illegible]	4.[illegible]	-.007	-.011	-.013	.001	-.001	-.004
[illegible]	[illegible]	[illegible]	-.012	-.021	-.027	.002	-.002	-.006
.250	1.050	4.000	-.028	-.031	-.037	.003	-.002	-.011
[illegible]	1.050	[illegible]	-.031	-.041	-.051	.005	-.002	-.014
[illegible]	1.050	[illegible]	-.041	-.049	-.062	.008	-.001	-.016
.550	1.050	[illegible]	-.047	-.055	-.072	.011	.000	-.017
.650	1.050	4.000	-.052	-.063	-.081	.015	.003	-.018
.750	1.050	4.000	-.055	-.069	-.088	.020	.006	-.017
.850	1.050	4.000	-.058	-.071	-.094	.025	.010	-.015
.950	1.050	4.000	-.059	-.074	-.099	.032	.015	-.013
1.050	1.050	4.000	-.058	-.075	-.102	.040	.022	-.009
1.150	1.050	4.000	-.056	-.075	-.104	.049	.029	-.004
1.250	1.050	4.000	-.053	-.072	-.104	.058	.037	.002
1.350	1.050	[illegible]	-.047	-.069	-.103	.069	.046	.009
1.450	1.050	4.000	-.043	-.065	-.101	.080	.056	.016
1.550	1.050	4.000	-.037	-.059	-.097	.091	.066	.025
1.650	1.050	4.000	-.029	-.053	-.092	.104	.078	.034
1.750	1.050	4.000	-.021	-.046	-.087	.117	.089	.044
1.850	1.050	4.000	-.012	-.037	-.080	.130	.101	.054
1.950	1.050	4.000	-.002	-.029	-.073	.143	.114	.065
2.050	1.050	4.000	.009	-.019	-.065	.157	.127	.076
2.150	1.050	4.000	.019	-.009	-.057	.171	.140	.088
2.250	1.050	4.000	.030	.001	-.048	.185	.153	.100
2.350	1.050	4.000	.042	.012	-.038	.200	.167	.111
2.450	1.050	4.000	.053	.023	-.028	.214	.180	.123
2.550	1.050	4.000	.065	.034	-.019	.228	.193	.135
2.650	1.050	4.000	.077	.045	-.008	.242	.206	.147
2.750	1.050	4.000	.089	.056	.002	.255	.219	.159
2.850	1.050	4.000	.101	.067	.012	.269	.232	.171
2.950	1.050	4.000	.112	.078	.022	.282	.245	.183
.050	1.150	4.000	-.009	-.010	-.013	.003	.001	-.002
.150	1.150	4.000	-.017	-.021	-.026	.006	.002	-.004
.250	1.150	4.000	-.025	-.030	-.038	.009	.003	-.005
.350	1.150	4.000	-.033	-.039	-.050	.012	.005	-.006
.450	1.150	4.000	-.040	-.046	-.060	.017	.008	-.007
.550	1.150	4.000	-.046	-.055	-.070	.021	.011	-.006
.650	1.150	4.000	-.050	-.061	-.079	.027	.015	-.005
.750	1.150	4.000	-.054	-.066	-.086	.033	.020	-.003
.850	1.150	4.000	-.056	-.069	-.092	.041	.025	-.000
.950	1.150	4.000	-.057	-.072	-.096	.049	.032	.004
1.050	1.150	4.000	-.056	-.072	-.099	.058	.039	.009
1.150	1.150	4.000	-.055	-.072	-.101	.067	.048	.015
1.250	1.150	4.000	-.052	-.070	-.101	.078	.057	.022
1.350	1.150	4.000	-.047	-.067	-.100	.089	.067	.029
1.450	1.150	4.000	-.042	-.063	-.098	.101	.077	.038
1.550	1.150	4.000	-.035	-.056	-.094	.113	.089	.047
1.650	1.150	4.000	-.028	-.051	-.090	.126	.100	.057
1.750	1.150	4.000	-.020	-.044	-.084	.140	.113	.068
1.850	1.150	4.000	-.011	-.036	-.078	.154	.125	.079
1.950	1.150	4.000	-.002	-.025	-.071	.168	.138	.090
2.050	1.150	4.000	.008	-.016	-.063	.182	.152	.101
2.150	1.150	4.000	.019	-.007	-.055	.196	.165	.113
2.250	1.150	4.000	.030	.002	-.046	.211	.179	.125
2.350	1.150	4.000	.041	.012	-.037	.225	.192	.138
2.450	1.150	4.000	.053	.023	-.027	.239	.206	.150
2.550	1.150	4.000	.064	.034	-.017	.254	.219	.162
2.650	1.150	4.000	.076	.045	-.007	.268	.233	.174
2.750	1.150	4.000	.087	.056	.003	.282	.246	.186
2.850	1.150	4.000	.099	.067	.013	.295	.259	.198

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2.950	1.150	4.000	.111	.076	.023	.309	.272	.210
.050	1.250	4.000	-.037	-.010	-.013	.005	.003	-.000
.150	1.250	4.000	-.037	-.020	-.025	.009	.006	.000
.250	1.250	4.000	-.035	-.029	-.037	.014	.009	.000
.350	1.250	4.000	-.042	-.035	-.048	.020	.013	.001
.450	1.250	4.000	-.039	-.046	-.058	.026	.017	.003
.550	1.250	4.000	-.044	-.053	-.066	.032	.022	.005
.650	1.250	4.000	-.049	-.059	-.076	.039	.027	.008
.750	1.250	4.000	-.052	-.059	-.083	.047	.034	.011
.850	1.250	4.000	-.054	-.067	-.089	.056	.041	.016
.950	1.250	4.000	-.055	-.072	-.093	.065	.049	.021
1.050	1.250	4.000	-.055	-.075	-.096	.075	.057	.027
1.150	1.250	4.000	-.053	-.070	-.096	.086	.067	.034
1.250	1.250	4.000	-.050	-.066	-.095	.098	.077	.042
1.350	1.250	4.000	-.046	-.065	-.097	.110	.088	.051
1.450	1.250	4.000	-.041	-.061	-.075	.123	.079	.060
1.550	1.250	4.000	-.035	-.056	-.091	.136	.111	.070
1.650	1.250	4.000	-.027	-.050	-.087	.150	.124	.081
1.750	1.250	4.000	-.019	-.043	-.082	.164	.137	.092
1.850	1.250	4.000	-.011	-.035	-.075	.178	.150	.103
1.950	1.250	4.000	-.001	-.027	-.068	.192	.163	.115
2.050	1.250	4.000	.008	-.017	-.061	.207	.177	.127
2.150	1.250	4.000	.019	-.008	-.053	.222	.191	.140
2.250	1.250	4.000	.032	.002	-.044	.236	.205	.152
2.350	1.250	4.000	.041	.012	-.035	.251	.219	.164
2.450	1.250	4.000	.052	.023	-.026	.266	.232	.177
2.550	1.250	4.000	.062	.033	-.016	.280	.246	.189
2.650	1.250	4.000	.074	.044	-.006	.294	.260	.202
2.750	1.250	4.000	.086	.055	.004	.309	.273	.214
2.850	1.250	4.000	.097	.066	.014	.322	.286	.276
2.950	1.250	4.000	.109	.077	.025	.336	.299	.238
.050	1.350	4.000	-.030	-.010	-.012	.007	.005	.002
.150	1.350	4.000	-.016	-.019	-.024	.013	.010	.004
.250	1.350	4.000	-.029	-.028	-.036	.020	.015	.006
.350	1.350	4.000	-.031	-.037	-.046	.027	.020	.009
.450	1.350	4.000	-.037	-.045	-.057	.035	.026	.012
.550	1.350	4.000	-.043	-.051	-.066	.043	.033	.016
.650	1.350	4.000	-.047	-.057	-.074	.052	.040	.020
.750	1.350	4.000	-.050	-.062	-.080	.061	.048	.026
.850	1.350	4.000	-.052	-.065	-.086	.071	.056	.032
.950	1.350	4.000	-.053	-.067	-.090	.082	.066	.038
1.050	1.350	4.000	-.053	-.068	-.093	.093	.076	.046
1.150	1.350	4.000	-.051	-.067	-.095	.155	.086	.054
1.250	1.350	4.000	-.048	-.066	-.095	.110	.097	.063
1.350	1.350	4.000	-.044	-.063	-.099	.131	.109	.073
1.450	1.350	4.000	-.039	-.059	-.072	.145	.121	.083
1.550	1.350	4.000	-.033	-.054	-.088	.159	.134	.094
1.650	1.350	4.000	-.026	-.048	-.084	.173	.147	.105
1.750	1.350	4.000	-.019	-.041	-.079	.188	.161	.117
1.850	1.350	4.000	-.010	-.034	-.073	.202	.175	.129
1.950	1.350	4.000	-.001	-.025	-.066	.217	.189	.141
2.050	1.350	4.000	.009	-.017	-.058	.232	.203	.153
2.150	1.350	4.000	.019	-.007	-.050	.247	.217	.166
2.250	1.350	4.000	.027	.003	-.042	.263	.231	.179
2.350	1.350	4.000	.043	.013	-.033	.277	.245	.191
2.450	1.350	4.000	.051	.023	-.024	.292	.259	.204
2.550	1.350	4.000	.062	.033	-.015	.307	.273	.217
2.650	1.350	4.000	.073	.044	-.005	.321	.287	.229
2.750	1.350	4.000	.084	.055	.005	.336	.300	.242
2.850	1.350	[illegible]	[illegible]	[illegible]	[illegible]	.350	.314	.254

[illegible]	[illegible]	[illegible]	.077	.076	.124	.355	.327	.266
.050	1.450	4.000	-.008	-.009	-.012	.008	.007	.004
.150	1.450	4.000	-.016	-.017	-.023	.017	.014	.008
.250	1.450	4.000	-.023	-.027	-.034	.026	.021	.012
.350	1.450	4.000	-.030	-.035	-.045	.035	.028	.017
.450	1.450	4.000	-.036	-.043	-.054	.044	.036	.022
.550	1.450	4.000	-.041	-.049	-.063	.054	.044	.027
.650	1.450	4.000	-.045	-.055	-.071	.064	.053	.033
.750	1.450	[illegible]	-.048	[illegible]	[illegible]	.075	.062	.040
.850	1.450	4.000	-.050	-.063	-.083	.087	.072	.047
.950	1.450	4.000	-.051	-.065	-.087	.099	.082	.055
1.050	1.450	4.000	-.051	-.065	-.076	.111	.094	.064
1.150	1.450	4.000	-.049	-.065	-.091	.124	.105	.074
1.250	1.450	4.000	-.047	-.063	-.091	.138	.118	.084
1.350	1.450	4.000	-.043	-.061	-.090	.152	.130	.094
1.450	1.450	4.000	-.038	-.057	-.088	.166	.143	.105
1.550	1.450	4.000	-.032	-.052	-.085	.181	.157	.117
1.650	1.450	4.000	-.025	-.046	-.081	.196	.171	.129
1.750	1.450	4.000	-.018	-.040	-.076	.211	.185	.141
1.850	1.450	4.000	-.009	-.032	-.070	.227	.199	.154
1.950	1.450	4.000	-.001	-.024	-.063	.242	.214	.166
2.050	1.450	4.000	.007	-.016	-.056	.258	.228	.179
2.150	1.450	4.000	.019	-.006	-.048	.273	.243	.192
2.250	1.450	4.000	.029	.003	-.040	.289	.257	.205
2.350	1.450	4.000	.039	.013	-.031	.304	.272	.218
2.450	1.450	4.000	.050	.023	-.022	.319	.286	.231
2.550	1.450	4.000	.061	.033	-.013	.334	.300	.244
2.650	1.450	4.000	.072	.044	-.004	.348	.314	.257
2.750	1.450	4.000	.083	.054	.006	.363	.326	.270
2.850	1.450	4.000	.094	.064	.015	.377	.341	.282
2.950	1.450	4.000	.105	.075	.025	.391	.354	.294
.050	1.550	4.000	[illegible]	-.009	-.011	.010	.009	.006
.150	1.550	4.000	-.015	-.018	-.022	.021	.017	.012
.250	1.550	4.000	-.022	-.026	-.033	.031	.026	.018
.350	1.550	4.000	-.029	-.034	-.043	.042	.035	.024
.450	1.550	4.000	-.035	-.041	-.052	.053	.045	.031
.550	1.550	4.000	-.040	-.046	-.061	.065	.055	.038
.650	1.550	4.000	-.044	-.053	-.068	.077	.065	.046
.750	1.550	4.000	-.047	-.057	-.075	.089	.076	.054
.850	1.550	4.000	-.049	-.060	-.080	.102	.087	.063
.950	1.550	4.000	-.049	-.062	-.084	.115	.099	.072
1.050	1.550	4.000	-.049	-.063	-.086	.129	.111	.082
1.150	1.550	4.000	-.047	-.063	-.088	.143	.124	.093
1.250	1.550	4.000	-.045	-.061	-.088	.158	.136	.104
1.350	1.550	4.000	-.041	-.058	-.087	.173	.151	.116
1.450	1.550	4.000	-.036	-.055	-.085	.188	.165	.127
1.550	1.550	4.000	-.031	-.050	-.082	.203	.180	.140
1.650	1.550	4.000	-.024	-.044	-.078	.219	.194	.152
1.750	1.550	4.000	-.017	-.036	-.073	.235	.209	.165
1.850	1.550	4.000	-.009	-.031	-.067	.251	.224	.178
1.950	1.550	4.000	-.000	-.023	-.061	.267	.239	.192
2.050	1.550	4.000	.009	-.014	-.053	.283	.254	.205
2.150	1.550	4.000	.019	-.006	-.046	.298	.268	.219
2.250	1.550	4.000	.029	.004	-.038	.314	.283	.232
2.350	1.550	4.000	.037	.013	-.029	.330	.298	.245
2.450	1.550	4.000	.049	.023	-.021	.345	.313	.258
2.550	1.550	4.000	.060	.033	-.012	.360	.327	.272
2.650	1.550	4.000	.071	.043	-.002	.375	.341	.284
2.750	1.550	4.000	[illegible]	.053	.007	.389	.355	.297

[illegible]	[illegible]	[illegible]	[illegible]	.274	.326	[illegible]	.3?2	.322
.050	1.650	[illegible]	-.007	-.009	-.011	.012	.010	.008
.150	1.650	[illegible]	-.01?	-.017	-.021	.024	.021	.015
.250	1.650	4.300	-.021	-.025	-.032	.037	.032	.023
.350	1.650	[illegible]	[illegible]	-.033	-.041	.049	.043	.032
.450	1.650	4.300	-.033	-.040	-.050	.062	.054	.040
.550	1.650	[illegible]	[illegible]	[illegible]	-.058	.075	.065	.049
.650	1.650	4.300	-.042	-.051	-.065	.089	.077	.058
.750	1.650	[illegible]	-.045	-.055	-.072	.102	.089	.069
.850	1.650	4.300	-.047	-.058	-.076	.117	.102	.078
.950	1.650	[illegible]	-.047	-.059	-.080	.131	.115	.089
1.050	1.650	4.300	-.047	-.060	-.083	.145	.129	.100
1.150	1.650	4.300	-.045	-.060	-.084	.161	.143	.112
1.250	1.650	4.300	-.043	-.058	-.084	.177	.157	.124
1.350	1.650	[illegible]	-.039	-.056	-.083	.193	.172	.136
1.450	1.650	4.300	-.035	-.052	-.081	.209	.186	.149
1.550	1.650	[illegible]	-.029	-.048	-.078	.225	.202	.162
1.650	1.650	4.300	-.023	-.042	-.074	.241	.217	.176
1.750	1.650	[illegible]	-.015	-.035	-.070	.253	.232	.189
1.850	1.650	4.300	-.008	-.029	-.064	.274	.247	.203
1.950	1.650	[illegible]	.002	-.021	-.058	.291	.263	.217
2.050	1.650	4.300	.009	-.013	-.051	.307	.278	.230
2.150	1.650	4.300	.017	-.005	-.043	.323	.293	.244
2.250	1.650	4.300	.026	.004	-.036	.339	.309	.258
2.350	1.650	[illegible]	.035	.014	-.027	.355	.324	.271
2.450	1.650	[illegible]	.044	.024	-.019	.371	.338	.285
2.550	1.650	[illegible]	.054	.033	-.010	.386	.353	.298
2.650	1.650	[illegible]	.064	.043	-.001	.401	.367	.311
2.750	[illegible]	[illegible]	.075	.055	.009	.416	.381	.324
2.850	1.700	4.300	.092	.063	.017	.430	.395	.337
2.950	1.650	4.300	.101	.073	.026	.434	.408	.349
.050	1.700	4.300	-.007	-.008	-.010	.014	.012	.009
.150	1.700	[illegible]	-.021	-.015	-.020	.023	.025	.019
.250	1.700	[illegible]	[illegible]	-.025	-.030	.042	.037	.029
.350	1.700	[illegible]	[illegible]	-.031	-.039	.056	.050	.039
.450	1.700	[illegible]	-.037	-.038	-.048	.070	.062	.049
.550	1.700	4.300	-.036	-.044	-.056	.085	.075	.059
.650	1.700	4.300	-.040	-.047	-.063	.100	.089	.070
.750	1.700	4.300	-.043	-.052	-.068	.115	.103	.081
.850	1.700	4.300	-.045	-.055	-.073	.131	.117	.093
.950	1.700	4.300	-.045	-.057	-.077	.147	.131	.105
1.050	1.700	4.300	-.045	-.058	-.079	.163	.146	.117
1.150	1.700	4.300	-.044	-.057	-.081	.179	.161	.130
1.250	1.700	4.300	-.041	-.056	-.081	.195	.176	.143
1.350	1.700	4.300	-.039	-.053	-.080	.212	.191	.156
1.450	1.700	4.300	-.033	-.050	-.078	.229	.207	.170
1.550	1.700	4.300	-.028	-.046	-.075	.246	.223	.184
1.650	1.700	[illegible]	-.022	-.040	-.071	.263	.239	.198
1.750	1.700	4.300	-.015	-.034	-.066	.280	.255	.212
1.850	1.700	[illegible]	-.007	-.027	-.061	.297	.271	.226
1.950	1.700	[illegible]	.001	-.020	-.055	.314	.286	.241
2.050	1.700	4.300	.007	-.012	-.048	.331	.302	.255
2.150	1.700	4.300	.019	-.004	-.041	.347	.318	.269
2.250	1.700	[illegible]	.028	.005	-.033	.363	.333	.283
2.350	1.700	[illegible]	.038	.014	-.025	.380	.348	.297
2.450	1.700	4.300	[illegible]	.023	-.017	.395	.364	.310
2.550	1.700	4.300	.05?	.033	-.008	.411	.378	.324
2.650	1.700	4.300	.065	.043	.000	.426	.393	.337
2.750	1.700	[illegible]	.073	.052	.009	.441	.407	.350
2.850	1.700	4.300	.089	.062	.013	.455	.421	.363

1.950	1.750	[illegible]	.077	.072	.027	.469	.434	.376
.050	[illegible]	[illegible]	-.007	-.008	-.010	.016	.014	.011
.150	[illegible]	[illegible]	-.013	-.015	-.020	.031	.025	.022
.250	1.[illegible]	4.[illegible]	-.019	-.023	-.027	.047	.042	.034
.350	1.[illegible]	4.[illegible]	-.025	-.030	-.036	.063	.056	.045
.450	1.850	4.000	-.030	-.036	-.046	.079	.071	.057
.550	1.450	4.000	-.035	-.042	-.053	.095	.085	.069
.650	1.550	4.000	-.039	-.046	-.060	.111	.100	.082
.750	1.[illegible]	4.[illegible]	-.041	-.050	-.065	.128	.115	.094
.850	1.550	4.000	-.043	-.053	-.070	.144	.130	.107
.950	1.[illegible]	4.000	-.043	-.055	-.073	.161	.146	.120
1.050	1.850	4.[illegible]	-.043	-.055	-.076	.179	.162	.134
1.150	1.[illegible]	4.[illegible]	-.042	-.055	-.077	.196	.178	.148
1.250	1.[illegible]	4.000	-.039	-.054	-.077	.213	.194	.162
1.350	1.[illegible]	4.000	-.035	-.051	-.076	.231	.210	.176
1.450	1.[illegible]	4.000	-.032	-.048	-.074	.249	.227	.190
1.550	1.[illegible]	4.000	-.026	-.043	-.071	.266	.243	.205
1.650	1.850	4.000	-.021	-.038	-.068	.284	.260	.219
1.750	1.8[illegible]	4.000	-.014	-.032	-.063	.301	.276	.234
1.850	1.800	4.000	-.007	-.026	-.058	.319	.293	.249
1.950	1.[illegible]	4.000	.001	-.019	-.052	.336	.309	.264
2.050	1.[illegible]	4.000	.010	-.011	-.046	.353	.325	.278
2.150	1.[illegible]	4.000	.019	-.003	-.039	.370	.341	.293
2.250	1.550	4.000	.026	.006	-.031	.387	.357	.307
2.350	1.[illegible]	4.[illegible]	.037	.015	-.023	.403	.372	.321
2.450	1.[illegible]	4.000	.047	.024	-.015	.419	.388	.335
2.550	[illegible]	4.[illegible]	.057	.033	-.007	.435	.402	.349
2.650	1.[illegible]	4.000	.067	.042	.002	.450	.417	.362
2.750	1.[illegible]	4.000	.077	.052	.011	.465	.431	.375
2.850	1.850	4.000	.087	.062	.019	.480	.445	.388
2.950	1.850	4.000	.097	.071	.028	.494	.459	.401
.050	1.750	4.000	-.005	-.007	-.009	.017	.016	.013
.150	1.750	4.[illegible]	-.013	-.015	-.019	.034	.031	.026
.250	1.750	4.000	-.019	-.022	-.027	.051	.047	.039
.350	1.950	4.000	-.024	-.029	-.036	.069	.062	.052
.450	1.750	4.000	-.029	-.034	-.044	.086	.078	.065
.550	1.750	4.000	-.033	-.040	-.051	.104	.094	.079
.650	1.950	4.005	-.036	-.044	-.057	.121	.111	.092
.750	1.950	4.000	-.039	-.048	-.062	.139	.127	.106
.850	1.750	4.000	-.041	-.050	-.067	.157	.143	.120
.950	1.750	4.000	-.041	-.052	-.070	.175	.160	.135
1.050	1.750	4.000	-.041	-.053	-.072	.194	.177	.149
1.150	1.750	4.000	-.040	-.052	-.073	.212	.194	.164
1.250	1.950	4.000	-.037	-.051	-.073	.230	.211	.179
1.350	1.950	4.000	-.034	-.048	-.073	.249	.228	.194
1.450	1.750	4.000	-.030	-.045	-.071	.267	.245	.209
1.550	1.750	4.000	-.025	-.041	-.068	.285	.262	.225
1.650	1.750	4.000	-.019	-.036	-.064	.303	.280	.240
1.750	1.950	4.000	-.013	-.030	-.060	.321	.297	.255
1.850	1.750	4.000	-.005	-.024	-.055	.339	.314	.270
1.950	1.750	4.000	.002	-.017	-.049	.357	.330	.285
2.050	1.950	4.000	.010	-.010	-.043	.375	.347	.300
2.150	1.950	4.000	.019	-.002	-.036	.392	.363	.315
2.250	1.950	4.000	.027	.006	-.029	.409	.379	.330
2.350	1.750	4.000	.037	.015	-.021	.425	.395	.344
2.450	1.750	4.000	.045	.024	-.013	.441	.410	.359
2.550	1.750	4.000	.056	.033	-.005	.457	.426	.372
2.650	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.473	.442	[illegible]

2.950	1.950	[illegible]	.025	.070	.027	.517	.483	.425
.050	2.050	4.000	-.005	-.007	-.009	.017	.017	.014
.150	2.050	4.000	-.012	-.014	-.018	.037	.034	.029
.250	2.050	4.000	-.015	-.021	-.026	.056	.051	.043
.350	2.050	4.000	-.023	-.027	-.034	.075	.068	.058
.450	2.050	4.000	-.027	-.033	-.042	.093	.086	.073
.550	2.050	4.000	-.031	-.038	-.043	.112	.103	.087
.650	2.050	4.000	-.035	-.042	-.054	.131	.120	.103
.750	2.050	4.000	-.037	-.045	-.059	.150	.138	.118
.850	2.050	4.000	-.039	-.045	-.063	.169	.156	.133
.950	2.050	4.000	-.037	-.047	-.066	.188	.173	.148
1.050	2.050	4.000	-.039	-.050	-.069	.208	.191	.164
1.150	2.050	4.000	-.037	-.050	-.070	.227	.209	.180
1.250	2.050	4.000	-.035	-.048	-.070	.246	.227	.196
1.350	2.050	4.000	-.032	-.045	-.069	.265	.245	.211
1.450	2.050	4.000	-.028	-.043	-.067	.284	.263	.227
1.550	2.050	4.000	-.023	-.039	-.064	.303	.281	.243
1.650	2.050	4.000	-.018	-.034	-.061	.322	.298	.259
1.750	2.050	4.000	-.012	-.029	-.057	.340	.316	.275
1.850	2.050	4.000	-.005	-.022	-.052	.359	.333	.291
1.950	2.050	4.000	.002	-.016	-.046	.377	.350	.306
2.050	2.050	4.000	.010	-.009	-.040	.395	.367	.321
2.150	2.050	4.000	.019	-.001	-.033	.412	.384	.337
2.250	2.050	4.000	.027	.007	-.026	.429	.400	.352
2.350	2.050	4.000	.036	.016	-.019	.446	.416	.366
2.450	2.050	4.000	.045	.024	-.011	.463	.432	.381
2.550	2.050	4.000	.055	.033	-.003	.479	.447	.395
2.650	2.050	4.000	.064	.042	.005	.494	.462	.408
2.750	2.050	4.000	.074	.051	.013	.510	.477	.422
2.850	2.050	4.000	.083	.060	.022	.524	.491	.435
2.950	2.050	4.000	.093	.069	.030	.539	.505	.448
.050	2.150	4.000	-.005	-.007	-.008	.020	.018	.016
.150	2.150	4.000	-.011	-.013	-.017	.040	.037	.032
.250	2.150	4.000	-.017	-.020	-.025	.060	.055	.048
.350	2.150	4.000	-.022	-.026	-.032	.080	.074	.064
.450	2.150	4.000	-.025	-.031	-.039	.100	.092	.080
.550	2.150	4.000	-.030	-.035	-.046	.120	.111	.096
.650	2.150	4.000	-.033	-.040	-.051	.140	.130	.112
.750	2.150	4.000	-.035	-.043	-.056	.160	.148	.128
.850	2.150	4.000	-.037	-.045	-.060	.180	.167	.145
.950	2.150	4.000	-.037	-.047	-.063	.201	.186	.161
1.050	2.150	4.000	-.037	-.047	-.065	.221	.205	.178
1.150	2.150	4.000	-.035	-.047	-.066	.241	.223	.194
1.250	2.150	4.000	-.033	-.046	-.066	.261	.242	.211
1.350	2.150	4.000	-.030	-.043	-.065	.280	.261	.228
1.450	2.150	4.000	-.027	-.040	-.063	.300	.279	.244
1.550	2.150	4.000	-.022	-.037	-.061	.320	.298	.261
1.650	2.150	4.000	-.017	-.032	-.057	.339	.316	.277
1.750	2.150	4.000	-.011	-.027	-.053	.358	.334	.293
1.850	2.150	4.000	-.004	-.021	-.049	.377	.352	.309
1.950	2.150	4.000	.003	-.014	-.043	.395	.369	.325
2.050	2.150	4.000	.011	-.007	-.037	.413	.386	.341
2.150	2.150	4.000	.019	.000	-.031	.431	.403	.357
2.250	2.150	4.000	.027	.008	-.024	.449	.420	.372
2.350	2.150	4.000	.036	.016	-.017	.466	.436	.387
2.450	2.150	4.000	.045	.024	-.009	.482	.452	.401
2.550	2.150	4.000	.054	.033	-.001	.498	.467	.415
2.650	2.150	4.000	.063	.042	.008	.514	.482	.429
2.750	2.150	4.000	.072	.051	.016	.530	.497	.443
2.850	2.150	[illegible]	.082	.059	.025	.545	.511	.456

2.950	4.250	4.000	.091	.059	.031	.559	.525	.469
.050	4.250	4.000	-.005	-.006	-.004	.021	.020	.017
.150	4.250	4.000	-.007	-.013	-.016	.042	.037	.034
.250	4.250	4.000	-.010	-.019	-.023	.064	.057	.052
.350	4.250	4.000	-.020	-.024	-.031	.085	.077	.069
.450	4.250	4.000	-.025	-.029	-.037	.106	.099	.086
.550	4.250	4.000	-.028	-.034	-.043	.127	.118	.103
.650	2.250	4.000	-.031	-.038	-.049	.146	.138	.121
.750	2.250	4.000	-.033	-.041	-.05[illegible]	.170	.158	.138
.850	2.250	4.000	-.034	-.043	-.057	.191	.176	.156
.950	2.250	4.000	-.035	-.044	-.060	.212	.197	.173
1.050	2.250	4.000	-.035	-.045	-.061	.233	.217	.190
1.150	2.250	4.000	-.033	-.044	-.062	.253	.236	.208
1.250	2.250	4.000	-.031	-.043	-.062	.274	.256	.225
1.350	2.250	4.000	-.029	-.041	-.062	.295	.275	.243
1.450	2.250	4.000	-.025	-.038	-.060	.315	.294	.260
1.550	2.250	4.000	-.020	-.034	-.057	.335	.313	.277
1.650	2.250	4.000	-.015	-.030	-.054	.355	.332	.294
1.750	2.250	4.000	-.009	-.025	-.050	.374	.350	.310
1.850	2.250	4.000	-.002	-.019	-.045	.393	.366	.327
1.950	2.250	4.000	.004	-.013	-.040	.412	.386	.343
2.050	2.250	4.000	.011	-.006	-.034	.431	.404	.359
2.150	2.250	4.000	.019	.001	-.028	.449	.421	.375
2.250	2.250	4.000	.027	.009	-.021	.466	.438	.390
2.350	2.250	4.000	.035	.017	-.014	.483	.454	.405
2.450	2.250	4.000	.044	.025	-.007	.500	.470	.420
2.550	2.250	4.000	.053	.033	.000	.517	.486	.435
2.650	2.250	4.000	.062	.042	.008	.533	.501	.449
2.750	2.250	4.000	.071	.050	.015	.548	.516	.462
2.850	4.250	4.000	.080	.059	.024	.563	.530	.476
2.950	4.250	4.000	.089	.067	.032	.573	.544	.489
.050	4.350	4.000	-.005	-.006	-.008	.022	.021	.018
.150	4.350	4.000	-.010	-.012	-.015	.045	.042	.037
.250	4.350	4.000	-.015	-.018	-.022	.067	.063	.055
.350	4.350	4.000	-.019	-.023	-.029	.089	.083	.073
.450	4.350	4.000	-.023	-.028	-.035	.112	.104	.092
.550	4.350	4.000	-.027	-.032	-.041	.134	.125	.110
.650	2.350	4.000	-.029	-.035	-.046	.156	.146	.129
.750	2.350	4.000	-.031	-.038	-.050	.178	.166	.147
.850	4.350	4.000	-.033	-.040	-.054	.200	.187	.165
.950	4.350	4.000	-.033	-.042	-.056	.222	.203	.184
1.050	4.350	4.000	-.033	-.042	-.058	.244	.228	.202
1.150	4.350	4.000	-.031	-.042	-.059	.265	.248	.220
1.250	4.350	4.000	-.029	-.040	-.059	.286	.268	.238
1.350	4.350	4.000	-.027	-.038	-.058	.307	.288	.256
1.450	4.350	4.000	-.023	-.036	-.056	.328	.308	.274
1.550	4.350	4.000	-.019	-.032	-.054	.349	.327	.291
1.650	4.350	4.000	-.014	-.028	-.051	.369	.346	.309
1.750	4.350	4.000	-.00[illegible]	-.023	-.047	.389	.365	.326
1.850	4.350	4.000	-.002	-.017	-.042	.408	.384	.343
1.950	4.350	4.000	[illegible]	-.011	-.037	.427	.402	.359
2.050	4.350	4.000	.011	-.005	-.032	.445	.420	.376
2.150	4.350	4.000	.019	.002	-.026	.464	.437	.392
2.250	4.350	4.000	.027	.010	-.019	.482	.454	.407
2.350	4.350	4.000	.035	.017	-.012	.500	.471	.423
2.450	4.350	4.000	.043	.025	-.005	.517	.487	.438
2.550	4.350	4.100	.052	.033	.002	.533	.503	.452
[illegible]	[illegible]	[illegible]	.06[illegible]	.041	[illegible]	.549	.518	.46[illegible]
[illegible]	[illegible]	[illegible]						

2.750	[illegible]	[illegible]	.367	.057	.033	.595	.562	.507
.050	[illegible]	[illegible]	-.005	-.014	-.017	.023	.022	.019
.150	[illegible]	[illegible]	-.010	-.011	-.018	.047	.044	.039
.250	[illegible]	[illegible]	-.013	-.017	-.021	.070	.066	.058
.350	[illegible]	[illegible]	-.015	-.022	-.027	.093	.088	.078
.450	4.450	[illegible]	-.022	-.026	-.033	.117	.109	.097
.550	4.450	[illegible]	-.025	-.029	-.038	.140	.131	.117
.650	4.450	[illegible]	-.026	-.033	-.043	.163	.153	.136
.750	4.450	[illegible]	-.027	-.036	-.047	.186	.174	.155
.850	4.450	4.000	-.031	-.036	-.050	.208	.196	.174
.950	4.450	[illegible]	-.031	-.039	-.053	.231	.217	.193
1.050	4.450	4.000	-.031	-.040	-.054	.253	.238	.212
1.150	4.450	[illegible]	-.029	-.039	-.055	.275	.259	.231
1.250	4.450	[illegible]	-.028	-.038	-.055	.277	.280	.250
1.350	4.450	[illegible]	-.025	-.036	-.054	.319	.300	.268
1.450	4.450	[illegible]	-.021	-.033	-.053	.340	.320	.267
1.550	4.450	[illegible]	-.017	-.030	-.050	.361	.340	.305
1.650	4.450	[illegible]	-.013	-.026	-.047	.382	.360	.323
1.750	4.450	[illegible]	-.007	-.021	-.043	.402	.379	.340
1.850	4.450	[illegible]	-.003	-.015	-.037	.422	.398	.357
1.950	4.450	[illegible]	.005	-.010	-.034	.441	.416	.374
2.050	4.450	[illegible]	.012	-.003	-.029	.460	.434	.391
2.150	4.450	[illegible]	.019	.003	-.023	.479	.452	.407
2.250	4.450	[illegible]	.027	.010	-.017	.497	.469	.423
2.350	4.450	[illegible]	[illegible]	.016	-.010	.514	.486	.438
2.450	4.450	[illegible]	.043	.022	-.003	.531	.502	.453
[illegible]	[illegible]	[illegible]	.051	.033	[illegible]	.548	.518	.468
2.650	4.450	[illegible]	[illegible]	.041	.011	.564	.534	.482
2.750	4.450	[illegible]	.068	.049	.019	.580	.549	.496
2.850	4.450	[illegible]	.075	.058	.026	.595	.563	.510
2.950	4.450	[illegible]	.085	.066	.034	.610	.577	.523
.050	4.550	[illegible]	-.005	-.005	-.007	.024	.023	.020
.150	4.550	[illegible]	-.012	-.011	-.014	.049	.046	.041
.250	4.550	[illegible]	-.013	-.016	-.020	.073	.068	.061
.350	4.550	[illegible]	-.017	[illegible]	-.026	.097	.091	.082
.450	4.550	[illegible]	-.020	-.024	-.031	.121	.114	.102
.550	4.550	[illegible]	-.023	-.028	-.036	.145	.136	.122
.650	4.550	[illegible]	-.026	-.031	-.041	.169	.159	.142
.750	4.550	[illegible]	-.028	-.034	-.044	.192	.181	.162
.850	4.550	[illegible]	-.029	-.036	-.047	.216	.203	.182
.950	4.550	[illegible]	-.027	-.037	[illegible]	.239	.225	.232
1.050	4.550	[illegible]	-.027	-.037	-.051	.262	.247	.222
1.150	4.550	[illegible]	-.028	-.037	-.052	.285	.268	.241
1.250	4.550	4.000	-.026	-.035	-.052	.307	.290	.260
1.350	4.550	4.000	-.023	-.033	-.051	.329	.311	.279
1.450	4.550	4.000	-.020	-.031	-.049	.351	.331	.298
1.550	4.550	4.000	-.016	-.027	-.047	.372	.351	.317
1.650	4.550	[illegible]	-.011	-.023	-.045	.393	.371	.335
1.750	4.550	[illegible]	-.006	-.019	-.040	.414	.391	.353
1.850	4.550	[illegible]	-.000	-.014	-.036	.434	.410	.370
1.950	4.550	4.000	.006	-.009	-.031	.453	.429	.387
2.050	4.550	4.000	.012	-.002	-.026	.473	.447	.404
2.150	4.550	4.000	.019	.004	-.020	.491	.465	.421
2.250	4.550	4.000	.027	.011	-.014	.510	.482	.437
2.350	4.550	4.000	.034	.017	-.006	.527	.499	.452
2.450	4.550	[illegible]	.042	.026	-.001	.544	.516	.460
2.550	[illegible]	[illegible]	.050	.033	.006	.561	.532	.482
2.650	[illegible]	4.000	[illegible]	.041	.013	.577	.547	.497
2.750	4.550	4.000	.067	.049	.020	.593	.562	.511
2.850	4.550	[illegible]	.075	.057	.027	.608	.577	.524

2.950	2.550	4.000	.093	.066	.035	.623	.591	.537
.050	2.650	4.000	-.004	-.005	-.006	.025	.024	.021
.150	2.650	4.000	-.008	-.010	-.012	.050	.047	.043
.250	2.650	4.000	-.012	-.015	-.018	.075	.071	.064
.350	2.650	4.000	-.016	-.019	-.024	.100	.094	.085
.450	2.650	4.000	-.019	-.023	-.029	.125	.118	.106
.550	2.650	4.000	-.022	-.026	-.034	.149	.141	.127
.650	2.650	4.000	-.024	-.029	-.038	.174	.164	.148
.750	2.650	4.000	-.026	-.032	-.041	.198	.187	.169
.850	2.650	4.000	-.027	-.033	-.044	.222	.210	.189
.950	2.650	4.000	-.027	-.034	-.046	.246	.232	.210
1.050	2.650	4.000	-.027	-.035	-.048	.270	.255	.230
1.150	2.650	4.000	-.026	-.034	-.048	.293	.277	.250
1.250	2.650	4.000	-.024	-.033	-.048	.316	.298	.270
1.350	2.650	4.000	-.021	-.031	-.047	.338	.320	.289
1.450	2.650	4.000	-.018	-.028	-.046	.360	.341	.308
1.550	2.650	4.000	-.014	-.025	-.043	.382	.361	.327
1.650	2.650	4.000	-.010	-.021	-.041	.403	.382	.346
1.750	2.650	4.000	-.005	-.017	-.037	.424	.401	.364
1.850	2.650	4.000	.001	-.012	-.033	.444	.421	.382
1.950	2.650	4.000	.006	-.007	-.028	.464	.440	.399
2.050	2.650	4.000	.013	-.001	-.023	.483	.458	.416
2.150	2.650	4.000	.020	.006	-.018	.502	.476	.433
2.250	2.650	4.000	.027	.012	-.012	.521	.494	.449
2.350	2.650	4.000	.034	.019	-.006	.538	.511	.465
2.450	2.650	4.000	.042	.026	.001	.555	.527	.480
2.550	2.650	4.000	.049	.034	.007	.573	.543	.495
2.650	2.650	4.000	.057	.041	.014	.587	.559	.509
2.750	2.650	4.000	.065	.049	.021	.605	.574	.523
2.850	2.650	4.000	.073	.056	.028	.620	.589	.537
2.950	2.650	4.000	.081	.064	.035	.635	.603	.550
.050	2.750	4.000	-.004	-.005	-.006	.026	.024	.022
.150	2.750	4.000	-.008	-.009	-.012	.051	.049	.044
.250	2.750	4.000	-.012	-.014	-.017	.077	.073	.066
.350	2.750	4.000	-.015	-.018	-.022	.103	.097	.088
.450	2.750	4.000	-.018	-.021	-.027	.128	.121	.110
.550	2.750	4.000	-.021	-.025	-.032	.153	.145	.131
.650	2.750	4.000	-.023	-.027	-.035	.178	.169	.153
.750	2.750	4.000	-.024	-.030	-.039	.203	.192	.174
.850	2.750	4.000	-.025	-.031	-.041	.228	.216	.195
.950	2.750	4.000	-.025	-.032	-.043	.252	.239	.216
1.050	2.750	4.000	-.025	-.032	-.044	.276	.262	.237
1.150	2.750	4.000	-.024	-.032	-.045	.300	.284	.258
1.250	2.750	4.000	-.022	-.031	-.045	.323	.306	.278
1.350	2.750	4.000	-.020	-.029	-.044	.346	.328	.298
1.450	2.750	4.000	-.016	-.026	-.042	.368	.349	.317
1.550	2.750	4.000	-.013	-.023	-.040	.390	.370	.336
1.650	2.750	4.000	-.009	-.019	-.037	.412	.390	.355
1.750	2.750	4.000	-.004	-.015	-.034	.433	.411	.374
1.850	2.750	4.000	.001	-.010	-.030	.453	.430	.392
1.950	2.750	4.000	.007	-.005	-.025	.473	.449	.409
2.050	2.750	4.000	.013	.001	-.021	.493	.468	.426
2.150	2.750	4.000	.020	.007	-.015	.512	.486	.443
2.250	2.750	4.000	.027	.013	-.010	.530	.504	.459
2.350	2.750	4.000	.034	.020	-.004	.548	.521	.475
2.450	2.750	4.000	.041	.027	.003	.566	.537	.491
2.550	2.750	4.000	.047	.034	.009	.582	.554	.506
2.650	2.750	4.000	.056	.041	.016	.599	.569	.520
2.750	2.750	4.000	.064	.048	.023	.615	.585	.534
2.850	2.750	4.000	[illegible]	[illegible]	[illegible]	.630	.599	[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.695	.613	.561
.050	2.[illegible]	4.[illegible]	-.[illegible]	-.[illegible]	-.005	.026	.025	.023
.150	2.850	[illegible]	-.[illegible]	-.[illegible]	-.011	.053	.050	.045
.250	[illegible]	[illegible]	-.011	-.013	-.016	.079	.075	.068
.350	[illegible]	[illegible]	-.014	-.015	-.021	.105	.100	.090
.450	2.850	4.[illegible]	-.017	-.020	-.025	.131	.124	.113
.550	2.850	[illegible]	-.019	-.023	-.029	.157	.149	.135
.650	2.850	4.000	-.021	-.026	-.033	.182	.173	.157
.750	2.850	[illegible]	-.022	-.027	-.035	.20[illegible]	.197	.179
.850	2.850	4.000	-.023	-.029	-.038	.233	.221	.201
.950	2.850	4.[illegible]	-.023	-.030	-.040	.257	.244	.222
1.050	2.850	4.000	-.023	-.030	-.041	.282	.267	.243
1.150	2.850	4.[illegible]	-.022	-.029	-.042	.305	.290	.264
1.250	2.850	4.000	-.020	-.028	-.042	.329	.312	.285
1.350	2.850	4.[illegible]	-.018	-.026	-.041	.352	.334	.305
1.450	2.850	4.000	-.015	-.024	-.039	.375	.356	.325
1.550	2.850	4.[illegible]	-.011	-.021	-.037	.397	.377	.344
1.650	2.850	4.000	-.007	-.017	-.034	.419	.398	.363
1.750	2.850	4.000	-.003	-.013	-.031	.440	.418	.382
1.850	2.850	4.000	.002	-.009	-.027	.461	.438	.400
1.950	2.850	4.000	.008	-.004	-.023	.481	.457	.418
2.050	2.850	4.[illegible]	.014	.002	-.018	.501	.476	.435
2.150	2.850	4.[illegible]	.020	.008	-.013	.520	.494	.452
2.250	2.850	4.[illegible]	.027	.014	-.007	.538	.512	.468
2.350	2.850	4.[illegible]	.033	.020	-.001	.556	.529	.484
2.450	2.850	4.000	.041	.027	.005	.574	.546	.500
2.550	2.850	4.[illegible]	.04[illegible]	.034	.011	.591	.562	.515
2.650	2.850	4.000	.055	.041	.017	.607	.578	.530
2.750	2.850	4.[illegible]	.063	.048	.024	.623	.593	.544
2.850	2.850	4.[illegible]	.070	.055	.031	.638	.608	.557
2.950	2.850	4.[illegible]	.078	.063	.038	.653	.622	.571
.050	2.950	4.000	-.003	-.004	-.005	.027	.025	.023
.150	2.950	4.[illegible]	-.007	-.008	-.010	.054	.051	.046
.250	2.950	4.000	-.010	-.012	-.015	.080	.076	.070
.350	2.950	4.[illegible]	-.013	-.015	-.019	.107	.101	.093
.450	2.950	4.000	-.016	-.019	-.024	.133	.127	.115
.550	2.950	4.000	-.018	-.021	-.027	.159	.151	.138
.650	2.950	4.000	-.019	-.024	-.031	.185	.176	.161
.750	2.950	4.000	-.021	-.025	-.033	.211	.201	.183
.850	2.950	4.000	-.021	-.027	-.036	.236	.225	.205
.950	2.950	4.000	-.022	-.027	-.037	.261	.248	.227
1.050	2.950	4.000	-.021	-.029	-.038	.286	.272	.248
1.150	2.950	4.000	-.020	-.027	-.039	.310	.295	.270
1.250	2.950	4.000	-.018	-.026	-.038	.334	.318	.290
1.350	2.950	4.000	-.016	-.024	-.037	.357	.340	.311
1.450	2.950	4.000	-.013	-.022	-.036	.380	.362	.331
1.550	2.950	4.000	-.010	-.019	-.034	.403	.383	.351
1.650	2.950	4.000	-.006	-.015	-.031	.425	.404	.370
1.750	2.950	4.000	-.002	-.011	-.028	.446	.425	.389
1.850	2.950	4.000	.003	-.007	-.024	.467	.444	.407
1.950	2.950	4.000	.009	-.002	-.020	.487	.464	.425
2.050	2.950	4.000	.014	.003	-.015	.507	.483	.442
2.150	2.950	4.000	.020	.009	-.010	.526	.501	.459
2.250	2.950	4.000	.027	.015	-.005	.545	.519	.476
2.350	2.950	4.000	.033	.021	.001	.563	.536	.492
2.450	2.950	4.000	.040	.028	.007	.580	.553	.508
2.550	2.950	4.000	.047	.034	.013	.597	.569	.523
2.650	2.950	4.000	.054	.041	.017	.613	.585	.537
2.750	2.950	4.000	.062	.048	.025	.629	.600	.551
2.850	2.950	4.000	.069	.055	.032	.645	.615	.565

2.950	-.250	4.000	.024	.062	.037	.560	.629	.574
.050	.050	5.000	-.007	-.008	-.010	-.007	-.008	-.010
.150	.050	5.000	-.013	-.015	-.020	-.013	-.016	-.020
.250	.050	5.000	-.020	-.023	-.029	-.020	-.023	-.029
.350	.050	5.000	-.026	-.031	-.039	-.026	-.031	-.039
.450	.050	5.000	-.032	-.038	-.048	-.032	-.038	-.048
.550	.050	5.000	-.037	-.044	-.056	-.037	-.044	-.056
.650	.050	5.000	-.042	-.050	-.064	-.041	-.050	-.063
.750	.050	5.000	-.045	-.055	-.070	-.045	-.055	-.070
.850	.050	5.000	-.049	-.059	-.077	-.049	-.059	-.077
.950	.050	5.000	-.051	-.063	-.082	-.051	-.063	-.082
1.050	.050	5.000	-.053	-.066	-.087	-.053	-.065	-.086
1.150	.050	5.000	-.054	-.067	-.090	-.054	-.067	-.090
1.250	.050	5.000	-.054	-.069	-.093	-.054	-.068	-.093
1.350	.050	5.000	-.053	-.069	-.095	-.053	-.069	-.095
1.450	.050	5.000	-.052	-.068	-.096	-.052	-.066	-.096
1.550	.050	5.000	-.050	-.067	-.096	-.049	-.067	-.096
1.650	.050	5.000	-.047	-.065	-.096	-.047	-.065	-.096
1.750	.050	5.000	-.043	-.062	-.094	-.043	-.062	-.094
1.850	.050	5.000	-.039	-.059	-.072	-.039	-.057	-.092
1.950	.050	5.000	-.034	-.055	-.090	-.034	-.055	-.090
2.050	.050	5.000	-.029	-.050	-.086	-.028	-.050	-.086
2.150	.050	5.000	-.023	-.045	-.083	-.023	-.045	-.082
2.250	.050	5.000	-.016	-.040	-.078	-.016	-.039	-.078
2.350	.050	5.000	-.010	-.034	-.073	-.010	-.033	-.073
2.450	.050	5.000	-.003	-.027	-.068	-.003	-.027	-.068
2.550	.050	5.000	.005	-.021	-.062	.005	-.020	-.062
2.650	.050	5.000	.012	-.014	-.056	.012	-.013	-.056
2.750	.050	5.000	.020	-.016	-.050	.020	-.006	-.050
2.850	.050	5.000	.028	.001	-.044	.028	.001	-.044
2.950	.050	5.000	.036	.009	-.037	.036	.009	-.037
.050	.150	5.000	-.007	-.008	-.010	-.007	-.008	-.010
.150	.150	5.000	-.013	-.016	-.020	-.013	-.016	-.020
.250	.150	5.000	-.020	-.023	-.029	-.020	-.023	-.029
.350	.150	5.000	-.026	-.031	-.037	-.026	-.030	-.038
.450	.150	5.000	-.032	-.038	-.047	-.031	-.037	-.047
.550	.150	5.000	-.037	-.044	-.055	-.036	-.043	-.055
.650	.150	5.000	-.041	-.050	-.063	-.041	-.049	-.063
.750	.150	5.000	-.045	-.055	-.070	-.045	-.054	-.070
.850	.150	5.000	-.049	-.059	-.076	-.048	-.058	-.076
.950	.150	5.000	-.051	-.063	-.082	-.050	-.062	-.081
1.050	.150	5.000	-.053	-.065	-.086	-.052	-.064	-.085
1.150	.150	5.000	-.054	-.067	-.090	-.053	-.066	-.089
1.250	.150	5.000	-.054	-.068	-.093	-.053	-.067	-.092
1.350	.150	5.000	-.053	-.069	-.095	-.052	-.068	-.094
1.450	.150	5.000	-.052	-.068	-.096	-.050	-.067	-.095
1.550	.150	5.000	-.050	-.067	-.096	-.048	-.066	-.095
1.650	.150	5.000	-.047	-.065	-.096	-.045	-.064	-.094
1.750	.150	5.000	-.043	-.062	-.094	-.042	-.061	-.093
1.850	.150	5.000	-.039	-.057	-.092	-.037	-.057	-.091
1.950	.150	5.000	-.034	-.055	-.090	-.032	-.053	-.088
2.050	.150	5.000	-.029	-.050	-.086	-.027	-.049	-.085
2.150	.150	5.000	-.023	-.045	-.082	-.021	-.043	-.081
2.250	.150	5.000	-.016	-.040	-.078	-.015	-.038	-.076
2.350	.150	5.000	-.010	-.034	-.073	-.008	-.032	-.072
2.450	.150	5.000	-.003	-.027	-.068	-.001	-.025	-.066
2.550	.150	5.000	.005	-.020	-.062	.006	-.019	-.061
2.650	.150	5.000	.012	-.014	-.056	.014	-.012	-.055
2.750	.150	5.000	.022	-.006	-.050	.022	-.005	-.048
[illegible]	.150	[illegible]	.029	.001	-.044	.030	.003	-.042

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.037	.038	.010	-.035
[illegible]	[illegible]	[illegible]	-.007	-.008	-.010	-.006	-.008	-.010
[illegible]	[illegible]	[illegible]	-.013	[illegible]	-.020	-.013	-.015	-.017
[illegible]	[illegible]	[illegible]	[illegible]	-.023	-.029	-.019	-.025	-.029
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.025	-.030	-.036
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.037	-.030	-.036	-.046
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.035	-.042	-.054
[illegible]	.250	[illegible]	-.111	[illegible]	[illegible]	-.037	-.048	-.061
.750	.250	[illegible]	[illegible]	[illegible]	-.070	-.043	-.052	-.068
[illegible]	.250	[illegible]	-.095	-.057	-.076	-.046	-.057	-.074
[illegible]	.250	[illegible]	[illegible]	-.052	-.082	-.043	-.060	-.079
[illegible]	[illegible]	[illegible]	-.083	-.055	-.086	-.053	-.062	-.083
[illegible]	[illegible]	[illegible]	[illegible]	-.057	-.078	-.051	-.064	-.087
[illegible]	[illegible]	[illegible]	-.054	[illegible]	-.072	-.050	-.065	-.089
[illegible]	[illegible]	[illegible]	[illegible]	-.057	-.074	-.050	-.065	-.091
[illegible]	[illegible]	[illegible]	[illegible]	-.054	-.075	-.048	-.065	-.092
[illegible]	[illegible]	[illegible]	[illegible]	-.057	-.078	-.046	-.063	-.092
[illegible]	.250	[illegible]	[illegible]	-.065	-.095	-.043	-.061	-.091
1.750	[illegible]	[illegible]	[illegible]	-.052	-.095	-.039	-.058	-.090
[illegible]	[illegible]	[illegible]	-.057	-.057	-.092	-.034	-.054	-.088
[illegible]	[illegible]	[illegible]	[illegible]	-.055	-.089	-.029	-.050	-.085
[illegible]	[illegible]	[illegible]	[illegible]	-.060	-.088	-.024	-.046	-.082
2.150	[illegible]	[illegible]	[illegible]	-.045	-.082	-.018	-.040	-.078
[illegible]	[illegible]	[illegible]	[illegible]	-.039	-.078	-.012	-.035	-.073
[illegible]	[illegible]	[illegible]	[illegible]	-.033	-.073	-.005	-.029	-.068
[illegible]	[illegible]	[illegible]	-.008	-.027	-.068	.002	-.022	-.063
[illegible]	[illegible]	[illegible]	[illegible]	-.020	[illegible]	.010	-.016	-.057
[illegible]	[illegible]	[illegible]	[illegible]	-.013	-.056	.017	-.008	-.051
[illegible]	[illegible]	[illegible]	[illegible]	-.006	-.050	.025	-.001	-.045
[illegible]	[illegible]	[illegible]	[illegible]	.011	-.044	.033	.006	-.039
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.037	.041	.014	-.032
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.016	[illegible]	-.007	-.009
.150	[illegible]	[illegible]	[illegible]	[illegible]	-.026	-.012	-.015	-.019
.250	[illegible]	[illegible]	[illegible]	-.023	-.029	-.018	-.022	-.026
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.038	-.024	-.028	-.036
[illegible]	[illegible]	[illegible]	[illegible]	-.037	-.047	-.029	-.035	-.045
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.055	-.033	-.041	-.052
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.063	-.037	-.046	-.059
[illegible]	[illegible]	[illegible]	[illegible]	-.055	-.070	-.041	-.050	-.066
[illegible]	[illegible]	[illegible]	[illegible]	-.059	-.076	-.044	-.054	-.071
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.081	-.046	-.057	-.076
[illegible]	[illegible]	[illegible]	[illegible]	-.055	-.086	-.047	-.060	-.080
[illegible]	[illegible]	[illegible]	[illegible]	-.057	-.085	-.047	-.061	-.084
[illegible]	[illegible]	[illegible]	-.063	-.056	-.072	-.047	-.062	-.086
[illegible]	[illegible]	[illegible]	-.053	-.056	-.074	-.046	-.062	-.088
[illegible]	[illegible]	[illegible]	[illegible]	-.060	-.075	-.044	-.061	-.088
[illegible]	[illegible]	[illegible]	[illegible]	-.056	-.095	-.042	-.059	-.088
[illegible]	[illegible]	[illegible]	[illegible]	-.064	-.095	-.039	-.057	-.087
[illegible]	[illegible]	[illegible]	-.093	-.052	-.073	-.035	-.054	-.086
[illegible]	[illegible]	[illegible]	[illegible]	-.058	-.091	-.030	-.050	-.084
[illegible]	[illegible]	[illegible]	-.039	-.054	-.089	-.025	-.046	-.081
[illegible]	[illegible]	[illegible]	-.023	[illegible]	[illegible]	-.020	-.041	-.077
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.014	-.036	-.073
[illegible]	[illegible]	[illegible]	[illegible]	-.039	-.077	-.007	-.030	-.069
[illegible]	[illegible]	[illegible]	[illegible]	-.033	-.073	-.000	-.024	-.064
[illegible]	[illegible]	[illegible]	[illegible]	-.027	[illegible]	.007	-.018	-.058
[illegible]	[illegible]	[illegible]	[illegible]	-.020	-.062	.014	-.011	-.052
[illegible]	[illegible]	[illegible]	.012	-.013	[illegible]	.022	-.009	-.046
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.030	.004	-.040

2.950	.350	5.000	.034	.039	-.037	.046	.019	-.027
.050	.450	5.000	-.007	-.008	-.010	-.006	-.007	-.009
.150	.450	5.000	-.013	-.015	-.019	-.011	-.014	-.018
.250	.450	5.000	-.020	-.023	-.029	-.017	-.021	-.026
.350	.450	5.000	-.026	-.030	-.038	-.022	-.027	-.035
.450	.450	5.000	-.031	-.037	-.047	-.027	-.033	-.043
.550	.450	5.000	-.036	-.043	-.055	-.031	-.038	-.050
.650	.450	5.000	-.041	-.049	-.062	-.035	-.043	-.057
.750	.450	5.000	-.045	-.054	-.069	-.038	-.047	-.063
.850	.450	5.000	-.049	-.058	-.075	-.040	-.051	-.068
.950	.450	5.000	-.052	-.062	-.081	-.042	-.054	-.073
1.050	.450	5.000	-.052	-.064	-.085	-.043	-.056	-.077
1.150	.450	5.000	-.053	-.066	-.087	-.043	-.057	-.080
1.250	.450	5.000	-.053	-.067	-.091	-.043	-.057	-.082
1.350	.450	5.000	-.052	-.068	-.093	-.042	-.057	-.083
1.450	.450	5.000	-.051	-.067	-.094	-.040	-.056	-.084
1.550	.450	5.000	-.047	-.066	-.095	-.037	-.054	-.083
1.650	.450	5.000	-.046	-.064	-.094	-.033	-.052	-.082
1.750	.450	5.000	-.042	-.061	-.093	-.029	-.049	-.080
1.850	.450	5.000	-.038	-.058	-.091	-.025	-.045	-.078
1.950	.450	5.000	-.033	-.054	-.088	-.020	-.040	-.075
2.050	.450	5.000	-.028	-.049	-.085	-.014	-.035	-.071
2.150	.450	5.000	-.022	-.044	-.081	-.008	-.030	-.067
2.250	.450	5.000	-.016	-.039	-.077	-.001	-.024	-.063
2.350	.450	5.000	-.010	-.033	-.072	.006	-.018	-.057
2.450	.450	5.000	-.003	-.027	-.067	.013	-.011	-.052
2.550	.450	5.000	.005	-.020	-.061	.021	-.004	-.046
2.650	.450	5.000	.012	-.013	-.055	.028	.003	-.040
2.750	.450	5.000	.020	-.006	-.049	.036	.010	-.034
2.850	.450	5.000	.028	.001	-.043	.044	.018	-.027
2.950	.450	5.000	.036	.009	-.036	.053	.025	-.020
.050	.550	5.000	-.007	-.008	-.010	-.005	-.007	-.006
.150	.550	5.000	-.013	-.015	-.019	-.011	-.013	-.017
.250	.550	5.000	-.019	-.023	-.029	-.016	-.019	-.025
.350	.550	5.000	-.025	-.030	-.036	-.020	-.025	-.033
.450	.550	5.000	-.031	-.037	-.045	-.025	-.030	-.040
.550	.550	5.000	-.035	-.043	-.054	-.028	-.035	-.047
.650	.550	5.000	-.040	-.048	-.062	-.032	-.040	-.054
.750	.550	5.000	-.044	-.053	-.069	-.034	-.044	-.059
.850	.550	5.000	-.047	-.058	-.075	-.036	-.047	-.064
.950	.550	5.000	-.050	-.061	-.080	-.038	-.049	-.068
1.050	.550	5.000	-.052	-.064	-.084	-.038	-.051	-.072
1.150	.550	5.000	-.052	-.066	-.088	-.038	-.052	-.074
1.250	.550	5.000	-.053	-.067	-.091	-.038	-.052	-.076
1.350	.550	5.000	-.052	-.067	-.093	-.036	-.051	-.077
1.450	.550	5.000	-.051	-.067	-.094	-.034	-.050	-.078
1.550	.550	5.000	-.048	-.065	-.094	-.031	-.048	-.077
1.650	.550	5.000	-.045	-.063	-.093	-.027	-.045	-.076
1.750	.550	5.000	-.042	-.061	-.092	-.023	-.042	-.074
1.850	.550	5.000	-.038	-.057	-.090	-.018	-.038	-.071
1.950	.550	5.000	-.033	-.054	-.087	-.013	-.033	-.068
2.050	.550	5.000	-.028	-.049	-.084	-.007	-.028	-.064
2.150	.550	5.000	-.022	-.044	-.080	-.000	-.023	-.060
2.250	.550	5.000	-.016	-.039	-.076	.006	-.017	-.055
2.350	.550	5.000	-.009	-.033	-.071	.013	-.010	-.050
2.450	.550	5.000	-.003	-.026	-.066	.021	-.004	-.044
2.550	.550	5.000	.005	-.020	-.061	.028	.003	-.038
2.650	.550	5.000	.012	-.013	-.055	.036	.011	-.032
2.750	.550	5.000	.020	-.006	-.049	.044	.018	-.026
2.850	.550	5.000	.028	.001	-.043	.052	.026	-.019

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.061	.043	-.012
.050	.650	5.000	-.007	-.006	-.010	-.005	-.006	-.008
.150	.650	5.000	-.013	-.015	-.019	-.009	-.012	-.016
.250	.650	5.000	-.019	-.023	-.028	-.014	-.017	-.023
.350	.650	5.000	-.025	-.030	-.037	-.019	-.023	-.031
.450	.650	5.000	-.031	-.036	-.046	-.022	-.028	-.037
.550	.650	5.000	-.036	-.042	-.054	-.025	-.032	-.044
.650	.650	5.000	-.043	-.048	-.061	-.028	-.036	-.050
.750	.650	5.000	-.044	-.053	-.068	-.030	-.039	-.055
.850	.650	5.000	-.047	-.057	-.074	-.032	-.042	-.059
.950	.650	5.000	-.049	-.061	-.079	-.033	-.044	-.063
1.050	.650	5.000	-.051	-.063	-.083	-.033	-.045	-.066
1.150	.650	5.000	-.052	-.065	-.087	-.032	-.046	-.068
1.250	.650	5.000	-.057	-.066	-.090	-.031	-.046	-.070
1.350	.650	5.000	-.051	-.066	-.092	-.029	-.045	-.071
1.450	.650	5.000	-.050	-.066	-.093	-.027	-.043	-.070
1.550	.650	5.000	-.048	-.065	-.093	-.024	-.041	-.070
1.650	.650	5.000	-.045	-.063	-.092	-.020	-.038	-.068
1.750	.650	5.000	-.042	-.060	-.091	-.015	-.034	-.066
1.850	.650	5.000	-.037	-.057	-.089	-.010	-.030	-.063
1.950	.650	5.000	-.033	-.053	-.087	-.004	-.025	-.060
2.050	.650	5.000	-.028	-.049	-.083	.002	-.020	-.056
2.150	.650	5.000	-.022	-.044	-.080	.008	-.014	-.051
2.250	.650	5.000	-.016	-.038	-.075	.015	-.008	-.046
2.350	.650	5.000	-.009	-.032	-.071	.022	-.001	-.041
2.450	.650	5.000	-.002	-.026	-.066	.030	.005	-.035
2.550	.650	5.000	.005	-.020	-.060	.037	.012	-.029
2.650	.650	5.000	.012	-.013	-.054	.045	.020	-.023
2.750	.650	5.000	.020	-.006	-.048	.053	.027	-.016
2.850	.650	5.000	.027	.001	-.042	.062	.035	-.009
2.950	.650	5.000	.035	.009	-.036	.070	.043	-.003
.050	.750	5.000	-.006	-.008	-.009	-.004	-.005	-.007
.150	.750	5.000	-.013	-.015	-.019	-.008	-.011	-.014
.250	.750	5.000	-.019	-.022	-.028	-.012	-.016	-.021
.350	.750	5.000	-.025	-.029	-.037	-.016	-.020	-.026
.450	.750	5.000	-.030	-.036	-.045	-.019	-.025	-.034
.550	.750	5.000	-.035	-.042	-.053	-.021	-.028	-.040
.650	.750	5.000	-.040	-.047	-.060	-.024	-.032	-.045
.750	.750	5.000	-.043	-.052	-.067	-.025	-.035	-.050
.850	.750	5.000	-.046	-.056	-.073	-.026	-.037	-.054
.950	.750	5.000	-.049	-.060	-.078	-.027	-.038	-.057
1.050	.750	5.000	-.050	-.062	-.082	-.027	-.039	-.060
1.150	.750	5.000	-.051	-.064	-.086	-.026	-.039	-.062
1.250	.750	5.000	-.051	-.065	-.089	-.024	-.039	-.063
1.350	.750	5.000	-.051	-.066	-.090	-.022	-.037	-.063
1.450	.750	5.000	-.049	-.065	-.092	-.019	-.035	-.062
1.550	.750	5.000	-.047	-.064	-.092	-.015	-.033	-.061
1.650	.750	5.000	-.045	-.062	-.091	-.011	-.029	-.059
1.750	.750	5.000	-.041	-.059	-.090	-.006	-.025	-.057
1.850	.750	5.000	-.037	-.056	-.088	-.001	-.021	-.054
1.950	.750	5.000	-.032	-.052	-.086	.005	-.016	-.050
2.050	.750	5.000	-.027	-.048	-.082	.011	-.010	-.046
2.150	.750	5.000	-.022	-.043	-.079	.018	-.004	-.041
2.250	.750	5.000	-.016	-.038	-.074	.025	.002	-.036
2.350	.750	5.000	-.009	-.032	-.070	.032	.009	-.031
2.450	.750	5.000	-.002	-.026	-.065	.040	.016	-.025
2.550	.750	5.000	.005	-.019	-.059	.048	.023	-.019
2.650	.750	5.000	.012	-.013	-.054	.056	.030	-.012
2.750	.750	5.000	.020	-.006	-.048	.064	.033	-.005
2.850	.750	5.000	.027	.001	-.041	.072	.046	.001

2.750	.750	5.000	[illegible]	.009	-.035	.091	.054	.008
.050	[illegible]	[illegible]	[illegible]	-.007	[illegible]	-.003	-.005	-.007
.150	[illegible]	[illegible]	-.013	-.015	-.019	-.007	-.009	-.013
.250	[illegible]	5.000	-.019	-.022	-.026	-.010	-.013	-.019
.350	.850	5.000	-.024	-.029	-.035	-.013	-.017	-.025
.450	.850	5.000	-.030	-.035	-.045	-.015	-.021	-.031
.550	.850	5.000	-.035	-.041	-.052	-.017	-.024	-.036
.650	.850	5.000	-.039	-.047	-.060	-.019	-.027	-.041
.750	.850	5.000	-.043	-.051	-.066	-.020	-.029	-.045
.850	.850	5.000	-.046	-.056	-.072	-.021	-.031	-.048
.950	.850	5.000	-.048	-.059	-.077	-.020	-.032	-.051
1.050	.850	5.000	-.050	-.062	-.081	-.020	-.032	-.053
1.150	.850	5.000	-.051	-.063	-.085	-.018	-.032	-.054
1.250	.850	5.000	-.051	-.065	-.087	-.016	-.031	-.054
1.350	.850	5.000	-.050	-.065	-.089	-.014	-.029	-.054
1.450	.850	5.000	-.049	-.064	-.090	-.010	-.026	-.053
1.550	.850	5.000	-.047	-.063	-.091	-.006	-.023	-.052
1.650	.850	5.000	-.044	-.061	-.090	-.002	-.020	-.050
1.750	.850	5.000	-.041	-.059	-.089	.003	-.015	-.047
1.850	.850	5.000	-.037	-.055	-.087	.009	-.011	-.044
1.950	.850	5.000	-.032	-.052	-.084	.015	-.005	-.040
2.050	.850	5.000	-.027	-.047	-.081	.022	.000	-.035
2.150	.850	5.000	-.021	-.042	-.078	.029	.006	-.030
2.250	.850	5.000	-.015	-.037	-.073	.036	.013	-.025
2.350	.850	5.000	-.009	-.031	-.069	.043	.020	-.019
2.450	.850	5.000	-.002	-.025	-.064	.051	.027	-.013
2.550	.850	5.000	.005	-.019	-.058	.059	.034	-.007
2.650	.850	5.000	.012	-.012	-.053	.067	.042	-.000
2.750	.850	5.000	.019	-.005	-.047	.076	.050	.007
2.850	.850	5.000	.027	.002	-.041	.084	.058	.013
2.750	.850	5.000	.035	.009	-.034	.093	.066	.021
.050	.950	5.000	-.006	-.007	-.009	-.003	-.004	-.006
.150	.950	5.000	-.012	-.015	-.018	-.005	-.008	-.011
.250	.950	5.000	-.018	-.022	-.027	-.008	-.011	-.017
.350	.950	5.000	-.024	-.029	-.036	-.010	-.014	-.022
.450	.950	5.000	-.029	-.035	-.044	-.012	-.017	-.027
.550	.950	5.000	-.034	-.041	-.052	-.013	-.020	-.031
.650	.950	5.000	-.038	-.046	-.059	-.014	-.022	-.035
.750	.950	5.000	-.042	-.051	-.065	-.014	-.023	-.039
.850	.950	5.000	-.045	-.055	-.071	-.014	-.024	-.041
.950	.950	5.000	-.047	-.058	-.076	-.013	-.025	-.043
1.050	.950	5.000	-.049	-.061	-.080	-.012	-.024	-.045
1.150	.950	5.000	-.050	-.062	-.083	-.010	-.023	-.046
1.250	.950	5.000	-.050	-.064	-.086	-.008	-.022	-.046
1.350	.950	5.000	-.049	-.064	-.088	-.004	-.020	-.045
1.450	.950	5.000	-.048	-.063	-.089	-.001	-.017	-.044
1.550	.950	5.000	-.046	-.062	-.089	.004	-.013	-.042
1.650	.950	5.000	-.043	-.060	-.089	.009	-.009	-.039
1.750	.950	5.000	-.040	-.058	-.088	.014	-.005	-.036
1.850	.950	5.000	-.035	-.055	-.086	.020	.000	-.032
1.950	.950	5.000	-.032	-.051	-.083	.026	.006	-.028
2.050	.950	5.000	-.026	-.047	-.080	.033	.012	-.023
2.150	.950	5.000	-.021	-.042	-.076	.040	.018	-.018
2.250	.950	5.000	-.015	-.037	-.072	.048	.025	-.013
2.350	.950	5.000	-.009	-.031	-.068	.055	.032	-.007
2.450	.950	5.000	-.002	-.025	-.063	.063	.039	-.001
2.550	.950	5.000	.005	-.019	-.058	.072	.047	.006
2.650	.950	5.000	.012	-.012	-.052	.080	.055	.013
2.750	.950	5.000	.019	-.005	-.046	.088	.063	.020
2.850	.950	5.000	.027	.002	-.040	[illegible]	[illegible]	[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	.012	-.015	.106	.079	.034
[illegible]	1.050	[illegible]	-.035	-.017	-.009	-.002	-.003	-.005
[illegible]	[illegible]	[illegible]	-.012	-.014	-.018	[illegible]	-.006	-.010
.250	1.050	5.000	-.026	-.021	-.027	-.005	-.009	-.014
.350	1.050	5.000	-.022	-.026	-.035	-.006	-.011	-.019
.450	1.050	5.000	-.029	-.034	-.046	-.007	-.013	-.023
.550	1.050	5.000	-.034	-.041	-.051	-.008	-.015	-.026
.650	1.050	5.000	-.038	-.045	-.058	-.008	-.016	-.030
.750	1.050	5.000	-.041	-.050	-.065	-.008	-.017	-.032
.850	1.050	5.000	-.044	-.054	-.070	-.007	-.017	-.034
.950	1.050	5.000	-.047	-.057	-.075	-.005	-.017	-.036
1.050	1.050	5.000	-.045	-.058	-.079	-.004	-.016	-.037
1.150	1.050	5.000	-.047	-.061	-.082	-.001	-.015	-.037
1.250	1.050	5.000	-.049	-.062	-.085	.002	-.013	-.036
1.350	1.050	5.000	-.049	-.063	-.086	.006	-.010	-.035
1.450	1.050	5.000	-.047	-.062	-.087	.010	-.007	-.033
1.550	1.050	5.000	-.045	-.061	-.088	.014	-.003	-.031
1.650	1.050	5.000	-.043	-.059	-.087	.020	.002	-.028
1.750	1.050	5.000	-.039	-.057	-.086	.025	.007	-.024
1.850	1.050	5.000	-.035	-.054	-.084	.032	.012	-.020
1.950	1.050	5.000	-.031	-.050	-.082	.038	.018	-.016
2.050	1.050	5.000	-.026	-.046	-.079	.045	.024	-.011
2.150	1.050	5.000	-.021	-.041	-.075	.053	.031	-.005
2.250	1.050	5.000	-.015	-.036	-.071	.061	.038	.000
2.350	1.050	5.000	-.009	-.030	-.067	.069	.045	.007
2.450	1.050	5.000	-.002	-.024	-.062	.077	.053	.013
2.550	1.050	5.000	.005	-.018	-.056	.085	.061	.020
2.650	1.050	5.000	.012	-.012	-.051	.094	.068	.027
2.750	1.050	5.000	.019	-.005	-.045	.102	.076	.034
2.850	1.050	5.000	.027	.002	-.039	.111	.085	.041
2.950	1.050	5.000	.034	.009	-.033	.120	.093	.048
.050	1.150	5.000	-.006	-.007	-.009	-.001	-.002	-.004
.150	1.150	5.000	-.012	-.014	-.018	-.002	-.004	-.008
.250	1.150	5.000	-.018	-.021	-.026	-.003	-.006	-.012
.350	1.150	5.000	-.023	-.027	-.034	-.003	-.008	-.015
.450	1.150	5.000	-.028	-.034	-.042	-.003	-.009	-.018
.550	1.150	5.000	-.033	-.037	-.050	-.003	-.010	-.021
.650	1.150	5.000	-.037	-.044	-.057	-.003	-.010	-.024
.750	1.150	5.000	-.041	-.049	-.063	-.001	-.011	-.026
.850	1.150	5.000	-.043	-.053	-.068	.000	-.010	-.027
.950	1.150	5.000	-.045	-.056	-.073	.002	-.009	-.028
1.050	1.150	5.000	-.047	-.059	-.077	.005	-.008	-.028
1.150	1.150	5.000	-.048	-.060	-.081	.008	-.005	-.027
1.250	1.150	5.000	-.048	-.061	-.083	.011	-.003	-.026
1.350	1.150	5.000	-.048	-.062	-.085	.016	.001	-.025
1.450	1.150	5.000	-.046	-.061	-.086	.020	.004	-.022
1.550	1.150	5.000	-.044	-.060	-.086	.026	.009	-.019
1.650	1.150	5.000	-.042	-.058	-.086	.031	.014	-.016
1.750	1.150	5.000	-.039	-.056	-.085	.038	.019	-.012
1.850	1.150	5.000	-.035	-.053	-.083	.044	.025	-.008
1.950	1.150	5.000	-.030	-.049	-.080	.051	.031	-.003
2.050	1.150	5.000	-.026	-.045	-.077	.059	.038	.003
2.150	1.150	5.000	-.020	-.040	-.074	.066	.045	.008
2.250	1.150	5.000	-.014	-.035	-.070	.074	.052	.014
2.350	1.150	5.000	-.008	-.030	-.065	.082	.059	.021
2.450	1.150	5.000	-.002	-.024	-.061	.091	.067	.027
2.550	1.150	5.000	.005	-.018	-.055	.099	.075	.034
2.650	1.150	5.000	.012	-.011	-.050	.108	.083	.041
2.750	1.150	5.000	.019	-.005	-.044	.117	.091	.048
2.850	1.150	5.000	.026	.002	-.038	.125	.099	.056

[illegible]	[illegible]	[illegible]	.03?	.039	-.032	.139	.105	.063
.050	1.250	5.000	-.006	-.007	-.009	-.000	-.001	-.003
.150	1.250	5.000	-.012	-.015	-.017	-.000	-.002	-.006
.250	1.250	5.000	-.017	-.020	-.026	.000	-.003	-.009
.350	1.250	5.000	-.023	-.027	-.034	.001	-.004	-.012
.450	1.250	5.000	-.028	-.033	-.041	.001	-.004	-.014
.550	1.250	5.000	-.032	-.038	-.049	.002	-.005	-.016
.650	1.250	5.000	-.036	-.043	-.055	.004	-.004	-.017
.750	1.250	5.000	-.040	-.048	-.062	.005	-.004	-.019
.850	1.250	5.000	-.043	-.052	-.067	.008	-.002	-.019
.950	1.250	5.000	-.045	-.055	-.072	.010	-.001	-.019
1.050	1.250	5.000	-.046	-.057	-.076	.014	.002	-.019
1.150	1.250	5.000	-.047	-.059	-.079	.017	.004	-.017
1.250	1.250	5.000	-.047	-.060	-.081	.022	.008	-.016
1.350	1.250	5.000	-.047	-.060	-.083	.026	.011	-.014
1.450	1.250	5.000	-.046	-.060	-.084	.032	.016	-.011
1.550	1.250	5.000	-.044	-.059	-.084	.037	.021	-.007
1.650	1.250	5.000	-.041	-.057	-.084	.044	.026	-.003
1.750	1.250	5.000	-.039	-.055	-.083	.050	.032	.001
1.850	1.250	5.000	-.034	-.052	-.081	.057	.036	.006
1.950	1.250	5.000	-.030	-.048	-.079	.065	.044	.011
2.050	1.250	5.000	-.025	-.044	-.076	.072	.051	.017
2.150	1.250	5.000	-.020	-.039	-.072	.080	.059	.023
2.250	1.250	5.000	-.014	-.034	-.066	.088	.066	.029
2.350	1.250	5.000	-.007	-.029	-.064	.097	.074	.036
2.450	1.250	5.000	-.002	-.023	-.059	.105	.082	.042
2.550	1.250	5.000	.005	-.017	-.054	.114	.090	.049
2.650	1.250	5.000	.012	-.011	-.049	.123	.098	.057
[illegible]	1.250	5.000	.019	-.005	-.043	.132	.106	.064
[illegible]	1.250	5.000	.026	.002	-.037	.141	.115	.071
2.750	1.250	5.000	.034	.009	-.031	.150	.123	.079
.050	1.300	5.000	-.006	-.007	-.008	.001	-.000	-.002
.150	1.300	5.000	-.011	-.014	-.017	.002	-.000	-.004
.250	1.300	5.000	-.017	-.020	-.025	.003	-.000	-.006
.350	1.300	5.000	-.022	-.025	-.033	.004	-.000	-.008
.450	1.300	5.000	-.027	-.032	-.041	.006	.000	-.009
.550	1.300	5.000	-.032	-.035	-.046	.006	.001	-.010
.650	1.300	5.000	-.035	-.042	-.054	.010	.002	-.011
.750	1.300	5.000	-.039	-.047	-.060	.012	.004	-.011
.850	1.300	5.000	-.042	-.051	-.065	.015	.006	-.011
.950	1.300	5.000	-.044	-.054	-.070	.019	.008	-.010
1.050	1.300	5.000	-.045	-.056	-.075	.023	.011	-.009
1.150	1.300	5.000	-.046	-.058	-.077	.027	.014	-.007
1.250	1.300	5.000	-.046	-.059	-.080	.032	.018	-.005
1.350	1.300	5.000	-.046	-.059	-.081	.038	.023	-.002
1.450	1.300	5.000	-.045	-.059	-.082	.043	.028	.001
1.550	1.300	5.000	-.043	-.055	-.083	.050	.033	.005
1.650	1.300	5.000	-.040	-.056	-.082	.056	.039	.009
1.750	1.300	5.000	-.037	-.054	-.081	.063	.045	.014
1.850	1.300	5.000	-.033	-.051	-.079	.071	.051	.019
1.950	1.300	5.000	-.029	-.047	-.077	.078	.058	.025
2.050	1.300	5.000	-.024	-.043	-.074	.086	.066	.031
2.150	1.300	5.000	-.017	-.039	-.071	.095	.073	.037
2.250	1.300	5.000	-.014	-.034	-.067	.103	.081	.044
2.350	1.300	5.000	-.008	-.028	-.063	.112	.089	.051
2.450	1.300	5.000	-.002	-.023	-.058	.121	.097	.058
2.550	1.300	5.000	.005	-.017	-.053	.129	.105	.065
2.650	1.300	5.000	.012	-.010	-.048	.138	.114	.073
2.750	1.300	5.000	.019	-.004	-.042	.148	.122	.080

1.750	[illegible]	[illegible]	[illegible]	.137	-.[illegible]	.148	.139	.095
[illegible]	[illegible]	[illegible]	-.[illegible]	-.017	-.016	.002	.001	-.001
.150	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.002	-.002
.250	1.450	5.000	-.017	-.020	-.025	.006	.002	-.003
.350	1.450	[illegible]	-.022	-.025	-.032	.008	.004	-.004
.450	1.450	5.000	-.028	-.031	-.040	.010	.005	-.004
.550	1.450	5.000	-.031	-.037	-.047	.013	.007	-.005
.650	1.450	5.000	-.035	-.041	-.053	.016	.009	-.004
.750	1.450	5.000	-.038	-.046	-.059	.020	.011	-.004
.850	1.450	5.000	-.041	-.049	-.064	.024	.014	-.003
.950	1.450	5.000	-.043	-.052	-.068	.028	.017	-.001
1.050	1.450	5.000	-.044	-.055	-.072	.032	.021	.001
1.150	1.450	5.000	-.045	-.056	-.075	.037	.025	.003
1.250	1.450	5.000	-.045	-.057	-.078	.043	.029	.006
1.350	1.450	5.000	-.045	-.058	-.080	.049	.034	.010
1.450	1.450	5.000	-.044	-.057	-.080	.055	.040	.013
1.550	1.450	5.000	-.042	-.056	-.081	.062	.045	.018
1.650	1.450	5.000	-.039	-.055	-.080	.069	.052	.023
1.750	1.450	5.000	-.036	-.052	-.079	.077	.058	.028
1.850	1.450	5.000	-.033	-.049	-.077	.084	.065	.034
1.950	1.450	5.000	-.029	-.046	-.075	.093	.073	.040
2.050	1.450	5.000	-.024	-.042	-.072	.101	.080	.046
2.150	1.450	5.000	-.019	-.037	-.069	.109	.088	.053
2.250	1.450	5.000	-.013	-.033	-.065	.118	.096	.059
2.350	1.450	5.000	-.007	-.028	-.061	.127	.104	.067
2.450	1.450	5.000	-.001	-.022	-.056	.136	.113	.074
2.550	1.450	5.000	.005	-.016	-.051	.145	.121	.081
2.650	1.450	5.000	.012	-.010	-.046	.154	.130	.089
2.750	1.450	5.000	.019	-.004	-.041	.164	.139	.097
2.850	1.450	5.000	.026	.003	-.035	.173	.147	.104
2.950	1.450	5.000	.033	.010	-.029	.182	.156	.112
.050	1.550	5.000	-.005	-.006	-.008	.003	.002	-.000
.150	1.550	5.000	-.011	-.013	-.016	.006	.003	-.000
.250	1.550	5.000	-.016	-.019	-.024	.009	.005	-.000
.350	1.550	5.000	-.021	-.025	-.031	.012	.007	-.000
.450	1.550	5.000	-.026	-.031	-.039	.015	.010	.000
.550	1.550	5.000	-.031	-.036	-.045	.019	.012	.001
.650	1.550	5.000	-.034	-.040	-.052	.023	.015	.002
.750	1.550	5.000	-.037	-.045	-.057	.027	.018	.004
.850	1.550	5.000	-.040	-.048	-.062	.032	.022	.006
.950	1.550	5.000	-.042	-.051	-.067	.037	.026	.008
1.050	1.550	5.000	-.043	-.053	-.071	.042	.030	.011
1.150	1.550	5.000	-.044	-.055	-.074	.049	.035	.014
1.250	1.550	5.000	-.044	-.056	-.076	.054	.040	.017
1.350	1.550	5.000	-.044	-.056	-.078	.061	.046	.021
1.450	1.550	5.000	-.042	-.056	-.078	.067	.052	.026
1.550	1.550	5.000	-.041	-.055	-.079	.075	.058	.031
1.650	1.550	5.000	-.038	-.053	-.078	.082	.065	.036
1.750	1.550	5.000	-.035	-.051	-.077	.090	.072	.042
1.850	1.550	5.000	-.032	-.048	-.076	.098	.080	.048
1.950	1.550	5.000	-.028	-.045	-.073	.107	.087	.054
2.050	1.550	5.000	-.023	-.041	-.071	.116	.095	.061
2.150	1.550	5.000	-.018	-.037	-.067	.124	.103	.068
2.250	1.550	5.000	-.013	-.032	-.064	.133	.112	.075
2.350	1.550	5.000	-.007	-.027	-.059	.143	.120	.083
2.450	1.550	5.000	-.001	-.021	-.055	.152	.129	.090
2.550	1.550	5.000	.005	-.016	-.050	.161	.137	.098
2.650	1.550	5.000	.012	-.010	-.045	.171	.146	.106
2.750	1.550	5.000	.019	-.003	-.039	.180	.155	.113
2.850	1.550	5.000	.025	.003	-.034	.189	.164	.121

[illegible]	[illegible]	[illegible]	.032	.010	-.028	.199	.173	.129
.050	1.650	5.000	-.012	-.006	-.010	.004	.003	.001
.150	1.650	5.000	-.011	-.012	-.016	.008	.005	.002
.250	1.650	5.000	-.016	-.019	-.023	.012	.008	.003
.350	1.650	5.000	-.021	-.024	-.031	.016	.011	.004
.450	1.650	5.000	-.025	-.030	-.038	.020	.015	.005
.550	1.650	5.000	-.029	-.035	-.044	.025	.018	.007
.650	1.650	5.000	-.033	-.037	-.050	.029	.022	.009
.750	1.650	5.000	-.036	-.043	-.056	.034	.026	.011
.850	1.650	5.000	-.039	-.047	-.061	.040	.030	.014
.950	1.650	5.000	-.041	-.050	-.065	.046	.035	.017
1.050	1.650	5.000	-.042	-.052	-.069	.052	.040	.021
1.150	1.650	5.000	-.043	-.054	-.072	.058	.046	.024
1.250	1.650	5.000	-.043	-.055	-.074	.065	.051	.029
1.350	1.650	5.000	-.042	-.055	-.075	.072	.058	.033
1.450	1.650	5.000	-.041	-.054	-.076	.080	.064	.039
1.550	1.650	5.000	-.040	-.053	-.077	.087	.071	.044
1.650	1.650	5.000	-.037	-.052	-.076	.096	.078	.050
1.750	1.650	5.000	-.034	-.050	-.075	.104	.086	.056
1.850	1.650	5.000	-.031	-.047	-.074	.113	.094	.063
1.950	1.650	5.000	-.027	-.044	-.071	.121	.102	.069
2.050	1.650	5.000	-.023	-.040	-.069	.130	.110	.076
2.150	1.650	5.000	-.017	-.036	-.065	.140	.119	.084
2.250	1.650	5.000	-.012	-.031	-.062	.149	.127	.091
2.350	1.650	5.000	-.007	-.026	-.058	.158	.136	.099
2.450	1.650	5.000	-.001	-.021	-.053	.168	.145	.107
2.550	1.650	5.000	.005	-.015	-.049	.177	.154	.114
2.650	1.650	5.000	.012	-.009	-.043	.187	.163	.122
2.750	1.650	5.000	.018	-.003	-.038	.197	.172	.130
2.850	1.650	5.000	.025	.003	-.033	.206	.181	.139
2.950	1.650	5.000	.032	.010	-.027	.216	.190	.147
.050	1.750	5.000	-.005	-.006	-.008	.005	.004	.002
.150	1.750	5.000	-.010	-.012	-.015	.010	.007	.004
.250	1.750	5.000	-.015	-.018	-.023	.015	.011	.006
.350	1.750	5.000	-.020	-.024	-.030	.020	.015	.008
.450	1.750	5.000	-.024	-.029	-.036	.025	.019	.010
.550	1.750	5.000	-.028	-.034	-.043	.030	.024	.013
.650	1.750	5.000	-.032	-.038	-.049	.036	.028	.016
.750	1.750	5.000	-.035	-.042	-.054	.042	.033	.019
.850	1.750	5.000	-.038	-.046	-.059	.048	.038	.022
.950	1.750	5.000	-.040	-.049	-.063	.055	.044	.026
1.050	1.750	5.000	-.041	-.051	-.067	.061	.050	.031
1.150	1.750	5.000	-.042	-.052	-.070	.069	.056	.035
1.250	1.750	5.000	-.042	-.053	-.072	.076	.063	.040
1.350	1.750	5.000	-.041	-.053	-.073	.084	.069	.045
1.450	1.750	5.000	-.040	-.053	-.074	.092	.077	.051
1.550	1.750	5.000	-.038	-.052	-.075	.100	.084	.057
1.650	1.750	5.000	-.036	-.050	-.074	.109	.092	.063
1.750	1.750	5.000	-.033	-.048	-.073	.118	.100	.070
1.850	1.750	5.000	-.030	-.046	-.072	.127	.108	.077
1.950	1.750	5.000	-.025	-.042	-.069	.136	.117	.084
2.050	1.750	5.000	-.022	-.039	-.067	.145	.125	.092
2.150	1.750	5.000	-.017	-.035	-.064	.155	.134	.099
2.250	1.750	5.000	-.012	-.030	-.060	.164	.143	.107
2.350	1.750	5.000	-.006	-.025	-.056	.174	.152	.115
2.450	1.750	5.000	-.001	-.020	-.052	.184	.161	.123
2.550	1.750	5.000	.005	-.014	-.047	.194	.170	.131
2.650	1.750	5.000	.012	-.008	-.042	.203	.179	.139
2.750	1.750	5.000	.018	-.002	-.037	.213	.187	.147
[illegible]	[illegible]	[illegible]	.025	.004	-.031	.223	.196	[illegible]

[illegible]	1.7[illegible]	[illegible]	.032	.013	-.025	.233	.237	.164
.05[illegible]	[illegible]	[illegible]	-.015	-.006	-.007	.006	.005	.003
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.012	[illegible]	.006
[illegible]	[illegible]	[illegible]	-.023	-.017	-.022	.017	.019	.009
[illegible]	[illegible]	[illegible]	[illegible]	-.023	-.029	.025	.019	.012
[illegible]	[illegible]	[illegible]	-.029	[illegible]	-.035	.033	.024	.015
[illegible]	[illegible]	[illegible]	-.023	-.033	-.042	.035	.029	.019
[illegible]	[illegible]	[illegible]	-.031	-.037	-.047	.042	.035	.022
.75[illegible]	[illegible]	5.[illegible]00	-.039	-.041	-.053	[illegible]	.041	.026
[illegible]	[illegible]	5.350	-.036	-.044	-.057	.056	.047	.031
[illegible]	[illegible]	[illegible]	[illegible]	-.047	-.061	.064	.053	.035
[illegible]	[illegible]	[illegible]	-.040	-.049	-.065	.071	.060	.040
[illegible]	[illegible]	[illegible]	[illegible]	-.051	-.063	.079	.066	.046
[illegible]	[illegible]	[illegible]	-.031	-.051	-.070	.087	.074	.051
[illegible]	[illegible]	[illegible]	[illegible]	-.052	-.071	.095	.081	.057
[illegible]	[illegible]	[illegible]	-.039	-.051	-.072	.104	.067	.064
[illegible]	[illegible]	[illegible]	-.037	-.050	-.072	.113	.097	.070
[illegible]	[illegible]	[illegible]	-.035	-.047	-.072	.122	.105	.077
1.750	[illegible]	[illegible]	-.032	-.047	-.071	.131	.114	.084
[illegible]	[illegible]	[illegible]	[illegible]	-.045	-.069	.141	.122	.091
[illegible]	[illegible]	[illegible]	-.025	[illegible]	[illegible]	.153	.131	.099
[illegible]	[illegible]	[illegible]	-.021	-.037	[illegible]	.165	.140	.107
[illegible]	[illegible]	[illegible]	-.016	[illegible]	-.062	[illegible]	.149	.115
[illegible]	[illegible]	[illegible]	-.011	-.027	-.058	.180	.158	.123
[illegible]	[illegible]	[illegible]	[illegible]	-.024	-.054	.190	.168	.131
[illegible]	[illegible]	[illegible]	[illegible]	-.019	-.050	.200	.177	.139
[illegible]	[illegible]	[illegible]	[illegible]	-.014	-.045	.210	.186	.148
[illegible]	[illegible]	[illegible]	.012	-.008	-.041	.220	.196	.156
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.230	.205	.164
[illegible]	[illegible]	[illegible]	.025	[illegible]	-.030	.239	.214	.173
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.025	.249	.224	.181
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.007	.007	.006	.004
[illegible]	[illegible]	[illegible]	[illegible]	-.011	-.014	.013	.011	.008
[illegible]	[illegible]	[illegible]	[illegible]	-.017	-.021	.020	.017	.012
[illegible]	[illegible]	[illegible]	-.017	-.022	[illegible]	.027	.023	.016
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.034	.027	.020
[illegible]	[illegible]	[illegible]	[illegible]	-.032	[illegible]	.041	.035	.024
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.049	.041	.029
[illegible]	[illegible]	[illegible]	-.033	[illegible]	[illegible]	.056	.048	.034
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.055	.064	.055	.039
[illegible]	[illegible]	[illegible]	-.037	-.045	[illegible]	.072	.062	.044
[illegible]	[illegible]	[illegible]	[illegible]	-.048	-.063	.081	.069	.050
[illegible]	[illegible]	[illegible]	[illegible]	-.049	-.065	.089	.077	.056
[illegible]	[illegible]	[illegible]	[illegible]	-.050	[illegible]	.098	.085	.062
[illegible]	[illegible]	[illegible]	[illegible]	-.050	[illegible]	.107	.093	.069
[illegible]	[illegible]	[illegible]	[illegible]	-.050	-.070	.116	.101	.076
[illegible]	[illegible]	[illegible]	[illegible]	-.049	-.070	.125	.109	.083
[illegible]	[illegible]	[illegible]	-.034	[illegible]	-.070	.135	.118	.090
1.750	[illegible]	[illegible]	-.031	[illegible]	-.069	.145	.127	.098
[illegible]	[illegible]	[illegible]	-.029	[illegible]	-.067	.154	.136	.106
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.164	.145	.114
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.175	.155	.122
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.185	.164	.130
[illegible]	[illegible]	[illegible]	-.011	[illegible]	[illegible]	.195	.174	.138
[illegible]	[illegible]	[illegible]	[illegible]	-.023	[illegible]	.205	.183	.147
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.215	.193	.155
[illegible]	[illegible]	[illegible]	[illegible]	-.013	[illegible]	.226	.202	.164
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.236	.212	.173
[illegible]	[illegible]	[illegible]	[illegible]	-.001	[illegible]	.246	.222	.181

2.750	[illegible]	[illegible]	.031	.011	-.023	.266	.240	.196
.050	4.050	5.000	-.005	-.005	-.007	.003	.007	.005
.150	4.050	5.000	-.009	-.011	-.014	.015	.013	.010
.250	4.050	5.000	-.014	-.016	-.021	.023	.020	.015
.350	4.050	5.000	-.015	-.021	-.027	.031	.027	.020
.450	4.050	5.000	-.022	-.026	-.033	.039	.033	.025
.550	4.050	5.000	-.025	-.031	-.039	.047	.041	.030
.650	4.050	5.000	-.029	-.035	-.044	.055	.048	.035
.750	4.050	5.000	-.032	-.038	-.049	.063	.055	.041
.850	4.050	5.000	-.034	-.041	-.054	.072	.063	.047
.950	4.050	5.000	-.036	-.045	-.057	.081	.071	.053
1.050	4.050	5.000	-.037	-.046	-.061	.090	.079	.060
1.150	4.050	5.000	-.038	-.047	-.063	.099	.087	.066
1.250	4.050	5.000	-.038	-.048	-.065	.108	.095	.073
1.350	4.050	5.000	-.035	-.049	-.067	.118	.104	.081
1.450	4.050	5.000	-.037	-.048	-.068	.120	.113	.088
1.550	4.050	5.000	-.035	-.047	-.068	.139	.122	.096
1.650	4.050	5.000	-.032	-.046	-.067	.148	.131	.103
1.750	4.050	5.000	-.030	-.044	-.067	.158	.140	.111
1.850	4.050	5.000	-.027	-.041	-.065	.168	.150	.120
1.950	4.050	5.000	-.024	-.038	-.063	.178	.159	.128
2.050	4.050	5.000	-.020	-.035	-.061	.187	.169	.137
2.150	4.050	5.000	-.015	-.031	-.058	.199	.179	.145
2.250	4.050	5.000	-.010	-.027	-.054	.219	.189	.154
2.350	4.050	5.000	-.005	-.022	-.051	.220	.199	.162
2.450	4.050	5.000	.000	-.017	-.046	.231	.208	.171
2.550	4.050	5.000	.006	-.012	-.042	.241	.218	.180
2.650	4.050	5.000	.012	-.007	-.037	.251	.228	.189
2.750	4.050	5.000	.018	-.001	-.032	.262	.238	.198
2.850	4.050	5.000	.024	.005	-.027	.272	.247	.206
2.950	4.050	5.000	.031	.011	-.022	.232	.257	.215
.050	4.150	5.000	-.005	-.005	-.007	.009	.007	.006
.150	4.150	5.000	-.009	-.011	-.013	.017	.015	.011
.250	4.150	5.000	-.013	-.016	-.020	.026	.023	.017
.350	4.150	5.000	-.018	-.021	-.026	.034	.030	.023
.450	4.150	5.000	-.021	-.025	-.032	.043	.038	.029
.550	4.150	5.000	-.025	-.030	-.038	.052	.046	.035
.650	4.150	5.000	-.028	-.034	-.043	.061	.054	.042
.750	4.150	5.000	-.031	-.037	-.048	.070	.062	.048
.850	4.150	5.000	-.033	-.040	-.052	.080	.070	.055
.950	4.150	5.000	-.035	-.043	-.056	.089	.079	.062
1.050	4.150	5.000	-.036	-.044	-.057	.097	.088	.069
1.150	4.150	5.000	-.037	-.046	-.061	.109	.097	.076
1.250	4.150	5.000	-.037	-.047	-.063	.119	.106	.084
1.350	4.150	5.000	-.036	-.047	-.065	.129	.115	.092
1.450	4.150	5.000	-.035	-.047	-.065	.139	.124	.100
1.550	4.150	5.000	-.034	-.046	-.066	.149	.134	.108
1.650	4.150	5.000	-.032	-.044	-.065	.163	.144	.116
1.750	4.150	5.000	-.027	-.042	-.064	.171	.153	.125
1.850	4.150	5.000	-.026	-.040	-.063	.181	.163	.133
1.950	4.150	5.000	-.023	-.037	-.061	.172	.173	.142
2.050	4.150	5.000	-.019	-.034	-.058	.203	.183	.151
2.150	4.150	5.000	-.014	-.030	-.056	.213	.193	.160
2.250	4.150	5.000	-.010	-.025	-.052	.224	.203	.169
2.350	4.150	5.000	-.005	-.021	-.049	.235	.213	.178
2.450	4.150	5.000	.001	-.016	-.045	.246	.224	.187
2.550	4.150	5.000	.006	-.011	-.040	.256	.234	.196
2.650	4.150	5.000	.012	-.006	-.036	.267	.244	.205
2.750	4.150	5.000	.019	[illegible]	-.031	.277	.253	.214

[illegible]	[illegible]	[illegible]	[illegible]	.111	[illegible]	.293	.273	.231
.050	2.250	[illegible]	[illegible]	-.005	-.006	.007	.005	.007
.150	2.250	[illegible]	-.009	-.012	-.013	.019	.017	.013
.250	2.250	[illegible]	-.013	-.015	-.019	.028	.025	.020
.350	2.250	[illegible]	-.017	-.021	-.025	.038	.034	.027
.450	2.250	[illegible]	-.021	-.024	-.031	.047	.042	.034
.550	2.250	[illegible]	-.024	-.027	-.036	.057	.051	.041
.650	2.250	[illegible]	-.027	-.032	-.041	.067	.060	.048
.750	2.250	[illegible]	-.030	-.036	-.046	.077	.069	.055
.850	2.250	[illegible]	-.032	-.039	-.050	.087	.078	.063
.950	2.250	[illegible]	-.033	-.041	-.054	.097	.087	.070
1.050	2.250	[illegible]	-.035	-.043	-.057	.108	.096	.078
1.150	2.250	[illegible]	-.035	-.044	-.059	.118	.106	.086
1.250	2.250	[illegible]	-.035	-.045	-.061	.129	.116	.094
1.350	2.250	[illegible]	-.035	-.045	-.062	.139	.126	.103
1.450	2.250	[illegible]	-.034	-.045	-.063	.150	.135	.111
1.550	2.250	[illegible]	-.033	-.044	-.063	.161	.145	.120
1.650	2.250	[illegible]	-.031	-.043	-.063	.172	.156	.129
1.750	2.250	[illegible]	-.028	-.041	-.062	.183	.166	.137
1.850	2.250	[illegible]	-.025	-.039	-.060	.194	.176	.147
1.950	2.250	[illegible]	-.022	-.036	-.059	.205	.186	.156
2.050	2.250	[illegible]	-.019	-.032	-.056	.216	.197	.165
2.150	2.250	[illegible]	-.014	-.029	-.053	.227	.207	.174
2.250	2.250	[illegible]	-.009	-.025	-.050	.238	.218	.183
2.350	2.250	[illegible]	-.004	-.020	-.047	.249	.228	.192
2.450	2.250	[illegible]	.001	-.016	-.043	.260	.238	.202
2.550	2.250	[illegible]	.006	-.011	-.039	.271	.248	.211
2.650	2.250	[illegible]	.012	-.005	-.034	.282	.259	.220
2.750	2.250	[illegible]	.018	.000	-.029	.292	.269	.229
2.850	2.250	[illegible]	.024	.006	-.024	.303	.279	.238
2.950	2.250	[illegible]	.030	.011	-.019	.313	.289	.247
.050	2.350	[illegible]	-.009	-.005	-.006	.010	.009	.007
.150	2.350	[illegible]	-.008	-.010	-.012	.021	.018	.015
.250	2.350	[illegible]	-.012	-.015	-.018	.031	.028	.023
.350	2.350	[illegible]	-.016	-.019	-.024	.041	.037	.030
.450	2.350	[illegible]	-.020	-.024	-.030	.052	.046	.038
.550	2.350	[illegible]	-.023	-.028	-.035	.062	.056	.046
.650	2.350	[illegible]	-.026	-.031	-.040	.073	.066	.054
.750	2.350	[illegible]	-.027	-.034	-.044	.083	.075	.062
.850	2.350	[illegible]	-.031	-.037	-.048	.094	.085	.070
.950	2.350	[illegible]	-.032	-.039	-.052	.105	.095	.078
1.050	2.350	[illegible]	-.033	-.041	-.054	.116	.105	.087
1.150	2.350	[illegible]	-.034	-.043	-.057	.127	.115	.095
1.250	2.350	[illegible]	-.034	-.043	-.059	.138	.125	.104
1.350	2.350	[illegible]	-.034	-.044	-.060	.149	.136	.113
1.450	2.350	[illegible]	-.033	-.043	-.061	.161	.146	.122
1.550	2.350	[illegible]	-.031	-.042	-.061	.172	.157	.131
1.650	2.350	[illegible]	-.029	-.041	-.060	.183	.167	.141
1.750	2.350	[illegible]	-.027	-.039	-.060	.195	.178	.150
1.850	2.350	[illegible]	-.024	-.037	-.058	.206	.189	.159
1.950	2.350	[illegible]	-.021	-.034	-.056	.218	.199	.169
2.050	2.350	[illegible]	-.017	-.031	-.054	.229	.210	.178
2.150	2.350	[illegible]	-.013	-.027	-.051	.240	.221	.188
2.250	2.350	[illegible]	-.009	-.023	-.048	.252	.231	.197
2.350	2.350	[illegible]	-.004	-.019	-.045	.263	.242	.207
2.450	2.350	[illegible]	.001	-.015	-.041	.274	.252	.216
2.550	2.350	[illegible]	.006	-.010	-.037	.285	.263	.226
2.650	2.350	[illegible]	.012	-.005	-.032	.296	.273	.235
2.750	2.350	[illegible]	.018	.011	[illegible]	.307	.283	.244
2.850	2.350	[illegible]	.024	[illegible]	[illegible]	[illegible]		

2.950	2.350	5.000	.030	.012	[illegible]	.323	.303	.263
.050	2.450	5.000	-.005	-.005	-.006	.011	.010	.008
.150	2.450	5.000	[illegible]	-.009	-.012	.022	.020	.017
.250	2.450	5.000	-.012	-.014	-.018	.033	.030	.025
.350	2.450	5.000	-.016	[illegible]	-.023	.044	.040	.033
.450	2.450	5.000	-.019	-.023	-.029	.055	.050	.042
.550	2.450	5.000	-.022	-.026	-.034	.067	.061	.051
.650	2.450	5.000	-.025	-.030	-.038	.073	.071	.059
.750	2.450	5.000	-.027	-.033	-.042	.089	.081	.068
.850	2.450	5.000	-.027	-.036	-.046	.101	.092	.077
.950	2.450	5.000	-.031	-.038	-.050	.112	.102	.086
1.050	2.450	5.000	-.032	-.040	-.052	.124	.113	.095
1.150	2.450	5.000	-.033	-.041	-.055	.136	.124	.104
1.250	2.450	5.000	-.033	-.042	-.056	.147	.135	.114
1.350	2.450	5.000	-.032	-.042	-.056	.159	.145	.123
1.450	2.450	5.000	-.031	-.042	-.056	.171	.156	.133
1.550	2.450	5.000	-.030	-.041	-.056	.182	.167	.142
1.650	2.450	5.000	-.028	-.039	-.055	.194	.179	.152
1.750	2.450	5.000	-.026	-.038	-.057	.206	.189	.162
1.850	2.450	5.000	-.023	-.035	-.056	.219	.200	.171
1.950	2.450	5.000	-.020	-.033	-.054	.230	.211	.181
2.050	2.450	5.000	-.016	-.030	-.052	.241	.222	.191
2.150	2.450	5.000	-.012	-.026	-.049	.253	.233	.201
2.250	2.450	5.000	-.008	-.022	-.046	.265	.244	.211
2.350	2.450	5.000	-.003	-.018	-.043	.276	.255	.220
2.450	2.450	5.000	.002	-.014	-.039	.287	.266	.230
2.550	2.450	5.000	.007	-.009	-.035	.299	.276	.240
2.650	2.450	5.000	.012	-.004	-.031	.310	.287	.249
2.750	2.450	5.000	.018	.001	-.026	.321	.297	.259
2.850	2.450	5.000	.023	.007	-.022	.331	.308	.268
2.950	2.450	5.000	.027	.012	-.017	.342	.318	.277
.050	2.550	5.000	-.007	-.005	-.006	.012	.011	.009
.150	2.550	5.000	-.008	-.009	-.011	.024	.022	.018
.250	2.550	5.000	-.011	-.014	-.017	.035	.032	.027
.350	2.550	5.000	-.015	-.018	-.022	.047	.043	.037
.450	2.550	5.000	-.018	-.022	-.027	.059	.054	.046
.550	2.550	5.000	-.021	-.025	-.032	.071	.065	.055
.650	2.550	5.000	-.024	-.029	-.037	.083	.076	.065
.750	2.550	5.000	-.026	-.032	-.041	.095	.087	.074
.850	2.550	5.000	-.028	-.034	-.044	.107	.098	.084
.950	2.550	5.000	-.030	-.036	-.048	.119	.110	.093
1.050	2.550	5.000	-.031	-.038	-.050	.131	.121	.103
1.150	2.550	5.000	-.031	-.039	-.052	.144	.132	.113
1.250	2.550	5.000	-.031	-.040	-.054	.156	.143	.123
1.350	2.550	5.000	-.031	-.040	-.055	.168	.155	.133
1.450	2.550	5.000	-.030	-.040	-.056	.180	.166	.143
1.550	2.550	5.000	-.029	-.037	-.056	.192	.178	.153
1.650	2.550	5.000	-.027	-.036	-.056	.205	.189	.163
1.750	2.550	5.000	-.025	-.036	-.055	.217	.200	.173
1.850	2.550	5.000	-.022	-.034	-.054	.229	.212	.183
1.950	2.550	5.000	-.017	-.031	-.052	.241	.223	.193
2.050	2.550	5.000	-.015	-.028	-.050	.253	.234	.203
2.150	2.550	5.000	-.012	-.025	-.047	.265	.246	.213
2.250	2.550	5.000	-.007	-.021	-.044	.277	.257	.223
2.350	2.550	5.000	-.003	-.017	-.041	.288	.268	.233
2.450	2.550	5.000	.002	-.013	-.037	.300	.279	.243
2.550	2.550	5.000	.007	-.008	-.033	.311	.289	.253
2.650	2.550	5.000	.012	-.003	-.029	.323	.300	.263
2.750	2.550	5.000	.018	.002	-.025	.334	.311	.272
2.850	2.550	5.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

2.950	2.550	[illegible]	[illegible]	.012	-.015	.355	.331	.291
.050	2.650	5.000	-.004	-.004	-.005	.013	.012	.010
.150	2.650	5.000	-.007	-.009	-.011	.025	.023	.020
.250	2.650	5.000	-.011	-.013	-.016	.038	.035	.030
.350	2.650	5.000	-.014	-.017	-.021	.050	.046	.040
.450	2.650	5.000	-.018	-.021	-.026	.063	.058	.050
.550	2.650	5.000	-.020	-.024	-.031	.075	.067	.060
.650	2.650	5.000	-.023	-.028	-.035	.088	.081	.070
.750	2.650	5.000	-.025	-.030	-.039	.101	.093	.080
.850	2.650	5.000	-.027	-.033	-.043	.113	.104	.090
.950	2.650	5.000	-.029	-.035	-.046	.126	.116	.100
1.050	2.650	5.000	-.027	-.037	-.048	.137	.128	.110
1.150	2.650	5.000	-.030	-.038	-.050	.151	.140	.121
1.250	2.650	5.000	-.030	-.038	-.052	.164	.152	.131
1.350	2.650	5.000	-.030	-.038	-.053	.177	.164	.142
1.450	2.650	5.000	-.029	-.038	-.054	.189	.175	.152
1.550	2.650	5.000	-.028	-.037	-.054	.202	.187	.163
1.650	2.650	5.000	-.025	-.036	-.053	.215	.199	.173
1.750	2.650	5.000	-.024	-.034	-.053	.227	.211	.184
1.850	2.650	5.000	-.021	-.032	-.051	.239	.222	.194
1.950	2.650	5.000	-.018	-.030	-.050	.252	.234	.204
2.050	2.650	5.000	-.014	-.027	-.047	.264	.246	.215
2.150	2.650	5.000	-.011	-.024	-.045	.276	.257	.225
2.250	2.650	5.000	-.007	-.020	-.042	.288	.268	.236
2.350	2.650	5.000	-.002	-.016	-.039	.300	.280	.246
2.450	2.650	5.000	.002	-.012	-.035	.312	.291	.256
2.550	2.650	5.000	.007	-.007	-.031	.323	.302	.266
2.650	2.650	5.000	.012	-.003	-.027	.335	.313	.276
2.750	2.650	5.000	.018	.002	-.023	.345	.323	.285
2.850	2.650	5.000	.023	.007	-.019	.357	.334	.295
2.950	2.650	5.000	.029	.013	-.014	.359	.344	.305
.050	2.750	5.000	-.004	-.004	-.005	.013	.012	.011
.150	2.750	5.000	-.007	-.008	-.010	.026	.024	.021
.250	2.750	5.000	-.011	-.012	-.016	.040	.037	.032
.350	2.750	5.000	-.014	-.015	-.020	.053	.049	.042
.450	2.750	5.000	-.017	-.020	-.025	.066	.061	.053
.550	2.750	5.000	-.020	-.023	-.030	.079	.073	.064
.650	2.750	5.000	-.022	-.026	-.034	.092	.086	.074
.750	2.750	5.000	-.024	-.029	-.037	.106	.098	.085
.850	2.750	5.000	-.026	-.031	-.041	.119	.110	.096
.950	2.750	5.000	-.027	-.033	-.044	.132	.123	.107
1.050	2.750	5.000	-.028	-.035	-.046	.145	.135	.117
1.150	2.750	5.000	-.029	-.036	-.048	.158	.147	.128
1.250	2.750	5.000	-.029	-.037	-.050	.172	.159	.139
1.350	2.750	5.000	-.028	-.037	-.051	.185	.172	.150
1.450	2.750	5.000	-.029	-.036	-.051	.198	.184	.161
1.550	2.750	5.000	-.026	-.036	-.051	.211	.196	.172
1.650	2.750	5.000	-.025	-.034	-.051	.224	.208	.183
1.750	2.750	5.000	-.022	-.033	-.050	.237	.220	.194
1.850	2.750	5.000	-.020	-.031	-.049	.249	.232	.204
1.950	2.750	5.000	-.017	-.029	-.047	.262	.244	.215
2.050	2.750	5.000	-.014	-.025	-.045	.274	.256	.226
2.150	2.750	5.000	-.010	-.022	-.043	.287	.268	.236
2.250	2.750	5.000	-.006	-.019	-.040	.299	.279	.247
2.350	2.750	5.000	-.002	-.015	-.037	.311	.291	.257
2.450	2.750	5.000	.003	-.011	-.033	.323	.302	.268
2.550	2.750	5.000	.007	-.006	-.030	.335	.313	.278
2.650	2.750	5.000	.012	-.002	-.026	.346	.324	.288
2.750	2.750	5.000	.018	.003	-.021	.358	.335	.298
2.850	2.750	5.000	.023	.008	-.017	.369	.346	.307

2.950	2.850	5.000	.029	.013	-.012	.330	.356	.317
.050	2.850	5.000	-.003	-.009	-.005	.014	.013	.011
.150	2.850	5.000	-.007	-.010	-.010	.028	.026	.022
.250	2.850	5.000	-.010	-.012	-.015	.041	.039	.034
.350	2.850	5.000	-.013	-.016	-.020	.055	.051	.045
.450	2.850	5.000	-.016	-.019	-.024	.069	.064	.056
.550	2.850	5.000	-.019	-.022	-.028	.083	.077	.067
.650	2.850	5.000	-.021	-.025	-.032	.097	.090	.079
.750	2.850	5.000	-.023	-.028	-.036	.110	.103	.090
.850	2.850	5.000	-.025	-.030	-.039	.124	.116	.101
.950	2.850	5.000	-.026	-.032	-.042	.138	.128	.113
1.050	2.850	5.000	-.027	-.033	-.044	.151	.141	.124
1.150	2.850	5.000	-.027	-.034	-.046	.165	.154	.135
1.250	2.850	5.000	-.027	-.035	-.047	.179	.167	.147
1.350	2.850	5.000	-.027	-.035	-.048	.192	.179	.158
1.450	2.850	5.000	-.026	-.035	-.049	.206	.192	.169
1.550	2.850	5.000	-.025	-.034	-.049	.219	.205	.181
1.650	2.850	5.000	-.023	-.033	-.049	.232	.217	.192
1.750	2.850	5.000	-.021	-.031	-.048	.245	.229	.203
1.850	2.850	5.000	-.019	-.029	-.047	.258	.242	.214
1.950	2.850	5.000	-.016	-.027	-.045	.271	.254	.225
2.050	2.850	5.000	-.013	-.024	-.043	.284	.266	.236
2.150	2.850	5.000	-.009	-.021	-.041	.297	.278	.247
2.250	2.850	5.000	-.005	-.018	-.038	.309	.290	.258
2.350	2.850	5.000	-.001	-.014	-.035	.321	.301	.268
2.450	2.850	5.000	.003	-.010	-.031	.333	.313	.279
2.550	2.850	5.000	.008	-.006	-.028	.345	.324	.289
2.650	2.850	5.000	.013	-.001	-.024	.357	.335	.299
2.750	2.850	5.000	.018	.004	-.020	.368	.346	.309
2.850	2.850	5.000	.023	.008	-.016	.380	.357	.319
2.950	2.850	5.000	.028	.013	-.011	.391	.367	.329
.050	2.950	5.000	-.003	-.004	-.005	.014	.013	.012
.150	2.950	5.000	-.006	-.008	-.010	.029	.027	.024
.250	2.950	5.000	-.010	-.011	-.014	.043	.040	.035
.350	2.950	5.000	-.013	-.015	-.019	.057	.054	.047
.450	2.950	5.000	-.015	-.018	-.023	.072	.067	.059
.550	2.950	5.000	-.018	-.021	-.027	.086	.080	.071
.650	2.950	5.000	-.020	-.024	-.031	.100	.094	.083
.750	2.950	5.000	-.022	-.027	-.034	.115	.107	.095
.850	2.950	5.000	-.024	-.029	-.037	.129	.120	.106
.950	2.950	5.000	-.025	-.031	-.040	.143	.134	.118
1.050	2.950	5.000	-.026	-.032	-.042	.157	.147	.130
1.150	2.950	5.000	-.026	-.033	-.044	.171	.160	.142
1.250	2.950	5.000	-.026	-.033	-.045	.185	.173	.154
1.350	2.950	5.000	-.026	-.033	-.046	.199	.186	.165
1.450	2.950	5.000	-.025	-.033	-.047	.213	.199	.177
1.550	2.950	5.000	-.024	-.032	-.047	.227	.212	.189
1.650	2.950	5.000	-.022	-.031	-.046	.240	.225	.200
1.750	2.950	5.000	-.020	-.030	-.046	.254	.238	.212
1.850	2.950	5.000	-.018	-.028	-.044	.267	.250	.223
1.950	2.950	5.000	-.015	-.025	-.043	.280	.263	.234
2.050	2.950	5.000	-.012	-.023	-.041	.293	.275	.245
2.150	2.950	5.000	-.009	-.020	-.038	.306	.287	.257
2.250	2.950	5.000	-.005	-.016	-.036	.318	.299	.267
2.350	2.950	5.000	-.001	-.013	-.033	.331	.311	.278
2.450	2.950	5.000	.004	-.009	-.029	.343	.323	.289
2.550	2.950	5.000	.008	-.005	-.026	.355	.334	.299
2.650	2.950	5.000	.013	-.000	-.022	.367	.345	.310
2.750	2.950	5.000	.018	.004	-.018	.378	.356	.320
2.850	2.950	5.000	.023	.008	-.014	[illegible]	[illegible]	[illegible]

2.950	2.9[illegible]	[illegible]	.02[illegible]	.01[illegible]	-.016	.431	.370	.339
.050	.250	6.000	-.005	-.005	-.007	-.005	-.006	-.007
.150	.250	6.000	-.009	-.011	-.014	-.009	-.011	-.014
.250	.250	6.000	-.014	-.016	-.021	-.014	-.016	-.021
.350	.250	6.000	-.018	-.022	-.027	-.018	-.022	-.027
.450	.250	6.000	-.023	-.027	-.034	-.022	-.027	-.034
.550	.250	6.000	-.026	-.031	-.040	-.026	-.031	-.040
.650	.250	6.000	-.030	-.036	-.045	-.030	-.036	-.045
.750	.250	6.000	-.033	-.040	-.051	-.033	-.040	-.051
.850	.250	6.000	-.036	-.044	-.056	-.036	-.044	-.056
.950	.250	6.000	-.039	-.047	-.060	-.039	-.047	-.060
1.050	.250	6.000	-.041	-.050	-.065	-.041	-.050	-.065
1.150	.250	6.000	-.043	-.052	-.068	-.043	-.052	-.068
1.250	.250	6.000	-.044	-.054	-.072	-.044	-.054	-.071
1.350	.250	6.000	-.045	-.056	-.074	-.045	-.056	-.074
1.450	.250	6.000	-.045	-.057	-.076	-.045	-.057	-.076
1.550	.250	6.000	-.045	-.057	-.078	-.045	-.057	-.078
1.650	.250	6.000	-.044	-.057	-.079	-.044	-.057	-.079
1.750	.250	6.000	-.042	-.057	-.080	-.043	-.057	-.080
1.850	.250	6.000	-.042	-.056	-.080	-.042	-.056	-.080
1.950	.250	6.000	-.040	-.055	-.080	-.040	-.055	-.080
2.050	.250	6.000	-.037	-.053	-.079	-.037	-.053	-.079
2.150	.250	6.000	-.035	-.051	-.078	-.035	-.051	-.078
2.250	.250	6.000	-.032	-.049	-.077	-.032	-.048	-.077
2.350	.250	6.000	-.028	-.046	-.075	-.028	-.046	-.075
2.450	.250	6.000	-.025	-.043	-.072	-.025	-.042	-.072
2.550	.250	6.000	-.021	-.039	-.070	-.021	-.039	-.070
2.650	.250	6.000	-.015	-.035	-.067	-.016	-.035	-.067
2.750	.250	6.000	-.012	-.031	-.064	-.012	-.031	-.064
2.850	.250	6.000	-.007	-.027	-.060	-.007	-.027	-.060
2.950	.250	6.000	-.002	-.023	-.057	-.002	-.023	-.057
.050	.150	6.000	-.005	-.006	-.007	-.005	-.005	-.007
.150	.150	6.000	-.009	-.011	-.015	-.009	-.011	-.014
.250	.150	6.000	-.013	-.016	-.021	-.014	-.016	-.020
.350	.150	6.000	-.018	-.022	-.027	-.018	-.021	-.027
.450	.150	6.000	-.022	-.027	-.034	-.022	-.026	-.033
.550	.150	6.000	-.026	-.031	-.040	-.026	-.031	-.039
.650	.150	6.000	-.030	-.036	-.045	-.030	-.035	-.045
.750	.150	6.000	-.033	-.040	-.051	-.033	-.040	-.050
.850	.150	6.000	-.036	-.044	-.056	-.036	-.043	-.055
.950	.150	6.000	-.039	-.047	-.060	-.038	-.046	-.060
1.050	.150	6.000	-.041	-.050	-.065	-.040	-.049	-.064
1.150	.150	6.000	-.043	-.052	-.068	-.042	-.052	-.068
1.250	.150	6.000	-.044	-.054	-.071	-.043	-.054	-.071
1.350	.150	6.000	-.045	-.056	-.074	-.044	-.055	-.074
1.450	.150	6.000	-.045	-.057	-.076	-.044	-.056	-.076
1.550	.150	6.000	-.045	-.057	-.078	-.044	-.057	-.077
1.650	.150	6.000	-.044	-.057	-.079	-.043	-.057	-.078
1.750	.150	6.000	-.043	-.057	-.080	-.042	-.056	-.079
1.850	.150	6.000	-.042	-.056	-.080	-.041	-.055	-.079
1.950	.150	6.000	-.040	-.055	-.080	-.039	-.054	-.079
2.050	.150	6.000	-.037	-.053	-.079	-.037	-.052	-.078
2.150	.150	6.000	-.035	-.051	-.078	-.034	-.050	-.077
2.250	.150	6.000	-.032	-.049	-.077	-.031	-.048	-.076
2.350	.150	6.000	-.029	-.046	-.075	-.027	-.045	-.074
2.450	.150	6.000	-.025	-.043	-.072	-.024	-.042	-.072
2.550	.150	6.000	-.021	-.039	-.070	-.020	-.038	-.069
2.650	.150	6.000	-.016	-.035	-.067	-.015	-.034	-.066
2.750	.150	6.000	-.012	-.031	-.064	-.011	-.030	-.063
2.850	.150	6.000	-.007	-.027	-.060	-.006	-.026	-.059

[illegible]	[illegible]	[illegible]	[illegible]	-.023	-.057	-.021	-.022	-.056
[illegible]	[illegible]	[illegible]	[illegible]	-.016	[illegible]	-.005	-.005	-.007
[illegible]	[illegible]	[illegible]	[illegible]	-.011	-.014	-.009	-.011	-.014
.250	.250	[illegible]	-.014	-.016	-.021	-.013	-.016	-.020
[illegible]	.250	6.000	-.013	-.022	-.027	-.018	-.021	-.027
.450	.250	6.000	-.022	-.027	-.033	-.022	-.026	-.033
.550	.250	6.000	-.025	-.031	-.039	-.026	-.031	-.039
.650	.250	6.000	-.030	-.036	-.045	-.029	-.035	-.044
.750	.250	6.000	-.033	-.040	-.051	-.032	-.039	-.050
.850	.250	[illegible]	[illegible]	-.043	-.056	-.035	-.042	-.055
.950	.250	6.000	[illegible]	-.047	-.060	-.037	-.046	-.059
1.050	.250	6.000	-.041	-.050	-.064	-.039	-.048	-.063
1.150	.250	6.000	-.043	-.052	-.068	-.041	-.051	-.067
1.250	.250	6.000	-.044	-.054	-.071	-.042	-.052	-.070
1.350	.250	6.000	-.045	-.056	-.074	-.043	-.054	-.072
1.450	.250	6.000	-.045	-.057	-.076	-.043	-.055	-.074
1.550	.250	[illegible]	-.045	-.057	-.078	-.043	-.055	-.076
1.650	.250	6.000	-.044	-.057	-.079	-.042	-.055	-.077
1.750	.250	[illegible]	-.042	-.057	-.080	-.041	-.055	-.078
1.850	.250	6.000	-.042	-.056	-.080	-.039	-.054	-.078
1.950	.250	6.000	[illegible]	-.055	-.080	-.037	-.052	-.078
2.050	.250	6.000	-.037	-.053	-.079	-.035	-.051	-.077
2.150	.250	6.000	-.035	-.051	[illegible]	-.032	-.049	-.076
2.250	.250	6.000	-.032	-.048	-.075	-.029	-.046	-.074
2.350	.250	6.000	-.029	[illegible]	-.074	-.026	-.043	-.072
2.450	.250	6.000	-.025	-.042	-.072	-.022	-.040	-.070
2.550	.250	6.000	-.021	-.039	-.070	-.018	-.036	-.067
2.650	.250	6.000	-.016	-.035	-.067	-.014	-.033	-.064
2.750	.250	6.000	-.012	-.031	-.064	-.009	-.029	-.061
2.850	.250	6.000	-.007	-.027	-.060	-.004	-.024	-.057
2.950	.250	6.000	-.002	-.023	-.056	.001	-.020	-.054
.050	.350	6.000	-.003	-.006	-.007	-.004	-.005	-.007
.150	.350	6.000	-.007	-.011	[illegible]	-.009	-.010	-.013
.250	.350	6.000	[illegible]	-.016	[illegible]	-.013	-.016	-.020
[illegible]	.350	6.000	[illegible]	-.021	-.027	-.017	-.020	-.026
.450	.350	6.000	-.022	-.026	-.033	-.021	-.025	-.032
.550	.350	6.000	[illegible]	-.031	-.037	-.025	-.030	-.038
.650	.350	6.000	-.030	-.036	-.045	-.028	-.034	-.043
.750	.350	6.000	-.033	-.040	-.050	-.031	-.038	-.049
.850	.350	6.000	-.035	-.043	-.055	-.034	-.041	-.053
.950	.350	6.000	-.037	-.047	[illegible]	-.036	-.044	-.056
1.050	.350	6.000	[illegible]	-.049	-.064	-.036	-.047	-.062
1.150	.350	6.000	-.042	-.052	-.068	-.039	-.049	-.065
1.250	.350	6.000	-.044	-.054	-.071	-.040	-.051	-.068
1.350	.350	6.000	-.044	-.055	-.074	-.041	-.052	-.071
1.450	.350	6.000	[illegible]	-.056	-.076	-.041	-.053	-.073
1.550	.350	6.000	[illegible]	-.057	-.078	-.041	-.053	-.074
1.650	.350	6.000	-.044	-.057	-.079	-.040	-.053	-.075
1.750	.350	6.000	-.043	-.057	-.079	-.039	-.053	-.076
1.850	.350	6.000	-.041	[illegible]	-.080	-.037	-.052	-.076
1.950	.350	6.000	[illegible]	[illegible]	-.079	-.035	-.050	-.075
2.050	.350	6.000	[illegible]	-.053	-.079	-.033	-.048	-.074
2.150	.350	6.000	-.035	-.051	[illegible]	-.030	-.046	-.073
[illegible]	.350	[illegible]	[illegible]	[illegible]	-.076	-.027	-.044	-.072
2.350	.350	6.000	[illegible]	-.045	-.074	-.023	-.041	-.070
2.450	.350	6.000	-.024	-.042	-.072	-.019	-.037	-.067
2.550	.350	[illegible]	-.021	-.039	-.069	-.015	-.034	-.064
2.650	.350	[illegible]	-.017	-.035	-.067	-.011	-.030	-.062
2.750	.350	[illegible]	-.013	[illegible]	[illegible]	[illegible]	-.026	-.058
[illegible]	.350	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]	.3[illegible]	[illegible]	-.[illegible]	-.028	-.[illegible]	.005	-.017	-.051
[illegible]	[illegible]	[illegible]	-.[illegible]	-.[illegible]	-.007	-.00[illegible]	-.00[illegible]	-.006
[illegible]	[illegible]	[illegible]	-.[illegible]	-.[illegible]	-.[illegible]	-.[illegible]	-.0[illegible]	-.011
[illegible]	[illegible]	[illegible]	-.0[illegible]	-.016	-.026	-.012	-.015	-.017
[illegible]	[illegible]	[illegible]	-.0[illegible]	-.021	-.027	-.01[illegible]	-.02[illegible]	-.025
[illegible]	[illegible]	[illegible]	-.029	-.026	-.033	-.020	-.024	-.031
[illegible]	[illegible]	[illegible]	-.0[illegible]	-.0[illegible]	-.039	-.024	-.029	-.037
[illegible]	[illegible]	[illegible]	-.033	-.035	-.045	-.027	-.033	-.042
[illegible]	[illegible]	[illegible]	-.033	-.039	-.0[illegible]	-.030	-.035	-.047
[illegible]	[illegible]	[illegible]	-.03[illegible]	-.043	-.055	-.032	-.040	-.052
[illegible]	[illegible]	[illegible]	-.03[illegible]	-.04[illegible]	-.0[illegible]	-.034	-.042	-.056
[illegible]	[illegible]	[illegible]	-.039	-.047	-.064	-.036	-.045	-.060
1.15[illegible]	[illegible]	[illegible]	-.04[illegible]	-.052	-.067	-.037	-.047	-.063
[illegible]	[illegible]	[illegible]	-.04[illegible]	-.054	-.071	-.038	-.049	-.066
[illegible]	[illegible]	[illegible]	-.04[illegible]	-.053	-.073	-.039	-.050	-.06[illegible]
[illegible]	[illegible]	[illegible]	-.04[illegible]	-.05[illegible]	-.075	-.039	-.050	-.070
[illegible]	[illegible]	[illegible]	-.04[illegible]	-.0[illegible]7	-.0[illegible]7	-.033	-.051	-.071
[illegible]	[illegible]	[illegible]	-.0[illegible]	-.057	-.076	-.037	-.050	-.072
1.750	[illegible]	[illegible]	-.04[illegible]	-.056	-.079	-.035	-.050	-.073
[illegible]	[illegible]	[illegible]	-.041	-.055	-.079	-.039	-.049	-.073
[illegible]	[illegible]	[illegible]	-.039	-.054	-.079	-.032	-.047	-.072
[illegible]	[illegible]	[illegible]	-.037	-.053	-.078	-.030	-.045	-.071
[illegible]	[illegible]	[illegible]	-.0[illegible]	-.0[illegible]	-.077	-.027	-.043	-.070
[illegible]	[illegible]	[illegible]	-.03[illegible]	-.0[illegible]	-.076	-.023	-.040	-.068
[illegible]	[illegible]	[illegible]	-.0[illegible]	-.0[illegible]	-.074	-.020	-.037	-.066
[illegible]	[illegible]	[illegible]	-.0[illegible]	-.0[illegible]2	-.072	-.016	-.034	-.064
[illegible]	[illegible]	[illegible]	-.028	-.039	-.069	-.012	-.030	-.061
[illegible]	[illegible]	6.[illegible]	-.018	-.035	-.066	-.008	-.026	-.058
[illegible]	[illegible]	6.[illegible]	-.0[illegible]	-.031	-.063	-.005	-.022	-.055
[illegible]	[illegible]	[illegible]	-.007	-.027	-.060	.002	-.018	-.051
[illegible]	[illegible]	[illegible]	-.0[illegible]	-.02[illegible]	-.0[illegible]	.007	-.013	-.047
[illegible]	[illegible]	[illegible]	-.0[illegible]	-.0[illegible]5	-.057	-.034	-.00[illegible]	-.006
[illegible]	[illegible]	[illegible]	-.007	-.011	-.0[illegible]	-.005	-.010	-.012
[illegible]	[illegible]	[illegible]	-.01[illegible]	-.0[illegible]	-.020	-.012	-.01[illegible]	-.01[illegible]
[illegible]	[illegible]	[illegible]	-.01[illegible]	-.021	-.027	-.015	-.019	-.024
[illegible]	[illegible]	[illegible]	-.022	-.02[illegible]	-.033	-.019	-.023	-.030
[illegible]	[illegible]	[illegible]	-.026	-.031	-.039	-.022	-.027	-.035
[illegible]	[illegible]	6.[illegible]	-.03[illegible]	-.03[illegible]	-.045	-.025	-.031	-.040
[illegible]	[illegible]	6.[illegible]	-.03[illegible]	-.039	-.05[illegible]	-.028	-.03[illegible]	-.045
[illegible]	[illegible]	[illegible]	-.036	-.043	-.055	-.030	-.034	-.050
[illegible]	[illegible]	[illegible]	-.0[illegible]	-.046	-.059	-.032	-.040	-.054
1.[illegible]	[illegible]	[illegible]	-.0[illegible]	-.049	-.063	-.034	-.043	-.057
[illegible]	[illegible]	6.[illegible]	-.042	-.051	-.067	-.035	-.044	-.060
[illegible]	[illegible]	6.[illegible]	-.043	-.053	-.070	-.036	-.046	-.063
[illegible]	.5[illegible]	6.[illegible]	-.04[illegible]	-.055	-.073	-.036	-.047	-.065
1.[illegible]	[illegible]	[illegible]	-.04[illegible]	-.056	-.075	-.036	-.047	-.067
[illegible]	.5[illegible]	[illegible]	-.04[illegible]	-.05[illegible]	-.077	-.035	-.047	-.068
[illegible]	[illegible]	6.[illegible]	-.043	-.055	-.078	-.034	-.047	-.069
[illegible]	[illegible]	6.[illegible]	-.042	-.055	-.079	-.033	-.046	-.069
1.[illegible]	.5[illegible]	[illegible]	-.041	-.055	-.079	-.031	-.045	-.069
1.[illegible]	.5[illegible]	[illegible]	-.039	-.054	-.079	-.028	-.043	-.068
[illegible]	[illegible]	[illegible]	-.037	-.052	-.07[illegible]	-.026	-.041	-.067
[illegible]	[illegible]	6.[illegible]	-.03[illegible]	-.050	-.077	-.023	-.039	-.066
[illegible]	[illegible]	[illegible]	-.031	-.048	-.075	-.0[illegible]	-.036	-.064
[illegible]	[illegible]	[illegible]	-.02[illegible]	-.045	-.073	-.016	-.033	-.062
[illegible]	[illegible]	[illegible]	-.02[illegible]	-.042	-.071	-.012	-.030	-.060
[illegible]	[illegible]	[illegible]	-.02[illegible]	-.038	-.0[illegible]	-.008	-.026	-.057
[illegible]	[illegible]	[illegible]	-.01[illegible]	-.035	-.0[illegible]	-.00[illegible]	-.022	-.054
[illegible]	[illegible]	[illegible]	-.01[illegible]	-.031	-.0[illegible]	.001	-.018	-.050
[illegible]	[illegible]	[illegible]	-.0[illegible]7	-.027	-.0[illegible]	.006	-.014	-.047

2.[illegible]	[illegible]	[illegible]	-.[illegible]	-.03[illegible]	-.[illegible]	.0[illegible]	-.0[illegible]9	-.043
.[illegible]	.[illegible]	[illegible]	-.0[illegible]	-.0[illegible]	-.[illegible]7	-.[illegible]	-.005	-.006
.150	[illegible]	6.[illegible]	-.0[illegible]	-.0[illegible]	-.[illegible]	-.007	-.009	-.012
.2[illegible]	.[illegible]	[illegible]	-.[illegible]	-.016	-.020	-.011	-.013	-.018
.350	.650	[illegible]	-.01[illegible]	-.021	-.026	-.014	-.018	-.023
.450	.650	6.[illegible]	-.022	-.026	-.033	-.018	-.022	-.029
.550	.650	6.000	-.024	-.031	-.039	-.021	-.026	-.034
.[illegible]50	.650	6.[illegible]	-.029	-.035	-.044	-.023	-.029	-.039
.750	.[illegible]	[illegible]	-.03[illegible]	-.039	-.050	-.026	-.032	-.043
.[illegible]	.[illegible]	[illegible]	-.035	-.043	-.054	-.028	-.035	-.047
.[illegible]	.[illegible]	[illegible]	-.038	-.046	-.059	-.030	-.038	-.051
1.05[illegible]	.[illegible]	6.[illegible]	-.040	-.049	-.063	-.031	-.040	-.054
1.1[illegible]	.6[illegible]	[illegible]	-.042	-.051	-.067	-.032	-.041	-.057
1.250	.6[illegible]	6.[illegible]	-.043	-.053	-.070	-.032	-.043	-.060
1.350	.6[illegible]	6.000	-.044	-.054	-.072	-.032	-.043	-.062
1.450	.[illegible]	[illegible]	-.04[illegible]	-.055	-.075	-.032	-.044	-.063
1.55[illegible]	.[illegible]	[illegible]	-.04[illegible]	-.056	-.076	-.031	-.044	-.064
1.650	.650	[illegible]	-.04[illegible]	-.056	-.077	-.030	-.043	-.065
1.75[illegible]	.6[illegible]	[illegible]	-.042	-.056	-.078	-.028	-.042	-.065
1.[illegible]	.[illegible]	[illegible]	-.041	-.055	-.078	-.026	-.041	-.065
1.950	.650	6.000	-.039	-.054	-.078	-.024	-.039	-.064
2.050	.650	6.000	-.037	-.052	-.077	-.021	-.037	-.063
2.150	.650	6.000	-.034	-.050	-.076	-.018	-.034	-.061
2.250	.650	[illegible]	-.031	-.047	-.075	-.015	-.032	-.059
2.350	.650	[illegible]	-.02[illegible]	-.045	-.073	-.011	-.028	-.057
2.450	.6[illegible]	[illegible]	-.024	-.042	-.071	-.007	-.025	-.055
2.550	.650	[illegible]	-.02[illegible]	-.039	-.068	-.003	-.021	-.052
2.650	.650	6.000	-.016	-.034	-.065	.002	-.017	-.048
2.750	.650	6.000	-.012	-.031	-.062	.007	-.013	-.045
2.850	.650	6.000	-.007	-.026	-.05[illegible]	.012	-.008	-.041
2.950	.650	6.000	-.002	-.022	-.055	.017	-.004	-.037
.050	.750	6.[illegible]	-.005	-.005	-.007	-.003	-.004	-.006
.150	.750	6.000	-.00[illegible]	-.011	-.013	-.007	-.008	-.011
.25[illegible]	.750	6.000	-.013	-.016	-.020	-.010	-.012	-.017
.350	.750	6.[illegible]	-.013	-.021	-.026	-.013	-.016	-.022
.450	.750	6.000	-.022	-.026	-.032	-.016	-.020	-.027
.550	.750	6.000	-.026	-.030	-.038	-.019	-.024	-.032
.650	.750	6.000	-.029	-.035	-.044	-.021	-.027	-.036
.750	.750	6.000	-.032	-.037	-.049	-.023	-.030	-.041
.850	.750	6.000	-.035	-.042	-.054	-.025	-.032	-.045
.950	.750	6.000	-.033	-.045	-.056	-.027	-.035	-.048
1.050	.750	6.000	-.040	-.048	-.062	-.028	-.036	-.051
1.150	.750	6.000	-.041	-.051	-.065	-.023	-.038	-.054
1.250	.750	6.000	-.042	-.052	-.069	-.029	-.039	-.056
1.350	.750	6.000	-.043	-.054	-.072	-.027	-.039	-.058
1.450	.750	6.000	-.044	-.055	-.074	-.028	-.040	-.059
1.5[illegible]	.750	6.000	-.043	-.055	-.076	-.027	-.039	-.060
1.650	.750	6.000	-.043	-.056	-.077	-.026	-.039	-.060
1.750	.750	6.000	-.042	-.055	-.077	-.024	-.037	-.060
1.850	.750	6.000	-.040	-.05[illegible]	-.078	-.022	-.036	-.060
1.950	.750	6.000	-.038	-.053	-.077	-.019	-.034	-.059
2.050	.750	6.000	-.036	-.051	-.077	-.016	-.032	-.058
2.150	.750	6.000	-.034	-.049	-.076	-.013	-.029	-.056
2.250	.750	6.000	-.031	-.047	-.074	-.009	-.026	-.054
2.[illegible]	.75[illegible]	6.[illegible]	-.027	-.04[illegible]	-.072	-.006	-.023	-.051
2.450	.7[illegible]	[illegible]	-.02[illegible]	-.041	-.07[illegible]	-.001	-.019	-.049
2.550	.750	6.000	-.02[illegible]	-.038	-.0[illegible]	.003	-.015	-.046
2.650	.750	6.000	-.015	-.034	-.065	.008	-.011	-.042
2.75[illegible]	.750	[illegible]	-.01[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	-.022	-.055	.023	[illegible]	-.031
[illegible]	[illegible]	[illegible]	[illegible]	-.006	-.007	-.003	[illegible]	-.005
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
.250	[illegible]	[illegible]	-.010	[illegible]	-.020	-.007	-.011	-.016
[illegible]	[illegible]	[illegible]	[illegible]	-.021	[illegible]	-.012	-.015	-.020
[illegible]	[illegible]	[illegible]	-.027	-.025	-.032	-.014	-.015	-.025
[illegible]	[illegible]	[illegible]	-.025	-.030	[illegible]	-.017	-.022	-.030
.550	.850	[illegible]	-.029	[illegible]	-.043	-.019	-.025	-.034
.750	[illegible]	[illegible]	-.032	-.038	-.049	-.021	-.027	-.038
[illegible]	[illegible]	[illegible]	-.035	-.042	-.053	-.022	-.029	-.041
[illegible]	[illegible]	[illegible]	-.037	-.045	[illegible]	-.023	-.031	-.045
[illegible]	[illegible]	[illegible]	[illegible]	-.048	-.062	-.024	-.033	-.047
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.065	[illegible]	[illegible]	-.050
[illegible]	[illegible]	[illegible]	[illegible]	-.052	-.068	-.025	-.035	-.052
[illegible]	[illegible]	[illegible]	[illegible]	-.053	-.071	-.024	-.035	-.052
[illegible]	[illegible]	[illegible]	-.043	-.054	-.073	-.023	-.035	-.054
[illegible]	[illegible]	[illegible]	[illegible]	-.055	-.075	-.022	-.034	-.055
[illegible]	[illegible]	[illegible]	-.042	-.055	-.076	-.021	-.034	-.055
[illegible]	[illegible]	[illegible]	-.041	-.055	-.077	-.019	-.032	-.055
[illegible]	[illegible]	[illegible]	-.040	-.054	-.077	-.016	-.030	-.054
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.013	-.028	-.053
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.076	-.010	-.026	-.052
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.075	-.007	-.023	-.050
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.073	-.003	-.020	-.048
[illegible]	[illegible]	[illegible]	-.027	-.044	-.072	.001	-.017	-.045
[illegible]	[illegible]	[illegible]	[illegible]	-.041	[illegible]	.005	-.013	-.042
[illegible]	[illegible]	[illegible]	[illegible]	-.037	[illegible]	[illegible]	-.009	-.039
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.014	[illegible]	-.036
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.019	[illegible]	-.032
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.024	.004	-.028
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.024
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.005
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.005	[illegible]	-.010
.350	[illegible]	[illegible]	[illegible]	[illegible]	-.019	[illegible]	-.010	-.014
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.026	-.010	[illegible]	-.019
.450	[illegible]	[illegible]	[illegible]	-.025	[illegible]	-.012	-.016	-.023
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.014	-.019	-.027
[illegible]	[illegible]	[illegible]	[illegible]	-.034	[illegible]	-.016	-.022	-.031
[illegible]	[illegible]	[illegible]	[illegible]	-.038	[illegible]	-.018	-.024	[illegible]
[illegible]	[illegible]	[illegible]	-.035	-.041	-.053	-.019	-.026	-.038
[illegible]	[illegible]	[illegible]	-.037	[illegible]	-.057	-.020	-.028	-.041
[illegible]	[illegible]	[illegible]	-.039	-.047	-.061	-.020	-.029	-.043
[illegible]	[illegible]	[illegible]	[illegible]	-.050	-.065	-.020	-.030	-.045
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.020	-.030	-.047
[illegible]	[illegible]	[illegible]	-.042	-.053	-.070	-.019	-.030	-.048
[illegible]	[illegible]	[illegible]	[illegible]	-.054	-.072	-.018	-.030	-.049
[illegible]	[illegible]	[illegible]	[illegible]	-.054	-.074	-.017	-.029	-.050
[illegible]	[illegible]	[illegible]	-.042	[illegible]	-.075	-.015	-.028	-.049
1.750	[illegible]	[illegible]	-.041	-.054	-.076	-.013	-.026	-.049
[illegible]	[illegible]	[illegible]	-.040	-.053	-.076	-.010	-.024	-.048
[illegible]	[illegible]	[illegible]	[illegible]	-.052	-.076	-.007	-.022	-.047
[illegible]	[illegible]	[illegible]	[illegible]	-.050	-.075	-.004	-.020	-.045
2.150	[illegible]	[illegible]	[illegible]	[illegible]	-.074	-.001	-.017	-.043
[illegible]	[illegible]	[illegible]	-.030	-.046	-.073	.003	-.013	-.041
[illegible]	[illegible]	[illegible]	-.027	-.043	-.071	.007	-.010	-.038
[illegible]	[illegible]	[illegible]	-.023	-.040	-.069	.012	-.006	-.035
[illegible]	.750	[illegible]	-.020	-.037	-.066	.017	-.002	-.032
[illegible]	[illegible]	[illegible]	-.015	-.033	-.064	.021	.003	-.028
[illegible]	[illegible]	[illegible]	-.011	[illegible]	-.060	.026	.007	-.025

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.017	-.017
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.002	-.003	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.004	-.006	-.009
.250	[illegible]	[illegible]	-.013	-.015	-.019	-.007	-.009	-.013
[illegible]	[illegible]	[illegible]	-.017	-.020	-.025	-.009	-.012	-.017
.450	[illegible]	[illegible]	-.021	-.025	-.031	-.010	-.014	-.021
.550	[illegible]	[illegible]	-.025	[illegible]	-.037	-.012	-.017	-.025
.650	[illegible]	[illegible]	[illegible]	[illegible]	-.042	-.013	-.019	-.028
[illegible]	[illegible]	[illegible]	-.031	[illegible]	[illegible]	-.014	-.021	-.032
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.052	-.015	-.022	-.034
.950	[illegible]	[illegible]	-.035	[illegible]	-.057	-.016	-.024	-.037
[illegible]	[illegible]	[illegible]	-.038	-.047	-.060	-.016	-.025	-.039
1.150	[illegible]	[illegible]	[illegible]	-.049	-.064	-.016	-.025	-.041
1.250	[illegible]	[illegible]	[illegible]	-.051	-.067	-.015	-.025	-.042
1.350	[illegible]	[illegible]	[illegible]	-.052	-.069	-.014	-.025	-.043
1.450	[illegible]	[illegible]	[illegible]	-.053	-.072	-.013	-.024	-.044
1.550	[illegible]	[illegible]	[illegible]	[illegible]	-.073	-.011	-.023	-.044
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.074	-.009	-.022	-.043
1.750	[illegible]	[illegible]	[illegible]	[illegible]	-.075	-.007	-.020	-.043
[illegible]	[illegible]	[illegible]	-.037	-.053	-.075	-.004	-.018	-.042
1.950	[illegible]	[illegible]	-.037	-.051	-.075	-.001	-.015	-.040
[illegible]	[illegible]	[illegible]	-.035	-.050	-.074	.003	-.013	-.038
2.150	[illegible]	[illegible]	-.033	[illegible]	-.073	.007	-.009	-.036
[illegible]	[illegible]	[illegible]	[illegible]	-.046	-.072	.011	-.006	-.033
[illegible]	[illegible]	[illegible]	-.027	[illegible]	-.070	.015	-.002	-.031
[illegible]	[illegible]	[illegible]	-.023	[illegible]	[illegible]	.019	.002	-.026
[illegible]	[illegible]	[illegible]	-.019	-.037	[illegible]	.024	.006	-.024
[illegible]	[illegible]	[illegible]	-.015	-.033	[illegible]	.029	.011	-.021
2.750	[illegible]	[illegible]	-.011	-.029	-.061	.034	.015	-.017
[illegible]	[illegible]	[illegible]	-.007	[illegible]	-.055	.040	.020	-.013
2.950	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.045	.025	-.008
.050	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.002	-.003	-.004
.150	[illegible]	[illegible]	[illegible]	[illegible]	-.013	-.004	-.005	[illegible]
[illegible]	[illegible]	[illegible]	-.013	[illegible]	-.019	-.005	-.008	-.012
.350	[illegible]	[illegible]	-.017	-.020	-.025	-.007	-.010	-.015
.450	[illegible]	[illegible]	-.021	-.025	-.031	-.008	-.012	-.019
[illegible]	1.150	[illegible]	-.024	-.029	-.037	-.009	-.014	-.022
.650	[illegible]	[illegible]	-.028	-.035	[illegible]	-.010	-.016	-.025
.750	[illegible]	[illegible]	-.031	[illegible]	-.047	-.011	-.017	-.026
.850	[illegible]	[illegible]	[illegible]	[illegible]	-.052	-.011	-.019	-.030
[illegible]	[illegible]	[illegible]	[illegible]	-.043	-.056	-.011	-.019	-.033
[illegible]	[illegible]	[illegible]	[illegible]	-.046	-.060	-.011	-.020	-.034
1.150	[illegible]	[illegible]	-.039	-.048	-.063	-.011	-.020	-.036
1.250	1.150	[illegible]	-.041	-.050	-.066	-.010	-.020	-.037
1.350	1.150	[illegible]	-.041	-.052	-.069	-.008	-.019	-.037
[illegible]	1.150	[illegible]	-.042	-.053	-.071	-.007	-.018	-.037
[illegible]	[illegible]	[illegible]	-.041	-.053	[illegible]	-.005	-.017	-.037
[illegible]	[illegible]	[illegible]	[illegible]	-.053	-.073	-.003	-.015	-.037
[illegible]	1.150	[illegible]	[illegible]	[illegible]	-.074	.000	-.013	-.036
[illegible]	[illegible]	[illegible]	[illegible]	-.052	-.074	.003	-.011	-.034
1.950	1.150	[illegible]	-.037	-.051	-.074	.007	-.008	-.033
[illegible]	1.150	[illegible]	-.035	[illegible]	-.073	.010	-.005	-.031
2.150	[illegible]	[illegible]	-.032	[illegible]	-.072	.014	-.002	-.028
[illegible]	[illegible]	[illegible]	-.029	[illegible]	-.071	.018	.002	-.026
[illegible]	[illegible]	[illegible]	-.026	-.042	[illegible]	.023	.006	-.023
[illegible]	[illegible]	[illegible]	-.023	[illegible]	-.067	.027	.010	-.019
[illegible]	[illegible]	[illegible]	[illegible]	-.036	[illegible]	.032	.014	-.016
[illegible]	[illegible]	[illegible]	-.015	[illegible]	[illegible]	.037	.019	-.012
2.750	[illegible]	[illegible]	-.011	-.029	[illegible]	[illegible]	[illegible]	[illegible]

1.[illegible]	1.[illegible]	[illegible]	-.012	-.021	[illegible]	.054	.031	.00[illegible]
.[illegible]	1.[illegible]	[illegible]	[illegible]	-.035	-.010	-.001	-.062	-.035
.[illegible]	1.[illegible]	[illegible]	-.007	-.01[illegible]	-.01[illegible]	-.0[illegible]	-.004	-.017
.[illegible]	1.[illegible]	[illegible]	-.013	-.015	-.019	-.004	-.006	-.015
.[illegible]	1.250	[illegible]	-.017	-.020	-.026	-.005	-.008	-.013
.[illegible]	1.250	[illegible]	-.022	-.024	-.030	-.006	-.010	-.016
.550	1.250	[illegible]	-.027	-.029	-.036	-.007	-.011	-.019
.650	1.250	6.000	-.027	-.033	-.041	-.007	-.013	-.022
.750	1.250	[illegible]	-.031	-.036	-.046	-.007	-.014	-.024
.850	1.250	[illegible]	-.033	-.040	-.051	-.007	-.014	-.026
.950	1.250	[illegible]	-.035	-.043	-.055	-.007	-.015	-.028
1.050	1.250	6.000	-.037	-.045	-.059	-.006	-.015	-.029
1.150	1.250	[illegible]	-.039	-.048	-.062	-.005	-.015	-.030
1.250	1.250	[illegible]	-.040	-.049	-.065	-.004	-.014	-.031
1.[illegible]	1.250	[illegible]	-.041	-.051	-.068	-.003	-.013	-.031
1.450	1.250	[illegible]	-.041	-.052	-.070	-.001	-.012	-.031
1.[illegible]	1.250	[illegible]	-.041	-.052	-.071	.002	-.010	-.031
1.650	1.250	6.000	-.040	-.052	-.072	.004	-.008	-.030
1.750	1.250	[illegible]	-.039	-.052	-.073	.007	-.006	-.029
1.850	1.250	6.000	-.038	-.051	-.073	.011	-.004	-.027
1.950	1.250	6.000	-.036	-.050	-.073	.014	-.001	-.025
2.050	1.250	6.000	-.034	-.049	-.072	.018	.003	-.023
2.150	1.250	[illegible]	-.032	-.047	-.071	.022	.006	-.020
2.250	1.250	6.000	-.029	-.044	-.070	.027	.010	-.017
2.[illegible]	1.250	[illegible]	-.026	-.042	-.068	.031	.014	-.014
2.450	1.250	6.000	-.022	-.039	-.066	.036	.019	-.011
2.550	1.250	[illegible]	-.019	-.035	-.064	.041	.023	-.007
2.650	1.250	[illegible]	-.015	-.032	-.061	.046	.026	-.003
2.750	1.250	[illegible]	-.011	-.028	-.058	.052	.033	.001
2.850	1.250	6.000	-.006	-.025	-.055	.057	.038	.005
2.950	1.250	[illegible]	-.002	-.020	-.052	.063	.043	.010
.[illegible]	1.350	[illegible]	-.009	-.005	-.006	-.001	-.002	-.003
.[illegible]	1.350	6.[illegible]	-.0[illegible]	-.010	-.012	-.002	-.003	-.006
.[illegible]	1.350	[illegible]	-.0[illegible]	-.016	-.01[illegible]	-.002	-.005	-.009
.[illegible]	1.350	[illegible]	[illegible]	-.019	[illegible]	-.003	-.006	-.011
.[illegible]	1.350	[illegible]	[illegible]	-.02[illegible]	-.03[illegible]	-.003	-.007	-.014
.550	1.350	6.000	-.024	-.028	-.035	-.004	-.008	-.016
.650	1.350	6.000	-.027	-.032	-.041	-.004	-.009	-.018
.750	1.350	6.000	-.030	-.035	-.046	-.003	-.010	-.020
.850	1.350	[illegible]	-.033	-.039	-.050	-.003	-.010	-.022
.950	1.350	[illegible]	-.035	-.042	-.054	-.002	-.010	-.023
1.050	1.350	[illegible]	-.037	-.045	-.058	-.001	-.010	-.024
1.150	1.350	[illegible]	-.038	-.047	-.061	.000	-.009	-.025
1.250	1.350	6.000	-.039	-.049	-.064	.002	-.008	-.025
1.350	1.350	6.000	-.040	-.050	-.067	.004	-.007	-.025
1.450	1.350	6.000	-.040	-.051	-.069	.006	-.005	-.024
1.550	1.350	[illegible]	-.040	-.051	-.070	.009	-.004	-.024
1.650	1.350	[illegible]	-.040	-.052	-.071	.011	-.001	-.022
1.750	1.350	[illegible]	-.03[illegible]	-.051	-.072	.015	.001	-.021
1.[illegible]	1.350	6.000	-.03[illegible]	-.050	-.072	.018	.004	-.019
1.950	1.350	6.000	-.035	-.049	-.072	.022	.007	-.017
2.050	1.350	6.000	-.033	-.048	-.071	.026	.011	-.014
2.150	1.350	[illegible]	-.031	-.046	-.070	.031	.015	-.011
2.250	1.350	[illegible]	-.029	-.044	-.069	.035	.019	-.008
2.[illegible]	1.350	[illegible]	-.025	-.041	-.067	.040	.023	-.005
2.450	1.350	[illegible]	-.022	-.038	-.065	.045	.026	-.001
2.550	1.350	[illegible]	-.019	-.035	-.063	.050	.032	.002
2.650	1.350	[illegible]	-.015	-.032	-.060	.056	.037	.007
2.750	1.350	[illegible]	-.010	-.028	-.057	.061	.042	.011
2.[illegible]	1.350	[illegible]	-.005	-.024	-.05[illegible]	.067	.047	.015

[illegible]	[illegible]	[illegible]	[illegible]	-.020	-.051	.023	.032	.020
.050	1.450	6.000	-.009	-.006	-.006	-.000	-.001	-.002
.150	1.450	6.000	-.011	-.011	-.012	-.001	-.002	-.005
.250	1.450	6.000	-.012	-.014	-.018	-.001	-.003	-.007
.350	1.450	6.000	-.018	-.017	-.024	-.001	-.004	-.009
.450	1.450	6.000	-.020	-.023	-.029	-.001	-.005	-.011
.550	1.450	6.000	-.023	-.023	-.035	-.001	-.005	-.013
.650	1.450	6.000	-.026	-.032	-.040	-.000	-.006	-.015
.750	1.450	6.000	-.029	-.035	-.045	.001	-.006	-.016
.850	1.450	6.000	-.032	-.033	-.049	.001	-.006	-.017
.950	1.450	6.000	-.035	-.041	-.053	.003	-.005	-.018
1.050	1.450	6.000	-.035	-.044	-.057	.004	-.005	-.019
1.150	1.450	6.000	-.035	-.046	-.060	.006	-.004	-.019
1.250	1.450	6.000	-.039	-.048	-.063	.008	-.002	-.019
1.350	1.450	6.000	-.039	-.047	-.066	.010	-.001	-.018
1.450	1.450	6.000	-.040	-.050	-.067	.013	.001	-.017
1.550	1.450	6.000	-.040	-.051	-.069	.016	.004	-.016
1.650	1.450	6.000	-.039	-.051	-.070	.019	.006	-.015
1.750	1.450	6.000	-.038	-.050	-.071	.022	.009	-.013
1.850	1.450	6.000	-.037	-.050	-.071	.026	.012	-.011
1.950	1.450	6.000	-.035	-.049	-.071	.030	.016	-.008
2.050	1.450	6.000	-.033	-.047	-.070	.035	.020	-.006
2.150	1.450	6.000	-.031	-.045	-.067	.039	.024	-.003
2.250	1.450	6.000	-.029	-.043	-.068	.044	.028	.001
2.350	1.450	6.000	-.026	-.040	-.065	.049	.032	.004
2.450	1.450	6.000	-.022	-.038	-.064	.054	.037	.008
2.550	1.450	6.000	-.018	-.035	-.062	.060	.042	.012
2.650	1.450	6.000	-.019	-.031	-.059	.065	.047	.016
2.750	1.450	6.000	-.012	-.027	-.056	.071	.052	.021
2.850	1.450	6.000	-.006	-.024	-.053	.077	.057	.025
2.950	1.450	6.000	-.001	-.020	-.050	.083	.063	.030
.050	1.550	6.000	-.004	-.005	-.006	.000	-.001	-.002
.150	1.550	6.000	-.008	-.010	-.012	.001	-.001	-.004
.250	1.550	6.000	-.012	-.014	-.018	.001	-.002	-.005
.350	1.550	6.000	-.015	-.019	-.023	.001	-.002	-.007
.450	1.550	6.000	-.019	-.023	-.029	.002	-.002	-.009
.550	1.550	6.000	-.023	-.027	-.034	.003	-.002	-.010
.650	1.550	6.000	-.025	-.031	-.039	.004	-.002	-.011
.750	1.550	6.000	-.029	-.035	-.044	.005	-.002	-.012
.850	1.550	6.000	-.031	-.038	-.048	.006	-.001	-.013
.950	1.550	6.000	-.034	-.041	-.052	.008	-.000	-.013
1.050	1.550	6.000	-.036	-.043	-.056	.007	.001	-.013
1.150	1.550	6.000	-.037	-.045	-.059	.012	.002	-.013
1.250	1.550	6.000	-.038	-.047	-.062	.014	.004	-.012
1.350	1.550	6.000	-.039	-.048	-.064	.017	.006	-.011
1.450	1.550	6.000	-.039	-.049	-.065	.020	.008	-.010
1.550	1.550	6.000	-.039	-.050	-.068	.023	.011	-.009
1.650	1.550	6.000	-.038	-.050	-.069	.027	.014	-.007
1.750	1.550	6.000	-.037	-.050	-.070	.030	.017	-.005
1.850	1.550	6.000	-.036	-.049	-.070	.035	.021	-.002
1.950	1.550	6.000	-.035	-.048	-.070	.039	.024	.000
2.050	1.550	6.000	-.033	-.046	-.069	.043	.028	.003
2.150	1.550	6.000	-.030	-.044	-.068	.048	.033	.007
2.250	1.550	6.000	-.029	-.042	-.067	.053	.037	.010
2.350	1.550	6.000	-.025	-.040	-.065	.059	.042	.014
2.450	1.550	6.000	-.021	-.037	-.063	.064	.047	.018
2.550	1.550	6.000	-.018	-.034	-.061	.070	.052	.022
2.650	1.550	6.000	-.014	-.031	-.058	.075	.057	.027
2.750	1.550	6.000	-.010	-.027	-.055	.081	.062	.031
[illegible]	[illegible]	6.000	-.006	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	-.019	-.049	[illegible]	.073	.091
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.001	-.000	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	-.007	[illegible]	[illegible]	[illegible]	-.003
[illegible]	[illegible]	[illegible]	-.012	[illegible]	-.017	[illegible]	[illegible]	-.004
[illegible]	[illegible]	[illegible]	[illegible]	-.018	[illegible]	[illegible]	[illegible]	-.005
.150	1.650	6.000	-.019	-.023	-.020	.005	.001	-.006
.550	1.650	6.000	-.022	-.027	-.034	.006	.001	-.007
.650	1.650	6.000	-.026	-.030	-.039	.007	.002	-.007
.750	[illegible]	[illegible]	-.023	-.034	-.043	.009	.003	-.008
[illegible]	[illegible]	[illegible]	-.031	-.037	-.047	.011	.004	-.008
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.051	.013	.005	-.008
[illegible]	1.650	[illegible]	[illegible]	-.042	-.055	.015	.007	-.007
[illegible]	[illegible]	[illegible]	[illegible]	-.044	[illegible]	[illegible]	[illegible]	-.007
1.250	1.650	6.000	[illegible]	-.046	-.061	.020	.011	-.006
[illegible]	1.650	6.000	[illegible]	-.047	[illegible]	.024	.013	-.004
1.450	1.650	6.000	[illegible]	-.048	-.065	.027	.016	-.003
[illegible]	[illegible]	[illegible]	[illegible]	-.049	-.067	.031	.019	-.001
[illegible]	[illegible]	[illegible]	[illegible]	-.049	-.068	.034	.022	.001
[illegible]	[illegible]	[illegible]	-.037	[illegible]	[illegible]	.039	.025	.004
[illegible]	[illegible]	[illegible]	[illegible]	-.046	-.068	.043	.029	.006
[illegible]	[illegible]	[illegible]	[illegible]	-.047	[illegible]	.048	.033	.009
[illegible]	[illegible]	[illegible]	[illegible]	-.045	[illegible]	.052	.038	.013
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.067	.053	.042	.016
[illegible]	[illegible]	[illegible]	-.027	-.041	-.065	.063	.047	.020
[illegible]	[illegible]	[illegible]	[illegible]	-.039	-.065	.069	.052	.024
[illegible]	[illegible]	[illegible]	[illegible]	-.036	-.062	.074	.057	.028
[illegible]	[illegible]	[illegible]	[illegible]	-.032	[illegible]	[illegible]	.062	.033
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.057	.085	.067	.037
[illegible]	[illegible]	[illegible]	[illegible]	-.026	[illegible]	.091	.073	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	-.023	[illegible]	.097	.078	.047
[illegible]	[illegible]	[illegible]	[illegible]	-.019	[illegible]	.101	.084	.052
[illegible]	[illegible]	[illegible]	[illegible]	-.035	[illegible]	[illegible]	.001	-.001
[illegible]	1.750	[illegible]	[illegible]	-.039	[illegible]	[illegible]	.001	-.001
[illegible]	[illegible]	[illegible]	-.012	-.019	-.017	[illegible]	.002	-.002
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.023	[illegible]	[illegible]	-.003
[illegible]	[illegible]	[illegible]	-.017	-.022	-.026	[illegible]	[illegible]	-.003
[illegible]	[illegible]	[illegible]	[illegible]	-.026	-.033	.009	[illegible]	-.003
[illegible]	1.750	[illegible]	-.023	-.030	[illegible]	.011	.006	-.003
.750	1.750	6.000	-.028	-.033	-.042	.013	.007	-.003
.850	1.750	6.000	-.033	-.036	-.046	.015	.009	-.003
.950	1.750	[illegible]	-.032	-.039	-.050	.018	.010	-.002
[illegible]	1.750	[illegible]	[illegible]	-.042	-.054	.021	.012	-.002
1.150	1.750	6.000	[illegible]	-.044	-.057	.024	.015	-.000
1.250	1.750	[illegible]	-.037	-.045	-.060	.027	.017	.001
1.350	1.750	[illegible]	-.037	-.047	-.062	.030	.020	.003
1.450	1.750	6.000	-.038	-.047	-.064	.039	.023	.005
1.550	1.750	6.000	-.038	-.048	-.065	.039	.026	.007
[illegible]	1.750	6.000	-.037	-.048	-.066	.042	.030	.009
1.750	1.750	6.000	-.035	-.048	-.067	.047	.034	.012
[illegible]	1.750	6.000	-.035	-.047	-.067	.052	.038	.015
[illegible]	1.750	[illegible]	-.033	-.046	-.067	.057	.042	.018
2.050	1.750	6.000	-.031	-.045	-.066	.062	.047	.022
2.150	1.750	6.000	-.029	-.043	-.065	.067	.052	.026
2.250	1.750	6.000	-.027	-.041	-.064	.072	.056	.030
2.350	1.750	6.000	-.024	-.034	-.063	.078	.062	.034
2.450	1.750	6.000	-.020	-.036	-.061	.084	.067	.038
2.550	1.750	6.000	-.017	-.033	-.060	.090	.072	.043
2.650	1.750	6.000	-.013	-.029	-.056	.096	.078	.048
2.750	1.750	[illegible]	-.009	-.026	-.053	.102	.083	.053

2.750	1.750	[illegible]	-.031	[illegible]	-.057	.115	.075	.063
[illegible]	1. [illegible]	[illegible]	[illegible]	-.035	-.045	.002	.001	-.000
.150	[illegible]	[illegible]	[illegible]	-.017	-.011	.004	.002	-.000
.250	[illegible]	[illegible]	-.011	-.013	-.017	.006	.003	-.000
[illegible]	[illegible]	[illegible]	-.015	-.018	-.022	.008	.005	-.002
.350	1. [illegible]	[illegible]	-.018	-.022	-.027	.010	.006	-.000
.450	1. [illegible]	5.100	-.022	-.026	-.032	.012	.008	.000
.550	1.400	5.050	-.024	-.029	-.037	.015	.009	.000
.750	1.350	[illegible]	-.027	-.033	-.041	.017	.011	.001
.850	[illegible]	[illegible]	-.030	-.035	-.045	.020	.013	.002
.950	[illegible]	[illegible]	-.032	-.038	-.049	.023	.016	.003
1.050	1.000	6.010	-.033	-.051	-.053	.027	.018	.004
1.150	[illegible]	[illegible]	-.025	-.013	-.056	.030	.021	.006
1.250	1. [illegible]	[illegible]	-.036	-.044	-.050	.034	.024	.008
1.350	[illegible]	[illegible]	-.037	-.046	-.061	.038	.027	.010
1.450	[illegible]	[illegible]	-.037	-.046	-.062	.042	.031	.012
1.550	[illegible]	[illegible]	-.037	-.047	-.064	.046	.034	.015
1.650	1. [illegible]	[illegible]	-.035	-.047	-.065	.051	.038	.018
1.750	1. [illegible]	[illegible]	-.035	-.047	-.066	.055	.042	.021
[illegible]	[illegible]	[illegible]	[illegible]	-.046	-.066	.060	.047	.024
1.950	[illegible]	[illegible]	-.033	-.045	-.066	.065	.051	.028
[illegible]	[illegible]	[illegible]	-.031	-.044	-.065	.071	.056	.032
2.150	[illegible]	[illegible]	-.027	-.042	-.064	.077	.061	.036
2.250	1.800	[illegible]	-.026	-.040	-.063	.082	.066	.040
2.350	1.800	[illegible]	-.023	-.037	-.061	.088	.072	.044
[illegible]	1.800	[illegible]	-.020	-.035	-.057	.094	.077	.049
2.550	[illegible]	[illegible]	-.017	-.032	-.057	.100	.083	.054
2.650	[illegible]	[illegible]	-.014	-.027	-.055	.106	.088	.059
2.750	[illegible]	[illegible]	[illegible]	[illegible]	-.052	.113	.079	.064
[illegible]	1. [illegible]	[illegible]	[illegible]	-.022	-.049	.119	.100	.069
2.950	1.800	[illegible]	-.021	-.015	-.040	.125	.106	.074
[illegible]	1.750	[illegible]	-.004	-.034	-.006	.002	.002	.000
.150	1.750	[illegible]	-.007	-.009	-.011	.005	.003	.001
.250	1.750	[illegible]	-.011	-.013	-.016	.008	.005	.001
.350	1.750	[illegible]	-.015	-.017	-.022	.010	.007	.002
.450	1.750	[illegible]	-.019	-.021	-.027	.013	.009	.003
.550	1.750	[illegible]	-.021	-.025	-.032	.016	.011	.003
.650	1.750	[illegible]	-.024	-.029	-.036	.019	.013	.004
.750	1.750	[illegible]	-.027	-.032	-.040	.022	.016	.006
.850	1.750	[illegible]	-.027	-.035	-.044	.025	.018	.007
.950	1.750	[illegible]	-.031	-.037	-.046	.029	.021	.009
1.050	1.750	[illegible]	-.033	-.040	-.052	.032	.024	.010
1.150	1.750	[illegible]	-.034	-.042	-.055	.036	.027	.012
1.250	1.750	[illegible]	-.035	-.043	-.057	.040	.031	.015
1.350	1.750	[illegible]	-.036	-.045	-.059	.045	.034	.017
1.450	1.750	[illegible]	-.036	-.045	-.061	.049	.038	.020
1.550	1.750	[illegible]	-.035	-.046	-.063	.054	.042	.023
1.650	1.750	[illegible]	-.035	-.046	-.064	.059	.046	.026
1.750	1.750	[illegible]	-.035	-.046	-.064	.064	.051	.029
1.850	1.750	[illegible]	-.033	-.045	-.064	.069	.056	.033
1.950	1.750	[illegible]	-.032	-.044	-.064	.075	.061	.037
2.050	1.750	[illegible]	-.031	-.043	-.064	.080	.066	.041
2.150	1.750	[illegible]	-.028	-.041	-.063	.086	.071	.045
2.250	1.750	[illegible]	-.025	-.039	-.061	.092	.076	.050
2.350	1.750	[illegible]	-.023	-.037	-.060	.098	.082	.055
2.450	1.750	[illegible]	-.020	-.034	-.058	.104	.088	.059
2.550	1.750	6.000	-.016	-.031	-.056	.111	.093	.064
2.650	1.750	6.000	-.013	-.025	-.053	.117	[illegible]	[illegible]

[illegible]	1.7[illegible]	[illegible]	[illegible]	-.037	[illegible]	.137	.117	.065
.050	2.050	6.000	-.004	-.004	-.005	.003	.002	.001
[illegible]	2.0[illegible]	[illegible]	-.007	-.009	-.011	.005	.005	.002
.250	2.050	6.000	-.011	-.013	-.016	.009	.007	.003
.350	2.050	6.000	-.014	-.017	-.021	.012	.009	.004
.450	2.050	6.000	-.017	-.021	-.026	.016	.012	.005
.550	2.050	6.000	-.021	-.024	-.031	.019	.014	.007
.650	2.050	6.000	-.023	-.028	-.035	.023	.017	.008
.750	2.050	6.000	-.026	-.031	-.040	.026	.020	.010
.850	2.050	6.000	-.029	-.034	-.043	.030	.023	.012
.950	2.050	[illegible]	[illegible]	-.037	-.047	.034	.026	.014
1.050	2.050	6.000	-.032	-.037	-.050	.038	.030	.016
1.150	2.050	6.000	-.033	-.041	-.053	.042	.034	.019
1.250	2.050	6.000	-.034	-.042	-.056	.047	.037	.021
1.350	2.050	[illegible]	[illegible]	-.044	[illegible]	.052	.041	.024
1.450	2.050	6.000	-.035	-.044	-.060	.057	.046	.027
1.550	2.050	6.000	-.035	-.045	-.061	.062	.050	.031
1.650	2.050	6.000	-.035	-.045	-.062	.067	.055	.034
1.750	2.050	6.000	-.034	-.045	-.063	.072	.060	.038
1.850	2.050	6.000	-.032	-.044	-.063	.078	.065	.042
1.950	2.050	6.000	-.031	-.043	-.063	.084	.070	.046
2.050	2.050	6.000	-.029	-.042	-.062	.090	.075	.051
2.150	2.050	6.000	-.027	-.040	-.061	[illegible]	.081	.055
2.250	2.050	6.000	-.025	-.038	-.060	.102	.086	.060
2.350	2.050	6.000	-.022	-.036	-.059	.108	.092	.065
2.450	2.050	6.000	-.019	-.033	-.057	.115	.098	.070
2.550	2.050	6.000	-.016	-.030	-.055	.121	.104	.075
2.650	2.050	6.000	-.012	-.027	-.052	.128	.110	.080
2.750	2.050	6.000	[illegible]	-.024	-.050	.134	.116	.086
2.850	2.050	6.000	-.005	-.020	-.047	.141	.122	.091
2.950	2.050	6.000	-.001	-.017	-.044	.148	.129	.097
.050	2.150	6.000	-.004	-.005	-.005	.004	.003	.002
.150	2.150	6.000	-.007	-.009	-.010	.007	.006	.003
.250	2.150	6.000	-.011	-.012	-.016	.011	.009	.005
.350	2.150	6.000	-.014	-.016	-.021	.015	.012	.007
.450	2.150	6.000	-.017	-.020	-.025	.018	.015	.008
.550	2.150	6.000	-.020	-.024	-.030	.022	.018	.010
.650	2.150	6.000	-.023	-.027	-.034	.026	.021	.012
.750	2.150	6.000	-.025	-.030	-.039	.031	.025	.015
.850	2.150	6.000	-.028	-.033	-.042	.035	.028	.017
.950	2.150	6.000	-.030	-.036	-.045	.039	.032	.019
1.050	2.150	6.000	-.031	-.035	-.047	.044	.036	.022
1.150	2.150	6.000	-.033	-.040	-.052	.049	.040	.025
1.250	2.150	6.000	-.033	-.041	-.054	.054	.044	.028
1.350	2.150	6.000	-.034	-.043	-.057	.059	.049	.032
1.450	2.150	6.000	-.034	-.043	-.058	.064	.053	.035
1.550	2.150	6.000	-.034	-.044	-.060	.069	.058	.039
1.650	2.150	6.000	-.034	-.044	-.061	.075	.063	.043
1.750	2.150	6.000	-.033	-.045	-.061	.081	.068	.047
1.850	2.150	6.000	-.032	-.043	-.061	.087	.073	.051
1.950	2.150	6.000	-.030	-.042	-.061	.093	.079	.056
2.050	2.150	6.000	-.029	-.041	-.061	.099	.085	.060
2.150	2.150	6.000	-.027	-.039	-.060	.105	.090	.065
2.250	2.150	6.000	-.024	-.037	-.059	.112	.096	.070
2.350	2.150	6.000	-.021	-.035	-.057	.118	.102	.075
2.450	2.150	6.000	-.019	-.032	-.055	.125	.108	.081
2.550	2.150	6.000	-.015	-.030	-.053	.132	.114	.086
2.650	2.150	6.000	-.012	-.027	-.051	.138	.121	.091
2.750	2.150	6.000	-.008	-.023	-.048	.145	.127	.097
2.850	2.150	6.000	-.004	-.020	-.045	.152	.133	.102

[illegible]	[illegible]	[illegible]	[illegible]	-.017	[illegible]	.159	.140	.106
.050	2.250	6.000	[illegible]	-.004	-.005	.004	.003	.002
.150	2.250	[illegible]	-.007	-.008	[illegible]	.009	.007	.005
.250	2.250	6.000	-.010	-.012	-.015	.013	.010	.007
.350	2.250	6.000	-.014	-.016	-.020	.017	.014	.009
.450	2.250	6.000	-.017	-.020	-.025	.021	.017	.011
.550	2.250	6.000	-.020	-.023	-.029	.026	.021	.014
.650	2.250	6.000	-.022	-.026	-.034	.030	.025	.016
.750	2.250	6.000	-.025	-.030	-.038	.035	.029	.019
.850	2.250	6.000	-.027	-.032	-.041	.040	.033	.022
.950	2.250	6.000	-.027	-.035	-.045	.045	.037	.025
1.050	2.250	6.000	-.030	-.037	-.048	.050	.041	.028
1.150	2.250	6.000	-.032	-.039	-.051	.055	.046	.031
1.250	2.250	6.000	-.033	-.040	-.053	.060	.051	.035
1.350	2.250	6.000	-.033	-.041	-.055	.066	.056	.039
1.450	2.250	6.000	-.034	-.042	-.057	.071	.061	.043
1.550	2.250	6.000	-.033	-.043	-.058	.077	.066	.047
1.650	2.250	6.000	-.033	-.043	-.059	.083	.071	.051
1.750	2.250	6.000	-.032	-.043	-.060	.089	.077	.056
1.850	2.250	6.000	-.031	-.042	-.060	.095	.082	.060
1.950	2.250	6.000	-.030	-.041	-.060	.102	.088	.065
2.050	2.250	6.000	-.029	-.040	-.059	.108	.094	.070
2.150	2.250	6.000	-.026	-.038	-.058	.115	.100	.075
2.250	2.250	6.000	-.024	-.036	-.057	.121	.106	.080
2.350	2.250	6.000	-.021	-.034	-.056	.128	.112	.086
2.450	2.250	6.000	-.018	-.031	-.054	.135	.119	.091
2.550	2.250	6.000	-.015	-.029	-.052	.142	.125	.097
2.650	2.250	6.000	-.012	-.026	-.050	.149	.131	.102
2.750	2.250	6.000	-.008	-.023	-.047	.156	.138	.108
2.850	2.250	6.000	-.004	-.019	-.044	.163	.144	.114
2.950	2.250	6.000	-.000	-.016	-.041	.170	.151	.119
.050	2.350	6.000	-.003	-.004	-.005	.005	.004	.003
.150	2.350	6.000	-.007	-.008	-.010	.009	.008	.005
.250	2.350	6.000	-.010	-.012	-.015	.014	.012	.008
.350	2.350	6.000	-.013	-.016	-.019	.019	.016	.011
.450	2.350	6.000	-.016	-.019	-.024	.024	.020	.014
.550	2.350	6.000	-.019	-.023	-.028	.029	.024	.017
.650	2.350	6.000	-.022	-.026	-.033	.034	.029	.020
.750	2.350	6.000	-.024	-.029	-.037	.039	.033	.023
.850	2.350	6.000	-.026	-.031	-.040	.044	.038	.027
.950	2.350	6.000	-.028	-.034	-.044	.050	.042	.030
1.050	2.350	6.000	-.030	-.036	-.047	.055	.047	.034
1.150	2.350	6.000	-.031	-.038	-.049	.061	.052	.038
1.250	2.350	6.000	-.032	-.039	-.052	.067	.057	.042
1.350	2.350	6.000	-.032	-.040	-.054	.073	.063	.046
1.450	2.350	6.000	-.033	-.041	-.055	.079	.068	.050
1.550	2.350	6.000	-.033	-.042	-.057	.085	.073	.055
1.650	2.350	6.000	-.032	-.042	-.058	.091	.079	.059
1.750	2.350	6.000	-.031	-.041	-.058	.097	.085	.064
1.850	2.350	6.000	-.030	-.041	-.058	.104	.091	.069
1.950	2.350	6.000	-.029	-.040	-.058	.111	.097	.074
2.050	2.350	6.000	-.027	-.039	-.058	.117	.103	.079
2.150	2.350	6.000	-.025	-.037	-.057	.124	.109	.085
2.250	2.350	6.000	-.023	-.035	-.056	.131	.116	.090
2.350	2.350	6.000	-.020	-.033	-.054	.138	.122	.096
2.450	2.350	6.000	-.017	-.031	-.052	.145	.129	.101
2.550	2.350	6.000	-.014	-.028	-.050	.152	.135	.107
2.650	2.350	6.000	-.011	-.025	-.048	.159	.142	.113

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.131	.152	.131
.050	2.450	[illegible]	-.005	-.007	-.005	.005	.005	.003
.150	2.450	[illegible]	-.007	-.010	-.011	.011	.009	.007
.250	2.450	6.000	-.010	-.011	-.014	.016	.014	.010
.350	2.450	6.000	-.013	-.015	-.019	.021	.018	.014
.450	2.450	6.000	-.016	-.019	-.023	.027	.023	.017
.550	2.450	6.000	-.018	-.022	-.026	.032	.028	.020
.650	2.450	6.000	-.021	-.025	-.032	.038	.032	.024
.750	2.450	6.000	-.023	-.023	-.036	.043	.037	.028
.850	2.450	6.000	-.025	-.031	-.039	.049	.042	.031
.950	2.450	6.000	-.027	-.033	-.042	.055	.048	.035
1.050	2.450	6.000	-.029	-.035	-.045	.061	.053	.040
1.150	2.450	6.000	-.030	-.037	-.048	.067	.058	.044
1.250	2.450	6.000	-.031	-.038	-.050	.073	.064	.048
1.350	2.450	6.000	-.032	-.039	-.052	.079	.069	.053
1.450	2.450	6.000	-.032	-.040	-.054	.086	.075	.058
1.550	2.450	6.000	-.032	-.040	-.055	.092	.081	.062
1.650	2.450	6.000	-.031	-.041	-.056	.099	.087	.067
1.750	2.450	6.000	-.031	-.040	-.057	.106	.093	.072
1.850	2.450	6.000	-.029	-.040	-.057	.112	.099	.078
1.950	2.450	6.000	-.027	-.039	-.057	.119	.106	.083
2.050	2.450	6.000	-.025	-.038	-.056	.125	.112	.089
2.150	2.450	6.000	-.024	-.036	-.055	.133	.119	.094
2.250	2.450	6.000	-.022	-.034	-.054	.141	.125	.100
2.350	2.450	6.000	-.020	-.032	-.053	.148	.132	.106
2.450	2.450	6.000	-.017	-.030	-.051	.155	.139	.112
2.550	2.450	6.000	-.014	-.027	-.049	.162	.145	.117
2.650	2.450	6.000	-.011	-.024	-.047	.169	.152	.123
2.750	2.450	6.000	-.007	-.021	-.044	.177	.159	.129
2.850	2.450	6.000	[illegible]	-.016	-.042	.184	.166	.136
2.950	2.450	[illegible]	[illegible]	-.012	-.037	.191	.173	.142
.050	2.550	6.000	-.003	-.004	-.005	.005	.005	.004
.150	2.550	6.000	-.006	-.007	-.009	.012	.010	.008
.250	2.550	6.000	-.009	-.011	-.014	.017	.015	.012
.350	2.550	6.000	-.012	-.015	-.018	.023	.020	.015
.450	2.550	6.000	-.015	-.018	-.023	.029	.025	.019
.550	2.550	6.000	-.018	-.021	-.027	.035	.031	.023
.650	2.550	6.000	-.020	-.024	-.031	.041	.036	.028
.750	2.550	6.000	-.023	-.027	-.035	.047	.041	.032
.850	2.550	6.000	-.025	-.030	-.038	.053	.047	.036
.950	2.550	6.000	-.027	-.032	-.041	.060	.053	.041
1.050	2.550	6.000	-.028	-.034	-.044	.066	.058	.045
1.150	2.550	6.000	-.029	-.036	-.047	.073	.064	.050
1.250	2.550	6.000	-.030	-.037	-.049	.079	.070	.055
1.350	2.550	6.000	-.031	-.038	-.051	.086	.076	.060
1.450	2.550	6.000	-.031	-.039	-.052	.093	.082	.065
1.550	2.550	6.000	-.031	-.039	-.054	.100	.088	.070
1.650	2.550	6.000	-.030	-.039	-.054	.106	.095	.075
1.750	2.550	6.000	-.030	-.039	-.055	.114	.101	.081
1.850	2.550	6.000	-.029	-.039	-.055	.121	.108	.086
1.950	2.550	6.000	-.027	-.038	-.055	.128	.114	.092
2.050	2.550	6.000	-.026	-.036	-.054	.135	.121	.098
2.150	2.550	6.000	-.024	-.035	-.054	.142	.128	.104
2.250	2.550	6.000	-.022	-.033	-.053	.150	.135	.109
2.350	2.550	6.000	-.019	-.031	-.051	.157	.142	.115
2.450	2.550	6.000	-.016	-.029	-.049	.165	.148	.122
2.550	2.550	6.000	-.013	-.026	-.048	.172	.155	.128
2.650	2.550	6.000	-.010	-.023	-.045	.179	.162	.134
2.750	2.550	6.000	-.007	-.020	-.043	.187	.169	.140
2.850	2.550	6.000	-.003	-.017	-.040	.194	.176	.146

[illegible]	[illegible]	[illegible]	[illegible]	-.019	-.038	.202	.183	.152
.050	[illegible]	[illegible]	-.003	-.005	-.005	.006	.005	.004
.150	2.650	[illegible]	-.006	-.007	-.009	.013	.011	.009
.250	2.650	6.000	-.009	-.011	-.014	.019	.017	.013
.350	2.650	6.000	-.012	-.016	-.018	.025	.022	.018
.450	2.650	6.000	-.015	-.018	-.022	.032	.028	.022
.550	2.650	6.000	-.017	-.021	-.026	.038	.034	.027
.650	2.650	6.000	-.020	-.024	-.030	.045	.040	.031
.750	2.650	6.000	-.022	-.026	-.033	.051	.045	.036
.850	2.650	6.000	-.024	-.029	-.037	.058	.051	.041
.950	2.650	6.000	-.026	-.031	-.040	.065	.057	.046
1.050	2.650	6.000	-.027	-.033	-.043	.071	.064	.051
1.150	2.650	6.000	-.028	-.035	-.045	.078	.070	.056
1.250	2.650	6.000	-.029	-.036	-.047	.085	.076	.061
1.350	2.650	6.000	-.030	-.037	-.049	.092	.083	.066
1.450	2.650	6.000	-.030	-.038	-.051	.099	.089	.072
1.550	2.650	6.000	-.030	-.038	-.052	.107	.096	.077
1.650	2.650	6.000	-.029	-.038	-.053	.114	.102	.083
1.750	2.650	6.000	-.029	-.038	-.053	.121	.109	.089
1.850	2.650	6.000	-.028	-.037	-.053	.129	.116	.095
1.950	2.650	6.000	-.026	-.037	-.053	.136	.123	.100
2.050	2.650	6.000	-.025	-.035	-.053	.144	.130	.107
2.150	2.650	6.000	-.023	-.034	-.052	.151	.137	.113
2.250	2.650	6.000	-.021	-.032	-.051	.159	.144	.119
2.350	2.650	6.000	-.019	-.030	-.050	.166	.151	.125
2.450	2.650	6.000	-.016	-.028	-.048	.174	.158	.131
2.550	2.650	6.000	-.013	-.025	-.046	.182	.165	.138
2.650	2.650	6.000	-.010	-.023	-.044	.189	.172	.144
2.750	2.650	6.000	-.007	-.020	-.042	.197	.179	.150
2.850	2.650	6.000	-.003	-.017	-.039	.204	.186	.157
2.950	2.650	6.000	.001	-.013	-.036	.212	.193	.163
.050	2.750	6.000	-.003	-.004	-.004	.007	.006	.005
.150	2.750	6.000	-.006	-.007	-.009	.014	.012	.010
.250	2.750	6.000	-.009	-.010	-.013	.020	.018	.015
.350	2.750	6.000	-.012	-.014	-.017	.027	.024	.020
.450	2.750	6.000	-.014	-.017	-.021	.034	.031	.025
.550	2.750	6.000	-.017	-.020	-.025	.041	.037	.030
.650	2.750	6.000	-.019	-.023	-.029	.048	.043	.035
.750	2.750	6.000	-.021	-.026	-.033	.055	.049	.040
.850	2.750	6.000	-.023	-.028	-.036	.062	.056	.045
.950	2.750	6.000	-.025	-.030	-.039	.069	.062	.050
1.050	2.750	6.000	-.026	-.032	-.042	.076	.069	.056
1.150	2.750	6.000	-.027	-.034	-.044	.084	.075	.061
1.250	2.750	6.000	-.028	-.035	-.046	.091	.082	.067
1.350	2.750	6.000	-.029	-.036	-.048	.098	.089	.073
1.450	2.750	6.000	-.029	-.037	-.049	.106	.096	.079
1.550	2.750	6.000	-.029	-.037	-.050	.114	.103	.084
1.650	2.750	6.000	-.029	-.037	-.051	.121	.110	.090
1.750	2.750	6.000	-.028	-.037	-.052	.129	.117	.096
1.850	2.750	6.000	-.027	-.036	-.052	.136	.124	.103
1.950	2.750	6.000	-.025	-.035	-.052	.144	.131	.109
2.050	2.750	6.000	-.024	-.034	-.051	.152	.138	.115
2.150	2.750	6.000	-.022	-.033	-.050	.160	.145	.121
2.250	2.750	6.000	-.020	-.031	-.049	.167	.153	.128
2.350	2.750	6.000	-.018	-.029	-.048	.175	.160	.134
2.450	2.750	6.000	-.015	-.027	-.046	.183	.167	.141
2.550	2.750	6.000	-.012	-.024	-.045	.191	.174	.147
2.650	2.750	6.000	-.009	-.022	-.043	.199	.182	.154

[illegible]	[illegible]	[illegible]	[illegible]	-.011	[illegible]	.222	.203	.173
[illegible]	[illegible]	[illegible]	-.013	-.023	-.001	.007	.007	.005
[illegible]	[illegible]	[illegible]	[illegible]	-.007	[illegible]	.015	.013	.011
[illegible]	[illegible]	[illegible]	-.017	-.014	-.015	.022	.020	.016
[illegible]	[illegible]	[illegible]	[illegible]	-.014	-.017	.029	.026	.022
[illegible]	[illegible]	[illegible]	-.019	-.016	-.021	.036	.034	.027
[illegible]	[illegible]	[illegible]	[illegible]	-.017	-.025	.044	[illegible]	.032
[illegible]	2.[illegible]	5.[illegible]	-.017	-.022	-.028	.051	.046	.038
.75[illegible]	2.[illegible]	6.[illegible]	-.021	-.025	-.032	.059	.053	.044
.850	[illegible]	[illegible]	-.023	-.027	-.035	.066	.060	.049
[illegible]	2.[illegible]	[illegible]	-.024	-.029	-.038	.074	.067	.055
1.050	[illegible]	5.[illegible]	-.025	-.031	-.040	.081	.074	.061
1.150	[illegible]	[illegible]	-.027	-.033	-.043	.089	.081	.067
1.250	[illegible]	[illegible]	-.027	-.034	-.045	.097	.088	.073
1.350	[illegible]	[illegible]	-.028	-.035	[illegible]	.104	.095	.079
[illegible]	[illegible]	[illegible]	[illegible]	-.035	-.046	.112	.102	.085
[illegible]	[illegible]	[illegible]	[illegible]	-.035	-.047	.120	.109	.091
[illegible]	[illegible]	[illegible]	-.028	-.035	-.050	.128	.117	.098
1.750	[illegible]	[illegible]	-.027	[illegible]	-.050	.136	.125	.104
1.850	[illegible]	[illegible]	-.025	-.035	-.050	.144	.131	.110
1.950	[illegible]	[illegible]	-.025	-.034	[illegible]	.152	.139	.117
[illegible]	[illegible]	[illegible]	-.023	-.033	-.050	.160	.146	.123
[illegible]	[illegible]	[illegible]	-.021	-.032	[illegible]	.168	.154	.130
2.[illegible]	[illegible]	[illegible]	-.019	-.030	-.048	.176	.161	.137
[illegible]	[illegible]	[illegible]	-.017	[illegible]	[illegible]	.184	.169	.143
[illegible]	[illegible]	[illegible]	-.015	-.026	-.045	.192	.176	.150
[illegible]	[illegible]	[illegible]	-.012	[illegible]	[illegible]	.200	.184	.157
[illegible]	[illegible]	[illegible]	-.009	-.021	-.041	.208	.191	.163
2.75[illegible]	[illegible]	5.[illegible]	-.005	-.018	-.039	.216	.198	.170
[illegible]	[illegible]	[illegible]	-.002	-.015	-.036	.223	.206	.176
[illegible]	[illegible]	[illegible]	.001	-.012	-.034	.231	.213	.183
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.009	[illegible]	.007	.006
[illegible]	[illegible]	[illegible]	-.006	-.007	[illegible]	.015	.014	.012
[illegible]	[illegible]	[illegible]	-.009	[illegible]	-.012	[illegible]	.021	.018
[illegible]	2.950	[illegible]	-.011	[illegible]	[illegible]	.031	.029	.023
[illegible]	2.[illegible]	6.[illegible]	-.013	-.016	-.020	.037	.035	.029
[illegible]	2.[illegible]	[illegible]	-.016	-.017	-.024	.047	.042	.035
[illegible]	[illegible]	[illegible]	-.011	-.021	-.027	.054	.049	.041
.75[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.035	.062	.057	.047
[illegible]	[illegible]	[illegible]	-.012	-.026	[illegible]	.070	.064	.053
[illegible]	[illegible]	[illegible]	-.023	[illegible]	[illegible]	.078	.071	.060
[illegible]	2.[illegible]	6.[illegible]	-.025	-.030	-.037	.086	.078	.066
1.150	[illegible]	6.[illegible]	-.026	-.032	-.041	.094	.086	.072
1.250	[illegible]	[illegible]	-.027	-.033	-.043	.102	.093	.079
1.350	2.[illegible]	[illegible]	-.027	-.034	-.045	.110	.101	.085
[illegible]	[illegible]	[illegible]	-.027	-.034	-.046	.118	.108	.091
[illegible]	[illegible]	[illegible]	-.027	-.035	-.047	.127	.116	.098
[illegible]	2.[illegible]	[illegible]	-.027	-.035	-.048	.135	.123	.105
[illegible]	[illegible]	[illegible]	-.026	[illegible]	[illegible]	.143	.131	.111
[illegible]	2.[illegible]	[illegible]	-.025	-.034	-.049	.151	.137	.118
[illegible]	2.[illegible]	[illegible]	-.024	-.033	-.048	.159	.146	.125
2.[illegible]	2.[illegible]	[illegible]	-.022	-.032	[illegible]	.168	.154	.131
2.15[illegible]	[illegible]	[illegible]	-.021	[illegible]	-.047	.176	.162	.138
[illegible]	[illegible]	[illegible]	-.019	[illegible]	-.046	.184	.169	.145
[illegible]	[illegible]	[illegible]	[illegible]	-.027	-.045	.192	.177	.152
[illegible]	[illegible]	[illegible]	-.014	-.025	-.043	.200	.185	.159
[illegible]	2.950	[illegible]	-.011	-.023	-.042	.208	.192	.166
[illegible]	[illegible]	6.[illegible]	-.008	-.020	-.040	.216	.200	.172
[illegible]	[illegible]	[illegible]	-.005	[illegible]	[illegible]	.224	.207	.179

[illegible] .222 .193

[illegible] 19.772 [illegible]

[illegible]

[illegible] PROJECT: [illegible]

[illegible] 20.271 [illegible]

CPU: [illegible] I/O: [illegible]:07.027

[illegible] [illegible]

[illegible]

START: [illegible] 13,1977 [illegible] SEP 13,1977

APPENDIX B

HYDROMETER ANALYSIS

SOIL SAMPLE DESCRIPTION Berea Road - Fine reddish brown collapsing sand - undisturbed, air dryed sample

SPECIFIC GRAVITY 2,68

WEIGHT SOIL SAMPLE

Mass container + dry soil (g) 128,5

Mass container (g) 78,5

Mass dry soil (g) 50,0

TEST NO. H - BR - 1

DATE 20-2-75

TESTED BY L.A.E.

HYDROMETER NO. 9843 A.S.T.M. 151H

DISPERSING AGENTS 5ml Sodium Oxalate Solution + 5ml Sodium Silicate Solution

DATE	TIME	ELAPSED TIME IN MINS.	HYDROMETER READING	CORRECTED HYDROMETER READING	Z_r	D	% FINER
20/2/75	9:00	0					
	9:01	1	1,0060	1,0066	15,50	0,055	21,0
	9:02	2	1,0050	1,0056	15,70	0,040	17,5
	9:04	4	1,0046	1,0052	14,80	0,027	16,5
	9:08	8	1,0044	1,0050	14,90	0,019	16,0
	9:15	15	1,0041	1,0048	14,95	0,014	15,0
	9:30	30	1,0038	1,0045	15,00	0,0096	14,0
	10:00	60	1,0032	1,0039	15,15	0,0070	12,5
	11:00	120	1,0030	L,0038	15,20	0,0050	12,0
	1,00	240	1,0026	1,0034	15,30	0,0035	11,0
21/2/75	9,00	1440	1,0020	1,0028	15,45	0,0015	9,0

REMARKS:

Sample soaked for 16 hours.

For the 2 and 5 minute readings Zr uncorrected is used.

<u>Hydrometer tests</u> (A.S.T.M. Standards, Ref. 15, Lambe, Ref. 23, Akroyd, Ref. 48.)

The hydrometer sample was oven dried. If the sample had a relatively high percentage of fines then 50 grams was weighed off for the analysis. For sandy soils 100 grams was used.

After the sample had been weighed, the dispersing agent was added. Varying dispersing agents were used. Solutions of Sodium Oxalate and Sodium Silicate were used for these tests. The dispersing agents were added to the sample, which was in a 250 ml beaker. Distilled water was then added until the 125 ml mark was reached. The sample was allowed to soak for a minimum of sixteen hours.

After the soaking time had elapsed the sample was mixed thoroughly with a mechanical stirrer (at 5000 revelutions per minute) for 60 seconds. The mixture was then put into a 1000 ml cylinder.

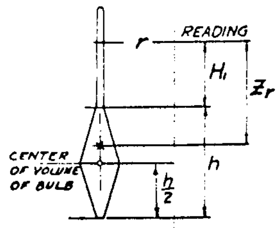
Corrections had to be made to the hydrometer readings. Initially the tabulated "corrected" reading was corrected only for temperature and the dispersing agent. The corrections are read off from a predetermined curve. (Page B/4) To determine this curve a 1000 ml cylinder filled with distilled water and dispersing agent was subjected to controlled temperatures. A hydrometer reading was taken at the lowest and highest temperatures experienced during the hydrometer tests. These temperatures and the hydrometer readings were plotted and a linear relationship was assumed between these points. (see page B/5)

When the hydrometer was inserted into the measuring cylinder it caused a rise in water level. This also had to be corrected. Therefore Zr, which is the distance in millimeters from the hydrometer reading to the centre of gravity of the hydrometer bulb, had to be corrected.

therefore

$$Zr = H_1 + \tfrac{1}{2}\left(h - \frac{\text{volume of hydrometer bulb}}{\text{area of graduate}}\right)$$

$$= H_1 + \tfrac{1}{2}\left(h - \frac{V_H}{A_{jar}}\right)$$



Curves defining Z_r corrected and Z_r uncorrected are shown on page B/5. The uncorrected values are used for the 2 and 5 minute readings as the hydrometer was inserted at zero time interval and was not removed until these readings had been taken.

The percentage of particles smaller than a size D is given by;

$$p = R \times \frac{G_s}{G_s - G_w} \times \frac{100}{W} \%$$

where

p = percentage finer than size D
G_s = specific gravity of soil grains
G_w = 1,000
W = weight of soil dispersed in grams/ml.
R = corrected hydrometer reading

Page B/6 shows a graphical solution of the formula

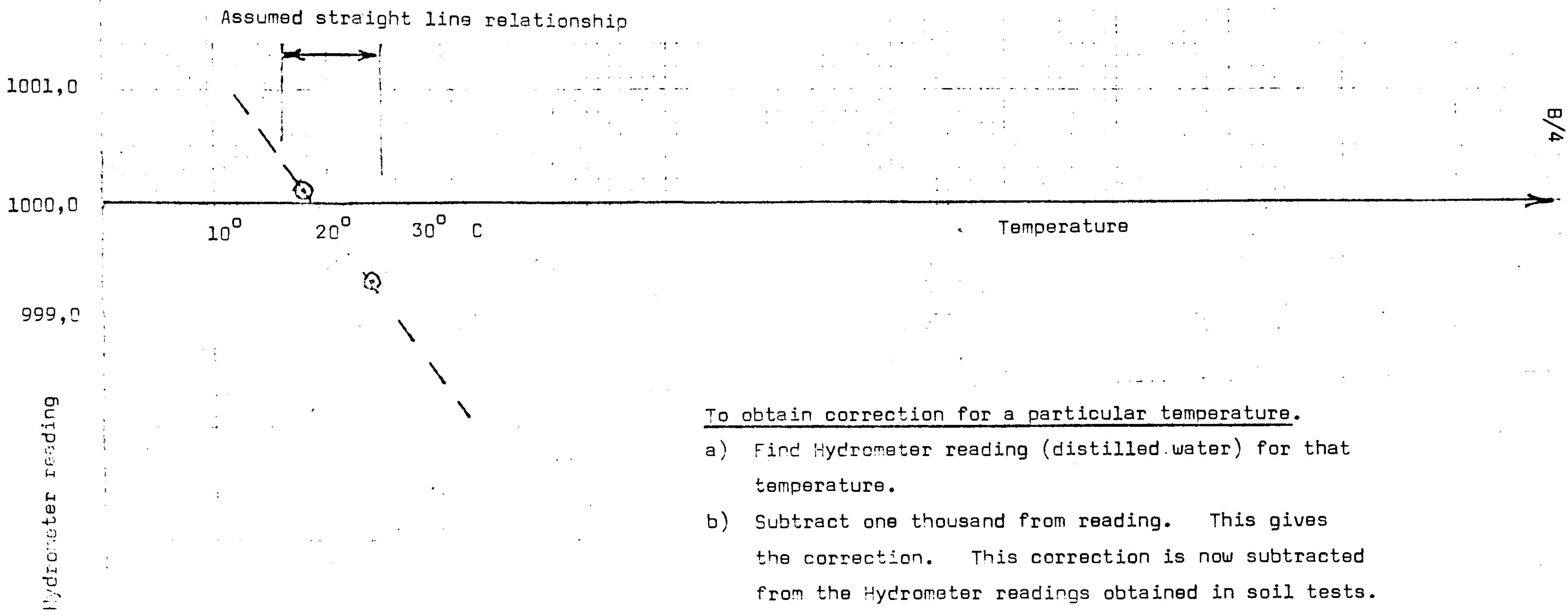
$$p = R \times \frac{G_s}{G_s - G_w} \times \frac{100}{W} \%$$

HYDROMETER TESTS - CORRECTION - 1000 ml distilled water corrected for temperature and dispersing agent.

<u>Dispersing agents</u>:

10 ml Sodium acetate solution

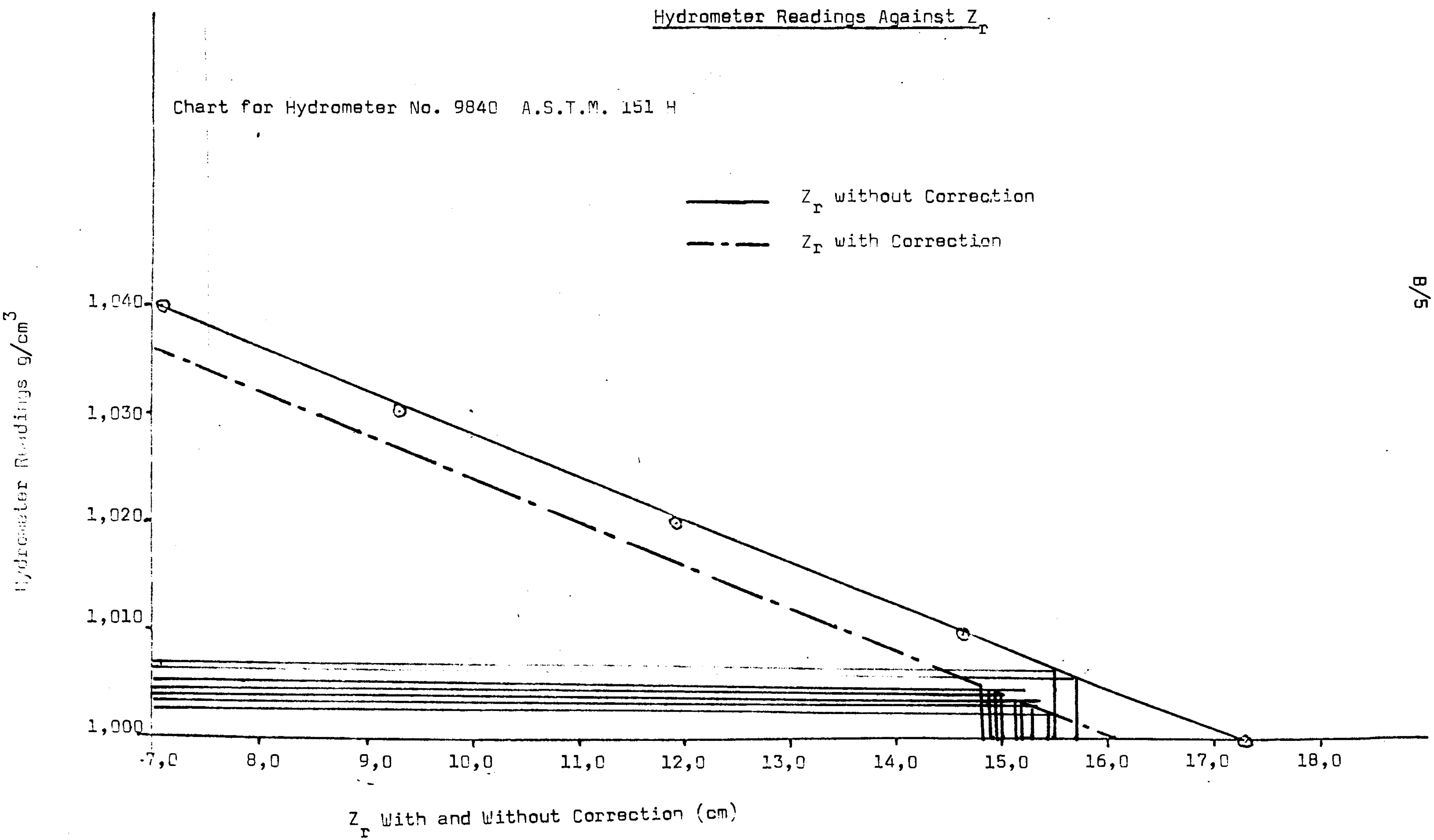
10 ml Sodium silicate solution



<u>To obtain correction for a particular temperature</u>.

a) Find Hydrometer reading (distilled water) for that temperature.

b) Subtract one thousand from reading. This gives the correction. This correction is now subtracted from the Hydrometer readings obtained in soil tests.



Hydrometer Readings Against Z_r
Chart for Hydrometer No. 9840 A.S.T.M. 151 H
Z_r without Correction
Z_r with Correction
1,040
1,030
1,020
1,010
1,000
Hydrometer Readings g/cm^3
7,0
8,0
9,0
10,0
11,0
12,0
13,0
14,0
15,0
16,0
17,0
18,0
Z_r With and Without Correction (cm)

Graphical solution of formula

$$p = R \times \frac{G_s}{G_s - G_w} \times \frac{100}{W} \ \%$$

where:

p = percentage finer than size D

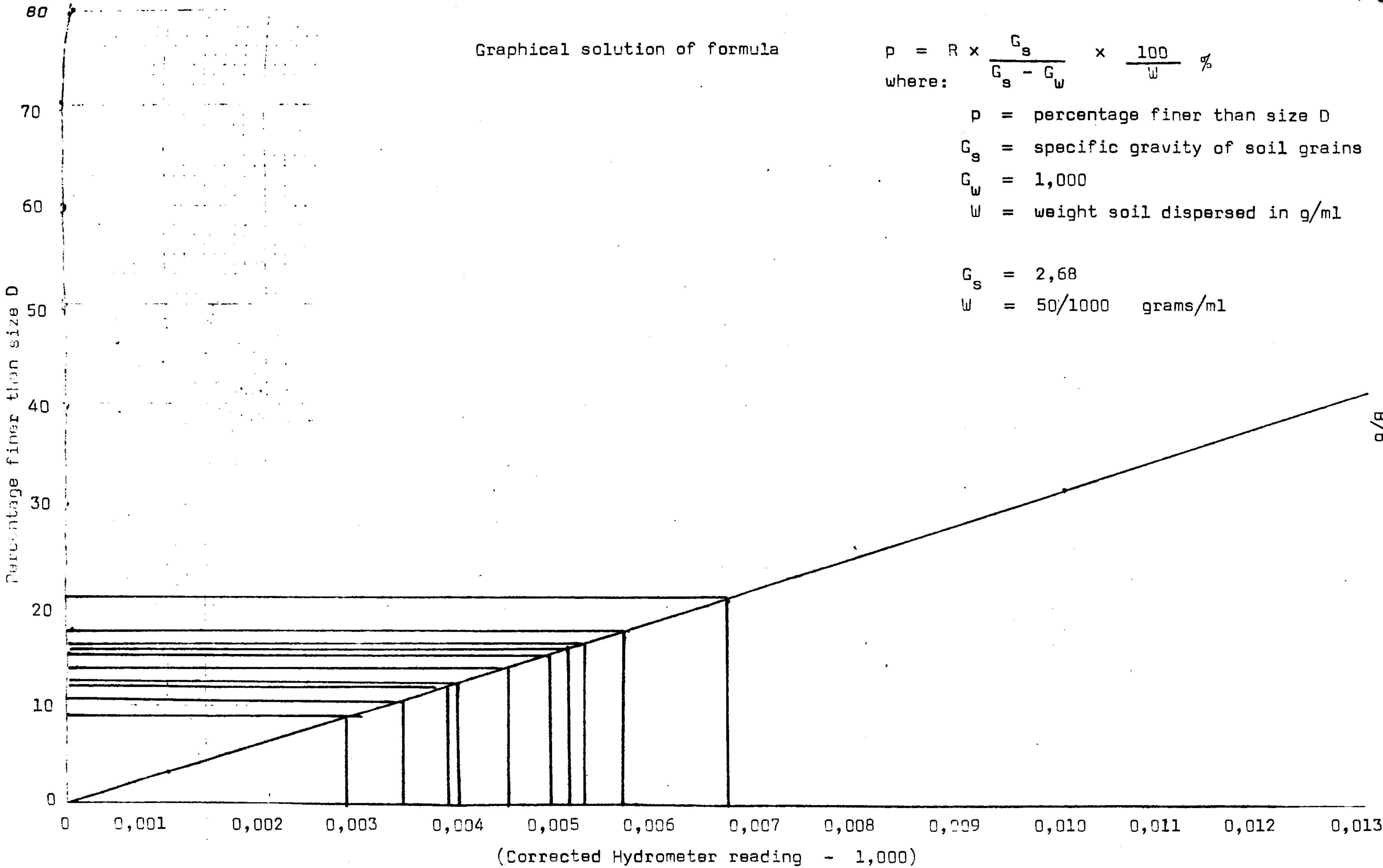
G_s = specific gravity of soil grains

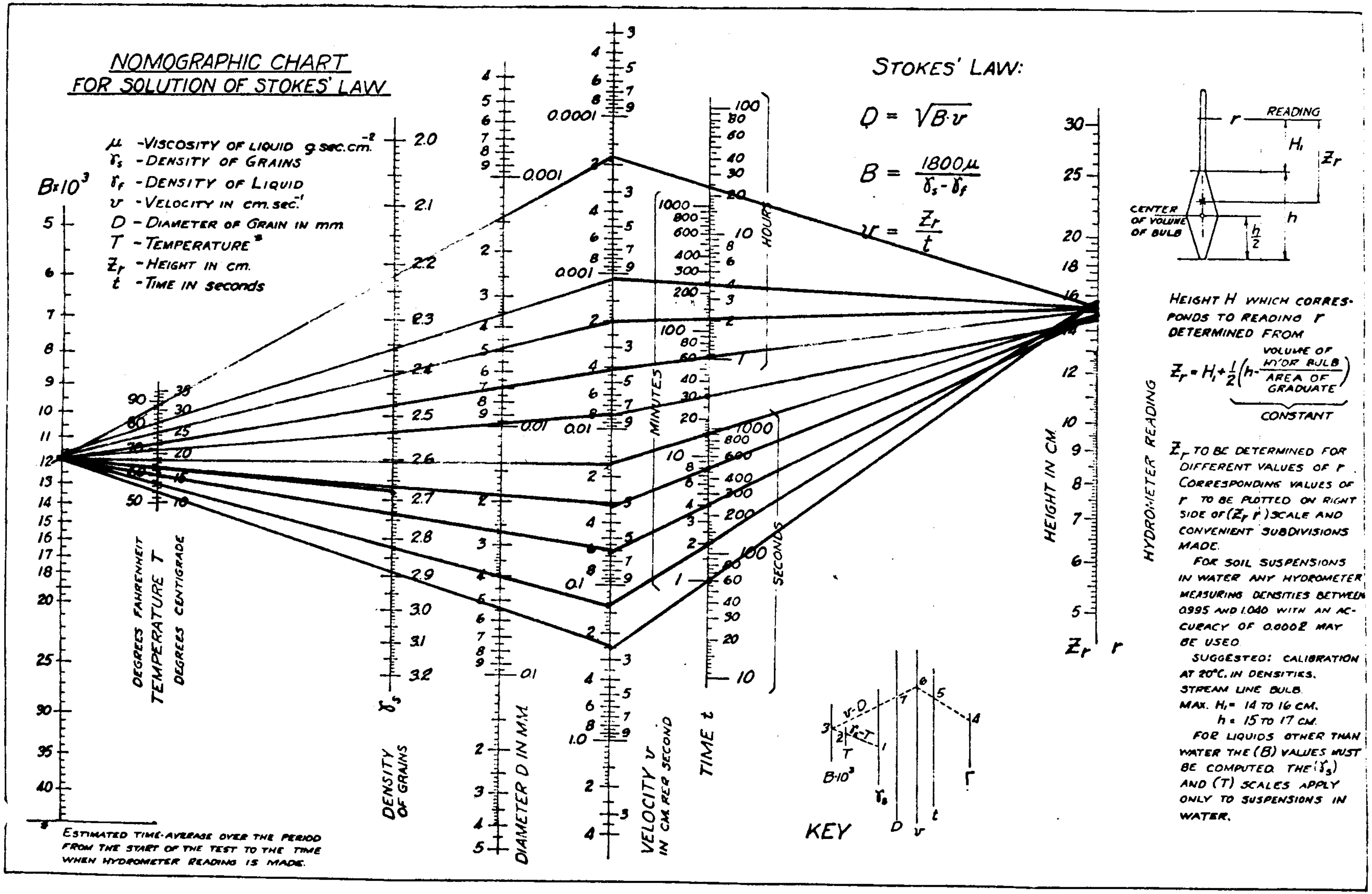
G_w = 1,000

W = weight soil dispersed in g/ml

G_s = 2,68

W = 50/1000 grams/ml




NOMOGRAPHIC CHART
FOR SOLUTION OF STOKES' LAW
μ - VISCOSITY OF LIQUID g.sec.cm.⁻²
γs - DENSITY OF GRAINS
γf - DENSITY OF LIQUID
v - VELOCITY IN cm.sec.⁻¹
D - DIAMETER OF GRAIN IN mm
T - TEMPERATURE *
Zr - HEIGHT IN cm.
t - TIME IN seconds
STOKES' LAW:
$D = \sqrt{B \cdot v}$
$B = \frac{1800\mu}{\gamma_s - \gamma_f}$
$v = \frac{Z_r}{t}$
B×10³
TEMPERATURE T
DEGREES FAHRENHEIT
DEGREES CENTIGRADE
DENSITY OF GRAINS
γs
DIAMETER D IN MM.
VELOCITY v IN CM. PER SECOND
TIME t
HOURS
MINUTES
SECONDS
HEIGHT IN CM.
HYDROMETER READING
Zr
r
READING
H1
h
h/2
CENTER OF VOLUME OF BULB
HEIGHT H WHICH CORRESPONDS TO READING r DETERMINED FROM
$Z_r = H_1 + \frac{1}{2}\left(h - \frac{\text{VOLUME OF HY'DR BULB}}{\text{AREA OF GRADUATE}}\right)$
CONSTANT
Zr TO BE DETERMINED FOR DIFFERENT VALUES OF r. CORRESPONDING VALUES OF r TO BE PLOTTED ON RIGHT SIDE OF (Zr r) SCALE AND CONVENIENT SUBDIVISIONS MADE.
FOR SOIL SUSPENSIONS IN WATER ANY HYDROMETER MEASURING DENSITIES BETWEEN 0.995 AND 1.040 WITH AN ACCURACY OF 0.0002 MAY BE USED.
SUGGESTED: CALIBRATION AT 20°C. IN DENSITIES. STREAM LINE BULB.
MAX. H1 = 14 TO 16 CM.
h = 15 TO 17 CM.
FOR LIQUIDS OTHER THAN WATER THE (B) VALUES MUST BE COMPUTED. THE (γs) AND (T) SCALES APPLY ONLY TO SUSPENSIONS IN WATER.
KEY
* ESTIMATED TIME-AVERAGE OVER THE PERIOD FROM THE START OF THE TEST TO THE TIME WHEN HYDROMETER READING IS MADE.

SIEVE ANALYSIS

SOIL SAMPLE DESCRIPTION Fine Reddish brown Collapsing sand - Undisturbed Berea Road Sample, Air dryed.

SPECIFIC GRAVITY 2,68

MASS SOIL SAMPLE

Mass container + dry soil (g) 130,0

Mass container (g) 80,0

Mass dry soil (g) 50,0

TEST NO. SA - BR - 1

DATE 3-3-75

TESTED BY

SIEVE OPENING IN mm.	MASS SIEVE IN g.	MASS SIEVE + SOIL IN g.	MASS SOIL RETAINED IN g.	% RETAINED	Cum. % RETAINED	% FINER
0,589			0,5	1,0	1,0	99,0
0,417			0,5	1,0	2,0	98,0
0,295			5,4	10,8	12,8	87,2
0,246			7,8	15,6	28,4	71,6
0,147			22,1	44,2	72,6	27,4
0,074			4,2	8,4	81,0	19,0

REMARKS: Sample wet sieved after hydrometer test to ensure that no fine particles adhered to the larger grains.

SIEVE ANALYSIS

SOIL SAMPLE DESCRIPTION Fine reddish brown Collapsing sand - Undisturbed Berea Road sample, Air dried.

SPECIFIC GRAVITY 2,68

MASS SOIL SAMPLE

Mass container + dry soil (g) 128,5

Mass container (g) 78,5

Mass dry soil (g) 50,0

TEST NO. SA-BR-2

DATE 3-3-75

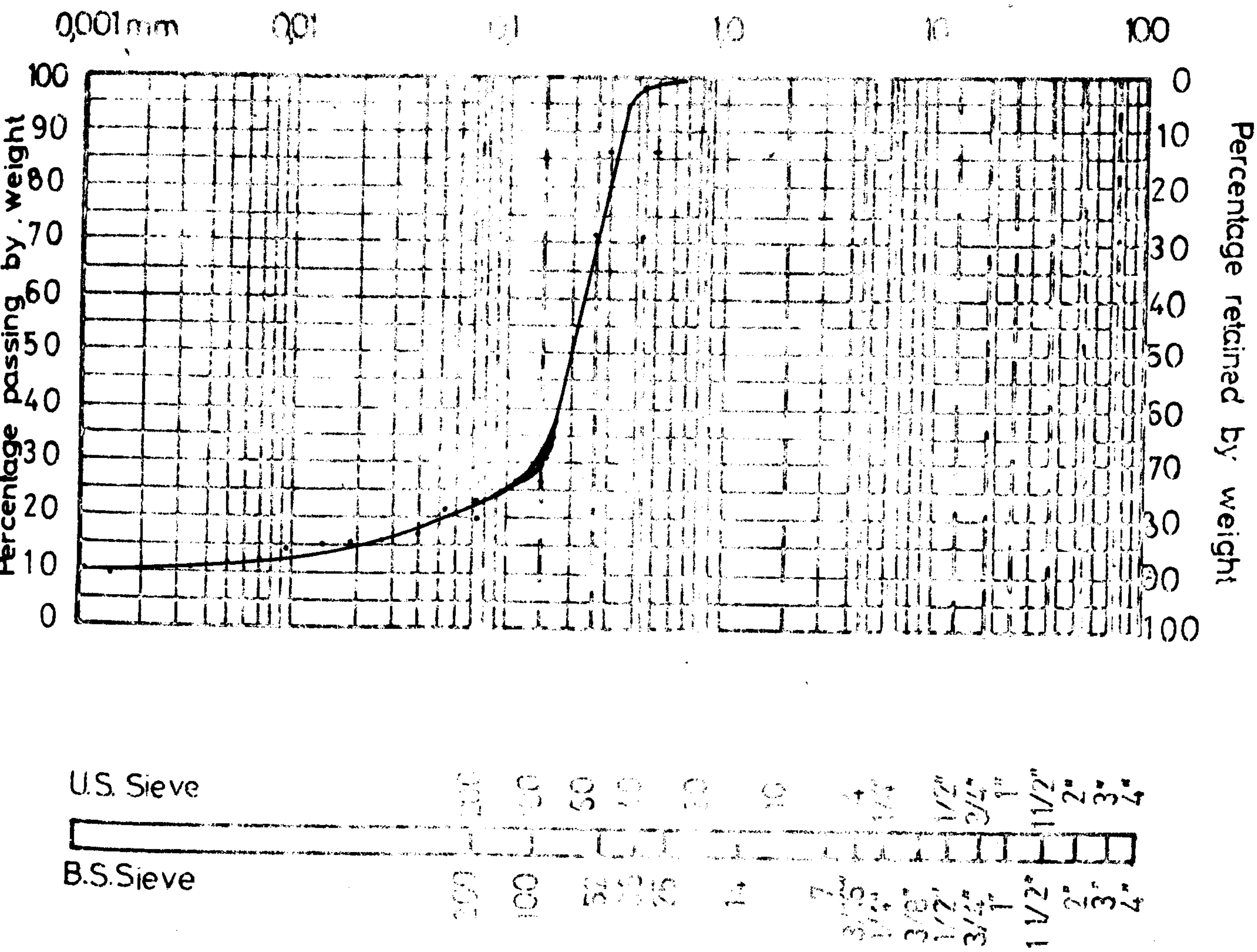
TESTED BY

SIEVE OPENING IN mm.	MASS SIEVE IN g.	MASS SIEVE + SOIL IN g.	MASS SOIL RETAINED IN g.	% RETAINED	Cum. % RETAINED	% FINER
0,589			0,2	0,4	0,4	99,6
0,417			0,5	1,0	1,4	98,6
0,295			4,9	9,8	11,2	88,8
0,246			7,3	14,6	25,8	74,2
0,147			21,8	43,6	69,4	30,6
0,079			3,9	7,8	77,2	22,8

REMARKS: Sample wet sieved after hydrometer test to ensure that no fine particles adhered to the larger grains.

B/10

Sample descrciption	Collapsing sand
Sample source	Berea Road
Test number	H-BR-1 SA-BR-1 SA-BR-2
Dispersing agent	



L.A.E.

CONSOLIDOMETER TEST

SAMPLE DESCRIPTION Berea Road - Fine reddish Brown Collapsing sand - Undisturbed air dryed sample.

SPECIFIC GRAVITY 2,68

TEST NO. C - BR - 1 TESTED BY

DATE 29-4-75 CONSOLIDOMETER NO. A

MASS FILTER PAPERS + POROUS PLATES + PLASTIC + SOIL + RING (INITIAL)	892,5 g
MASS FILTER PAPERS + POROUS PLATES + PLASTIC (INITIAL)	651,5 g
MASS SOIL + RING (INITIAL)	241,4 g
MASS RING	99,0 g
MASS SOIL (INITIAL)	142,4 g
DRY MASS SOIL	138,3 g
MASS WATER INITIAL	4,1 g
FIELD MOISTURE CONTENT %	3%

MASS FILTER PAPERS + POROUS PLATES + PLASTIC + SOIL + RING (FINAL)	915,1 g
MASS FILTER PAPERS + POROUS PLATES + PLASTIC (FINAL)	655,0 g
MASS SOIL + RING (FINAL)	260,1 g
MASS RING	99,0 g
MASS SOIL (FINAL)	161,1 g
DRY MASS SOIL	138,3 g
MASS WATER (FINAL)	22,8 g
FINAL MOISTURE CONTENT	16,5%

REMARKS:

LEONARDO A. ERRERA

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
0	12:0000	Monday	Air dry	Load on arm	2100,0
0,25	12:0025	27-1 -75	"undisturbed"	varied from	2021,0
0,50	12:0050		sample	0 to 5 lbs.	2018,5
1,00	12:0100				2017,5
2,25	12:0225				2016,5
4,00	12:0400				2016,0
6,25	12:0625				2015,0
9,00	12:0900				2014,5
12,25	12:1225				2014,0
16,00	12:1600				2013,5
25,00	12:2500				2013,0
36,00	12:3600				2012,0
49,00	12:4900				2011,0
64,00	13:0400				2011,0
144,00	14:2400				2010,0
0	14:3000	Monday	Air dry	Load on arm	2010,0
0,25	14:3025	27-1-75	"undisturbed"	varied from	1981,5
0,50	14:3050		sample	5 to 10 lbs.	1980,0
1,00	14:3100				1979,0
2,25	14:3225				1978,0
4,00	14:3400				1977,0
6,25	14:3625				1976,0
9,00	14:3900				1975,5
12,25	14:4225				1975,0
16,00	14:4600				1974,5
25,00	14:5500				1974,0
36,00	15:0600				1973,5
49,00	15:1900				1973,0
64,00	15:3400				1972,5

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
0	9:3000	Tuesday	Air dry sample	10lb reapplied	1972,0
0,25	9:3025	28-1-75	+ 2 ml of water	after strain	1953,5
0,50	9:3050			being kept	1952,5
1,00	9:3100			constant	1952,0
2,25	9:3225				1951,5
4,00	9:3400				1951,0
6,25	9:3625		Time of soaking		1950,5
9,00	9:3900		18 hrs.		1950,0
12,25	9:4225				1949,5
16,00	9:4600				1949,0
25,00	9:5500				1948,5
36,00	10:0600				1948,0
49,00	10:1900				1947,5
64,00	10:3400				1947,0
0	9:0000	Wednesday	Air dry sample	10lb reapplied	1947,0
0,25	9:0025	29-1-75	+ 4 ml. of water	after strain	1934,0
0,50	9:0050			being kept	1933,0
1,00	9:0100			constant	1932,5
2,25	9:0225				1932,0
4,00	9:0400				1931,5
6,25	9:0625				1931,0
9,00	9:0900				1930,5
12,25	9:1225				1930,0
16,00	9:1600				1929,5
25,00	9:2500				1929,0
36,00	9:3600		Time of soaking		1928,5
49,00	9:4900		22½ hrs.		1928,5
64,00	10:0400				1928,0

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
0,00	9:0000	Thursday	Air dry sample	10lb reapllied	1928,0
0,25	9:0025	30-1-75	+ 6ml. of water	after strain	1913,5
0,50	9:0050			being kept	1912,5
1,00	9:0100			constant	1912,0
2,25	9:0225				1911,0
4,00	9:0400				1910,5
6,25	9:0625				1910,0
9,00	9:0900		Time of soaking		1910,0
12,25	9:1225		23 hrs.		1909,5
16,00	9:1600				1909,5
25,00	9:2500				1909,0
36,00	9:3600				1908,5
49,00	9:4900				1908,0
64,00	10:0400				1908,0
0,00	8:4500	Friday	Air dry sample	10 lb reapplied	1908,0
0,25	8:4525	31-1-75	+ 8ml. of water	after strain	1895,5
0,50	8:4550			being kept	1894,5
1,00	8:4600			constant	1894,0
2,25	8:4725				1893,5
4,00	8:4900				1893,0
6,25	8:5125				1892,5
9,00	8:5400				1892,0
12,25	8:5725		Time of soaking		1892,0
16,00	9:0100		23 hrs.		1891,5
25,00	9:1000				1891,0
36,00	9:2100				1890,5
49,00	9:3400				1890,0
64,00	9:4900				1889,5

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
0,00	10:4500	Saturday	Air dry sample	10lb. reapplied	1889,5
0,25	10:4525	1-2-75	+ 10ml. of water	after strain	1873,0
0,50	10:4550			being kept	1872,5
1,00	10:4600			constant	1872,0
2,25	10:4725				1871,0
4,00	10:4900				1870,0
6,25	10:5125				1869,5
9,00	10:5400		Time of soaking		1869,0
12,25	10:5725		25 hrs.		1868,5
16,00	11:0100				1868,0
25,00	11:1000				1867,5
36,00	11:2100				1866,5
49,00	11:3400				1866,0
64,00	11:4900				1865,5
0,00	9:4500	Monday	Air dry sample	10lb reapplied	1865,5
0,25	9:4525	3-2-75	+ 11ml. of water	after strain	1849,0
0,50	9:4550			being kept	1847,5
1,00	9:4600			constant	1845,5
2,25	9:4725				1844,0
4,00	9:4900				1842,5
6,25	9:5125				1841,5
9,00	9:5400				1840,5
12,25	9:5725		Time of soaking		1839,5
16:00	10:0100		46 hrs.		1838,5
25,00	10:1000				1837,5
36,00	10:2100				1836,5
49,00	10:3400				1835,5
64,00	10:4900				1835,0

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
0,00	9:4500	Tuesday	Air dry sample	10lb reapplied	1835,0
0,25	9:4525	4-2-75	+ 12ml. of water	after strain	1827,0
0,50	9:4550			being kept	1825,0
1,00	9:4600			constant	1822,5
2,25	9:4725				1820,0
4,00	9:4900		Time of soaking		1818,0
6,25	9:5125		23 hrs.		1816,0
9,00	9:5400				1815,0
12,25	9:5725				1814,0
16,00	10:0100				1813,0
25,00	10:1000				1812,0
36,00	10:2100				1810,0
49,00	10:3400				1809,0
64,00	10:4900				1808,0
0,00	8:4500	Wednesday	Air dry sample	10lb reapplied	1808,0
0,25	8:4525	5-2-75	+ 13 ml of water	after strain	1806,5
0,50	8:4550			being kept	1806,0
1,00	8:4600			constant	1805,5
2,25	8:4725		Time of soaking		1805,0
4,00	8:4900		22 hrs.		1805,0
6,25	8:5125				1804,5
9,00	8:5400				1804,0
12,25	8:5725				1803,5
16,00	9:0100				1803,0
25,00	9:1000				1802,5
36,00	9:2100				1802,0
49,00	9:3400				1801,0
64,00	9:4900				1800,0

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
0,00	8:4500	Thursday	Air dry sample	10lb reapplied	1800,0
0,25	8:4525	6-2-75	+ 14ml. of water	after strain	1798,0
0,50	8:4550			being kept	1797,5
1,00	8:4600			constant	1797,0
2,25	8:4725				1796,0
4,00	8:4900		Time of soaking		1795,0
6,25	8:5125		23 hrs.		1794,5
9,00	8:5400				1794,0
12,25	8:5725				1793,5
16,00	9:0100				1793,0
25,00	9:1000				1792,5
36,00	9:2100				1791,5
49,00	9:3400				1791,0
64,00	9:4900				1790,5
0,00	8:4500	Friday	Air dry sample	10lb reapplied	1790,5
0,25	8:4525	7-2-75	+ 15ml. of water	after strain	1788,0
0,50	8:4500			being kept	1787,5
1,00	8:4600			constant	1787,0
2,25	8:4725				1786,5
4,00	8:4900				1786,0
6,25	8:5125				1785,5
9,00	8:5400				1785,0
12,25	8:5725				1784,5
16,00	9:0100				1784,0
25,00	9:1000				1783,0
36,00	9:2100				1782,0
49,00	9:3400				1781,0
64,00	9:4900				1780,0

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
0,00	3:4500	Saturday	Air dry sample	10lb reapolied	1780,0
0,25	3:4525	8-2-75	+ 16ml. of water	after strain	1779,0
0,50	3:4550			being kept	1778,5
1,00	3:4600			constant	1778,0
2,25	3:4725				1777,5
4,00	3:4900				1777,0
6,25	3:5125		Time of soaking		1776,5
9,00	3:5400		30 hrs.		1776,0
12,25	3:5725				1775,5
16,00	4:0100				1775,0
25,00	4:1000				1774,5
36,00	4:2100				1774,0
49,00	4:3400				1773,5
64,00	4:4900				1773,0
0,00	3:1500	Sunday	Air dry sample	10lb reapplied	1773,0
0,25	3:1525	9-2-75	+ 17ml. of water	after strain	1772,0
0,50	3:1550			being kept	1771,5
1,00	3:1600			constant	1771,0
2,25	3:1725				1771,0
4,00	3:1900		Time of soaking		1770,5
6,25	3:2125		22½ hrs.		1770,5
9,00	3:2400				1770,0
12,25	3:2725				1770,0
16,00	3:3100				1769,5
25,00	3:4000				1769,5
36,00	3:5100				1769,0
49,00	4:0400				1769,0
64,00	4:1900				1768,5

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
0,00	9:1500	Monday	Air dry sample	10lb reapplied	1768,5
0,25	9:1525	10-2-75	+ 18ml. of water	after strain	1767,5
0,50	9:1550			being kept	1767,5
1,00	9:1600			constant	1767,0
2,25	9:1725				1767,0
4,00	9:1900		Time of soaking		1766,5
6,25	9:2125		17hrs.		1766,0
9,00	9:2400				1766,0
12,25	9:2725				1765,5
16,00	9:3100				1765,5
25,00	9:4000				1765,0
36,00	9:5100				1764,0
49,00	10:0400				1763,0
64,00	10:1900				1762,5
0,00	9:0000	Tuesday	Air dry sample	10lb reapplied	1762,5
0,25	9:0025	11-2-75	+ 19ml.of water	after strain	1761,5
0,50	9:0050			being kept	1761,5
1,00	9:0100			constant	1761,0
2,25	9:0225				1761,0
4,00	9:0400				1760,5
6,25	9:0625				1760,5
9,00	9:0900		Time of soaking		1760,5
12,25	9:1225		$22\frac{3}{4}$ hrs.		1760,5
16,00	9:1600				1760,0
25,00	9:2500				1760,0
36,00	9:3600				1759,5
49,00	9:4900				1759,5
64,00	10:0400				1759,0

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
0,00	9:0000	Wednesday	Air dry sample	10lb reapplied	1759,0
0,25	9:0025	12-2-75	+ 20ml. of water	after strain	1758,5
0,50	9:0050			being kept	1758,0
1,00	9:0100			constant	1758,0
2,25	9:0225				1758,0
4,00	9:0400				1757,5
6,25	9:0625				1757,5
9,00	9:0900				1757,5
12,25	9:1225		Time of soaking		1757,5
16,00	9:1600		23 hrs.		1757,5
25,00	9:2500				1757,0
36,00	9:3600				1757,0
49,00	9:4900				1756,5
64,00	10:0400				1756,0
0,00	2:3000	Thursday	Air dry sample	10lb reapplied	1756,0
0,25	2:3025	13-2-75	+ 21ml of water	after strain	1755,0
0,50	2:3050			being kept	1755,0
1,00	2:3100			constant	1755,0
2,25	2:3225				1754,5
4,00	2:3400		Time of soaking		1754,5
6,25	2:3625		28½ hrs.		1754,0
9,00	2:3900				1754,0
12,25	2:4225				1754,0
16,00	2:4600				1753,5
25,00	2:5500				1753,5
36,00	3:0600				1753,0
49,00	3:1900				1752,5
64,00	3:3400				1752,0

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
0,00	2:1500	Monday	Air dry sample	Load on arm	1747,0
0,25	2:1525	17-2-75	+ 23ml of water	Varied from	1543,0
0,50	2:1550			10 to 20 lbs.	1534,0
1,00	2:1600				1526,0
2,25	2:1725				1519,0
4,00	2:1900				1515,0
6,25	2:2125				1512,0
9,00	2:2400				1510,0
12,25	2:2725				1508,0
16,00	2:3100				1507,0
25,00	2:4000				1505,0
36,00	2:5100				1503,0
49,00	3:0400				1502,0
64,00	3:1900				1501,0
0,00	3:2000	Monday	Air dry sample	Load on arm	1501,0
0,25	3:2025	17-2-75	+ 23ml of water	Varied from	1521,0
0,50	3:2050			20 to 5 lb.	1522,0
1,00	3:2100				1522,5
2,25	3:2225				1523,0
4,00	3:2400				1523,5
6,25	3:2625				1524,0
9,00	3:2900				1524,0
12,25	3:3225				1524,5
16,00	3:3600				1524,5
25,00	3:4500				1525,0
36,00	3:5600				1525,0
49,00	4:0900				1525,0
64,00	4:2400				1525,5

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
0,00	9:1500	Friday	Air dry sample	10lb reapplied	1752,0
0,25	9:1525	14-2-75	+ 22ml of water	after strain	1752,0
0,50	9:1550			being kept	1752,0
1,00	9:1600			constant	1752,0
2,25	9:1725				1752,0
4,00	9:1900		Time of soaking		1752,0
6,25	9:2125		$17\frac{3}{4}$ hrs.		1751,5
9,00	9:2400				1751,5
12,25	9:2725				1751,5
16,00	9:3100				1751,0
25,00	9:4000				1751,0
36,00	9:5100				1750,5
49,00	10:0400				1750,5
64,00	10:1900				1750,0
0,00	11:4500	Monday	Air dry sample	10lb reapplied	1750,0
0,25	11:4525	17-2-75	+ 23ml of water	after strain	1750,0
0,50	11:4550			being kept	1750,0
1,00	11:4600			constant	1749,5
2,25	11:4725				1749,0
4,00	11:4900				1749,0
6,25	11:5125				1749,0
9,00	11:5400				1748,5
12,25	11:5725		Time of soaking		1748,5
16,00	12:0100		72 hrs.		1748,0
25,00	12:1000				1747,5
36,00	12:2100				1747,5
49,00	12:3400				1747,0
64,00	12:4900				1747,0

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
0,00	9:3000	Tuesday	Air dry sample	Load on arm	1526,0
0,25	9:3025	18-2-75	+ 23ml of water	Varied from	1555,0
0,50	9:3050			5 to 0 lb.	1556,0
1,00	9:3100				1557,5
2,25	9:3225				1559,5
4,00	9:3400				1561,0
6,25	9:3625				1563,0
9,00	9:3900				1564,5
12,25	9:4225				1565,0
16,00	9:4600				1566,0
25,00	9:5500				1567,0
36,00	10:0600				1568,0
49,00	10:1900				1569,0
64,00	10:3400				1570,0

```
7REOT,IS
REOF 4.107 11/03-16:11-
      DIMENSION W(50),WAT(50),WATA(50),WCA(50),DEFL(50),E(50),TLOAD(50),
     ,STRESS(50),DELTAW(50),DELTA(50),WCAI(50),IBUF(1000),DEGSAT(50)
      READ(8,1) TSTNO1,TSTNO2
    1 FORMAT(2A4)
      WRITE(5,2) TSTNO1,TSTNO2
    2 FORMAT(1H1,'TEST NUMBER=',2A4)
C     TINTV IS EQUAL TO TOTAL INITIAL VOLUME IN MM CUBED
      TINTV=3.142*(75.0**2)*20/4
      PRINT 201,TINTV
  201 FORMAT  (1H 'INITIAL VOLUME=',F10.3)
C     TM=MASS OF SOLIDS
C     GS=SPECIFIC GRAVITY
C     TMIN=INITIAL MASS OF SAMPLE
C     TINWC=INITIAL MOISTURE CONTENT
C     TFIN=FINAL TOTAL MASS OF THE SAMPLE
      READ 101,TM,GS,TMIN,TFIN
  101 FORMAT ()
      VSOLID=(1000*TM)/GS
      VVOIDS=TINTV-VSOLID
      EO=VVOIDS/VSOLID
      TINWC=(TMIN-TM)/TM
      PRINT 202,VSOLID
  202 FORMAT (1H/'VOLUME OF SOLIDS=',F10.3)
      PRINT 203,EO
  203 FORMAT  (1H 'INITIAL VOID RATIO=',F10.3)
      PRINT 204,TINWC
  204 FORMAT (1H 'INITIAL MOISTURE CONTENT=',F10.3)
      READ 110,M
  110 FORMAT ()
      PRINT 401
  401 FORMAT(////H ,'ALL THE VOLUMES OUTPUT ARE IN MILLIMETERS CUBED')
      PRINT 402
  402 FORMAT(1H ,'THE VERTICAL STRESS IS IN KILONEWTONS PER SQUARE METER
     ,')
      PRINT 403
  403 FORMAT(1H ,'THE DEFLECTION READINGS ARE IN TEN THOUSANDTHS OF AN
     ,INCH')
      PRINT 205
  205 FORMAT(////H ,'DEFLECTION   MOISTURE     STRESS       VOID
     ,  DELTA      DEGREE')
      PRINT 400
  400 FORMAT(1H ,' READINGS    CONTENT    VERTICAL        RATIO
     ,W     SATURATION')
C     M IS THE NUMBER OF TEST CYCLES
C     S IS THE INITIAL DEFLECTION READING
C     Y IS THE INITIAL READING AT THE BEGINNING OF WC VARIATION
C     X IS THE FINAL READING AT THE END OF WC VARIATION
      READ 111,S,Y,X
  111 FORMAT()
      I=1
      KK=1
      II=1
   12 READ 102,W(I),TLOAD(KK),DEFL(II)
  102 FORMAT()
C     TLOAD IS THE LOAD APPLIED TO THE SAMPLE IN THE CONSOLIDOMETER
```

B/24

```
      I=I+1
      KK=KK+1
      II=II+1
      IF(I-N) 12,12,10
   10 K=1
      I=1
      WAT(K)=(THIN-TM)+W(I)
C     WAT(K) IS EQUAL TO THE MASS OF WATER IN THE SAMPLE
   13 K=K+1
      I=I+1
      WAT(K)=(THIN-TM)+W(I)
      IF(K-N) 13,13,14
   14 WATAC=TFIN-TM
      Z=WAT(K)/WATAC
      L=1
      I=1
      N=1
      LL=1
      KK=1
      JJ=1
      II=1
      MM=1
      NN=1
      DW=S-X
C     WATA IS EQUAL TO THE ACTUAL AMOUNT OF WATER ADDED TO THE SAMPLE
   18 WATA(L)=(TMIN-TM)+(1-Z)*W(I)
      WCA(N)=WATA(L)/TM
C     DEGSAT IS THE DEGREE OF SATURATION OF THE SAMPLE
C     WCA IS THE ACTUAL WATER CONTENT OF THE SAMPLE
C     E IS THE VOID RATIO OF THE SAMPLE
      E(JJ)=(3.142*(75**2)*(20-((S-DEFL(II))*0.0001*25.4))/4
     .-(1000*TM/GS))/(1000*TM/GS)
      DEGSAT(NN)=WCA(N)*GS/E(JJ)
      STRESS(LL)=(TLOAD(KK)*11.0*4.0/(3.142*75**2))*4.448*1000
C     LEVER ARM RATIO IS 11 TO 1
      IF (N-1) 60,60,121
  121 IF (WCA(N)-WCA(N-1)) 60,60,62
   60 DELTAW(MM)=0
      GO TO 63
   62 DELTAW(MM)=(DEFL(II)-X)/DW
   63 PRINT 206,DEFL(II),WCA(N),STRESS(LL),E(JJ),DELTAW(MM),DEGSAT(NN)
  206 FORMAT (1H ,F10.2,2X,F10.3,2X,F10.2,2X,F10.3,2X,F10.3,2X,F10.3)
      I=I+1
      N=N+1
      L=L+1
      II=II+1
      JJ=JJ+1
      KK=KK+1
      LL=LL+1
      MM=MM+1
      IF (I-N) 18,18,19
   19 N=1
   92 IF(WCA(N)-WCA(N-1)) 90,90,91
   90 N=N+1
      GO TO 93
   91 WCAI(N)=WCA(N)
      MM=N
```

B/25

```
      DELTA(MM)=DELTAP(MM)
      M=M+1
   93 IF (M-N) 92,92,94
   94 CALL PLOTS(IBUF,1000,17)
      CALL PLOT(3.0,10.0,-3)
      CALL AXIS(0.0, 0.0,19HDEFLECTION READINGS,-19,8.0,-90.0,2000.0,
     *-200.0)
      CALL AXIS(0.0, 0.0,16HMOISTURE CONTENT,+16,8.0,0.0,0.0,0.1)
      DEFL(M+1)=2000
      DEFL(M+2)=200
      WCA(M+1)=0.0
      WCA(M+2)=0.1
      CALL LINE(WCA,DEFL,M,1,-1,2)
      CALL SYMBOL(0.0,1.0,0.21,
     *40HDEFLECTIONS OBTAINED UNDER CONSTANT LOAD,0.0,+40)
      CALL PLOT(0.0,14.0,-3)
      CALL AXIS(0.0,-0.0,10HVOID RATIO,-10,8.0,-90.0,1.0,-0.1)
      CALL AXIS(0.0, 0.0,6HSTRESS,+6,10.0,0.0,0.0,30.0)
      STRESS(M+2)=30.0
      STRESS(M+1)=0.0
      E(M+1)=1.0
      E(M+2)=0.1
      CALL LINE(STRESS,E,M,1,-1,2)
      CALL SYMBOL(0.5, 1.5,0.21,36HSTRESS WITH VARYING MOISTURE CONTENT,
     *0.0,+36)
      CALL PLOT(12.0,-8.0,-3)
      CALL AXIS( 0.0,0.0,16HMOISTURE CONTENT,-16,8.0,0.0,0.0,0.1)
      CALL AXIS( 0.0,0.0,11HDELTA WATER,+11,5.0,+90.0,0.0,0.1)
      DELTA(M+1)=0.0
      DELTA(M+2)=0.2
      WCA1(M+2)=0.1
      WCA1(M+1)=0.0
      CALL LINE(WCA1,DELTA,M,1,-1,2)
      CALL SYMBOL(0.5,9.5,0.21,
     *40HEXTRA SETTLEMENT VERSUS MOISTURE CONTENT,0.0,+40)
      CALL PLOT(12.0,2.5,999)
      STOP
      END
```

B/26

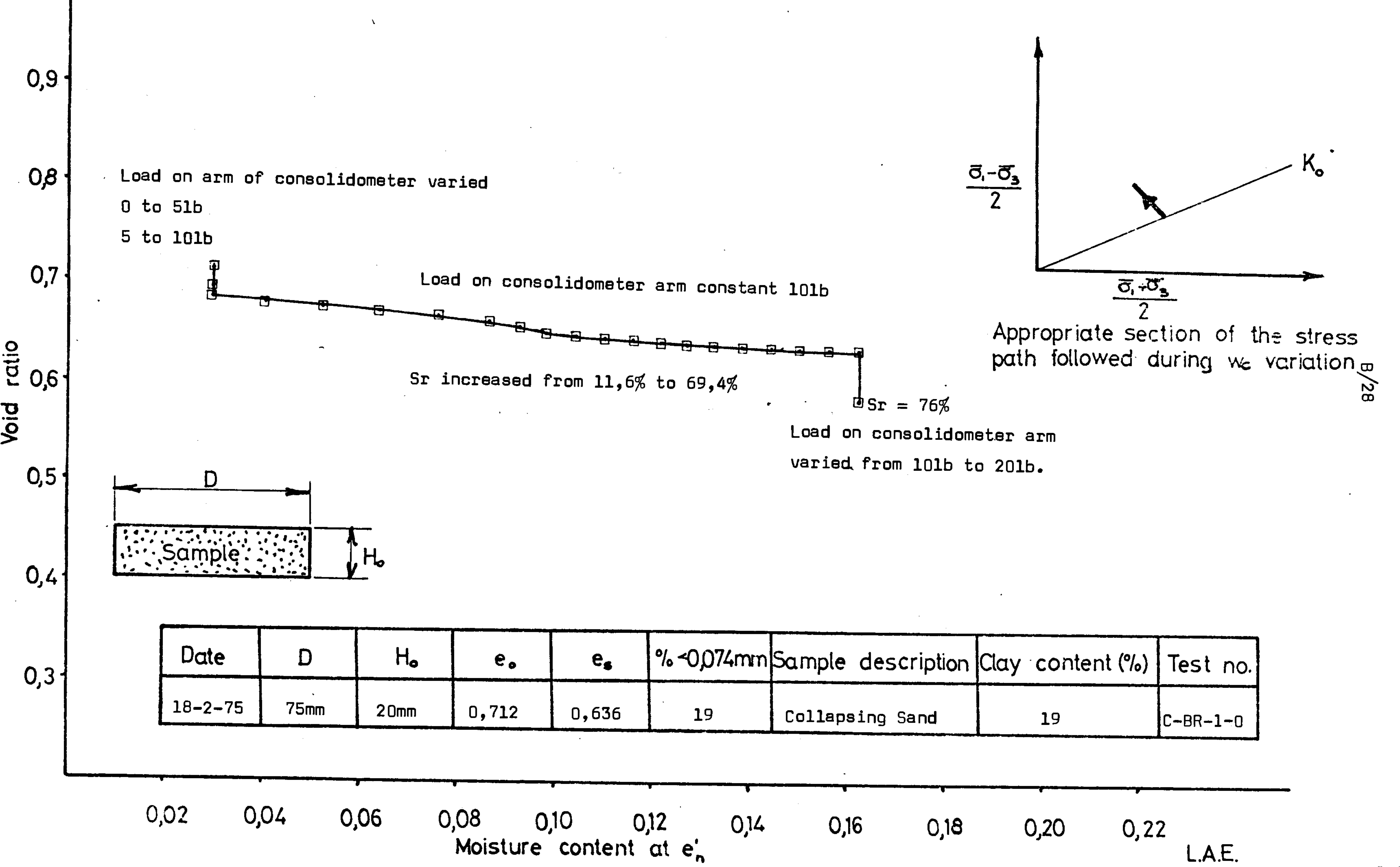
TEST NUMBER=C-RR-1-0
INITIAL VOLUME= 88368.749
VOLUME OF SOLIDS= 51604.477
INITIAL VOID RATIO= .712
INITIAL MOISTURE CONTENT= .030

ALL THE VOLUMES OUTPUT ARE IN MILLIMETERS CUBED
THE VERTICAL STRESS IS IN KILONEWTONS PER SQUARE METER
THE DEFLECTION READINGS ARE IN TEN THOUSANDTHS OF AN INCH

DEFLECTION READINGS	MOISTURE CONTENT	STRESS VERTICAL	VOID RATIO	DELTA W	DEGREE SATURATION
2010.00	.030	55.37	.693	.000	.115
1972.50	.030	110.74	.685	.000	.116
1947.00	.041	110.74	.679	.567	.163
1928.00	.053	110.74	.675	.513	.211
1908.00	.065	110.74	.671	.456	.259
1889.50	.077	110.74	.667	.404	.308
1865.50	.088	110.74	.661	.336	.358
1835.00	.094	110.74	.655	.249	.386
1809.00	.100	110.74	.649	.173	.413
1800.00	.106	110.74	.647	.150	.439
1790.50	.112	110.74	.645	.123	.465
1780.00	.118	110.74	.643	.093	.491
1773.00	.124	110.74	.641	.074	.516
1768.50	.129	110.74	.640	.061	.542
1762.50	.135	110.74	.639	.044	.568
1759.00	.141	110.74	.638	.034	.593
1756.00	.147	110.74	.638	.025	.618
1752.00	.153	110.74	.637	.014	.644
1750.00	.159	110.74	.636	.008	.669
1747.00	.165	110.74	.636	.000	.694
1501.00	.165	221.47	.582	.000	.758
1525.50	.165	55.37	.587	.000	.751
1570.00	.165	.00	.597	.000	.739

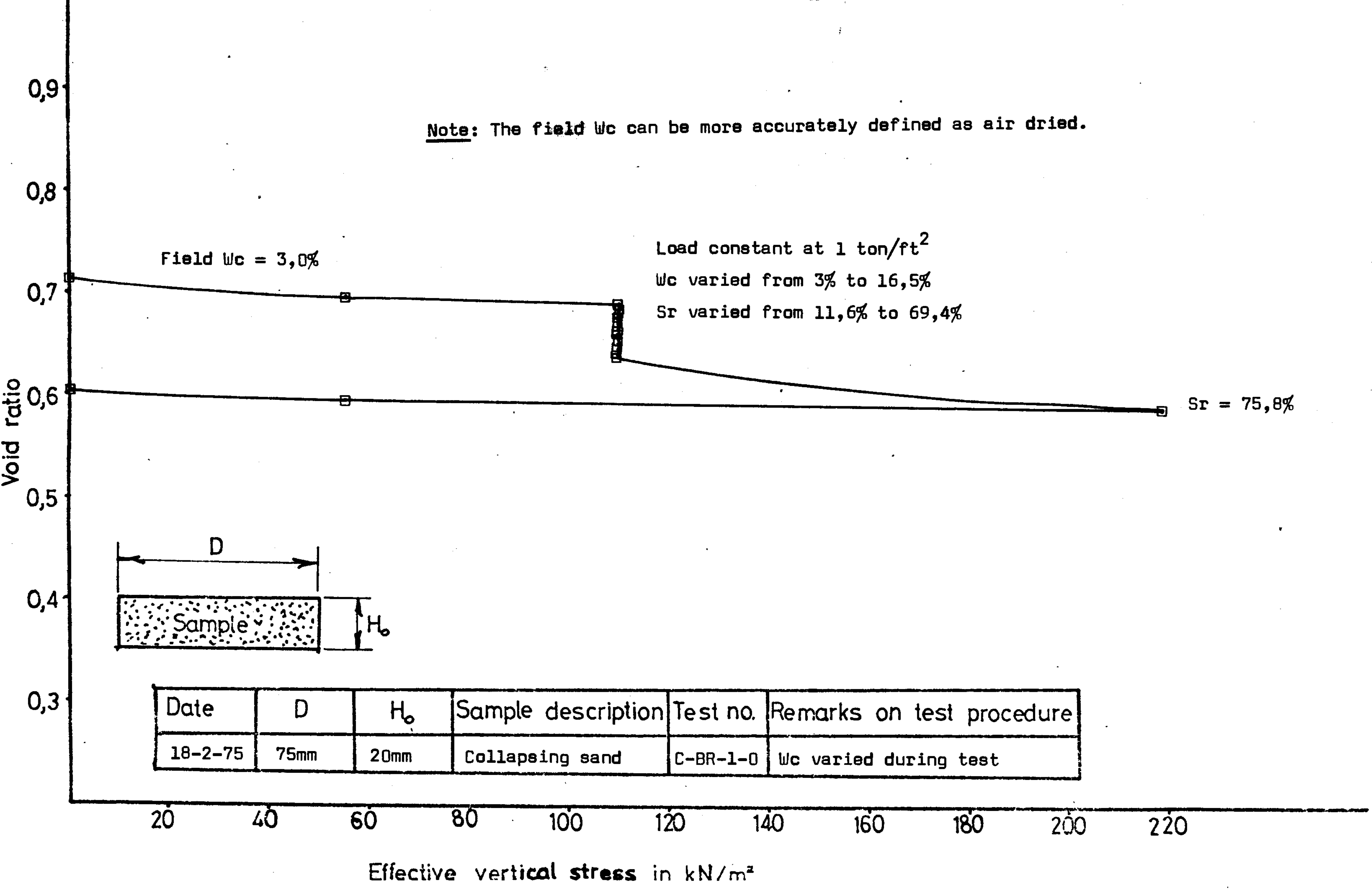
B/27

Void ratio—moisture content graph



Date	D	H_o	e_o	e_s	% <0,074mm	Sample description	Clay content (%)	Test no.
18-2-75	75mm	20mm	0,712	0,636	19	Collapsing Sand	19	C-BR-1-0

Void ratio — effective stress graph

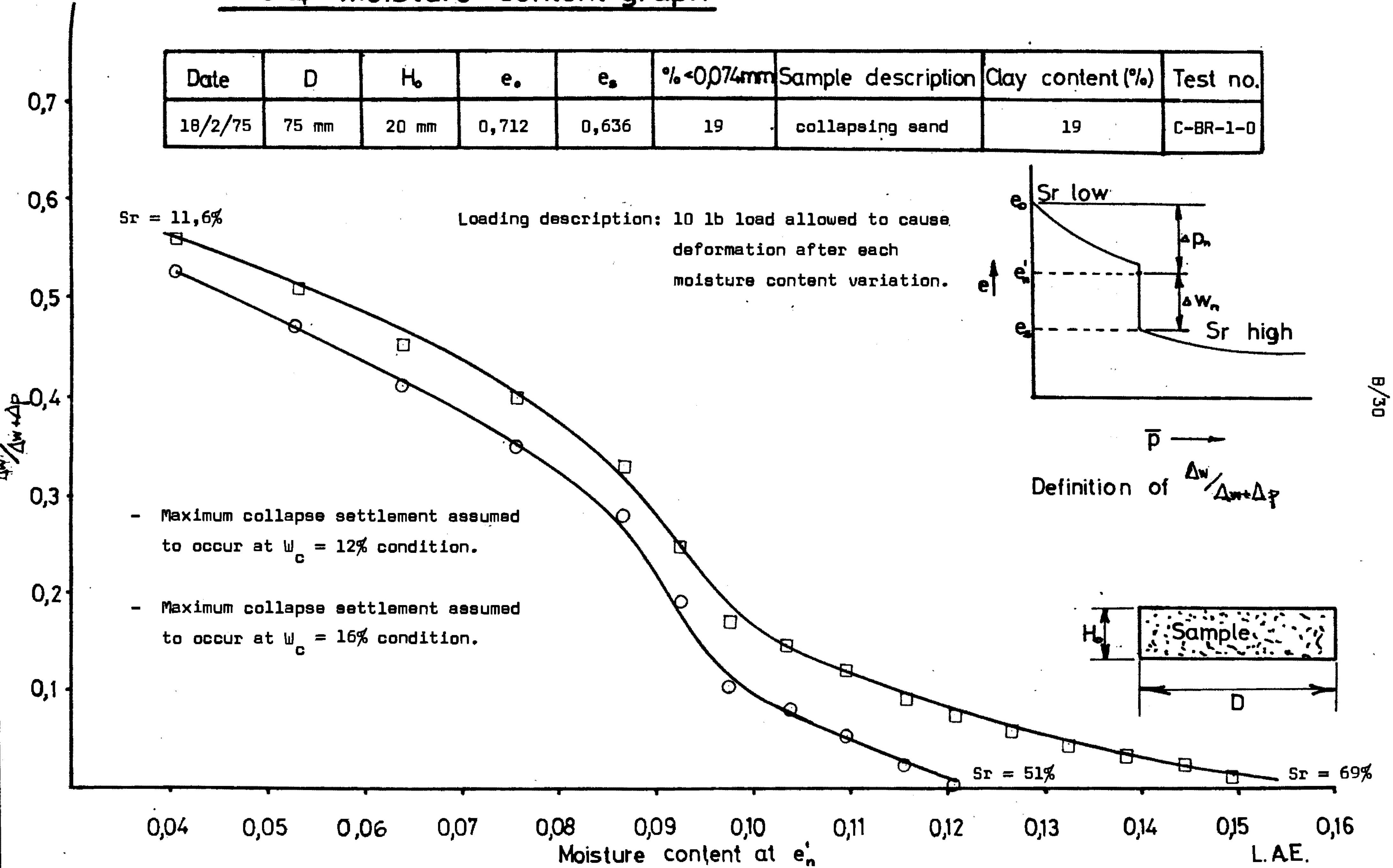


Date	D	H_o	Sample description	Test no.	Remarks on test procedure
18-2-75	75mm	20mm	Collapsing sand	C-BR-1-0	Wc varied during test

B/29

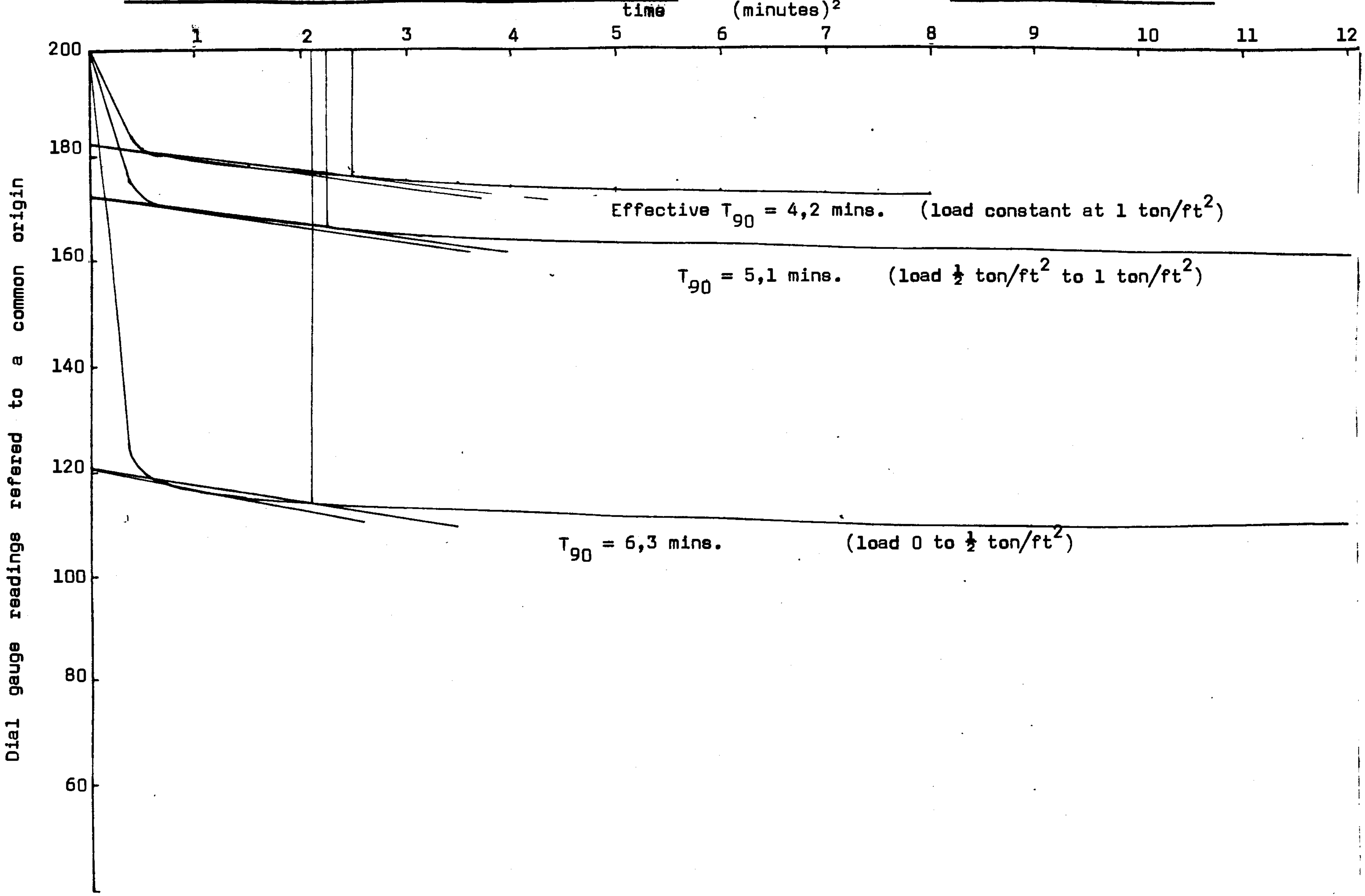
$\Delta w / \Delta w + \Delta p$ – moisture content graph

Date	D	H_o	e_o	e_s	% <0,074mm	Sample description	Clay content (%)	Test no.
18/2/75	75 mm	20 mm	0,712	0,636	19	collapsing sand	19	C-BR-1-0



B/30

DEFLECTION - TIME CURVE FOR BEREA ROAD SAMPLE VARYING MOISTURE CONTENT



HYDROMETER NALYSIS

SOIL SAMPLE DESCRIPTION Decomposed granitic residual soil - undisturbed sample taken from "Feathers"

SPECIFIC GRAVITY 2,68

WEIGHT SOIL SAMPLE

Mass container + dry soil (g) 130,0

Mass container (g) 80,0

Mass dry soil (g) 50,0

TEST NO. H-FS-1

DATE 29/4/75

TESTED BY L.A.E.

HYDROMETER NO. 9843 A.S.T.M. 151-H

DISPERSING AGENTS 10 ml Sodium Oxalate Solution

10 ml Sodium Silicate Solution

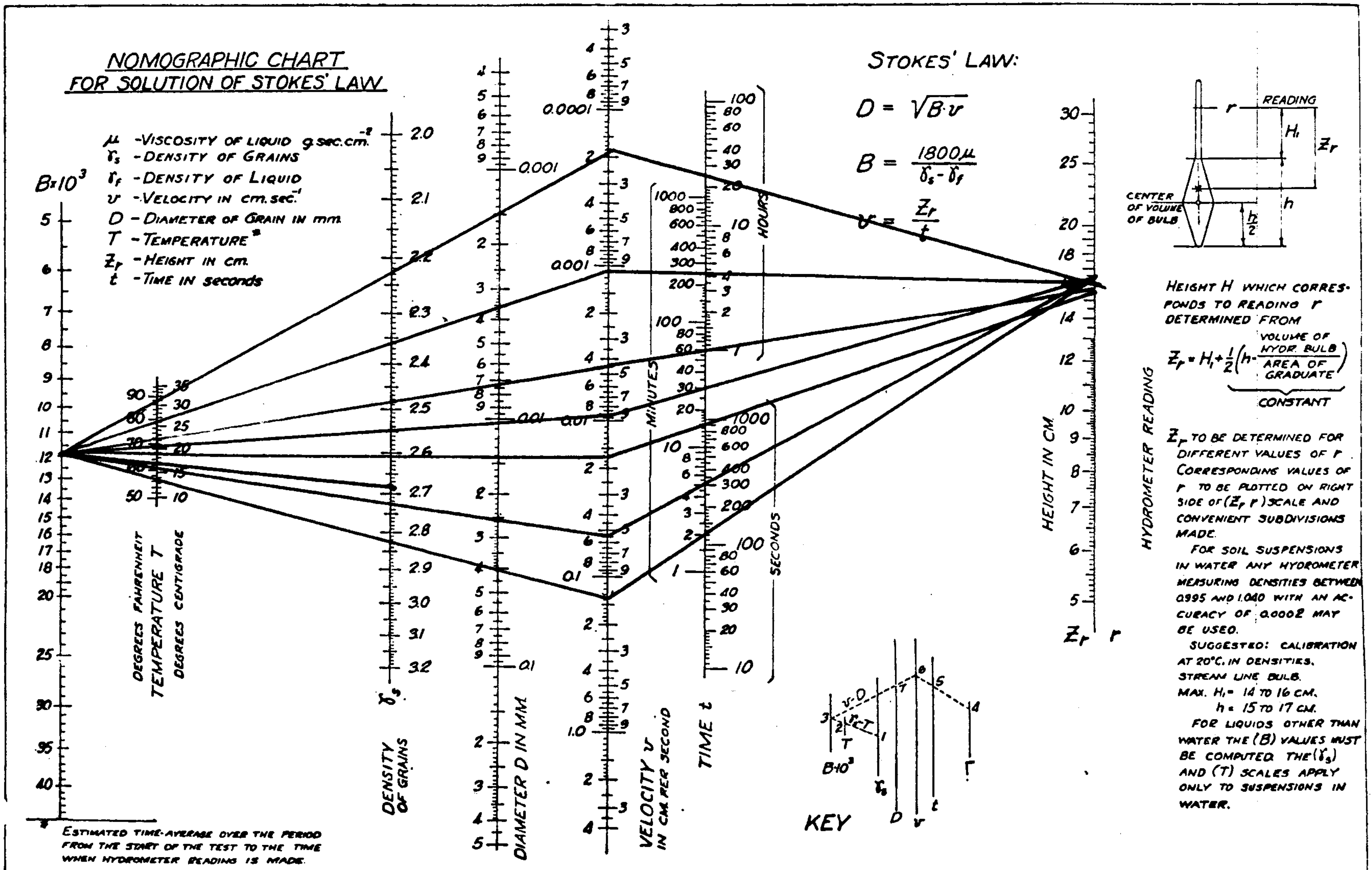
DATE	TIME	ELAPSED TIME IN MINS.	HYDROMETER READING	CORRECTED HYDROMETER READING	Z_r	D	% FINER
29/4/75	9:45	0	-				
	9:47	2	1:0045	1,0046	16,1	0,04	15,0
	9:50	5	1;0032	1,0033	16,4	0,025	10,5
	10:00	15	1,0026	1,0027	15,4	0,014	8,5
	10:15	30	1,0023	1,0024	15,5	0,010	7,5
	10;45	60	1,0016	1,0017	15,65	0,0073	5,5
	1;55	250	1,0009	1,0010	15,80	0,0035	3,0
30/4/75	9:45	1440	1,0004	1,0005	15,90	0,0015	1,5

REMARKS:

Sample soaked for 23 hours.

For the 2 and 5 minute readings Z_r uncorrected is used.

B/33


NOMOGRAPHIC CHART
FOR SOLUTION OF STOKES' LAW
μ - VISCOSITY OF LIQUID g.sec.cm.⁻²
γs - DENSITY OF GRAINS
γf - DENSITY OF LIQUID
v - VELOCITY IN cm.sec.⁻¹
D - DIAMETER OF GRAIN IN mm.
T - TEMPERATURE*
Zr - HEIGHT IN cm.
t - TIME IN seconds
STOKES' LAW:
D = √(B·v)
B = 1800μ / (γs - γf)
v = Zr / t
B×10³
DEGREES FAHRENHEIT
TEMPERATURE T
DEGREES CENTIGRADE
DENSITY OF GRAINS γs
DIAMETER D IN MM.
VELOCITY v IN CM. PER SECOND
TIME t
HOURS
MINUTES
SECONDS
HEIGHT IN CM.
HYDROMETER READING
Zr
r
READING
H1
h
h/2
CENTER OF VOLUME OF BULB
HEIGHT H WHICH CORRESPONDS TO READING r DETERMINED FROM
Zr = H1 + 1/2 (h - VOLUME OF HYDR. BULB / AREA OF GRADUATE)
CONSTANT
Zr TO BE DETERMINED FOR DIFFERENT VALUES OF r. CORRESPONDING VALUES OF r TO BE PLOTTED ON RIGHT SIDE OF (Zr r) SCALE AND CONVENIENT SUBDIVISIONS MADE.
FOR SOIL SUSPENSIONS IN WATER ANY HYDROMETER MEASURING DENSITIES BETWEEN 0.995 AND 1.040 WITH AN ACCURACY OF 0.0002 MAY BE USED.
SUGGESTED: CALIBRATION AT 20°C. IN DENSITIES. STREAM LINE BULB.
MAX. H1 = 14 TO 16 CM.
h = 15 TO 17 CM.
FOR LIQUIDS OTHER THAN WATER THE (B) VALUES MUST BE COMPUTED. THE (γs) AND (T) SCALES APPLY ONLY TO SUSPENSIONS IN WATER.
KEY
* ESTIMATED TIME-AVERAGE OVER THE PERIOD FROM THE START OF THE TEST TO THE TIME WHEN HYDROMETER READING IS MADE.

HYDROMETER ANALYSIS

SOIL SAMPLE DESCRIPTION Decomposed granitic residual soil - undisturbed sample taken from "Feathers"

SPECIFIC GRAVITY 2,68

WEIGHT SOIL SAMPLE

TEST NO. H-FS-2

Mass container + dry soil (g) 155,1

DATE 29/4/75

Mass container (g) 105,1

TESTED BY

Mass dry soil (g) 50,0

HYDROMETER NO. 9843 A.S.T.M. 151 H

DISPERSING AGENTS 10 ml Sodium Oxalate Solution

10 ml Sodium Silicate Solution

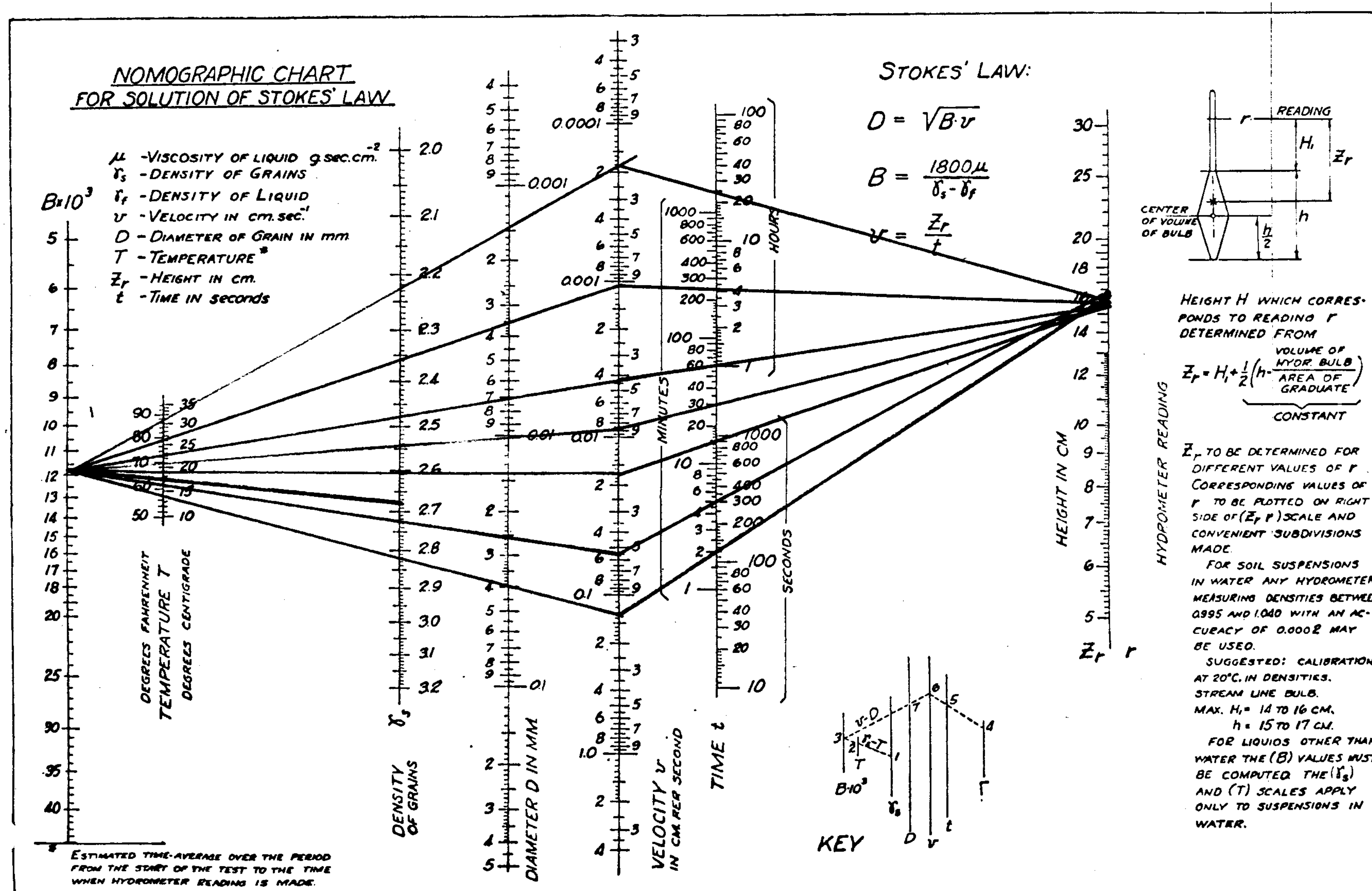
DATE	TIME	ELAPSED TIME IN MINS.	HYDROMETER READING	CORRECTED HYDROMETER READING	Z_r	D	% FINER
29/4/75	9:56	0					
	9:58	2	1,0048	1,0049	16,0	0,04	15,5
	10:01	5	1,0040	1,0041	16,3	0,025	13,0
	10:11	15	1,0026	1,0027	15,4	0,014	8,5
	10:26	30	1,0022	1,0023	15,5	0,010	7,2
	10:56	60	1,0019	1,0020	15,6	0,007	6,3
	2:06	250	1,0009	1,0010	15,80	0,0035	3,0
30/4/75	9:56	1440	1,0006	1,0007	15,85	0,0014	2,2

REMARKS:

Sample soaked for 23 hours.

For the 2 and 5 minute readings Z_r uncorrected is used.

B/35


NOMOGRAPHIC CHART FOR SOLUTION OF STOKES' LAW
μ - Viscosity of liquid g.sec.cm.^-2
γs - Density of Grains
γf - Density of Liquid
v - Velocity in cm.sec.^-1
D - Diameter of Grain in mm
T - Temperature*
Zr - Height in cm.
t - Time in seconds
B×10³
Degrees Fahrenheit
Temperature T
Degrees Centigrade
Density of Grains γs
Diameter D in MM.
Velocity v in cm. per second
Time t
Minutes
Hours
Seconds
Height in CM
Hydrometer Reading
Zr
r
STOKES' LAW:
D = √(B·v)
B = 1800μ / (γs − γf)
v = Zr / t
Reading
Center of volume of bulb
Height H which corresponds to reading r determined from
Zr = H1 + 1/2 (h − Volume of hydr. bulb / Area of graduate)
Constant
Zr to be determined for different values of r. Corresponding values of r to be plotted on right side of (Zr r) scale and convenient subdivisions made.
For soil suspensions in water any hydrometer measuring densities between 0.995 and 1.040 with an accuracy of 0.0002 may be used.
Suggested: calibration at 20°C. in densities. Stream line bulb.
Max. H1 = 14 to 16 cm.
h = 15 to 17 cm.
For liquids other than water the (B) values must be computed. The (γs) and (T) scales apply only to suspensions in water.
KEY
* Estimated time-average over the period from the start of the test to the time when hydrometer reading is made.

SIEVE ANALYSIS

SOIL SAMPLE DESCRIPTION Decomposed granitic residual soil - Undisturbed sample taken from "Feathers"

SPECIFIC GRAVITY 2,68

MASS SOIL SAMPLE

Mass container + dry soil (g) 1856,4

Mass container (g) 129,5

Mass dry soil (g) 1726,9

TEST NO. SA - FS - 1

DATE 25-4-75

TESTED BY

SIEVE OPENING IN mm.	MASS SIEVE IN g.	MASS SIEVE + SOIL IN g.	MASS SOIL RETAINED IN g.	% RETAINED	Cum. % RETAINED	% FINER
4,76	533,0	580,8	47,8	2,8	2,8	97,2
2,38	547,8	924,5	376,7	21,8	24,6	75,4
2,00	629,2	769,9	140,7	8,1	32,7	67,3
0,590	394,1	859,0	464,9	26,9	59,6	40,4
0,420	402,9	528,4	125,5	7,3	66,9	33,1
0,297	369,6	474,2	104,6	6,1	73,0	27,0
0,250	439,5	488,7	49,2	2,8	75,8	24,2
0,147	426,2	541,1	114,9	6,7	82,5	17,5
0,074	342,0	537,2	195,2	11,3	93,8	6,2
PAN	361,5	468,9	107,4	6,2	100,0	

REMARKS: Sample dry - sieved.

SIEVE ANALYSIS

SOIL SAMPLE DESCRIPTION Decomposed granitic residual soil - Undisturbed sample taken from "Feathers".

SPECIFIC GRAVITY 2,68

MASS SOIL SAMPLE

TEST NO. SA - FS - 2

Mass container + dry soil (g)

DATE 25-4-75

Mass container (g)

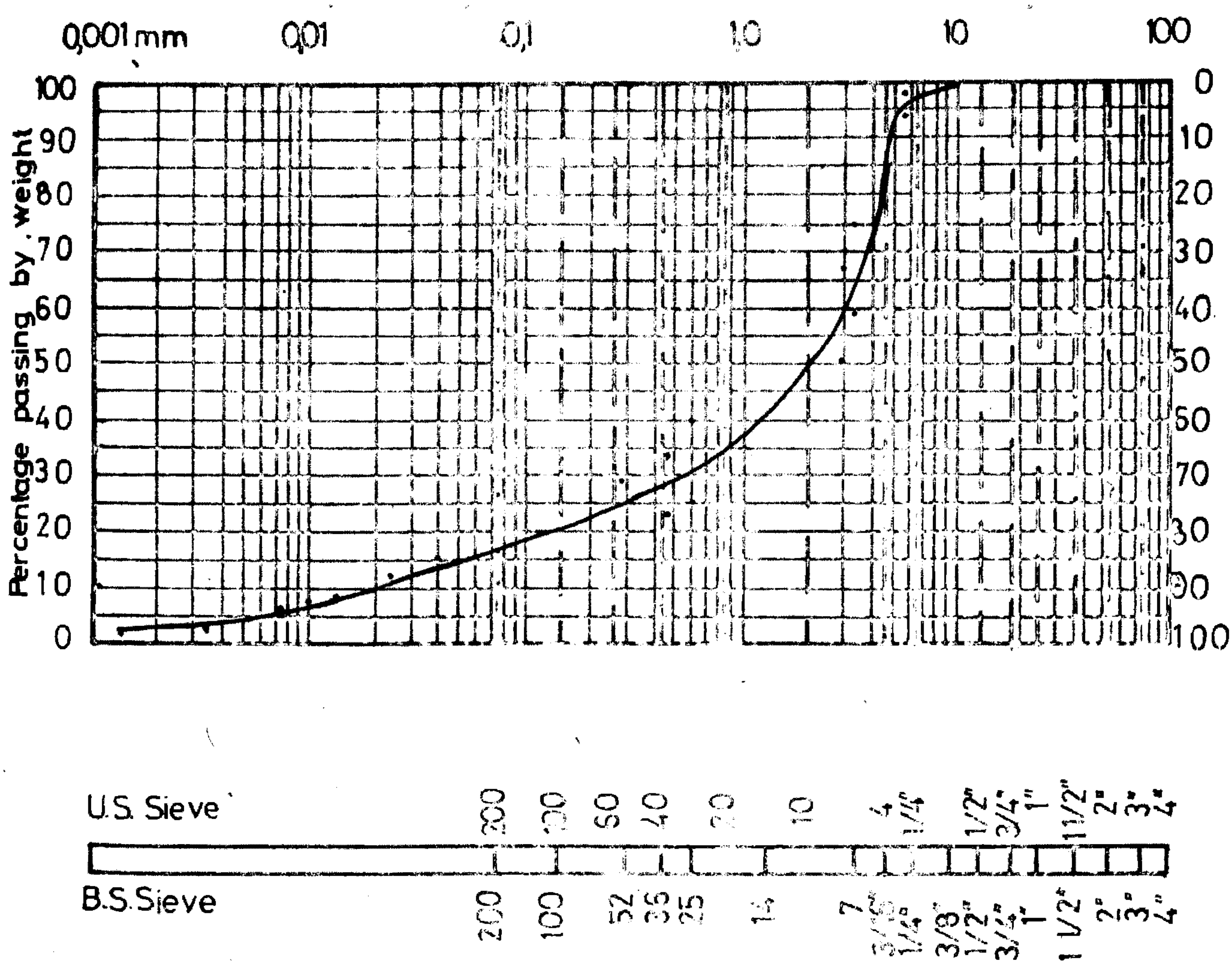
TESTED BY

Mass dry soil (g) 1310,0

SIEVE OPENING IN mm.	MASS SIEVE IN g.	MASS SIEVE + SOIL IN g.	MASS SOIL RETAINED IN g.	% RETAINED	Cum. % RETAINED	% FINER
4,76			73,5	5,6	5,6	94,4
2,38			465,0	35,5	41,1	58,9
2,00			96,2	7,3	48,4	51,6
0,590			274,5	21,0	69,4	30,6
0,420			83,8	6,4	75,8	24,2
0,297			65,8	5,0	80,8	19,2
0,250			30,8	2,4	83,2	16,8
0,149			109,6	8,4	91,6	8,4
0,074			51,9	4,0	95,6	4,4

REMARKS: Sample Wet sieved and then oven dried.

Sample descrciption	Decomposed granite
Sample source	Feathers
Test number	H-FS-1, H-FS-2, SA-FS-2
Dispersing agent	



L.A.E.

CONSOLIDOMETER TEST

SAMPLE DESCRIPTION Decomposed granitic residual soil - Undisturbed sample taken from "Feathers"

SPECIFIC GRAVITY 2,68

TEST NO. C - FS - 1 TESTED BY

DATE 29-4-75 CONSOLIDOMETER NO. B

MASS FILTER PAPERS + POROUS PLATES + PLASTIC + SOIL + RING (INITIAL)	880,8 g
MASS FILTER PAPERS + POROUS PLATES + PLASTIC (INITIAL)	653,6 g
MASS SOIL + RING (INITIAL)	227,2 g
MASS RING	97,5 g
MASS SOIL (INITIAL)	130,7 g
DRY MASS SOIL	123,5 g
MASS WATER INITIAL	7,2 g
FIELD MOISTURE CONTENT %	5,8%

MASS FILTER PAPERS + POROUS PLATES + PLASTIC + SOIL + RING (FINAL)	895,6 g
MASS FILTER PAPERS + POROUS PLATES + PLASTIC (FINAL)	657,2 g
MASS SOIL + RING (FINAL)	238,4 g
MASS RING	97,5 g
MASS SOIL (FINAL)	140,9 g
DRY MASS SOIL	123,5 g
MASS WATER (FINAL)	17,4 g
FINAL MOISTURE CONTENT	14,0%

REMARKS: Irregularities were observed in the void ratio moisture content curves. Thie could be for the following reasons.

(a) Thixotropy

(b) The breaking of the cementing between the particles and allowing the water to enter and then allowing free movement of all particles.

(c) Sample compressing in layers due to side friction.

Reasons (b) and (c) seem the most probable.

LEONARDO A. ERRERA

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
0	3:3000	Tuesday	Field Wc	Load on arm	2000,0
0,25	3:3025	29/4/75		varied from	I9I6,0
0,50	3:3050			0 to 5 lb's	I9I3,5
I,00	3:3I00				I9II,0
2,25	3:3225				I908,0
4,00	3:3400				I905,5
6,25	3:3625				I904,0
9,00	3:3900				I902,5
I2,25	3:4225				I90I,5
I6,00	3:4600				I900,0
25,00	3:5500				I897,5
36,00	4:0600				I896,0
49,00	4:I900				I895,0
64,00	4:3400				I894,0
8I,00	4:3I00				I893,0
0	9:0000	Wednesday	Field Wc	Load on arm	I893,0
0,25	9:0025	30/4/75		varied from	I827,0
0,50	9:0050			5 to I0 lb's	I823,0
I,00	9:0I00				I820,0
2,25	9:0225				I8I5,0
4,00	9:0400				I8I2,0
6,25	9:0625				I8I0,5
9,00	9:0900				I8o9,0
I2,25	9:I225				I802,0
I6,00	9:I600				I805,0
25,00	9:2500				I804,0
36,00	9:3600				I803,0
49,00	9:4900				I80I,0
64,00	I0:0400				I800,0

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
81,00	10:2100	30/4/75	Field Wc	5 to 10 lbs	1799,0
0	11:0000	Thursday	Field Wc	10lb reapplied	1799,0
0,25	11:0025	1/5/75	+ 2 ml of water	after strain	1727,5
0,50	11:0050			being kept	1722,0
1,00	11:0100			constant	1719,0
2,25	11:0225				1715,5
4,00	11:0400				1713,0
6,25	11:0625				1711,5
9,00	11:0900				1710,0
12,25	11:1225				1709,0
16,00	11:1600				1708,0
25,00	11:2500				1707,0
36,00	11:3600				1705,5
49,00	11:4900				1704,5
64,00	12:0400				1703,5
81,00	12:2100				1703,0
0	9:3000	Friday	Field Wc	10lb reapplied	1703,0
0,25	9:3025	2/5/75	+ 4 ml of water	after strain	1520,0
0,50	9:3050			being kept	1510,0
1,00	9:3100			constant	1502,5
2,25	9:3225				1494,5
4,00	9:3400				1490,0
6,25	9:3625				1488,0
9,00	9:3900				1485,0
12,25	9:4225				1483,0
16,00	9:4600				1481,0
25,00	9:5500				1479,0
36,00	10:0600				1477,0

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
49,00	I0:I900	Friday	Field Wc + 4ml	I0lb reapplied	I475,0
64,00	I0:3400				I474,0
8I,00	I0:5I00				I473,0
0	9:0000	Monday	Field Wc	I0lb reapplied	I473,0
0,25	9:0025	5/5/75	+ 5 ml water	after strain	I469,0
0,50	9:0050			being kept	I468,5
I,00	9:0I00			constant	I468,0
2,25	9:0225				I467,0
4,00	9:0400				I466,0
6,25	9:0625				I465,0
9,00	9:0900				I464,5
I2,25	9:I225				I464,0
I6,00	9:I600				I463,5
25,00	9:2500				I462,5
36,00	9:3600				I462,0
49,00	9:4900				I46I,0
64,00	I0:0400				I460,5
8I,00	I0:2I00				I460,0
0,00	9:4500	Tuesday	Field Wc	I0lb reapplied	I460,0
0,25	9:4525	6/5/75	+ 6 ml water	after strain	I456,0
0,50	9:4550			being kept	I454,0
I,00	9:4600			constant	I444,0
2,25	9:4725				I434,0
4,00	9:4900				I424,0
6,25	9:5I25				I4I7,0
9,00	9:5400				I4I2,5
I2,25	9:5725				I409,5
I6,00	I0:0I00				I407,5
25,00	I0:I000				I404,5

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
36,00	I0:2I00	Tuesday	Field Wc	I0lb reapplied	I402,5
49,00	I0:3400	6/5/75	+ 6 ml water	after strain	I400,5
64,00	I0:4900			being kept	I399,5
8I,00	II:0600				I398,5
0,00	9:I500	Wednesday	Field Wc	I0lb reapplied	I398,5
0,25	9:I525	7/5/75	+ 7 ml water	after strain	I395,5
0,50	9:I550			being kept	I394,0
I,00	9:I600			constant	I392,0
2,25	9:I725				I388,5
4,00	9:I900				I379,0
6,25	9:2I25				I375,0
9,00	9:2400				I37I,0
I2,25	9:2725				I366,0
I6,00	9:3I00				I363,0
25,00	9:4000				I358,5
36,00	9:5I00				I355,5
49,00	I0:0400				I353,0
64,00	I0:I900				I35I,0
8I,00	I0:3600				I350,0
I00,00	I0:5500				I349,0
0,00	9:4500	Friday	Field Wc	I0lb reapplied	I349,0
0,25	9:4525	9/5/75	+ 8 ml water	after strain	I348,0
0,50	9:4550			being kept	I342,0
I,00	9:4600			constant	I347,5
2,25	9:4725				I347,0
4,00	9:4900				I346,0
6,25	9:5I25				I346,0
9,00	9:5400				I344,5

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
I2,25	9:5725	Friday	Field Wc	I0 lb reapplied	I344,5
I6,00	I0:0I00	9/5/75	+ 8 ml water	after strain	I343,0
25,00	I0:I000			being kept	I342,0
36,00	I0:2I00			constant	I339,5
49,00	I0:3400				I337,5
64,00	I0:4900				I336,0
8I,00	II:0600				I335,0
I00,00	II:2500				I334,0
0,00	8:4500	Monday	Field Wc	I0lb reapplied	I334,0
0,25	8:4525	I2/5/75	+ 9 ml water	after strain	I33I,5
0,50	8:4550			being kept	I33I,0
I,00	8:4600			constant	I330,5
2,25	8:4725				I330,5
4,00	8:4900				I330,0
6,25	8:5I25				I329,5
9,00	8:5400				I329,0
I2,25	8:5725				I328,5
I6,00	9:0I00				I328,0
25,00	9:I000				I327,0
36,00	9:2I00				I325,0
49,00	9:3400				I322,0
64,00	9:4900				I3I9,0
8I,00	I0:0600				I3I7,0
I00,00	I0:2500				I3I5,0
I2I,00	I0:4600				I3I3,0
I44,00	II:0900				I3II,0
I69,00	II:3400				I3I0,0

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
0,00	8:4500	Tuesday	Field Wc	I0lb reapplied	I3I0,0
0,25	8:4525	I3/5/75	+ I0 ml water	after strain	I309,0
0.50	8:4550			being kept	I308,5
I,00	8:4600			constant	I308,0
2,25	8:4725				I307,5
4,00	8:4900				I304,5
6,25	8:5I25				I30I,5
9,00	8:5400				I289,0
I2,25	8:5725				I280,0
I6,00	9:0I00				I270,5
25,00	9:I000				I258,0
36,00	9:2I00				I250,0
49,00	9:3400				I246,0
64,00	9:4900				I243,0
8I,00	I0:0600				I24I,0
I00,00	I0:2500				I239,5
I2I,00	I0:4600				I239,0
I44,00	II:0900				I238,0
I69,00	II:3400				I237,0
0,00	8:4500	Wednesday	Field Wc	I0lb reapplied	I237,0
0,25	8:4525	I4/5/75	+ II ml water	after strain	I236,5
0,50	8:4550			being kept	I236,5
I,00	8:4600			constant	I236,0
2,25	8:4725				I236,0
4,00	8:4900				I235,5
6,25	8:5I25				I235,5
9,00	8:5400				I235,0
I2,25	8:5725				I234,5

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
I6,00	9:0I00	Wednesday	Field Wc	I0lb reapplied	I234,0
25,00	9:I000	I9/5/75	+ II ml water	after strain	I233,0
36,00	9:2I00			being kept	I23I,5
49,00	9:3400			constant	I228,0
64,00	9:4900				I224,0
8I,00	I0:0600				I220,0
I00,00	I0:2500				I2I7,0
I2I,00	I0:4600				I2I3,0
I44,00	II:0900				I2I0,0
I69,00	II:3400				I208,0
I96,00	I2:0I00				I204,0
0,00	8:4500	Thursday	Field Wc	I0lb reapplied	I207,0
0,25	8:4525	I5/5/75	+ I2 ml water	after strain	I206,5
0,50	8:4550			being kept	I206,0
I,00	8:4600			constant	I206,0
2,25	8:4725				I205,5
4,00	8:4900				I205,0
6,25	8:5I25				I204,5
9,00	8:5400				I204,0
I2,25	8:5725				I203,5
I6,00	9:0I00				I203,0
25,00	9:I000				I202,0
36,00	9:2I00				II99,5
49,00	9:3400				II97,0
64,00	9:4900				II93,0
8I,00	I0:0600				II89,0
I00,00	I0:2500				II86,0
I2I,00	I0:4600				II82,0
I44,oo	II:0900				II79,0

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
I69,00	II:3400	Thursday	Field Wc	I0lb reapplied	II76,5
I96,00	I2:0I00	I5/5/75	+ I2 ml water	after strain	II75,0
225,00	I2:3000			being kept	II74,0
				constant	
0,00	8:4500	Friday	Field Wc	I0lb reapplied	II74,0
0,25	8:4525	I6/5/75	+ I3 ml water	after strain	II73,5
0,50	8:4550			being kept	II73,5
I,00	8:4600			constant	II73,0
2,25	8:4725				II72,5
4,00	8:4900				II72,0
6,25	8:5I25				II7I,5
9,00	8:5400				II70,5
I2,25	8:5725				II69,0
I6,00	9:0I00				II67,5
25,00	9:I000				II60,0
36,00	9:2I00				II46,0
49,00	9:3400				II32,0
64,00	9:4900				II25,0
8I,00	I0:0600				II20,0
I00,00	I0:2500				III7,5
I2I,00	I0:4600				III5,0
I44,00	II:0900				II3,5
I69,00	II:3400				III2,5
I96,00	I2:0I00				IIII,5
225,00	I2:3000				III0,5
0,00	8:4500	Monday	Field Wc	I0lb reapplied	III0,5
0,25	8:4525	I9/5/75	+ I4 ml water	after strain	III0,0
0,50	8:4550			being kept	III0,0

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
I,00	8:4600	Monday	Field Wc	I0lb reapplied	III0,0
2,25	8:4725	I9/5/75	+ I4 ml water	after strain	III0,0
4,00	8:4900			being kept	III0,0
6,25	8:5I25			constant	II09,5
9,00	8:5400				II09,5
I2,25	8:5725				II09,5
I6,00	9:0I00				II09,5
25,00	9:I000				II09,0
36,00	9:2I00				II09,0
49,00	9:3400				II09,0
64,00	9:4900				II08,5
8I,00	I0:0600				II08,5
I00,00	I0:2500				II08,5
I2I,00	I0:4600				II08,5
I44,00	II:0900				II08,0
I69,00	II:3400				II08,0
I96,00	I2:0I00				II08,0
225,00	I2:3000				II08,0
0,00	8:4500	Tuesday	Field Wc	I0lb reapplied	II08,0
0,25	8:4525	20/5/75	+ I5 ml Water	after strain	II08,0
0,50	8:4550			being kept	II08,0
I,00	8:4600			constant	II08,0
2,25	8:4725				II08,0
4,00	8:4900				II08,0
6,25	8:5I25				II08,0
9,00	8:5400				II08,0
I2,25	8:5725				II08,0
I6,00	9:0I00				II07,5
25,00	9:I000				II07,5

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
36,00	9:2I00	Tuesday	Field Wc	I0lb reapplied	II07,5
49,00	9:3400	20/5/75	+ I5 ml water	after strain	II07,5
64,00	9:4900			being kept	II07,0
8I,00	I0:0600			constant	II07,0
I00,00	I0:2500				II07,0
I2I,00	I0:4600				II07,0
I44,00	II:0900				II06,5
I69,00	II:3400				II06,5
I96,00	I2:0I00				II06,5
225,00	I2:3000				II06,0
0,00	2:3000	Wednesday	Field Wc	I0lb reapplied	II06,0
0,25	2:3025	2I/5/75	+ I6 ml water	after strain	94,0
0,50	2:3050			being kept	82,0
I,00	2:3I00			constant	66,0
2,25	2:3225				52,5
4,00	2:3400				48,0
6,25	2:3625				45,5
9,00	2:3900				43,5
I2,25	2:4225				42,5
I6,00	2:4600				4I,5
25,00	2:5500				39,5
36,00	3:0600				38,5
49,00	3:I900				37,5
64,00	3:3400				36,5
8I,00	3:5I00				35,5
I00,00	4:I000				35,0
I2I,00	4:3I00				34,0

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
0,00	4:3500	Wedmesday	Field Wc	Load on arm	734,5
0,25	4:3525	2I/5/75	+ I6 ml water	varied from	755,5
0,50	4:3550			20lbs to 2½lbs	756,0
I,00	4:3600				756,5
2,25	4:3725				757,0
4,00	4:3900				758,0
6,25	4:4I25				758,5
9,00	4:4400				758,5
I2,25	4:4725				759,0
0,00	4:5000	Wednesday	Field Wc	Load on arm	759,0
0,25	4:5025	2I/5/75	+ I5 ml water	varied from	785,0
0,50	4:5050			2½lbs to 0lbs.	787,0
I,00	4:5I00				789,0
2,25	4:5225				790,0
4,00	4:5400				79I,5
6,25	4:5625				793,5

TEST NUMBER=C-FS-1-0
INITIAL VOLUME= 88368.799
VOLUME OF SOLIDS= 46082,089
INITIAL VOID RATIO= .918
INITIAL MOISTURE CONTENT= .058

ALL THE VOLUMES OUTPUT ARE IN MILLIMETERS CUBED
THE VERTICAL STRESS IS IN KILONEWTONS PER SQUARE METER
THE DEFLECTION READINGS ARE IN TEN THOUSANDTHS OF AN INCH

DEFLECTION READINGS	MOISTURE CONTENT	STRESS VERTICAL	VOID RATIO	DELTA W	DEGREE SATURATION
1893.00	.058	55.37	.892	.000	.175
1799.00	.058	110.74	.869	.000	.180
1703.00	.069	110.74	.845	.668	.218
1473.00	.079	110.74	.789	.411	.269
1460.00	.084	110.74	.786	.396	.288
1398.50	.090	110.74	.771	.327	.312
1349.00	.095	110.74	.759	.272	.335
1334.00	.100	110.74	.755	.255	.356
1310.00	.105	110.74	.750	.228	.377
1237.00	.111	110.74	.732	.147	.405
1208.00	.116	110.74	.725	.114	.429
1174.00	.121	110.74	.716	.076	.453
1110.50	.126	110.74	.701	.005	.483
1108.00	.132	110.74	.700	.002	.504
1106.00	.137	110.74	.700	.000	.524
734.00	.137	221.47	.609	.000	.602
759.00	.137	27.68	.615	.000	.596
796.00	.137	.00	.624	.000	.588

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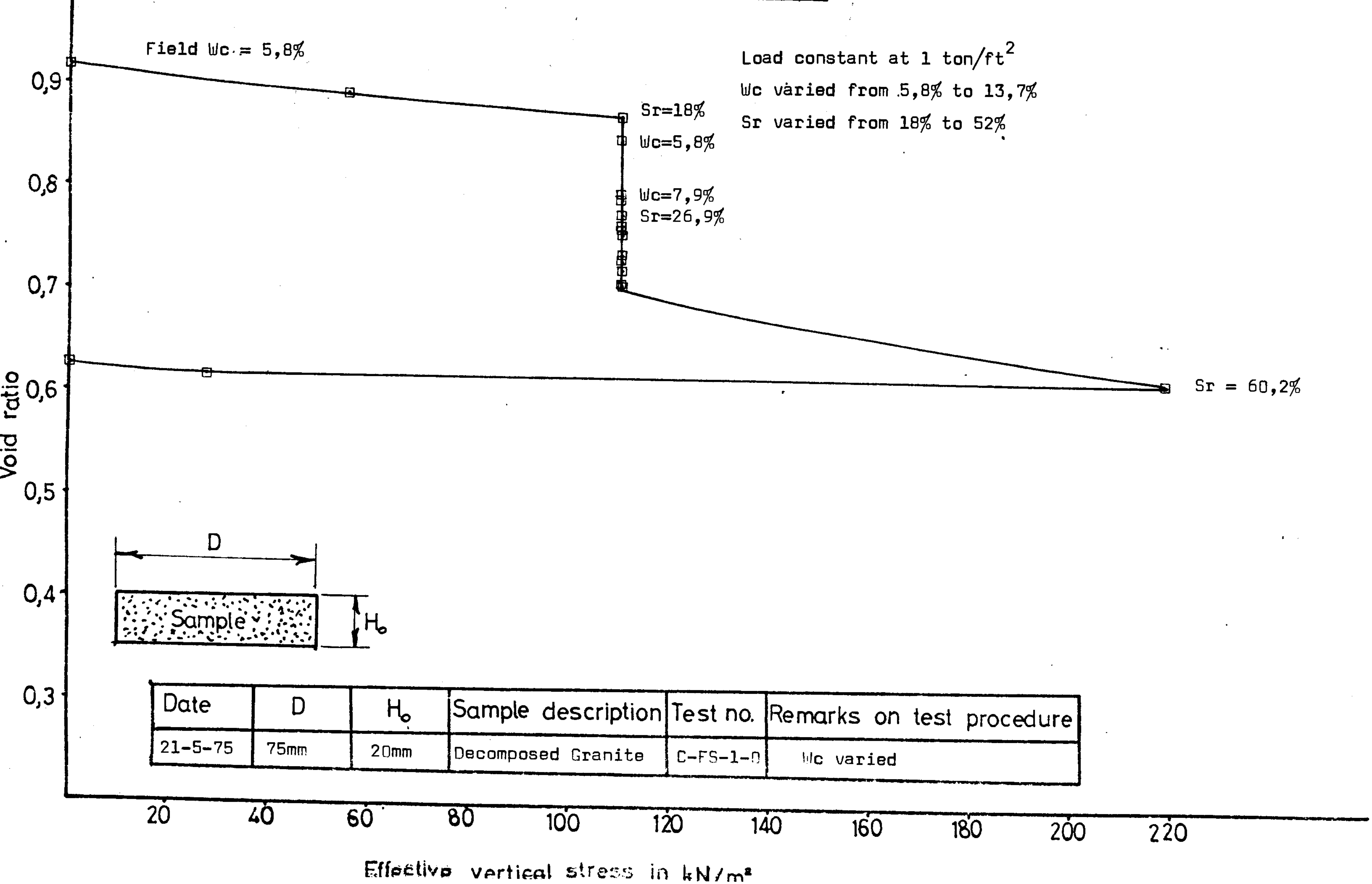
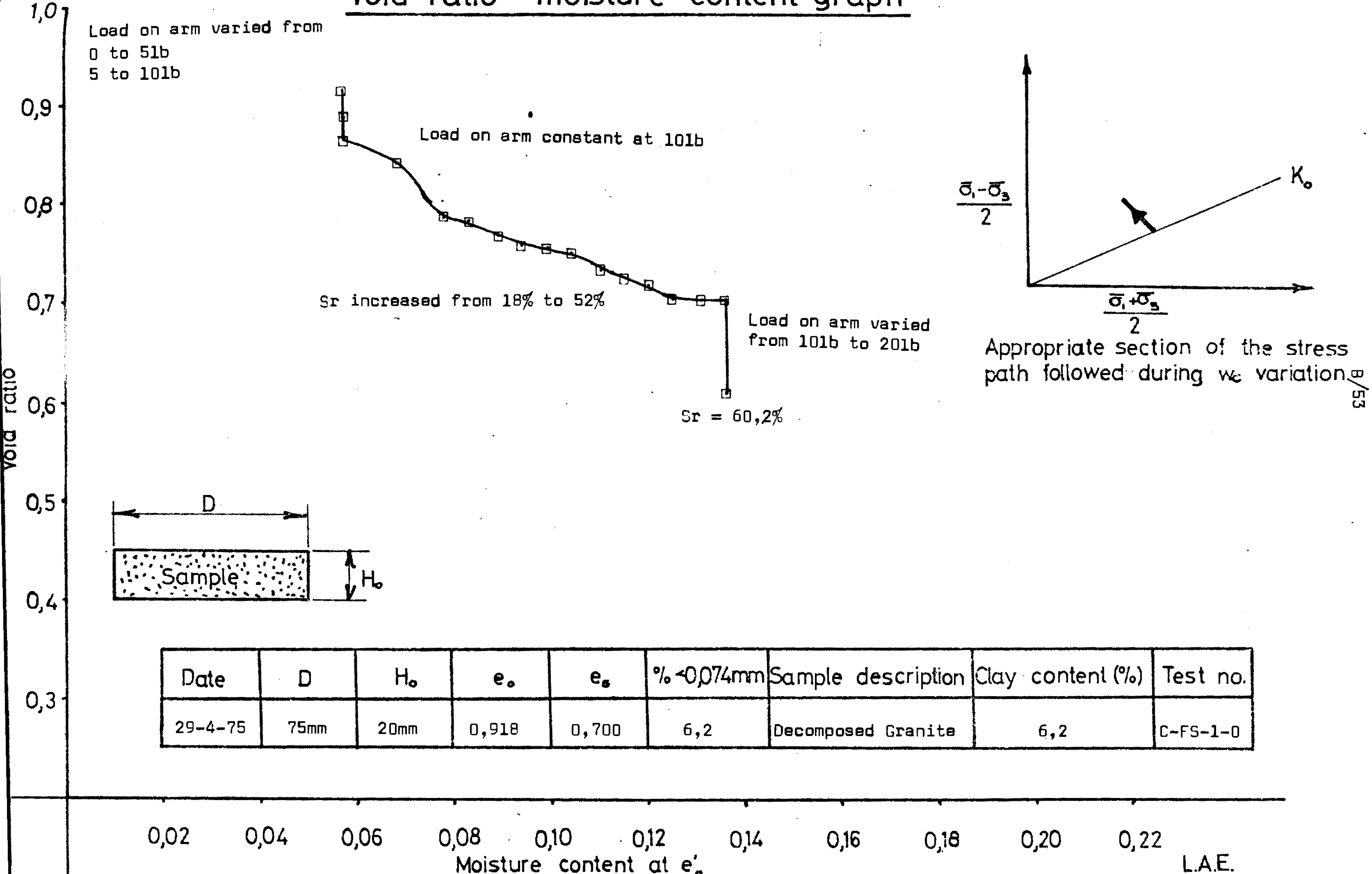
Void ratio — effective stress graph



Date	D	H_o	Sample description	Test no.	Remarks on test procedure
21-5-75	75mm	20mm	Decomposed Granite	C-FS-1-0	Wc varied

B/52

Void ratio — moisture content graph



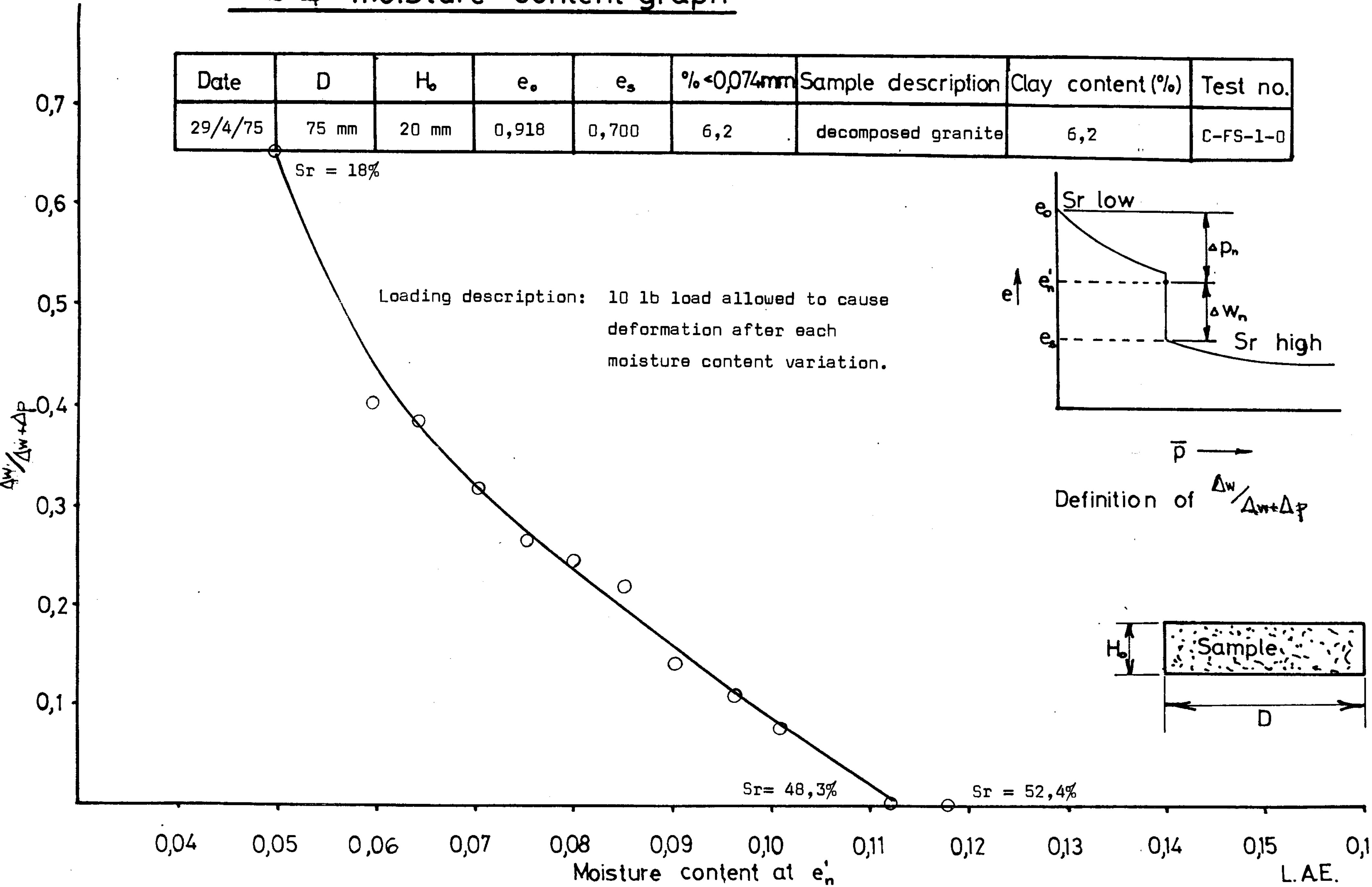
Date	D	H_o	e_o	e_s	% <0,074mm	Sample description	Clay content (%)	Test no.
29-4-75	75mm	20mm	0,918	0,700	6,2	Decomposed Granite	6,2	C-FS-1-0

L.A.E.

B/53

$\Delta w / \Delta w + \Delta p$ – moisture content graph

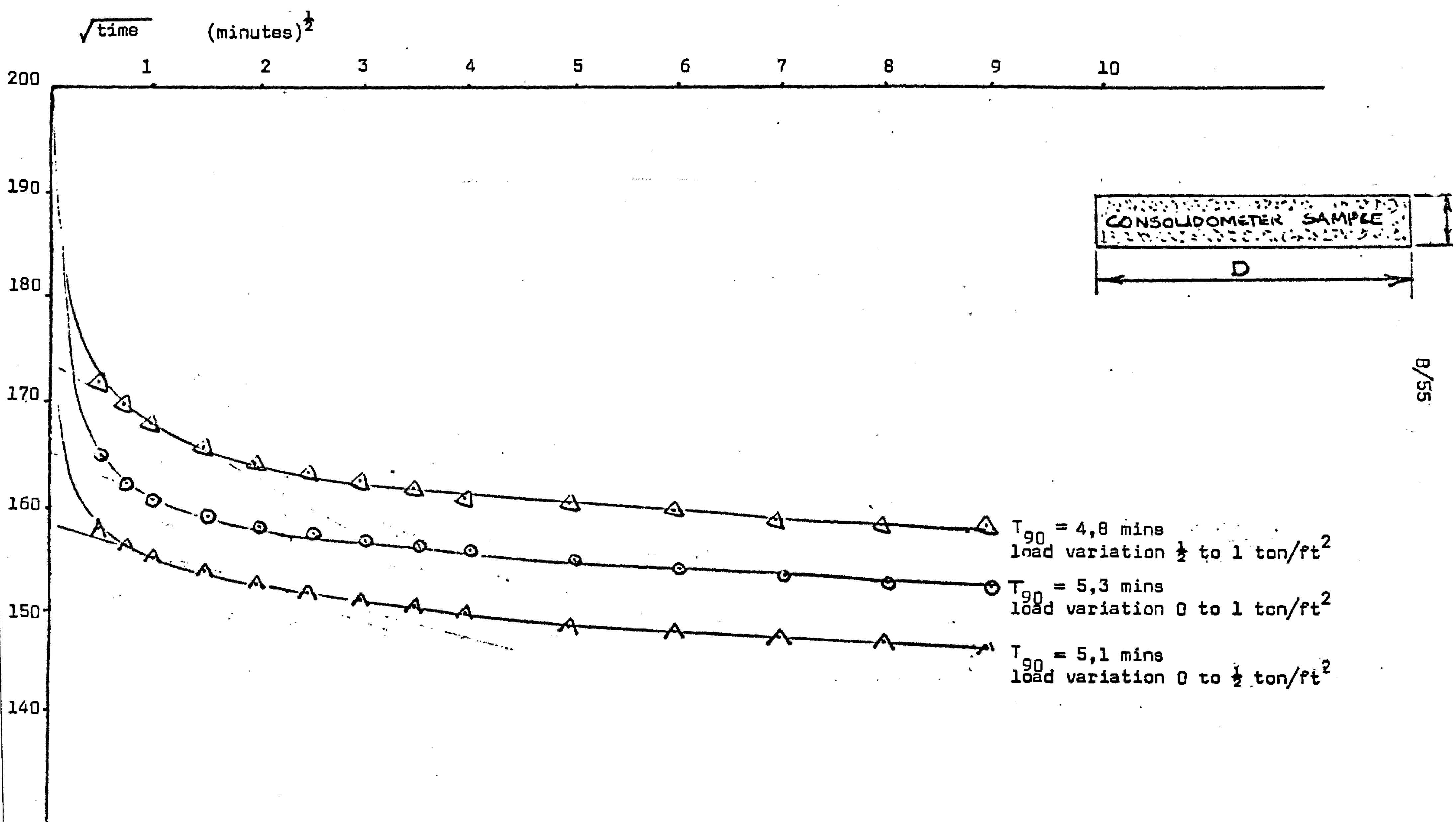
Date	D	H_o	e_o	e_s	% <0,074mm	Sample description	Clay content (%)	Test no.
29/4/75	75 mm	20 mm	0,918	0,700	6,2	decomposed granite	6,2	C-FS-1-0



L.A.E.

B/54

DEFLECTION - TIME CURVES FOR SAMPLE EX FEATHERS



B/55

CONSOLIDOMETER TEST

SAMPLE DESCRIPTION Decomposed granitic residual soil - Undisturbed sample taken from "Feathers"

SPECIFIC GRAVITY 2,68

TEST NO. C-FS-2

TESTED BY

DATE 30-4-75

CONSOLIDOMETER NO. A

MASS FILTER PAPERS + POROUS PLATES + PLASTIC + SOIL + RING (INITIAL)	873,4 g
MASS FILTER PAPERS + POROUS PLATES + PLASTIC (INITIAL)	651,2 g
MASS SOIL + RING (INITIAL)	222,2 g
MASS RING	94,4 g
MASS SOIL (INITIAL)	127,8 g
DRY MASS SOIL	120,8 g
MASS WATER INITIAL	7,0 g
FIELD MOISTURE CONTENT %	5,8%

MASS FILTER PAPERS + POROUS PLATES + PLASTIC + SOIL + RING (FINAL)	
MASS FILTER PAPERS + POROUS PLATES + PLASTIC (FINAL)	
MASS SOIL + RING (FINAL)	
MASS RING	
MASS SOIL (FINAL)	
DRY MASS SOIL	
MASS WATER (FINAL)	
FINAL MOISTURE CONTENT	

REMARKS: No moisture content variation.

LEONARDO A. ERRERA

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
0,00	9:3000	Wednesday	Field Wc	Load on arm	2000,0
0,25	9:3025	30-4-75		varied from	1921,0
0,50	9:3050			0 to 5lbs	1915,0
1,00	9:3100				1912,5
2,25	9:3225				1910,5
4,00	9:3400				1908,0
6,25	9:3625				1907,0
9,00	9:3900				1905,0
12,25	9:4225				1904,0
16,00	9:4600				1902,0
25,00	9:5500				1901,0
36,00	10:0600				1900,0
49,00	10:1900				1899,0
64,00	10:3400				1898,0
81,00	10:5100				1897,0
0,00	11:0000	Wednesday	Field Wc	Load on arm	1897,0
0,25	11:0025	30-4-75		varied from	1836,0
0,50	11:0050			5 to 10lbs	1832,0
1,00	11:0100				1829,0
2,25	11:0225				1825,0
4,00	11:0400				1822,0
6,25	11:0625				1820,0
9,00	11:0900				1819,0
12,25	11:1225				1818,0
16,00	11:1600				1817,0
25,00	11:2500				1816,0
36,00	11:3600				1814,0
49,00	11:4900				1812,0
64,00	12:0400				1811,0

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
81,00	12:2100				1810,0
0,00	12:2500	Wednesday	Field Wc	Load on arm	1810,0
0,25	12:2525	30-4-75		varied from	1718,0
0,50	12:2550			10 to 20lbs	1714,0
1,00	12:2600				1711,0
2,25	12:2725				1707,5
4,00	12:2900				1703,0
6,25	12:3125				1701,0
9,00	12:3400				1700,0
12,25	12:3725				1699,0
16,00	12:4100				1697,0
25,00	12:5000				1696,0
36,00	1:0100				1694,0
49,00	1:1400				1693,0
64,00	1:2900				1692,0
81,00	1:4600				1691,0
0,00	2:4500	Wednesday	Field Wc	Load on arm	1691,0
0,25	2:4525	30-4-75		varied from	1710,5
0,50	2:4550			20 to 2½lbs	1710,5
1,00	2:4600				1711,0
2,25	2:4725				1711,5
4,00	2:4900				1712,0
6,25	2:5125				1712,0
9,00	2:5400				1712,0
12,25	2:5725				1712,0
16,00	3:0100				1712,0
25,00	3:1000				1712,0
36,00	3:2100				1712,0

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
0,00	3:2500	Wednesday	Field Wc	Load on arm	1712,0
0,25	3:2525	30-4-75		varied from	1723,0
0,50	3:2550			$2\frac{1}{2}$ to 0lbs	1723,5
1,00	3:2600				1724,5
2,25	3:2725				1725,5
4,00	3:2900				1726,5
6,25	3:3125				1727,0
9,00	3:3400				1728,0
12,25	3:3725				1728,0
16,00	3:4100				1728,5
25,00	3:5000				1729,0

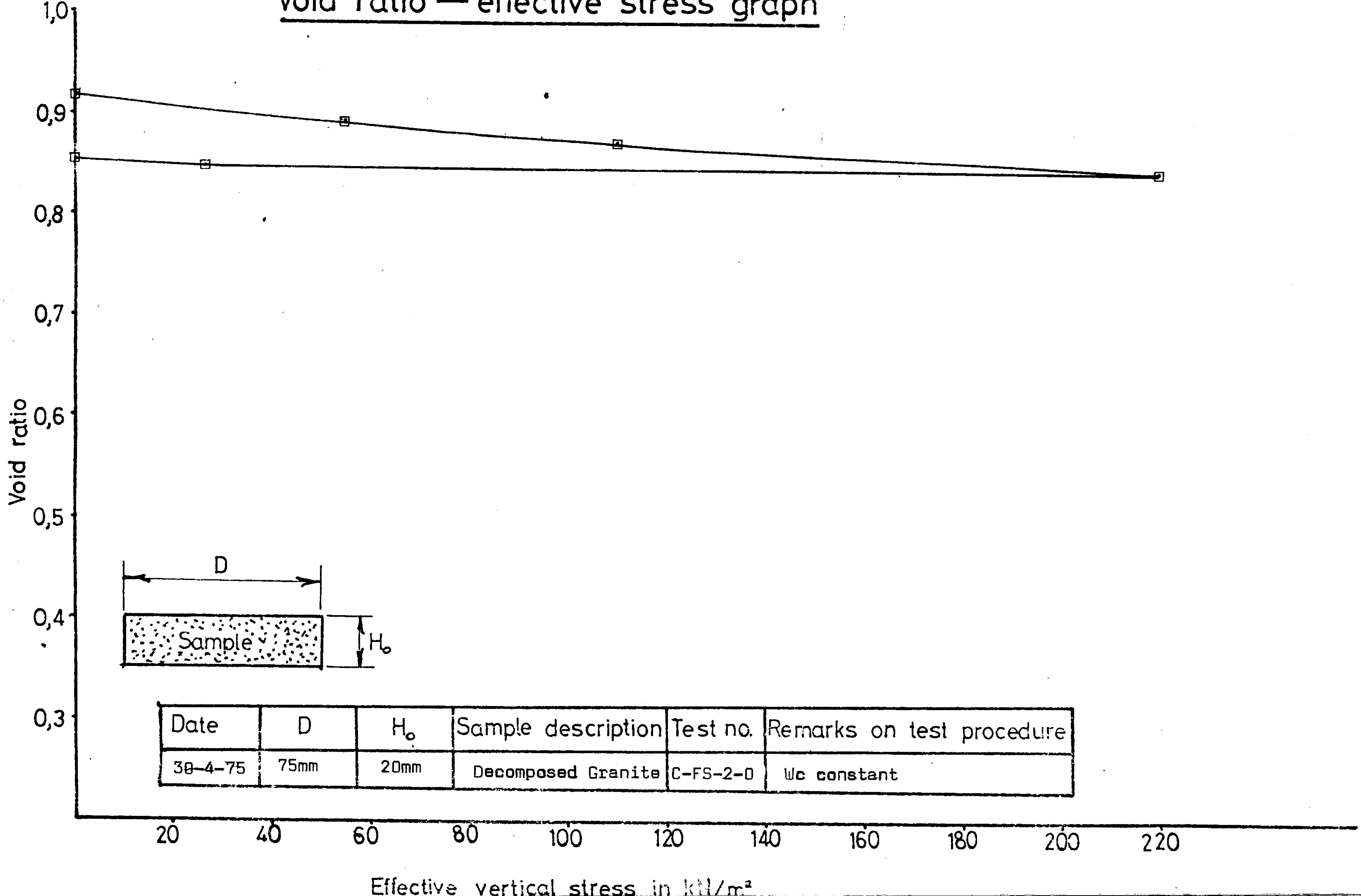
TEST NUMBER=C-FS-2-C
INITIAL VOLUME= 53363.739
VOLUME OF SOLIDS= 45082.089
INITIAL VOID RATIO= .918
INITIAL MOISTURE CONTENT= .058

ALL THE VOLUMES OUTPUT ARE IN MILLIMETERS CUBED
THE VERTICAL STRESS IS IN KILONEWTONS PER SQUARE METER
THE DEFLECTION READINGS ARE IN TEN THOUSANDTHS OF AN INCH

DEFLECTION READINGS	MOISTURE CONTENT	STRESS VERTICAL	VOID RATIO	DELTA W	DEGREE SATURATION
1898.00	.058	55.37	.893	.000	.175
1810.00	.058	110.74	.871	.000	.179
1691.00	.058	221.47	.842	.000	.185
1712.00	.058	27.68	.847	.000	.184
1729.00	.058	.00	.852	.000	.183

B/60

Void ratio — effective stress graph



Date	D	H_o	Sample description	Test no.	Remarks on test procedure
30-4-75	75mm	20mm	Decomposed Granite	C-FS-2-0	Wc constant

TRIAXIAL TEST

SAMPLE DESCRIPTION Decomposed granitic residual soil - undisturbed sample taken from " Feathers"

SPECIFIC GRAVITY 2,68

TEST NO. C-FS-1

TESTED BY

DATE 9-7-75

TRIAXIAL CELL

MASS SOIL INITIAL

MASS DRY SOIL

MASS WATER INITIAL

FIELD MOISTURE CONTENT

MASS SOIL FINAL 166,4 g

MASS DRY SOIL 136,6 g

MASS WATER FINAL 29,8 g

FINAL MOISTURE CONTENT 22%

MASS OF CONTAINER 99,0 g

REMARKS.

Sample height = 78mm

Sample diameter = 37mm

ERTICAL STRESS kN/m^2	DEVIATOR STRESS kN/m^2	CELL PRESSURE lb/in^2	DIAL GAUGE READINGS
31	19	3	220,0
35	21	3	223,5
36	22	3½	228,5
40	24	3½	330,5
41	25	4	335,5
42	25	4	335,5
44	26	4	338,5
47	28	4	344,5
51	31	4	402,5
52	31	4	402,5
54	32	4	406,5
60	36	4½	426,0
61	37	4½	430,5
64	38	4½	434,5
65	39	5	437,5
67	40	5	443,5
69	41	5	455,0
71	43	5½	467,0
73	44	5½	479,5
74	44	6	485,5
76	46	6	497,0
77	46	6½	503,0
81	49	6½	523,0
83	50	7	531,0
85	51	7	539,0
87	52	7½	547,0
88	53	8	551,0
91	55	8	563,0
94	56	8½	576,0
103	62	8½	612,5
104	62	8½	615,5
106	64	9	621,0
109	65	9½	630,0
118	71	9½	651,0
121	73	10	657,0
123	74	10	665,0
134	80	10	702,0
137	82	10	705,5

TRIAXIAL

SAMPLE DESCRIPTION Decomposed granitic residual soil - undisturbed sample taken from "Feathers"

SPECIFIC GRAVITY 2,68

TEST NO. T-FS-3

TESTED BY

DATE 11-7-77

TRIAXIAL CELL

MASS SOIL INITIAL 124,6 g

MASS DRY SOIL 118,4 g

MASS WATER INITIAL 6,2 g

FIELD MOISTURE CONTENT 5,2%

MASS SOIL FINAL

MASS DRY SOIL

MASS WATER FINAL

FINAL MOISTURE CONTENT

MASS OF CONTAINER

REMARKS.

Initial height of sample = 76mm

Initial diameter of sample = 39mm

VERTICAL STRESS kN/m^2	DEVIATOR STRESS kN/m^2	CELL PRESSURE lb/in^2	DIAL GAUGE READINGS
31	19	2½	0,135
35	21	2½	0,145
36	22	3	0,150
40	24	3	0,170
41	25	3	0,190
42	25	3½	0,190
44	26	3½	0,215
47	28	3½	0,235
51	31	4	0,295
52	31	4	0,295
54	32	4½	0,310
60	36	4½	0,325
61	37	5	0,335
64	38	5	0,340
65	39	5	0,345
67	40	5	0,355
69	41	5½	0,360
71	43	5½	0,365
73	44	5½	0,370
74	44	5½	0,370
76	46	6	0,380
77	46	6	0,380
81	49	6	0,390
83	50	6	0,395
85	51	6	0,405
87	52	6	0,415
88	53	6½	0,420
91	55	6½	0,435
94	56	6½	0,440
103	62	7	0,470
104	62	7	0,470
106	64	7	0,475
109	65	7	0,480
118	71	7½	1,015
121	73	7½	1,020
123	74	7½	1,025
134	80	8	1,070
137	82	8½	1,075

TRIAXIAL [illegible]

SAMPLE DESCRIPTION Decomposed granitic residual soil - undisturbed sample taken from "Feathers"

SPECIFIC GRAVITY 2,68

TEST NO. T-FS-4

TESTED BY

DATE 12-7-77

TRIAXIAL CELL

MASS SOIL INITIAL

MASS DRY SOIL

MASS WATER INITIAL

FIELD MOISTURE CONTENT

MASS SOIL FINAL 158,5 g

MASS DRY SOIL 133,7 g

MASS WATER FINAL 24,8 g

FINAL MOISTURE CONTENT 18,5%

MASS OF CONTAINER 94,5 g

REMARKS.

Initial height of sample = 81mm

Initial diameter of sample = 39mm

VERTICAL STRESS kN/m^2	DEVIATOR STRESS kN/m^2	CELL PRESSURE lb/in^2	DIAL GAUGE READINGS
31	19	3	1,225
35	21	3½	1,250
36	22	3½	1,275
40	24	3½	1,310
41	25	3½	1,335
42	25	3½	1,335
44	26	4	1,360
47	28	4	1,405
51	31	4½	2,090
52	31	4½	2,090
54	32	4½	2,140
60	36	5	2,240
61	37	5	2,270
64	38	5	2,300
65	39	5½	2,330
67	40	5½	2,360
69	41	5½	2,400
71	43	6	3,020
73	44	6	3,060
74	44	6	3,060
76	46	6	3,130
77	46	6	3,130
81	49	6½	3,270
83	50	6½	3,295
85	51	6½	3,330
87	52	6½	3,360
88	53	7	3,390
91	55	7	3,445
94	56	7	3,480
103	62	7½	4,180
104	62	7½	4,180
106	64	7½	4,180
109	65	7½	4,240
118	71	8	5,020
121	73	8	5,095
123	74	8½	5,130
134	80	9	5,310
137	82	9	5,370

TRIAXIAL TEST

SAMPLE DESCRIPTION Decomposed granitic residual soil - undisturbed sample taken from "Feathers"

SPECIFIC GRAVITY 2,68

TEST NO. T-FS-5 TESTED BY

DATE 13-7-75 TRIAXIAL CELL

MASS SOIL INITIAL

MASS DRY SOIL

MASS WATER INITIAL

FIELD MOISTURE CONTENT

MASS SOIL FINAL 231,5 g

MASS DRY SOIL 219,9 g

MASS WATER FINAL 11,6 g

FINAL MOISTURE CONTENT 8,2%

MASS OF CONTAINER 78,6 g

REMARKS

Initial height of sample = 81mm

Initial diameter of sample = 39mm

VERTICAL STRESS kN/m²	DEVIATOR STRESS kN/m²	CELL PRESSURE lb/in²	DIAL GAUGE READINGS
31	19	2½	0,185
35	21	2½	0,200
36	22	3	0,215
40	24	3	0,235
41	25	3	0,245
42	25	3	0,245
44	26	3½	0,255
47	28	3½	0,255
51	31	3½	0,275
52	31	3½	0,275
54	32	4	0,290
60	36	4	0,330
61	37	4	0,340
64	38	4½	0,350
65	39	4½	0,360
67	40	4½	0,365
69	41	5	0,370
71	43	5	0,375
73	44	5	0,380
74	44	5	0,380
76	46	5½	0,395
77	46	5½	0,395
81	49	5½	0,415
83	50	6	0,420
85	51	6	0,420
87	52	6	0,425
88	53	6	0,430
91	55	6½	0,440
94	56	6½	0,445
103	62	7	0,485
104	62	7	0,485
106	64	7½	0,495
109	65	7½	1,000
118	71	8	1,040
121	73	8	1,060
123	74	8	1,065
134	80	8½	1,090
137	82	8½	1,100

TRIAXIAL TEST

SAMPLE DESCRIPTION Decomposed granitic residual soil - undisturbed sample taken from "Feathers"

SPECIFIC GRAVITY 2,68

TEST NO. T-FS-6

TESTED BY

DATE 13-7-75

TRIAXIAL CELL

MASS SOIL INITIAL

MASS DRY SOIL

MASS WATER INITIAL

FIELD MOISTURE CONTENT

MASS SOIL FINAL 125,7 g

MASS DRY SOIL 111,0 g

MASS WATER FINAL 14,7 g

FINAL MOISTURE CONTENT 13,2%

MASS OF CONTAINER 94,5 g

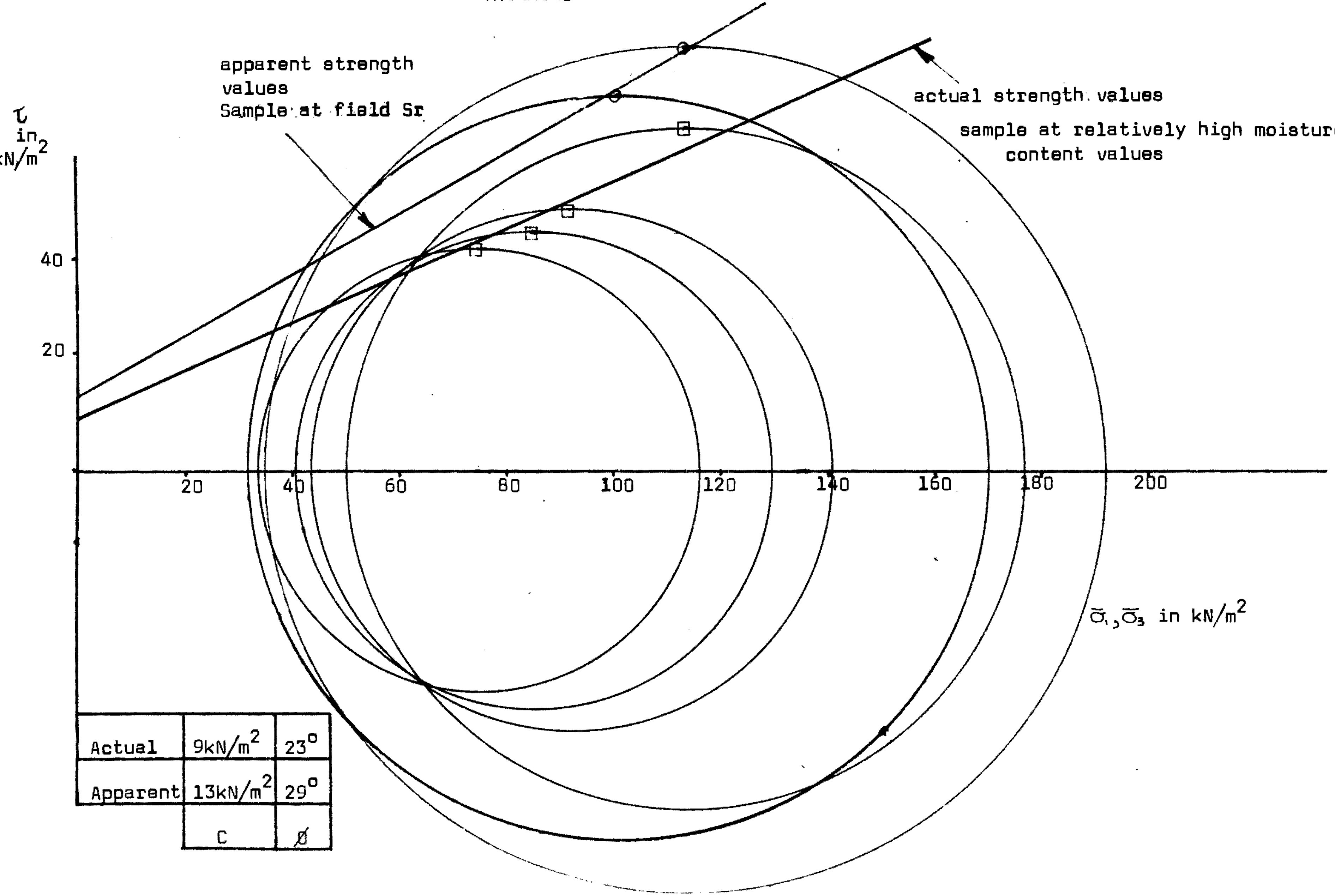
REMARKS:

Initial height of sample = 71mm

Initial diameter of sample = 39mm

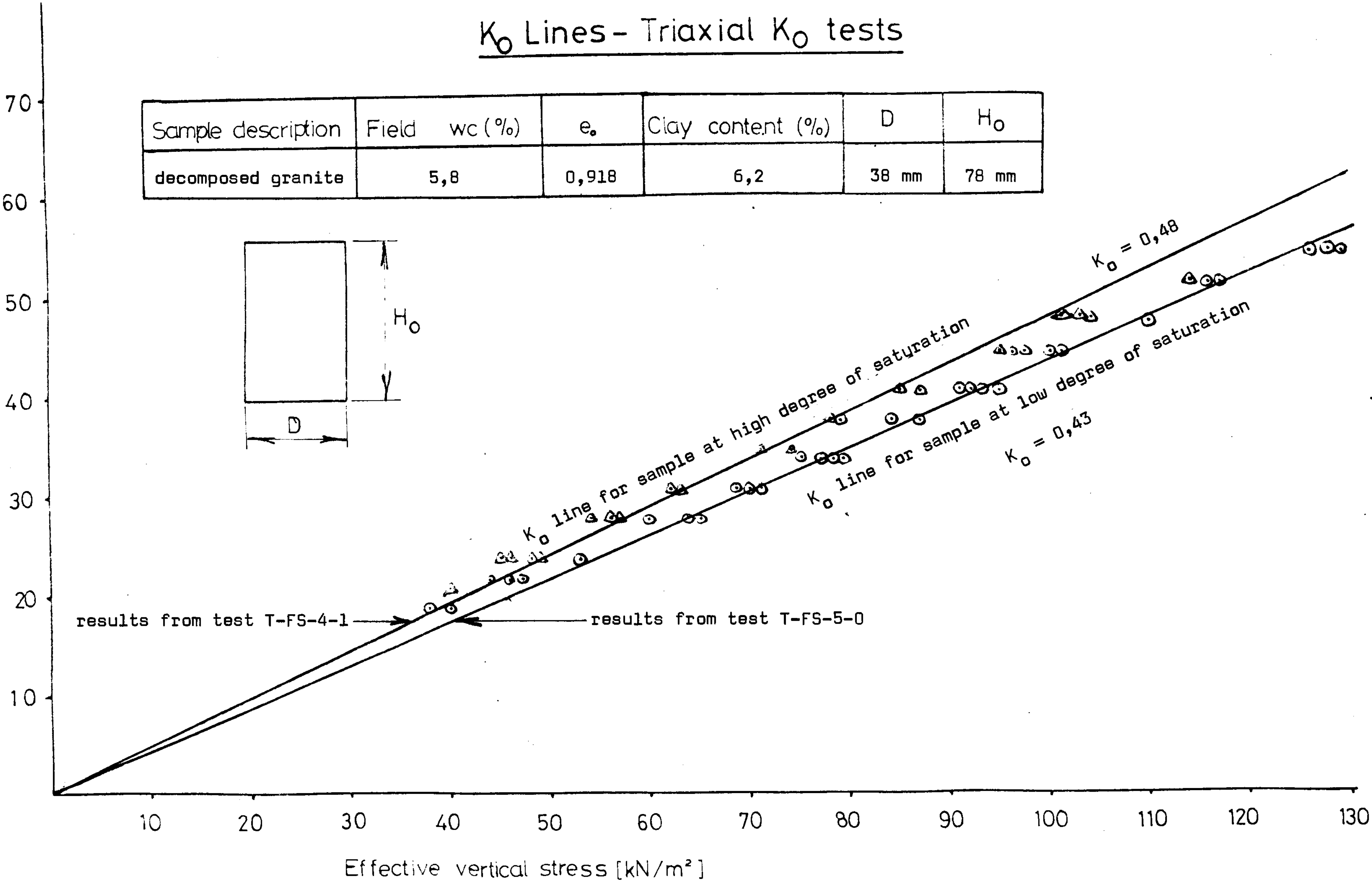
VERTICAL STRESS kN/m^2	DEVIATOR STRESS kN/m^2	CELL PRESSURE lb/in^2	DIAL GAUGE READINGS
3I	I9	3	0,325
35	2I	3	0,370
36	22	3	0,425
40	24	3½	0,460
4I	25	3½	0,480
42	25	3½	0,480
44	26	4	I,000
47	28	4	I,045
5I	31	4½	1,115
52	31	4½	1,115
54	32	4½	1,140
60	36	5	1,225
61	37	5	1,250
64	38	5	I,280
65	39	5½	1,310
67	40	5½	1,335
69	41	5½	1,355
71	43	6	1,390
73	44	6	I,410
74	44	6	1,410
76	46	6½	1,435
77	46	6½	1,435
81	49	6½	1,495
83	50	6½	2,035
85	51	6½	2,055
87	52	7	2,080
88	53	7	2,105
91	55	7	2,125
94	56	7	2,145
103	62	7½	2,225
104	62	7½	2,225
106	64	7½	2,290
109	65	7½	2,320
118	71	8	2,415
121	73	8	2,440
123	74	8	2,460
134	80	8½	3,060
137	82	8½	3,100

TRIAXIAL STRENGTH TESTS - SAMPLE EX FEATHERS



K_o Lines - Triaxial K_o tests

Sample description	Field wc (%)	e_o	Clay content (%)	D	H_o
decomposed granite	5,8	0,918	6,2	38 mm	78 mm



B/73

HYDROMETER ANALYSIS

SOIL SAMPLE DESCRIPTION Brown Fine Grained Collapsing Sand - Undisturbed Sample from Sishen.

SPECIFIC GRAVITY 2,68

WEIGHT SOIL SAMPLE

Mass container + dry soil (g) 129,8

Mass container (g) 79,8

Mass dry soil (g) 50,0

TEST NO. H - SH - 1

DATE 8-8-75

TESTED BY

HYDROMETER NO. 9843 A.S.T.M. 151 H

DISPERSING AGENTS 10 ml. Sodium oxalate solution

10 ml. Sodium silicate solution

DATE	TIME	ELAPSED TIME IN MINS.	HYDROMETER READING	CORRECTED HYDROMETER READING	Z_r	D	% FINER
8/8/75	9:07	0					
	9:09	2	1,0013	1,0014	16,8	0,041	4,5
	9:12	5	1,0010	1,0011	16,9	0,026	3,5
	9:22	15	1,0005	1,0006	16,0	0,019	1,9
	9:37	30	1,0003	1,0004	16,1	0,011	1,3
	10:07	60	1,0003	1,0002	16,1	0,0074	0,6
	1:17	250	1,0003	1,0002	16,1	0,0037	0,6
9/8/75	9:07	1 440	1,0005	1,0002	16,1	0,0015	0,6

REMARKS: Sample soaked for 24 hrs.

For the 2 and 5 minute readings Z_r uncorrected is used.

HYDROMETER ANALYSIS

SOIL SAMPLE DESCRIPTION Brown Fine Grained Collapsing Sand - Undisturbed sample from Sishen

SPECIFIC GRAVITY 2,68

WEIGHT SOIL SAMPLE

Mass container + dry soil (g) 140,0

Mass container (g) 90,0

Mass dry soil (g) 50,0

TEST NO. H-SH-2

DATE 11/8/75

TESTED BY

HYDROMETER NO. 9843 A.S.T.M. 151 H.

DISPERSING AGENTS 10 ml. Sodium oxalate solution

10 ml. Sodium silicate solution

DATE	TIME	ELAPSED TIME IN MINS.	HYDROMETER READING	CORRECTED HYDROMETER READING	Z_r	D	% FINER
11/8/75	10:28	0					
	10:30	2	1,0012	1,0013	16,8	0,041	4,2
	10:33	5	1,0010	1,0011	16,9	0,026	3,5
	10:43	15	1,0008	1,0008	15,95	0,019	2,6
	10;58	30	1,0006	1,0006	16,0	0,011	1,9
	11:28	60	1,0003	1,0003	16,1	0,0074	1,0
	2:38	250	1,0004	1,0002	16,1	0,0037	0,6
12/8/75	10:28	1 440	1,0005	1,0002	16,1	0,0015	0,6

REMARKS: Sample soaked for 24 hrs.

For the 2 and 5 minute readings Z_r uncorrected is used.

SIEVE ANALYSIS

SOIL SAMPLE DESCRIPTION Brown Fine grained collapsing Sand - Undisturbed sample from Sishen

SPECIFIC GRAVITY 2,68

MASS SOIL SAMPLE

Mass container + dry soil (g) 129,8

Mass container (g) 79,8

Mass dry soil (g) 50,0

TEST NO. SA - SH-1

DATE 12/8/75

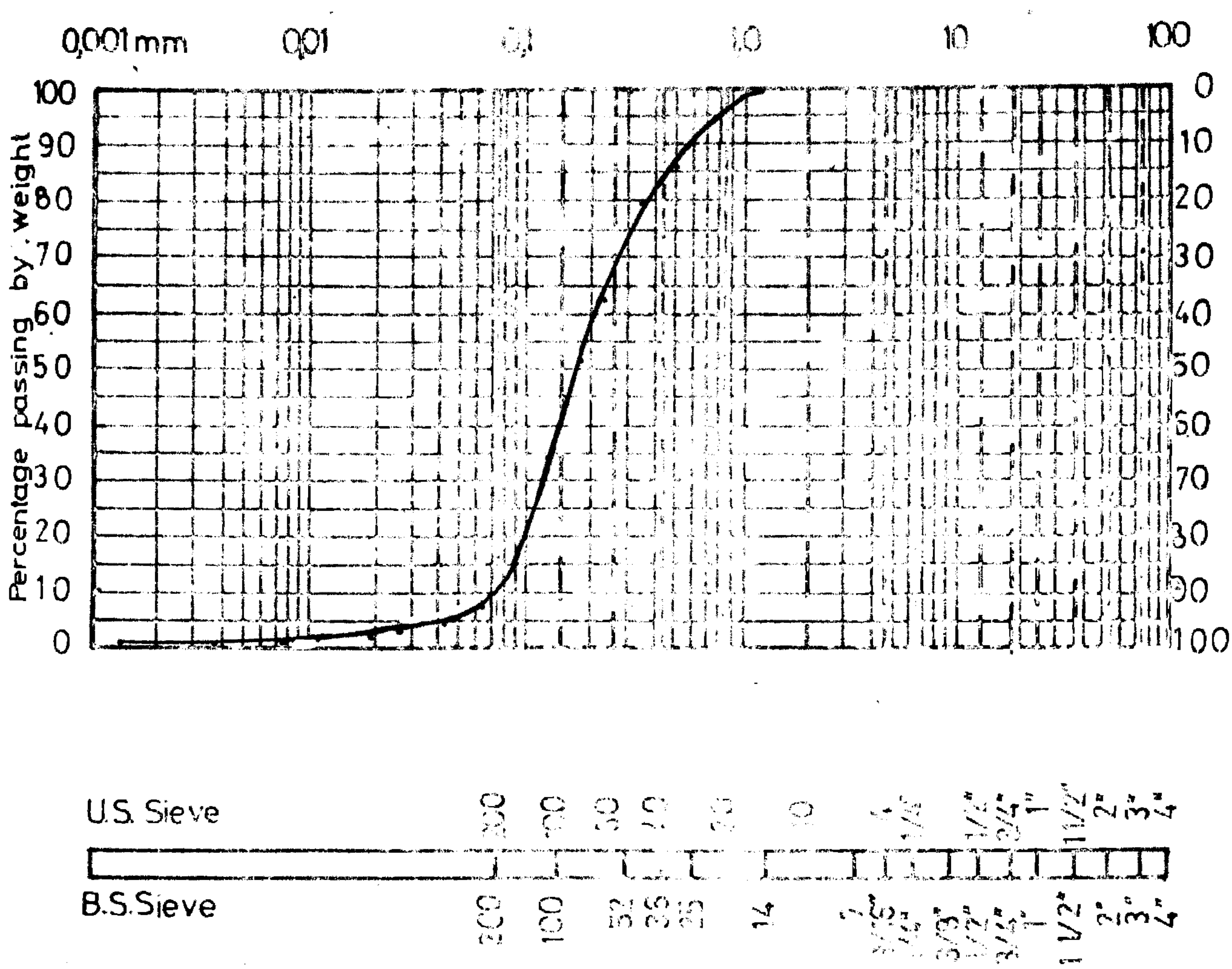
TESTED BY

SIEVE OPENING IN mm.	MASS SIEVE IN g.	MASS SIEVE + SOIL IN g.	MASS SOIL RETAINED IN g.	% RETAINED	Cum. % RETAINED	% FINER
0,5			6,9	13,8	13,8	86,2
0,355			3,5	7,0	20,8	79,2
0,250			8,2	16,4	37,2	62,8
0,180			5,7	11,4	48,6	51,4
0,125			8,4	16,8	65,4	34,6
0,090			9,8	19,6	85,0	15,0
0,063			3,8	7,6	92,6	7,4

REMARKS: Sample sieved after hydrometer test so as to ensure that the fines adhering to the larger grains were seperated.

B/77

Sample description	collapsing sand
Sample source	Sishen
Test number	H-SH-1, H-SH-2, SA-SH-1
Dispersing agent	



L.A.E.

CONSOLIDOMETER TEST

SAMPLE DESCRIPTION Brown fine grained collapsing sand - undisturbed sample from Sishen.

SPECIFIC GRAVITY 2,68

TEST NO. C - SH - 1 TESTED BY

DATE 5-8-75 CONSOLIDOMETER NO. A.

MASS FILTER PAPERS + POROUS PLATES + PLASTIC + SOIL + RING (INITIAL)	892,4 g
MASS FILTER PAPERS + POROUS PLATES + PLASTIC (INITIAL)	667,2 g
MASS SOIL + RING (INITIAL)	225,2 g
MASS RING	85,7 g
MASS SOIL (INITIAL)	139,5 g
DRY MASS SOIL	136,4 g
MASS WATER INITIAL	3,1 g
FIELD MOISTURE CONTENT %	2,3%

MASS FILTER PAPERS + POROUS PLATES + PLASTIC + SOIL + RING (FINAL)	
MASS FILTER PAPERS + POROUS PLATES + PLASTIC (FINAL)	
MASS SOIL + RING (FINAL)	
MASS RING	
MASS SOIL (FINAL)	
DRY MASS SOIL	
MASS WATER (FINAL)	
FINAL MOISTURE CONTENT	

REMARKS: No moisture content variation.

LEONARDO A. ERRERA

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
0,00	II:5000	Tuesday	Field Wc	Load on arm	2000,00
0,25	II:5025	5/8/75	+	varied from	I903,0
0,50	II:5050			0 to 2½lbs	I900,0
I,00	II:5I00				I896,5
2,25	II:5225				I893,5
4,00	II:5400				I888,0
6,25	II:5625				I883,0
9,00	II:5900				I88I,0
I2,25	I2:0225				I879,0
I6,00	I2:0600				I878,0
25,00	I2:I500				I876,0
36,00	I2:2600				I872,0
49,00	I2:3900				I870,0
64,00	I2:5400				I869,0
0,00	2:0500	Tuesday	Field Wc	Load on arm	I869,0
0,25	2:0525	5/8/75	+	varied from	I8I6,0
0,50	2:0550			2½lbs to 5lbs	I8I2,0
I,00	2:0600				I808,5
2,25	2:o725				I804,5
4,00	2:0900				I80I,0
6,25	2:II25				I798,0
9,00	2:I400				I796,0
I2,25	2:I725				I794,5
I6,00	2:2I00				I793,0
25,00	2:3000				I79I,0
36,00	2:4I00				I789,5
49,00	2:5400				I788,0
64,00	3:0900				I786,5
8I,00	3:2600				I785,5

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
0,00	3:3000	Tuesday	Field Wc	Load on arm	I785,5
0,25	3:3025	5/8/75		varied from	I709,0
0,50	3:3050			5lbs to I0lbs	I703,0
I,00	3:3I00				I697,0
2,25	3:3225				I693,0
4,00	3:3400				I689,0
6,25	3:3625				I686,0
9,00	3:3900				I683,5
I2,25	3:4225				I68I,5
I6,00	3:4600				I680,0
25,00	3:5500				I678,5
36,00	4:0600				I676,0
49,00	4:I900				I674,0
64,00	4:3400				I672,5
8I,00	4:5I00				I67I,0
I00,00	5:I000				I670,0
0,00	9:3000	Wednesday	Field Wc	Load on arm	I670,0
0,25	9:3025	6/8/75		varied from	I6I0,0
0,50	9:3050			I0 to 20lbs	I605,0
I,00	9:3I00				I600,0
2,25	9:3225				I595,5
4,00	9:3400				I593,0
6,25	9:3625				I590,5
9,00	9:3900				I588,5
I2,25	9:4225				I586,5
I6,00	9:4600				I585,0
25,00	9:5500				I583,5
36,00	I0:0600				I582,0
49,00	I0:I900				I580,5

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
64,00	10:3400	Wednesday	Field Wc	Load on arm	1579,5
81,00	10:5100	6-8-75		Varied from	1578,0
100,00	11:1000			10 to 20 lbs.	1577,0
0	11:25	Wednesday	Field Wc	Load on arm	1577,0
0,25	11:2525	6-8-75		Varied from	1592,0
0,50	11:2550			20 to 5 lbs.	1593,0
1,00	11:2600				1593,0
2,25	11:2725				1593,5
4,00	11:2900				1593,5
6,25	11:3125				1594,0
9,00	11:3400				1594,0
12,25	11:3700				1594,5
16,00	11:4100				1594,5
0	12:0000	Wednesday	Field Wc	Load on arm	1594,5
0,25	12:0025	6-8-75		Varied from	1600,0
0,50	12:0050			5 to 2½ lbs.	1600,5
1,00	12:0100				1601,0
2,25	12:0225				1601,0
4,00	12:0400				1601,5
6,25	12:0625				1601,5
9,00	12:0900				1602,0
12,25	12:1225				1602,5
16,00	12:1600				1602,5
0	12:2000	Wednesday	Field Wc	Load on arm	1602,5
0,25	12:2025	6-8-75		Varied from	1620,0
0,50	12:2050			2½ to 0 lbs.	1621,0
1,00	12:2100				1621,5

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
2,25	12:2225	Wednesday	Field Wc	Load on arm	1622,0
4,00	12:2400	6-8-75		Varied from	1622,5
6,25	12:2625			2½ to 0 lbs.	1623,0
9,00	12:2900				1623,5
12,25	12:3225				1624,0
16,00	12:3600				1624,5

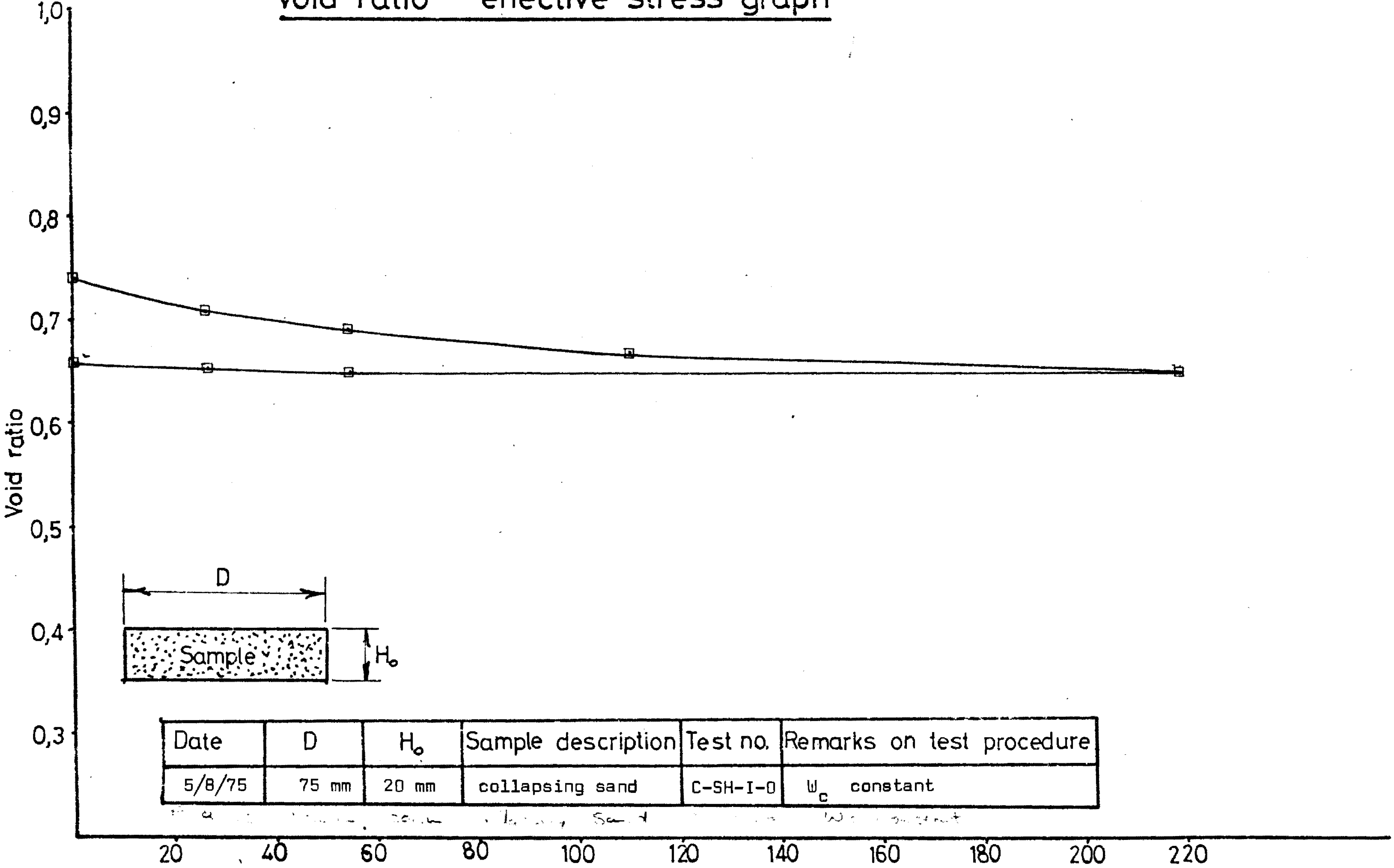
TEST NUMBER=C-5U-1-C
INITIAL VOLUME= 99369.749
VOLUME OF SOLIDS= 58875.521
INITIAL VOID RATIO= .736
INITIAL MOISTURE CONTENT= .023

ALL THE VOLUMES OUTPUT ARE IN MILLIMETERS CUBED
THE VERTICAL STRESS IS IN KILONEWTONS PER SQUARE METER
THE DEFLECTION READINGS ARE IN TEN THOUSANDTHS OF AN INCH

DEFLECTION READINGS	MOISTURE CONTENT	STRESS VERTICAL	VOID RATIO	DELTA W	DEGREE SATURATION
1769.00	.023	27.69	.707	.000	.086
1745.50	.023	55.37	.689	.000	.088
1670.00	.023	110.74	.664	.000	.092
1577.00	.023	221.47	.643	.000	.095
1594.50	.023	55.37	.647	.000	.094
1602.50	.023	27.68	.649	.000	.094
1624.50	.023	.00	.653	.000	.093

B/83

Void ratio — effective stress graph



Date	D	H_o	Sample description	Test no.	Remarks on test procedure
5/8/75	75 mm	20 mm	collapsing sand	C-SH-I-O	W_c constant

CONSOLIDOMETER TEST

SAMPLE DESCRIPTION Brown fine grained collapsing sand - undisturbed sample from Sishen

SPECIFIC GRAVITY 2,68

TEST NO. C-SH-2 TESTED BY

DATE 4/8/75 CONSOLIDOMETER NO.

MASS FILTER PAPERS + POROUS PLATES + PLASTIC + SOIL + RING (INITIAL)	883,7 g
MASS FILTER PAPERS + POROUS PLATES + PLASTIC (INITIAL)	653,8 g
MASS SOIL + RING (INITIAL)	229,9g
MASS RING	97,4 g
MASS SOIL (INITIAL)	132,5 g
DRY MASS SOIL	131,4 g
MASS WATER INITIAL	1,1 g
FIELD MOISTURE CONTENT %	1,0%

MASS FILTER PAPERS + POROUS PLATES + PLASTIC + SOIL + RING (FINAL)	892,3 g
MASS FILTER PAPERS + POROUS PLATES + PLASTIC (FINAL)	656,2 g
MASS SOIL + RING (FINAL)	236,1 g
MASS RING	97,4g
MASS SOIL (FINAL)	138,7 g
DRY MASS SOIL	131,4 g
MASS WATER (FINAL)	7,3 g
FINAL MOISTURE CONTENT	5,6%

REMARKS:

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TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
0,00	10:4000	Tuesday	Field Wc	Load on arm	2000,0
0,25	10:4025	19-8-75		Varied from	1928,0
0,50	10:4050			0 to 2½ lb.	1925,0
1,00	10:4100				1922,0
2,25	10:4225				1918,0
4,00	10:4400				1916,0
6,25	10:4625				1914,0
9,00	10:4900				1912,0
12,25	10:5225				1911,0
16,00	10:5600				1910,5
25,00	11:050				1908,5
36,00	11:1600				1906,5
49,00	11:2900				1905,0
64,00	11:4400				1904,0
0,00	11:4500	Tuesday	Field Wc	Load on arm	1904,0
0,25	11:4525	19-8-75		Varied from	1874,0
0,50	11:4550			2½ to 5 lb.	1872,0
1,00	11:4600				1870,0
2,25	11:4725				1867,5
4,00	11:4900				1865,5
6,25	11:5125				1864,5
9,00	11:5400				1863,5
12,25	11:5725				1862,5
16,00	12:0100				1861,5
25,00	12:1000				1859,5
36,00	12:2100				1857,5
49,00	12:3400				1856,5
64,00	12:4900				1855,5

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
0,00	2:3000	Tuesday	Field Wc	Load on arm	1855,5
0,25	2:3025	19-8-75		Varied from	1800,0
0,50	2:3050			5 to 10 lb.	1797,5
1,00	2:3100				1794,5
2,25	2:3225				1791,5
4,00	2:3400				1789,0
6,25	2:3625				1787,5
9,00	2:3900				1786,0
12,25	2:4225				1785,0
16,00	2:4600				1784,0
25,00	2:5500				1782,5
36,00	3:0600				1781,0
49,00	3:1900				1779,5
64,00	3:3400				1778,5
0,00	2:2000	Wednesday	Field Wc	10lb reapplied	1778,5
0,25	2:2025	20-8-75	+ 2 ml of water	after strain	1585,0
0,50	2:2050			being kept	1575,0
1,00	2:2100			constant	1562,0
2,25	2:2225				1555,0
4,00	2:2400				1550,5
6,25	2:2625				1547,5
9,00	2:2900				1545,0
12,25	2:3225				1543,0
16,00	2:3600				1541,0
25,00	2:4500				1538,5
36,00	2:5600				1536,5
49,00	2:0900				1534,5
64,00	2:2400				1533,0

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
0,00	2:2000	Friday	Field Wc	10lb reapplied	1533,0
0,25	2:2025	22-8-75	+ 3ml of water	after strain	1499,0
0,50	2:2050			being kept	1497,0
1,00	2:2100			constant	1494,5
2,25	2:2225				1491,0
4,00	2:2400				1487,0
6,25	2:2625				1485,5
9,00	2:2900				1484,5
12,25	2:3225				1483,5
16,00	2:3600				1482,5
25,00	2:4500				1482,0
36,00	2:5600				1481,0
49,00	3:0900				1480,0
64,00	3:2400				1479,0
0,00	9:5800	Saturday	Field Wc	10lb reapplied	1479,0
0,25	9:5825	23-8-75	+ 4ml of water	after strain	1473,5
0,50	9:5850			being kept	1473,0
1,00	9:5900			constant	1472,0
2,25	10:0025				1471,0
4,00	10:0200				1469,5
6,25	10:0425				1467,5
9,00	10:0700				1466,0
12,25	10:1025				1464,5
16,00	10:1400				1463,0
25,00	10:2300				1461,5
36,00	10:3400				1460,0
49,00	10:4700				1458,5
64,00	11:0200				1457,5

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
0,00	8:5000	Monday	Field Wc	10lb reapplied	1457,5
0,25	8:5025	25-8-75	+ 5ml of water	after strain	1454,0
0,50	8:5050			being kept	1453,5
1,00	8:5100			constant	1453,5
2,25	8:5225				1453,0
4,00	8:5400				1453,0
6,25	8:5625				1452,0
9,00	8:5900				1452,0
12,25	9:0225				1452,0
16,00	9:0600				1452,0
25,00	9:1500				1451,5
36,00	9:2600				1451,0
49,00	9:3900				1451,0
64,00	9:5400				1450,5
0,00	10:2000	Tuesday	Field Wc	10lb reapplied	1450,5
0,25	10:2025	26-8-75	+ 6ml of water	after strain	1450,0
0,50	10:2050			being kept	1449,5
1,00	10:2100			constant	1449,5
2,25	10:2225				1449,0
4,00	10:2400				1448,5
6,25	10:2625				1448,5
9,00	10:2900				1448,0
12,25	10:3225				1448,0
16,00	10:3600				1447,5
25,00	10:4500				1447,0
36,00	10:5600				1446,5
49,00	11:0900				1446,0
64,00	11:2400				1445,5

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
0,00	10:2000	Wednesday	Field Wc	10lb reapplied	1445,5
0,25	10:2025	27-8-75	+ 7ml of water	after strain	1444,0
0,50	10:2050			being kept	1443,5
1,00	10:2100			constant	1443,5
2,25	10:2225				1443,0
4,00	10:2400				1443,0
6,25	10:2625				1443,0
9,00	10:2900				1442,5
12,25	10:3225				1442,5
16,00	10:3600				1442,5
25,00	10:4500				1442,0
36,00	10:5600				1441,5
49,00	11:0900				1441,0
64:00	11:2400				1441,0
0,00	11:3000	Thursday	Field Wc	Load on arm	1440,5
0,25	11:3025	28-8-75	+ 7ml of water	varied from	1434,0
0,50	11:3050			10 to 12½lb	1433,0
1,00	11:3100				1431,5
2,25	11:3225				1429,5
4,00	11:3400				1426,5
6,25	11:3625				1424,0
9,00	11:3900				1422,5
12,25	11:4225				1420,5
16,00	11:4600				1419,0
25,00	11:5500				1417,0
36,00	12:0600				1414,0
49,00	12:1900				1412,0
64,00	12:3400				1411,0

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
0,00	9:3000	Tuesday	Field Wc	Load on arm	1411,0
0,25	9:3025	2-9-75	+ 7ml of water	varied from	1400,0
0,50	9:3050			12½ to 15lb	1399,0
1,00	9:3100				1397,0
2,25	9:3225				1395,0
4,00	9:3400				1393,0
6,25	9:3625				1391,5
9,00	9:3900				1390,0
12,25	9:4225				1388,5
16,00	9:4600				1387,0
25,00	9:5500				1385,0
36,00	10:0600				1384,5
49,00	10:1900				1382,0
64:00	10:3400				1380,5
81;00	10:5100				1379,0
0,00	11:000	Tuesday	Field Wc	Load on arm	1379,0
0,25	11:0025	2-9-75	+ 7ml of water	varied from	1374,0
0,50	11:0050			15 to 17½lb	1373,0
1,00	11:0100				1372,0
2,25	11:0225				1369,0
4,00	11:0400				1366,0
6,25	11:0625				1364,0
9,00	11:0900				1362,5
12,25	11:1225				1361,0
16,00	11:1600				1359,5
25,00	11:2500				1357,5
36,00	11:3600				1355,5
49,00	11:4900				1353,5
64,00	12:0400				1351,5

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
81,00	12:2100	Tuesday	Field Wc	Load on arm	1350,0
100,00	12:4000	2-9-75	+ 7ml of water	varied from	1349,0
				15 to 17½lb	
0,00	11:2000	Friday	Field Wc	Load on arm	1349,0
0,25	11:2025	5-9-75	+ 7ml of water	varied from	1338,5
0,50	11:2050			17½ to 20lb	1337,5
1,00	11:2100				1336,0
2,25	11:2225				1334,5
4,00	11:2400				1333,5
6,25	11:2625				1332,0
9,00	11:2900				1331,0
12,25	11:3225				1330,0
16,00	11:3600				1328,0
25,00	11:4500				1326,0
36,00	11:5600				1325,0
49,00	12:0900				1324,0
64,00	12:2400				1323,0
81,00	12:4100				1322,0
100,00	1:0000				1321,0
121,00	1:2100				1320,0
144,00	1:4400				1319,0
169,00	2:0900				1318,0
0,00	2:3300	Friday	Field Wc	Load on arm	1318,0
0,25	2:3325	5-9-75	+ 7ml of water	varied from	1333,0
0,50	2:3350			20 to 5lb	1334,0
1,00	2:3400				1334,0
2,25	2:3525				1334,5

TIME INTERVAL	TIME	DAY/DATE	MOISTURE CONTENT DESCRIPTION	LOADING DESCRIPTION	READINGS
4,00	2:3700	Friday	Field Wc	Load on arm	1335,0
6,25	2:3925	5-9-75	+ 7ml of water	varied from	1335,0
9,00	2:4200			20 to 5lb	1335,0
12,25	2:4525				1335,0
0,00	2:5000	Friday	Field Wc	Load on arm	1335,5
0,25	2:5025	5-9-75	+ 7ml of water	varied from	1341,0
0,50	2:5050			5 to 2½lb	1342,0
1,00	2:5100				1342,0
2,25	2:5225				1342,5
4,00	2:5400				1343,0
6,25	2:5625				1343,0
9,00	2:5900				1343,5
12,25	3:0225				1343,5
16,00	3:0600				1344,0
25,00	3:1500				1344,0
0,00	3:2500	Friday	Field Wc	Load on arm	1344,0
0,25	3:2525	5-9-75	+ 7ml of water	varied from	1363,5
0,50	3:2550			2½ to 0lb	1364,0
1,00	3:2600				1365,0
2,25	3:2725				1366,0
4,00	3:2900				1368,0
6,25	3:3125				1369,0
9,00	3:3400				1370,0
12,25	3:3725				1371,0
16,00	3:4100				1371,5
25,00	3:5000				1372,0

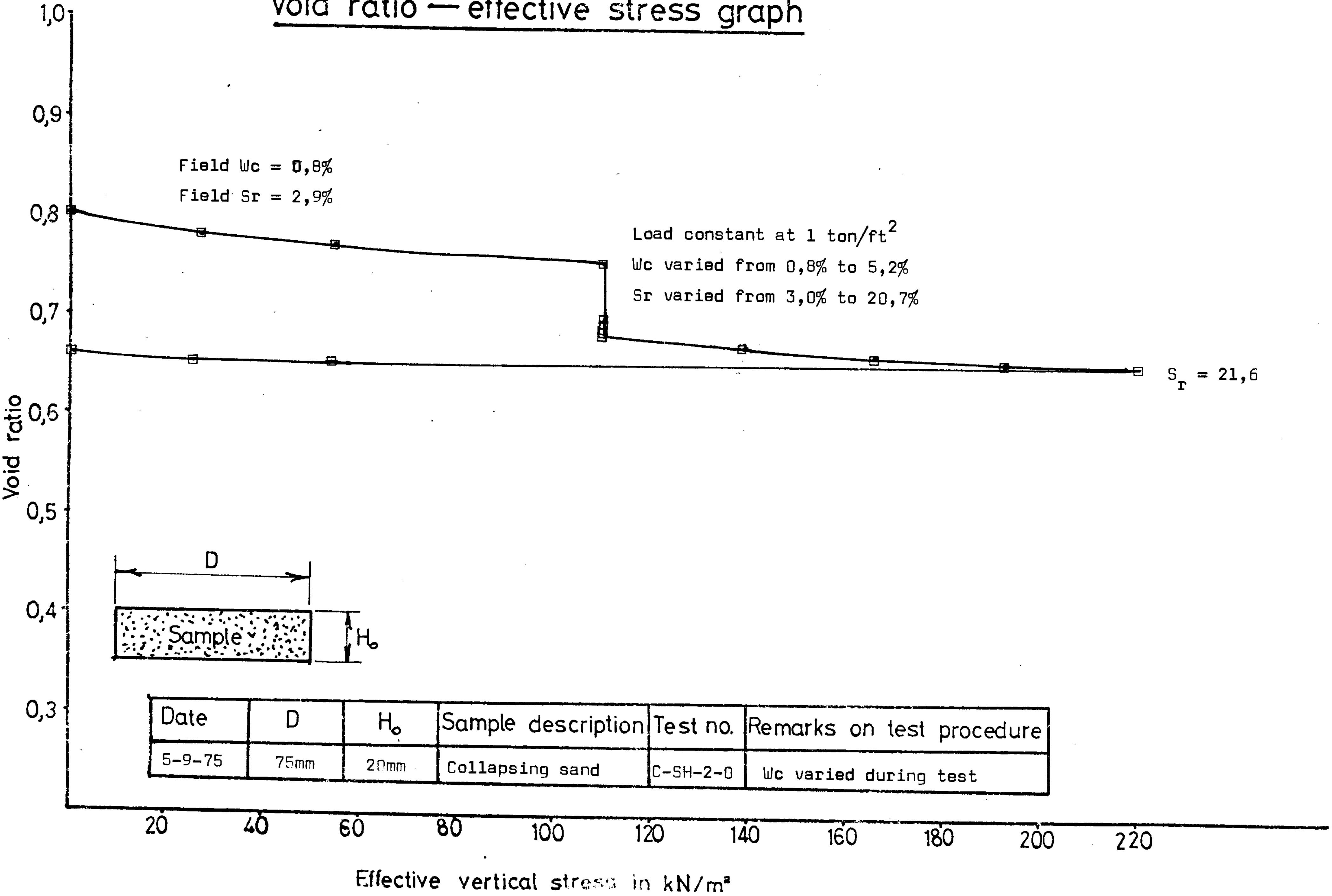
TEST NUMBER=C-SH-2-0
INITIAL VOLUME= 88368.749
VOLUME OF SOLIDS= 49029.950
INITIAL VOID RATIO= .802
INITIAL MOISTURE CONTENT= .008

ALL THE VOLUMES OUTPUT ARE IN MILLIMETERS CUBED
THE VERTICAL STRESS IS IN KILONEWTONS PER SQUARE METER
THE DEFLECTION READINGS ARE IN TEN THOUSANDTHS OF AN INCH

DEFLECTION READINGS	MOISTURE CONTENT	STRESS VERTICAL	VOID RATIO	DELTA W	DEGREE SATURATION
1904.00	.008	27.68	.780	.000	.029
1855.50	.008	55.37	.769	.000	.029
1778.50	.008	110.74	.752	.000	.030
1533.00	.021	110.74	.695	.165	.080
1479.00	.027	110.74	.683	.069	.106
1457.50	.033	110.74	.678	.030	.132
1450.50	.040	110.74	.677	.018	.157
1445.50	.046	110.74	.675	.009	.182
1440.50	.052	110.74	.674	.000	.207
1411.00	.052	138.42	.668	.000	.209
1379.00	.052	166.10	.660	.000	.211
1349.00	.052	193.79	.653	.000	.213
1318.00	.052	221.47	.646	.000	.216
1335.50	.052	55.37	.650	.000	.214
1344.00	.052	27.68	.652	.000	.214
1372.00	.052	.00	.659	.000	.212

8/94

Void ratio — effective stress graph

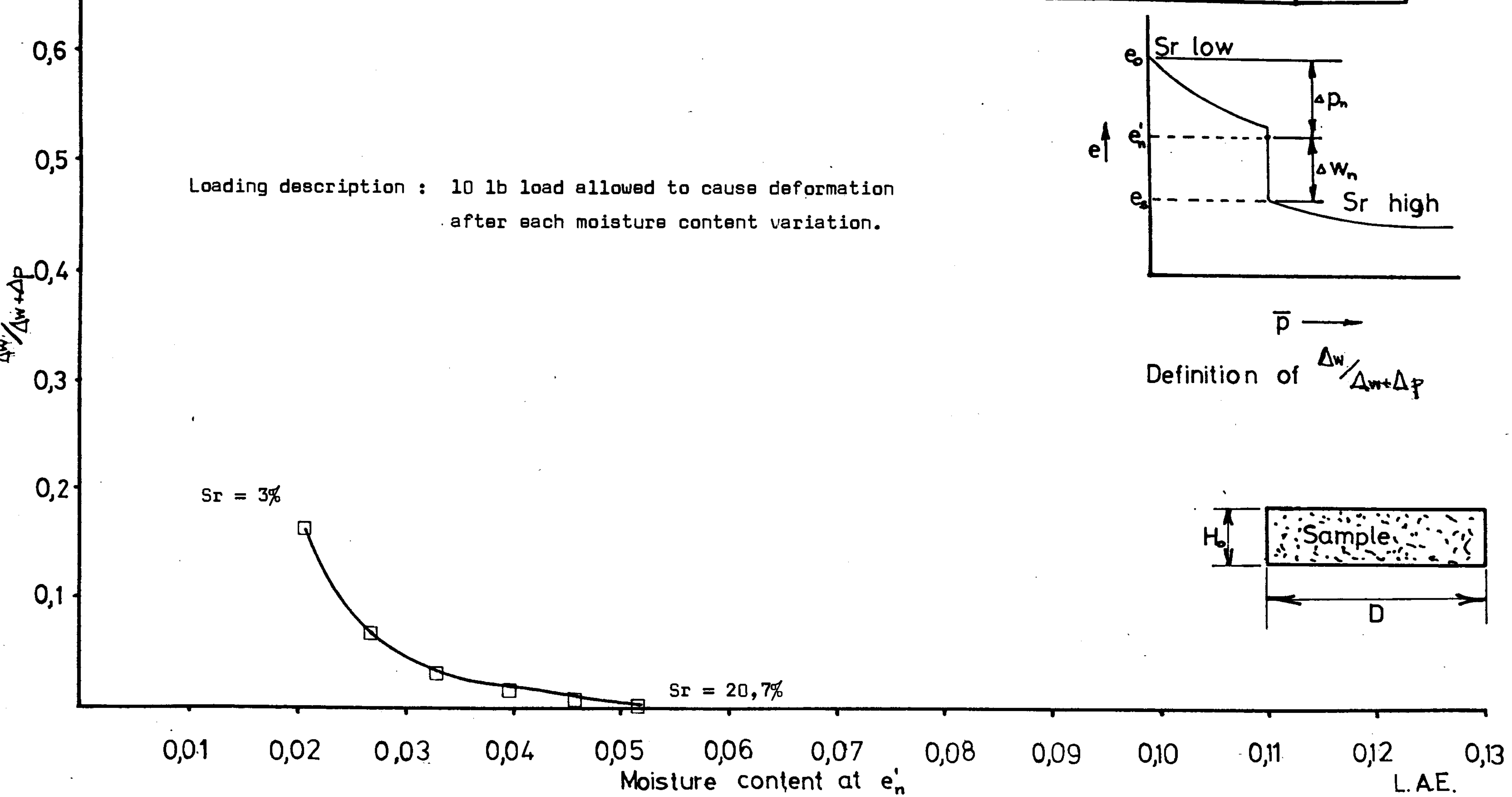


Date	D	H_o	Sample description	Test no.	Remarks on test procedure
5-9-75	75mm	20mm	Collapsing sand	C-SH-2-0	Wc varied during test

B/95

$\Delta w/\Delta w+\Delta p$ – moisture content graph

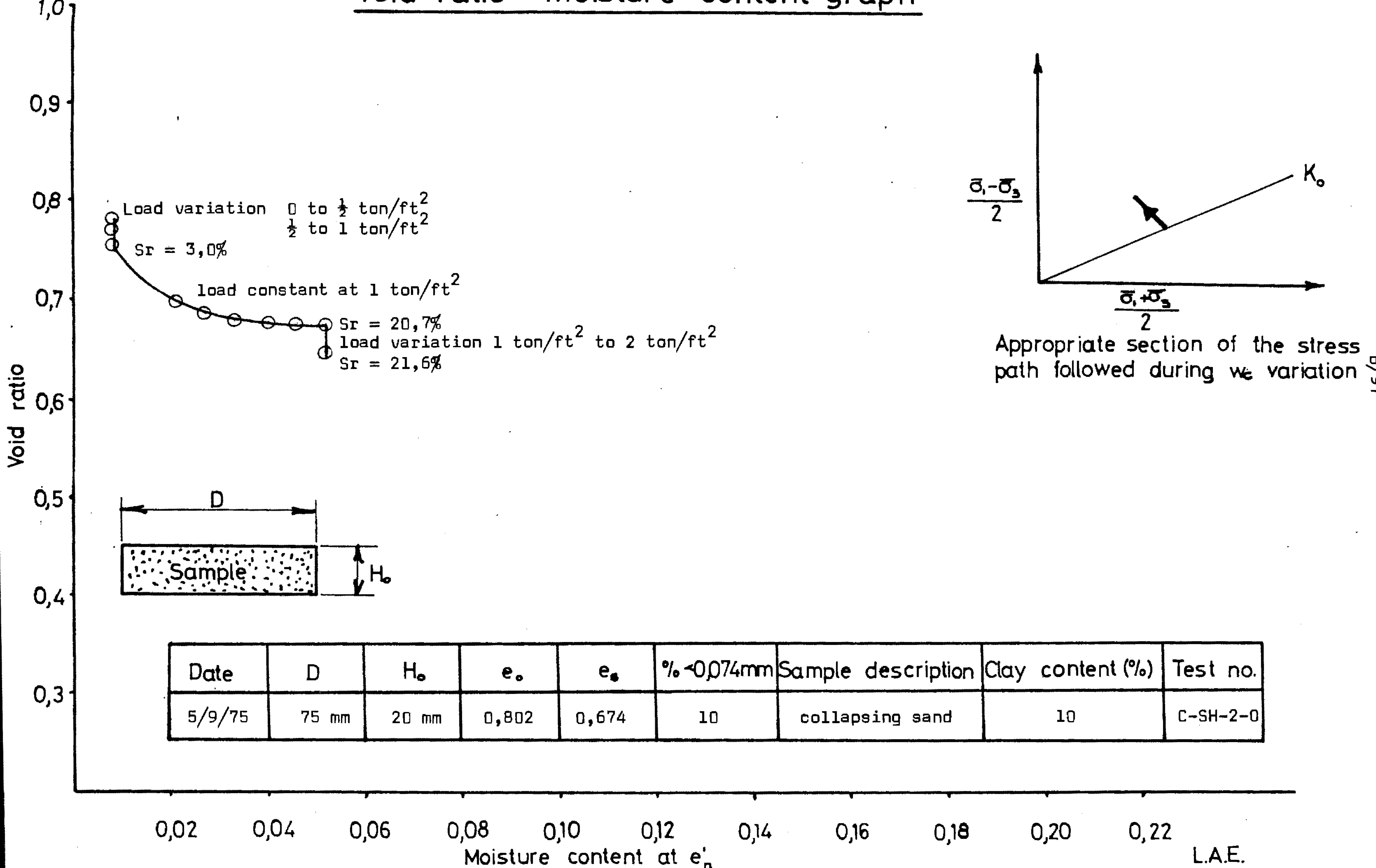
Date	D	H_o	e_o	e_s	%<0,074mm	Sample description	Clay content (%)	Test no.
5/9/75	75 mm	20 mm	0,802	0,674	10	collapsing sand	10	C-SH-2-0



L.A.E.

B/96

Void ratio—moisture content graph

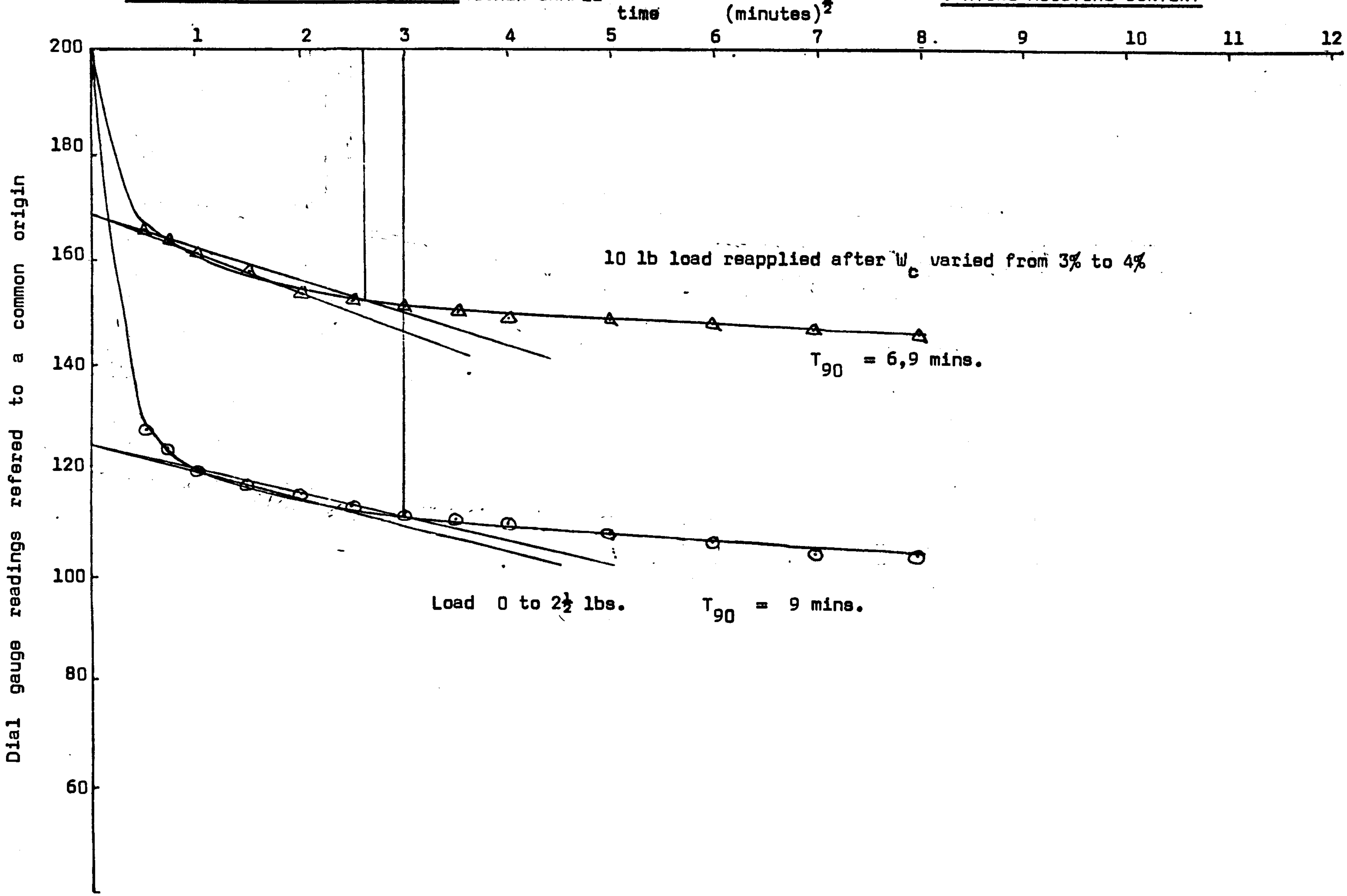


Date	D	H_o	e_o	e_s	% <0,074mm	Sample description	Clay content (%)	Test no.
5/9/75	75 mm	20 mm	0,802	0,674	10	collapsing sand	10	C-SH-2-0

L.A.E.

B/97

DEFLECTION - TIME CURVE FOR SISHEN SAMPLE VARYING MOISTURE CONTENT



TRIAXIAL TEST

SAMPLE DESCRIPTION Brown fine grained collapsing sand - undisturbed sample from Sishen

SPECIFIC GRAVITY 2,68

TEST NO. T-SH-1

TESTED BY

DATE 20-8-75

TRIAXIAL CELL

MASS SOIL INITIAL 136,3 g

MASS DRY SOIL 134,3 g

MASS WATER INITIAL 2,0 g

FIELD MOISTURE CONTENT 1,5%

MASS SOIL FINAL

MASS DRY SOIL

MASS WATER FINAL

FINAL MOISTURE CONTENT

MASS OF CONTAINER

REMARKS.

Initial sample height = 89mm

Initial sample diameter = 39mm

ERTICAL STRESS kN/m^2	DEVIATOR STRESS kN/m^2	CELL PRESSURE lb/in^2	DIAL GAUGE READINGS
31	19	2,5	8,5
35	21	2,5	9,5
36	22	2,5	10,0
40	24	3,0	II,5
41	25	3,0	12,5
42	25	3,0	I2,5
44	26	3,5	14,5
47	28	3,5	16,0
51	31	4,0	17,5
52	31	4,0	17,5
54	32	4,0	18,0
60	36	4,5	20,0
61	37	4,5	20,5
64	38	4,5	21,5
65	39	4,5	22,5
67	40	5,0	23,5
69	41	5,0	24,5
71	43	5,0	26,0
73	44	5,0	27,0
74	44	5,0	27,0
76	46	5½	29,0
77	46	5½	29,0
81	49	6	31,0
83	50	6	32,5
85	51	6	33,5
87	52	6	34,5
88	53	6	35,5
91	55	6½	38,0
94	56	6½	39,0
103	62	7	44,0
104	62	7	44,0
106	64	7½	46,5
109	65	7½	47,5
118	71	8	1 06,0
121	73	8	1 10,5
123	74	8	1 11,5
134	80	8½	1 20,0
137	82	8½	1 22,0

TRIAXIAL TEST

SAMPLE DESCRIPTION Brown fine grained collapsing sand - undisturbed sample from Sishen

SPECIFIC GRAVITY 2,68

TEST NO. T-SH-2

TESTED BY

DATE 22-8-75

TRIAXIAL CELL

MASS SOIL INITIAL 128,4 g

MASS DRY SOIL 126,1 g

MASS WATER INITIAL 2,3 g

FIELD MOISTURE CONTENT 1,8%

MASS SOIL FINAL

MASS DRY SOIL

MASS WATER FINAL

FINAL MOISTURE CONTENT

MASS OF CONTAINER

REMARKS.

Initial sample height = 79mm

Initial sample diameter = 38mm

VERTICAL STRESS kN/m^2	DEVIATOR STRESS kN/m^2	CELL PRESSURE lb/in^2	DIAL GAUGE READINGS
31	19	2½	7,5
35	21	2½	8,5
36	22	2½	9,5
40	24	3	11,0
41	25	3	12,0
42	25	3	12,0
44	26	3½	13,0
47	28	3½	14,0
51	31	4	15,5
52	31	4	15,5
54	32	4½	16,5
60	36	4½	18,5
61	37	4½	19,0
64	38	5	19,5
65	39	5	20,5
67	40	5	21,5
69	4	5	22,0
71	43	5½	23,0
73	44	5½	23,5
74	44	5½	2[illegible].5
76	46	5½	24.5
77	46	5½	24,5
81	49	6	26,5
83	50	6	27,0
85	51	6	27,5
87	52	6	28,0
88	53	6	28,5
91	55	6½	30,0
94	56	6½	30,5
103	62	7	33,5
104	62	7	33,5
106	64	7	34,5
109	65	7	35,0
118	71	7½	37,5
121	73	7½	38,5
123	74	7½	39,0
134	80	8	42,5
137	82	8	43,0

TRIAXIAL TEST

SAMPLE DESCRIPTION Brown fine grained collapsing sand - undisturbed sample from Sishen

SPECIFIC GRAVITY 2,68

TEST NO. T-SH-3

TESTED BY

DATE 2-9-75

TRIAXIAL CELL

MASS SOIL INITIAL

MASS DRY SOIL

MASS WATER INITIAL

FIELD MOISTURE CONTENT

MASS SOIL FINAL 230,2 g

MASS DRY SOIL 217,6 g

MASS WATER FINAL 12,6 g

FINAL MOISTURE CONTENT 10,6%

MASS OF CONTAINER 98,1 g

REMARKS:

Initial height of sample = 75mm

Initial diameter of sample = 38mm

ERTICAL STRESS kN/m^2	DEVIATOR STRESS kN/m^2	CELL PRESSURE lb/in^2	DIAL GAUGE READINGS
31	19	2½	16,0
35	21	2½	20,5
36	22	3	23,0
40	24	3	29,0
41	25	3½	31,0
42	25	3½	31,0
44	26	3½	32,0
47	28	3½	33,5
51	31	4	37,0
52	31	4	37,0
54	32	4	38,0
60	36	4½	42,0
61	37	4½	43,0
64	38	4½	44,0
65	39	5	45,5
67	40	5	46,5
69	41	5	47,5
71	43	5½	49,5
73	44	5½	1 01,0
74	44	5½	1 01,0
76	46	6	1 03,0
77	46	6	1 05,0
81	49	6	1 06,0
83	50	6½	1 06,0
85	51	6½	1 06,5
87	52	6½	1 07,0
88	53	6½	1 07,5
91	55	7	1 08,5
94	56	7	1 09,0
103	62	7½	1 12,5
104	62	7½	1 12,5
106	64	7½	1 14,0
109	65	8	1 14,5
118	71	8½	1 18,5
121	73	8½	1 20,0
123	74	8½	1 20,5
134	80	9	1 24,0
137	82	9	1 25,0

TRIAXIAL TEST

SAMPLE DESCRIPTION Brown fine grained collapsing sand - undisturbed sample from Sishen

SPECIFIC GRAVITY 2,68

TEST NO. T-SH-5

TESTED BY

DATE 8-9-75

TRIAXIAL CELL

MASS SOIL INITIAL

MASS DRY SOIL

MASS WATER INITIAL

FIELD MOISTURE CONTENT

MASS SOIL FINAL 230,3 g

MASS DRY SOIL 225,0 g

MASS WATER FINAL 5,3 g

FINAL MOISTURE CONTENT 3,8%

MASS OF CONTAINER 85,5 g

REMARKS:

Initial sample height = 81mm

Initial diameter of sample = 38mm

VERTICAL STRESS kN/m^2	DEVIATOR STRESS kN/m^2	CELL PRESSURE lb/in^2	DIAL GAUGE READINGS
31	19	2½	29,0
35	21	2½	30,0
36	22	2½	31,0
40	24	3	33,5
41	25	3	36,0
42	25	3	36,0
44	26	3½	37,0
47	28	3½	39,0
51	31	4	44,5
52	31	4	44,5
54	32	4	45,5
60	36	4½	46,0
61	37	4½	47,0
64	38	4½	48,0
65	39	4½	49,0
67	40	5	1 00,0
69	41	5	1 01,0
71	43	5½	1 03,0
73	44	5½	1 04,5
74	44	5½	1 04,5
76	46	5½	1 07,5
77	46	5½	1 07,5
81	49	6	1 10,0
83	50	6	1 11,5
85	51	6	1 12,5
87	52	6	1 13,0
88	53	6½	1 14,0
91	55	6½	1 14,5
94	56	6½	1 15,5
1o3	62	7	1 20,0
104	62	7	1 20,0
106	64	7	1 21,0
109	65	7½	1 22,0
118	71	8	1 28,5
121	73	8	1 29,5
123	74	8	1 30,5
134	80	8½	1 35,5
137	82	8½	1 38,0

TRIAXIAL

SAMPLE DESCRIPTION Brown fine grained collapsing sand - undisturbed sample from Sishen

SPECIFIC GRAVITY 2,68

TEST NO. T-SH-6

TESTED BY

DATE 10-9-75

TRIAXIAL CELL

MASS SOIL INITIAL

MASS DRY SOIL

MASS WATER INITIAL

FIELD MOISTURE CONTENT

MASS SOIL FINAL 243,2 g

MASS DRY SOIL 231,5 g

MASS WATER FINAL 11,7 g

FINAL MOISTURE CONTENT 8,8%

MASS OF CONTAINER 98,0 g

REMARKS.

Initial sample height =80mm

Initial sample diameter = 38mm

ERTICAL STRESS kN/m^2	DEVIATOR STRESS kN/m^2	CELL PRESSURE lb/in^2	DIAL GAUGE READINGS
31	19	3	1 10,5
35	21	3	1 15,0
36	22	3	1 17,5
40	24	3	1 22,0
41	25	$3\frac{1}{2}$	1 24,0
42	25	$3\frac{1}{2}$	1 24,0
44	26	$3\frac{1}{2}$	1 25,5
47	28	4	1 30,0
51	31	4	1 37,0
52	31	4	1 37,0
54	32	4	1 39,0
60	36	$4\frac{1}{2}$	1 46,0
61	37	$4\frac{1}{2}$	1 48,0
64	38	$4\frac{1}{2}$	2 00,0
65	39	$4\frac{1}{2}$	2 02,0
67	40	5	2 04,0
69	41	5	2 05,5
71	43	$5\frac{1}{2}$	2 08,5
73	44	$5\frac{1}{2}$	2 10,0
74	44	$5\frac{1}{2}$	2 10,0
76	46	$5\frac{1}{2}$	2 12,5
77	46	$5\frac{1}{2}$	2 12,5
81	49	6	2 23,5
83	50	6	2 26,0
85	51	6	2 27,5
87	52	6	2 28,5
88	53	$6\frac{1}{2}$	2 30,5
91	55	$6\frac{1}{2}$	2 34,5
94	56	$6\frac{1}{2}$	2 36,0
103	62	7	2 43,0
104	62	7	2 43,0
106	64	$7\frac{1}{2}$	2 44,5
109	65	$7\frac{1}{2}$	2 45,0
118	71	8	3 01,5
121	73	8	3 03,5
123	74	85	3 05,0
134	80	$8\frac{1}{2}$	3 18,0
137	82	$8\frac{1}{2}$	3 12,0

TRIAXIAL

SAMPLE DESCRIPTION Brown fine grained collapsing sand - undisturbed sample from Sishen

SPECIFIC GRAVITY 2,68

TEST NO T-SH-7 TESTED BY

DATE 11-9-75 TRIAXIAL CELL

MASS SOIL INITIAL

MASS DRY SOIL

MASS WATER INITIAL

FIELD MOISTURE CONTENT

MASS SOIL FINAL 235,9 g

MASS DRY SOIL 222,8 g

MASS WATER FINAL 13,1 g

FINAL MOISTURE CONTENT 10,3%

MASS OF CONTAINER 95,1 g

REMARKS:

Initial sample height = 77mm

Initial sample diameter = 39mm

ERTICAL STRESS kN/m^2	DEVIATOR STRESS kN/m^2	CELL PRESSURE lb/in^2	DIAL GAUGE READINGS
31	19	3	1 03,0
35	21	3	1 06,0
36	22	3	1 09,0
40	24	3	1 12,5
41	25	3½	1 14,0
42	25	3½	1 14,0
44	26	3½	1 20,0
47	28	4	1 26,0
51	31	4	1 34,0
52	31	4	1 34,0
54	32	4	1 35,0
60	36	4½	1 39,5
61	37	4½	1 40,5
64	38	4½	1 41,5
65	39	4½	1 42,5
67	40	5	1 43,5
69	41	5	1 44,5
71	43	5½	1 45,5
73	44	5½	1 46,5
74	44	5½	1 46,5
76	46	5½	1 49,5
77	46	5½	1 49,5
81	49	6	2 03,5
83	50	6	2 05,0
85	51	6	2 06,0
87	52	6	2 07,0
88	53	6½	2 08,5
91	55	6½	2 11,0
94	56	6½	2 12,0
103	62	7	2 20,0
104	62	7	2 20,0
106	64	7½	2 22,0
109	65	7½	2 23,0
118	71	8	2 33,0
121	71	8	2 35,0
123	74	8	2 36,0
134	80	8½	2 40,5
137	82	8½	2 41,5

TRIAXIAL

SAMPLE DESCRIPTION Brown fine grained collapsing sand - undisturbed sample from Sishen

SPECIFIC GRAVITY 2,68

TEST NO. T-SH-8 TESTED BY

DATE 15-9-75 TRIAXIAL CELL

MASS SOIL INITIAL

MASS DRY SOIL

MASS WATER INITIAL

FIELD MOISTURE CONTENT

MASS SOIL FINAL 234,6 g

MASS DRY SOIL 223,4 g

MASS WATER FINAL 11,2 g

FINAL MOISTURE CONTENT 8,6%

MASS OF CONTAINER 94,1 g

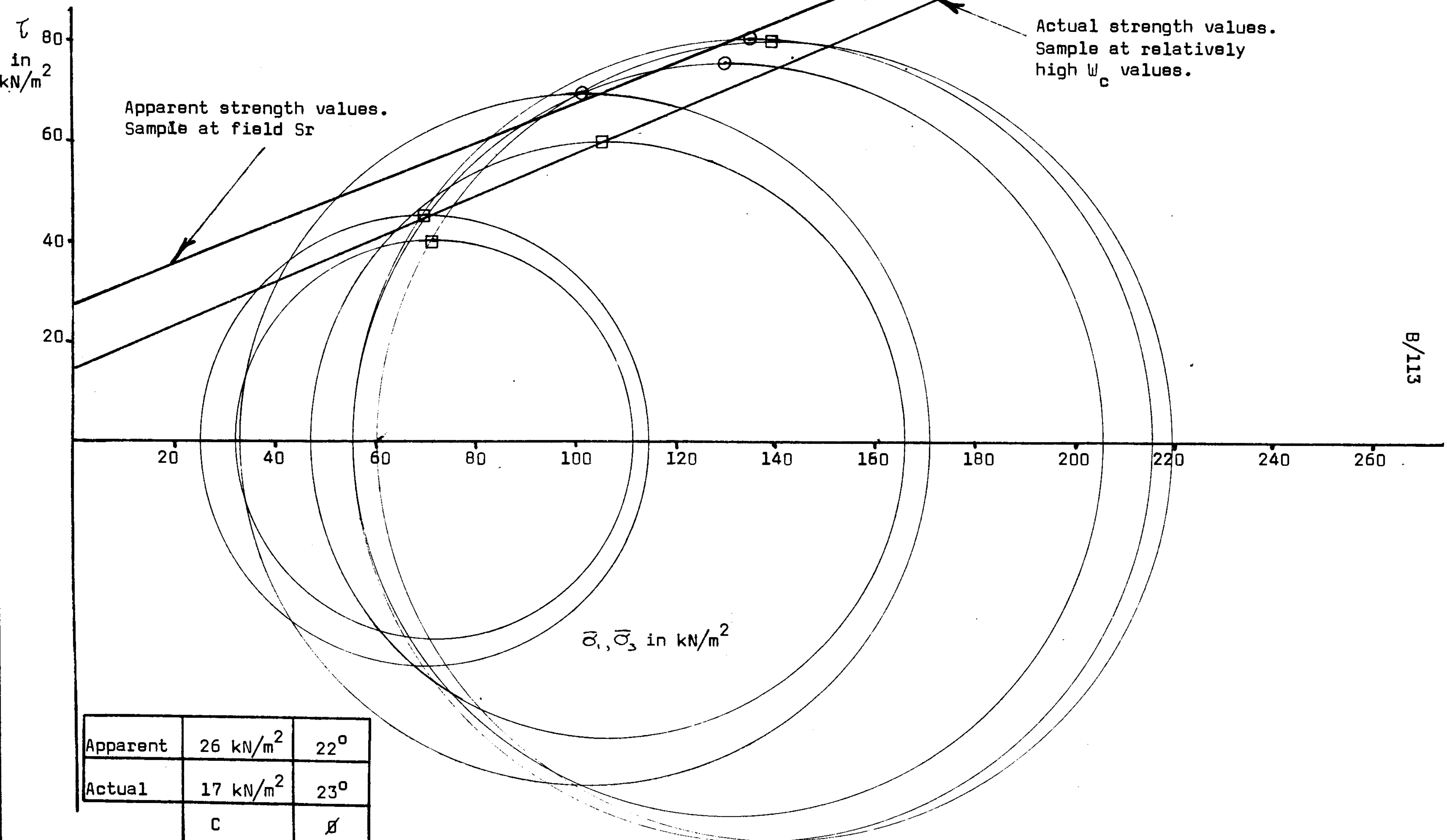
REMARKS.

Initial sample height = 79mm

Initial sample diameter = 39mm

VERTICAL STRESS kN/m^2	DEVIATOR STRESS kN/m^2	CELL PRESSURE lb/in^2	DIAL GAUGE READINGS
	10	2	17,0
	20	2½	37,0
	30	4	105,5
	40	5	121,5
	50	6½	130,0
	60	8	138,5
	70	9	148,0
	80	10	107,5
	90	11	113,0

TRIAXIAL STRENGTH RESULTS - SAMPLE EX SISHEN

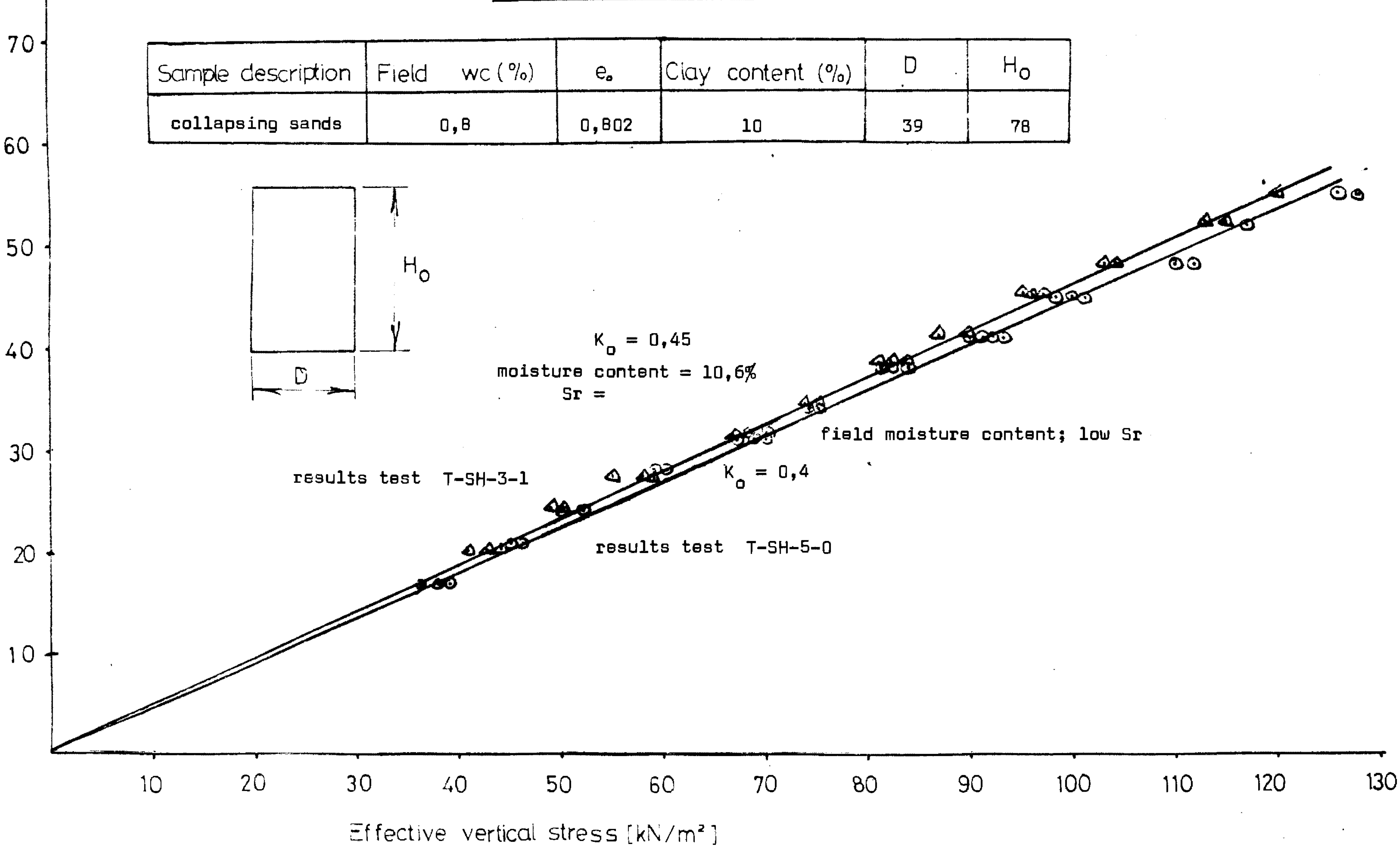


Apparent	26 kN/m²	22°
Actual	17 kN/m²	23°
	C	Ø

B/113

K_o Lines - Triaxial K_o tests

Sample description	Field wc (%)	e_o	Clay content (%)	D	H_o
collapsing sands	0,8	0,802	10	39	78



B/114

Unit weight of the soils:

Berea Road

$$e_o = 0{,}712$$
$$Sr = 3\%$$

$$\gamma_{Bulk} = \frac{2{,}68 + eSr}{1 + e} \, w$$

$$= 15{,}78 \ kN/m^2$$

Feathers

$$e_o = 0{,}918$$
$$sr = 5{,}8\%$$

$$\gamma_{Bulk} = 14{,}26 \ kN/m^2$$

Sishen

$$e_o = 0{,}802$$
$$Sr = 1\%$$

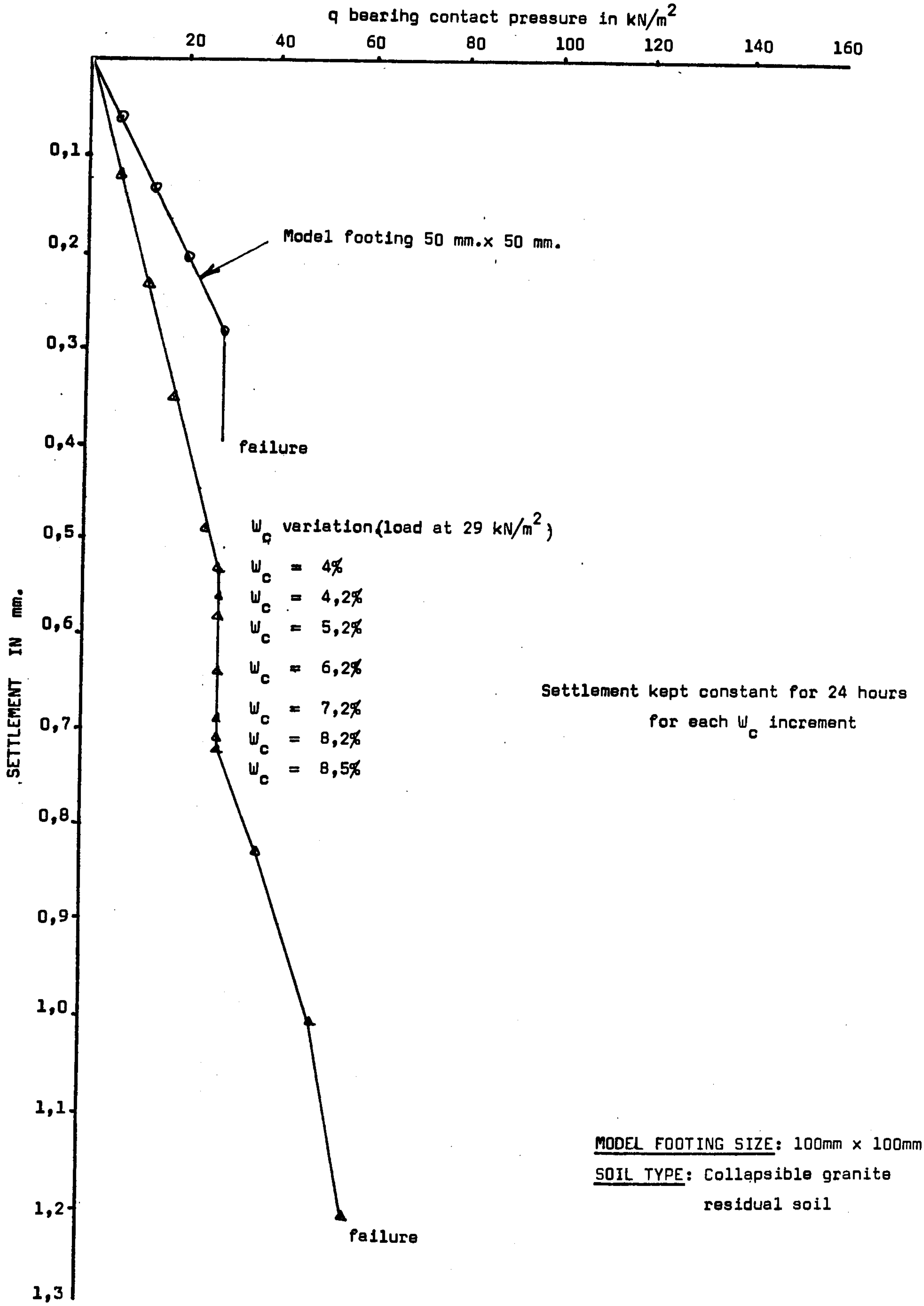
$$\gamma_{Bulk} = 14{,}92 \ kN/m^2$$

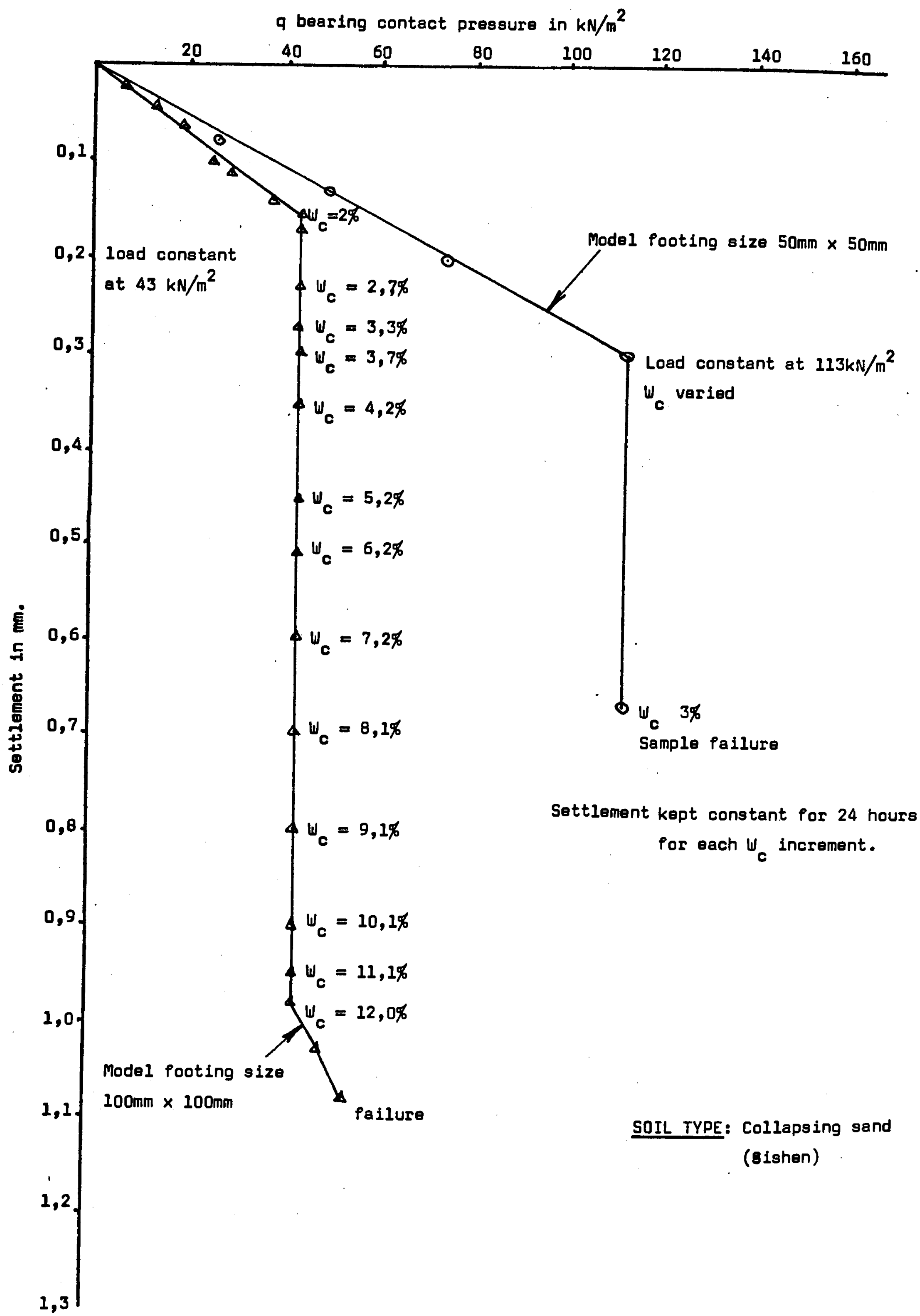
Therefore approximate all to be 15 kN/m^3. This value is very nearly correct and it will enable the same stress paths to be used throughout the test series.

Footing size	Depth below the centre of the footing. m.	Vertical stress due to self weight. kN/m^2	Vertical stress due to self weight + footing load. kN/m^2
1,0 x 1,0	0,1	16,5	95,7
	0,2	18,0	94,8
	0,3	19,5	90,9
	0,4	21,0	83,4
	0,5	22,5	82,3
	1,0	30,0	57,5
	2,0	45,0	54,2
2,0 x 2,0	0,2	18,0	97,2
	0,4	21,0	97,8
	0,6	24,0	95,4
	1,0	30,0	89,8
	2,0	45,0	72,2
	4,0	75,0	84,2
3,0 x 3,0	0,3	19,5	98,7
	0,6	24,0	100,8
	1,0	30,0	103,1
	2,0	45,0	92,6
	3,0	60,0	87,2
	6,0	105,0	114,2

Footing size	Depth below the centre of the footing	$\frac{\Delta e}{1+e_o}$ Results from Consolidometer Tests	$\frac{\Delta H}{H}$ Results from Stress path Tests	Soil	w_c
1,0 x 1,0	0,1 0,2 0,3 0,4 0,5 1,0 2,0	1,57% 1,50% 1,31% 1,30% 1,05% 0,53% 0,26%	1,15% 1,10% 0,95% 0,90% 0,80% 0,40% 0,20%	Collap-sing granitic residual soil	low
2,0 x 2,0	0,2 0,4 0,6 1,0 2,0 4,0	1,31% 1,29% 1,23% 1,05% 0,53% 0,26%	0,90% 0,95% 1,00% 0,80% 0,35% 0,10%	Collap-sing granitic residual soil	low
3,0 x 3,0	0,3 0,6 1,0 2,0 3,0 6,0	1,57% 1,41% 1,31% 0,79% 0,53% 0,11%	1,05% 1,00% 0,85% 0,60% 0,30% 0,10%	Collap-sing granitic residual soil	low
1,0 x 1,0	0,1 0,2 0,3 0,4 0,5 1,0 2,0	7,60% 7,49% 7,02% 6,39% 6,05% 3,23% 0,88%	7,50% 7,25% 7,15% 6,20% 6,05% 2,90% 0,70%	Collap-sing granitic residual soil	high
2,0 x 2,0	0,2 0,4 0,6 1,0 2,0 4,0	7,49% 7,14% 6,79% 5,75% 2,29% 0,65%	7,20% 6,90% 6,35% 5,20% 2,30% 0,95%	Collap-sing granitic residual soil	high
3,0 x 3,0	0,3 0,6 1,0 2,0 3,0 6,0	7,30% 7,26% 6,30% 3,91% 2,05% 0,65%	7,25% 6,65% 5,90% 3,55% 1,95% 0,70%	Collap-sing granitic residual soil	high

Footing size	Depth below the centre of the footing	$\frac{\Delta e}{1+e_o}$ Results from Consolidometer Tests	$\frac{\Delta H}{H}$ Results from Stress path Tests	Soil	w_c
1,0 x 1,0	0,1 o,2 0,3 0,4 0,5 1,0 2,0	1,42% 1,12% 0,85% 0,62% 0,53% 0,28% 0,08%	0,85% 0,80% 0,75% 0,70% 0,65% 0,36% 0,15%	Collap-sing sand - Sishen	low
2,0 x 2,0	0,2 0,4 0,6 1,0 2,0 4,0	1,35% 1,35% 0,88% 0,62% 0,22% 0,06%	0,80% 0,85% 0,78% 0,70% 0,30% 0,10%	Collap-sing sand - Sishen	low
3,0 x 3,0	0,3 0,6 1,0 2,0 3,0 6,0	1,35% 1,35% 1,07% 0,87% 0,69% 0,08%	0,88% 0,85% 0,78% 0,55% 0,40% 0,10%	Collap-sing sand - Sishen	low
1,0 x 1,0	0,1 0,2 0,3 0,4 0,5 1,0 2,0		1,75% 1,65% 1,55% 1,40% 1,30% 0,70% 0,35%	Collap-sing sand - Sishen	high
2,0 x 2,0	0,2 0,4 0,6 1,0 2,0 4,0		1,70% 1,60% 1,50% 1,30% 0,65% 0,15%	Collap-sing sand - Sishen	High
3,0 x 3,0	0,3 0,6 1,0 2,0 3,0 6,0		1,65% 1,60% 1,45% 0,95% 0,50% 0,10%	Collap-sing sand - Sishen	High


q bearihg contact pressure in kN/m2
20
40
60
80
100
120
140
160
0,1
0,2
0,3
0,4
0,5
0,6
0,7
0,8
0,9
1,0
1,1
1,2
1,3
SETTLEMENT IN mm.
Model footing 50 mm.x 50 mm.
failure
Wc variation(load at 29 kN/m2)
Wc = 4%
Wc = 4,2%
Wc = 5,2%
Wc = 6,2%
Wc = 7,2%
Wc = 8,2%
Wc = 8,5%
Settlement kept constant for 24 hours
for each Wc increment
failure
MODEL FOOTING SIZE: 100mm x 100mm
SOIL TYPE: Collapsible granite
residual soil


q bearing contact pressure in kN/m2
20
40
60
80
100
120
140
160
Settlement in mm.
0,1
0,2
0,3
0,4
0,5
0,6
0,7
0,8
0,9
1,0
1,1
1,2
1,3
load constant
at 43 kN/m2
Wc=2%
Wc = 2,7%
Wc = 3,3%
Wc = 3,7%
Wc = 4,2%
Wc = 5,2%
Wc = 6,2%
Wc = 7,2%
Wc = 8,1%
Wc = 9,1%
Wc = 10,1%
Wc = 11,1%
Wc = 12,0%
Model footing size
100mm x 100mm
failure
Model footing size 50mm x 50mm
Load constant at 113kN/m2
Wc varied
Wc 3%
Sample failure
Settlement kept constant for 24 hours
for each Wc increment.
SOIL TYPE: Collapsing sand
(Sishen)

APPENDIX C

COURSES COMPLETED IN PARTIAL FULFILMENT OF THE M.Sc. (ENG.) DEGREE AT THE UNIVERSITY OF CAPE TOWN

COURSE	YEAR CREDITED	CREDIT VALUE
Introduction to Management Accounting	1975	5
Coastal Engineering	1975	5
Probability and Engineering Statistics	1975	4
Prestressed Concrete	1975	5
Skeletal Structures	1975	5

Total credit requirements for the M.Sc. (Eng.) Degree: 40

Half Thesis: 20

Course Credits 24

Total: 44

UNIVERSITY OF CAPE TOWN

DEPARTMENT OF CIVIL ENGINEERING

M.Sc. IN CIVIL ENGINEERING

UNIVERSITY EXAMINATION : JULY 1977

CE 525 : Coastal Hydraulics

All Questions may be attempted   Time : 3 hours

Constants

Sea water density = 1025 kg/m^3

Sea water weight = 10 kN/m^3

1. A beach site has an average underwater slope of 1 in 50, and the beach material is a coarse quartz sand of relative density 2,65 and average size 1,35 mm, the shoreline being essentially straight.

   Two conditions of wave attack are being considered :-

   (A) swell of 10 second period with a deep water wave height of 1,6 m approaching the beach with wave crests parallel to the shore line.

   (B) as in (A) above, but with a deep water wave incidence of 35°, (angle between wave crest and contour)

   For case (A) make the following calculations :-

   (a) the wave length and wave celerity in deep water.
   (b) the water depth at which the wave begins to be affected by the presence of the sea bed.
   (c) the wavelength, celerity and height for water depths at 10 m intervals between d=80 m and d=10 m, and at 1 m intervals between d= 10 m and d=1 m.
   (d) the water depth in which the wave breaks, the breaker type, and the wave height at breaking. Ignore the effect of wave set up or down.
   (e) the deep water energy flow.
   (f) the wave height and energy flow in a water depth of 1 m.
   (g) the water depth in which the sand is on the point of moving.
   (h) the water depth in the which the sand is in motion but has no net drift.

For case (B) make the following calculations :-

(i) the water depths in which the angle of incidence becomes 30°, 20° 10° and 5°, and the wave heights at these depths.

(j) the water depth and wave height under breaking conditions. (assume the depth at breaking is 80 per cent of the value obtained for parallel waves)

(k) the thrust on the mass of water in the surf zone, per metre length along the shore.(N)

(l) an estimate of the bulk sand volume flow rate in m^3/s in the alongshore direction.

2. A cylindrical pipe is laid on the sea bed across a harbour entrance in 10 m of water, the pipe diameter being 0,3 m, and the axis of the pipe is parallel to the local wave crests. If the local wave length is 50 m, estimate the wave period, and find the peak magnitudes of the velocity and acceleration force components per metre length of pipe. Estimate the peak resultant force in the inshore direction, and the timing of this in relation to the passage of the wave crest. The wave height is 2 m, take C_D = 1,2 and C_M = 2,16

3. (a) A steady wind of speed 15 m/s blows over a fetch for a period of 8 hours, producing a significant wave height of 1,8 m at the downwind end of the fetch. Estimate the fetch length in km and the wave period. Check whether the wind duration is sufficient for this condition to be stable and also check whether this is the fully arisen sea for this wind speed.

(b) In a zero damage design calculation for the armour protection of a rubble mound breakwater, 3 tonne and 5 tonne dolosse are specified for the trunk and head respectively, the slope of the breakwater face being $\cot\theta = 2$. Estimate the block masses and block heights if tetrapods had been used in the same design. If the design wave height was 3 m, and a storm causes damage of the order 20-30 per cent to the tetrapod scheme, estimate the storm wave height.(concrete density = 2245 kg/m^3)

(c) An incoming swell has crests parallel to a straight beach with a deep water wave height of 2 m. Estimate the horizontal force (per metre along the beach) acting on the beach inside the refraction zone, due to the dynamic action of the waves.

(d) In an area where the sea bed is horizontal, and the water depth is 3 m, a wave has a period of 7 s, a wavelength of 38 m, and a wave height of 1,5 m. Estimate the drift velocity at bed level, and indicate the direction. Compare this velocity with the maximum orbital velocity at the same level, and indicate the influence on bed drift of a strong onshore wind.

(e) A storm at sea generates waves with a period range of 8 to 16 seconds. The resulting swell travels towards a harbour 500 km away. Estimate the time interval between the arrival of the shortest and longest waves, assuming deep water throughout.

UNIVERSITY OF CAPE TOWN

DEPARTMENT OF CIVIL ENGINEERING

UNIVERSITY EXAMINATION: JUNE, 1975

COURSE CE 508 - SKELETAL STRUCTURES

Time allowed: 4 hours | Notes are allowed

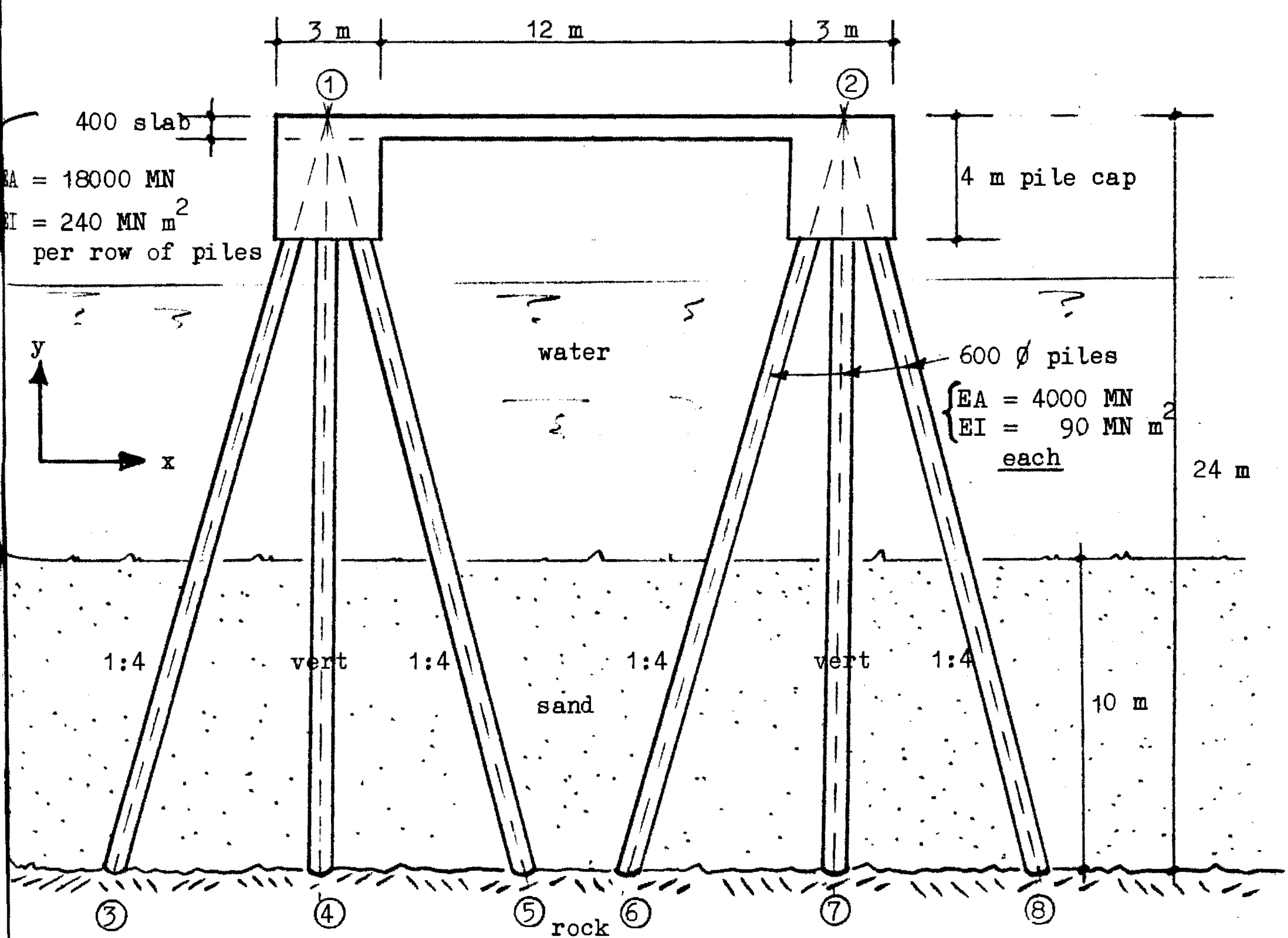
Part A: For each of the five structures shown below determine the degree of static and of effective kinematic indeterminateness, select the most suitable method of analysis, give the order of all the relevant matrices required for solution by the chosen method. State clearly what assumptions are made.

[40 marks]

Part B: Compile the matrices for any two of these structures; one analysed by the FORCE method and one analysed by the DISPLACEMENT method. Do not attempt to complete all the arithmetic processes, but give sufficient detail to show clearly the principles and operations involved.

[60 marks]

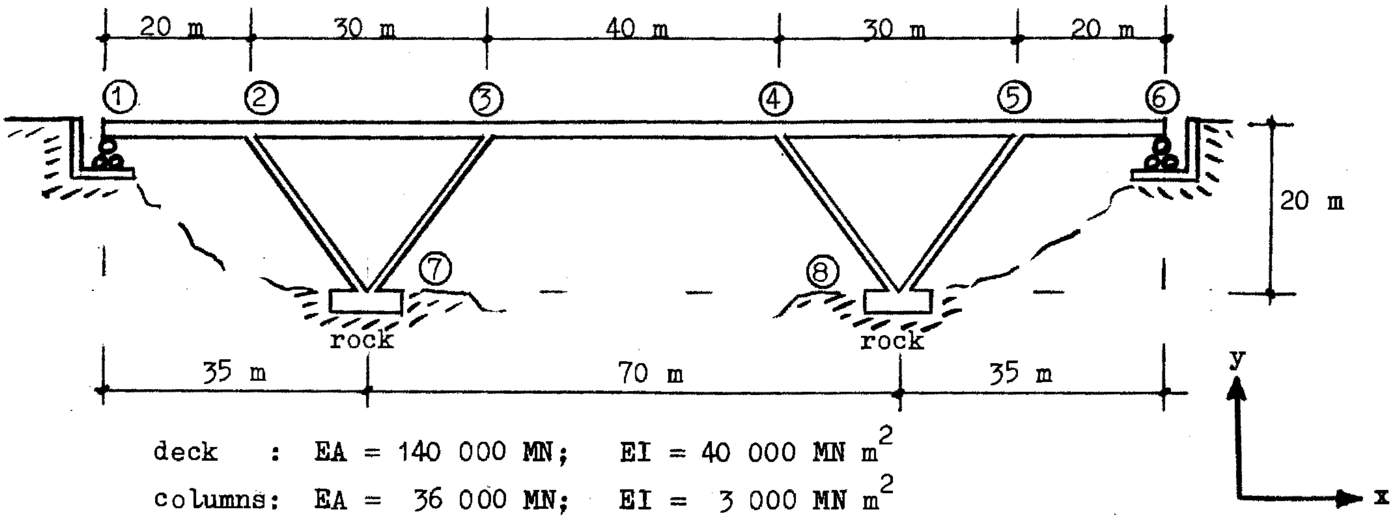
1. Jetty with vertical and horizontal loads applied to the top surface in the xy plane. The pile rows are at 3 m spacing along the jetty.



CROSS-SECTION

/2. ....

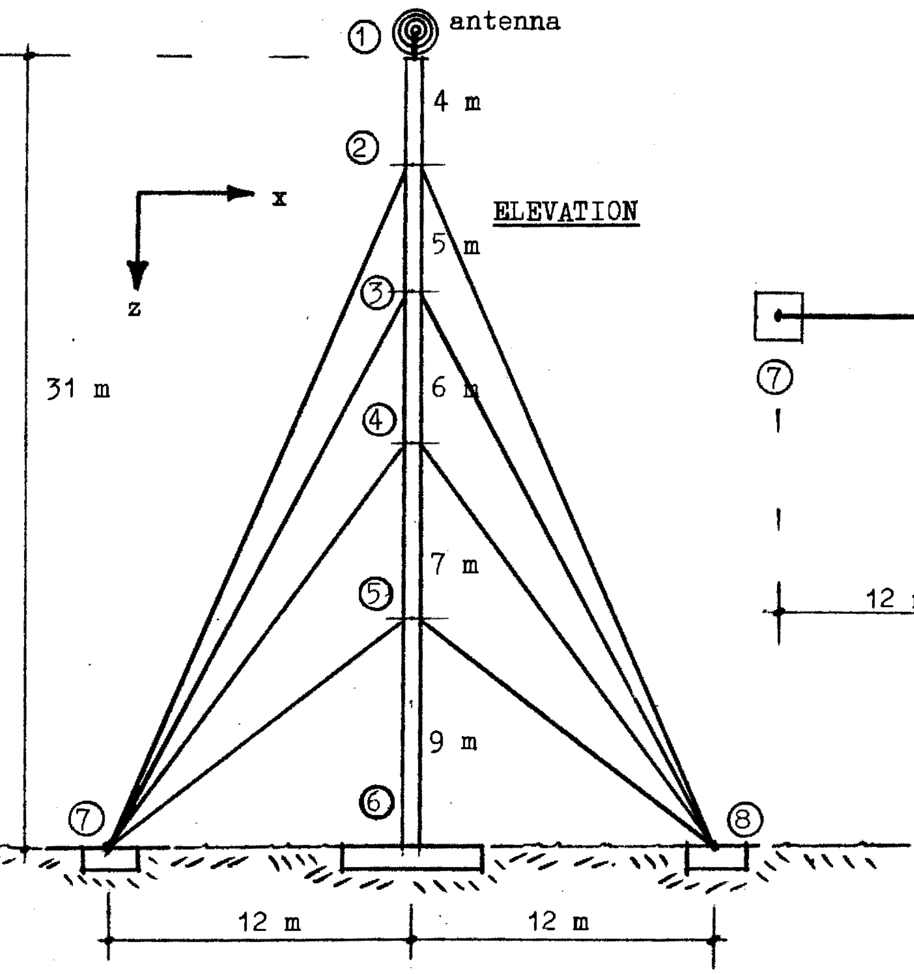
2. Bridge, monolithic concrete beam-slab deck and inclined columns, with vertical and horizontal loading applied to the deck.

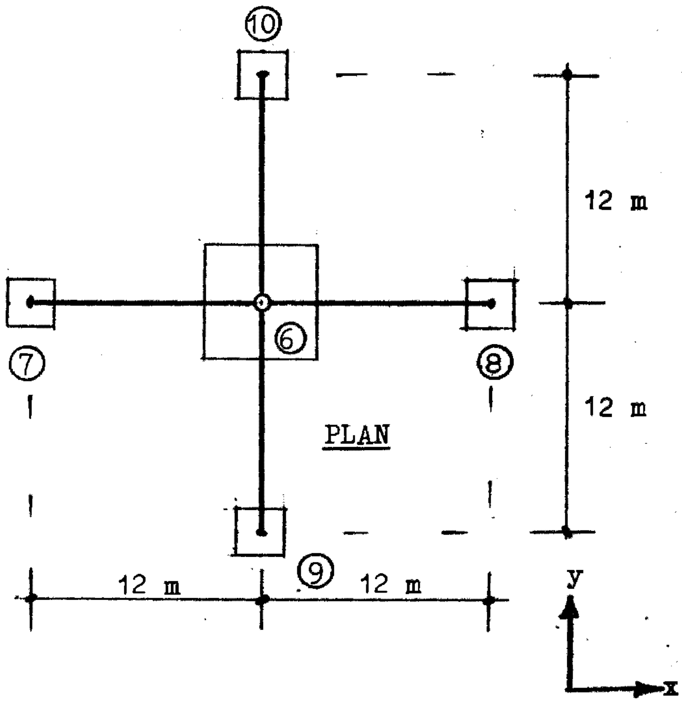


deck : EA = 140 000 MN; EI = 40 000 MN m^2

columns: EA = 36 000 MN; EI = 3 000 MN m^2

3. Tower, consisting of a single vertical tubular column fixed at the base and stayed at right angles on four levels with steel wire guy ropes, which are sufficiently pretensioned not to go slack. Loading is applied at the top only.

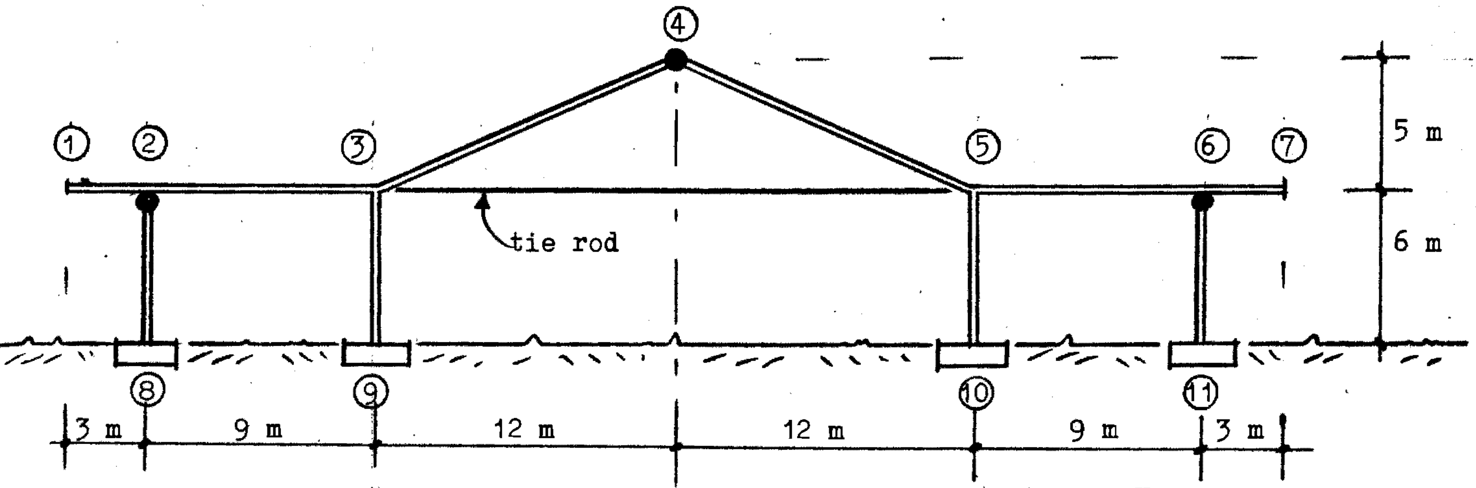




column : EA = 1300 MN; EI = 7 MN m^2 (200 Ø)

wire rope: EA = 36 MN each: (15 mm Ø.)

4. Building, tied steel portal frame with two side bays. Wind, dead and imposed roof loading.

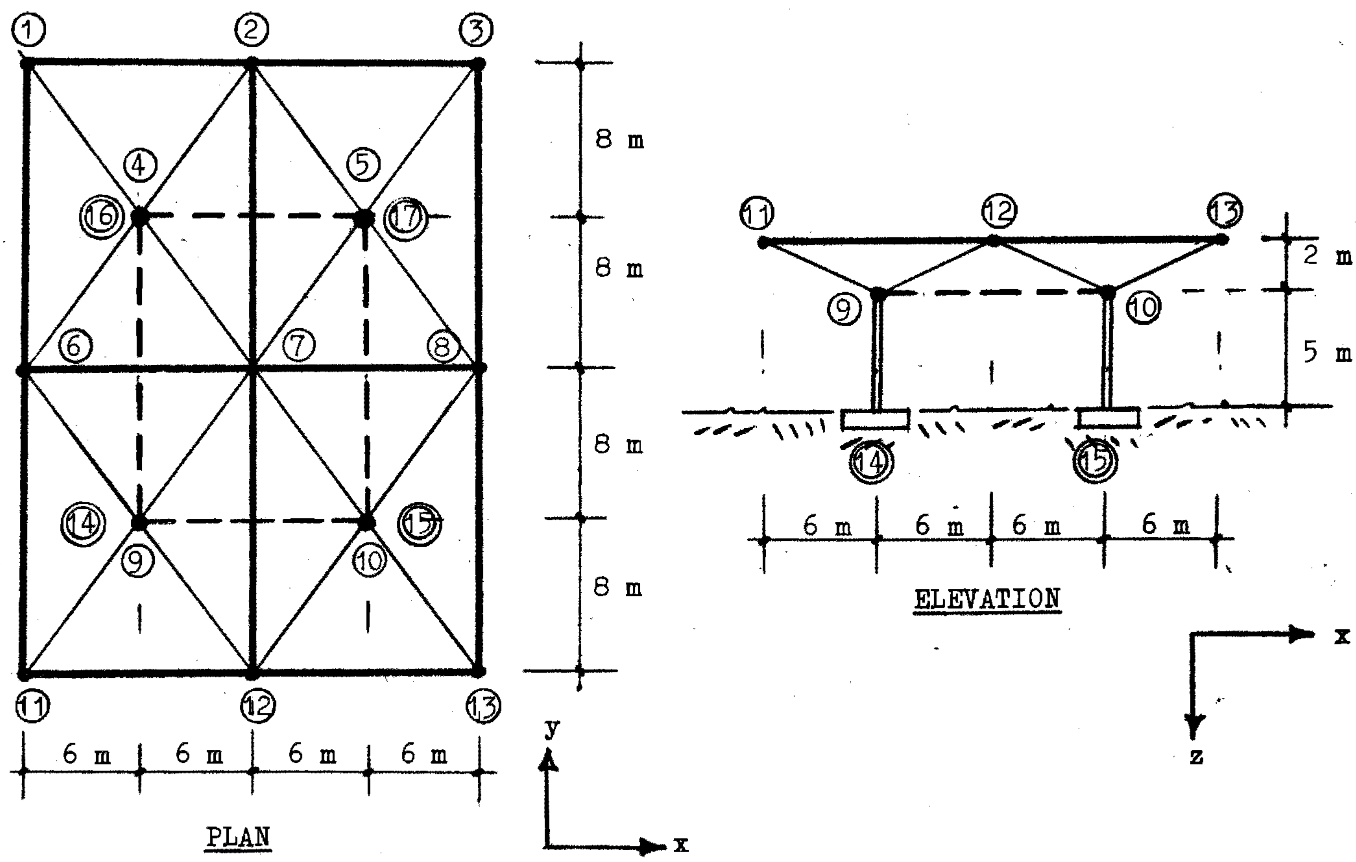


Rafters: EA = 1000 MN; EI = 20 MN m^2

Columns: EA = 1200 MN; EI = 9 MN m^2

Tie rod: EA = 60 MN (20 ∅).

5. Roof, ball-jointed, double-layer, three-way grid on four columns fixed at their bases, all of tubular steel construction, with vertical and horizontal loading applied to the top joints.



top layer : EA = 600 MN, (200 mm ∅)
inclined : EA = 900 MN, (300 mm ∅)
bottom layer: EA = 1200 MN, (400 mm ∅)
columns : EA = 3000 MN, (500 mm ∅); EI = 100 MN m^2

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UNIVERSITY OF CAPE TOWN

DEPARTMENT OF CIVIL ENGINEERING

UNIVERSITY EXAMINATION, NOVEMBER 1974

CE 504: PROBABILITY AND STATISTICS FOR ENGINEERS

Total marks: 100 Time allowed: 3 hours

External Examiner : Professor D.M. Schultz

Internal Examiners: Professor G.v.R. Marais
Mr. M.S. Green

Attempt ALL questions in Section A and FOUR questions from Section B and C. Use separate answer book for Section C.

Name: ....

SECTION A

Note: Answer these questions in the spaces provided on this question paper. Do not show calculations, enter only the final answer.

1. Give formulae for:

   (a) the coefficient of variation;

   (b) the mean deviation about the mode.

2. Find the standard deviation of the data: 2; 6; 10.

3. In a particular experiment the result of 10 weighings showed 4 values between 20 and 25 g, 4 values between 25 and 30 g and 2 values between 30 and 35 g. What was the median weight?

4. An engineering firm has 100 electrical components in stock, 25 manufactured by process A and 75 manufactured by process B. Unknown to the firm, 13 of those manufactured by A are defective and 18 of those manufactured by B are defective.

A component is chosen at random from the 100 components. What is the probability that this component is:

(i) manufactured by B and defective?

(ii) either manufactured by A or is a defective component?

5. An item of radar equipment has three critical components A, B, C. The frequency of defect for component A was found to be 5 per 100, for B to be 6 per 100, and for C to be 8 per 100. Estimate the probability that a given item of equipment is defective.

6. A biased coin which has twice the probability of falling heads as falling tails is tossed with two unbiased coins. What is the probability:

(i) of at least two heads occurring?

(ii) of no heads occurring?

7. At a telephone exchange the average number of calls passed per hour in the morning is 96 and the rate can be regarded as constant. Calculate the probability of:

(i) exactly 3 calls in a period of 5 minutes;

(ii) more than 3 calls in a period of 5 minutes.

8. Packets are filled automatically and on the average, 5 per cent are underweight. An inspector takes a batch of twelve collected randomly. What is the probability that he will find 25 per cent or more underweight?

9. The mean diameter of steel rods produced by a process is 2 cm and the standard deviation is 0,05 cm. Assuming the diameters are normally distributed, find the value such that only 5 per cent of the rods will have a diameter exceeding this value.

10. A sample of 11 lengths of plastic were tested and found to have a standard deviation of 35. A second sample of 9 lengths of plastic, treated by a different process, was tested and found to have a standard deviation of 20. Test whether the standard deviations differ significantly.

11. State the assumptions required for the use of the t-test for the difference between the means of two independent samples.

12. If one denotes by y' the values of y which are calculated by means of the equation of the regression line, what is the least squares criterion?

13. Give the formula for the variance of the mean value of y, that is $\bar{y}$, where y is estimated from a regression line.

14. Give the formula for the correlation coefficient for two variables x and y.

15.

	Defective	Good	Total
Process A	25	15	40
Process B	35	25	60
Total	60	40	100

Test whether there is a difference between process A and process B in the above table.

SECTION B

Answer these questions in the answer books provided

1. A laboratory balance is used to weigh the same object 100 times. The values are given in the table below.

Weight in g	Number of observations
4,55 - 4,65	10
4,65 - 4,75	20
4,75 - 4,85	45
4,85 - 4,95	15
4,95 - 5,05	10
	100

(a) Using this data calculate:

(i) the mean,
(ii) the mode,
(iii) the median,
(iv) the variance and standard deviation,
(v) the coefficient of variation.

(b) By fitting a normal distribution to the data, find the expected frequencies in the first two class intervals.

2. (a) Derive the binomial distribution from first principles and hence derive the Poisson distribution from the binomial distribution.

(b) The probability of a light bulb failing during the first twelve hours of service is 0,0049. If 1000 light bulbs are installed, use the Poisson distribution to find the probability of exactly ten bulbs failing within the first twelve hours.

(c) A machine is known to produce piston rings of which 10 per cent are defective. Find the probability that in a random sample of 400 rings:

(i) at most 35 rings will be defective;
(ii) between 35 and 50 will be defective.

3. (a) Define with diagram a type I error, type II error and the power of a test.

(b) The outputs from two production plants A and B were measured on each of 5 days. The data was given as follows:

Output (tons)

Plant A	Plant B
2,0	2,2
1,7	2,0
2,6	2,7
1,7	1,7
2,0	1,9

/Test whether .....

3. (b) (Continued)

Test whether the output of Plant B is significantly higher than that of Plant A at the 5 per cent level of significance if:

(i) sample A was considered to be independent of sample B:

(ii) it was believed that the day on which the observation was made was a relevant factor, and the observations were considered to be paired.

4. An experiment was carried out to measure the resistance of wire from three sources by taking five samples from each source.

(a) Use analysis of variance to determine whether or not there is a significant difference between the resistance of the wire from the three sources.

Sample \ Source	A	B	C
1	7,2	8,5	8,3
2	7,3	8,6	8,6
3	7,4	9,0	8,6
4	7,9	8,7	8,7
5	7,7	8,7	8,8

(b) It is believed that the 5 samples for each source were taken on consecutive days and that the resistance increased each day due to an external factor. Explain how you would test this hypothesis for Source A only.

SECTION C

(Answer this question in a separate answer book).

1. (a) In a set of 10 compressive tests on concrete cubes, two of the tests exceeded the capacity of the testing machine (12 MPa). The 8 definite test results were (in MPa):

11,9 8,0 8,8 11,3 10,7 10,7 9,9 9,7.

For the set of 10 cubes, determine graphically the mean compressive stress and its standard deviation.

(b) On two succeeding days a set of data was obtained on the concentration of bacteria in the effluent from a sewage works. The two sets of ranked data are:

Set 1:	400	700	850	1200	1900					
Set 2:	750	1200	1700	1900	2400	3100	3600	5000	6000	11000

The data is expected to be log-normally distributed.

/(i) Determine

1. (b) (Continued)

   (i) Determine (using graphical procedures) the log-mean, geometric-mean of each set of data.

   (ii) Test if the log-means are significantly different at 96 per cent level of significance.

   (iii) Briefly explain why you performed the test for significance (in (ii) above), on the differences of the log-means and not on the differences of the geometric and arithmetic-means.

   (c) List the conditions which must prevail for (i) a normal, (ii) a log-normal, distribution to arise.

UNIVERSITY OF CAPE TOWN

DEPARTMENT OF CIVIL ENGINEERING

UNIVERSITY EXAMINATION: DECEMBER, 1975

M.Sc. IN CIVIL ENGINEERING

COURSE CE 516: PRESTRESSED CONCRETE

Time allowed: 3 hours Attempt ALL questions

Any books and notes may be used

1. (a) State as concisely as possible the reason why it is essential in prestressed concrete design to check both the serviceability and and ultimate limit states.

[3 marks]

(b) In a partially prestressed member a certain amount of untensioned reinforcement is normally required. Show, with the aid of appropriate diagrams, how you would determine, in the design of a particular member according to CP 110, the relative costs of using prestressing steel, high yield reinforcing steel or mild steel to provide the additional reinforcement required. Assume that unit rates for the three types of steel are available.

[12 marks]

2. Write brief notes (about half a page) on each of the following:-

(a) The main factors affecting creep in prestressed concrete listed in order of importance with respect to a typical structure such as a highway bridge.

(b) The reasons for avoiding either too small or too large a percentage of steel in a prestressed concrete member.

(c) Compare and contrast flexural cracking and shear cracking.

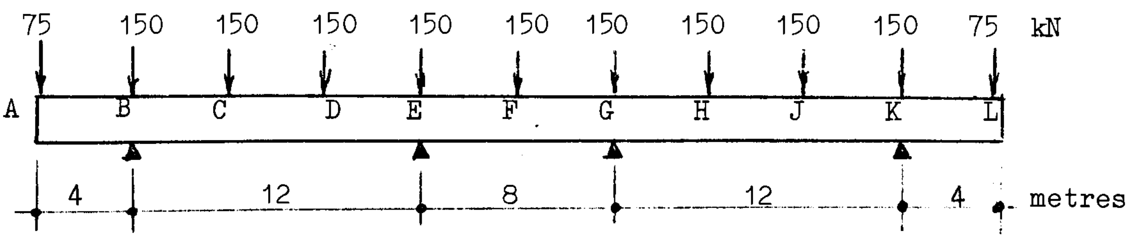
(d) Linear transformation of a cable profile.

(e) The mechanism of failure of a concrete beam in torsion, with comments on the effect of shear and bending moment in combination with torsion.

[25 marks]

/3. ....

3.



The rectangular, post-tensioned concrete beam shown above is simply supported at B, E, G and K. The beam carries eleven equally spaced columns supporting an upper floor. The sustained loads transmitted by these columns to the beam are as shown (viz. 75 kN at A and L; 150 kN at all the other points). In addition to its self-weight, the beam has to carry a sustained load of 20 kN/m throughout its length.

Use the load balancing method, balancing all sustained loads, to give a suitable preliminary design (i.e. beam size, cable profile and prestress force).

The design should comply with the following constraints:-

(a) Minimum width of beam : 250 mm

(b) Maximum depth of beam : 1200 mm

(c) Minimum cover distance to centroid of tendons: 100 mm

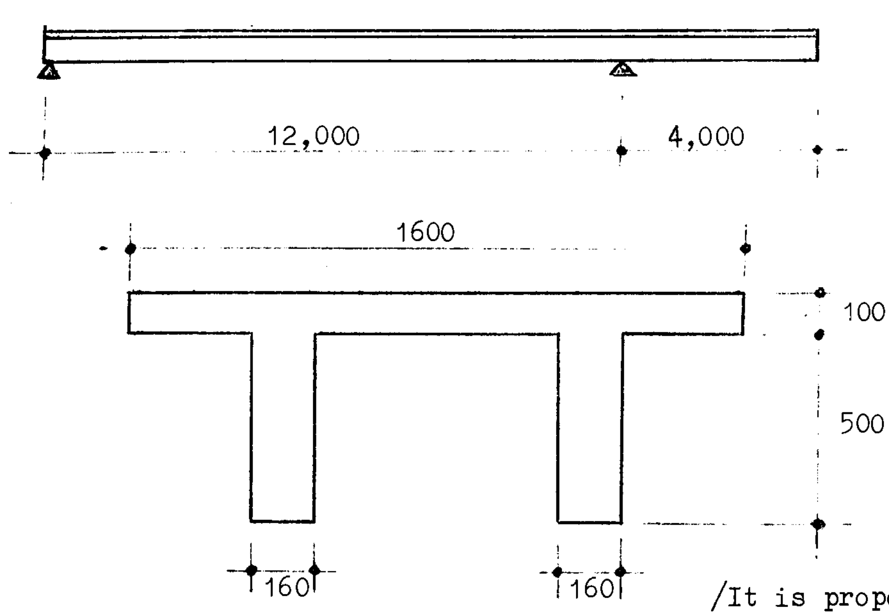
(d) Maximum average concrete stress : 6 MPa.

Assume furthermore that prestressing losses are negligible so that the prestressing force is constant throughout.

Assume Weight of Concrete = 25 kN/m^3

[20 marks]

4.



/It is proposed ...

4. (Continued)

It is proposed to build a prestressed concrete floor spanning 12 metres with an additional 4 metre cantilever. Pretensioned double-T units of the uniform cross-section shown above are to be used. These are to be designed according to CP 110 as Class 3 members, using the minimum prestressing force and providing additional untensioned reinforcement where necessary.

The floor is required to carry an imposed loading of 10 kN/m^2 over any part.

Prestressing is to be accomplished using straight horizontal tendons only.

Determine the following:-

(a) The minimum prestressing force required and its eccentricity. (Consider only the support points and midspan, neglecting the slightly higher moments just to the left of midspan).

(b) The area of additional untensioned reinforcement required at midspan using either prestressing wire or high yield reinforcing steel.

Comment on the merits and demerits of the resulting design.

Necessary data:

Use Concrete Grade 50 (i.e. f_{cu} = 50 MPa)

Permissible compressive stress for serviceability limit state: 16,7 MPa
Permissible hypothetical tensile stress for serviceability limit state (including depth factor): 5,8 MPa.

Weight of concrete = 25 kN/m^3

Minimum cover distance to centroid of prestressing tendons: 80 mm

Factors of Safety for Ultimate Limit State: Dead Load: 1,4
Imposed Load: 1,6

Characteristic strength of prestressing wire: f_{pu} = 1550 MPa

Residual prestress (after losses): 0,6 f_{pu}

Characteristic strength of high yield steel: f_y = 460 MPa

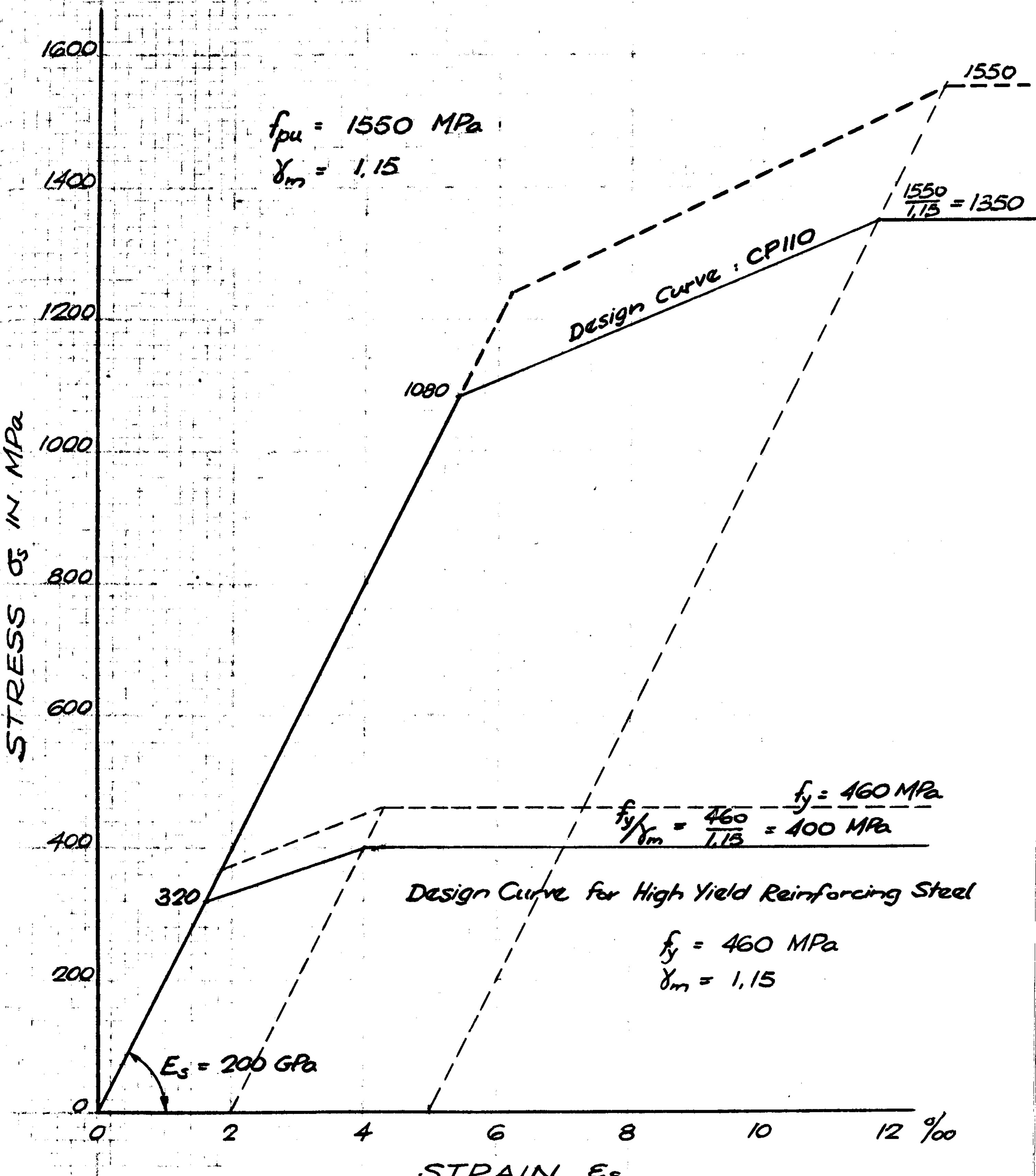
Cost of untensioned prestressing wire: R700/ton

Cost of high yield reinforcing steel: R350/ton

Modulus of Elasticity for steel: 200 GPa

Design curves for prestressing wire and high yield steel are attached.

[40 marks]



1600
1400
1200
1000
800
600
400
200
0
f_{pu} = 1550 MPa
γ_m = 1,15
1550
$\frac{1550}{1,15}$ = 1350
Design Curve : CP110
1080
f_y = 460 MPa
f_y/γ_m = $\frac{460}{1,15}$ = 400 MPa
320
Design Curve for High Yield Reinforcing Steel
f_y = 460 MPa
γ_m = 1,15
E_s = 200 GPa
0 2 4 6 8 10 12 ‰
STRAIN ε_s
STRESS σ_s IN MPa

UNIVERSITY OF CAPE TOWN

DEPARTMENT OF ACCOUNTING

JUNE 1975 EXAMINATION

INTRODUCTION TO MANAGEMENT ACCOUNTING

INVENTORY COSTING

In a 'perpetual inventory' system of accounting for inventory the debit balance on the 'finished goods inventory' account should represent the cost of inventory on hand. There are various methods of determining cost.

YOU ARE REQUIRED TO
Name and explain briefly an alternative to each of the methods given below.

1.0 With regard to the cost of goods manufactured (debits to the inventory account):

1.1 DIRECT COSTING
An alternative is [ ] which means that :

1.2 'ACTUAL' COSTING
An alternative is [ ] which means that :

1.3 JOB COSTING
An alternative is [ ] which means that :

1.4 JOINT COSTS SPLIT ACCORDING TO SOME MEASURE OF SALES REVENUE
An alternative is [ ] which means that :

2.0 With regard to the cost of goods sold (credits to the inventory account):

2.1 WEIGHTED AVERAGE COST
An alternative is [ ] which means that :

ITMA 1975/FINAL/2

SCORE: OUT OF 5 MARKS

INVENTORY VALUATION

In placing a valuation on inventory for the purpose of the annual financial statements one has to conside not only the cost of the inventory.

YOU ARE REQUIRED TO

1. State what basis of valuation other than cost might be appropriate.

2. State with which statute and/or convention one would be complying.

PROCESS COSTING

Accounting A and Accountant B have been asked to cost a month's production of the same process. Part of their respective calculations are given below.

YOU ARE REQUIRED TO

Answer the questions on the following page.
(You may assume that there are no arithmetical errors)

ACCOUNTANT A'S SCHEDULE

		UNITS	MATERIALS	CONVERSION
	INPUTS		COSTS	
a	Beginning w i p ($\frac{1}{2}$ converted)	2 000	R 1 800	R 4 325
b	Started	18 000	18 000	34 600
c		20 000	R19 800	R38 925
	OUTPUTS		EQUIVALENT UNITS	
d	Completed			
	- from beginning w i p	2 000	-	1 000
	- started and finished	13 000	13 000	13 000
e	Normal loss	1 500	1 500	500
f	Ending w i p (4/5 converted)	3 500	3 500	2 800
g		20 000	18 000	17 300

ACCOUNTANTS B'S SCHEDULE

		UNITS	MATERIALS	CONVERSION
	INPUTS		COSTS	
a	Beginning w i p ($\frac{1}{2}$ converted)	2 000	R 1 800	R 4 325
b	Started	18 000	18 000	34 600
c		20 000	19 800	38 925
	OUTPUTS		EQUIVALENT UNITS	
d	Completed	15 000	15 000	15 000
e	Normal loss	1 500	1 500	500
f	Ending w i p (4/5 converted	3 500	3 500	2 800
g		20 000	20 000	18 300

Please refer to the previous page and answer the following questions:

1. Explain why they have arrived at different equivalent units. Which is correct and why ? 2

2. Explain why they have both used the same costs. 2

3. Give a probable explanation for the computation of equivalent units in respect of normal loss. 2

4. Using Accountant A's schedule, show (as far as the information allows) for all ledger accounts involved, the balances and the entries required to record the month's production.

CAPITAL INVESTMENT APPRAISAL AND BREAKEVEN

A small company manufactures a single product with one machine (Model A) which was purchased exactly two years ago for R40 000. The economic life of model A was (and is) estimated to be 10 years, after which it will have a scrap value of Rnil. Model A can be sold now for R12 000.

At present there is a fully automatic model B on offer for R50 000 delivered and installed. Model B has an estimated economic life of 8 years after which its estimated scrap value will be R3 000. Both machines qualify for an annual income tax depreciation allowance at the rate of 10% per annum on cost. Assume: that the company has a large taxable income; that the tax rate is 40%; that tax for any year is paid at the end of that year; that all cash flows occur at the end of the year.

The company's required earnings rate is 10% after tax. The present values of R1 at 10% are as follows:

Year 1	0,9
2	0,8
3	0,7
4	0,7
5	0,6
6	0,6
7	0,5
8	0,5
9	0,4
10	0,4

The following data apply to each machine respectively.

(All figures in thousands)	Model A	Model B
Production and sales	30 units	30 units
Sales Revenue	R210	R210
Variable cost	R135	R120
Fixed costs excluding depreciation	60	60
	195	180
Net income before depreciation	15	30

YOU ARE REQUIRED TO

1. Advise whether model A should be replaced by Model B, giving reasons.

2. If model A were to be replaced by model B show how the break even units and revenue would be affected.

Please use the worksheet on the following page.

	End of year	Cash Flows		10% Factor	Present Value	
		Out	In		Out	In

STANDARD COSTING

YOU ARE REQUIRED TO

Show all variances that can be determined from the following data :

(All figures in thousands)	Original Budget	Actual Performance
Production	240 units	270 units
Direct material usage	96 kg	100 kg
Direct labour usage	60 hrs	60 hrs
Sales	240 units	250 units
Sales revenue	R1 200	R1 235
Direct materials	R 480	R 543
Direct labour	120	132
Indirect variable	120	135
Total		810
Stock increase	—	60
Factory V.C. of sales	720	750
Selling variable	60	65
Total V.C. of Sales	R780	R815
Contribution	R420	R420
Fixed expense	220	222
Net income	R200	R198