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**SOUTH WEST BICESTER
OXFORDSHIRE
GROUND INVESTIGATION
FACTUAL AND INTERPRETATIVE REPORT**

Revision Record

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Prepared for:

A. D. Woodley Ltd
c/o Mr J H Gould
The Old Courtyard
Cophall Farm
Breakspear Road South
Ickenham
Middlesex
UB10 8HP

Prepared by:

Pell Frischmann Consultants Ltd
George House
George Street
Wakefield
West Yorkshire
WF1 1LY

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EXECUTIVE SUMMARY

Pell Frischmann was instructed by A D Woodley and Sons to carry out a Site Investigation for the proposed development of the land surrounding Whitelands Farm. The purpose of the report is to highlight the geotechnical and environmental considerations that should be addressed as part of the proposed scheme.

The superficial deposits comprise localised deposits of alluvium made ground and the completely weathered upper surface of the solid geology. The underlying solid geology comprises Kellaways Clay, Cornbrash and Forest Marble Formations.

A total of 11 percussive boreholes and 110 trial pits were undertaken as part of this investigation. The exploratory holes confirmed the anticipated ground conditions, together with some additional areas of made ground.

It will be possible to construct shallow foundations on the majority of the site. Only limited areas of made ground, peat or soft clay are deemed unsuitable. Sulphate tests on a limited number of samples show that the soils fall into Class 1 of the BRE Digest, with the exception of a limited number of made ground samples.

With respect to contamination, the majority of the site did not contain any significant levels of contaminants. The backfilled quarry in the north west corner of the site did show elevated levels of some metals, but these were proved to be immobile.

Other than the provision of a clean break layer for landscaping areas or cover by hardstanding in limited areas, we do not consider the contaminants present a significant hazard on site, although disposal off site may attract additional costs. This is with the proviso that two anomalous results towards the eastern site boundary are investigated further, with a limited programme of testing.

The majority of soils encountered beneath the site will in general be acceptable for reuse as earthworks materials. Excavation sides within the soils will generally be stable, although excavation depth is likely to be restricted over much of the site due to shallow rockhead. Limited groundwater control measures may be required where perched water is encountered.

1. INTRODUCTION

A D Woodley and Sons Ltd has commissioned Pell Frischmann Consultants to carry out a Site Investigation at the site of Whitelands Farm at Bicester Oxfordshire. The proposal is to develop the land surrounding the farm for a variety of end uses, including residential and light industrial. The site investigation is required to ascertain whether the site is suitable for the proposed use and any remedial works that may be required.

This Report gives an assessment of the underlying ground conditions together with the possible problems that may occur as a result of the proposed scheme. This includes recommendations on foundation design, the potential for material re-use and an assessment of potential contamination of the site.

2. EXISTING INFORMATION

Information on sub-surface data has been obtained from the British Geological Survey Sheet SP52SE Geological Map ⁽¹⁾. Reference has also been made to the Pell Frischmann Desk Study ⁽⁷⁾ with respect to records of previous land use and potential contamination from sources either on or adjacent to the site.

3. SITE DESCRIPTION

The site is of generally low relief with a gradual fall to the Southeast. Land use was seen to be wholly agricultural, with fields surrounding the buildings of Whitelands Farm. Small stands of trees occurred across the site. Two main open drainage ditches were noted. One in the south eastern area of the site appeared to originate within the site boundary and exited the site in a south east direction. The other entered the site on the northern boundary and exited in an approximately east south east direction. At the time of the survey, the majority of the site was being used for crop production, with minor areas in the north eastern corner and immediately north west of Whitelands Farm being given over to livestock.

The backfilled quarry in the north western corner of the site did not show any significant surface features other than a slightly darker topsoil with occasional ash and clinker fragments compared to the surrounding areas.

An area of obviously disturbed ground in the north western corner of the site was noted during the ground investigation, forming shallow depressions and low rounded mounds. Exploratory boreholes were undertaken to investigate these features.

4. SITE HISTORY AND DEVELOPMENT

Based on current and historical Ordnance Survey maps obtained for the Desk Study and dating from 1884/1885, it was considered that the site was unlikely to be affected by a legacy of industry. Only two areas of potentially significant contaminating activities were identified either on or in the vicinity of the site.

In the north west corner of the site there is an infilled quarry which covers an approximate area of 500 square metres. From discussions with the Farmer for the site, Mr Alan Woodley, it is understood that the material disposed of, originated from nearby military premises and comprised mainly ash from burnt waste, with scrap vehicle parts. This quarry was accurately delineated during the ground investigation.

To the north east of the site there is an existing petrol filling station. Historical and current maps identified that the remainder of the site has comprised agricultural land throughout the period between 1884/1885 and the present.

During the ground investigation it became clear that there had been a further unrecorded area of quarrying activity in the north eastern area of the site. From the exploratory hole data, it appears that this activity comprised the shallow excavation of the weathered upper surface of the Forest Marble limestone, with larger blocks of stone being removed and the finer granular materials forming discard. These small spoil mounds gave a gently undulating surface to the area. There was also a suggestion of lime burning activity in one of the excavations, with some white calcined limestone noted within the generally fine grained granular material.

5. GEOLOGY AND HYDROGEOLOGY

5.1 Geology

Published geological information ⁽¹⁾ indicates this area to be underlain by rocks of the Jurassic Period with limited overlying superficial deposits.

The superficial deposits, in the vicinity of the site, are recorded as Quaternary in age and comprise localised deposits of Alluvium, which generally follow the route of the local streams.

Based on the geological map of the area, the solid rocks under the site comprise the following (youngest first):

- Kellaways Clay
- Cornbrash
- Forest Marble Formations. ²

The Cornbrash Formation generally covers the northern areas of the site, with other smaller outcrops towards the south eastern boundary and typically comprises grey and yellow brown rubbly limestones. The Forest Marble Formation is present as a small outcrop in the north east corner of the site and generally comprises interbedded grey flaggy mudstone and sandy limestones. The Kellaways Clay Members present in the southern of the site comprises dark grey mudstones.

The ground investigation was able to penetrate the weathered upper surfaces of these formations, the Cornbrash being recovered as a sandy silty gravel, the Forest Marble Formations as either a coarse gravel (where limestone) or a stiff to very stiff clay (where mudstone) and the Kellaways Clays as a firm to very stiff clay.



5.2 Hydrogeology

The Environment Agency classifies inland waterways (rivers and canals) according to the General Quality Assessment scheme (GQA). The GQA scheme is designed to provide an accurate and consistent assessment of the state of water quality changes over time. The chemistry GQA describes quality in terms of three chemical measurements, which detect the most common types of organic pollution.

The nearest surface watercourse to the site is Gagle Brook, which lies approximately 50 to 100m south of the site. There are also two on-site streams or drainage ditches, which drain into an off-site drain lying approximately 350m east of the site. Gagle Brook and the on-site drains are not classified, however the unnamed off-site drain to the east has a GQA of Grade D (Fair).

The Environment Agency (EA) Groundwater Vulnerability Map and Regional Appendices, which make up part of the published 'Policy and Practice for the Protection of Groundwater', divide the underlying strata in England and Wales into major, minor and non aquifers dependent upon their potential for potable water supply.

The underlying Cornbrash and Forest Marble Formations are classified as a minor aquifer with the Kellaways Clay Formation classified as a non-aquifer.

There are four licensed groundwater or surface abstractions located within 500m of the site, one being on the site adjacent to Whitelands Farm. Three of the abstractions are to provide water for general agricultural use in adjacent farms whilst the fourth is the water supply for the adjacent caravan site.

There are two consents to discharge, one in the north east corner of the site and the second approximately 750m east of the site adjacent to the sewage treatment works.

6. FIELDWORK

6.1 General

The ground conditions were determined by drilling cable percussion boreholes and excavating trial pits. Selected samples taken from the exploratory holes were subsequently used to undertake geotechnical and chemical laboratory testing.

The fieldwork was carried out between 7th and 22nd August 2001.

The ground investigation was carried out in general accordance with BS5930: 1981 "Code of Practice for Site Investigations" and was supervised by technical staff from Pell Frischmann Consultants Ltd. Pell Frischmann Consultants Ltd originally specified the locations and depths of the exploratory holes and pits. These were modified during the site works due to harvesting activities leading to access restrictions at various times across the site. The exploratory hole and pit locations are indicated in **Figure 1**.

6.2 Cable Percussion Boreholes

A total of eleven boreholes with a nominal diameter of 150mm were drilled by light cable percussion techniques to depths of between 1.5 metres and 5 metres below existing ground levels.

During the course of cable percussion boring, small (jar), large disturbed (bulk) and water samples were obtained for identification and classification purposes. In addition, 100mm nominal diameter undisturbed samples were obtained in cohesive soils using standard open drive sampling equipment.

In granular soils, cohesive soils and weathered bedrock, in situ Standard Penetration Tests (SPT's) were performed in accordance with BS 1377: Part 9 to provide an indication of the relative density and shear strength of the materials. The results, uncorrected for the effects of overburden pressure, are presented on the Borehole Records in **Appendix 1**.

A water-monitoring standpipe was installed in one borehole, BH9. The boreholes did not encounter groundwater during drilling operations.

The remainder of the boreholes were backfilled with arisings on completion.

6.3 Trial Pits

A total of 110 trial pits were dug using a Komatsu backactor excavator. The pits were taken to a maximum depth of 3m below the existing ground level.

During the course of trial pitting, both soil and water samples were obtained for identification, classification and chemical testing purposes. In addition in-situ CBR and vane shear tests were carried out where applicable. The trial pits were then backfilled with the arisings.

6.4 Exploratory Hole Records

The depths and descriptive details of all strata encountered, together with details of all samples recovered are presented on the Exploratory Hole Records in **Appendix 1**. The strata descriptions are based upon in-situ observations and examination of the samples by an Engineering Geologist and take into account the results of laboratory testing.

The descriptions are in general accordance with the requirements of BS 5930:1999⁽³⁾.

7. GROUND CONDITIONS

7.1 Strata Encountered

A summary of approximate areas of the different soils and rocks encountered is given in **Figure 2**. These broadly follow the arrangement of the geological map for the area, although it should be noted that our site investigation does not represent a detailed mapping exercise and that a degree of simplification has been adopted, with conditions being considered primarily in engineering terms.

The boundaries given in **Figure 2** are generally estimated between widely spaced exploratory holes and should thus be regarded as only indicative. Further detailed investigation of individual plots would be required to confirm this initial estimate.

(i) Made Ground

The strata encountered generally confirmed the published geology of an area of made ground in the north west of the site, with the addition of made ground in the north eastern area of the site and other probably localised areas of fill in the central eastern area of the site.

Between 1.65m and 2.45m of granular made ground was identified in the north west of the site, predominantly comprising ash fill with much glass and metal fragments. Some larger pieces of metal were identifiably vehicle engine parts. The glass, including some intact bottles, showed some evidence of melting, indicating high temperature combustion in the past.

Made ground in the north eastern area of the site was largely a fine sandy silty clayey gravel, although a 1.3m thick layer of soft to firm cohesive material with plant remains was encountered in one trial pit, TP84.

Probable localised areas of fill were identified in the central eastern area of the site in Trial Pits 76 and 76B, comprised largely cohesive materials between 2.1m and 2.5m deep. Trial pit 76B was extended in a north east to south west direction and appeared to show a shallow channel in the underlying limestone, infilled by clay. This could represent either an infilled drainage ditch or formally unrecorded shallow limestone quarry, similar to those identified elsewhere on the site.

(ii) Alluvial Deposits

Alluvial deposits were encountered in the south eastern area of the site comprising predominantly sand between 1m and 1.8m thick, and in the north eastern corner as a thin layer of soft clay and peat to less than 1m depth below ground level.

(iii) Kellaways Clay

Kellaways Clay was encountered in much of the southern and south western area of the site. This comprised predominantly stiff clay (highly to completely weathered mudstone) between 0.5m and 2.5m thick, and either gradually becoming a weak to very weak mudstone with increasing depth or was underlain by limestone (the Cornbrash).

(iv) Cornbrash

Cornbrash was encountered in much of the northern area of the site. This comprised predominantly coarse granular material (highly to completely weathered limestone) between 0.5m and 2.5m thick, and either was underlain by generally moderately weak to moderately strong limestone or a stiff to very stiff clay, this representing completely weathered mudstone of the Forest Marble Formation. Grading results for the Cornbrash identified a range from a silty sandy gravel to a very clayey very silty sandy gravel.

(v) Forest Marble

Forest Marble Formation was encountered in the north eastern area of the site and underlying the Cornbrash where the base of this layer was penetrated. The Forest Marble Formation comprised either a moderately strong light grey limestone, (weathered to a granular material on the upper surface) or a predominantly stiff to very stiff clay (highly to completely weathered mudstone). The clay was found to be between 0.5m and 2.5m thick, becoming a weak mudstone with increasing depth, with occasional beds of moderately weak siltstone. Grading results for the Cornbrash identified a range from a silty sandy gravel to a very clayey very silty sandy gravel.

7.2 Groundwater

Groundwater was encountered in a number of trial pits across the site, but its occurrence was intermittent, being present in some pits but absent in adjacent ones. Water inflow was generally restricted to a seepage and a delay of up to an hour was often required to allow sufficient water to collect to enable a sample to be obtained.

A very minor seepage (reported as the borehole becoming damp) was noted in made ground in Borehole 1. The majority of groundwater encountered was as seepages either within the Cornbrash or at the interface between this and the underlying Forest Marble mudstones.

Water in the form of both a seepage and a moderate inflow was encountered at the interface between the suspected clay fill and Cornbrash, in trial pits TP 76 and TP 76B

Both seepages and moderate inflows were noted in the weathered upper surface of the Forest Marble in the north east corner of the site, although this is considered to be a local feature, attributable to the proximity of drainage ditches in this area.

The water strikes are considered to represent perched water, generally within the Cornbrash.

It should be noted that groundwater levels may be subject to seasonal and other variation.

A summary of groundwater strikes is tabulated below in Table 1:

Exploratory Hole	Depth Water Encountered (m)	Depth Water Rise (m)	Comments
BH1	1.3	None	Very minor seepage in made ground
BH2	3.0	None	Very minor seepage at interface Cornbrash and underlying Forest Marble clay
BH11	1.0	None	Seepage from Cornbrash
TP14A	1.8	None	Seepage at interface Cornbrash and underlying Forest Marble clay
TP15A	1.0	None	Seepage from Cornbrash
TP16	1.5	None	Seepage from sandy lenses in Forest Marble clay
TP17	1.1	None	Seepage at interface Cornbrash and underlying Forest Marble clay
TP36	0.5	None	Seepage from Cornbrash
TP47	1.0	None	Seepage from Cornbrash
TP52	2.0	None	Seepage from Cornbrash
TP59	1.8	None	Seepage from Cornbrash
TP71	0.9	None	Seepage from Cornbrash
TP76	2.5	1.7 after 30 mins.	Moderate inflow at interface clay fill and underlying Cornbrash
TP76B	2.1	2.0 after 20 mins.	Seepage at interface clay fill and underlying Cornbrash
TP83	0.8	0.6 after 20 mins.	Moderate inflow close to interface of gravel and underlying Forest Marble limestone
TP89A	0.9	None	Seepage at interface clayey gravel and underlying Forest Marble limestone
TP89B	0.9	0.45m in 30 mins.	Moderate inflow close to interface of gravel and underlying Forest Marble limestone

Table 1 Groundwater Encountered by Exploratory Holes

8. LABORATORY TESTING

A programme of laboratory testing was prepared by Pell Frischmann Consultants. Engineering tests were carried out by Thyssen Geotechnical and chemical tests by ECOS Ltd. All engineering test results and chemical test data are presented in **Appendix 2**.

8.1 Engineering Tests

A programme of geotechnical testing was undertaken on selected bulk, small disturbed and undisturbed soil samples recovered from the exploratory holes. Testing was carried out in general accordance with BS 1377:1990⁽⁴⁾ and comprised:

- Natural Moisture Content
- Atterberg Limits
- Particle Size Analysis
- Quick Undrained Triaxial Test on Undisturbed Samples
- Quick Undrained Triaxial Test on Remoulded Samples
- One Dimensional Consolidation Test
- pH Value
- Sulphate Content
- 2.5kg Compaction Tests (Dry Density/Moisture Content Relationship)
- 4.5kg Compaction Tests (Dry Density/Moisture Content Relationship)
- California Bearing Ratio Tests at Natural Moisture Content
- California Bearing Ratio Tests at Each Compaction Point

8.2 Chemical Testing

A programme of chemical testing was undertaken on 58 selected soil samples recovered from the exploratory holes. Leachate tests were also undertaken on 11 of the soil samples to determine the potential mobility of any contaminants identified.

Soil samples obtained were analysed for the following determinants:

Arsenic	Lead	Cyanide
Boron	Mercury	Thiocyanate
Cadmium	Nickel	Selenium
Chromium	DRO	Zinc
Copper	pH	Phenol
Sulphate	Sulphide	Sulphur
PAH	Pesticide Suite	Leachate

A programme of chemical testing was undertaken on 11 selected water samples recovered from the exploratory holes to assist in identifying any potentially mobile contaminants.

Water samples obtained were analysed for the following determinants:

Arsenic	Lead	Cyanide
Boron	Mercury	Thiocyanate
Cadmium	Nickel	Selenium
Chromium	DRO	Zinc
Copper	pH	Phenol
Sulphate	Sulphide	Sulphur
PAH	Chloride	PCB
Ammoniacal Nitrogen	Total Organic Carbon	

9. ENGINEERING CONSIDERATIONS

9.1 Ground Conditions

(i) General

The investigation has identified that the site is underlain by Cornbrash, Kellaways Clay and Forest Marble, with limited areas of alluvium and made ground, as detailed in Section 7 of this report. An indicative plan showing their possible distribution is given in **Figure 2**. The engineering properties of these groups are considered below.

(ii) Made Ground

Between 1.65m and 2.45m of granular made ground was identified in the north west of the site, predominantly comprising ash fill with SPT 'N' values ranging from 1 to 20 (very loose to medium dense). The higher values are probably due to larger obstructions within the fine ash material and thus should be treated with caution. It is recommended that the lower bound 'N' value is assumed for the purposes of design and that the whole deposit is assumed to be very loose.

Made ground in the north eastern area of the site was largely a fine sandy silty clayey gravel, although a 1.3m thick layer of soft to firm cohesive material with plant remains was encountered in one trial pit, TP84. From observations during excavation, the granular material should be assumed to be very loose and the cohesive fill treated as a soft organic clay.

Probable localised areas of fill were identified in the central eastern area of the site and comprised largely cohesive materials. A single test on a sample of clay from TP76 has a low plasticity (CL on the Casagrande Plasticity Chart). Although described as a stiff clay in the trial pits, this type of material can be subject to considerable lateral variation, therefore conservative assumptions are recommended for design.

(iii) Alluvial Deposits

Alluvial deposits were encountered in the south eastern area of the site predominantly as a thin layer of sand, and in the north eastern corner as a thin layer of soft clay and peat.

The cohesive soils were found to have a high to extremely high plasticity (H to EH on the Casagrande Plasticity Chart). Shear strength values of 30 kN/m^2 were obtained from vane tests. The shear strength from a remoulded triaxial test (Cu_{rem}) was found to be only 9 kN/m^2 .

(iv) Kellaways Clay

Kellaways Clay was encountered in much of the southern and south western area of the site. This comprised predominantly stiff clay (highly to completely weathered mudstone) and either gradually becoming a weak to very weak mudstone with increasing depth or was underlain by limestone (the Cornbrash).

The cohesive soils were found to have a high to very high plasticity (CH to CVH on the Casagrande Plasticity Chart). Shear strength values of in excess of 130 kN/m^2 were obtained from vane tests. The shear strength from a triaxial test (Cu) was 71 kN/m^2 . The shear strength from a remoulded triaxial test (Cu_{rem}) was found to be 227 kN/m^2 .

(v) Cornbrash

Cornbrash was encountered in much of the northern area of the site. This comprised predominantly coarse granular material (highly to completely weathered limestone) and was either underlain by generally moderately weak to moderately strong limestone or a stiff to very stiff clay, this representing completely weathered mudstone of the Forest marble Formation. This clay gradually became a weak mudstone with increasing depth, with occasional beds of moderately weak siltstone.

SPT 'N' values of between 20 and 60 were obtained in the weathered Cornbrash (medium dense to very dense).

(vi) Forest Marble

Forest Marble Formation was encountered in the north eastern area of the site and underlying the Cornbrash where the base of this layer was penetrated. The Forest Marble Formation comprised either a moderately strong light grey limestone, (weathered to a granular material on the upper surface) or a predominantly stiff to very stiff clay (highly to completely weathered mudstone, becoming a weak mudstone with increasing depth, with occasional beds of moderately weak siltstone).

The granular weathered surface of the limestone was generally less than 1m in thickness and assessed as dense to very dense from observations during excavation.

The cohesive materials were found to have an intermediate to high plasticity (CI to CH on the Casagrande Plasticity Chart). Shear strength values of in excess of 130 kN/m² were obtained from vane tests. The shear strength from triaxial tests (Cu) varied between 96kN/m² and 173kN/m².

9.2 Foundation Assessment

Foundation design has at this stage been limited to a general assessment, identifying the suitable foundation types that can be adopted, an allowable bearing pressure for a pad footing and general advice. Individual structures should be reassessed when final locations, loadings and settlement requirements are known.

The made ground in the back-filled quarry area would not be suitable as a founding medium for pad footings, however, it is understood that this area is currently identified for a roundabout and access road. This is discussed further in Section 9.3 of this report.

For the area of made ground associated with shallow working of the weathered limestone in the north eastern area of the site, the material was predominantly granular, with intact

limestone beneath. Individual footing loads should be taken through the made ground layer and onto the limestone beneath. Proof rolling of the made ground and removal of any soft spots or cohesive fill should be sufficient for most types of ground bearing slabs, although this recommendation should be reviewed if a low settlement tolerance or high slab loads are required (such as occurs with large distribution warehouses).

The alluvial deposits encountered in the extreme north eastern corner of the site include soft clays, peat and organic clay. These will not be suitable as a founding medium and should be removed from beneath building footprints and in the case of the peat, also from beneath areas of hardstanding. The limited thickness of these materials means that significant excavation is unlikely, although provision for groundwater control in the base of excavations may be required.

For the remainder of the site the weathered Cornbrash, Forest Marble Formation and Kellaways Clays should be suitable for shallow foundations for residential and most light industrial or similar structures.

For the Kellaways Clay, an assessment of the bearing capacity has been made using the shear strength data. An allowable bearing pressure of at least 180kN/m^2 has been calculated for a $2\text{m} \times 2\text{m}$ plan area footing, for a settlement of less than 25mm .

For the Cornbrash and granular Forest Marble, an assessment of the bearing capacity of the weathered upper surface of the limestone has been made, modelling the material as a granular soil. An allowable bearing pressure of at least 450kN/m^2 has been calculated for a $2\text{m} \times 2\text{m}$ plan area footing, for a settlement of less than 25mm .

For foundations taken down into the unweathered limestone beneath, An allowable bearing pressure of at least 600kN/m^2 can be adopted for a $2\text{m} \times 2\text{m}$ plan area footing, for a settlement of less than 25mm .

For the cohesive Forest Marble, an assessment of the bearing capacity has been made using the shear strength data. An allowable bearing pressure of at least 240kN/m^2 has been calculated for a $2\text{m} \times 2\text{m}$ plan area footing, for a settlement of less than 25mm .

9.3 Pavement Assessment

The subgrade will generally consist of the weathered upper surface of the Kellaways Clay, Cornbrash and to a lesser extent, the Forest Marble. Localised areas of made ground are also identified.

(i) Made Ground

The loose granular ash fill in the backfilled quarry at the north western edge of the site should respond well to proof rolling, with the removal of any soft spots. A CBR up to approximately 5% is advised, hence a sub-base thickness of 225mm or a 250mm capping with 150mm sub-base is recommended for this type of material.

It is strongly recommended that these materials are not trafficked during periods of wet weather as they could rapidly break down to a slurry. It should be noted that there is still a potential for differential settlement or reflective cracking at the quarry 'high walls' therefore it is recommended that any roads or hardstanding incorporate a geogrid reinforcement beneath the sub-base.

For the area of made ground associated with shallow working of the weathered limestone in the north eastern area of the site, the material was predominantly granular, with intact limestone beneath. Proof rolling of the made ground and removal of any soft spots or cohesive fill should be sufficient to ensure a CBR of 15%. Based on Figure 3.1 of the Department of Transport HD25/94⁽⁵⁾ Design Manual for Roads and Bridges, a sub-base thickness of 150mm is recommended for this type of material.

With respect to the localised cohesive fill materials encountered in TP68, TP76 and TP76B, a CBR of 3% is recommended based on in-situ CBR testing and a conservative assessment, given the nature of the material. Based on Figure 3.1 of the Department of Transport HD25/94⁽⁵⁾ Design Manual for Roads and Bridges, a sub-base thickness of 300mm or a 350mm capping with 150mm sub-base is recommended for this type of material.

(ii) Alluvium

The alluvial deposits encountered in the extreme north eastern corner of the site include soft clays, peat and organic clay. The soft clays should either be removed or replaced, or a design for a CBR of 1% be adopted. Based on Figure 3.1 of the Department of Transport HD25/94⁽⁵⁾ Design Manual for Roads and Bridges, a 600mm capping with 150mm sub-base is recommended for this type of material.

Should this latter option be considered, the use of geogrid reinforcement is likely. Any peat should still be removed from beneath proposed roads and areas of hardstanding.

The soils in the south eastern area of the site were identified predominantly as sands. Subject to proof rolling, with the removal of any soft spots, a CBR of at least 10% should be achieved. Based on Figure 3.1 of the Department of Transport HD25/94⁽⁵⁾ Design Manual for Roads and Bridges, a sub-base thickness of 175mm or a 190mm capping with 150mm sub-base is recommended for this type of material. Due regard nevertheless should be given to the relatively high fines content of this material and potential frost susceptibility with respect to final construction thickness.

(iii) Kellaways Clay

With respect to the Kellaways Clay in the southern half of the site, laboratory CBR tests and in-situ CBR tests by Mexe Probe indicated a CBR of 5% should be adopted for design purposes. Based on Figure 3.1 of the Department of Transport HD25/94⁽⁵⁾ Design Manual for Roads and Bridges, a sub-base thickness of 225mm or a 250mm capping with 150mm sub-base is recommended for this type of material.

(iv) Cornbrash

With reference to the laboratory CBR tests, a CBR of greater than 15% should be achieved on Cornbrash, this occurring predominantly in the northern half of the site. Based on Figure 3.1 of the Department of Transport HD25/94⁽⁵⁾ Design Manual for Roads and Bridges, a sub-base thickness of 150mm is recommended for this type of material. Due regard nevertheless should be given to the relatively high fines content of this material and potential frost susceptibility with respect to final construction thickness.

Given the relatively high fines content of some of this material, it is recommended that exposure to rainfall or surface water is minimised. A moisture content increase could lead to deterioration of the subgrade and an attendant reduction in CBR. Similarly, tracking of the subgrade should be avoided in periods of wet weather. Provision should also be made for the removal of localised 'soft spots' and replacement by suitable granular fill.

(v) Forest Marble

With reference to the laboratory CBR tests, a CBR of greater than 15% should be achieved on the granular Forest Marble, this occurring predominantly in the north eastern corner of the site. Based on Figure 3.1 of the Department of Transport HD25/94⁽⁵⁾ Design Manual for Roads and Bridges, a sub-base thickness of 150mm is recommended for this type of material. Due regard nevertheless should be given to

the relatively high fines content of this material and potential frost susceptibility with respect to final construction thickness.

As with the Cornbrash, given the relatively high fines content of some of this material, it is recommended that exposure to rainfall or surface water is minimised. A moisture content increase could again lead to deterioration of the subgrade and an attendant reduction in CBR. Similarly, tracking of the subgrade should be avoided in periods of wet weather. Provision should also be made for the removal of localised 'soft spots' and replacement by suitable granular fill.

With respect to the cohesive Forest Marble, this generally underlies the Cornbrash in the northern half of the site, laboratory CBR tests indicated a CBR of 8% should be adopted for design purposes. This is supported by in-situ CBR tests by Mexe Probe. Based on Figure 3.1 of the Department of Transport HD25/94⁽⁵⁾ Design Manual for Roads and Bridges, a sub-base thickness of 190mm or a 210mm capping with 150mm sub-base is recommended for this type of material.

This material is generally below a layer of Cornbrash and thus may not in the majority of cases form the subgrade. However, if road levels are required to be deeper than the existing ground levels, the reduction in CBR compared to the overlying Cornbrash should be borne in mind.

9.4 Excavations and Material Re-use

From observations during the trial pitting exercise, it is considered that excavations in most conditions will generally be stable, and the presence of hard strata at shallow levels will limit the depth of excavation over much of the site. Therefore a requirement for provision of temporary support or battering back of excavation sides is unlikely for the majority of development.

An assessment of the suitability of the various material groups is given below for use as general fill materials. It should be noted that the gradings obtained means that much of the granular material will be unlikely to achieve the relatively high specifications required for specialist fills, such as those required for drainage media or fill behind structures.

(i) Made Ground

The vast majority of made ground is unlikely to be able to be re-used as an engineered fill, other than as a Class 4 Landscaping Fill in accordance with the Department of Transport Specification⁽⁶⁾. It may be possible to re-use the stiff clays encountered in TP76 and TP76B as a Class 2B general fill, although with the potential for variation within such materials, further testing would be required before such an assumption could be adopted for design. Due regard should also be given to the recommendations given in Section 10 of this report with respect to contamination.

(ii) Alluvium

The majority of alluvial materials are also unlikely to be able to be re-used as an engineered fill, other than as a Class 4 Landscaping Fill in accordance with the Department of Transport Specification⁽⁶⁾.

The thin layers of alluvial sand in the south eastern area of the site may prove to be usable as a Class I fill, but the majority of this area is currently in the area identified as 'open space'.

(iii) Kellaways Clay

For the cohesive weathered Kellaways Clay materials, it is estimated that approximately 70% of this material should be suitable as a Class 2A or 2B general fill material in accordance with the Department of Transport Specification⁽⁶⁾, the majority of the remainder being too wet of the soils plastic limit.

(iv) Cornbrash

For the weathered Cornbrash materials, it is estimated that approximately 55% of this material should be suitable as a Class 1A or 1B general fill material in accordance with the Department of Transport Specification⁽⁶⁾, the remainder again having too high a fines (silt and clay) content. Although failing the criteria for this specification, as for the granular Forest Marble, we are of the opinion that a greater proportion of the material may be re-usable as an engineered fill, subject to a field trial. This would involve the laying of a test panel, followed by measurement of in-situ dry density and moisture content by Nuclear Density Gauge. Dependent on end-use requirements, the test panel could also be subjected to plate bearing tests to confirm acceptable compaction and performance.

(v) Forest Marble

For the cohesive weathered Forest Marble Formation materials, it is estimated that approximately 75% of this material should be suitable as a Class 2A or 2B general fill material in accordance with the Department of Transport Specification⁽⁶⁾, the majority of the remainder being too wet of the soils plastic limit.

For the granular weathered Forest Marble Formation materials, it is estimated that approximately 60% of this material should be suitable as a Class 1A or 1B general fill material in accordance with the Department of Transport Specification⁽⁶⁾, the remainder having too high a fines (silt and clay) content. Although failing the criteria for this specification, we are of the opinion that a greater proportion of the material may be re-usable as an engineered fill, subject to a field trial. This would involve the laying of a test panel, followed by measurement of in-situ dry density and moisture content by Nuclear Density Gauge. Dependent on end-use requirements, the test panel could also be subjected to plate bearing tests to confirm acceptable compaction and performance.

Particular care is needed in using the cohesive materials identified for earthworks, in both the Kellaways Clays and the cohesive Forest Marble. Their sensitivity to increase in moisture content is demonstrated by the CBR test results, where a rapid decline in CBR % is shown for only a slight increase in moisture. Delays following exposure and working during wet weather should both be expressly avoided.

For the granular materials, heavy compaction plant is likely to ensure sufficiently low air voids. The use of vibrating rollers is not recommended given the relatively high silt content, particularly if the more marginal materials are intended for re-use.

9.5 Shrinkage and Swelling

The test data indicates that the cohesive deposits are generally intermediate to high plasticity. It is recommended that a high shrinkability classification be adopted (NHBC Standard Building Near Trees Chapter 4.2). If foundations are to be placed on this material the guidelines of this standard should be followed with regard to foundation depths and the planting of trees.

9.6 Sulphate Assessment

As part of the site screen potential for contaminants, tests included for total sulphate content. Results show the total soil sulphate content to be below 0.24% SO₄, except within the ash fill materials encountered in the backfilled quarry at the north western corner of the site and one anomalous result at TP68. The pH results varied between 6.3 and 8.4 but were generally in excess of 7.

Tests on 11 groundwater samples showed sulphate levels to be well below 0.4 g/l SO₄ and pH to be between 7.2 and 7.9.

A total of 14 soil samples of near surface deposits were tested for 2:1 water/soil extract sulphate content and pH. Results show the 2:1 water/soil extract sulphate content to be below 0.4 g/l SO₄ except again within the ash fill materials encountered in the backfilled quarry at the north western corner of the site. The pH varies between 7.2 and 8.5.

For the ash fill material, the sulphate results fall into Class 2 of BRE Digest 363, 1996 ⁽²⁾. As discussed further in Section 10, the anomalous data from TP68 should be subjected to an additional limited site investigation. For the remainder of the site, the sulphate results fall into Class 1 of BRE Digest 363 in terms of soil and groundwater results.

9.7 Drainage

With respect to the excavation for site drains and other services, due regard should be given to the difficulties experienced by the excavator during the trial pitting exercise. Design should take account of the final levels identified in each of the logs. Attempting to dig below these levels may require the breaking out of rock.

It is understood that soak-away drainage is being considered for the site. To this end the permeability of the Cornbrash has been investigated using the laboratory grading data and a limited programme of soak-away tests in trial pits.

From the grading curves, a range of permeability has been calculated. For Cornbrash this varies from 1×10^{-5} mm/s (typical of a silt) to 9×10^{-3} mm/s (typical of a fine sand/coarse silt). This material would not be considered ideal for a soak-away drainage design, both in terms of performance and because of the risk of a loss of fines leading to silting up of the pit and even possible local subsidence.

The soakaway tests in trial pits are summarised overleaf in Table 2 with an average of the volume of water lost from each pit per minute:

0,00001 mm/s - 0,0009 mm/s



Exploratory Hole	Average Water Loss m ³ /min.	Average Water Loss Litres/min (Approx.)
TP45	0.010	10
TP46	0.115	115
TP56	0.050	50
TP64	0.005	5
TP65	0.012	12
TP73A	0.010	10

Table 2 Summary of Soak-away Tests

We have reservations with regard to adopting soak-aways as the main method of drainage on the site.

Firstly, the layer for drainage to occur in is likely to be restricted to the relatively thin Cornbrash layer, this at least in part being bounded above and below by weathered mudstones, giving an essentially impermeable cap and base to this layer. The capacity of this layer could thus be severely restricted.

Secondly, it is understood that high groundwater levels can occur during the winter, based on discussions with the Farmer for the site. Mr Alan Woodley, who has observed water levels within approximately 0.5m below ground level during new drainage ditch excavation. This could in effect turn soak-aways into ponds during the period of maximum demand on the drainage system.



10.0 CONTAMINATION ASSESSMENT

10.1 General

Initial desk study information indicated no previous potentially contaminative use on or immediately adjacent to the site, other than a small quarry in the north west corner and a petrol station on the eastern boundary. The selection of samples for contamination testing was based on concentrating tests on these areas and any other suspected made ground, together with a general screen across the site.

The chemical analysis was undertaken by ECOS Ltd, a UKAS accredited laboratory with specialised testing expertise.

In order to interpret analytical results it is common practice to compare them with the various guidelines published across the UK and within Europe. These guidelines act as an aid and are by no means definitive and any judgement must be based on a source - pathway - target analysis. These guidelines include the UK Interdepartmental Committee on the Redevelopment of Contaminated Land (ICRCL) published in Guidance Note 59/83, UK Water Supply (Water Quality) Regulations (1989) and the soil and groundwater guidelines published by the Dutch authorities as the Dutch Intervention Levels.

The ICRCL values provide the most appropriate guidance in the UK and are primarily intended as a guide to site re-development. They were first published in 1983 and use the concept of 'trigger' and 'action' concentrations of contaminants in soil, which are related to the intended end use of the site. The concentrations are related to the sensitivity of the site. However ICRCL values relate to soil only and cover a limited range of contaminants.

Therefore, it is common practice to use either the Dutch value, or where there are threshold concentrations specified, the Department of the Environment concentrations (set out in Waste Management Paper 4 for the 'completion of landfill sites') for the assessment of groundwater contamination. The Dutch value may also be adopted for assessing soil contaminants for which there are no ICRCL guidelines.

The Dutch Intervention Levels are based on a framework comprising two threshold values of increasing concentration, the 'desired/target' level and the 'action/intervention' level. These are defined as follows:

- **The Target Level** - Not considered as hazardous or posing significant risk when concentrations occur below this level.
- **The Intervention Level** - A threshold value above which remediation should be considered.

10.2 Analysis of Results

The following sections subdivide the findings of the chemical testing programme into heavy metals potentially hazardous to health, phytotoxins and a range of other organic and inorganic contaminants. Only those results considered significant are given in the following sections.

10.2.1 Heavy Metals

Selected samples from the trial pits and boreholes were submitted for analysis to establish the concentrations of Heavy Metals. Where results exceeded the Dutch Intervention values the samples are identified in Table 3, with the relevant metals highlighted.

Trial No.	Pit	Depth (m)	Arsenic mg/kg	Cadmium mg/kg	Lead mg/kg	Mercury mg/kg	Chromium mg/kg
TT1		0.5	68.5	3.1	701	<1	87.7
TT2		0.5	122.8	2.2	1227	1.5	55.8
TT2		1.0	77.8	2.7	749.5	<1	58.5
TT3		1.0	87.7	5.2	1332.5	2.8	55.5
TP68		1.5	231	<0.2	6.6	<1	62.5
TP75		0.3	103.6	0.4	8.3	<1	39.2
% of Total Samples			10%	-	7%	-	-

TABLE 3: Heavy Metals potentially hazardous to health

Shaded boxes indicate concentrations in excess of Dutch Intervention Values

Six arsenic concentrations exceeded the intervention value of 55mg/kg, with four of the samples being ash from the landfill site on the north western corner of the site, the other two occurring towards the central eastern boundary.

Four lead concentrations exceeded the intervention value of 530mg/kg the samples again being ash from the landfill site on the north western corner of the site.

The high results for arsenic and lead represent contaminants within the ash materials, which was anticipated, elevated metals being common in ash fills. The elevated levels of arsenic in the two other locations are somewhat more problematic.

Trial Pit 68 did include a thin clinker like layer of material at the interface between limestone and overlying clay, which on initial examination appeared to be the upper surface of limestone having been subject to leaching out of carbonate. Having considered further these observations, together with an assessment of the test data, we consider that this material is made ground, although it is not clear at this stage as to the origins of these materials.

There was no evidence of unusual conditions at the second of these two sampling points, TP75. Tests in similar materials in the surrounding area and groundwater samples did not identify any significant levels of contamination.

These high arsenic results may only represent isolated 'hot spots' of contamination, but we would strongly recommend a further limited investigation of both these areas.

10.2.2 Phytotoxic Metals

Soil samples were also submitted for analysis to establish the concentrations of phytotoxic metals, which can be detrimental to plants (namely copper, zinc and nickel). Where results exceeded ICRC levels for phytotoxins or the Dutch Intervention values, the samples are identified in Table 4 overleaf, with the relevant metals highlighted.

Trial Pit No.	Depth (m)	Copper mg/kg	Nickel mg/kg	Zinc mg/kg
TT1	0.5	363.3	106	2967
TT2	0.5	420.6	169.8	1660.7
TT2	1.0	363.5	131.7	1737.1
TT3	1.0	327.2	173.0	1679.7
TP68	1.5	57.8	161.7	271.4
% of Total Samples		7%	9%	7%

Key: **Exceeding ICRCL Levels**

~~Exceeding ICRCL Levels and Dutch Intervention Values~~

TABLE 4: Metals detrimental to plant growth

The results indicated that copper, nickel and zinc occurs at elevated levels only within the ash fill materials at the north western corner of the site, with a single elevated level at TP68 adjacent to the eastern boundary. Due regard should be given to the results if it is intended to use these materials in landscaping, by for example the use of a 500mm break layer of clean material between the fill and overlying topsoil. It is interesting to note however that the north western quarry area has been successfully used for crop growing, although this may reflect dilution of contaminants by ploughing and mixing with topsoil.

10.2.4 Other Organic and Inorganic Contaminants

Soil samples were also submitted for analysis to establish the concentrations of the following organic and inorganic contaminants: polyaromatic hydrocarbons, phenols, cyanide (total, free and complex), thiocyanate, sulphate, sulphide, sulphur and total petroleum hydrocarbons. Tests were also undertaken on selected samples for pesticides, PCBs and Diesel Range Organics. Only one result for one analyte from the entire site exceeded Dutch Intervention Values or ICRCL Action Limits, namely the sample from TP 68 at 1.5m depth, which gave an unusually elevated sulphate result of 14,027 mg/kg. This represents 3% of all samples tested and again may reflect a 'hot spot' of contamination.



10.2.5 Leaching Tests

Leaching tests were undertaken on 15 soil samples. All samples were analysed for 16 determinands comprising ammonia, arsenic, boron, cadmium, chromium, copper, lead, manganese, mercury, nickel, pH, total phenols, selenium, and zinc. No significant concentrations of contaminants were reported in these samples.

10.2.5 Water Testing

Chemical tests were undertaken on 11 water samples. All samples were analysed for determinands comprising arsenic, cadmium, chromium, lead, mercury, selenium, boron, copper, nickel, zinc, PAH (total and 16 EPA1), total phenols, cyanide, thiocyanate, sulphate, sulphide and sulphur.

Selected samples were also tested for chloride, ammoniacal nitrogen, total organic carbon, diesel range organics and PCBs. These concentrated on the areas adjacent to the quarry waste in the north western corner of the site and also the suspected made ground area towards the eastern boundary of the site. Other tests were undertaken as a general site screen.

A single sample was also recovered from the water bore at Whitelands Farm to test the water table at depth. It is understood that this water is abstracted from approximately 40m below existing ground levels, within the Great Oolite.

No significant concentrations of contaminants were reported in these samples, indicating that mobile contaminants were not present either from an on site source or from one originating off site.



10.2.6 Material Disposal

With regard to the disposal of the material off-site, reference has been made to the Environment Agency publication 'Guidance on the Disposal of Contaminated Soils'. Under the disposal option identification flowchart in this publication, the majority of material from this site will require disposal in a suitably licensed or permitted site.

This is based primarily on levels of arsenic across the site. Although these are below the Dutch Intervention Values, the Environment Agency upper threshold value and do not exceed the leachability lower threshold values, they do exceed the Environment Agency lower threshold value of 10 mg/kg for the majority of samples recovered.

Reference has also been made to the contamination classes used by the Greater Manchester Waste Regulation Authority. This is used by a number of Local Authorities in the UK. The soil samples identified in Table 3 have been classified in accordance with this document. The results are summarised below in Table 5:

Trial No.	Pit	Depth (m)	Arsenic mg/kg	Cadmium mg/kg	Lead mg/kg	Mercury mg/kg	Chromium mg/kg
TT1		0.5	C	B	B	A	A
TT2		0.5	D	B	C	B	A
TT2		1.0	C	B	B	A	A
TT3		1.0	C	B	C	B	A
TP68		1.5	D	A	A	A	A
TP75		0.3	D	A	A	A	A

Class A: Uncontaminated
 Class B: Slightly Contaminated
 Class C: Contaminated
 Class D: Heavily Contaminated
 Class E: Unusually Highly Contaminated

TABLE 5: Heavy Metals potentially hazardous to health GMWRA Classification

The soil samples identified in Table 4 have also been classified in accordance with this document. The results are summarised below in Table 6:

Trial Pit No.	Depth (m)	Copper mg/kg	Nickel mg/kg	Zinc mg/kg
TT1	0.5	C	C	D
TT2	0.5	C	C	D
TT2	1.0	C	C	D
TT3	1.0	C	C	D
TP68	1.5	A	C	B

- Class A: Uncontaminated
- Class B: Slightly Contaminated
- Class C: Contaminated
- Class D: Heavily Contaminated
- Class E: Unusually Highly Contaminated

TABLE 6: Metals detrimental to plant growth GMWRA Classification

Under the contamination classes used by the Greater Manchester Waste Regulation Authority, the materials sampled from the backfilled quarry would classify as either contaminated or heavily contaminated for arsenic, lead, copper and nickel, and slightly contaminated for mercury and cadmium. It is understood at present that the material is unlikely to be removed given the proposed construction of a roundabout over the area. We strongly recommend that this remains the case during the development of design.

The sample from TP75 at 0.3m depth classes as Class D Heavily Contaminated for arsenic.

The sample from TP 68 at 1.5m depth also classes as Class B Slightly Contaminated for zinc and Class D Heavily Contaminated for both arsenic and sulphate.

As stated previously, it is recommended that the areas these last two samples were taken from be investigated further, to delineate the suspected 'hot-spots' they represent.

Therefore, although not necessarily presenting a hazard whilst remaining on site, there is a strong possibility that the disposal of the materials identified above off-site may attract elevated rates and restrictions as to the suitable waste sites available. Should significant quantities of material need to be taken off-site, it is advised that the relevant waste regulatory authority is contacted in the first instance to ascertain the nearest suitable sites and the premiums charged on these materials.

10.2.7 General Comments for Construction Works

In general, good working practice should be sufficient to protect the workforce and public from the risk of hazards of contamination. In the event that any anomalous or suspect materials, water or odours are encountered, suspect material should be reported and professional advice sought.

These recommendations are subject to the findings of the limited additional investigation of the areas surrounding trial pits TP68 and TP75.

11.0 RECOMMENDATIONS AND CONCLUSIONS

It is proposed to develop the site for a variety of end-uses including residential, leisure, business and light industrial.

The investigation has identified that the site is underlain by Cornbrash, Kellaways Clay and Forest Marble, with limited areas of alluvium and made ground. An indicative plan showing their possible distribution is given in **Figure 2**.

A preliminary assessment of foundation types has been given for the anticipated ground conditions. Shallow footings are considered suitable for the site, only limited areas of made ground and peat with soft clays may require excavation from beneath foundation footprints and replacement by suitable granular fill.

Assessment of the sulphate content of the near surface in situ deposits shows that they fall into Class 1 of Table 1 of BRE 363, 1996⁽²⁾.

Soak-aways are considered unlikely to be a viable option as the main means of drainage for the site.

The majority of materials over the site are regarded as likely to be acceptable for re-use as general fill, with regard to the DTP Specification for Highway Works. Care will be needed to ensure moisture control is strictly adopted for the fill however, due to sensitivity to moisture content change.

For pavement design, a CBR of at least 15% is considered reasonable for the areas of the site underlain by Cornbrash and granular weathered Forest Marble, assuming proposed road levels remain close to existing. For areas underlain by Kellaways Clay, a CBR of 5% should be adopted for design.



With respect to contamination, we do not consider that the site presents a significant hazard to the proposed end-uses. Other than the provision of a clean break layer for landscaping or cover by hardstanding in limited areas, we do not consider special measures will be required, although disposal off site may attract additional costs. Should significant quantities of material need to be taken off-site, it is advised that the relevant waste regulatory authority is contacted to ascertain the nearest suitable site and the premiums charged on these materials.

High results for arsenic, lead and phytotoxins within the quarry backfill were anticipated, elevated metals being common in ash fills.

The elevated levels of arsenic and sulphate in TP68 and of arsenic in TP75 are somewhat more problematic. These high results may only represent isolated 'hot spots' of contamination, but we would strongly recommend a further limited investigation of both these areas.

No significant contamination was noted throughout the remainder of the site.

There is no evidence of any significant concentrations of mobile contaminants on the site or from any off site source.



12.0 REFERENCES

1. Geological Survey of Great Britain 1:10,000 Scale Geological Map. Sheet No SP52SE (Solid and Drift Edition).
2. Building Research Establishment, 1996. Sulphate and Acid Resistance of Concrete in the Ground. BRE Digest 363.
3. BS 5930:1999 Code of Practice for Site Investigation
4. BS1377:1990 Soils for Engineering Purposes
5. Department of Transport Design Manual For Roads and Bridges HD25/94
6. Department of Transport Specification For Highway Works Series 600
7. Pell Frischmann Consultants 2001. Phase 1 Desk Study for South West Bicester.

FIGURES

APPENDIX 1
EXPLORATORY HOLE LOGS



PELL FRISCHMANN
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BOREHOLE RECORD

Borehole
Number

BH1

SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A D Woodley

GROUND LEVEL
0.000

COORDINATES
E: 0.00 N: 0.00

DATE
13/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00 0.50		0.00	B			
MADE GROUND grey brown ash and clinker fill with much glass bottles, some metal and occasional pottery fragments. Glass showing signs of melting due to high temperatures in the past				1.00	D		19	
Soft to firm brown sandy CLAY		2.00		2.00	D			
Stiff light brown grey sandy CLAY		2.50		2.50	D			
				3.00	D		45	
Moderately weak light brown LIMESTONE		3.45		3.50	D			
Weak grey MUDSTONE (Chiselling 3.45m to 3.6m 1Hr)		3.50 3.60						

End of Borehole at 3.60 m

3.0m depth

Lead 17mg/kg OK
Zinc 60mg/kg OK
Sulphate 50mg/kg OK
Sulphur 240mg/kg

Remarks

TEST RESULTS ARE SPT N VALUES

Logged by

Checked by

Scale
1:50

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



SITE:
Bicester

EQUIPMENT AND METHODS:

BH2

CLIENT:
A D Woodley

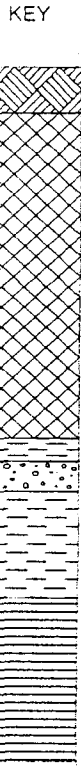
GROUND LEVEL
0.000

COORDINATES
E: 0.00 N: 0.00

DATE
13/08/2001

STRATA DESCRIPTION

TOPSOIL



DEPTH
(Thick)
0.00
0.30
2.45
2.60
2.80
3.50
4.60

LEVEL
(mAOD)
0.00
1.00
2.00
2.60
2.80
3.00
3.50
4.00
4.60

SAMPLES/TESTS
Depth Type No Test
0.00 B
1.00 D 1
2.00 D 20
2.60 D
2.80 D
3.00 D
3.50 D
4.00 D 81

INSTALLATIONS/
BACKFILL

MADE GROUND grey brown ash and clinker fill with much glass bottles, some metal and occasional pottery fragments. Glass showing signs of melting due to high temperatures in the past

Soft light grey CLAY
Gravelly COBBLES of limestones
Stiff grey CLAY

Dark grey weak MUDSTONE (Chiselling 4.4m to 4.6m 1 Hr)

End of Borehole at 4.60 m

2.6m depth

*Arsenic 10 mg/kg OK
Lead 65 " OK
Zinc 257 " OK
Copper 1141 " OK
Sulphur 533 "*

Remarks

TEST RESULTS ARE SPT N VALUES

Logged by

Checked by

Scale
1:50

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
SPT values and reduced levels are in metres. Thicknesses given in brackets in depth column.



SITE:
Bicester

EQUIPMENT AND METHODS:


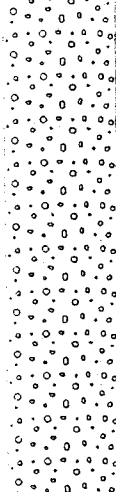
BH3

CLIENT:
A D Woodley

GROUND LEVEL
0.000

COORDINATES
E: 0.00 N: 0.00

DATE
14/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick) 0.00 0.30	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00		0.00	B			
Yellow brown gravelly COBBLES (Chiselling 3.5m to 3.7m 1 Hr)				1.00	D		60	
				2.00	D		20	
				2.80	D			
				3.00	U			
				3.50	D			
End of Borehole at 3.70 m			3.70					

Remarks

TEST RESULTS ARE SPT N VALUES

Logged by

Checked by

Scale

1:50

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
Borehole and reduced levels are in metres. Thicknesses given in brackets in depth column.



PELL FRISCHMANN
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BOREHOLE RECORD

Borehole
Number

BH4

EQUIPMENT AND METHODS:

SITE:
Bicester

CLIENT:
A D Woodley

GROUND LEVEL
0.000

COORDINATES
E: 0.00 N: 0.00

DATE
14/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00 0.30		0.00	B			
Gravelly COBBLES of limestone				1.00	D			29
				2.00	D			31
Stiff grey CLAY		2.90		3.00	U			
				3.50	D			
Weak grey MUDSTONE (Chiselling 4.8m to 4.9m 1 Hr)		4.90		4.00	D			47
End of Borehole at 4.90 m								

Remarks

TEST RESULTS ARE SPT N VALUES

Logged by

Checked by

Scale

1:50

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
Depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

BOREHOLE RECORD

Borehole
Number

SITE:
Bicester

EQUIPMENT AND METHODS:

BH5

CLIENT:
A D Woodley

GROUND LEVEL
0.000

COORDINATES
E: 0.00 N: 0.00

DATE
14/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00		0.00	B			
Firm stiff grey mottled yellow CLAY		0.50						
				1.00	U			
				1.50	D			
				2.00	D			20
		2.90		2.90	D			
Stiff blue grey CLAY		3.30		3.00	D			
				3.00	D			
				3.60	D			26
Weak dark grey (Chiselling 3.5m to 3.5m 1 Hr) End of Borehole at 3.50 m		3.50						

Remarks

TEST RESULTS ARE SPT N VALUES

Logged by

Checked by

Scale
1:50

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

BOREHOLE RECORD

Borehole
Number

BH6

SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A D Woodley

GROUND LEVEL
0.000

COORDINATES
E: 0.00 N: 0.00

DATE
15/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00 0.40		0.00	B			
Firm grey brown sandy CLAY				1.00	D			13
Firm to stiff grey CLAY				1.70 2.00	D U			
Light grey MUDSTONE (CHISELLING 2.5m TO 3.2m 1.5 hrs)				2.50 3.00 3.00 3.60	D U D D			78
End of Borehole at 3.60 m				3.60				

Remarks

TEST RESULTS ARE SPT N VALUES

Logged by

Checked by

Scale
1:50

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
SPT N values and reduced levels are in metres. Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

BOREHOLE RECORD

Borehole
Number

BH7

SITE:
Bicester

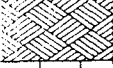
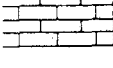
EQUIPMENT AND METHODS:

CLIENT:
A D Woodley

GROUND LEVEL
0.000

COORDINATES
E: 0.00 N: 0.00

DATE
15/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00		0.00	B			
Moderately strong yellow brown Limestone (Chiselling 0.5m to 0.75m 1 Hr)		0.40						
End of Borehole at 0.75 m		0.75						

Remarks

spt at 78 seating blows only

Logged by

Checked by

Scale
1:50

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
Thicknesses given in brackets in depth column.
All depths and reduced levels are in metres.



PELL FRISCHMANN
CONSULTANTS LTD

BOREHOLE RECORD

Borehole
Number

BH8

SITE:
Bicester


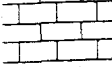
EQUIPMENT AND METHODS:

CLIENT:
A D Woodley

GROUND LEVEL
0.000

COORDINATES
E: 0.00 N: 0.00

DATE
15/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00 0.30		0.80	B			
Moderately strong yellow brown LIMESTONE (Chiselling 0.3m to 0.8m 1 Hr)		0.80						
End of Borehole at 0.80 m.								

Remarks

spl at 78 seating blows only

Logged by _____ Checked by _____

Scale

1:50

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
Borehole depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



SITE:
Bicester

EQUIPMENT AND METHODS:



BH9

CLIENT:
A D Woodley

GROUND LEVEL
0.000

COORDINATES
E: 0.00 N: 0.00

DATE
16/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00 0.30		0.00	B			
Moderately strong yellow brown LIMESTONE (Chiselling 1m to 1.45m 1Hr)			1.45					
End of Borehole at 1.45 m								

Remarks

spt at 78 seating blows only

Logged by

Checked by

Scale

1:50

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

BOREHOLE RECORD

Borehole
Number

BH10

SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A D Woodley

GROUND LEVEL
0.000

COORDINATES
E: 0.00 N: 0.00

DATE
16/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00 0.30		0.00	B			
Firm becoming stiff with depth brown grey sandy CLAY				1.00	U			
				1.50	D			
				2.00	D		80	
		2.45						
Weak grey MUDSTONE (Chiselling 2.45m to 3m 1 Hr)								
		3.00						
End of Borehole at 3.00 m								

Remarks

spt at 78 seating blows only

Logged by

Checked by

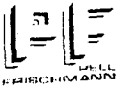
Scale

1:50

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
Thicknesses given in brackets in depth column



PELL FRISCHMANN
CONSULTANTS LTD

BOREHOLE RECORD

Borehole
Number

BH11

SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A D Woodley

GROUND LEVEL
0.000

COORDINATES
E: 0.00 N: 0.00

DATE
16/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00 0.40		0.00	B			
Stiff brown CLAY with much coarse limestone gravel		1.45		1.00	D		56	
Moderately strong yellow brown LIMESTONE (Chiselling 1.45m to 1.8m 1 Hr)		1.80						
End of Borehole at 1.80 m								

Remarks
spt at 78 seating blows only

Logged by	Checked by
Scale 1:50	Sheet 1 of 1
Figure	

Notes:
Materials are described in accordance with BS 5930:1999.
Blow counts and reduced levels are in metres. Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

SITE:
Bicester

EQUIPMENT AND METHODS:

TP1

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 456334.00N: 22650.00

DATE
08/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0:00						
Yellow brown very sandy clayey coarse angular GRAVEL and COBBLES (up to 150mm x 150mm x 10mm) of limestone, assessed from pit walls as dense (highly to completely weathered limestone)		0.30		0.50	B			
Yellow and light grey very thinly bedded moderately to highly weathered moderately strong strong LIMESTONE		0.90 1.00						
End of Borehole at 1.00 m								

0.1m depth

Arsenic 16 mg/kg OK
 Chromium 32 " OK
 Lead 49 " OK
 Zinc 109 " OK
 Sulphate 910 " OK
 Sulphide 487 "

Remarks
No groundwater encountered, trial pit stable throughout, unable to progress below 1m

Logged by _____ Checked by _____
 Scale 1:25 Sheet 1 of 1
 Figure _____

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



SITE:
Bicester

EQUIPMENT AND METHODS:



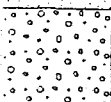
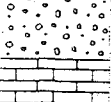
TP1A

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 456218.00N: 222456.00

DATE
08/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0:00		0.10	D			
Orange brown very clayey fine to medium SAND with much angular and subangular gravel of light grey limestone, assessed from pit walls as dense (highly to completely weathered limestone)		0.25						
Yellow brown very sandy clayey course angular GRAVEL and COBBLES (up to 150mm x 150mm x 10mm) of limestone, assessed from pit walls as dense (highly to completely weathered limestone)		0.60		0.50	B			
Yellow and light grey very thinly bedded moderately to highly weathered moderately strong to strong LIMESTONE		1.10						
End of Borehole at 1.25 m		1.25						

Remarks

No groundwater encountered, trial pit walls stable throughout, unable to progress below 1.25m

Logged by

Checked by

Scale
1:25

Sheet 1 of 1

Figure



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

SITE:
Bicester

EQUIPMENT AND METHODS:

TP2

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

COORDINATES
E: 456200.00N: 222348.00

DATE
08/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
Red brown very sandy clayey coarse angular GRAVEL and COBBLES of limestone, assessed from the pit walls as dense (highly to completely weathered limestone)		0.25		0.30	D			
Yellow fine grained SAND with much coarse angular gravel of limestone, assessed from the pit walls as dense (highly to completely weathered limestone)		0.50						
Yellow and light grey very thinly bedded moderately to highly weathered moderately strong strong LIMESTONE		0.90						
End of Borehole at 1.20 m		1.20						

0.3m depth
Argenic 12 mg/kg OK
Sulphate 1134 " OK

Remarks

No groundwater encountered, trial pit stable throughout, unable to progress below 1.2m

Logged by

Checked by

Scale

1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP3

SITE:
Bicester




EQUIPMENT AND METHODS

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

COORDINATES
E: 456266.00N: 222263.00

DATE
08/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00		0.10	D			
Red brown very sandy clayey coarse angular GRAVEL and COBBLES of limestone, assessed from the pit walls as dense (highly to completely weathered limestone)		0.20						
Yellow and light grey very thinly bedded moderately to highly weathered moderately strong to strong LIMESTONE, with bedding dipping at 20 degrees to the south		0.50						
End of Borehole at 0.90 m		0.90						

Remarks

No groundwater encountered, trial pit walls stable throughout, unable to progress below 0.9m

Logged by

Checked by

Scale
1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999
All depths and reduced levels are in metres Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP4

SITE:
Bicester


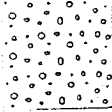
EQUIPMENT AND METHODS:

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 456242.00N: 222013.00

DATE
08/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
Red brown very sandy clayey coarse angular GRAVEL and COBBLES of limestone, assessed from the pit walls as dense (highly to completely weathered limestone)		0.20		0.30	D			
End of Borehole at 0.60 m		0.60						

0.2m depth

Arsonic 16mg/kg OK
Lead 15mg/kg OK
Sulphate 1228 mg/kg OK

Remarks

No groundwater encountered, trial pit stable throughout, unable to progress below 0.6m, cobbles and boulders of pale grey limestone (possible bedrock)

Logged by

Scale
1:25

Checked by

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



SITE:
Bicester

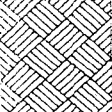
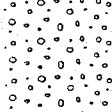
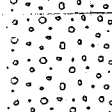
EQUIPMENT AND METHODS:

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 456350.00N: 222501.00

DATE
08/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00		0.10	D			
Red brown very sandy clayey coarse angular GRAVEL and COBBLES of limestone, assessed from the pit walls as dense (highly to completely weathered limestone)		0.40		0.70	B			
Yellow brown very sandy clayey coarse angular GRAVEL and COBBLES (up to 150mm x 150mm x mm) of limestone, assessed from pit walls as dense (highly to completely weathered limestone)		0.90						
End of Borehole at 1.30 m		1.30						

0.10 depth
Acetic
Calcide 1087

Remarks

No groundwater encountered. some localised collapse of pit walls 0.4-0.9m. stable below this depth

Logged by
Checked by
Scale
1:25
Sheet 1 of 1
Figure



SITE:
Bicester

EQUIPMENT AND METHODS.

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 456317.00N: 222142.00

DATE
08/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
Red brown very sandy clayey coarse angular GRAVEL and COBBLES of limestone, assessed from the pit walls as dense (highly to completely weathered limestone)		0.30 0.40						
Yellow brown very sandy clayey coarse angular GRAVEL and COBBLES (up to 150mm x 150mm x 10mm) of limestone, assessed from pit walls as dense (highly to completely weathered limestone)		0.65		0.70	D			
Stiff yellow brown very sandy CLAY with much angular medium to coarse gravel of limestone		0.80						
Yellow and light grey very thinly bedded moderately to highly weathered moderately strong to strong LIMESTONE		1.30						
End of Borehole at 1.30 m								

*0.70 depth
Sample 0.70 m depth
OK*

Remarks

No groundwater encountered. Trial pit stable throughout. unable to progress below 1.3m

Logged by

Checked by

Scale
1:25

Sheet 1 of 1

Figure



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP9

EQUIPMENT AND METHODS:

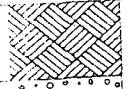


SITE:
Bicester

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 456351.00N: 222052.00

DATE
08/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
Red brown very sandy clayey coarse angular GRAVEL and COBBLES of limestone, assessed from the pit walls as dense (highly to completely weathered limestone)		0.25						
Yellow and light grey very thinly bedded moderately to highly weathered moderately strong to strong LIMESTONE		0.50						
End of Borehole at 0.60 m		0.60						

Remarks

No groundwater encountered, trial pit stable throughout, unable to progress below 0.6m

Logged by _____ Checked by _____

Scale
1:25 Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP10

EQUIPMENT AND METHODS:

SITE:
Bicester

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

COORDINATES
E: 456354.00N: 221897.00

DATE
08/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
Red brown very sandy clayey coarse angular GRAVEL and COBBLES of limestone, assessed from the pit walls as dense (highly to completely weathered limestone)		0.30						
Yellow brown very sandy clayey coarse angular GRAVEL and COBBLES (up to 150mm x 150mm x 10mm) of limestone, assessed from pit walls as dense (highly to completely weathered limestone)		0.50						
		1.00						
End of Borehole at 1.00 m								

Remarks

No groundwater encountered, trial pit stable throughout, unable to progress below 1m due to limestone cobbles and boulders in pit base (possible limestone bedrock)

Logged by
Checked by
Scale
1:25
Sheet 1 of 1
Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP11

SITE:
Bicester

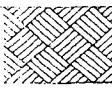
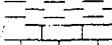

EQUIPMENT AND METHODS:

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

COORDINATES
E: 456347.00N: 221740.00

DATE
20/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL-Mid brown soft fibrous silty clayey TOPSOIL with rootlets and organics (5%) with very occasional fine flint and limestone gravel.		0.00						
Mid brown and orange mottled moderately firm cohesive silty CLAY with grey moderately weak medium to coarse grained highly weathered LIMESTONE gravel.		0.25						
Yellow grey moderately strong medium to coarse grained broken moderately weathered LIMESTONE in a yellow moderately coarse damp sandy clayey matrix (CORNBASH)		0.35						
End of Borehole at 0.56 m		0.56						

Remarks

Trial pit terminated at 0.56m in Cornbrash, as no further progress could be made

Logged by _____
Checked by _____
Scale
1:25
Figure
Sheet 1 of 1

Notes:
Materials are described in accordance with BS 5930:1999.
Depth and reduced levels are in metres. Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP12

EQUIPMENT AND METHODS:

SITE:
Bicester

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 456347.00N: 221600.00

DATE
20/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL-Mid brown soft fibrous silty clayey TOPSOIL with rootlets and organics (5%) with very occasional fine flint and limestone gravel.		0.00						
Mid brown and orange mottled moderately firm cohesive silty CLAY		0.28						
Yellow grey moderately strong medium to coarse grained broken moderately weathered LIMESTONE in a yellow moderately coarse damp sandy clayey matrix (CORNBASH)		0.39						
End of Borehole at 0.55 m		0.55						

Remarks
Trial pit terminated at 0.55m in Cornbrash, as no further progress could be made

Logged by
Checked by
Scale
1:25
Figure
Sheet 1 of 1

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP13

SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 456397.00N: 221451.00

DATE
20/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL-Mid brown soft fibrous silty clayey TOPSOIL with rootlets and organics (5%) with very occasional fine flint and limestone gravel.		0.00						
TOPSOIL with rootlets and organics (5%) with very occasional fine flint and limestone gravel.		0.20		0.20	D			
Mid brown and orange mottled moderately firm cohesive silty CLAY with grey moderately weak medium to coarse grained highly weathered LIMESTONE gravel.		0.34						
Yellow grey moderately strong medium to coarse grained broken moderately weathered LIMESTONE in a yellow moderately coarse damp sandy clayey matrix (CORNBASH)		0.40						
End of Borehole at 0.40 m								
0.2m depth								
				Arsonic	14 mg/kg	OK		
				Chromium total	43 mg/kg	OK		
				Cadmium	15 mg/kg	OK		
				Copper	24 mg/kg	OK		
				Nickel	30 mg/kg	OK		
				Zinc	98 mg/kg	OK		
				Sulphate	710 mg/kg	OK		

Remarks

Trial pit terminated at 0.40m in Cornbrash, as no further progress could be made. Samples: TP13 S1 0.5kg Pot

Logged by

Checked by

Scale
1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 456500.00N: 222651.00

DATE
07/08/2001

STRATA DESCRIPTION

TOPSOIL

Red brown very sandy clayey coarse angular GRAVEL and COBBLES of limestone, assessed from the pit walls as dense (highly to completely weathered limestone)

Yellow and light grey very thinly bedded moderately to highly weathered moderately strong to strong LIMESTONE, becoming damp at base of pit

End of Borehole at 0.80 m

KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
			Depth	Type	No	Test	
	0.00		0.10	D			
	0.30						
	0.50		0.60	D			
	0.80						

0.1 m depth

Arsenic 12 mg/kg OK
 Chromium Atal 33 " OK
 Lead 45 " OK
 Copper 80 " OK
 Nickel 34 " OK
 Zinc 85 " OK
 Sulphate 1087 " OK

Remarks

No groundwater encountered, trial pit stable throughout, unable to progress below 0.8m

Logged by

Checked by

Scale
1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP14A

SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

COORDINATES
E: 456481.00N: 222578.00

DATE
09/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00		0.10	D			
Red brown very sandy clayey coarse angular GRAVEL and COBBLES of limestone, assessed from the pit walls as dense (highly to completely weathered limestone)		0.30		0.40	D			
Yellow brown very sandy clayey coarse angular GRAVEL and COBBLES (up to 150mm x 150mm x 10mm) of limestone, assessed from pit walls as dense (highly to completely weathered limestone)		0.50						
Stiff light grey CLAY with much coarse angular limestone gravel, becoming v. stiff below 2.4m		1.80		1.80 1.80 1.80 2.00 2.00	D W B D			
End of Borehole at 2.60 m		2.60						

0.1 m depth

water 1.8m

CLEA # Arsenic 32 mg/kg > 20
Copper 25 " OK
Nickel 49 " OK
Zinc 40 " OK
Sulphate 486 " OK 47 mg/l

Remarks

No groundwater encountered. Some minor instability 0.3-1.8m

Logged by _____ Checked by _____

Scale 1:25 Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
Elevations and reduced levels are in metres. Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP15

SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 456449.00N: 222449.00

DATE
08/08/2001

STRATA DESCRIPTION

TOPSOIL

Orange brown very sandy clayey medium to coarse angular GRAVEL and COBBLES of limestone (highly to completely weathered limestone)

Light grey thinly bedded LIMESTONE moderately strong, bedding horizontal and approx. 200mm thick

End of Borehole at 0.70 m

KEY

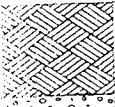
DEPTH
(Thick)

LEVEL
(mAOD)

SAMPLES/TESTS

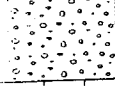
INSTALLATIONS/
BACKFILL

Depth Type No Test

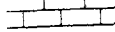


0.00

0.30



0.60



0.70

0.50 D

Remarks

No groundwater encountered, trial pit stable throughout, unable to progress below 0.7m

Logged by

Checked by

Scale
1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
Positions and reduced levels are in metres. Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP15A

EQUIPMENT AND METHODS:

SITE:
Bicester

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 0.00 N: 0.00

DATE
08/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
Orange brown very sandy clayey medium to coarse angular GRAVEL and COBBLES of limestone (highly to completely weathered limestone)		0.30		0.40	D			
Very stiff grey sandy Clay with much angular medium to coarse angular gravel of limestone.		0.85		1.00	W			
		1.75						

End of Borehole at 1.75 m

0.4 m depth

Water
1.0 m

CLEA Arsenic 93 mg/kg > 20
 Chromium 20 " OK
 Nickel 46 " OK
 Zinc 56 " OK
 Sulphate 687 " OK 19 mg/l

Remarks

Groundwater seepage at 1.6m, pit stable throughout, unable to progress below 1.75m due to limestone cobbles and boulders in pit base

Logged by _____ Checked by _____

Scale 1:25 Sheet 1 of 1

Figure _____

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



EQUIPMENT AND METHODS:

SITE:
Bicester

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

COORDINATES
E: 456527.00N: 222314.00

DATE
08/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00		0.10	D			
Red brown very clayey sandy coarse GRAVEL and COBBLES of moderately strong limestone, boulder of light grey limestone noticed in pit face 500 x 500 x 100mm, assessed as dense in pit walls		0.30						
Yellow brown clayey sandy coarse angular GRAVEL and COBBLES of moderately strong limestone, assessed as dense in pit walls, (highly to completely weathered limestone)		0.50						
				1.50	W			
				2.60	B			
Very stiff grey mottled yellow sandy CLAY with much coarse angular limestone gravel.		3.10						
End of Borehole at 3.10 m								

Remarks

Groundwater seepage at 2.6m. Slight spalling of pit walls 0.5-2.6m, hand vane tests on 2.6m-3.1m $C_u = 120 + 120 + 120 + kN/m^2$

Logged by	Checked by
Scale 1:25	Sheet 1 of 1
Figure	

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP16A

SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 456411.00N: 222286.00

DATE
08/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
Orange brown very sandy clayey medium to coarse angular GRAVEL and COBBLES of limestone (highly to completely weathered limestone)		0.30		0.50	D			
Light grey thinly bedded LIMESTONE moderately strong, bedding horizontal and approx. 10mm thick		0.60						
End of Borehole at 1.00 m		1.00						

Remarks

No groundwater encountered, trial pit stable throughout, unable to progress below 1m

Logged by

Checked by

Scale
1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
R.P. 16A and reduced levels are in metres. Thicknesses given in brackets in depth column.



SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 456500.00N: 222197.00

DATE
09/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
		0.20		0.20	D			
		0.30		0.20	B			
Red brown very sandy clayey medium to coarse angular GRAVEL and COBBLES of limestone (highly to completely weathered limestone)				0.50	B			
		0.80						
Light grey slightly sandy coarse angular GRAVEL of limestone (highly to completely weathered limestone)				1.10	W			
		1.10						
Very stiff grey mottled yellow sandy CLAY with some to much coarse angular limestone gravel.								
		2.60						
End of Borehole at 2.60 m								
<p style="text-align: right;">water 1.1m</p> <p style="text-align: center;">0.2 m depth</p> <p> CLEA Arsenic 25mg/kg >20 Chromium 34 " OK Lead 30 " OK Copper 27 " OK Nickel 41 " OK Zinc 106 " OK Sulphate 1295 " OK 48 mg/l </p>								

Remarks

No groundwater encountered. Trial pit stable throughout, unable to progress below 2.6m onto light grey strong limestone, hand vane on 1.1m-2.6m Cu= 120, 120+, 120-300/2

Logged by

Checked by

1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP18

SITE:
Bicester



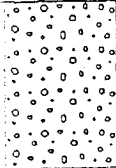
EQUIPMENT AND METHODS:

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 456492.00N: 222000.00

DATE
09/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
Stiff orange brown sandy CLAY with some to much subangular limestone gravel		0.30						
Yellow brown clayey sandy coarse angular GRAVEL and COBBLES of moderately strong limestone, assessed as dense in pit walls, (highly to completely weathered limestone)		0.60						
End of Borehole at 1.15 m		1.15						

Remarks

Trial pit stable throughout, unable to progress below 1.15m due to boulder of limestone (estimated at 500mm x 500mm)

Logged by

Checked by

Scale
1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



EQUIPMENT AND METHODS:

SITE:
Bicester

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

COORDINATES
E: 456477.00N: 221808.00

DATE
20/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL: Mid brown soft fibrous sndy clayey TOPSOIL with rootlets and organics (5%) with very occasional fine flint and limestone gravel		0.00						
Orange brown moderately firm cohesive silty sandy CLAY		0.25		0.25	D			
Yellow grey moderately strong medium to coarse grained broken moderately weathered LIMESTONE in a yellow moderately coarse damp sandy clayey matrix (CORNBASH)		0.52						
End of Borehole at 0.62 m		0.62						

0.25m depth

CEEA Arsenic 33 mg/kg > 20
Chromium 44 " OK
Lead 40 " OK
Copper 27 " OK
Nickel 44 " OK
Zinc 102 " OK
Sulphate 981 " OK

Remarks

Trial pit terminated at 0.62m in Cornbrash, as no further progress could be made. Samples: TP19 S1 0.5kg Pot

Logged by _____
Checked by _____
Scale 1:25
Figure _____
Sheet 1 of 1

Notes:
Materials are described in accordance with BS 5930:1999.
Thicknesses and reduced levels are in metres. Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP19A

EQUIPMENT AND METHODS:

SITE:
Bicester

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

COORDINATES
E: 456501.00N: 221600.00

DATE
20/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL: Mid brown moderately cohesive silty clayey TOPSOIL with rootlets and organics (5%)		0:00 0.18						
Mid brown mottled grey stiff to firm cohesive silty CLAY with occasional grey moderately weak medium to coarse grained highly weathered limestone gravel. Becoming more competent with depth		0.50						
Blue grey-occasionally orange mottled very stiff cohesive fissured silty CLAY with occasional orange moderately coarse sandy fissures at increasing depths. Becomes more competent with depth, to resemble a dark blue grey occasionally orange mottled very stiff fissured slightly weathered silty MUDSTONE at 2.80m				1.20	B			
End of Borehole at 2.80 m		2.80						

Remarks

Trial pit terminated at 2.80m in Mudstone, as no further progress could be made. Samples: TP29 S1 1.2-1.6m

Logged by

Checked by

Scale

1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
TP19A and reduced levels are in metres. Thickness given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP20

SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

COORDINATES
E: 456501.00N: 221451.00

DATE
20/08/2001

STRATA DESCRIPTION

TOPSOIL: Mid brown fibrous sandy silty TOPSOIL with rootlets and organics (5%) with very occasional fine flint and limestone gravel

Yellow and grey white weak coarse grained very loose medium dense silty SAND and light grey and yellow very weak coarse grained angular highly weathered limestone gravel

Dark blue grey mottled orange brown very stiff cohesive silty clay with orange moderately coarse sandy fissures at increasing depth and occasional angular limestone gravel. More competent with depth, resembling a dark blue grey occasionally orange mottled very stiff fissured damp slightly weathered silty MUDSTONE at 2.00m

Dark blue grey very stiff damp fissured silty MUDSTONE with occasional orange mottling

End of Borehole at 3.00 m

KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
			Depth	Type	No	Test	
	0.00						
	0.25		0.25	D			
	1.00						
	2.50						
	3.00						

Remarks

Trial pit terminated at 3.00m in Mustone, as no further progress could be made. Samples: TP20 0.5kg Pot, TP20 S1 1.0-2.5m

Logged by

Checked by

Scale

1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
TP20
Thicknesses and reduced levels are in metres. Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP21

SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 456501.00N: 221300.00

DATE
20/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL: Mid brown fibrous sandy silty TOPSOIL with rootlets and organics (5%) with very occasional fine flint and limestone gravel		0.00						
MADE GROUND Orange and blue grey mottled firm to stiff cohesive silty clay with grey moderately weak medium to coarse grained highly weathered limestone and very occasional rounded flint gravel. 2" Clay pipe encountered at 0.90m		0.25		0.25	B			
Blue grey moderately strong medium to coarse grained broken moderately weathered LIMESTONE in a grey and yellow moderately coarse damp sandy clayey matrix (CORNBASH) End of Borehole at 1.00 m		0.90 1.00						

Remarks

Trial pit terminated at 1.0m in Cornbrash, as no further progress could be made. Samples: TP21 S1A, TP21 S1B (2 bags) 0.25-0.90m

Logged by

Checked by

Scale

1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
Ratios and reduced levels are in metres. Thicknesses given in brackets in depth column.



SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

COORDINATES
E: 456667.00N: 222636.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00 0.20		0.10	D			
Red brown very sandy clayey coarse angular GRAVEL and COBBLES of limestone, assessed from the pit walls as dense (highly to completely weathered limestone)		0.60						
Yellow and light grey very thinly bedded moderately to highly weathered moderately strong to strong LIMESTONE End of Borehole at 0.80 m		0.80						

0.1m depth

CLTA Arsenic 21 mg/kg >20
Chromium 26 " OK
Lead 24 " OK
Nickel 36 " OK
Zinc 65 " OK
Sulphate 907 " OK

Remarks

No groundwater encountered, trial pit stable throughout, unable to progress below 0.8m

Logged by

Checked by

Scale
1:25

Sheet 1 of 1

Figure



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP22A

SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

COORDINATES
E: 456615.00N: 222514.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00		0.10	D			
Red brown very sandy clayey coarse angular GRAVEL and COBBLES of limestone, assessed from the pit walls as dense (highly to completely weathered limestone)		0.30						
Yellow and light grey very thinly bedded moderately to highly weathered moderately strong to strong LIMESTONE		0.60						
stiff to very stiff light grey and brown mottled v. sandy fissured CLAY with cobbles in the upper surface		1.00						
				2.00	D			
		2.40						
		2.50						
Light blue grey very thinly bedded moderately weathered moderately weak MUDSTONE End of Borehole at 2.50 m								

Remarks

Very minor groundwater seepage, trial pit stable throughout, unable to progress below 2.5m

Logged by

Checked by

Scale

1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
TP22A and reduced levels are in metres. Thicknesses given in brackets in depth column.



SITE: Bicester
EQUIPMENT AND METHODS:

CLIENT: A.D Woodly
GROUND LEVEL: 0.000
COORDINATES: E: 456649.00N: 222336.00

DATE: 07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/
				Depth	Type	No	Test	BACKFILL
TOPSOIL		0.00						
Red brown very sandy clayey coarse angular GRAVEL and COBBLES of limestone, assessed from the pit walls as dense (highly to completely weathered limestone)		0.30						
Yellow brown very sandy clayey coarse angular GRAVEL and COBBLES (up to 150mm x 150mm x 10mm) of limestone, assessed from pit walls as dense (highly to completely weathered limestone)		0.50						
Very stiff light grey mottled brown fissured friable CLAY with much medium coarse angular limestone gravel		0.80						
				2.00	D			
				2.50	D			
		2.65						
		2.75						
Dark blue grey very thinly bedded moderately weathered moderately strong to strong LIMESTONE End of Borehole at 2.75 m								

Remarks: No groundwater encountered, trial pit walls stable throughout, unable to progress below 2.75m

Logged by: _____
Checked by: _____

Scale: 1:25
Sheet 1 of 1

Figure: _____

Notes: Materials are described in accordance with BS 5930:1999. Thicknesses and reduced levels are in metres. Thicknesses given in brackets in depth column.



SITE:
Bicester




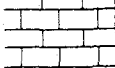
EQUIPMENT AND METHODS:

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

COORDINATES
E: 456647.00N: 222200.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00		0.10	D			
Red brown very sandy clayey coarse angular GRAVEL and COBBLES of limestone, assessed from the pit walls as dense (highly to completely weathered limestone)		0.30						
Yellow brown very sandy clayey coarse angular GRAVEL and COBBLES (up to 150mm x 150mm x 10mm) of limestone, assessed from pit walls as dense (highly to completely weathered limestone)		0.60		0.70	B			
Yellow and light grey very thinly bedded moderately to highly weathered moderately strong to strong LIMESTONE		0.85						
End of Borehole at 1.10 m		1.10						

Remarks

No groundwater encountered, trial pit stable throughout, unable to progress below 1.1m

Logged by

Checked by

Scale
1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

SITE:
Bicester

EQUIPMENT AND METHODS:


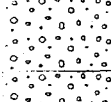

TP25

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 456681.00N: 222087.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
Red brown very sandy clayey coarse angular GRAVEL and COBBLES of limestone, assessed from the pit walls as dense (highly to completely weathered limestone)		0.25		0.30	D			
Yellow brown very sandy clayey coarse angular GRAVEL and COBBLES (up to 150mm x 150mm x 10mm) of limestone, assessed from pit walls as dense (highly to completely weathered limestone)		0.50						
End of Borehole at 0.75 m		0.75						

Remarks

No groundwater encountered, slight instability 0.25-0.75m, permeability test undertaken

Logged by

Checked by

Scale
1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



**PELL FRISCHMANN
CONSULTANTS LTD**

TRIAL PIT RECORD

Trial Pit
Number

TP26

SITE:
Bicester

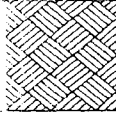

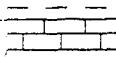
EQUIPMENT AND METHODS:

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 456591.00N: 221979.00

DATE
20/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL: Mid brown soft fibrous sandy clayey TOPSOIL with rootlets and orgsnics (5%) and occasional flint and limestone gravel		0.00						
Orange brown moderately firm cohesive sandy CLAY		0.36		0.36	D			
Yellow grey moderately strong medium to coarse grained broken moderately weathered LIMESTONE in a yellow moderately coarse damp sandy clayey matrix (CORNBASH)		0.80 0.90						
End of Borehole at 0.90 m								

Remarks

Trial pit terminated at 0.9m in Cornbrash, as no further progress could be made. Samples: TP26 S1 0.36m

Logged by

Checked by

Scale

1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP27

EQUIPMENT AND METHODS:

SITE:
Bicester

GROUND LEVEL
0.000

COORDINATES
E: 456615.00N: 221792.00

DATE
20/08/2001

CLIENT:
A.D Woodyly

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL: Mid brown soft fibrous sandy clayey TOPSOIL with rootlets and orgsnics (5%) and occasional flint and limestone gravel		0:00						
Grey brown mottled very stiff cohesive silty sandy CLAY		0.30		0.30	B			
		0.72		0.30	D			
Orange brown and grey mottled stiff friable silty clay with light grey coarse grained angular LIMESTONE gravel and cobbles		1.00						
Yellow grey moderately strong medium to coarse grained very loose broken moderately weathered LIMESTONE in a yellow moderately coarse damp sandy clayey matrix (CORNBASH). Becomes more competent and difficult to excavate with depth		1.80						
End of Borehole at 1.80 m								

Remarks

Trial pit terminated at 1.80m in Cornbrash, as no further progress could be made. Samples: TP27 S1 0.5kg Pot, TP27 S1 0.3-0.7m, TP27 S2

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Scale

1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column



SITE:
Bicester

EQUIPMENT AND METHODS:

TP28

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

COORDINATES
E: 456656.00N: 221600.00

DATE
20/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL: Mid brown soft fibrous sandy clayey TOPSOIL with rootlets and orgsnics (5%) and occasional flint and limestone gravel		0.00						
Mid brown stiff to firm cohesive silty CLAY with grey moderately weak medium to coarse highly weathered limestone gravel		0.23		0.23	D			
Yellow brown and grey weak coarse grained very loose silty sandy GRAVEL of light grey and yellow very weak coarse grained highly weathered limestone		0.33		0.33	B			
Dark blue occasionally brown and yellow mottled very stiff cohesive fissured silty CLAY with occasional orange moderately coarse sandy fissures at increasing depths. Becomes more competent with depth, resembling a dark blue grey occasionally orange mottled very stiff fissured slightly weathered silty mudstone at 3.40m		1.50						
		3.40						

End of Borehole at 3.40 m

0.23m depth
Chromium 42 mg/kg OK
Copper 16 " OK
Zinc 87 " OK
Sulphate 773 " OK

Remarks

Trial pit terminated at 3.40m in Mudstone, as no further progress could be made. Samples: TP28 0.5kg Pot, TP28 S1 1.50-3.40m, TP28 S2 0.33-1.50m

Logged by

Checked by

Scale
1:25

Sheet 1 of 1

Figure



EQUIPMENT AND METHODS:

SITE:
Bicester

CLIENT:
A.D Woody

GROUND LEVEL
0.000

COORDINATES
E: 456651.00N: 221451.00

DATE
20/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL: Mid brown soft fibrous sandy silty TOPSOIL with rootlets and organics (5%) with very occasional fine flint and limestone gravel.		0.00						
Mid brown stiff to firm cohesive silty CLAY with grey moderately weak medium to coarse grained highly weathered limestone gravel		0.30						
		1.20		1.80 1.20	D B			
Yellow and grey weak coarse grained very loose silty SAND with much light grey and yellow very weak coarse grained highly weathered limestone gravel		1.60						
Dark blue grey occasionally orange mottled very stiff cohesive fissured silty CLAY with occasional orange moderately coarse sandy fissures at increasing depths. Becomes more competent with depth, resembling a dark blue grey occasionally orange mottled very stiff fissured slightly weathered silty MUDSTONE at 2.70m		2.70						
End of Borehole at 2.70 m								

Remarks

Trial pit terminated at 2.70m in Mudstone, as no further progress could be made. Samples: TP29 S1 1.2 - 1.6m TP29 S2

Logged by

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Scale

1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and required levels are in metres. Thicknesses given in brackets in depth column.



EQUIPMENT AND METHODS:

SITE:
Bicester

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 456651.00N: 221299.00

DATE
20/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL: Mid brown fibrous sandy silty TOPSOIL with rootlets and organics (5%) with very occasional fine flint and limestone gravel		0.00						
Mid brown and orange moderately firm friable silty sandy CLAY with occasional orange moderately coarse sandy fissures and grey moderately weak medium to coarse grained highly weathered LIMESTONE gravel		0.20		0.20	D			
Yellow and grey weak coarse grained loose silty SAND with light grey and yellow very weak coarse grained highly weathered LIMESTONE gravel		0.50						
				1.80	B			
		2.00						
Dark blue grey occasionally orange mottled very stiff cohesive fissured silty CLAY with occasional orange moderately coarse sandy fissures. Becomes more competent with depth, resembling a dark blue grey occasionally orange mottled very stiff fissured slightly weathered silty MUDSTONE at 3.0m								
		3.00						
End of Borehole at 3.00 m								

0.2m depth

Chromium	30 mg/kg	OK
Nickel	16 "	OK
Zinc	71 "	OK
Sulphate	418 "	OK

Remarks

Trial pit terminated at 3.0m in Mudstone, as no further progress could be made. Samples: TP30 0.5kg Pot. TP30 S1 A. B. C. TP30 S2 1.8-3.0m

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Scale
1:25

Sheet 1 of 1

Figure



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP31

SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

COORDINATES
E: 456651.00N: 221151.00

DATE
20/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL: Mid brown moderately cohesive clayey TOPSOIL with rootlets and organics (5%) with very occasional fine flint and limestone gravel		0.00						
Mid brown and orange soft becoming firm moderately cohesive sandy becoming firm moderately cohesive sandy becoming silty with depth CLAY		0.26		0.26	D			
Blue grey occasionally orange mottled very stiff cohesive fissured silty CLAY with occasional orange moderately coarse sandy fissures and grey moderately weak medium to coarse grained highly weathered limestone gravel		0.70						
at 0.870: Brown and orange moderately weak medium to coarse grained broken weathered LIMESTONE in a grey and yellow moderately coarse damp sandy clayey matrix (CORNBASH)		0.87						
End of Borehole at 0.87 m		0.87						

Remarks

Trial pit terminated at 0.87m in Cornbrash, as further progress could be made. Samples: TP31 0.5kg Pot, TP31 S1 0.87m

Logged by _____ Checked by _____

Scale 1:25 Sheet 1 of 1

Figure _____

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



SITE:
Bicester


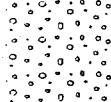
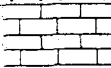
EQUIPMENT AND METHODS:

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 456798.00N: 222591.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00		0.10	D			
Red brown very sandy clayey coarse angular GRAVEL and COBBLES of limestone, assessed from the pit walls as dense (highly to completely weathered limestone)		0.25		0.50	D			
Yellow and light grey very thinly bedded moderately to highly weathered moderately strong to strong LIMESTONE		0.60						
End of Borehole at 0.80 m		0.80						

0.5m depth

Arsenic 18 mg/kg OK

Nickel 29 " OK

Zinc 23 " OK

Sulphate 257 " OK

Remarks

No groundwater encountered, trial pit stable throughout, unable to progress below 0.8m

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Scale
1:25

Sheet 1 of 1

Figure



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

SITE:
Bicester

EQUIPMENT AND METHODS:


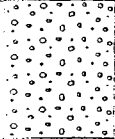

TP33

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

COORDINATES
E: 456749.00N: 222473.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00		0.10	D			
Red brown very sandy clayey coarse angular GRAVEL and COBBLES of limestone, assessed from the pit walls as dense (highly to completely weathered limestone)		0.25		0.50 0.50	B D			
Yellow and light grey very thinly bedded moderately to highly weathered moderately strong to strong LIMESTONE		0.70						
End of Borehole at 1.00 m		1.00						

0.5m depth

Arsenic 17 mg/kg OK
 Chromium 18 " OK
 Nickel 27 " OK
 Zinc 33 " OK
 Sulphate 782 " OK

Remarks

No groundwater encountered, trial pit stable throughout, unable to progress below 1 m

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Scale

1:25

Sheet 1 of 1

Figure

Notes:
 Materials are described in accordance with BS 5930:1999.
 All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



**PELL FRISCHMANN
CONSULTANTS LTD**

TRIAL PIT RECORD

Trial Pit
Number

TP34

EQUIPMENT AND METHODS:

SITE:
Bicester

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

COORDINATES
E: 456775.00N: 222286.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00		0.10	D			
Red brown very sandy clayey coarse angular GRAVEL and COBBLES of limestone, assessed from the pit walls as dense (highly to completely weathered limestone)		0.30		0.50	D			
Yellow brown very sandy clayey coarse angular GRAVEL and COBBLES (up to 150mm x 150mm x 10mm) of limestone, assessed from pit walls as dense (highly to completely weathered limestone)		0.80						
Yellow and light grey very thinly bedded moderately to highly weathered moderately strong to strong LIMESTONE		1.30						
End of Borehole at 1.40 m		1.40						

0.1m depth

clear Arsenic 23 mg/kg >20
 Chromium 38 mg/kg OK
 Lead 19 " OK
 Copper 16 " OK
 Nickel 37 " OK
 Zinc 83 " OK
 Sulphate 753 " OK

Remarks

No groundwater encountered, trial pit unstable, unable to progress below 1.4m

Logged by

Scale
1:25

Checked by
Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All dimensions and reduced levels are in metres. Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP35

SITE:
Bicester


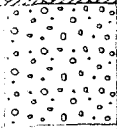
EQUIPMENT AND METHODS:

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 456799.00N: 222200.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
		0.30		0.20	D			
Red brown very sandy clayey coarse angular GRAVEL and COBBLES of limestone, assessed from the pit walls as dense (highly to completely weathered limestone)		0.70		0.50	B			
End of Borehole at 0.70 m								

Remarks

No groundwater encountered, trial pit unstable, unable to progress below 0.7m due to boulders of limestone

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Scale

1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP36

SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 456771.00N: 221932.00

DATE
20/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL: Mid brown soft fibrous silt clayey TOPSOIL with rootlets and organics (5%)		0.00						
Light orange and brown weak loose friable silty CLAY with grey moderately weak medium to coarse grained highly weathered limestone gravel		0.20						
Yellow grey strong hard medium to coarse grained broken moderately weathered LIMESTONE in a yellow/tan moderately coarse damp sandy calyey matrix (CORNBASH)		0.50		0.50	W			
		1.00						

End of Borehole at 1.00 m

*water
0.5m depth
Sulphate 46 mg/l*

Remarks

0.5m water sample removed from base of pit after approx. 5 mins. Trial pit terminated at 1.0m in Cornbrash, as no further progress could be made. Samples: TP36 1L

Logged by

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Scale
1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP37

SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 456800.00N: 221754.00

DATE
20/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL: Mid brown soft clayey TOPSOIL with rootlets and organics (5%) with very occasional fine flint and limestone gravel		0.00						
Light/mid brown soft damp moderately cohesive silty sandy CLAY becoming wetter with depth		0.25		0.25	D			
Yellow and grey hard medium to coarse grained broken rubbly weathered LIMESTONE in a brown and yellow moderately coarse wet sandy clayey matrix (CORNBASH)		0.85						
		1.60						

End of Borehole at 1.60 m

0.25m depth

Arsenic 15 mg/kg OK
 Chromium 50 " OK
 Copper 21 " OK
 Nickel 22 " OK
 Zinc 91 " OK
 Sulphate 564 " OK

Remarks

Water encountered at 1.60m insufficient for sample. Trial pit terminated at 1.60m in Cornbrash, as no further progress could be made. Samples: TP37 0.5kg Pot

Logged by _____ Checked by _____
 Scale 1:25 Sheet 1 of 1
 Figure

Notes:
 Materials are described in accordance with BS 5930:1999.
 All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP38

EQUIPMENT AND METHODS:

SITE:
Bicester

GROUND LEVEL
0.000

COORDINATES
E: 456803.00N: 221584.00

DATE
20/08/2001

CLIENT:
A.D Woodly

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL: Mid brown fibrous sandy silty TOPSOIL with rootlets and organics (5%) with very occasional fine flint and limestone gravel		0.00						
Mid brown and occasionally mottled orange weak loose sandy CLAY with weak medium to coarse grained highly weathered limestone gravel		0.25		0.30	D			
Grey and brown mottled firm to stiff cohesive silty CLAY with medium to coarse grained highly weathered limestone gravel		0.90						
Lens of yellow weak coarse grained loose silty SAND and angular clayey GRAVEL of very weak coarse grained highly weathered limestone		2.30		2.30	B			
Blue grey mottled yellow and orange stiff to firm cohesive fissured silty CLAY with occasional orange moderately coarse sandy fissures. Becoming more competent with depth, to resemble a blue grey occasionally orange and yellow mottled very stiff fissured slightly weathered silty MUDSTONE at 3.30m		3.10						
End of Borehole at 3.30 m		3.30						

Remarks

Trial pit terminated at 3.30m in mudstone, as no further progress could be made. Samples: TP38 0.5kg Pot, TP38 S1 2.30-3.10m

Logged by

Checked by

Scale

1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

COORDINATES
E: 456796.00N: 221445.00

DATE
20/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL: Mid brown fibrous sandy silty TOPSOIL with rootlets and organics (5%) with very occasional fine flint and limestone gravel		0.00						
Mid brown and orange moderately firm damp silty clayey GRAVEL of weak medium to coarse grained highly weathered limestone		0.25						
Yellow orange weak coarse grained loose silty SAND and angular GRAVEL of very weak coarse grained highly weathered limestone		1.00						
Blue grey mottled yellow and orange stiff to firm cohesive fissured silty CLAY with occasional orange moderately coarse sandy fissures. Becoming more competent with depth, to resemble a blue grey occasionally orange and yellow mottled very stiff fissured slightly weathered silty MUDDSTONE at 2.90m		1.50		1.50	B			
End of Borehole at 2.90 m		2.90						

Remarks

Trial pit terminated at 2.90m in Mudstone, as no further progress could be made. Samples: TP39 S1 1.50-2.90m

Logged by

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Scale
1:25

Sheet 1 of 1

Figure



SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 456800.00N: 221299.00

DATE
21/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL: Mid brown moderately cohesive clayey TOPSOIL with rootlets and organics (5%) with very occasional fine flint and limestone gravel		0:00						
Mid brown and orange soft becoming firm moderately cohesive silty slightly sandy CLAY with occasional fine angular limestone gravel		0:29 0:40		0.29	D			
Blue grey occasionally yellow mottled stiff to firm cohesive fissured damp silty CLAY with occasional orange and yellow moderately coarse sandy fissures, and small (<1m) dark brown and red very coarse damp iron rich sand lenses								
At 2.30m: Yellow and grey hard to very hard medium to coarse grained broken well cemented weathered oolitic LIMESTONE in a brown and yellow moderately coarse damp sandy clayey matrix (CORNBRASH)			2.30 2.30					

End of Borehole at 2.30 m

Remarks

Trial pit terminated at 2.30m in Cornbrashm, as no further progress could be made. Samples: TP40 0.5kg Pot

Logged by

Checked by

Scale
1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP41

SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 456800.00N: 221299.00

DATE
21/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL: Mid brown soft loose slightly clayey TOPSOIL with rootlets and organics (5%) with very occasional fine flint and limestone gravel		0.00						
Mid brown and yellow soft loose damp sandy CLAY		0.30		0.30	D			
Blue grey occasionally yellow mottled stiff to very stiff cohesive silty CLAY		0.53						
Yellow and grey hard medium to coarse grained broken rubbly weathered LIMESTONE in a brown and yellow moderately coarse damp iron rich sandy matrix (CORNBASH)		1.33						
End of Borehole at 1.74 m		1.74						

End of Borehole at 1.74 m

0.3m depth

Chromium 39 mg/kg OK

Zinc 68 " OK

Sulphate 457 " OK

Remarks

Land drain encountered at 0.80m. Trial pit terminated at 1.80m in Cornbrash, as no further progress could be made. Samples TP541 0.5kg Pot

Logged by

Checked by

Scale

1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

COORDINATES
E: 456961.00N: 222534.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00		0.10	D			
Yellow brown very clayey slightly sandy coarse angular GRAVEL and COBBLES of limestone, assessed as dense in pit walls (highly to completely weathered limestone)		0.25		0.50	D			
Light grey thinly bedded moderately strong to strong LIMESTONE		0.90 0.95						

End of Borehole at 0.95 m

0-1 m depth

0-5 m depth

CWA
Arsenic 23 mg/kg > 20
Chromium 33 " OK
Lead 20 " OK
Nickel 34 " OK
Zinc 68 " OK
Sulphate 987 " OK

± 895

Remarks

No groundwater encountered, trial pit showing some minor instability 0.25-0.9m, unable to progress pit below 0.95m

Logged by

Checked by

Scale
1:25

Sheet 1 of 1

Figure



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP43

EQUIPMENT AND METHODS:




SITE:
Bicester

CLIENT:
A.D Woody

GROUND LEVEL
0.000

COORDINATES
E: 456966.00N: 222348.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
Yellow brown very clayey slightly sandy coarse angular GRAVEL and COBBLES of limestone, assessed as dense in pit walls (highly to completely weathered limestone)		0.30		0.30	D			
Light grey thinly bedded moderately strong to strong LIMESTONE		0.60						
End of Borehole at 0.65 m		0.65						

Remarks

No groundwater encountered, trial pit stable throughout, unable to progress below 0.65m

Logged by

Checked by

Scale
1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
RPA 08s and reduced levels are in metres. Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP44

SITE:
Bicester


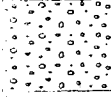
EQUIPMENT AND METHODS:

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 456947.00N: 222200.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
Red brown very clayey slightly sandy coarse angular GRAVEL and COBBLES of limestone, assessed as dense in pit walls (highly to completely weathered limestone)		0.25						
End of Borehole at 0.55 m		0.55		0.50	D			
<p>0.5m depth</p> <p>Arsenic 20mg/kg OK</p> <p>Chromium 32 " OK</p> <p>Copper 16 " OK</p> <p>Nickel 35 " OK</p> <p>Zinc 69 " OK</p> <p>Sulphate 618 " OK</p>								

Remarks

No groundwater encountered. Trial pit stable throughout, unable to progress below 0.55m (possible strong limestone bedrock or limestone boulders)

Logged by

Checked by

Scale
1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
Elevations and reduced levels are in metres. Thicknesses given in brackets in depth column.



SITE:
Bicester

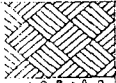
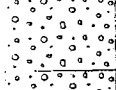
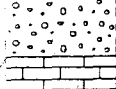
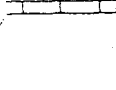
EQUIPMENT AND METHODS:

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 456915.00N: 222035.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
Red brown very clayey slightly sandy coarse angular GRAVEL and COBBLES of limestone, assessed as dense in pit walls (highly to completely weathered limestone)		0.25						
Yellow brown very clayey slightly sandy coarse angular GRAVEL and COBBLES of limestone, assessed as dense in pit walls (highly to completely weathered limestone)		0.50						
Light grey thinly bedded moderately strong to strong LIMESTONE		0.75		0.70	B			
End of Borehole at 0.90 m		0.90						

Remarks

No groundwater encountered, trial pit stable throughout, unable to progress below 0.9m, permeability test carried out

Logged by

Checked by

Scale
1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
Elevations and reduced levels are in metres. Thicknesses given in brackets in depth column.



SITE:
Bicester


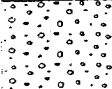
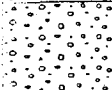
EQUIPMENT AND METHODS:

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 456957.00N: 221900.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00 0.20						
Red brown very clayey slightly sandy coarse angular GRAVEL and COBBLES of limestone, assessed as dense in pit walls (highly to completely weathered limestone)		0.50						
Light grey thinly bedded moderately strong to strong LIMESTONE		0.80						
End of Borehole at 0.80 m								

Remarks

No groundwater encountered. Minor instability 0.2-0.5m

Logged by

Checked by

Scale

1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP47

SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woody

GROUND LEVEL
0.000

COORDINATES
E: 456926.00N: 221717.00

DATE
21/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL: Mid brown soft clayey TOPSOIL with rootlets and organics (5%) with very occasional fine flint and limestone gravel		0.00						
Mid brown soft moderately cohesive sandy CLAY		0.30		0.30	D			
Yellow and grey hard medium to coarse grained broken rubbly weathered LIMESTONE in a brown and yellow moderately coarse damp sandy clayey matrix (CORNBASH)		0.60						
		1.00		1.00	W			
End of Borehole at 1.00 m								
<p>0.3m depth</p> <p>Water 0.9m</p> <p>CUA Arsenic 20mg/kg >200</p> <p>Chromium 63 " OK</p> <p>Nickel 34 " OK</p> <p>Zinc 107 " OK</p> <p>Sulphate 636 " OK 43 mg/l</p>								

Logged by Checked by

Remarks

Water sample taken at 1.00m after approx. 30 mins. Trial pit terminated at 1.00m in Cornbrash, as no further progress could be made. Samples: TP51 0.5kg Pot, 1L water sample

Scale 1:25
Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



**PELL FRISCHMANN
CONSULTANTS LTD**

TRIAL PIT RECORD

Trial Pit
Number

TP48

EQUIPMENT AND METHODS:

SITE:
Bicester

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

COORDINATES
E: 456949.00N: 221601.00

DATE
21/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL: Mid brown soft loose clayey TOPSOIL with rootlets and organics (5%) with very occasional fine flint and limestone gravel		0.00						
Mid brown and yellow grey mottled firm to stiff damp sandy gravelly CLAY		0.30		0.30	D			
Blue grey firm to stiff cohesive silty CLAY with coarse white and orange sand lenses		0.60						
Yellow and grey white hard medium to coarse rained broken rubbly weathered LIMESTONE in a brown and yellow moderately coarse damp iron rich sandy matrix (CORNBASH)		1.00		1.00	B			
End of Borehole at 1.70 m		1.70						

Remarks

Trial pit terminated at 1.70m in Cornbrash, as no further progress could be made. Samples: TP48 0.5kg Pot, TP48 S11.0-1.70m

Logged by _____ Checked by _____

Scale 1:25 Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
TP48
Thicknesess given in brackets in depth column.



**PELL FRISCHMANN
CONSULTANTS LTD**

TRIAL PIT RECORD

Trial Pit
Number

TP50

SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woody

GROUND LEVEL
0.000

COORDINATES
E: 456949.00N: 221299.00

DATE
21/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL: Mid brown soft loose slightly clayey TOPSOIL with rootlets and organics (5%) with very occasional fine flint and limestone gravel		0.00						
Mid brown soft loose damp silty CLAY with occasional fine angular limestone gravel, becoming more clayey with depth		0.20		0.20	D			
Blue grey occasionally yellow mottled stiff to firm cohesive fissured damp silty CLAY with occasional orange and yellow moderately coarse sandy fissures		0.70						
At 1.80m: Yellow and grey hard medium to coarse grained broken rubble weathered LIMESTONE in a brown and yellow moderately coarse damp sandy clayey matrix (CORNBASH) End of Borehole at 1.80 m		1.80 1.80						

Remarks

Trial pit terminated at 1.80m in Cornbrash, as no further progress could be made. Samples: TP50 0.5kg Pol. TP50 S1

Logged by	Checked by
Scale 1:25	Sheet 1 of 1
Figure	

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

SITE:
Bicester

EQUIPMENT AND METHODS:




TP51

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 456949.00N: 221146.00

DATE
21/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL: Mid brown soft loose and clayey TOPSOIL with rootlets and organics (5%) with very occasional fine flint and limestone gravel		0.00						
Mid brown soft loose moderately cohesive sandy silty CLAY		0.24						
Yellow and grey hard medium to coarse grained broken rubbly weathered LIMESTONE in a brown and yellow moderately coarse damp sandy clayey matrix (CORNBASH)		0.38						
End of Borehole at 0.80 m		0.80						

Remarks

Trial pit terminated at 0.80m in Cornbrash, as no further progress could be made. Samples: TP51 0.5kg Pot

Logged by

Checked by

Scale
1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
Levels and reduced levels are in metres. Thicknesses given in brackets in depth column



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP52

EQUIPMENT AND METHODS:

SITE:
Bicester

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

COORDINATES
E: 456949.00N: 221050.00

DATE
21/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/
				Depth	Type	No	Test	BACKFILL
TOPSOIL: Mid brown soft cohesive silty clayey TOPSOIL with rootlets and organics (5%)		0:00						
Yellow and grey mottled stiff to very firm cohesive damp sandy CLAY, becoming more clayey with depth, with very occasional fine angular limestone and flint gravel		0.25		0.25	D			
Yellow and grey medium to coarse damp sandy clayey GRAVEL. Strata becomes wet with depth		1.40		1.40	B			
At 2.00m: Yellow and grey hard medium to coarse grained broken rubbly weathered LIMESTONE in a brown and yellow moderately very coarse gritty damp sandy clayey matrix (CORNBASH) End of Borehole at 2.00 m		2.00 2.00		2.00	W			

0.25m depth

Chromium	41 mg/kg	OK
Copper	18 "	OK
Nickel	29 "	OK
Zinc	101 "	OK
Sulphate	482 "	OK

Remarks

At 2.00m a 1L water sample was taken after approx. 5 mins. Trial pit terminated at 2.00m in Cornbrash, as no further progress could be made. Samples: TP52 0.5kg Pop 996
Soils 1.4-2.00m and 1L water sa
1:25
Sheet 1 of 1

Logged by

Checked by

Notes:
Materials are described in accordance with BS 5930:1999.
Ratios and reduced levels are in metres. Thicknesses given in brackets in depth column

Figure



**PELL FRISCHMANN
CONSULTANTS LTD**

TRIAL PIT RECORD

Trial Pit
Number

TP53

SITE:
Bicester


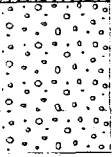
EQUIPMENT AND METHODS:

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

COORDINATES
E: 457092.00N: 222486.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00		0.10	D			
Yellow brown very sandy clayey course angular GRAVEL and COBBLES (up to 150mm x 150mm x 10mm) of limestone, assessed from pit walls as dense (highly to completely weathered limestone), firm red brown clay lens (max 0.2m thick) noted in N. W face of the pit between 0.2m and 0.4m in depth.		0.20		0.30	D			
End of Borehole at 0.70 m		0.70						

Remarks

NO GROUNDWATER ENCOUNTERED

Logged by

Checked by

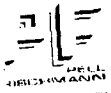
Scale

1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP54

SITE:
Bicester

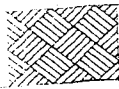

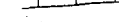
EQUIPMENT AND METHODS:

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 457242.00N: 222435.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0:00 0:25		0.10	D			
Soft to firm yellow and grey mottled very sandy CLAY with much coarse angular gravel of limestone.				0.80	D			
White and light grey very thinly bedded moderately to highly weathered moderately strong to strong LIMESTONE		1.20 1.25						

End of Borehole at 1.25 m

0.1m depth

Arsenic 20mg/kg OK
Chromium 36 " OK
Lead 21 " OK
Copper 17 " OK

Remarks

No groundwater encountered, trial pit stable throughout

Logged by _____ Checked by _____

Scale

1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 457119.00N: 222281.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00		0.10	D			
Yellow brown very sandy clayey coarse angular GRAVEL and COBBLES (up to 150mm x 150mm x 10mm) of limestone, assessed from pit walls as dense (highly to completely weathered limestone)		0.30						
Yellow slightly sandy coarse angular GRAVEL and COBBLES of limestone (highly to completely weathered limestone)		0.60						
End of Borehole at 0.90 m		0.90						

0.1 m depth

ca. Arsenic 21 mg/kg > 20
 Chromium 33 " OK
 Lead 26 " OK
 Copper 18 " OK
 Nickel 33 " OK
 Zinc 75 " OK
 Sulphate 696 " OK

Remarks


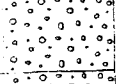


No groundwater encountered, pit unstable between 0.3-0.9m

Logged by	Checked by
Scale 1:25	Sheet 1 of 1
Figure	

Notes:
Materials are described in accordance with BS 5930:1999.
Thicknesses and reduced levels are in metres. Thicknesses given in brackets in depth column.



SITE: Bicester
EQUIPMENT AND METHODS:
CLIENT: A.D Woodly
GROUND LEVEL: 0.000
COORDINATES: E: 457100.00N: 222101.00
DATE: 07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
Red brown very sandy clayey coarse angular GRAVEL and COBBLES of limestone, (highly to completely weathered limestone)		0.25						
Yellow brown very sandy clayey coarse angular GRAVEL and COBBLES (up to 150mm x 150mm x 10mm) of limestone, (highly to completely weathered limestone)		0.50		0.70	B			
End of Borehole at 1.00 m		1.00						

Remarks

No groundwater encountered, trial pit unstable at 0.25-1m, unable to progress below 1m due to cobbles and boulders, permeability test undertaken

Logged by

Checked by

Scale
1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP57

EQUIPMENT AND METHODS


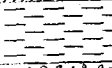

SITE:
Bicester

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 0.00 N: 0.00

DATE
16/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
Stiff orange brown CLAY with much coarse angular limestone gravel		0.25		0.30	D			
Yellow brown very sandy clayey coarse angular GRAVEL and COBBLES (up to 150mm x 150mm x 10mm) of limestone, (highly to completely weathered limestone)		0.45						
End of Borehole at 1.80 m		0.68						

0.3m depth

CuA Arsenic 49 mg/kg > 20
 Chromium 66 " OK
 Nickel 48 " OK
 Zinc 89 " OK
 Sulphate 48 " OK

Remarks

Logged by

Checked by

Scale
1:25

Sheet 1 of 1

Figure



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP58

SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

COORDINATES
E: 0.00 N: 0.00

DATE
16/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00		0.20	D			
Red brown very sandy clayey coarse angular GRAVEL and COBBLES of limestone, (highly to completely weathered limestone)		0.25						
Yellow brown very sandy clayey coarse angular GRAVEL and COBBLES (up to 150mm x 150mm x 10mm) of limestone, (highly to completely weathered limestone)		0.60						
		1.50						

End of Borehole at 1.80 m

0.20 m depth

CEA	Arsenic	21 mg/kg	> 20
	Chromium	59 "	OK
	Copper	29 "	OK
	Nickel	36 "	OK
	Zinc	135 "	OK
	Sulphate	365 "	OK

Remarks

Logged by

Checked by

Scale

1:25

Sheet 1 of 1

Figure



**PELL FRISCHMANN
CONSULTANTS LTD**

TRIAL PIT RECORD

Trial Pit
Number

SITE:
Bicester

EQUIPMENT AND METHODS:

TP59

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 457100.00N: 221591.00

DATE
21/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL: Dark brown soft clayey TOPSOIL and organics (5%)		0.00						
Mid brown and grey mottled moderately firm cohesive damp sandy CLAY, becoming sandier with depth		0.25		0.35	D			
Yellow and brown coarse grained moderately weak loose slightly clayey gravelly SAND with medium coarse angular flint and limestone gravels, becoming more clayey with depth		0.60						
At 1.80m: Yellow and grey hard medium to coarse grained angular broken rubbly weathered LIMESTONE cobbles, in a brown and yellow weak damp sandy clayey matrix (CORNBASH) End of Borehole at 1.80 m		1.80 1.80		1.80	W			

0.35m depth

Chromium 48 mg/kg OK
Copper 20 u OK
Nickel 29 u OK
Zinc 102 u OK
Sulphate 678 u OK

Remarks

At 1.80m a 1L water sample was taken after approx. 40 mins. Trial pit terminated at 1.80m in Cornbrash, so no further progress could be made. Samples: TP59 0.5kg

Logged by

Checked by

1.25
Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



SITE:
Bicester



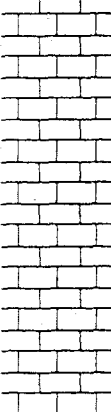
EQUIPMENT AND METHODS:

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 457100.00N: 221447.00

DATE
21/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL: Mid brown soft loose slightly clayey TOPSOIL with rootlets and organics (5%) with very occasional fine flint and limestone gravel		0.00						
Mid brown soft loose damp clayey SAND with occasional fine angular limestone gravel, becoming more clayey with depth		0.30		0.30	D			
Yellow, grey and white hard medium to coarse grained broken rubbly weathered LIMESTONE cobbles and boulders in a brown and yellow dmp sandy clayey matrix (CORNBASH)		1.00		1.00	B			
End of Borehole at 2.40 m		2.40						

Remarks

At 2.40m water encountered but not enough for a 1L sample. Trial pit terminated at 2.40m in Cornbrash, as no further progress could be made. Samples: TP59A 0.5kg

Logged by

Checked by

TP59A S2 1.0-2.40m
1:25 Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
TP59A and reduced levels are in metres. Thicknesses given in brackets in depth column.



SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 457100.00N: 221300.00

DATE
21/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL: Mid brown soft cohesive silty clayey TOPSOIL with rootlets and organics (5%)		0.00						
Mid brown and grey mottled stiff to very firm cohesive damp sandy CLAY, becoming more clayey with depth		0.34		0.34	D			
Red and orange mottled soft to firm cohesive damp silty CLAY with occasional fine angular limestone pebbles		0.90						
At 1.50m: Yellow and grey hard medium to coarse grained broken rubbly weathered LIMESTONE in a brown and yellow moderately very coarse gritty damp sandy clayey matrix (CORNBASH) End of Borehole at 1.50 m		1.50 1.50						

0.34m depth

CLEA Arsenic 33 mg/kg > 20
Chromium 54 u OK
Copper 28 u OK
Nickel 39 u OK
Zinc 105 u OK
Sulphate 865 u OK

Remarks

Trial pit terminated at 1.50m in Cornbrash, as no further progress could be made. Samples: TP60 0.5kg Pot

Logged by

Checked by

Scale

1:25

Sheet 1 of 1

Figure



SITE:
Bicester

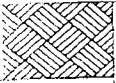


EQUIPMENT AND METHODS:

CLIENT:
A.D Woody

GROUND LEVEL
0.000

COORDINATES
E: 457100.00N: 221300.00

DATE
21/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL: Mid brown soft cohesive silty calyey TOPSOIL with rootlets and organics (5%)		0.00						
Yellow and grey mottled stiff to very firm cohesive damp sandy CLAY, becoming more clayey with depth, with very occasional fine angular limestone and flint gravel. Gravel content increases with depth		0.25		0.25	D			
Yellow and grey hard medium to coarse grained broken rubble weathered LIMESTONE in a grey and yellow moderately very coarse damp sticky sandy clayey matrix (CORNBASH)		0.50		0.50	B			
End of Borehole at 1.20 m		1.20						

Remarks

Trial pit terminated at 1.20m in Cornbrash, as no further progress could be made. Samples: TP561 0.5kg Pot. TP61 S1 0.5-1.20m

Logged by	Checked by
Scale 1:25	Sheet 1 of 1
Figure	

Notes:
Materials are described in accordance with BS 5930:1999.
Methods and reduced levels are in metres. Thicknesses given in brackets in depth column.



SITE:
Bicester

EQUIPMENT AND METHODS:

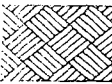
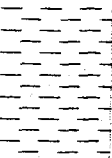
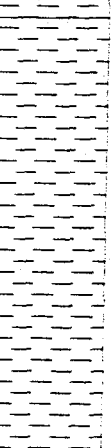
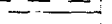
TP62

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

COORDINATES
E: 457073.00N: 221078.00

DATE
21/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL: Mid brown moderately cohesive clayey TOPSOIL with rootlets and organics (5%) with very occasional fine flint and limestone gravel		0.00						
Mid brown, yellow and orange soft to firm moderately cohesive damp sandy CLAY with occasional fine angular limestone gravel		0.25		0.25	D			
Blue grey occasionally yellow mottled stiff to firm cohesive fissured damp silty CLAY with occasional orange and yellow moderately coarse sandy fissures, and small (<1m) dark brown and red very coarse damp iron rich sand lenses		0.83		0.83	B			
At 2.30: Dark blue grey occasionally orange mottled very stiff fissured slightly weathered silty MUDSTONE with occasional orange moderately coarse sandy fissures		2.30		2.30				
End of Borehole at 2.30 m								

Remarks

Trial pit terminated at 2.30m in Mudstone, as no further progress could be made. Samples: TP62 0.5kg Pot, TP62 S1 0.83-1.8m

Logged by

Checked by

Scale

1:25

Sheet 1 of 1

Figure



SITE:
Bicester

EQUIPMENT AND METHODS


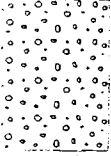
TP63

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 457261.00N: 222352.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
Red brown very sandy clayey coarse angular GRAVEL and COBBLES of limestone, assessed from the pit walls as dense (highly to completely weathered limestone)		0.20		0.50	D			
End of Borehole at 0.70 m		0.70						

0.5m depth

Zinc 32mg/kg OK
Sulphate 1508 " OK

Remarks

No groundwater encountered, trial pit stable throughout, unable to progress below 0.7m due to cobbles and boulders

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Scale
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Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



SITE:
Bicester

EQUIPMENT AND METHODS:



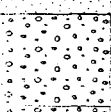

TP63A

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 457311.00N: 222289.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0:00						
Orange brown very clayey fine to medium SAND with much angular and subangular gravel of light grey limestone, assessed from pit walls as dense (highly to completely weathered limestone)		0.24		0.50	B			
Red brown very sandy clayey coarse angular GRAVEL and COBBLES of limestone, assessed from the pit walls as dense (highly to completely weathered limestone)		0.70						
Yellow brown very sandy clayey coarse angular GRAVEL and COBBLES (up to 150mm x 150mm x 10mm) of limestone, assessed from pit walls as dense (highly to completely weathered limestone)		1.00		1.00	B			
End of Borehole at 1.20 m.		1.20						

Remarks

No groundwater encountered, trial pit stable throughout, unable to progress below 1.2m due to cobbles and boulders

Logged by

Checked by

Scale

1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



SITE:
Bicester

EQUIPMENT AND METHODS:


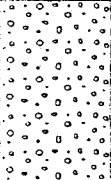
TP64

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 457257.00N: 222200.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
Yellow brown very sandy clayey coarse angular GRAVEL and COBBLES (up to 150mm x 150mm x 10mm) of limestone, assessed from pit walls as loose (highly to completely weathered limestone)		0.25		0.20	D			
				0.60	B			
End of Borehole at 0.85 m		0.85						

0.2 m depth

CISA Arsenic 30 mg/kg > 200
 Chromium 38 u OK
 Lead 29 u OK
 Copper 32 u OK
 Nickel 40 u OK
 Zinc 112 u OK
 Sulphate 1433 u OK

Remarks

No groundwater throughout, trial pit not stable throughout, unable to progress below 0.85m (suspected limestone bedrock), permeability test carried out

Logged by

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Scale

1:25

Sheet 1 of 1

Figure



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP65

SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 457279.00N: 222081.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
Orange brown very clayey fine to medium SAND with much angular and subangular gravel of light grey limestone, assessed from pit walls as dense (highly to completely weathered limestone)		0.30						
Yellow brown very sandy clayey coarse angular GRAVEL and COBBLES (up to 150mm x 150mm x 10mm) of limestone, assessed from pit walls as dense (highly to completely weathered limestone)		0.70						
Yellow and light grey very thinly bedded moderately to highly weathered moderately strong to strong LIMESTONE		0.95						
End of Borehole at 1.00 m		1.00						

Remarks

No groundwater encountered, pit stable throughout, unable to progress 1m, hard digging below 0.8m

Logged by

Checked by

Scale

1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
Thicknesses and reduced levels are in metres. Thicknesses given in brackets in depth column.



**PELL FRISCHMANN
CONSULTANTS LTD**

TRIAL PIT RECORD

Trial Pit
Number

TP66

SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 457190.00N: 221902.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00 0.20						
Orange brown very clayey fine to medium SAND with much angular and subangular gravel of light grey limestone, assessed from pit walls as dense (highly to completely weathered limestone)		0.40		0.30	B			
Stiff yellow brown very sandy CLAY with much angular medium to coarse gravel of limestone		0.95 1.00		0.80	B			
Yellow and light grey very thinly bedded moderately to highly weathered moderately strong to strong LIMESTONE End of Borehole at 1.00 m								

Remarks

No groundwater encountered, trial pit stable throughout

Logged by

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Scale

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Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



SITE:
Bicester

EQUIPMENT AND METHODS:


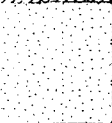

TP67

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 0.00 N: 0.00

DATE
16/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
Orange brown very clayey fine SAND		0.30		0.50	B			
Stiff orange brown sandy CLAY with much coarse angular limestone gravel		0.70						
End of Borehole at 2.40 m			2.40					

Remarks

Logged by	Checked by
Scale 1:25	Sheet 1 of 1
Figure	

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 0.00 N: 0.00

DATE
16/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
MADE GROUND stiff grey slightly silty clay		0.30						
MADE GROUND coarse gravel of very dark grey clinker like material in an orange brown sand matrix. Possibly limestone with calcite leached out?		1.50		1.50	D			
Yellow brown very sandy clayey coarse angular GRAVEL and COBBLES (up to 150mm x 150mm x 10mm) of limestone, (highly to completely weathered limestone)		1.60						
		1.70						

End of Borehole at 2.40 m

1.5m depth

CLEA Arsenic 231 mg/kg >20
 Chromium 63 " OK
 Copper 58 " OK
 CLEA Nickel 162 " >50
 Zinc 271 "
 Sulphate 14027 "

Remarks

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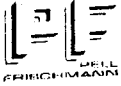
Checked by

Scale

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Sheet 1 of 1

Figure



TP69

SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

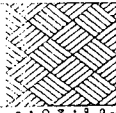
COORDINATES
E: 0.00 N: 0.00

DATE
16/08/2001

STRATA DESCRIPTION

KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
			Depth	Type	No	Test	

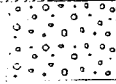
TOPSOIL



0.00

0.34

Yellow brown very sandy clayey course angular
GRAVEL and COBBLES (up to 150mm x 150mm x
10mm) of limestone, (highly to completely
weathered limestone)



0.60

End of Borehole at 2.40 m

Remarks

Logged by

Checked by

Scale

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Sheet 1 of 1

Figure



SITE:
Bicester

EQUIPMENT AND METHODS:

TP70

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 0.00 N: 0.00

DATE
16/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
Red brown very sandy clayey coarse angular GRAVEL and COBBLES of limestone, (highly to completely weathered limestone)		0.30						
Yellow brown very sandy clayey coarse angular GRAVEL and COBBLES (up to 150mm x 150mm x 10mm) of limestone, (highly to completely weathered limestone)		0.65		0.60	D			
		0.80						
End of Borehole at 2.40 m								

0.6 m depth

CLEA Arsenic 24 mg/kg > 20
 Chromium 22 "
 Nickel 34 " OK
 Zinc 48 " OK
 Sulphate 582 " OK

Remarks

Logged by | Checked by

Scale

1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



SITE:
Bicester

EQUIPMENT AND METHODS:

TP71

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

COORDINATES
E: 457216.00N: 221214.00

DATE
21/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL: Mid brown soft loose slightly clayey TOPSOIL with rootlets and organics (5%)		0.00						
Yellow orange and grey mottled moderately soft damp sandy CLAY with fine angular limestone gravel, becoming more clayey with depth		0.30		0.30	D			
Yellow, grey and white hard medium to coarse grained broken rubbly weathered LIMESTONE in a brown and yellow damp sandy clayey matrix (CORNBASH) End of Borehole at 0.91 m		0.90 0.91		0.90	W			
<p>0.3m depth</p> <p>Arsenic 20mg/kg OK</p> <p>Chromium 42 " OK</p> <p>Lead 11 " OK</p> <p>Copper 17 " OK</p> <p>Nickel 37 " OK</p> <p>Zinc 83 " OK</p> <p>Sulphate 1665 " OK</p> <p>water 43 mg/l</p>								

Remarks

At 0.90m a 1L water sample was taken after approx. 5 mins. Trial pit terminated at 0.91m in Cornbrash, as no further progress could be made. Samples: TP71 0.5kg Pop. 0.91 1L water sample

Logged by

Checked by

1:25

Sheet 1 of 1

Figure



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP72

SITE: Bicester
EQUIPMENT AND METHODS:
CLIENT: A.D Woodyly
GROUND LEVEL: 0.000
COORDINATES: E: 457400.00N: 222346.00
DATE: 07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00 0.15						
Red brown very sandy clayey coarse angular GRAVEL and COBBLES of limestone, assessed from the pit walls as dense (highly to completely weathered limestone)		0.45		0.20 0.30	D B			
Yellow brown very sandy clayey coarse angular GRAVEL and COBBLES (up to 150mm x 150mm x 10mm) of limestone, assessed from pit walls as dense (highly to completely weathered limestone)		0.70 0.75		0.60	B			
Yellow and light grey very thinly bedded moderately to highly weathered moderately strong to strong LIMESTONE End of Borehole at 0.75 m								

0.6m depth

Zinc 28mg/kg
Sulphate 783 u

Remarks

No groundwater encountered, pit stable throughout Bulk=0.3m, Bulk=0.6m, S'dist 0.6m

Logged by _____ Checked by _____

Scale 1:25 Sheet 1 of 1

Figure

Notes: Materials are described in accordance with BS 5930:1999. All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



SITE:
Bicester

EQUIPMENT AND METHODS:

TP73

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 457400.00N: 222056.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
Red brown very clayey fine to medium SAND with much angular and subangular gravel of light grey limestone, assessed from pit walls as dense (highly to completely weathered limestone)		0.30		0.30	D			
Stiff yellow brown very sandy CLAY with much angular medium to coarse gravel of limestone		0.40		0.40	B			
Yellow and light grey very thinly bedded moderately to highly weathered moderately strong to strong LIMESTONE		0.50						
		0.90		0.80	B			
End of Borehole at 1.00 m		1.00						

Remarks

No groundwater encountered, trial pit stable throughout

Logged by _____ Checked by _____

Scale
1:25

Figure
Sheet 1 of 1

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



SITE:
Bicester

EQUIPMENT AND METHODS:



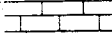
TP73A

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 0.00 N: 0.00

DATE
17/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
Stiff yellow brown very sandy CLAY with much angular medium to coarse gravel of limestone		0.30						
				1.00	D			
Yellow and light grey very thinly bedded moderately to highly weathered moderately strong to strong LIMESTONE		1.60						
End of Borehole at 1.70 m		1.70						

1.0m depth

Arsenic	15mg/kg	OK
Chromium	40 "	OK
Copper	16 "	OK
Nickel	36 "	OK
Zinc	72 "	OK
Sulphate	241 "	OK

Remarks

Logged by _____
Checked by _____
Scale: 1:25
Figure _____
Sheet 1 of 1

Notes:
Materials are described in accordance with BS 5930:1999.
Levels and reduced levels are in metres. Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP74

SITE:
Bicester


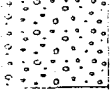

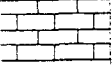
EQUIPMENT AND METHODS:

CLIENT:
A.D Woody

GROUND LEVEL
0.000

COORDINATES
E: 457400.00N: 221900.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
Yellow brown very sandy clayey coarse angular GRAVEL and COBBLES (up to 150mm x 150mm x 10mm) of limestone, assessed from pit walls as dense (highly to completely weathered limestone)		0.20		0.30	B			
Stiff yellow brown very sandy CLAY with much angular medium to coarse gravel of limestone		0.50						
Yellow and light grey very thinly bedded moderately to highly weathered moderately strong to strong LIMESTONE		0.80		0.70	B			
End of Borehole at 1.00 m		1.00						

Remarks

No groundwater encountered, trial pit stable throughout

Logged by

Checked by

Scale

1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP75

SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 457400.00N: 221750.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
Orange brown very clayey fine to medium SAND with much angular and subangular gravel of light grey limestone, assessed from pit walls as dense (highly to completely weathered limestone)		0.30		0.30	D			
Yellow brown very snady clayey coarse angular GRAVEL and COBBLES (up to 150mm x 150mm x 10mm) of limestone, assessed from pit walls as dense (highly to completely weathered limestone)		0.40						
End of Borehole at 0.50 m		0.50						

0.3m depth

CECA	Arsenic	104 mg/kg	>20
	Chromium	39 "	OK
	Copper	14 "	OK
	Nickel	44 "	OK
	Zinc	64 "	OK
	Sulphate	1144 "	OK

Remarks

No groundwater encountered. Trial pit stable throughout, unable to progress below 0.5m due to cobbles and boulders of limestone in pit base. S'disturbed sample at 0.3m

Logged by

Checked by

Scale
1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
Thicknesses given in brackets in depth column



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP76

SITE:
Bicester

EQUIPMENT AND METHODS.

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 0.00 N: 0.00

DATE
15/08/2001

STRATA DESCRIPTION

TOPSOIL

MADE GROUND stiff yellow brown clay becoming mottled grey with depth with occasional grey and red brown pockets of sand. Water inflow at 2.5m depth

KEY DEPTH
(Thick)
0.00
0.20

LEVEL
(mAOD)

SAMPLES/TESTS

INSTALLATIONS/
BACKFILL

Depth Type No Test

0.50 D

2.50

2.50 B
2.50 W

End of Borehole at 2.50 m

0.5m depth

water
2
0.5m

Chromium 33 mg/kg ok

Nickel 21 " ok

Zinc 59 " ok

Sulphate 498 " ok

79 mg/l
Chloride 21 mg/l

Remarks

Logged by

Checked by

Scale

1:25

Sheet 1 of

Figure

Notes:
Materials are described in accordance with BS 5930:1999
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP76A

SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

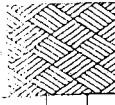
COORDINATES
E: 0.00 N: 0.00

DATE
16/08/2001

STRATA DESCRIPTION

KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
			Depth	Type	No	Test	

TOPSOIL



0:00
0:30
0:40

Yellow and light grey very thinly bedded
moderately to highly weathered moderately strong
to strong LIMESTONE

End of Borehole at 2.40 m

Remarks

Logged by

Checked by

Scale

1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
TP76A and reduced levels are in metres. Thickness given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP76B

SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woody

GROUND LEVEL
0.000

COORDINATES
E: 0.00 N: 0.00

DATE
17/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
MADE GROUND firm very sandy grey mottled brown clay with pockets of sandy gravel		0.30						
Yellow brown sandy clayey coarse angular GRAVEL and COBBLES of limestone (highly to completely weathered limestone). Water inflow at 2.1m depth		2.10 2.15		2.00	W			

End of Borehole at 2.40 m

*Water
2.0m depth*

*Sulphate 64
Chloride 20*

Remarks

Pit extended into north-south trending trench. Identified above layers to be approximately 9.5m in lateral extent, bounded by highly weathered limestone at 0.3m depth

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Scale
1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
AP 2006 and reduced levels are in metres. Thicknesses given in brackets in depth column.



SITE:
Bicester

EQUIPMENT AND METHODS:

TP77

CLIENT:
A.D Woody

GROUND LEVEL
0.000

COORDINATES
E: 0.00 N: 0.00

DATE
17/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS			INSTALLATIONS/ BACKFILL
				Depth	Type	No	
TOPSOIL		0.00 0.20					
Stiff yellow brown very sandy CLAY with much angular medium to coarse gravel of limestone							
Yellow and light grey very thinly bedded moderately to highly weathered moderately strong to strong LIMESTONE		1.60 1.70					
End of Borehole at 2.40 m							

Remarks

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Scale
1:25 Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
Depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP78

SITE:
Bicester




EQUIPMENT AND METHODS:

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 0.00 N: 0.00

DATE
17/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00		0.20	D			
Stiff yellow brown very sandy CLAY with much angular medium to coarse gravel of limestone		0.30						
		1.45						
Yellow and light grey very thinly bedded moderately to highly weathered moderately strong to strong LIMESTONE		1.65						
End of Borehole at 2.00 m								

Remarks

Logged by	Checked by
Scale 1:25	Sheet 1 of 1
Figure	

Notes:
Materials are described in accordance with BS 5930:1999.
Thicknesses and reduced levels are in metres. Thicknesses given in brackets in depth column.



SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

COORDINATES
E: 457543.00N: 222326.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
Topsoil and tree roots		0.00 0.25						
Orange brown very clayey fine to medium SAND with much angular and subangular gravel of light grey limestone, assessed from pit walls as dense (highly to completely weathered limestone)		0.75		0.50 0.50	D B			
Yellow brown very sandy clayey course angular GRAVEL and COBBLES (up to 150mm x 150mm x 10mm) of limestone, assessed from pit walls as dense (highly to completely weathered limestone)		1.10 1.20		0.90	B			
ow brown sandy slightly clayey angular COBBLES of strong limestone with much angular coarse gravel								
End of Borehole at 2.00 m								
				2.00	D			

0.5m depth

Arsenic 19 mg/kg OK
 Chromium 33 " OK
 Nickel 30 " OK
 Zinc 62 " OK
 Sulphate 107 " OK

Remarks

Very slight water seepage at base of hole, trial pit stable throughout, unable to progress below 1.2m due to cobbles. Bulk=0.5m. Bulk=0.9m S'disturbed=0.5m

Logged by

Checked by

Scale
1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



LOCATION:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woody

GROUND LEVEL
0.000

COORDINATES
E: 457529.00N: 222280.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00 0.20						
MADE GROUND Brown clayey fine to medium angular and subangular gravel of limestone (noticeably no coarse gravel or cobbles)		0.60		0.40 0.40	D B			
Stiff yellow brown very sandy CLAY with much angular medium to coarse gravel of limestone		0.90 0.95						
Light grey very thinly bedded moderately to highly weathered moderately strong to strong LIMESTONE End of Borehole at 0.95 m								

0.4m depth

Arsenic 15 mg/kg

Chromium 12 "

Zinc 23 "

Sulphate 745 "

Remarks

Very slight water seepage at base of hole. Trial pit unstable at 0.2-0.6m, Bulk=0.4m, Bulk=0.8m, S'disturbed=0.4m

Logged by

Checked by

Scale

1:25

Sheet 1 of 1

Figure



SITE:
Bicester


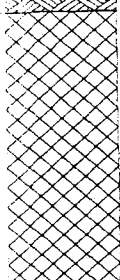
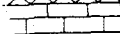
EQUIPMENT AND METHODS:

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 0.00 N: 0.00

DATE
16/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00 0.20						
MADE GROUND Brown clayey fine to medium angular and subangular gravel of limestone (noticeably no coarse gravel or cobbles) some evidence of lime burning activity due to rare white limestone gravel				0.50 0.50	D B			
Light grey very thinly bedded moderately to highly weathered moderately strong to strong LIMESTONE		1.10 1.20						
End of Borehole at 1.30 m								

0.5m depth
Arsenic 15 mg/kg
Zinc 19 "
Sulphate 112 "

Remarks

Logged by

Checked by

Scale
1:25

Sheet 1 of 1

Figure



EQUIPMENT AND METHODS:

SITE:
Bicester

CLIENT:
A.D Woody

GROUND LEVEL
0.000

COORDINATES
E: 457546.00N: 222200.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
Red brown very sandy clayey coarse angular GRAVEL and COBBLES of limestone, assessed from the pit walls as dense (highly to completely weathered limestone)		0.30						
Stiff yellow brown very sandy CLAY with much angular medium to coarse gravel of limestone		0.70						
Brown fine to medium SAND with rare limestone gravel		0.85		0.85	D			
Yellow brown sandy slightly clayey angular COBBLES of strong limestone with much angular coarse gravel		1.18						
End of Borehole at 1.20 m		1.20						

0.85m depth

Arsenic 20mg/kg OK
Chromium 26 " OK
Nickel 34 " OK
Zinc 50 " OK
Sulphate 315 " OK

Remarks

No groundwater encountered, trial pit unstable at 0-1.1m

Logged by

Checked by

Scale

1:25

Sheet 1 of 1

Figure



TP81

SITE:
Bicester

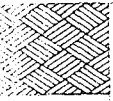

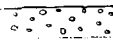
EQUIPMENT AND METHODS:

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

COORDINATES
E: 457557.00N: 221899.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
Stiff to very stiff light grey and brown mottled v. sandy fissured CLAY with cobbles in the upper surface		0.30						
Yellow brown sandy slightly clayey angular COBBLES of strong limestone with much angular coarse gravel		1.90 2.00						
End of Borehole at 2.00 m								

Remarks

No groundwater encountered, trial pit stable throughout, feature noted in southern pit wall as a 0.6m deep slot into layer 2 filled with top soil - possible start of a land drain

Logged by

Checked by

Scale
1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



SITE:
Bicester

EQUIPMENT AND METHODS:


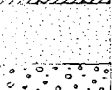
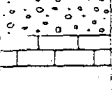

TP82

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

COORDINATES
E: 457569.00N: 221670.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
Orange brown very clayey fine to medium SAND with much angular and subangular gravel of light grey limestone, assessed from pit walls as dense (highly to completely weathered limestone)		0.30		0.30	B			
		0.50		0.40	D			
Yellow brown very sandy clayey coarse angular GRAVEL and COBBLES (up to 150mm x 150mm x 10mm) of limestone, assessed from pit walls as dense (highly to completely weathered limestone)		0.70		0.60	B			
		0.80						
Yellow and light grey very thinly bedded moderately to highly weathered moderately strong strong LIMESTONE								
End of Borehole at 0.80 m								

Remarks

No groundwater encountered. Trial pit stable throughout

Logged by _____ Checked by _____

Scale
1:25 Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

SITE:
Bicester

EQUIPMENT AND METHODS:

TP83

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

COORDINATES
E: 457638.00N: 222287.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
Dark brown and black fibrous PEAT		0.00						
				0.20	D			
Soft grey brown CLAY		0.30						
				0.40	B			
		0.50						
Red brown very sandy clayey coarse angular GRAVEL and COBBLES of limestone, assessed from the pit walls as dense (highly to completely weathered limestone)								
				0.80	B			
				0.80	W			
		1.10						
Yellow brown sandy slightly clayey angular COBBLES of strong limestone with much angular coarse gravel		1.20						
End of Borehole at 1.20 m								

0.2m depth

Water
0.2m

Arsenic 18 mg/kg ok

Chromium 13 " ok

Lead 47 " ok

Copper 22 " ok

Nickel 21 " ok

Zinc 69 " ok

Sulphate 3000 " 59

Remarks

Moderate inflow of water at 0.8m, rose to 0.6m in 20mins. Trial pit unstable to 1m

Logged by

Checked by

Scale

1:25

Sheet 1 of 1

Figure

Notes

Materials are described in accordance with BS 5930:1999.
Rise and reduced levels are in metres. Thicknesses given in brackets in depth column



SITE:
Bicester

EQUIPMENT AND METHODS:

TP84

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 457700.00N: 222200.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00 0.15						
MADE GROUND soft to firm yellow brown and grey mottled clay with many carbonised plant stems throughout				1.00 1.00	D B			
Yellow brown sandy slightly clayey angular COBBLES of strong limestone with much angular coarse gravel		1.30		1.50	B			
End of Borehole at 1.70 m		1.70						

1.0 m depth

Chromium 25 mg/kg

Nickel 20 " "

Zinc 59 " "

Sulphate 1158 " "

Remarks

Very minor seepage of groundwater at base of pit, trial pit stable throughout

Logged by

Checked by

Scale

1:25

Sheet 1 of 1

Figure

Notes:

Materials are described in accordance with BS 5930:1999
 All depths and reduced levels are in metres. Thicknesses given in brackets in depth column



SITE:
Bicester

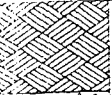
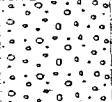
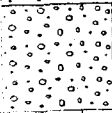
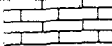
EQUIPMENT AND METHODS:

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 457712.00N: 222077.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
Red brown very sandy clayey coarse angular GRAVEL and COBBLES of limestone, assessed from the pit walls as dense (highly to completely weathered limestone)		0.30						
Yellow brown very sandy clayey coarse angular GRAVEL and COBBLES (up to 150mm x 150mm x 10mm) of limestone, assessed from pit walls as dense (highly to completely weathered limestone)		0.65						
Light grey very thinly bedded moderately to highly weathered moderately strong to strong LIMESTONE and small fine gravel sized cavities noted in limestone		1.00						
End of Borehole at 1.15 m		1.15						

Remarks

No groundwater encountered, trial pit stable throughout

Logged by

Checked by

Scale

1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP86

EQUIPMENT AND METHODS:

ITE:
Bicester

GROUND LEVEL
0.000

COORDINATES
E: 457661.00N: 221976.00

DATE
07/08/2001

CLIENT:
A.D Woody

STRATA DESCRIPTION

TOPSOIL

Stiff grey very sandy CLAY with much angular
medium to coarse gravel of limestone

Thin grey very thinly bedded moderately to highly
weathered moderately strong to strong LIMESTONE
and small fine gravel sized cavities noted in
limestone.

End of Borehole at 1.30 m

KEY DEPTH
(Thick)

LEVEL
(mAOD)

SAMPLES/TESTS

INSTALLATIONS/
BACKFILL

Depth

Type

No

Test

BACKFILL

0.00

0.25

0.50

B

1.00

1.00

B

1.30

Remarks

No groundwater encountered, (trial pit stable throughout)

Logged by

Checked by

Scale
1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



PELL FRISCHMANN
CONSULTANTS LTD

TRIAL PIT RECORD

Trial Pit
Number

TP87

SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

COORDINATES
E: 457700.00N: 221900.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL																																																															
				Depth	Type	No	Test																																																																
TOPSOIL		0.00 0.20		0.10	D																																																																		
Stiff grey very sandy CLAY with much angular medium to coarse gravel of limestone		0.40																																																																					
Red brown very sandy clayey coarse angular GRAVEL and COBBLES of limestone, assessed from the pit walls as dense (highly to completely weathered limestone)		0.50																																																																					
Light grey very thinly bedded moderately to highly weathered moderately strong to strong LIMESTONE and small fine gravel sized cavities noted in limestone		0.55																																																																					
End of Borehole at 0.55 m																																																																							
0.1 m depth																																																																							
<table border="0"> <tr> <td>CuA</td> <td>Arsenic</td> <td>26 ng/kg</td> <td>> 100</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>Chromium</td> <td>44 "</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>Lead</td> <td>19 "</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>Copper</td> <td>26 "</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>Nickel</td> <td>30 "</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>Zinc</td> <td>109 "</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>Sulphate</td> <td>950 "</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>									CuA	Arsenic	26 ng/kg	> 100							Chromium	44 "								Lead	19 "								Copper	26 "								Nickel	30 "								Zinc	109 "								Sulphate	950 "						
CuA	Arsenic	26 ng/kg	> 100																																																																				
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	Lead	19 "																																																																					
	Copper	26 "																																																																					
	Nickel	30 "																																																																					
	Zinc	109 "																																																																					
	Sulphate	950 "																																																																					

Remarks

No groundwater encountered. Trial pit stable throughout

Logged by

Checked by

Scale

1:25

Sheet 1 of 1

Figure

Notes:
Materials are described in accordance with BS 5930:1999.
All depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



SITE:
Bicester

EQUIPMENT AND METHODS:

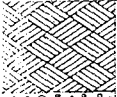
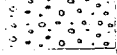
TP88

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 457627.00N: 221764.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
Red brown very sandy clayey coarse angular GRAVEL and COBBLES of limestone, assessed from the pit walls as dense (highly to completely weathered limestone)		0.30						
End of Borehole at 0.50 m		0.50						

Remarks

No groundwater encountered, no progress below 0.5m due to cobbles and boulders of limestone

Logged by

Checked by

Scale
1:25

Sheet 1 of 1

Figure



SITE:
Bicester

EQUIPMENT AND METHODS:

TP89

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 457846.00N: 222154.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS
				Depth	Type	No	Test	BACKFILL
Dark brown and black fibrous peat		0.00						
				0.20	D			
Soft grey organic CLAY with rare subangular gravel		0.30						
				0.50	B			
		0.60						
Orange brown very clayey fine to medium SAND with much angular and subangular gravel of light grey limestone, assessed from pit walls as dense (highly to completely weathered limestone)								
				0.90	B			
		1.25						

End of Borehole at 1.25 m

0.2m depth

*Clear Arsenic 20 mg/kg > 20
Chromium 25 "
Lead 34 "
Zinc 143 "
Sulphate 3429 "*

Remarks

No groundwater encountered, trial pit stable throughout, unable to progress below 1.25m due to limestone cobbles and boulders

Logged by

Checked by

Scale
1:25

Sheet 1 of 1

Figure



SITE:
Bicester

EQUIPMENT AND METHODS:

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 457879.00N: 222203.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00 0.20						
Soft brown slightly sandy CLAY				0.50 0.50	D B			
Orange brown very clayey fine to medium SAND with much angular and subangular gravel of light grey limestone, assessed from pit walls as dense (highly to completely weathered limestone)		0.65 0.90		0.80 0.90	B W			
Yellow brown sandy slightly clayey angular COBBLES of strong limestone with much angular coarse gravel		1.13						

End of Borehole at 1.13 m

0.5m depth
Chromium 51 mg/kg ✓
Copper 30 " ✓
Nickel 28 " ✓
Zinc 96 " ✓
Sulphate 2310 " ✓ 68

water
0.9m

Remarks

Minor water seepage at 0.9m, minor instability at 0.65m-1.13m, unable to progress below 1.13 due to limestone cobbles and boulders

Logged by

Checked by

Scale
1:25

Sheet 1 of 1

Figure



**PELL FRISCHMANN
CONSULTANTS LTD**

TRIAL PIT RECORD

Trial Pit
Number

SITE:
Bicester

EQUIPMENT AND METHODS:

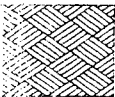

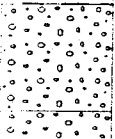

TP89B

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

COORDINATES
E: 457772.00N: 222257.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
Soft brown organic CLAY with much plant rootlets		0.30						
Orange brown very clayey fine to medium SAND with much angular and subangular gravel of light grey limestone, assessed from pit walls as dense (highly to completely weathered limestone)		0.55						
Yellow brown sandy slightly clayey angular BOBBLES of strong limestone with much angular coarse gravel		0.90		0.70	D			
		1.00		0.70	B			
End of Borehole at 1.00 m				0.90	W			

Remarks

Water inflow at 0.9m, rose to 0.45m in 30 mins. Trial pit stable throughout, unable to progress below 1.0m

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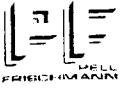
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Scale

1:25

Sheet 1 of 1

Figure



SITE:
Bicester

EQUIPMENT AND METHODS:


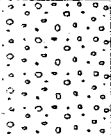

TP90

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

COORDINATES
E: 457783.00N: 222055.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL		0.00						
Red brown very sandy clayey coarse angular GRAVEL and COBBLES of limestone, assessed from the pit walls as dense (highly to completely weathered limestone)		0.25		0.50	D			
Yellow and light grey very thinly bedded moderately to highly weathered moderately strong to strong LIMESTONE		0.70						
End of Borehole at 0.90 m		0.90						

0.5m depth

CELA Arsenic 42 mg/kg > 20
 Chromium 34 " OK
 Copper 19 " OK
 Nickel 45 " OK
 Zinc 110 " OK
 Sulphate 76 " OK

Remarks

No groundwater encountered, trial pit stable throughout, unable to progress below 0.9m

Logged by

Checked by

Scale

1:25

Sheet 1 of 1

Figure



SITE:
Bicester

EQUIPMENT AND METHODS:

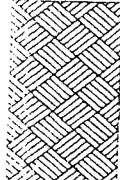
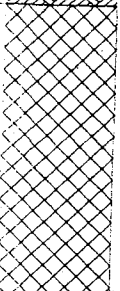

TT1

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 0.00 N: 0.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL with occasional glass fragments		0.00						
MADE GROUND grey brown ash and clinker fill with much glass bottles, some metal and occasional pottery fragments. Glass showing signs of melting due to high temperatures in the past		0.60		0.50	D			
Yellow brown very sandy clayey coarse angular GRAVEL and COBBLES (up to 150mm x 150mm x 10mm) of limestone, assessed from pit walls as dense (highly to completely weathered limestone) End of Borehole at 1.70 m		1.60 1.70						

All 0.5m depth

At 0.5m depth:
 Copper 363mg/kg
 lead 701mg/kg > 450
 arsenic 69 mg/kg > 20
 zinc 2167mg/kg > 1200
 Sulphate 4774 mg/kg
 sulphur 1999 mg/kg
 nickel 106 mg/kg > 50
 chlorine 28 mg/kg OK

Remarks

Pit 2.5m long trending east-west encountered near vertical quarry "high wall" in eastern face. Topsoil underlain by highly weathered limestone to east of this.

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Scale
1:25

Sheet 1 of 1

Figure

Materials are described in accordance with BS 5930:1999.
 Depths and reduced levels are in metres. Thicknesses given in brackets in depth column.



SITE:
Bicester

EQUIPMENT AND METHODS:

TT2

CLIENT:
A.D Woodly

GROUND LEVEL
0.000

COORDINATES
E: 0.00 N: 0.00

DATE
07/08/2001

STRATA DESCRIPTION

KEY

DEPTH
(Thick)

LEVEL
(mAOD)

SAMPLES/TESTS

INSTALLATIONS/
BACKFILL

Depth Type No Test

TOPSOIL with occasional glass fragments



0.00

0.30

MADE GROUND grey brown ash and clinker fill with much glass bottles, some metal and occasional pottery fragments. Glass showing signs of melting due to high temperatures in the past and a vehicle tyre



1.65
1.70

0.50 D

1.00 D

Yellow brown very sandy clayey coarse angular GRAVEL and COBBLES (up to 150mm x 150mm x 10mm) of limestone, assessed from pit walls as dense (highly to completely weathered limestone)

End of Borehole at 1.70 m

To 0.50m

To 1.00m

OLEA	Arsenic	122 mg/kg > 20	72 > 20		
OLEA	Lead	1227 mg/kg > 450	750 > 450		
	Copper	421 mg/kg	302		
OLEA	Nickel	170 " > 50	132 > 50		
OLEA	Zinc	1660 mg/kg > 1200	1737 > 1200		
	Sulphate	6069 "	4960		
	Sulphur	2829 "	2425		
	Chromium	56 "	58	OK	

Remarks

Pit extended to 8m in length trending north-south encountered edge of quarry in southern face. Topsoil underlain by highly weathered limestone to south of this.

Logged by

Checked by

Scale
1:25

Sheet 1 of 1

Figure



SITE:
Bicester

EQUIPMENT AND METHODS:

TT3

CLIENT:
A.D Woodyly

GROUND LEVEL
0.000

COORDINATES
E: 0.00 N: 0.00

DATE
07/08/2001

STRATA DESCRIPTION	KEY	DEPTH (Thick)	LEVEL (mAOD)	SAMPLES/TESTS				INSTALLATIONS/ BACKFILL
				Depth	Type	No	Test	
TOPSOIL with occasional glass fragments		0.00						
MADE GROUND firm to stiff grey brown sandy clay		0.25						
MADE GROUND grey brown ash and clinker fill with much glass bottles, some metal and occasional pottery fragments. Glass showing signs of melting due to high temperatures in the past. Fragment of pottery carried printing "NAAFI" and date "1945". One piece of metal possibly a clutch cover for a vehicle engine		0.55		1.00	D			
Soft brown silty CLAY		2.00						
End of Borehole at 2.40 m		2.40		2.40	D			

z. To 1.0m

CLEA	Arsenic	28 mg/kg > 20
	Chromium	56 "
CLEA	Lead	1352 " > 450
	Copper	327 "
CLEA	Nickel	173 " > 50
CLEA	Zinc	1619 " > 1200
	Sulphate	3532 "
	Sulphur	3086 "

emarks

Logged by Checked by


Scale
1:25 Sheet 1 of 1

Figure

APPENDIX 2
LABORATORY TESTING RESULTS

SUMMARY OF LABORATORY SOIL DESCRIPTIONS


Trial Pit Number	Sample Number	Depth m	Description of Sample	P.F.C. WAKEFIELD	
				Post No.	File Ref.
				CIRCULATE	
				01. OCT 2001	
1A	B	1.50	Orangish brown slightly gravelly very sandy very silty CLAY.	<div style="border: 1px solid black; padding: 5px;"> <p>DEWILLIOT RA Hulles.</p> <p>L. Marshall</p> </div>	
3	D	2.40	Brown slightly gravelly sandy silty CLAY.		
7	B	0.70	Pale brown sandy clayey silty GRAVEL.		
14A	B	2.00	Brown gravelly slightly sandy silty CLAY.		
14A	D	2.00	Brown gravelly slightly sandy silty CLAY.		
16	B	2.60	Greyish brown sandy silty CLAY.		
17	B	0.50	Brown very sandy clayey very silty GRAVEL.		
21	B	0.25	Pale brown slightly gravelly slightly sandy very silty CLAY.		
22A	D	2.00	Brownish grey slightly gravelly slightly sandy silty CLAY.		
23	D	2.00	Pale brown slightly gravelly sandy silty CLAY.		
23	D	2.50	Brownish grey gravelly sandy silty CLAY.		
24	B	0.70	Brown sandy clayey silty GRAVEL.		
27	B	0.30	Pale brown sandy very silty CLAY.		
28	B	0.33	Brown very sandy slightly clayey silty GRAVEL.		
29	B	1.20	Pale brown very sandy slightly clayey silty GRAVEL.		
30	B	1.80	Pale grey slightly sandy very silty CLAY.		
33	B	1.50	Pale brown gravelly SAND.		
35	B	0.50	Brown sandy clayey very silty GRAVEL.		
39	B	1.50	Brown very sandy slightly clayey silty GRAVEL.		

 <h2 style="margin: 0;">THYSSEN GEOTECHNICAL</h2>	Compiled by	Date	Checked by	Date	Approved by	Date
	BICESTER.					

SUMMARY OF LABORATORY SOIL DESCRIPTIONS


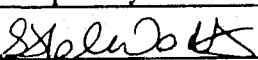

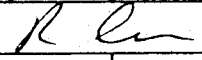
Trial Pit Number	Sample Number	Depth m	Description of Sample
45	B	0.70	Pale brown very sandy clayey silty GRAVEL.
48	B	1.00	Brown slightly sandy clayey very silty GRAVEL.
49	B	0.57	Grey mottled brown slightly sandy very silty CLAY.
52	B	1.40	Pale brown very gravelly very sandy very silty CLAY.
53	D	0.30	Brown slightly gravelly sandy silty CLAY.
54	D	0.80	Brown sandy silty CLAY.
56	B	0.70	Brown sandy clayey silty GRAVEL.
59A	B	1.00	Brown slightly sandy clayey silty GRAVEL with many cobbles.
61	B	0.50	Brown sandy clayey silty GRAVEL.
62	B	0.83	Yellowish brown mottled grey slightly sandy silty CLAY.
63A	B	0.50	Orangish brown slightly gravelly sandy silty CLAY.
63A	B	1.00	Pale brown slightly gravelly very sandy very silty CLAY.
64	B	0.60	Pale brown very sandy slightly clayey silty GRAVEL.
66	B	0.30	Brown slightly gravelly very sandy very silty CLAY.
66	B	0.80	Pale brown slightly sandy very silty CLAY.
67	B	0.50	Orangish brown slightly gravelly very sandy silty CLAY.
72	B	0.30	Brown sandy slightly clayey very silty GRAVEL.
72	B	0.60	Pale brown very sandy clayey silty GRAVEL.
73	B	0.40	Brown sandy silty CLAY.

Sheet 2 of 2.

 THYSSEN GEOTECHNICAL	Compiled by	Date	Checked by	Date	Approved by	Date
	<i>S. Mole</i>	28/9/01	<i>R. Cur</i>	28/9/01	<i>R. Cur</i>	28/9/01
	BICESTER.					
						Figure:


SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Trial Pit Number	Sample Number	Depth m	Description of Sample
73	B	0.80	Pale brown slightly sandy silty CLAY.
74	B	0.30	Orangish brown very sandy clayey silty GRAVEL.
74	B	0.70	Pale brownish grey sandy silty CLAY.
76	B	2.50	Pale brown slightly gravelly very sandy silty CLAY.
79	B	0.50	Brown very sandy clayey silty GRAVEL.
79	B	0.90	Orangish brown sandy silty clayey GRAVEL.
79A	B	0.40	Brown sandy clayey silty GRAVEL.
79B	B	0.50	Pale brown very sandy slightly clayey silty GRAVEL.
82	B	0.30	Brown sandy clayey silty GRAVEL.
82	B	0.60	Brown very sandy slightly clayey silty GRAVEL.
83	B	0.40	Brown slightly sandy silty organic CLAY.
83	B	0.80	Brown sandy clayey silty GRAVEL with some cobbles.
84	B	1.00	Brown slightly gravelly very sandy very silty CLAY.
84	B	1.50	Pale brownish grey slightly sandy silty GRAVEL.
86	B	0.50	Brown slightly sandy silty CLAY.
86	B	1.00	Brown gravelly sandy silty CLAY.
89	B	0.50	Dark brown very peaty CLAY.
89	B	0.90	Brown very gravelly clayey silty SAND.
89A	B	0.50	Dark brown very peaty CLAY.

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SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Borehole Number	Sample Number	Depth m	Description of Sample
1	B	1.00	Dark brown gravelly slightly sandy silty CLAY.
1	D	2.00	Dark brown very gravelly sandy silty CLAY.
1	U	2.00	Stiff pale brown gravelly slightly sandy silty CLAY.
1	D	2.50	Brown slightly sandy silty CLAY.
2	B	1.00	MADE GROUND dark grey very sandy clayey very silty gravel of ash.
2	D	1.00	MADE GROUND dark grey very sandy clayey very silty gravel of ash.
2	D	2.60	Brownish grey slightly sandy silty CLAY.
2	D	2.80	Grey mottled brown slightly gravelly slightly sandy silty CLAY.
2	U	3.00	Pale grey mottled brown gravelly slightly sandy silty CLAY.
2	D	3.50	Grey sandy silty CLAY.
3	D	2.00	Pale brown slightly gravelly sandy silty CLAY.
3	D	2.80	Brown slightly gravelly sandy silty CLAY.
3	U	3.00	Pale brown very gravelly sandy silty CLAY.
3	D	3.50	Pale brown gravelly sandy silty CLAY.
4	D	1.00	Pale brown slightly gravelly sandy silty CLAY.
4	D	2.00	Pale brown sandy silty CLAY.
4	U	3.00	Very stiff grey very silty CLAY.
4	D	4.00	Brown mottled grey sandy silty CLAY.
5	U	1.00	Brown sandy very clayey silty GRAVEL.

 THYSSEN GEOTECHNICAL	Compiled by	Date	Checked by	Date	Approved by	Date
	<i>Stela Joki</i>		<i>Ra</i>	<i>Ra</i>	<i>Ra</i>	<i>28/9/01</i>
BICESTER.						Contract No NL211004

SUMMARY OF SOIL CLASSIFICATION TESTS


(B.S. 1377 : PART 2 : 1990)

Borehole Number	Sample Number	Depth m	Moisture Content % <small>Clause 3.2</small>	Bulk Density Mg/m ³ <small>Clause 7.2</small>	Dry Density Mg/m ³ <small>Clause 7.2</small>	Particle Density Mg/m ³ <small>Clause 8.</small>	Liquid Limit % <small>Clause 4.3/4.4</small>	Plastic Limit % <small>Clause 5.</small>	Plasticity Index % <small>Clause 6.</small>	% Passing .425mm	Remarks
1	B	1.00	23				37	19	18	75	Intermediate plasticity CI.
1	D	2.00	21				42	21	21	80	Intermediate plasticity CI.
1	U	2.00	15				50	20	30	100	High plasticity CH.
1	D	2.50	22								
2	B	1.00	29								
2	D	1.00	32								
2	D	2.60	29				61	22	39	98	High plasticity CH.
2	D	2.80	30				42	18	24	68	Intermediate plasticity CI.
2	U	3.00	34				41	17	24	100	Intermediate plasticity CI.
2	D	3.50	16								
3	D	2.00	18				48	20	28	99	Intermediate plasticity CI.
3	D	2.80	24				30	15	15	87	Low plasticity CL.
3	U	3.00	16								
3	D	3.50	11								
4	D	1.00	16								
4	4	2.00	21				46	17	29	100	Intermediate plasticity CI.
4	U	3.00	21								
4	D	4.00	10				36	18	18	48	Intermediate plasticity CI.
5	U	1.00	16								

Sheet 1 of 2.

SYMBOLS : NP : Non Plastic

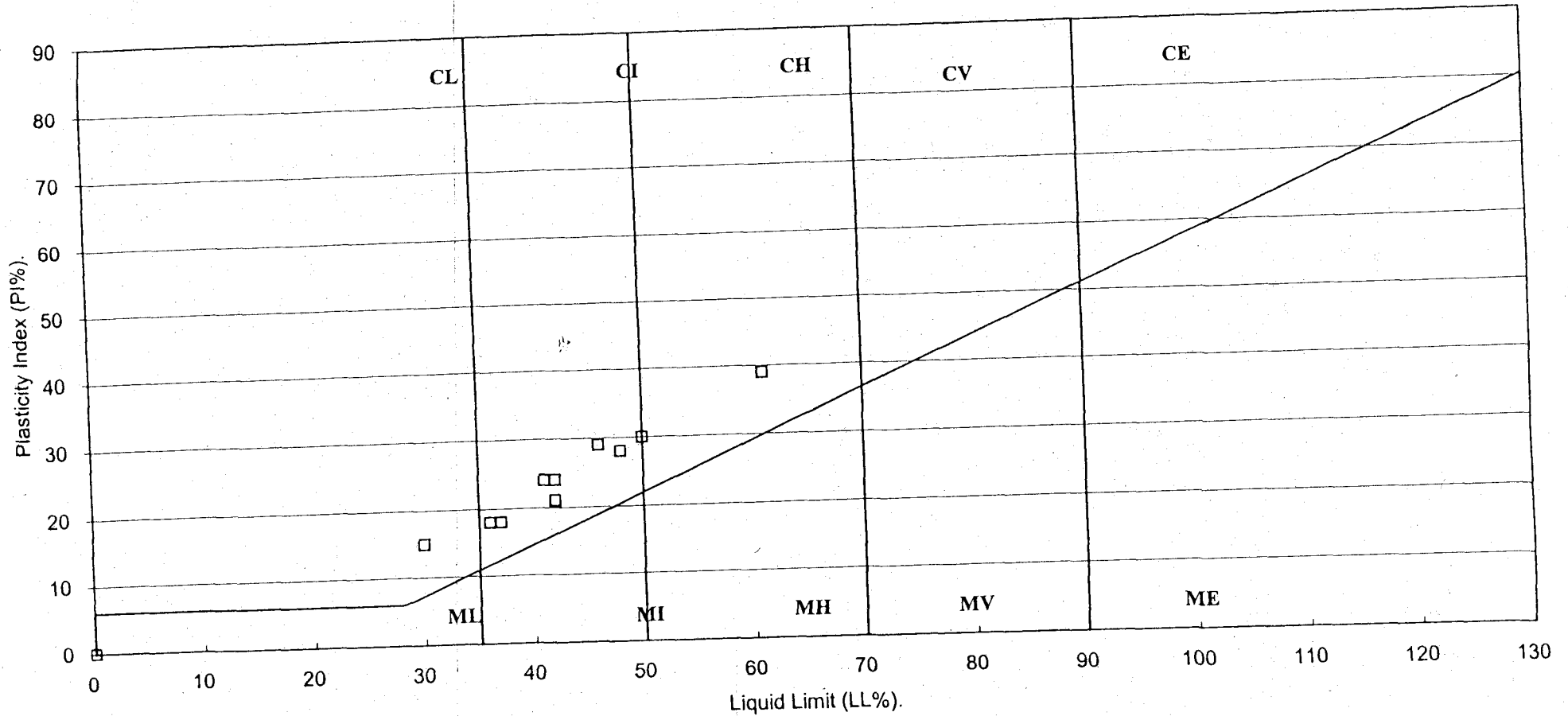
* : Liquid Limit and Plastic Limit Wet Sieved.


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	BICESTER.					
						Contract No NL211004
						Figure:

South Kirkby, Pontefract, WF9 3AP

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

(B.S.5930 : 1999)



 THYSSEN GEOTECHNICAL	Compiled by	Date	Checked by	Date	Approved by	Date
	<i>[Signature]</i>	26/9/01	<i>[Signature]</i>	26/9/01	<i>[Signature]</i>	26/9/01
	BICESTER.					
						Figure:

South Kirkby, Pontefract, WF9 3AP.

SUMMARY OF SOIL CLASSIFICATION TESTS

(B.S. 1377 : PART 2 : 1990)

Borehole Number	Sample Number	Depth m	Moisture Content % <small>Clause 3.2</small>	Bulk Density Mg/m ³ <small>Clause 7.2</small>	Dry Density Mg/m ³ <small>Clause 7.2</small>	Particle Density Mg/m ³ <small>Clause 8.</small>	Liquid Limit % <small>Clause 4.3/4.4</small>	Plastic Limit % <small>Clause 5.</small>	Plasticity Index % <small>Clause 6.</small>	% Passing .425mm	Remarks
5	D	1.50	16				32	16	16	100	Low plasticity CL.
5	D	2.00	21								
5	D	2.90	25				42	17	25	87	Intermediate plasticity CI.
6	D	1.00	21								
6	D	1.70	27				52	20	32	89	High plasticity CH.
6	U	2.00	20				63	22	41	99	High plasticity CH.
10	U	1.00	31				74	22	52	100	Very high plasticity CV.
10	D	1.50	30				74	23	51	99	Very high plasticity CV.
10	D	2.00	36				67	23	44	97	High plasticity CH.
11	D	1.00	20								

SYMBOLS : NP : Non Plastic

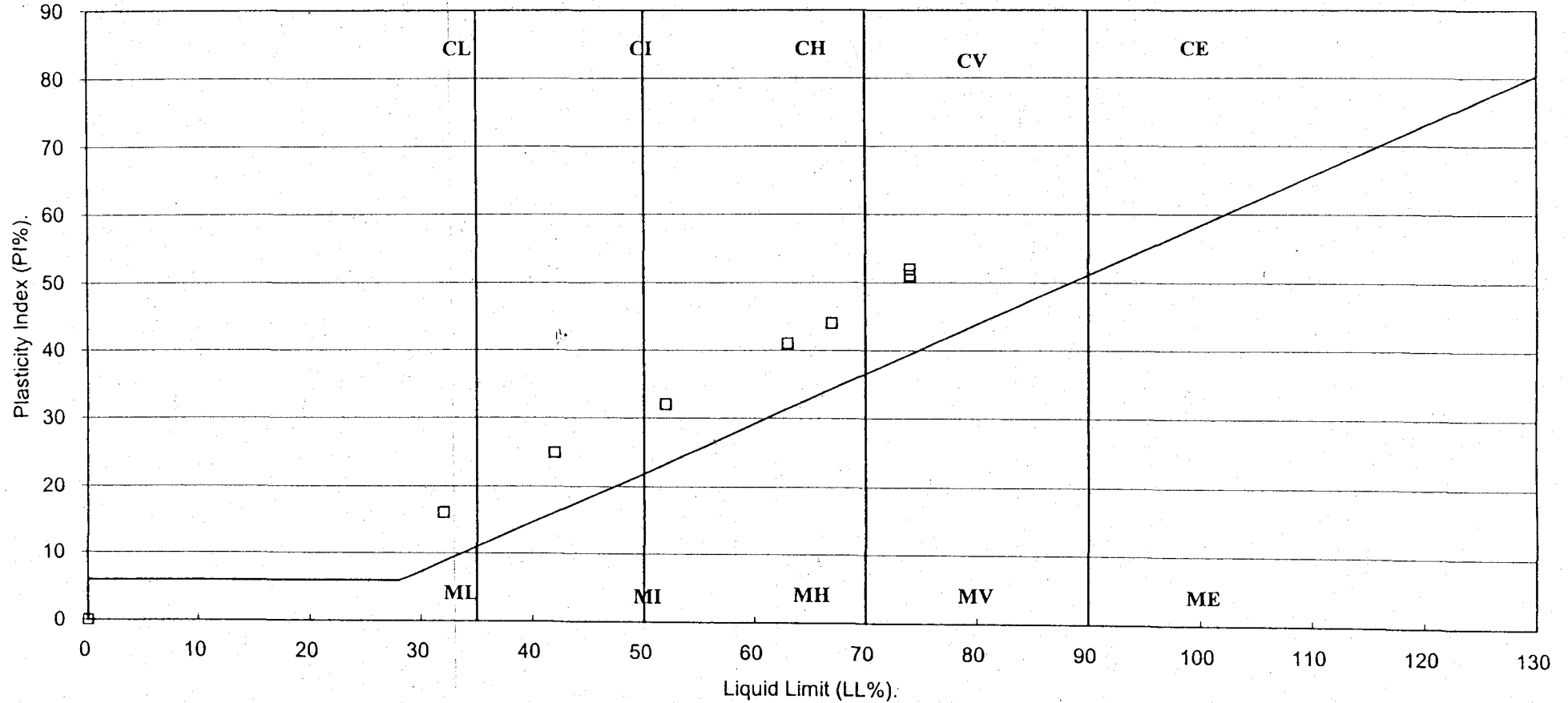
* : Liquid Limit and Plastic Limit Wet Sieved.

Sheet 1 of 2.

<b style="font-size: 24px; margin-left: 10px;">THYSSEN <b style="font-size: 24px; margin-left: 10px;">GEOTECHNICAL	Compiled by	Date	Checked by	Date	Approved by	Date
		26/9/01		26/9/01		26/9/01
BICESTER.						Contract No NL211004
						Figure:

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

(B.S.5930 : 1999)



**THYSSEN
GEOTECHNICAL**

Compiled by	Date	Checked by	Date	Approved by	Date
<i>[Signature]</i>	26/9/01	<i>[Signature]</i>	26/9/01	<i>[Signature]</i>	26/9/01
BICESTER.					Contract No NL211004
					Figure:

SUMMARY OF SOIL CLASSIFICATION TESTS


(B.S. 1377 : PART 2 : 1990)

Trial Pit Number	Sample Number	Depth m	Moisture Content %	Bulk Density Mg/m ³	Dry Density Mg/m ³	Particle Density Mg/m ³	Liquid Limit %	Plastic Limit %	Plasticity Index %	% Passing .425mm	Remarks
			Clause 3.2	Clause 7.2	Clause 7.2	Clause 8.	Clause 4.3/4.4	Clause 5.	Clause 6.		
3	D	2.40	32				37	18	19	96	Intermediate plasticity CI.
7	B	0.70	9								
14A	B	2.00	22				47	18	29	86	Intermediate plasticity CI.
14A	D	2.00	18				50	18	32	87	High plasticity CH.
16	B	2.60	18				50	19	31	100	High plasticity CH.
17	B	0.50	13								
21	B	0.25	30								
22A	D	2.00	28				63	23	40	99	High plasticity CH.
23	D	2.00	26				54	21	33	99	High plasticity CH.
23	D	2.50	24				43	21	22	86	Intermediate plasticity CI.
27	B	0.30	27				54	21	33	99	High plasticity CH.
29	B	1.20	8				43	21	22	86	Intermediate plasticity CI.
30	B	1.80	41								
39	B	1.50	8								
45	B	0.70	12								
48	B	1.00	22								
49	B	0.57	34								
52	B	1.40	17				65	23	42	100	High plasticity CH.
53	D	0.30	22				47	20	27	99	Intermediate plasticity CI.

SYMBOLS : NP : Non Plastic

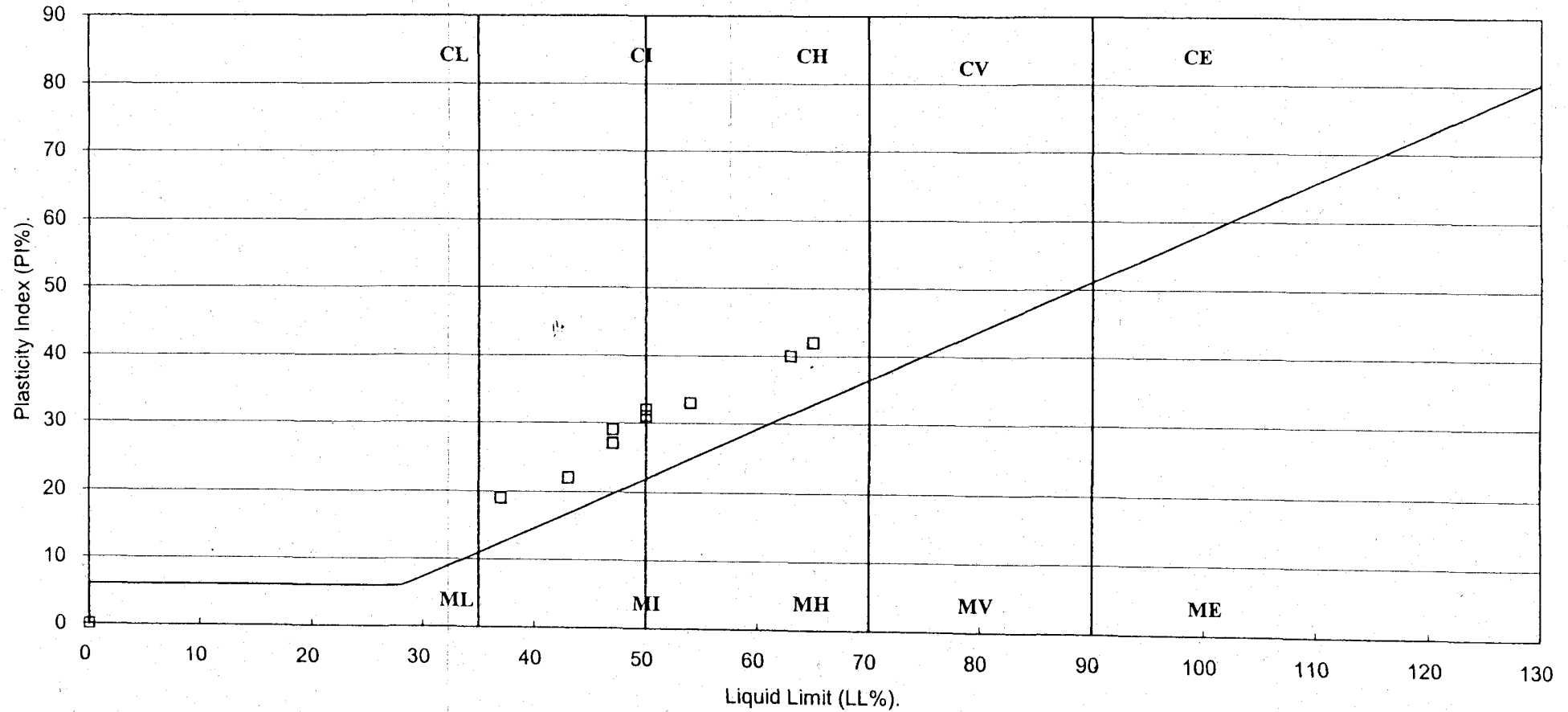
* : Liquid Limit and Plastic Limit Wet Sieved.

Sheet 1 of 2.

 THYSSEN GEOTECHNICAL	Compiled by	Date	Checked by	Date	Approved by	Date
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	BICESTER.					
						Contract No NL211004
						Figure:

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

(B.S.5930 : 1999)



**THYSSEN
GEOTECHNICAL**

Compiled by	Date	Checked by	Date	Approved by	Date
<i>[Signature]</i>	28/9/01	<i>[Signature]</i>	28/9/01	<i>[Signature]</i>	28/9/01
BICESTER.					Contract No NL211004
					Figure:

SUMMARY OF SOIL CLASSIFICATION TESTS


(B.S. 1377 : PART 2 : 1990)

Trial Pit Number	Sample Number	Depth m	Moisture Content % <small>Clause 3.2</small>	Bulk Density Mg/m ³ <small>Clause 7.2</small>	Dry Density Mg/m ³ <small>Clause 7.2</small>	Particle Density Mg/m ³ <small>Clause 8.</small>	Liquid Limit % <small>Clause 4.3/4.4</small>	Plastic Limit % <small>Clause 5.</small>	Plasticity Index % <small>Clause 6.</small>	% Passing .425mm	Remarks
							39	15	24	100	Intermediate plasticity CI.
54	D	0.80	23								
59A	B	1.00	15				35	16	19	26	Intermediate plasticity CI.
61	B	0.50	10				55	26	29	100	High plasticity CH.
62	B	0.83	32								
63A	B	1.00	11								
64	B	0.60	9								
66	B	0.30	16				61	20	41	100	High plasticity CH.
66	B	0.80	26								
72	B	0.30	8				58	21	37	100	High plasticity CH.
73	B	0.80	19				78	22	56	100	Very high plasticity CV.
74	B	0.70	24				29	12	17	92	Low plasticity CL.
76	B	2.50	15								
79A	B	0.40	10								
79B	B	0.50	10								
82	B	0.60	7				89	33	56	100	Very high plasticity CV.
83	B	0.40	56								
83	B	0.80	17				49	17	32	80	Intermediate plasticity CI.
84	B	1.00	29				70	23	47	100	Very high plasticity CV.
86	B	0.50	24								

Sheet 1 of 2.

SYMBOLS : NP : Non Plastic

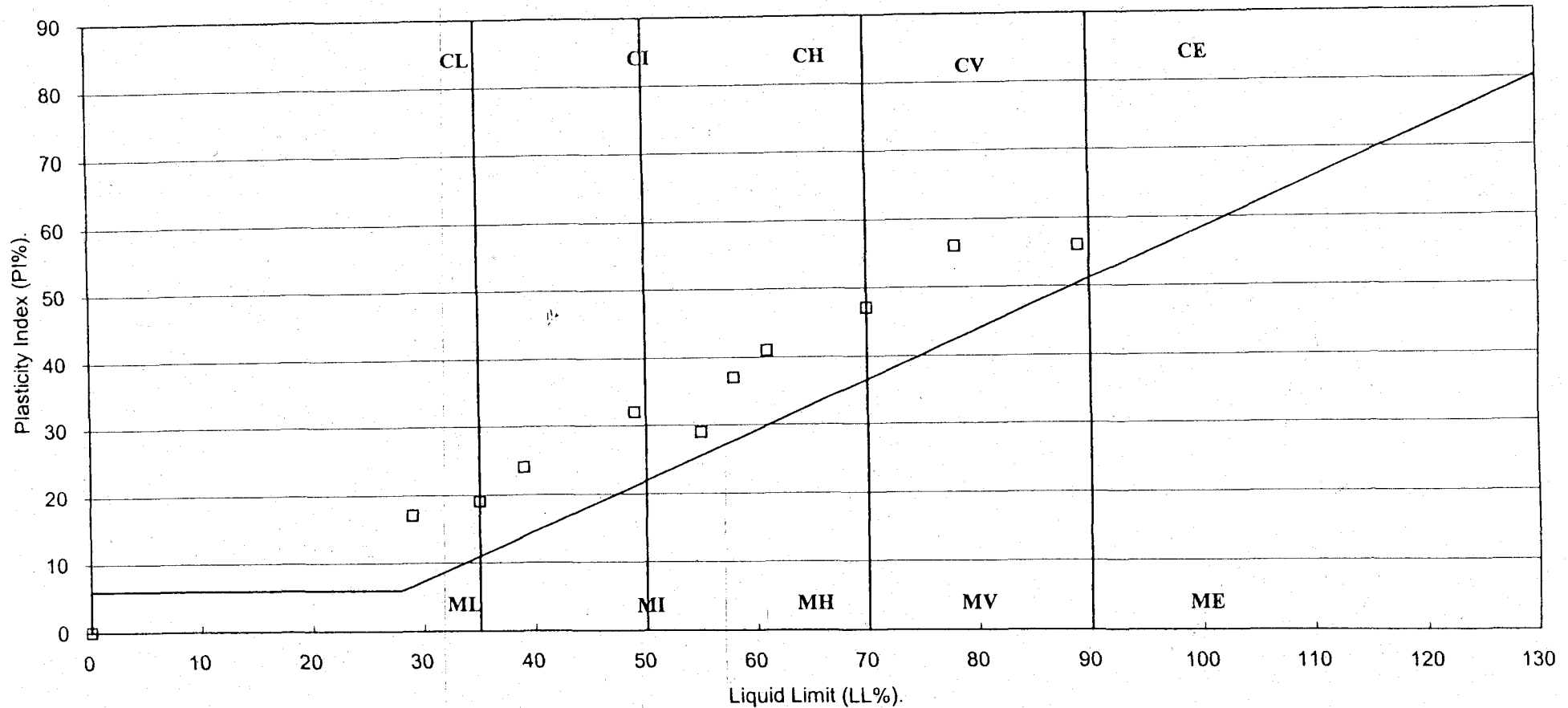
* : Liquid Limit and Plastic Limit Wet Sieved.

 THYSSEN GEOTECHNICAL	Compiled by	Date	Checked by	Date	Approved by	Date
	<i>[Signature]</i>	28/9/01	<i>[Signature]</i>	28/9/01	<i>[Signature]</i>	28/9/01
	BICESTER.					
						Contract No NL211004
						Figure:

South Kirkby, Pontefract, WF9 3AP.

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

(B.S.5930 : 1999)



**THYSSEN
GEOTECHNICAL**

Compiled by	Date	Checked by	Date	Approved by	Date
<i>[Signature]</i>	28/9/01	<i>[Signature]</i>	28/9/01	<i>[Signature]</i>	28/9/01
BICESTER.					Contract No NL211004
					Figure:

SUMMARY OF SOIL CLASSIFICATION TESTS


(B.S. 1377 : PART 2 : 1990)

Trial Pit Number	Sample Number	Depth m	Moisture Content %	Bulk Density Mg/m ³	Dry Density Mg/m ³	Particle Density Mg/m ³	Liquid Limit %	Plastic Limit %	Plasticity Index %	% Passing .425mm	Remarks
			Clause 3.2	Clause 7.2	Clause 7.2	Clause 8.	Clause 4.3/4.4	Clause 5.	Clause 6.		
86	B	1.00	37				56	22	34	60	High plasticity CH.
89	B	0.50	77				108	38	70	95	Extremely high plasticity CE.
89A	B	0.50	106				156	54	102	99	Extremely high plasticity CE.
89B	B	0.70	36				56	19	37	100	High plasticity CH.
89A	B	0.80	9								
89B	B	0.70	36				56	19	37	100	High plasticity CH.

SYMBOLS : NP : Non Plastic

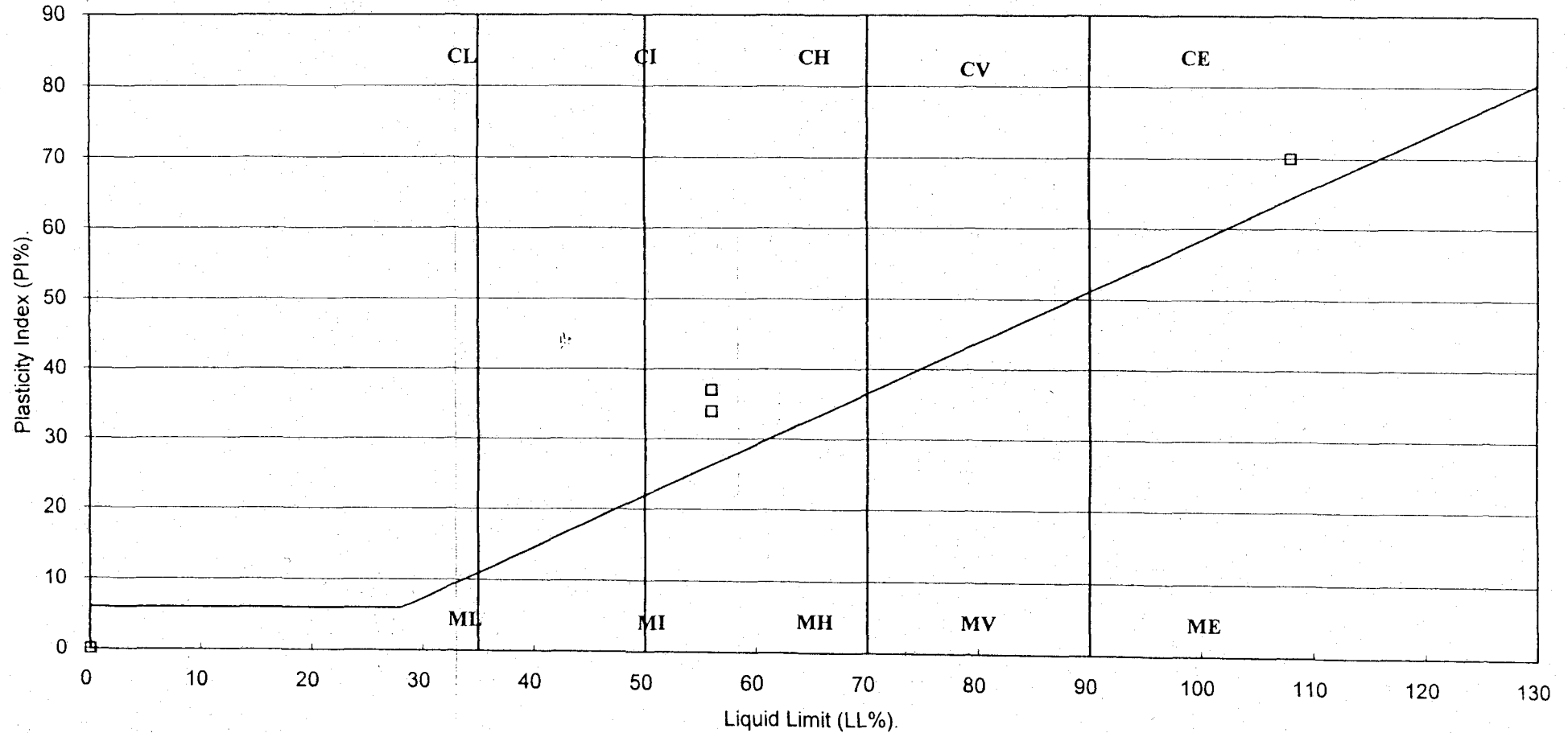
* : Liquid Limit and Plastic Limit Wet Sieved.

Sheet 1 of 2.

 THYSSEN GEOTECHNICAL	Compiled by	Date	Checked by	Date	Approved by	Date
	<i>[Signature]</i>	28/9/01	<i>[Signature]</i>	28/9/01	<i>[Signature]</i>	28/9/01
	BICESTER.					
						Figure:

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

(B.S.5930 : 1999)



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GEOTECHNICAL**

Compiled by	Date	Checked by	Date	Approved by	Date
<i>[Signature]</i>	28/9/01	<i>[Signature]</i>	28/9/01	<i>[Signature]</i>	28/9/01
BICESTER.					Contract No NL211004
					Figure:

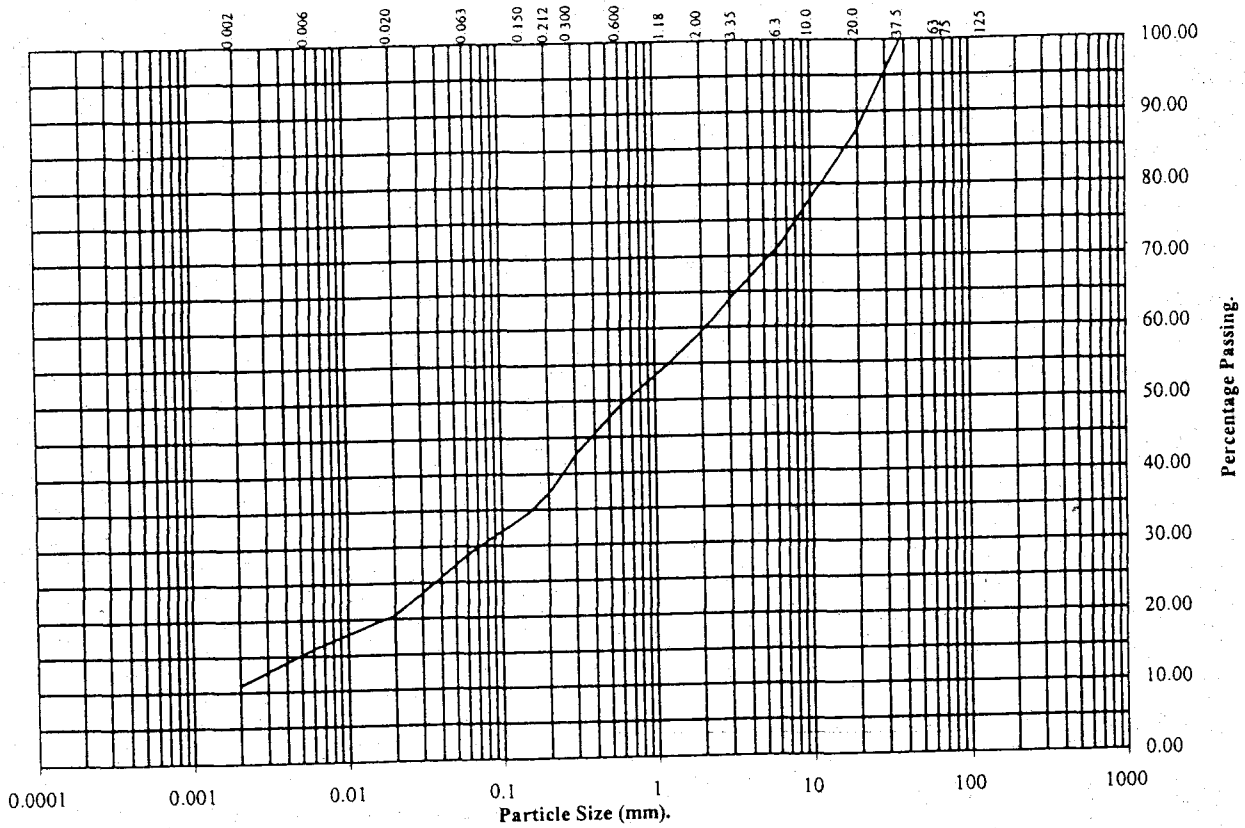
PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990.

Wet sieve and Pipette Analysis: Clause 9.2 9.4

Borehole/Sample Number: 2

Depth (m): 1.00



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	88
10	78
6.3	72
3.35	65
2	59
1.18	55
0.6	49
0.3	43
0.212	38
0.15	35
0.063	29

Particle Diameter	Percentage Passing
0.02	21
0.006	16
0.002	11

Soil Fraction	Total Percentage
Cobbles	0
Gravel	41
Sand	30
Silt	18
Clay	11

Remarks:

See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>K. L.</i>	25/9/01	<i>K. L.</i>	25/9/01



**THYSSEN
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Contract No.:
NL211004

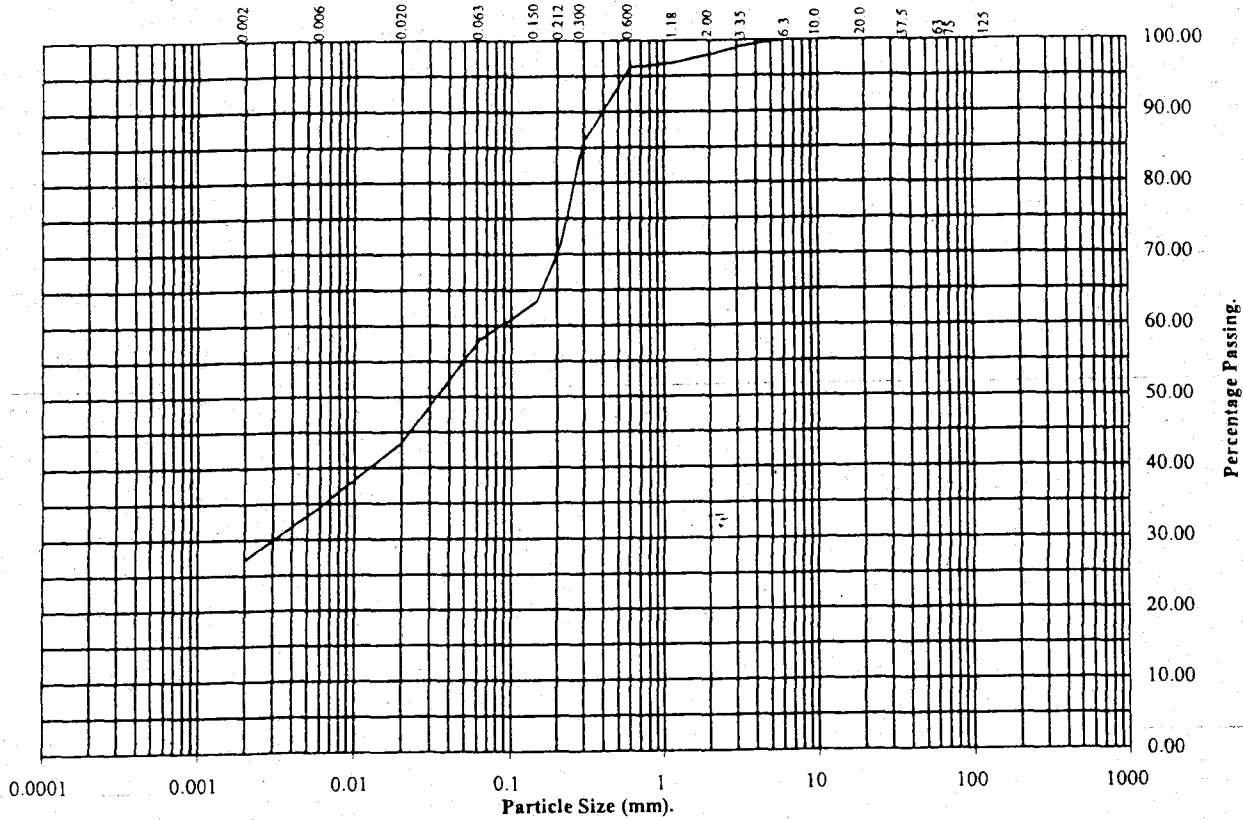
PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990.

Wet sieve and Pipette Analysis: Clause 9.2 9.4

Trial Pit /Sample Number: 1A

Depth (m): 0.50



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	100
3.35	99
2	98
1.18	97
0.6	96
0.3	86
0.212	71
0.15	63
0.063	58

Particle Diameter	Percentage Passing
0.02	43
0.006	35
0.002	27

Soil Fraction	Total Percentage
Cobbles	0
Gravel	2
Sand	40
Silt	31
Clay	27

Remarks:
See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>R. Lee</i>	24/9/01	<i>R. Lee</i>	24/9/01



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NL211004

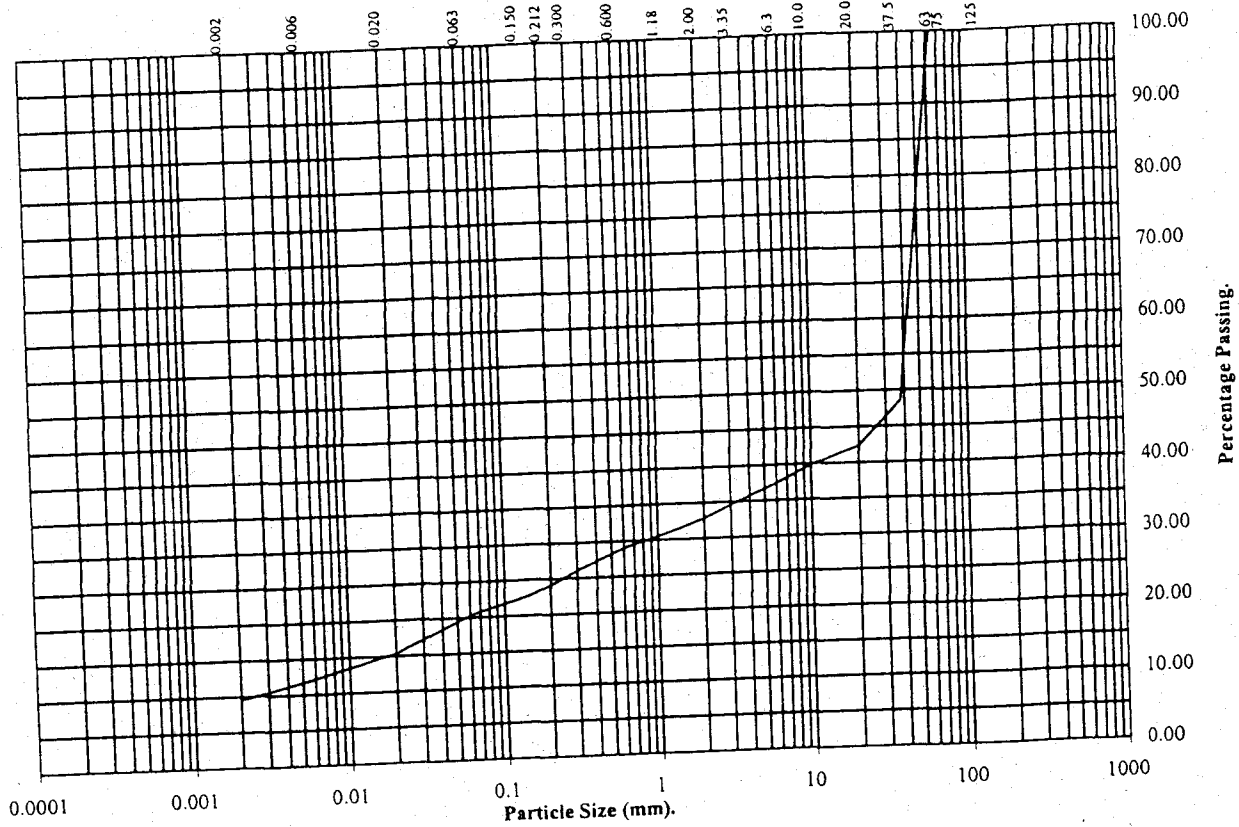
PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990.

Wet sieve and Pipette Analysis: Clause 9.2.9.4

Trial Pit / Sample Number: 7

Depth (m): 0.70



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	49
20	42
10	40
6.3	38
3.35	35
2	33
1.18	31
0.6	29
0.3	26
0.212	24
0.15	23
0.063	20

Particle Diameter	Percentage Passing
0.02	15
0.006	12
0.002	10

Soil Fraction	Total Percentage
Cobbles	0
Gravel	67
Sand	13
Silt	10
Clay	10

Remarks:
See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>KL</i>	24/9/01	<i>KL</i>	24/9/01



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Contract No.:
NL211004

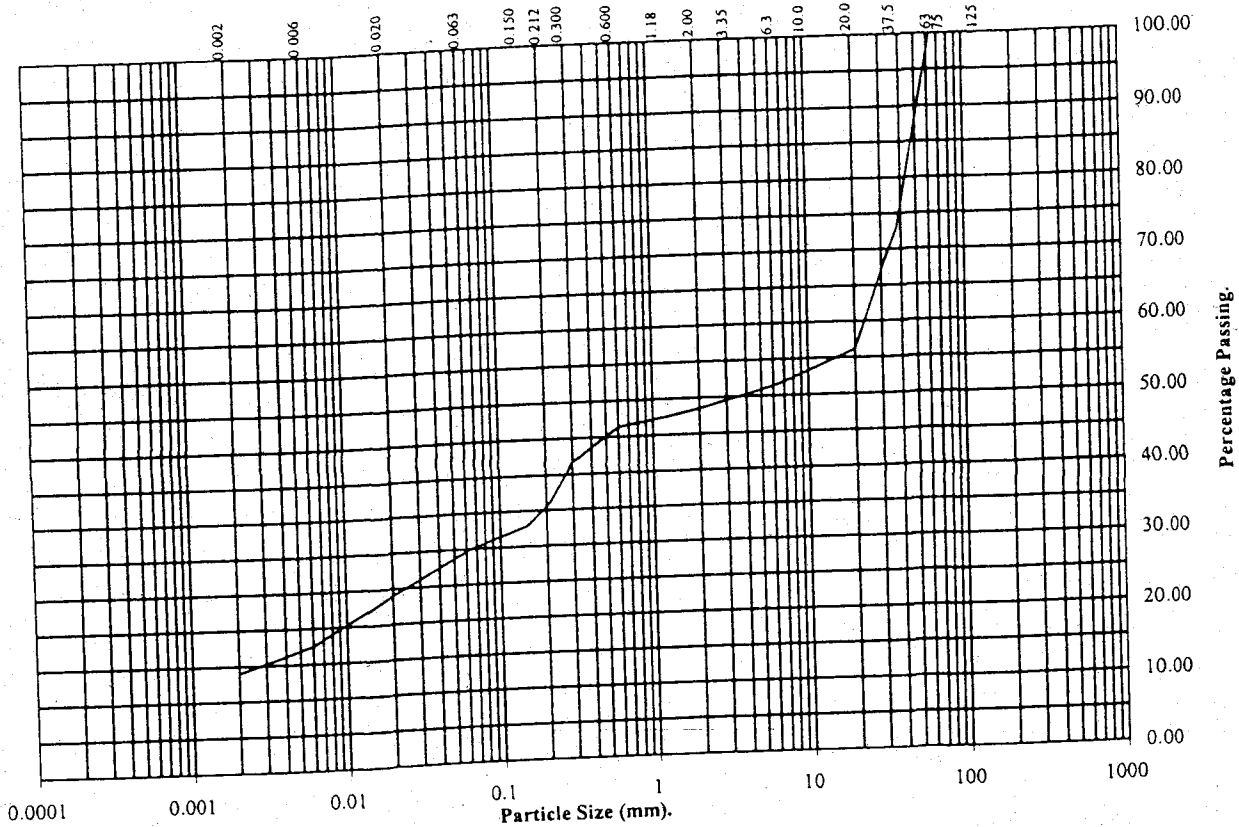
PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990.

Wet sieve and Pipette Analysis: Clause 9.2 9.4

Trial Pit /Sample Number: 17

Depth (m): 0.50



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	73
20	56
10	53
6.3	52
3.35	50
2	49
1.18	47
0.6	46
0.3	42
0.212	36
0.15	33
0.063	30

Particle Diameter	Percentage Passing
0.02	24
0.006	18
0.002	14

Soil Fraction	Total Percentage
Cobbles	0
Gravel	51
Sand	19
Silt	16
Clay	14

Remarks:

See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>K. L.</i>	24/9/01	<i>K. L.</i>	24/9/01



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Contract No.:
NL211004

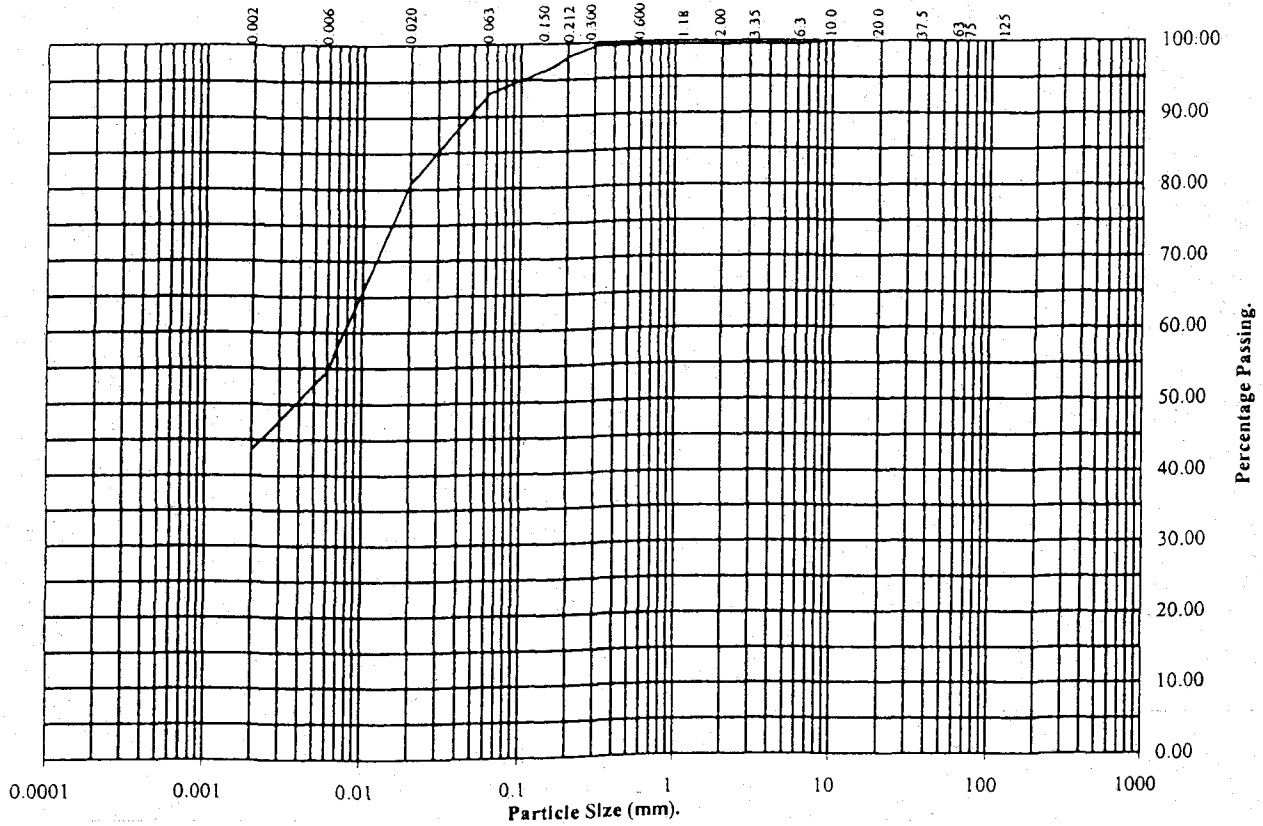
PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990.

Wet sieve and Pipette Analysis: Clause 9.2 9.4

Trial Pit /Sample Number: 21

Depth (m): 0.25



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	99
3.35	99
2	99
1.18	99
0.6	99
0.3	99
0.212	98
0.15	96
0.063	93

Particle Diameter	Percentage Passing
0.02	81
0.006	55
0.002	44

Soil Fraction	Total Percentage
Cobbles	0
Gravel	1
Sand	6
Silt	49
Clay	44

Remarks:
See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>R. Cur</i>	24/9/01	<i>R. Cur</i>	24/9/01



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Contract No.:
NL211004

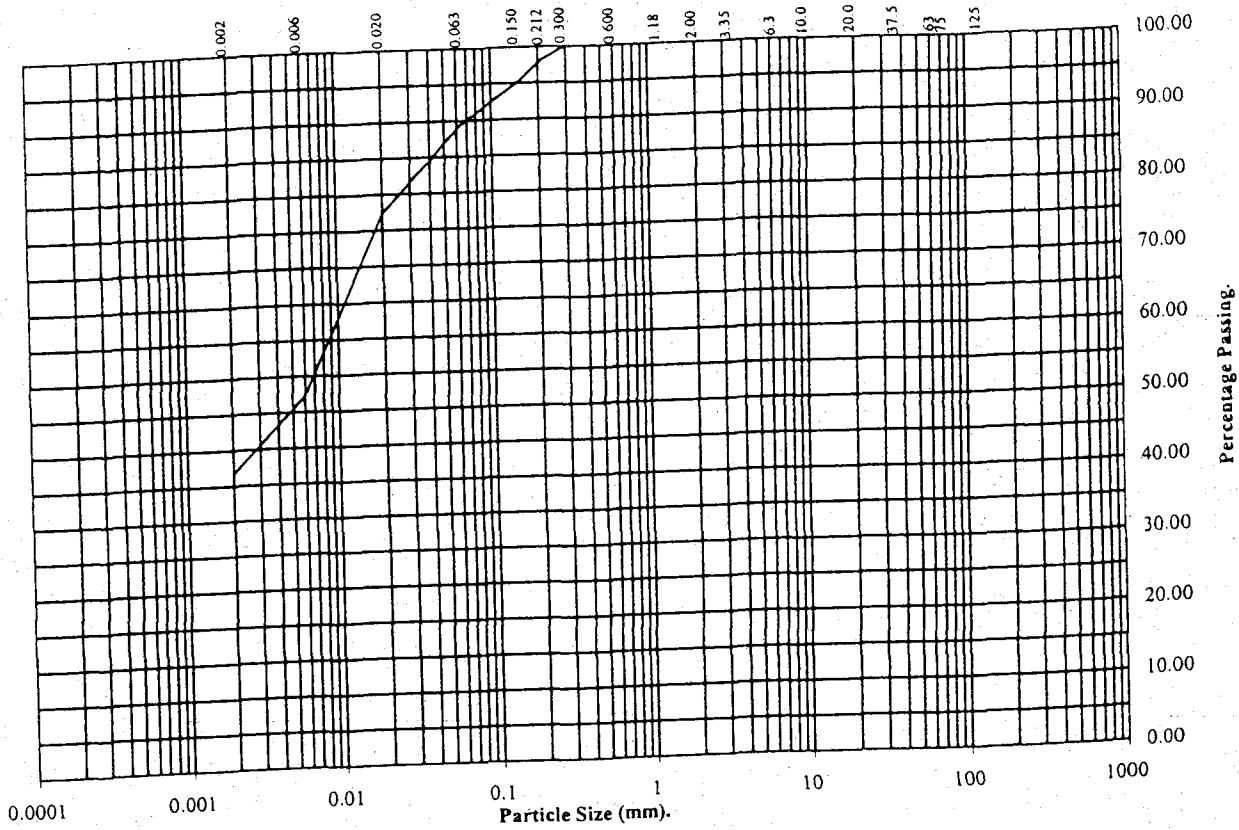
PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990.

Wet sieve and Pipette Analysis: Clause 9.2 9.4

Trial Pit /Sample Number: 27

Depth (m): 0.30



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	100
3.35	100
2	100
1.18	100
0.6	100
0.3	100
0.212	98
0.15	95
0.063	89

Particle Diameter	Percentage Passing
0.02	77
0.006	52
0.002	42

Soil Fraction	Total Percentage
Cobbles	0
Gravel	0
Sand	11
Silt	47
Clay	42

Remarks:

See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>R.C.</i>	24/9/01	<i>R.C.</i>	24/9/01



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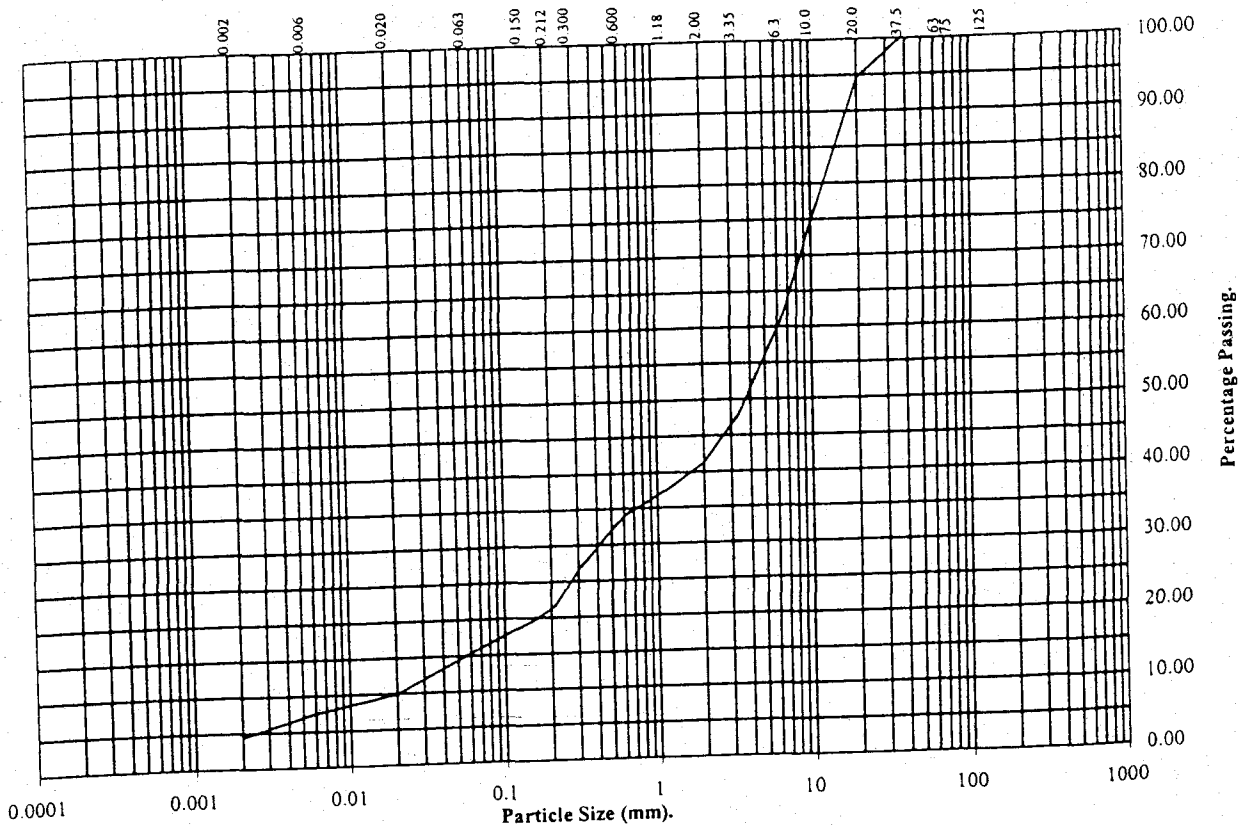
PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990.

Wet sieve and Pipette Analysis: Clause 9.2 9.4

Trial Pit /Sample Number: 28

Depth (m): 0.33



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	95
10	75
6.3	61
3.35	48
2	41
1.18	38
0.6	34
0.3	27
0.212	22
0.15	19
0.063	16

Particle Diameter	Percentage Passing
0.02	10
0.006	8
0.002	4

Soil Fraction	Total Percentage
Cobbles	0
Gravel	59
Sand	25
Silt	12
Clay	4

Remarks:
See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>K Lu</i>	24/9/01	<i>K Lu</i>	24/9/01



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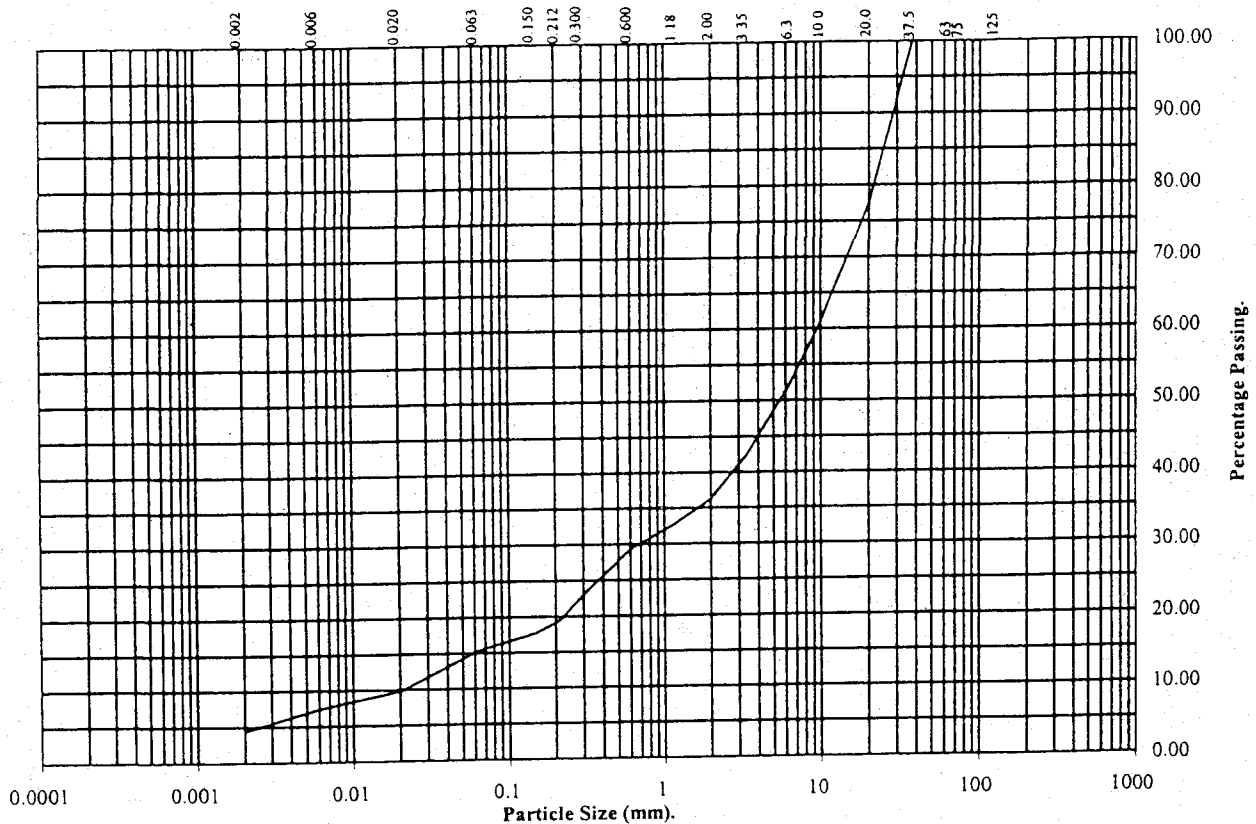
PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990.

Wet sieve and Pipette Analysis: Clause 9.2.9.4

Trial Pit /Sample Number: 29

Depth (m): 1.20



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	78
10	61
6.3	52
3.35	42
2	36
1.18	33
0.6	29
0.3	23
0.212	19
0.15	18
0.063	15

Particle Diameter	Percentage Passing
0.02	10
0.006	7
0.002	4

Soil Fraction	Total Percentage
Cobbles	0
Gravel	64
Sand	21
Silt	11
Clay	4

Remarks:

See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>K. C.</i>	24/9/01	<i>K. C.</i>	24/9/01



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Contract No.:
NL211004

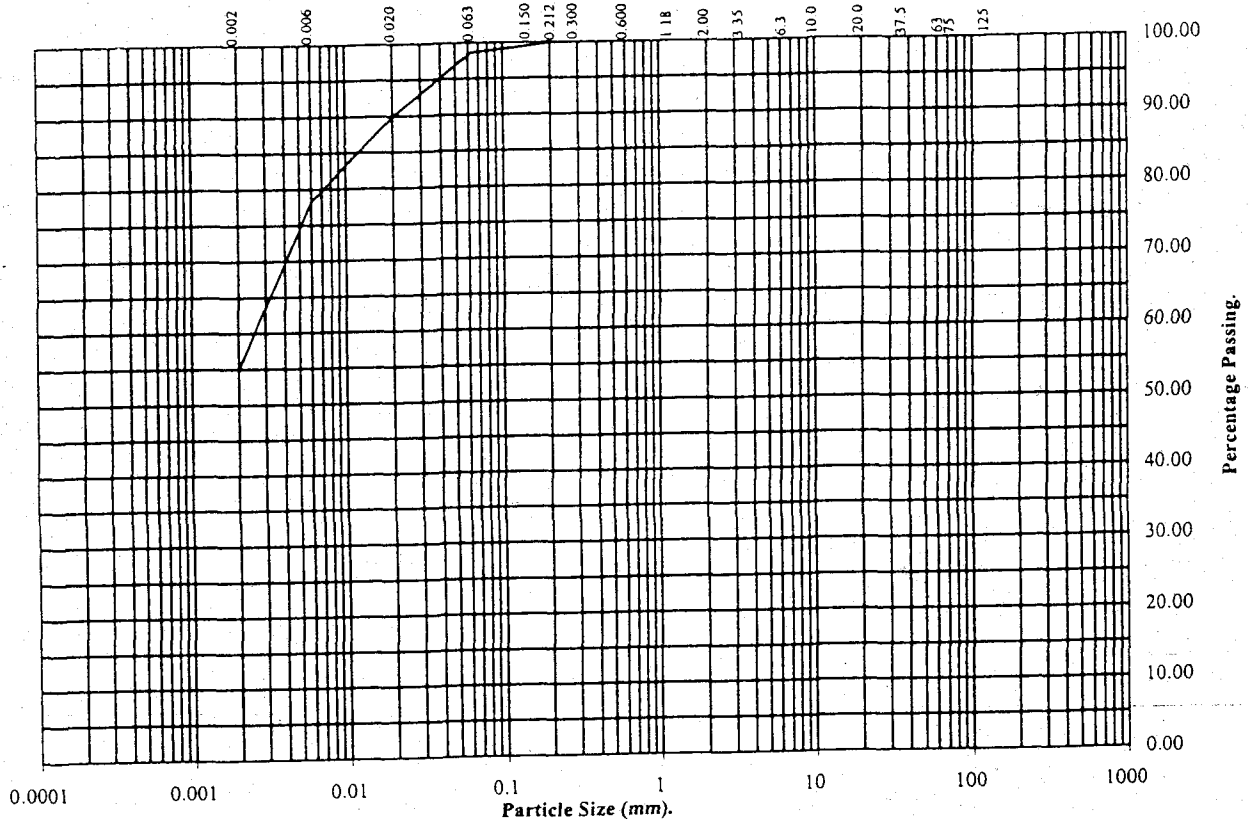
PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990.

Wet sieve and Pipette Analysis: Clause 9.2 9.4

Trial Pit /Sample Number: 30

Depth (m): 1.80



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	100
3.35	100
2	100
1.18	100
0.6	100
0.3	100
0.212	100
0.15	99
0.063	99

Particle Diameter	Percentage Passing
0.02	90
0.006	78
0.002	55

Soil Fraction	Total Percentage
Cobbles	0
Gravel	0
Sand	1
Silt	44
Clay	55

Remarks:

See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>[Signature]</i>	24/9/01	<i>[Signature]</i>	24/9/01



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Contract No.:
NL211004

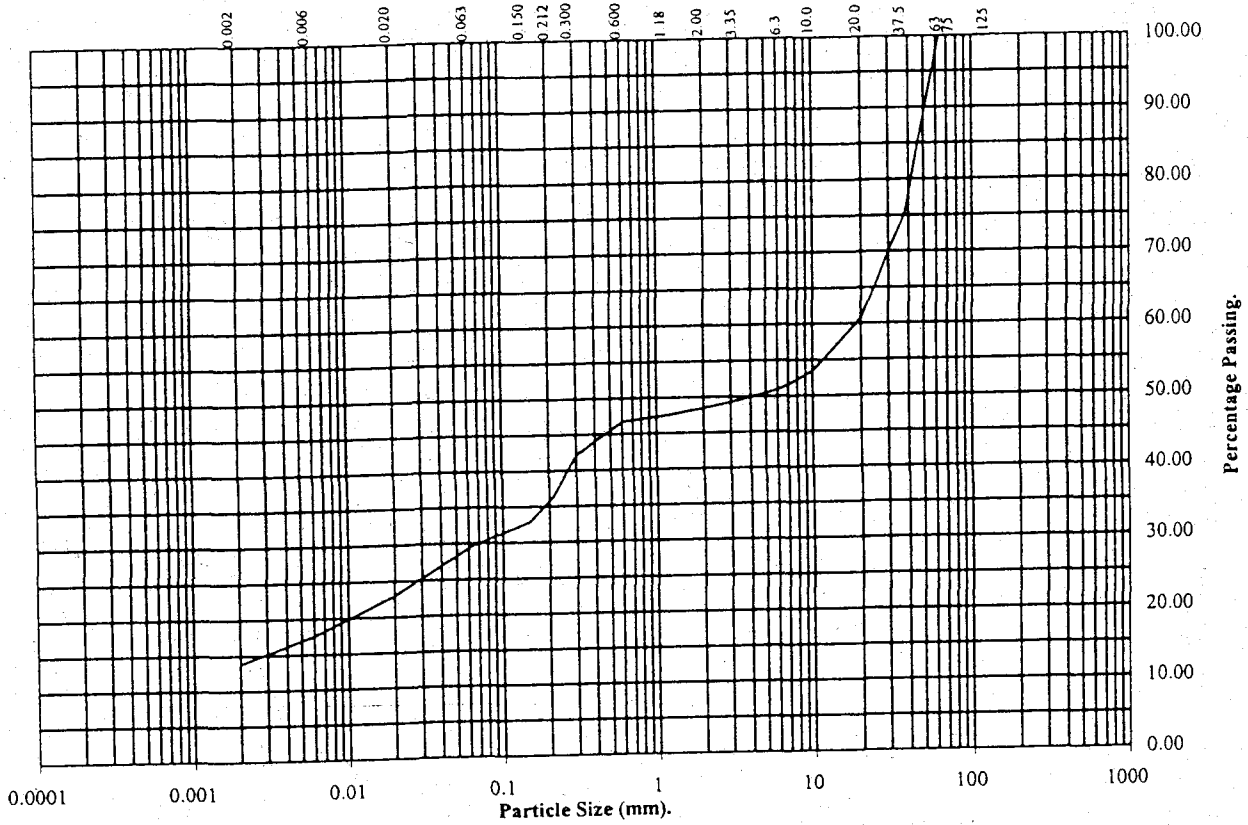
PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990.

Wet sieve and Pipette Analysis: Clause 9.2.9.4

Trial Pit / Sample Number: 35

Depth (m): 0.50



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	75
20	61
10	53
6.3	51
3.35	49
2	48
1.18	48
0.6	47
0.3	42
0.212	36
0.15	33
0.063	30

Particle Diameter	Percentage Passing
0.02	23
0.006	18
0.002	14

Soil Fraction	Total Percentage
Cobbles	0
Gravel	52
Sand	18
Silt	16
Clay	14

Remarks:

See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>R. Cur</i>	24/9/01	<i>R. Cur</i>	24/9/01



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Contract No.:
NL211004

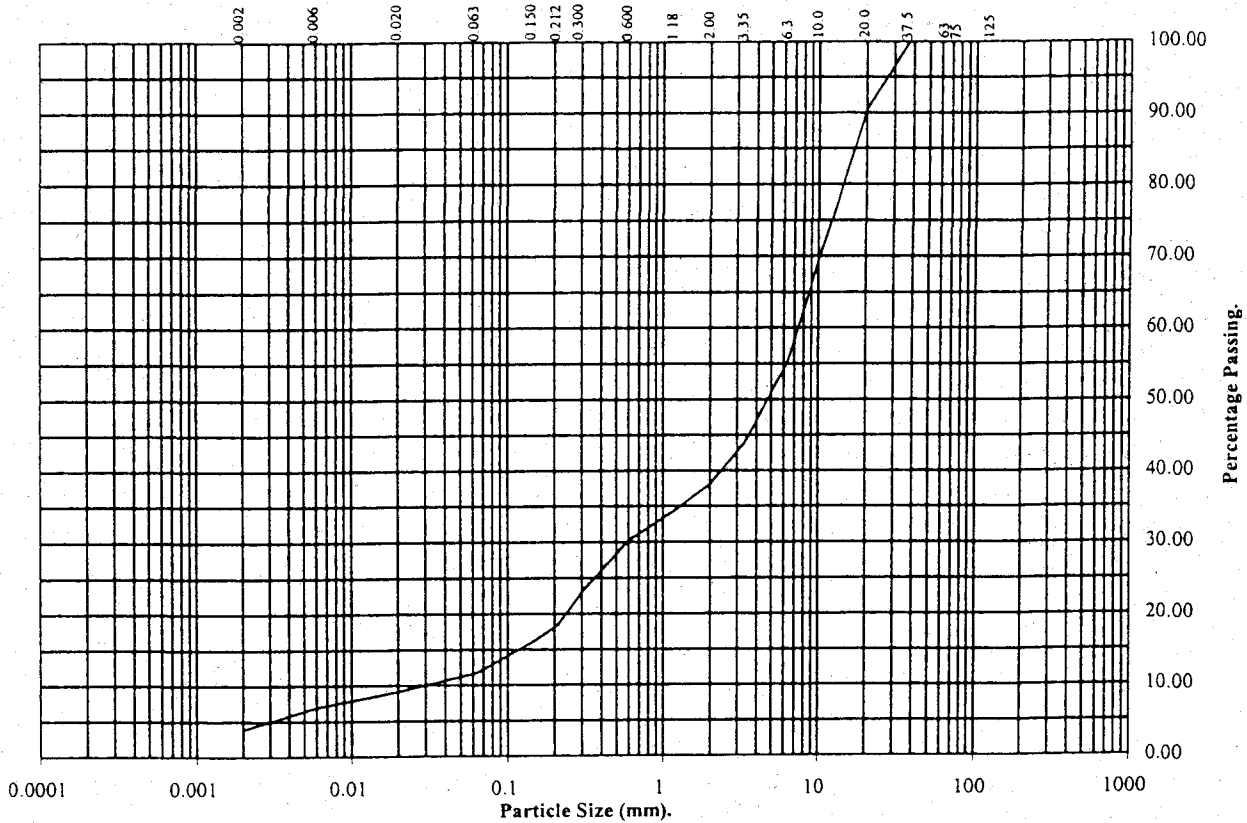
PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990.

Wet sieve and Pipette Analysis: Clause 9.2 9.4

Trial Pit /Sample Number: 39

Depth (m): 1.50



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	90
10	69
6.3	55
3.35	44
2	38
1.18	34
0.6	30
0.3	23
0.212	18
0.15	16
0.063	12

Particle Diameter	Percentage Passing
0.02	9
0.006	7
0.002	4

Soil Fraction	Total Percentage
Cobbles	0
Gravel	62
Sand	26
Silt	8
Clay	4

Remarks:

See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>R L</i>	24/9/01	<i>R L</i>	24/9/01



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Contract No.:
NL211004

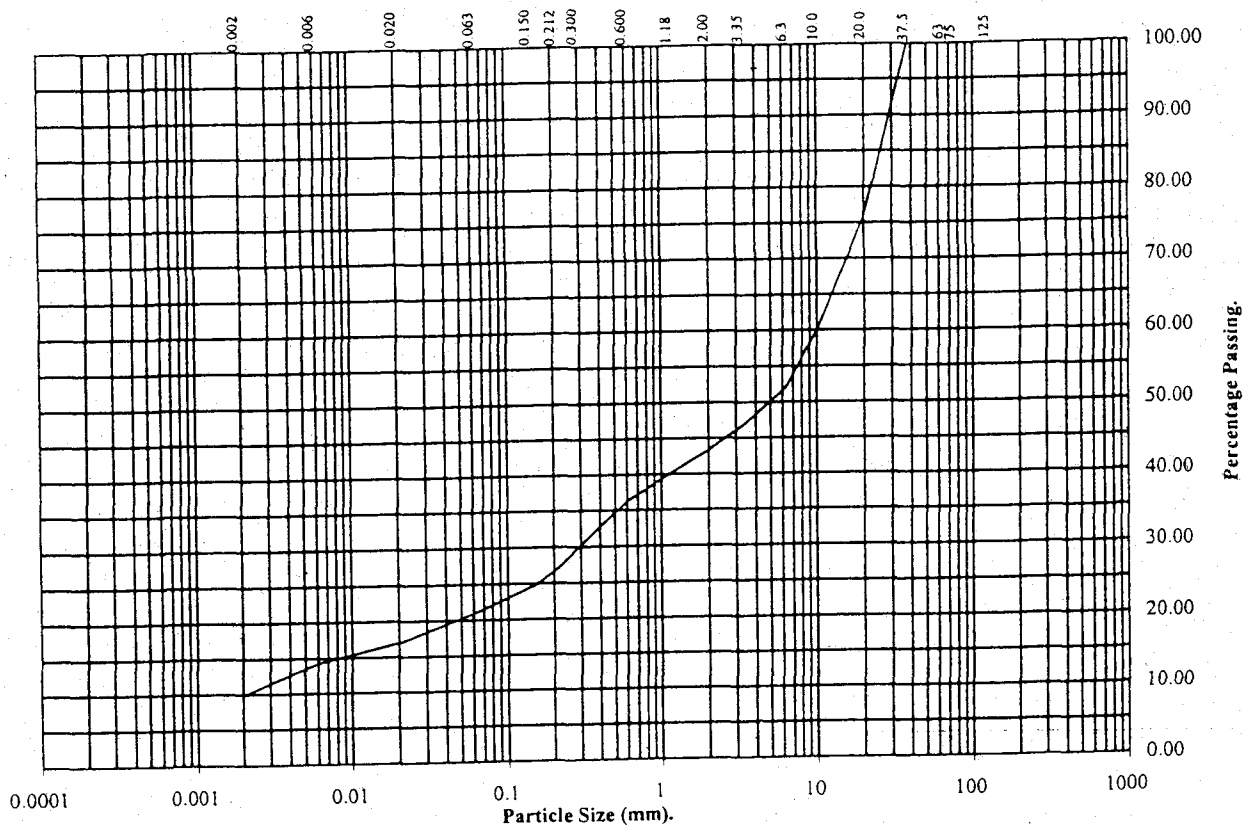
PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990.

Wet sieve and Pipette Analysis: Clause 9.2 9.4

Trial Pit /Sample Number: 45

Depth (m): 0.70



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	76
10	60
6.3	52
3.35	47
2	43
1.18	40
0.6	36
0.3	30
0.212	27
0.15	25
0.063	21

Particle Diameter	Percentage Passing
0.02	17
0.006	14
0.002	10

Soil Fraction	Total Percentage
Cobbles	0
Gravel	57
Sand	22
Silt	11
Clay	10

Remarks:

See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>Klu</i>	25/9/01	<i>Klu</i>	25/9/01



**THYSSEN
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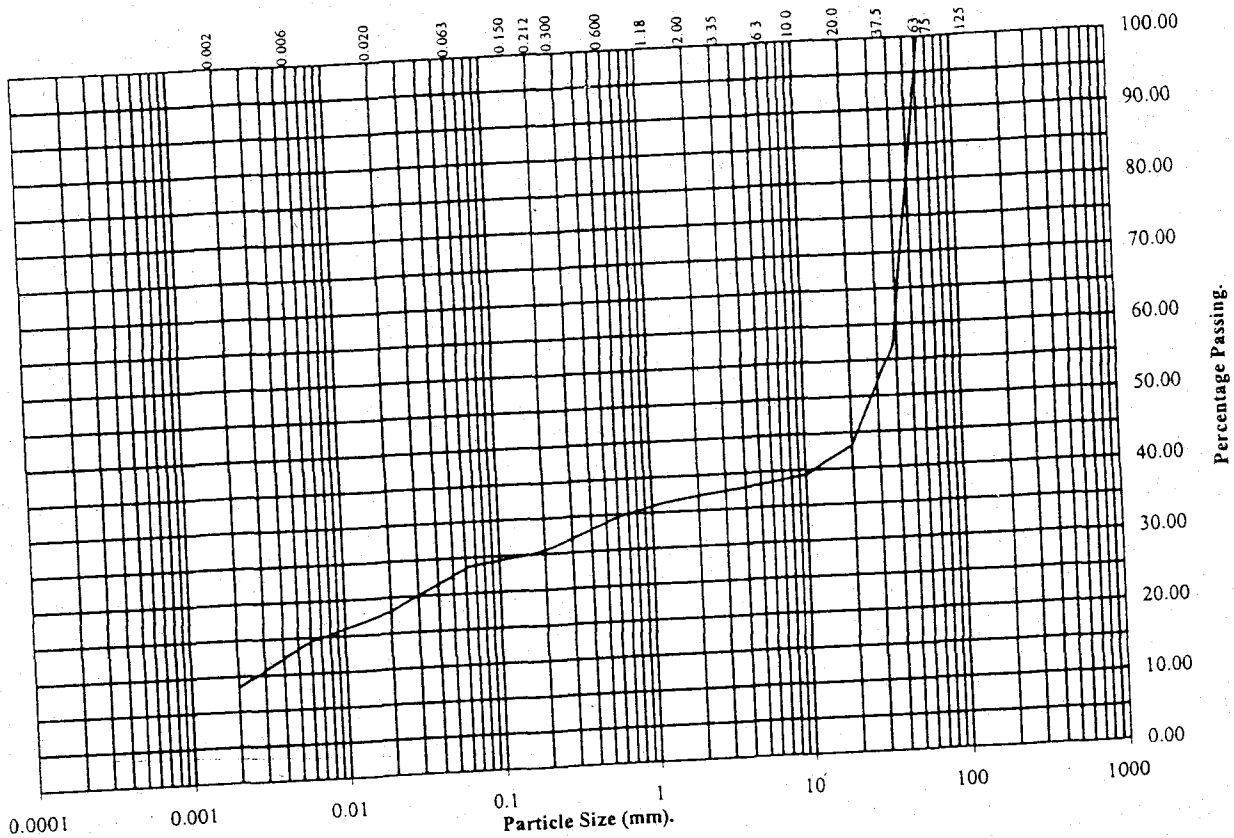
Contract No.:
NL211004

PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990.
Wet sieve and Pipette Analysis: Clause 9.2 9.4

Trial Pit /Sample Number: 48

Depth (m): 1.00



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	57
20	43
10	39
6.3	39
3.35	38
2	37
1.18	36
0.6	35
0.3	32
0.212	31
0.15	30
0.063	29

Particle Diameter	Percentage Passing
0.02	23
0.006	19
0.002	13

Soil Fraction	Total Percentage
Cobbles	0
Gravel	63
Sand	8
Silt	16
Clay	13

Remarks:
See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>K An</i>	25/9/01	<i>K An</i>	25/9/01



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Contract No.:
NL211004

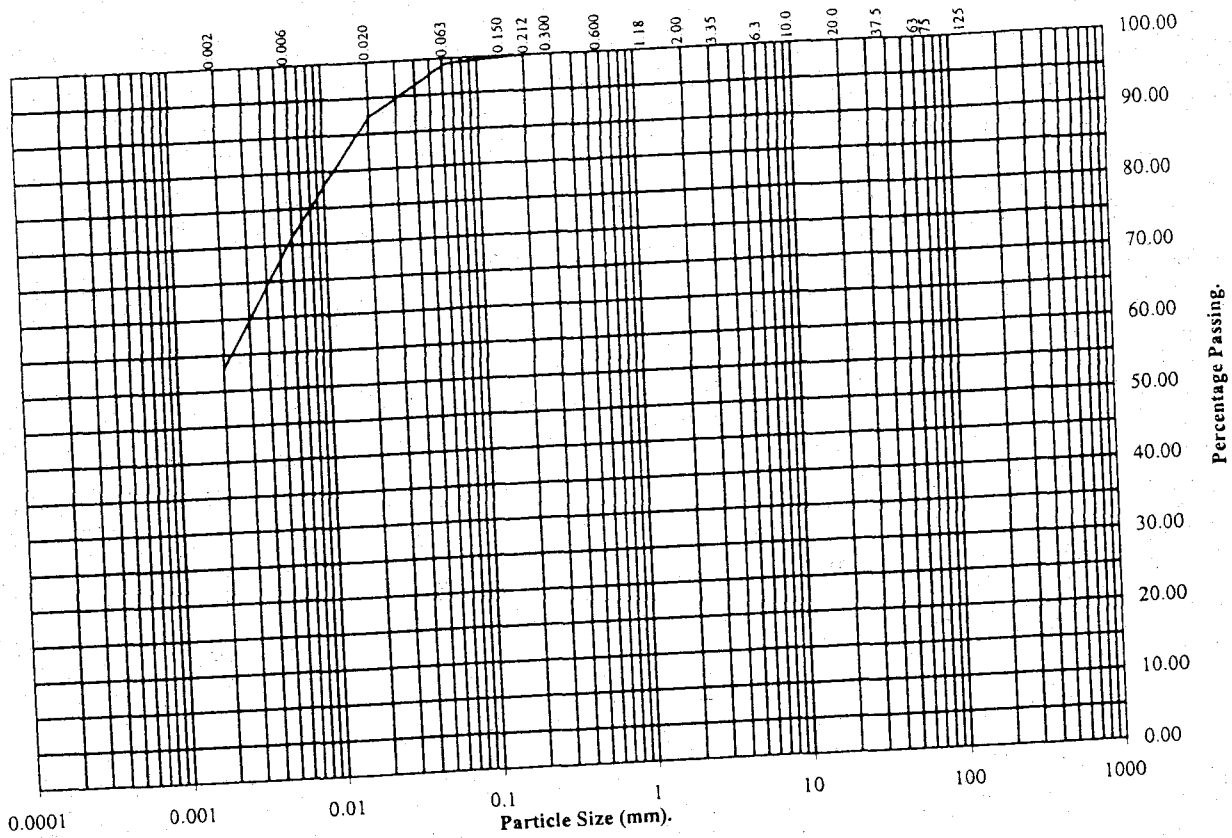
PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990.

Wet sieve and Pipette Analysis: Clause 9.2 9.4

Trial Pit /Sample Number: 49

Depth (m): 0.57



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	100
3.35	100
2	100
1.18	100
0.6	100
0.3	100
0.212	100
0.15	100
0.063	99

Particle Diameter	Percentage Passing
0.02	92
0.006	76
0.002	58

Soil Fraction	Total Percentage
Cobbles	0
Gravel	0
Sand	1
Silt	41
Clay	58

Remarks:

See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>[Signature]</i>	25/9/01	<i>[Signature]</i>	25/9/01



**THYSSEN
GEOTECHNICAL**

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Contract No.:
NL211004

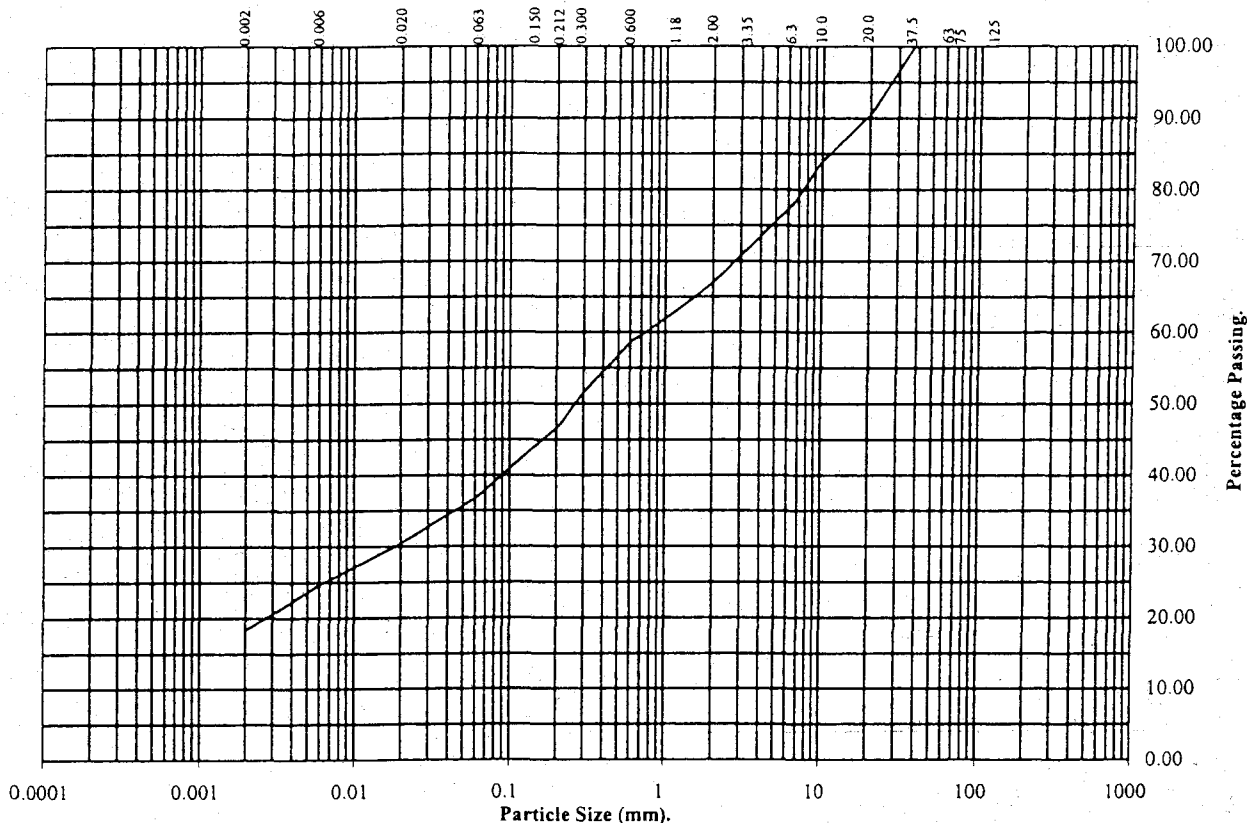
PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990.

Wet sieve and Pipette Analysis: Clause 9.2 9.4

Trial Pit /Sample Number: 52

Depth (m): 1.40




BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	90
10	84
6.3	78
3.35	72
2	67
1.18	63
0.6	59
0.3	52
0.212	47
0.15	44
0.063	37

Particle Diameter	Percentage Passing
0.02	30
0.006	25
0.002	18

Soil Fraction	Total Percentage
Cobbles	0
Gravel	33
Sand	30
Silt	19
Clay	18

Remarks:
See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>RCA</i>	25/9/01	<i>RCA</i>	25/9/01

 THYSSEN GEOTECHNICAL	BICESTER	Contract No.: NL211004
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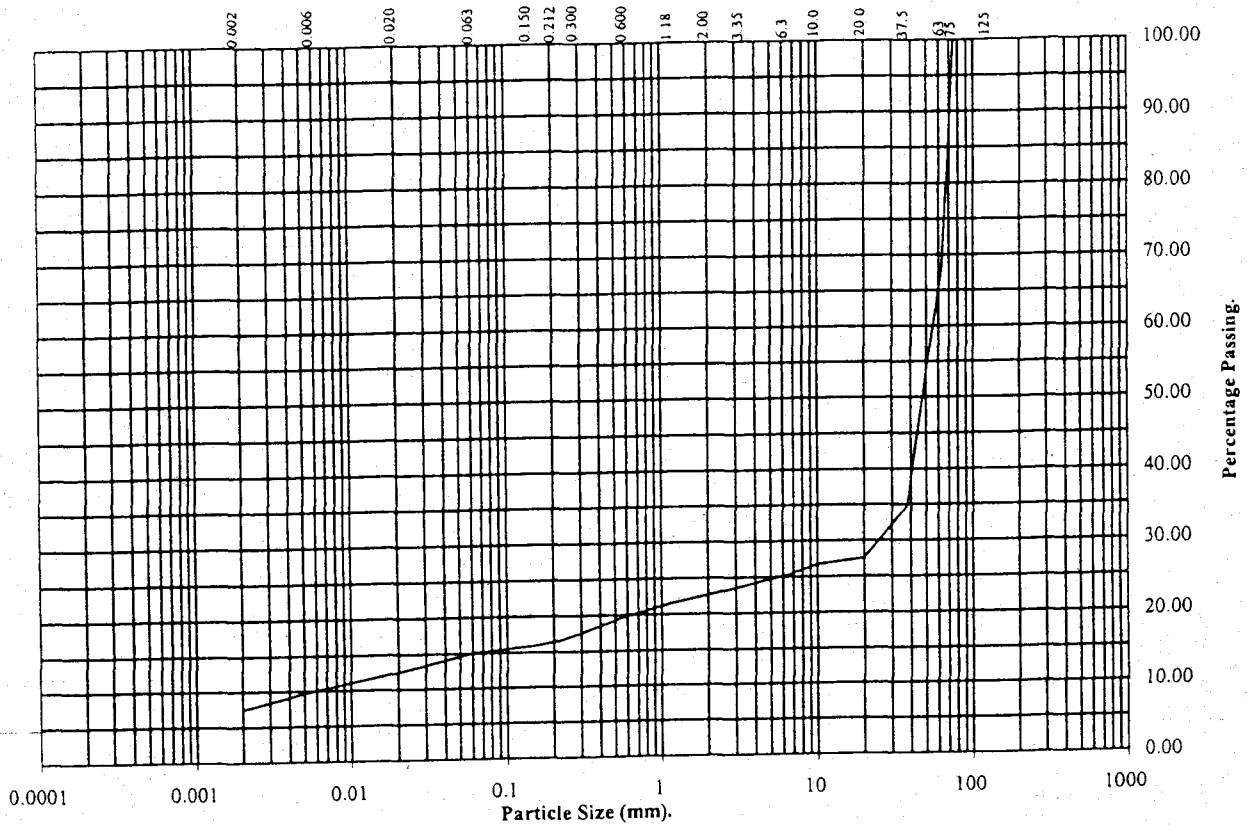
PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990.

Wet sieve and Pipette Analysis: Clause 9.2 9.4

Trial Pit /Sample Number: 59A

Depth (m): 1.00



BS Test Sieve	Percentage Passing
125	100
75	100
63	68
37.5	35
20	28
10	27
6.3	25
3.35	24
2	23
1.18	22
0.6	20
0.3	18
0.212	17
0.15	16
0.063	15

Particle Diameter	Percentage Passing
0.02	12
0.006	10
0.002	7

Soil Fraction	Total Percentage
Cobbles	32
Gravel	45
Sand	8
Silt	8
Clay	7

Remarks:

See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>K. Cur</i>	25/9/01	<i>K. Cur</i>	25/9/01



BICESTER

Contract No.:
NL211004

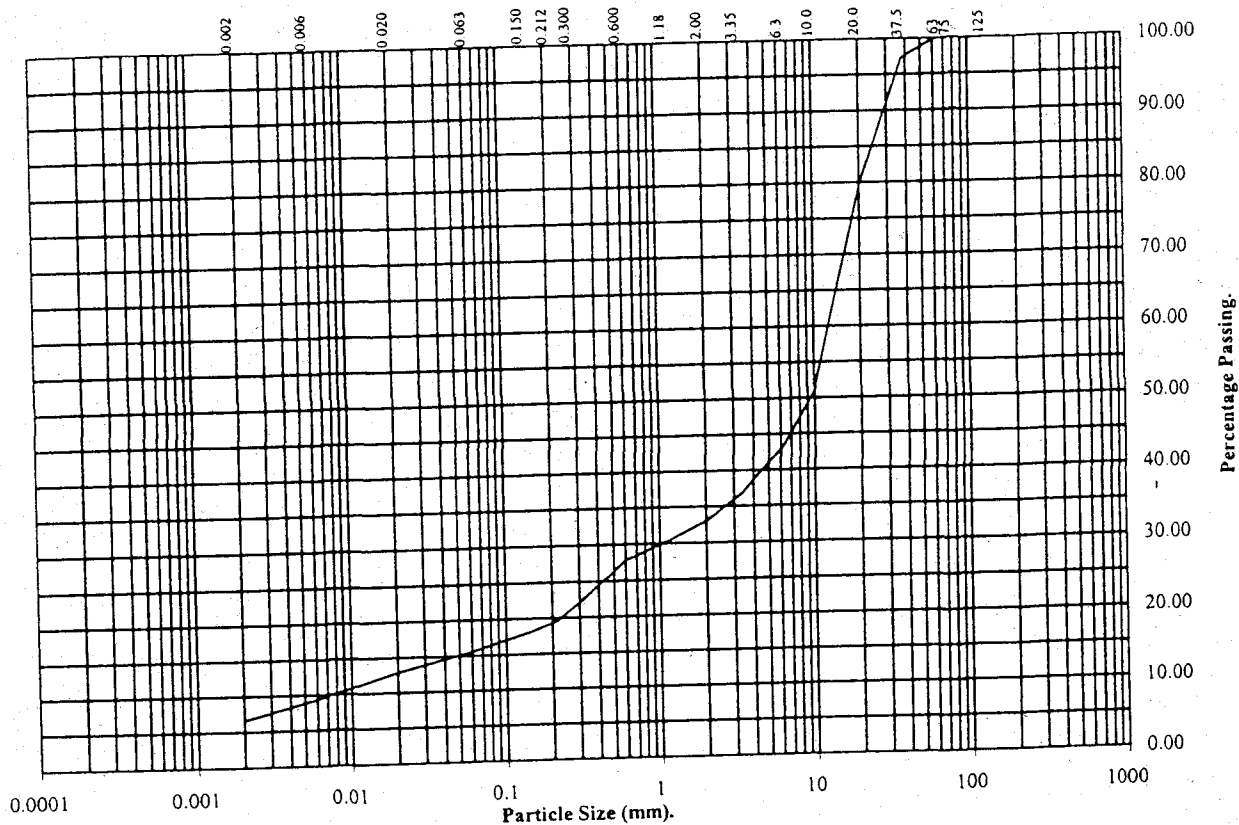
PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990.

Wet sieve and Pipette Analysis: Clause 9.2 9.4

Trial Pit /Sample Number: 61

Depth (m): 0.50




BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	97
20	80
10	51
6.3	43
3.35	37
2	33
1.18	31
0.6	28
0.3	22
0.212	20
0.15	18
0.063	16

Particle Diameter	Percentage Passing
0.02	13
0.006	9
0.002	7

Soil Fraction	Total Percentage
Cobbles	0
Gravel	67
Sand	17
Silt	9
Clay	7

Remarks:
See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>R. C.</i>	25/9/01	<i>R. C.</i>	25/9/01

 THYSSEN GEOTECHNICAL	BICESTER	Contract No.: NL211004
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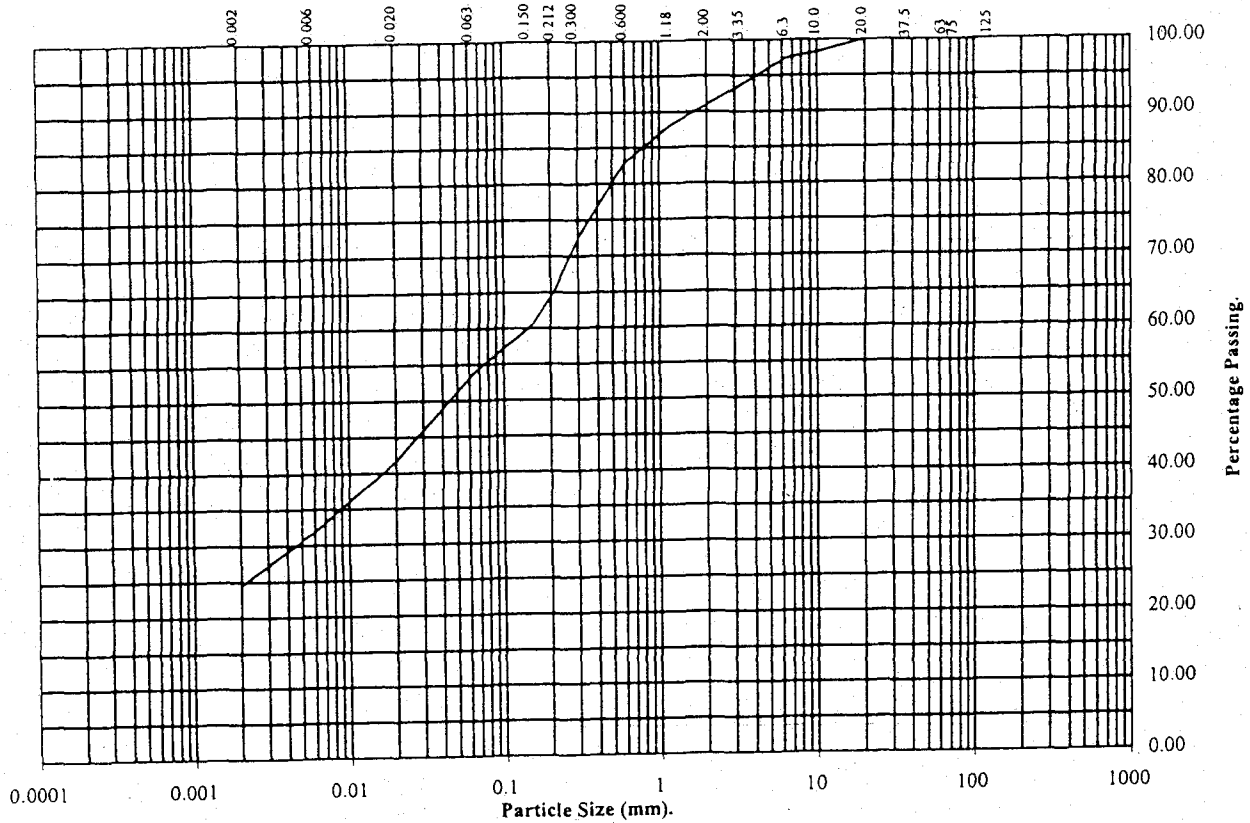
PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990.

Wet sieve and Pipette Analysis: Clause 9.2 9.4

Trial Pit /Sample Number: 63A

Depth (m): 1.00




BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	98
6.3	97
3.35	94
2	91
1.18	88
0.6	83
0.3	72
0.212	65
0.15	60
0.063	54

Particle Diameter	Percentage Passing
0.02	42
0.006	32
0.002	25

Soil Fraction	Total Percentage
Cobbles	0
Gravel	9
Sand	37
Silt	29
Clay	25

Remarks:
See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>KC</i>	25/9/01	<i>KC</i>	25/9/01

 THYSSEN GEOTECHNICAL	BICESTER	Contract No.: NL211004
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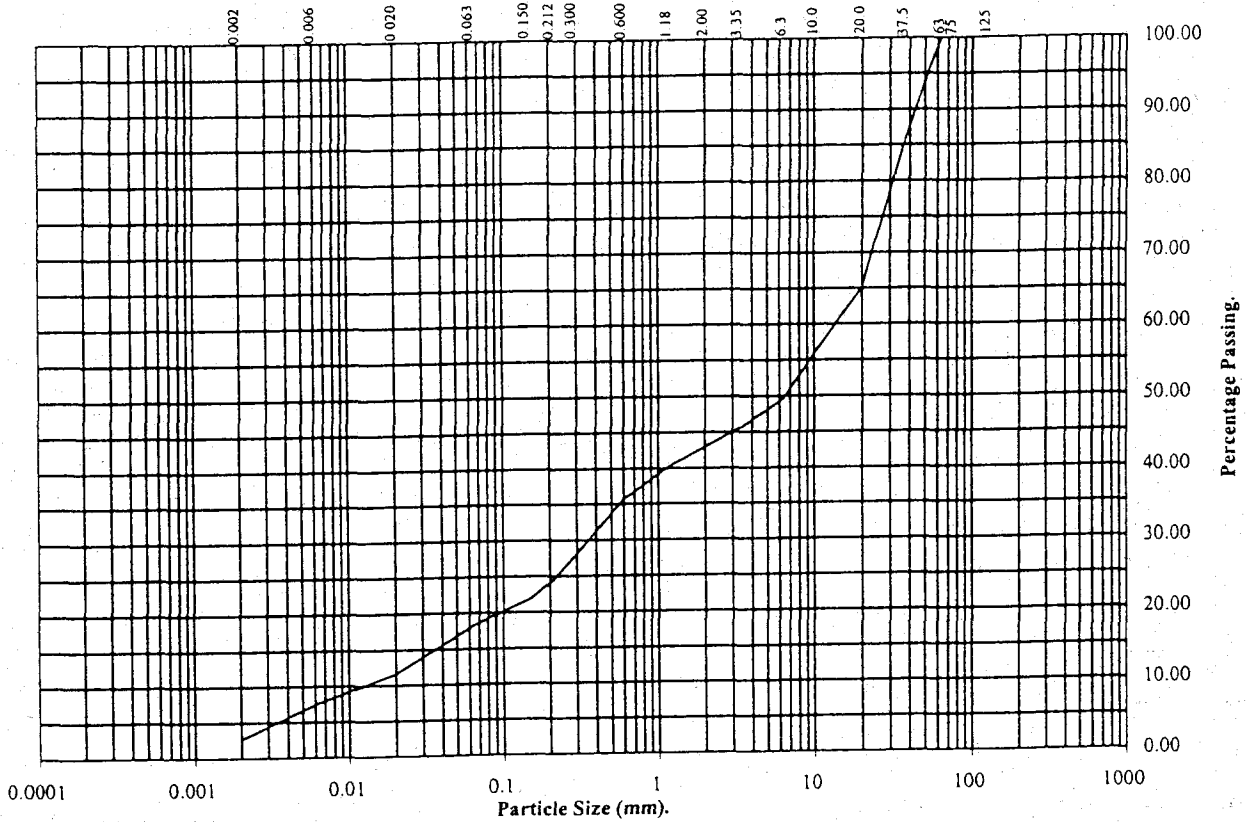
PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990.

Wet sieve and Pipette Analysis: Clause 9.2 9.4

Trial Pit /Sample Number: 64

Depth (m): 0.60



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	86
20	65
10	56
6.3	50
3.35	46
2	43
1.18	40
0.6	36
0.3	28
0.212	24
0.15	22
0.063	18

Particle Diameter	Percentage Passing
0.02	12
0.006	7
0.002	3

Soil Fraction	Total Percentage
Cobbles	0
Gravel	57
Sand	25
Silt	15
Clay	3

Remarks:

See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>R. C.</i>	25/9/01	<i>R. C.</i>	25/9/01



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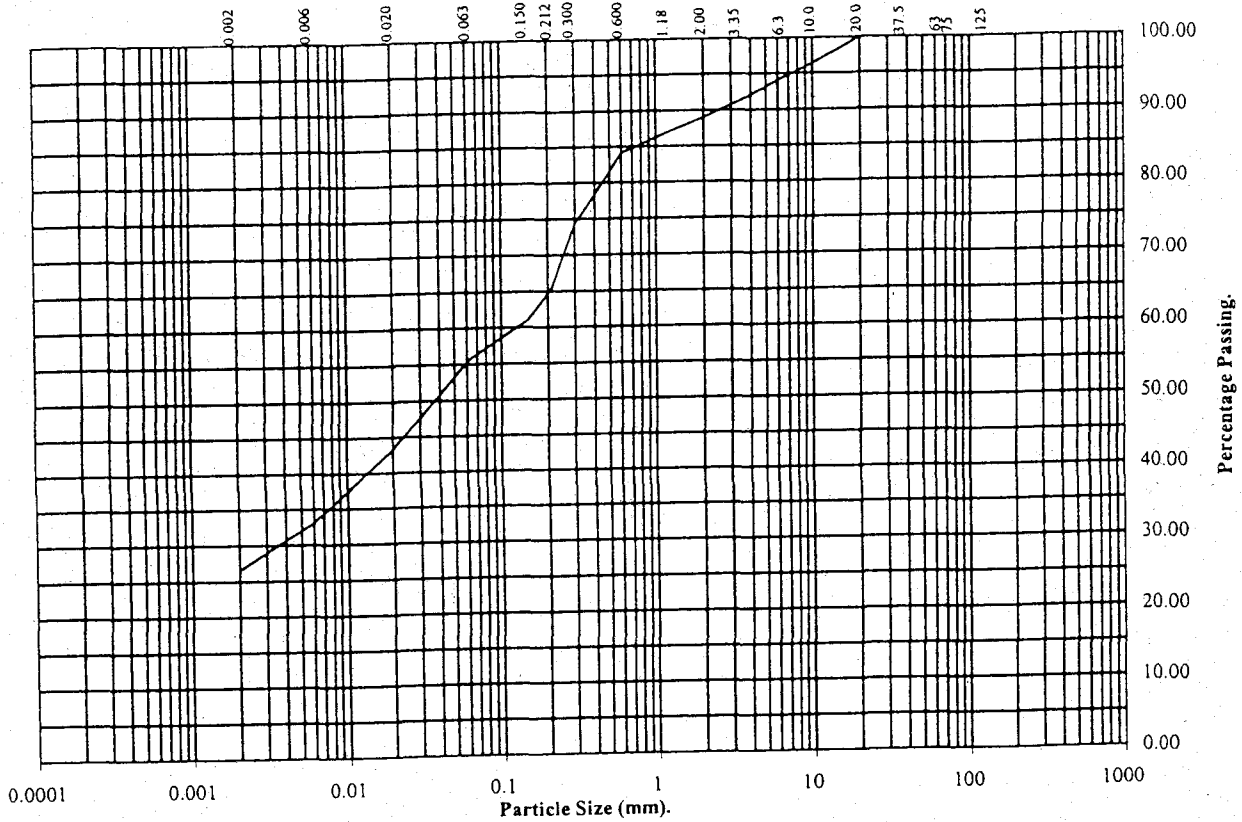
PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990.

Wet sieve and Pipette Analysis: Clause 9.2 9.4

Trial Pit /Sample Number: 66

Depth (m): 0.30



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	96
6.3	94
3.35	91
2	89
1.18	87
0.6	84
0.3	74
0.212	65
0.15	61
0.063	56

Particle Diameter	Percentage Passing
0.02	43
0.006	33
0.002	27

Soil Fraction	Total Percentage
Cobbles	0
Gravel	11
Sand	33
Silt	29
Clay	27

Remarks:

See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>R Cu</i>	25/9/01	<i>R Cu</i>	25/9/01



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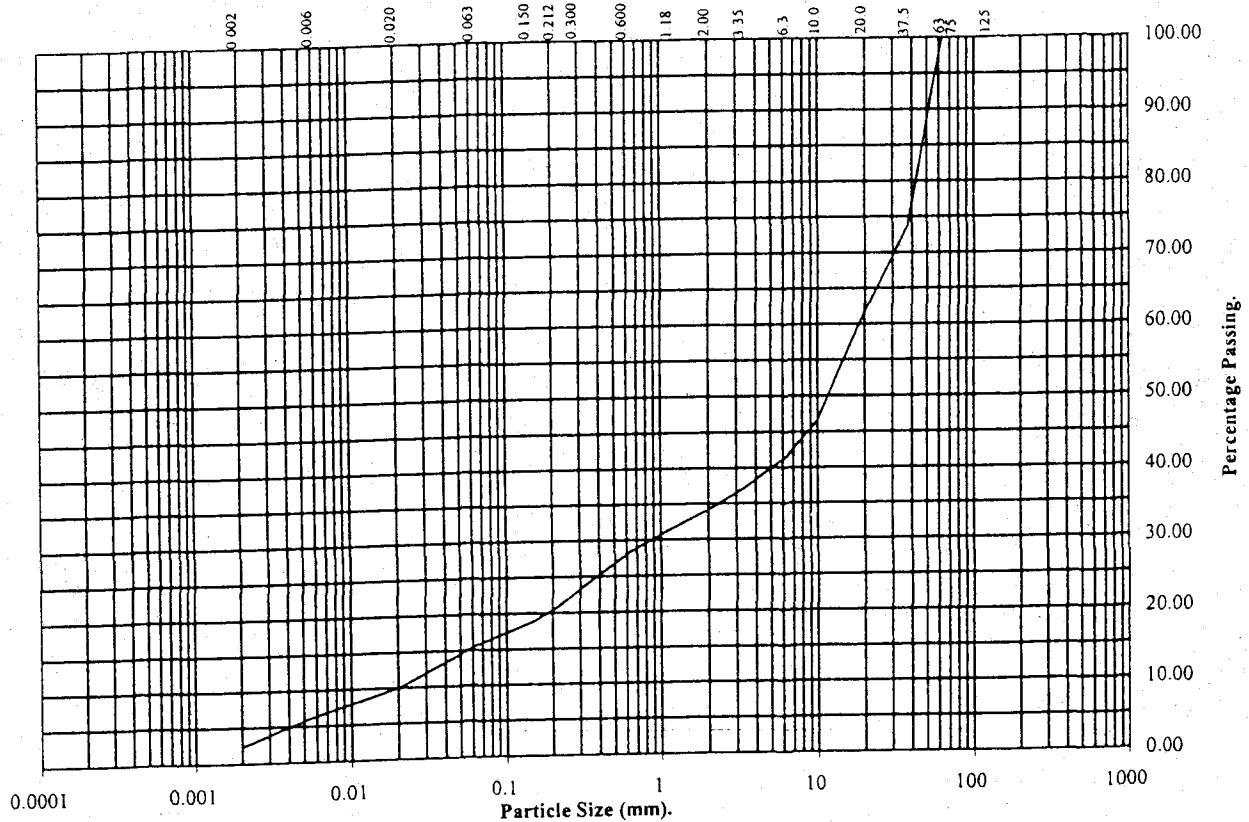
PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990.

Wet sieve and Pipette Analysis: Clause 9.2 9.4

Trial Pit /Sample Number: 72

Depth (m): 0.30



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	74
20	62
10	47
6.3	41
3.35	37
2	34
1.18	32
0.6	28
0.3	23
0.212	21
0.15	19
0.063	16

Particle Diameter	Percentage Passing
0.02	10
0.006	6
0.002	2

Soil Fraction	Total Percentage
Cobbles	0
Gravel	66
Sand	18
Silt	14
Clay	2

Remarks:

See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>[Signature]</i>	25/9/01	<i>[Signature]</i>	25/9/01



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NL211004

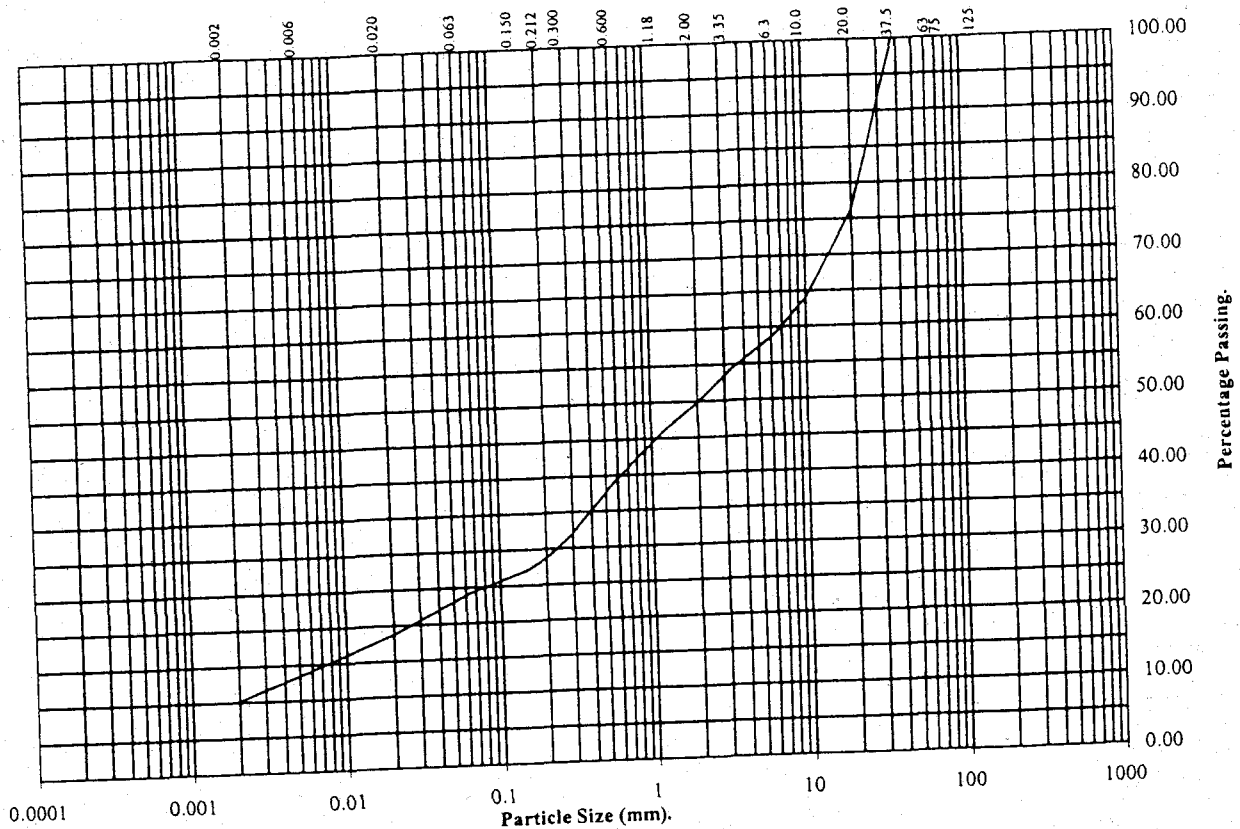
PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990.

Wet sieve and Pipette Analysis: Clause 9.2 9.4

Trial Pit /Sample Number: 72

Depth (m): 0.60



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	76
10	64
6.3	59
3.35	54
2	50
1.18	46
0.6	40
0.3	32
0.212	29
0.15	27
0.063	24

Particle Diameter	Percentage Passing
0.02	19
0.006	14
0.002	10

Soil Fraction	Total Percentage
Cobbles	0
Gravel	50
Sand	26
Silt	14
Clay	10

Remarks:
See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>KL</i>	25/9/01	<i>KL</i>	25/9/01



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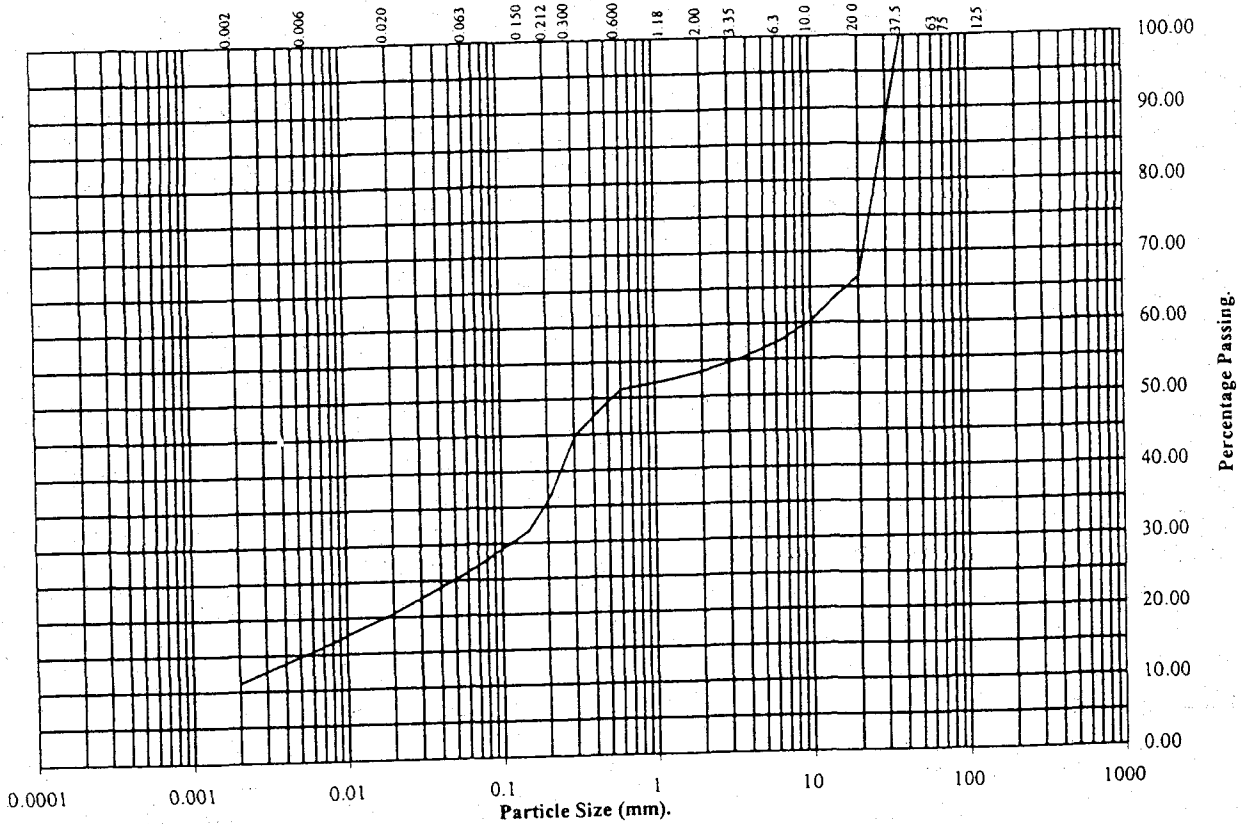
PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990.

Wet sieve and Pipette Analysis: Clause 9.2 9.4

Trial Pit /Sample Number: 79

Depth (m): 0.50



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	66
10	60
6.3	58
3.35	55
2	53
1.18	52
0.6	51
0.3	45
0.212	37
0.15	32
0.063	26

Particle Diameter	Percentage Passing
0.02	20
0.006	15
0.002	11

Soil Fraction	Total Percentage
Cobbles	0
Gravel	47
Sand	27
Silt	15
Clay	11

Remarks:

See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>[Signature]</i>	25/9/01	<i>[Signature]</i>	25/9/01



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Contract No.:
NL211004

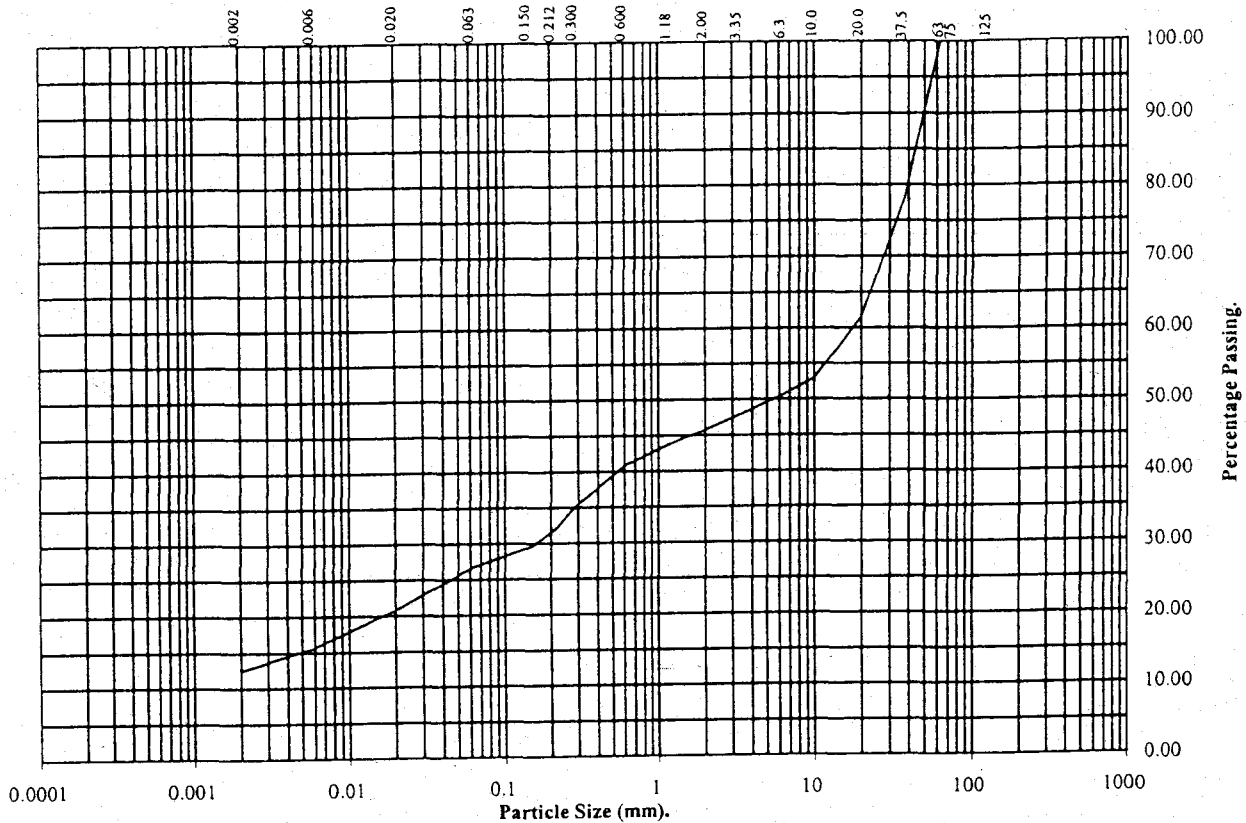
PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990.

Wet sieve and Pipette Analysis: Clause 9.2.9.4

Trial Pit /Sample Number: 79

Depth (m): 0.90



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	78
20	62
10	53
6.3	51
3.35	48
2	46
1.18	44
0.6	41
0.3	36
0.212	32
0.15	30
0.063	27

Particle Diameter	Percentage Passing
0.02	21
0.006	16
0.002	13

Soil Fraction	Total Percentage
Cobbles	0
Gravel	54
Sand	19
Silt	14
Clay	13

Remarks:

See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>[Signature]</i>	25/9/01	<i>[Signature]</i>	25/9/01



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Contract No.:
NL211004

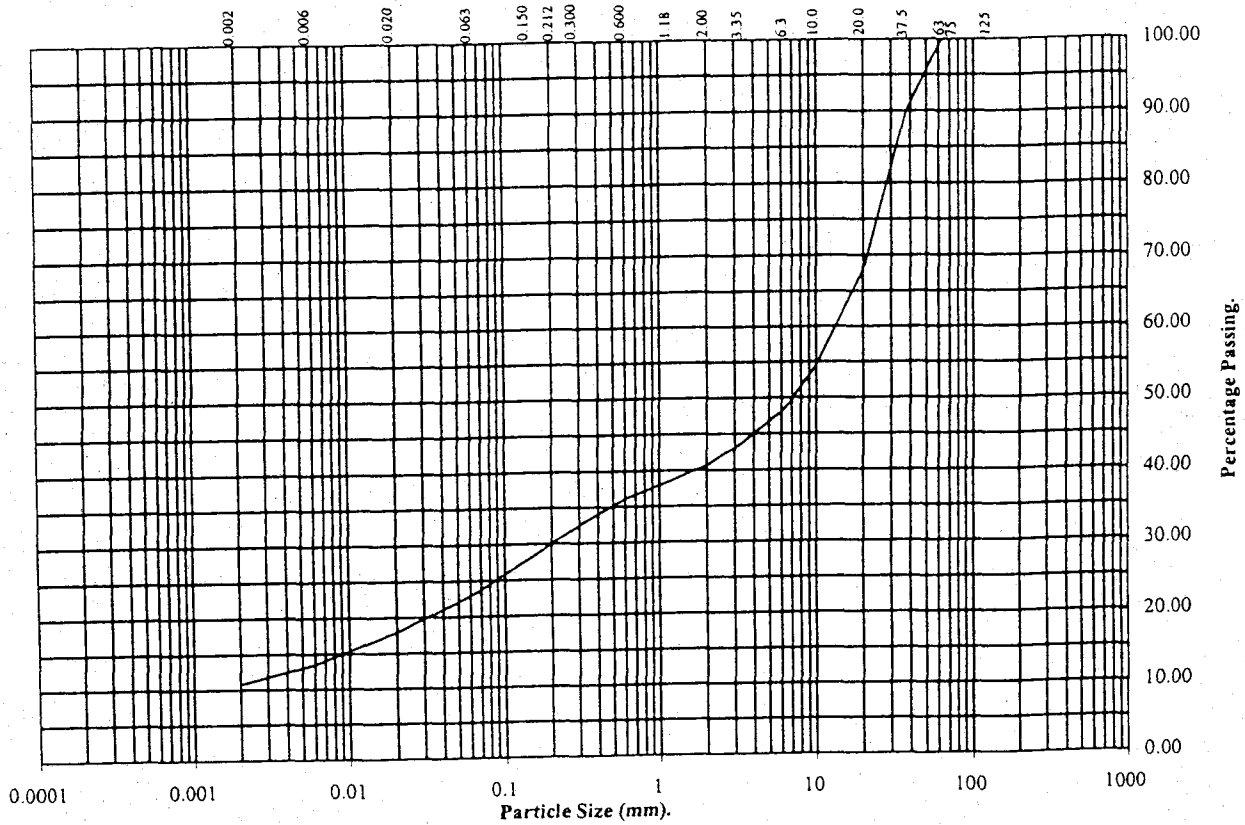
PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990.

Wet sieve and Pipette Analysis: Clause 9.2 9.4

Trial Pit /Sample Number: 79A

Depth (m): 0.40



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	90
20	68
10	55
6.3	48
3.35	44
2	41
1.18	39
0.6	36
0.3	33
0.212	30
0.15	28
0.063	23

Particle Diameter	Percentage Passing
0.02	18
0.006	14
0.002	11

Soil Fraction	Total Percentage
Cobbles	0
Gravel	59
Sand	18
Silt	12
Clay	11

Remarks:

See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>[Signature]</i>	25/9/01	<i>[Signature]</i>	25/9/01



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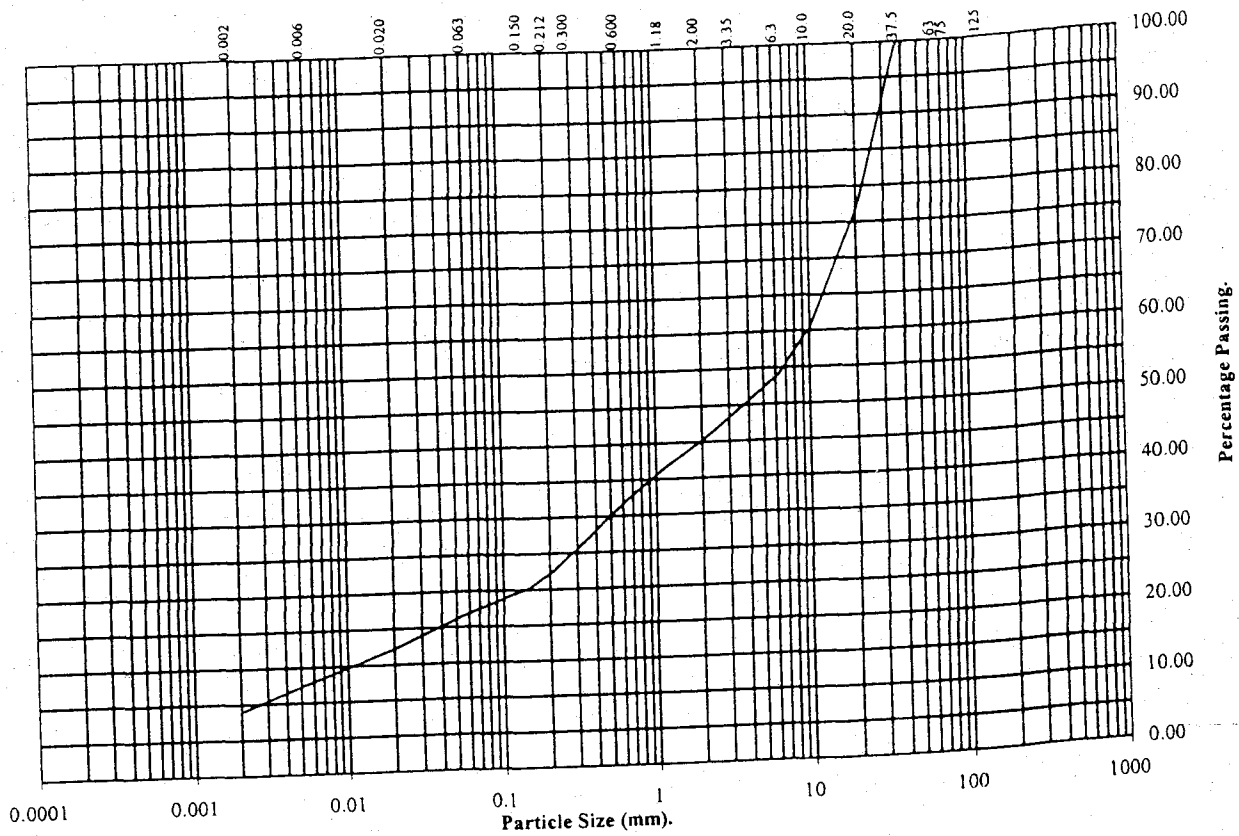
Contract No.:
NL211004

PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990.
Wet sieve and Pipette Analysis: Clause 9.2 9.4

Trial Pit /Sample Number: 79B

Depth (m): 0.50



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	77
10	60
6.3	54
3.35	49
2	45
1.18	42
0.6	37
0.3	31
0.212	28
0.15	25
0.063	22

Particle Diameter	Percentage Passing
0.02	17
0.006	13
0.002	9

Soil Fraction	Total Percentage
Cobbles	0
Gravel	55
Sand	23
Silt	13
Clay	9

Remarks:
See summary of soil descriptions.

Checked By	Date	Approved By	Date
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South Kirkby, WF9 3AP

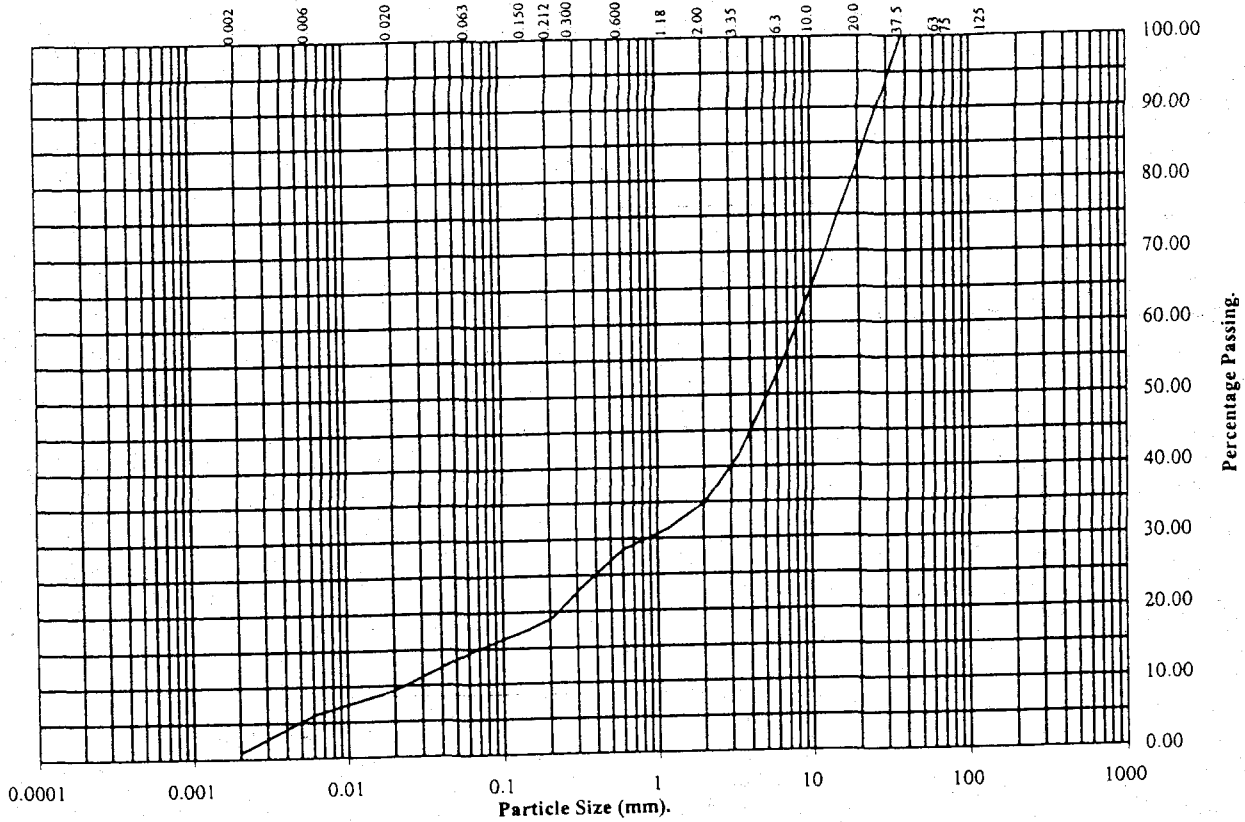
PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990.

Wet sieve and Pipette Analysis: Clause 9.2 9.4

Trial Pit /Sample Number: 82

Depth (m): 0.60



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	82
10	65
6.3	54
3.35	42
2	35
1.18	31
0.6	28
0.3	23
0.212	19
0.15	18
0.063	15

Particle Diameter	Percentage Passing
0.02	9
0.006	6
0.002	1

Soil Fraction	Total Percentage
Cobbles	0
Gravel	65
Sand	20
Silt	14
Clay	1

Remarks:

See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>K. C.</i>	25/9/01	<i>K. C.</i>	25/9/01



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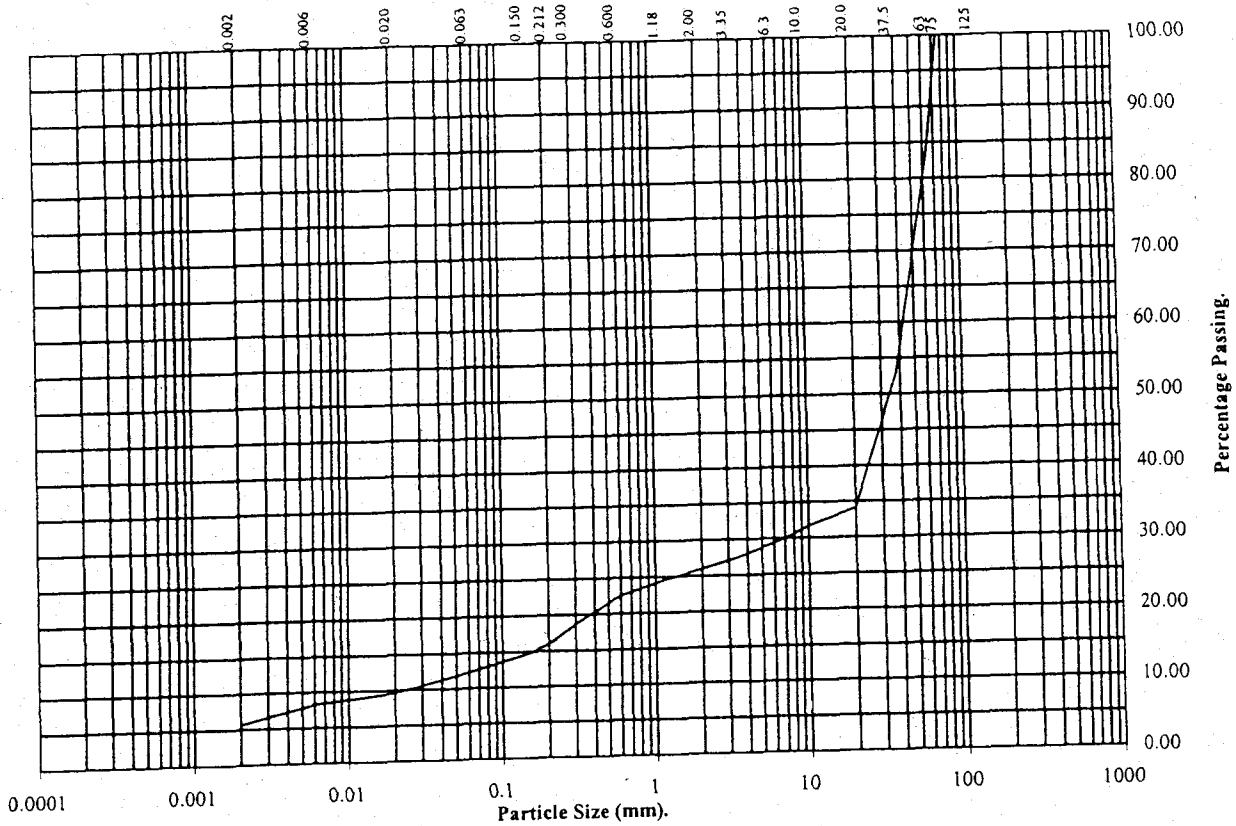
PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990.

Wet sieve and Pipette Analysis: Clause 9.2 9.4

Trial Pit /Sample Number: 83

Depth (m): 0.80



BS Test Sieve	Percentage Passing
125	100
75	100
63	83
37.5	53
20	34
10	32
6.3	30
3.35	27
2	26
1.18	25
0.6	23
0.3	19
0.212	16
0.15	15
0.063	12

Particle Diameter	Percentage Passing
0.02	10
0.006	8
0.002	6

Soil Fraction	Total Percentage
Cobbles	17
Gravel	57
Sand	14
Silt	6
Clay	6

Remarks:

See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>KL</i>	25/9/01	<i>KL</i>	25/9/01



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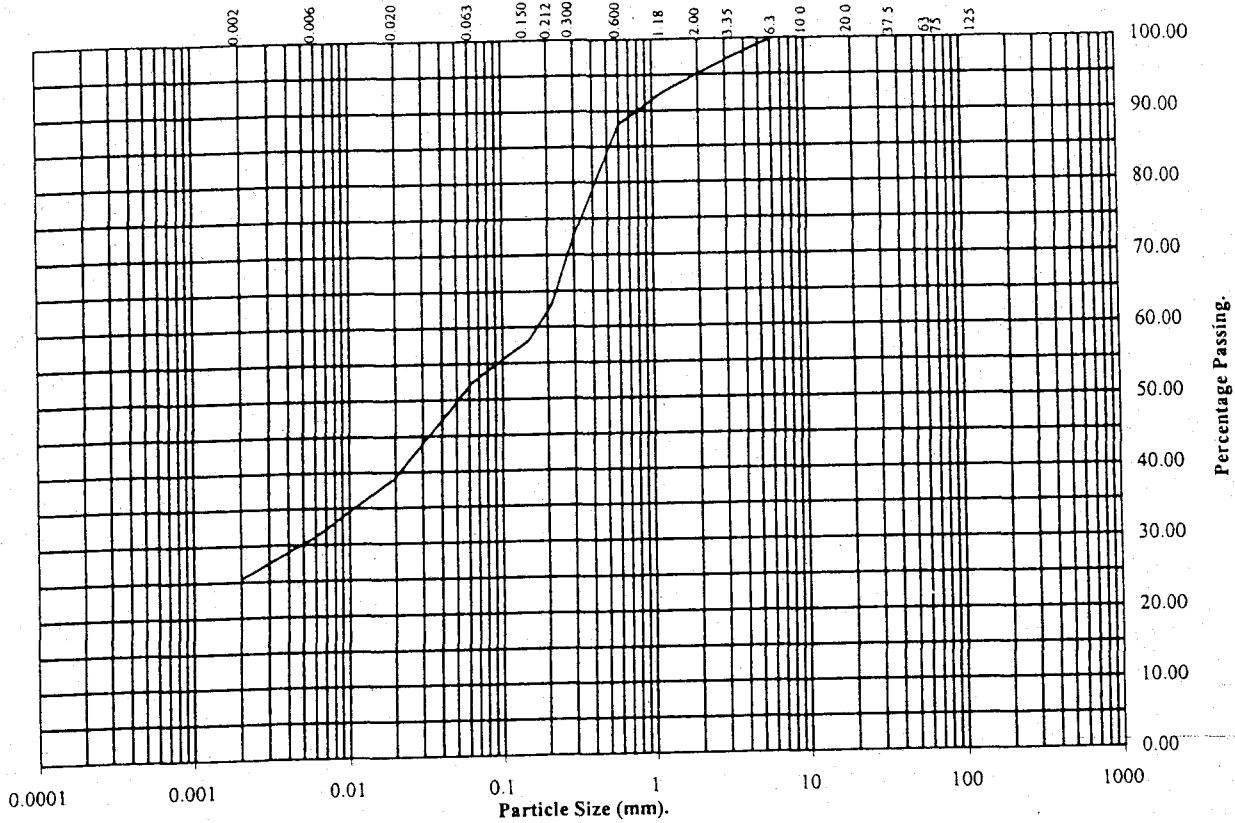
PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990.

Wet sieve and Pipette Analysis: Clause 9.2.9.4

Trial Pit /Sample Number: 84

Depth (m): 1.00



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	100
3.35	97
2	95
1.18	93
0.6	88
0.3	73
0.212	63
0.15	58
0.063	52

Particle Diameter	Percentage Passing
0.02	39
0.006	31
0.002	25

Soil Fraction	Total Percentage
Cobbles	0
Gravel	5
Sand	43
Silt	27
Clay	25

Remarks:
See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>KLM</i>	25/9/01	<i>KLM</i>	25/9/01



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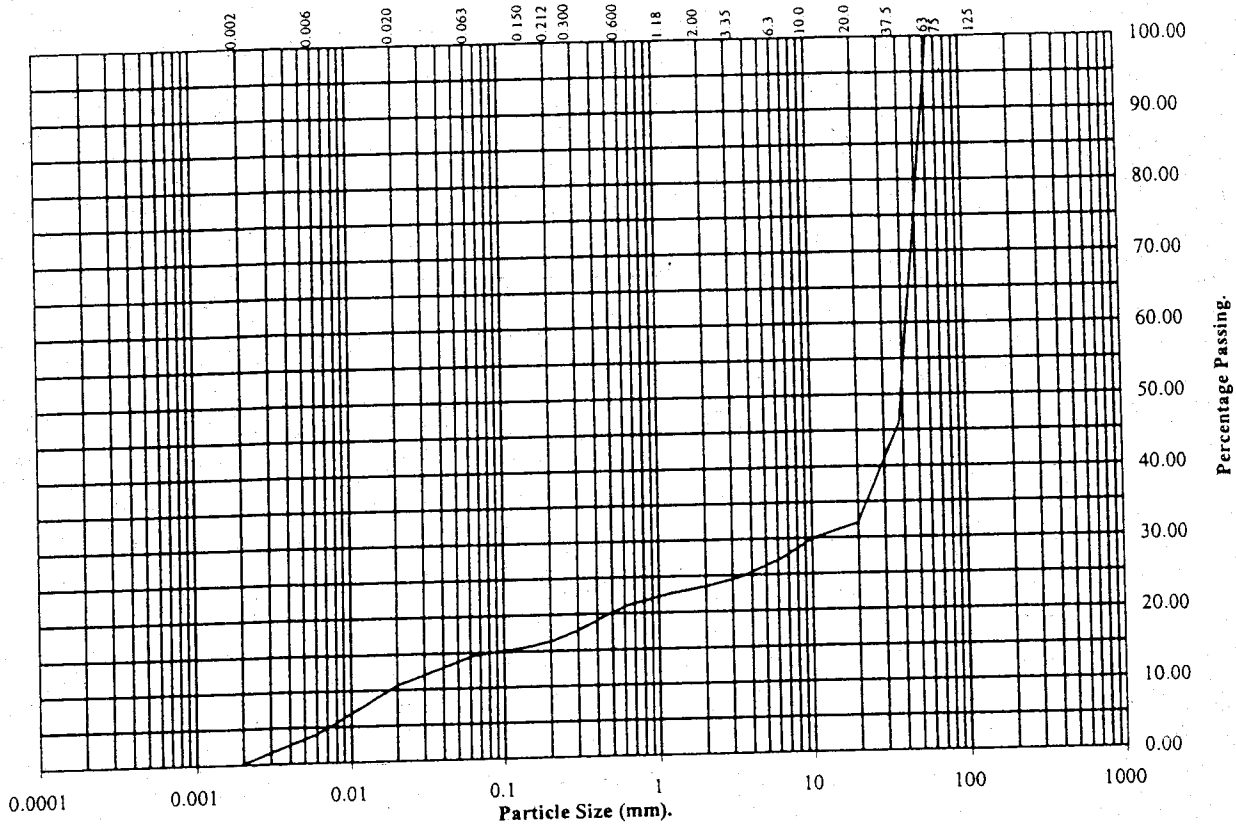
PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990.

Wet sieve and Pipette Analysis: Clause 9.2 9.4

Trial Pit /Sample Number: 84

Depth (m): 1.50



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	46
20	32
10	30
6.3	27
3.35	25
2	24
1.18	23
0.6	21
0.3	18
0.212	16
0.15	16
0.063	15

Particle Diameter	Percentage Passing
0.02	11
0.006	4
0.002	0

Soil Fraction	Total Percentage
Cobbles	0
Gravel	76
Sand	9
Silt	15
Clay	0

Remarks:

See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>[Signature]</i>	25/9/01	<i>[Signature]</i>	25/9/01



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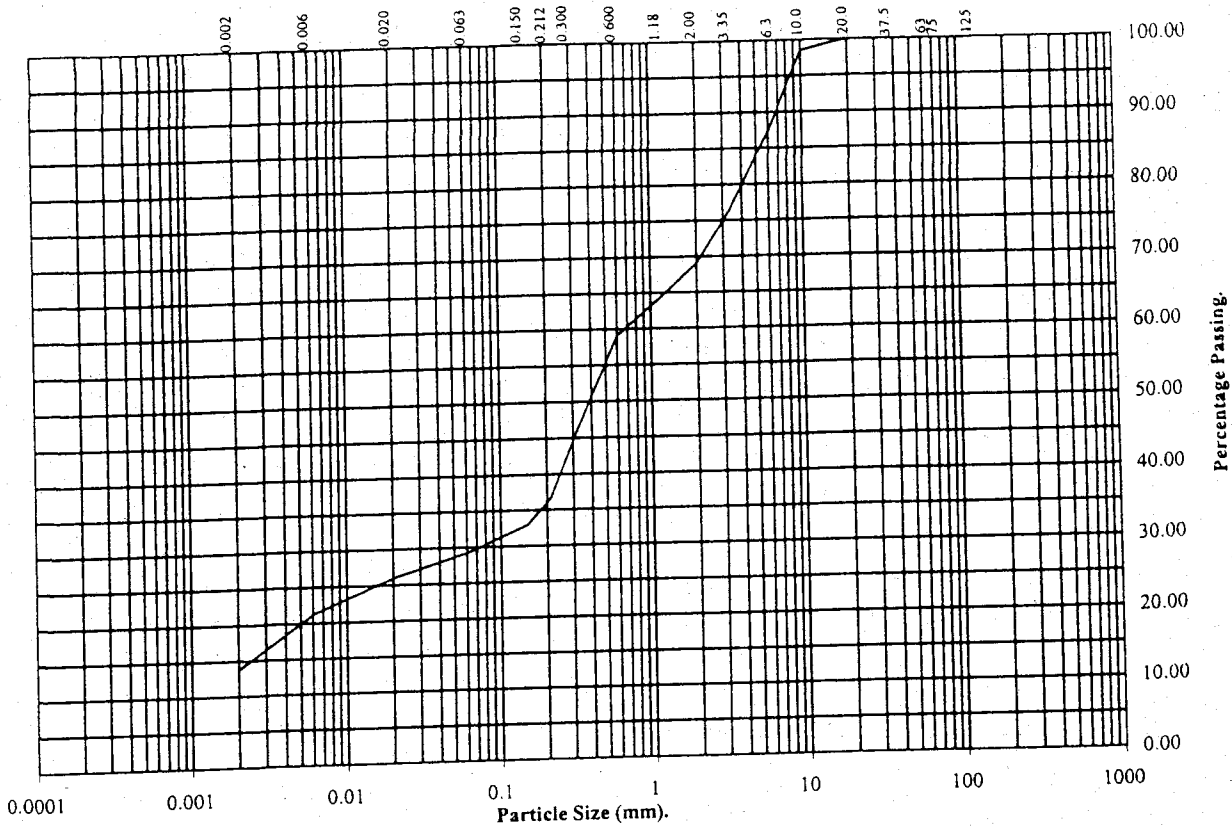
PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990.

Wet sieve and Pipette Analysis: Clause 9.2.9.4

Trial Pit /Sample Number: 89

Depth (m): 0.90



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	98
6.3	88
3.35	76
2	69
1.18	65
0.6	59
0.3	45
0.212	37
0.15	33
0.063	29

Particle Diameter	Percentage Passing
0.02	26
0.006	21
0.002	14

Soil Fraction	Total Percentage
Cobbles	0
Gravel	31
Sand	40
Silt	15
Clay	14

Remarks:
See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>[Signature]</i>	25/9/01	<i>[Signature]</i>	25/9/01



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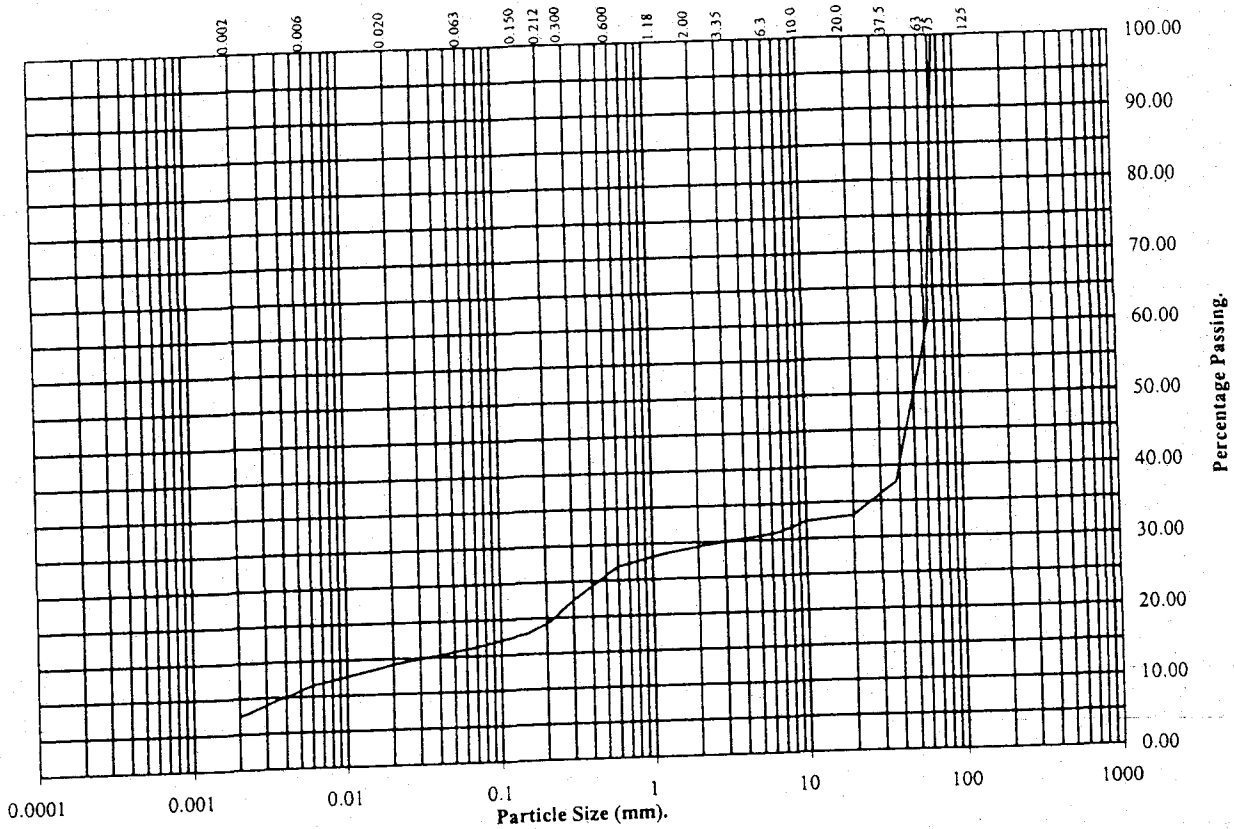
PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990.

Wet sieve and Pipette Analysis: Clause 9.2.9.4

Trial Pit /Sample Number: 89A

Depth (m): 0.80



BS Test Sieve	Percentage Passing
125	100
75	100
63	60
37.5	38
20	33
10	32
6.3	31
3.35	30
2	29
1.18	29
0.6	27
0.3	22
0.212	19
0.15	18
0.063	16

Particle Diameter	Percentage Passing
0.02	14
0.006	12
0.002	7

Soil Fraction	Total Percentage
Cobbles	40
Gravel	31
Sand	13
Silt	9
Clay	7

Remarks:
See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>R L</i>	29/9/01	<i>R L</i>	25/9/01



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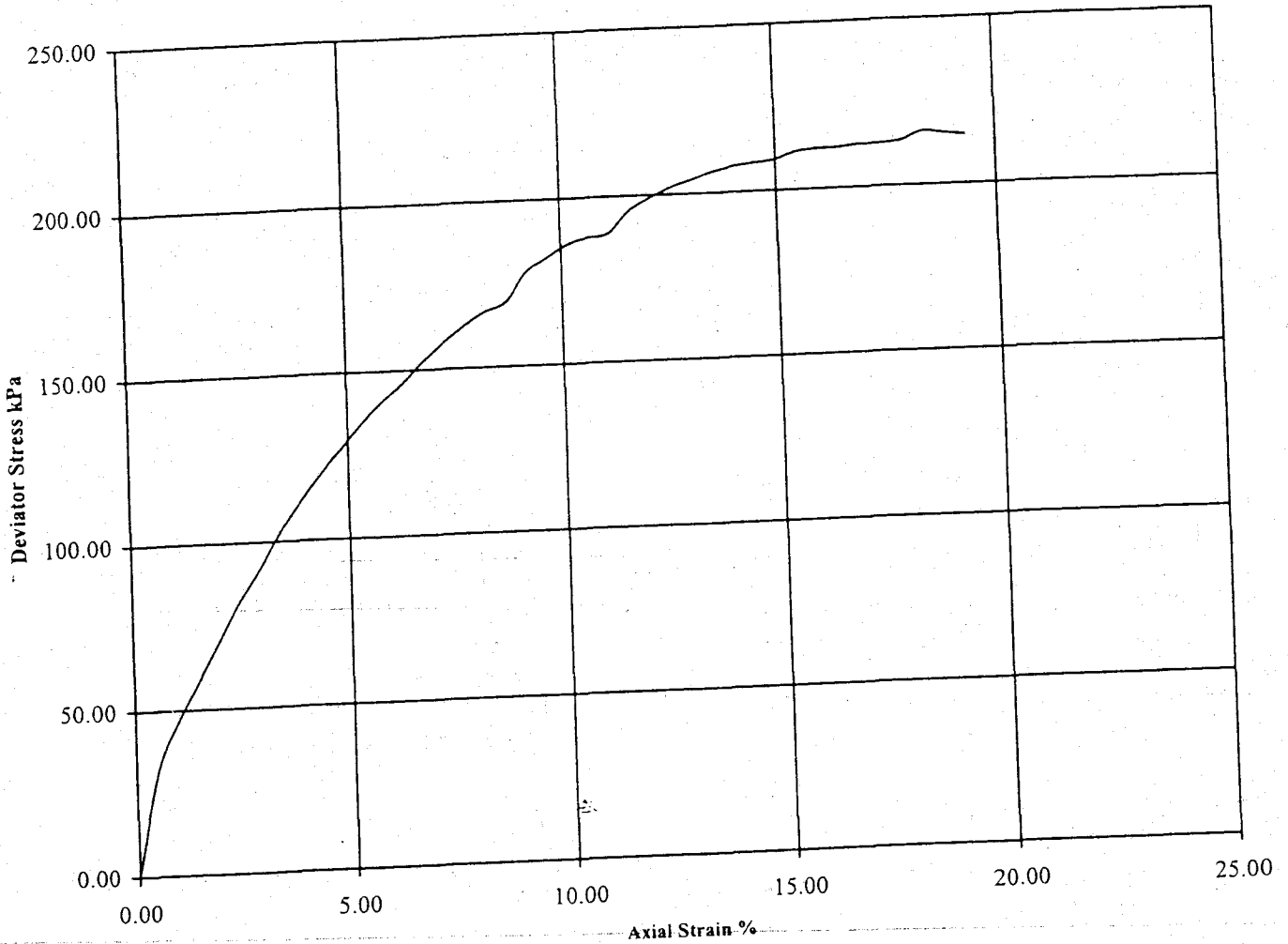
Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Borehole / Sample Number: 1

Depth (m): 2.00



Diameter (mm):		102	Height (mm):		207	Test:		100mm Multistage	Remarks
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	
A	15	2.29	1.99	25	169	85	8.7	Plastic	See summary of soil descriptions.
				50	189	94	11.1		
				100	216	108	18.4		

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<i>[Signature]</i>	26/9/01	<i>[Signature]</i>	26/9/01



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Contract No:
NL211004

South Kirkby, WF9 3AP

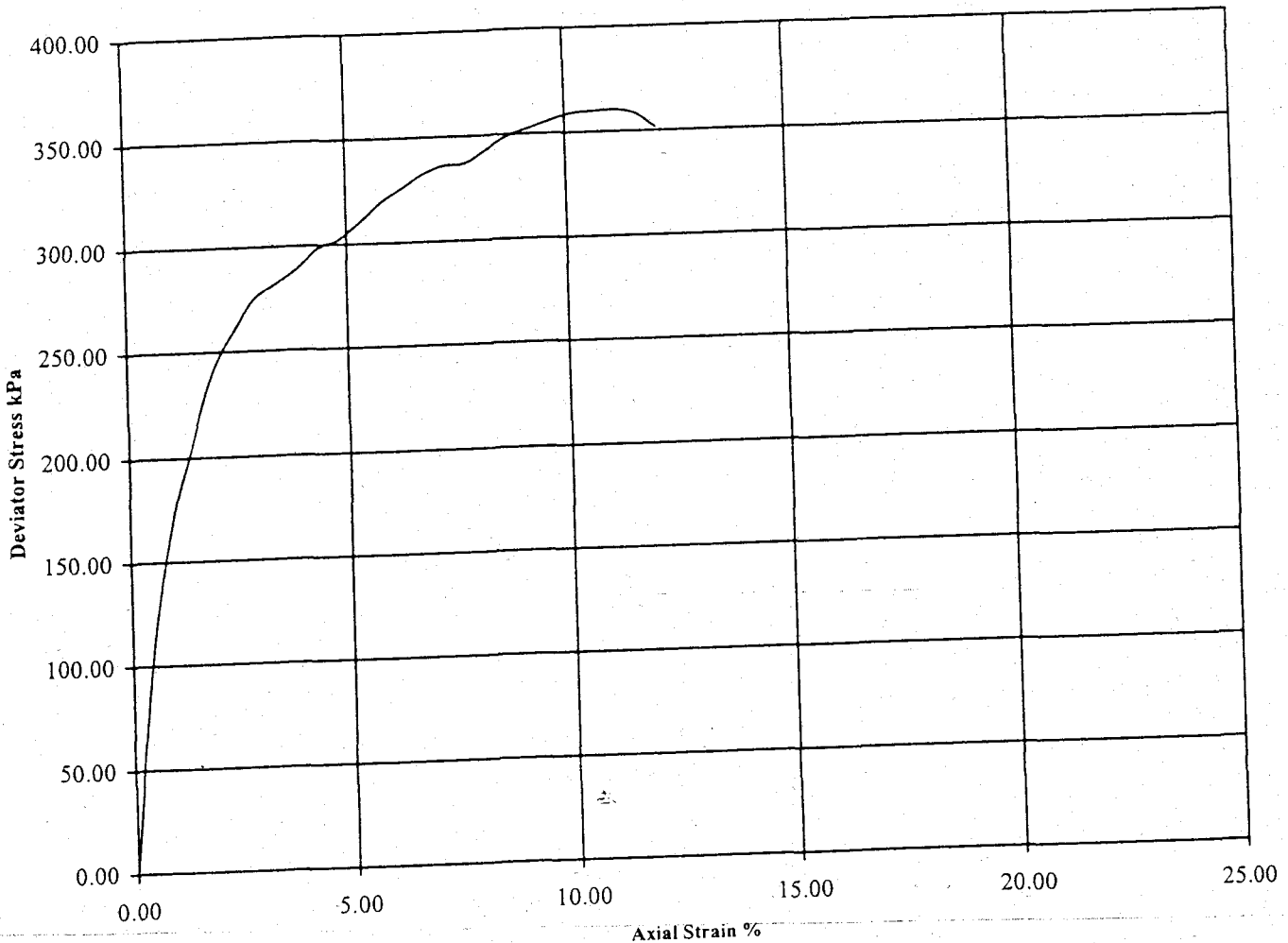
Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Borehole / Sample Number: 4

Depth (m): 3.00



Diameter (mm):		102	Height (mm):		207	Test:		100mm Multistage	
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	Remarks See summary of soil descriptions.
A	21	2.07	1.71	25	302	151	4.8	Brittle	
				50	337	168	7.7		
				100	360	180	11.1		

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<i>[Signature]</i>	26/9/01	<i>[Signature]</i>	26/9/01



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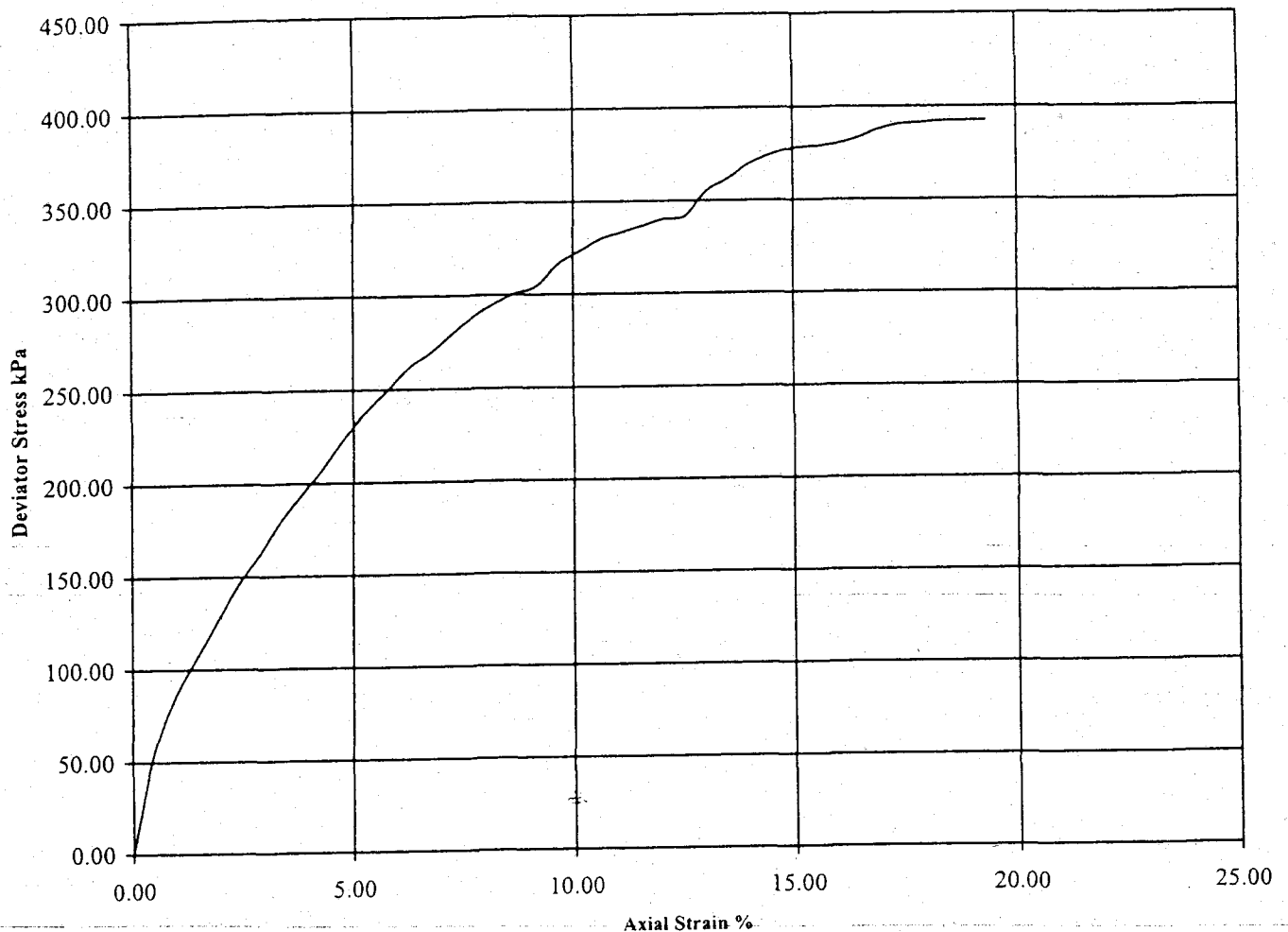
Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Borehole / Sample Number: 6

Depth (m): 2.00



Diameter (mm):		102		Height (mm):		207		Test:		100mm Multistage	
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	Remarks		
A	19	2.10	1.77	25	305	152	9.2	Plastic	See summary of soil descriptions.		
				50	342	171	12.6				
				100	392	196	19.3				

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<i>[Signature]</i>	26/9/01	<i>[Signature]</i>	26/9/01



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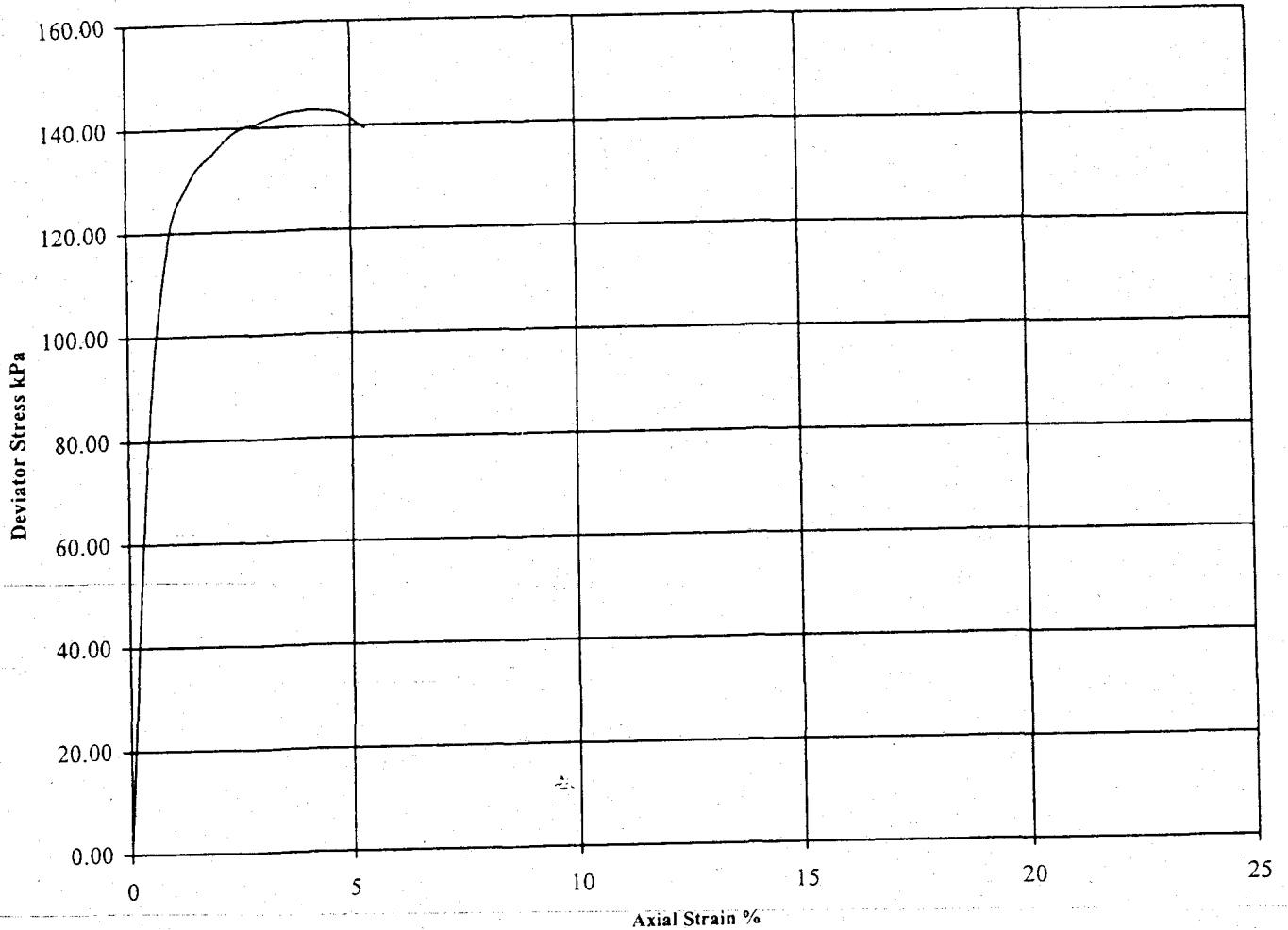
Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Borehole / Sample Number: 10

Depth (m): 1.00



Diameter (mm):		102	Height (mm):		207	Test:	100 mm Single Stage.		
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	Remarks See summary of soil descriptions.
	A	31.2	1.92	1.46	25	143	71	4.3	
B									
C									

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<i>[Signature]</i>	26/9/01	<i>[Signature]</i>	26/9/01

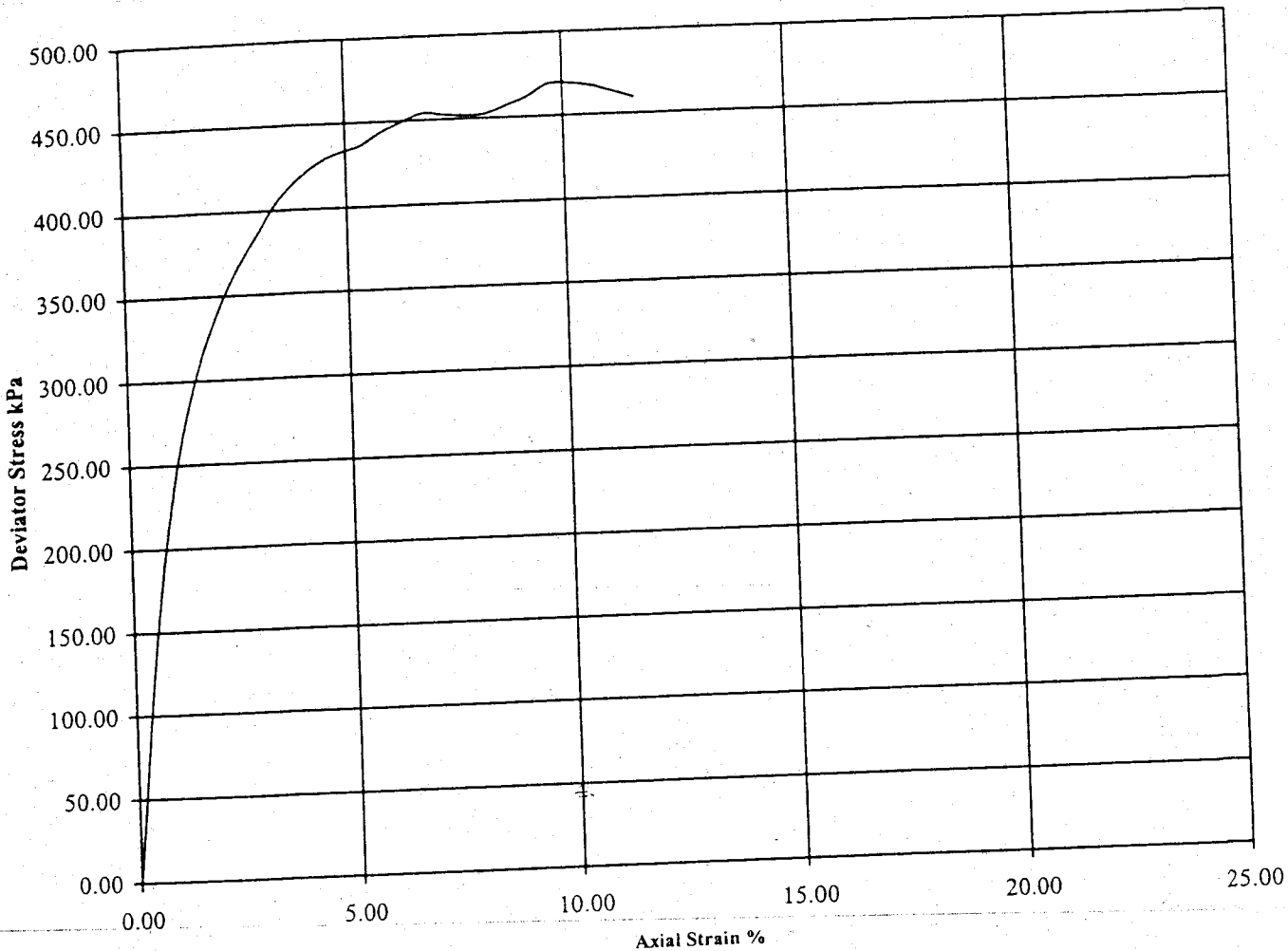
THYSSEN GEOTECHNICAL	BICESTER.	Contract No: NL211004
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Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure
B.S. 1377 : Part 7 : Clause 8 : 1991

Trial Pit / Sample Number: 74

Depth (m): 0.70



Diameter (mm):		102		Height (mm):		207		Test:		100mm Multistage		Remarks
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	Recompacted 2.5kg rammer.			
A	24	1.90	1.53	50	436	218	5.3	Brittle				
				100	454	227	6.8					
				200	469	235	10.1					

Checked	Date	Approved	Date
<i>RC</i>	26/9/01	<i>RC</i>	26/9/01



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Contract No:
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South Kirkby, WF9 3AP

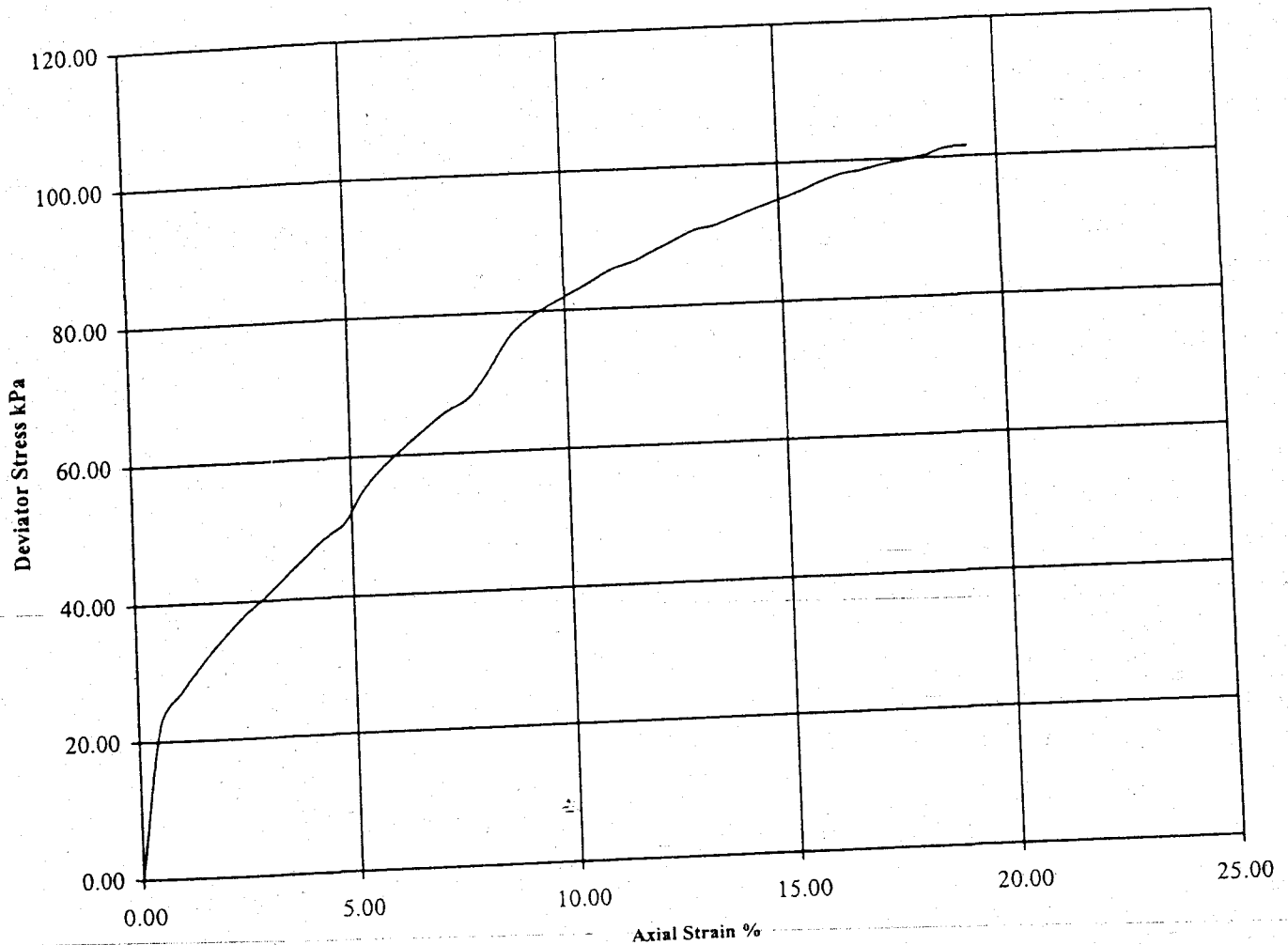
Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Trial Pit / Sample Number: 76

Depth (m): 2.50



Diameter (mm):		Height (mm):			Test:		100mm Multistage			Remarks
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure		
A	15	2.22	1.92	50	51	25	4.8	Plastic.	Recompacted 2.5kg rammer.	
				100	68	34	7.7			
				200	102	51	19.3			

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<i>[Signature]</i>	26/9/01	<i>[Signature]</i>	26/9/01



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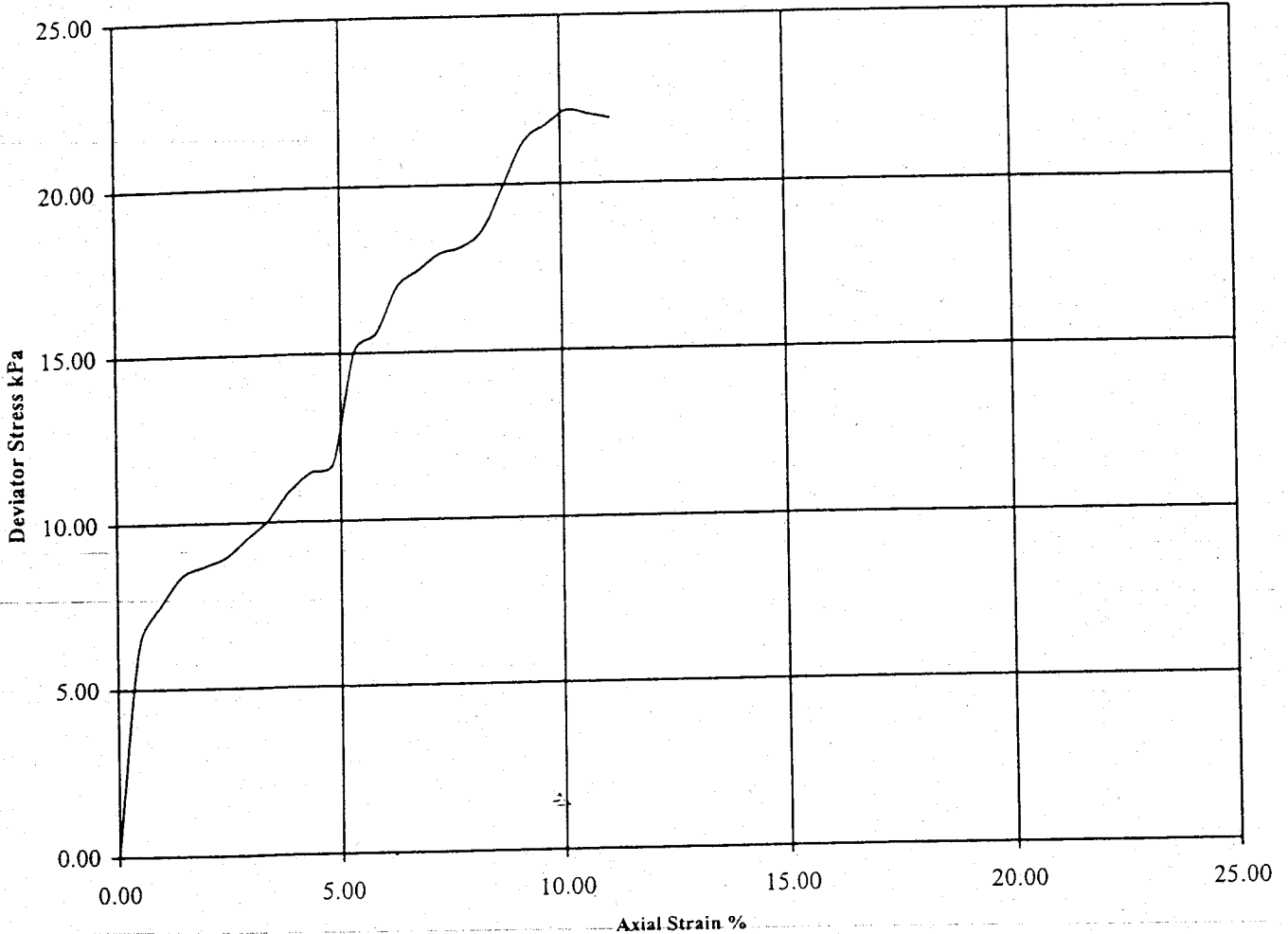
Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Trial Pit / Sample Number: 89A

Depth (m): 0.50



Diameter (mm):		102			Height (mm):		207		Test:		100mm Multistage		Remarks Recompacted 2.5kg rammer.
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure					
A	106	1.32	0.64	50	12	6	4.8	Plastic.					
				100	18	9	7.7						
				200	22	11	10.1						

Checked	Date	Approved	Date
<i>KL</i>	26/9/01	<i>KL</i>	26/9/01



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NL211004

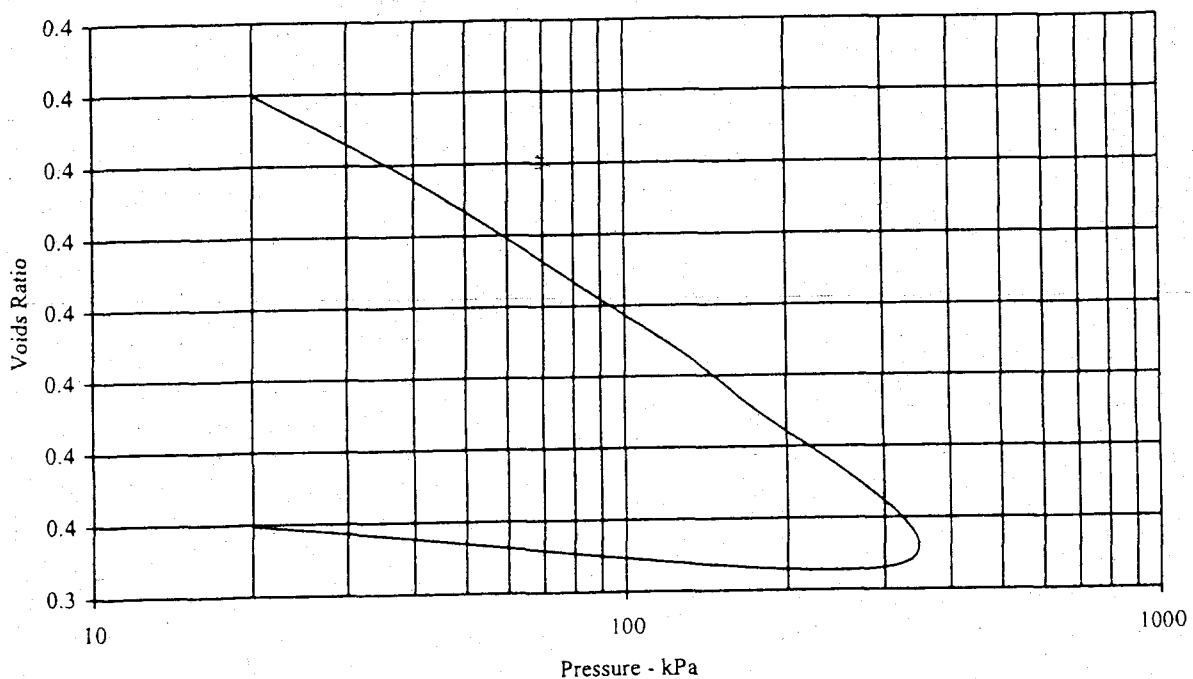
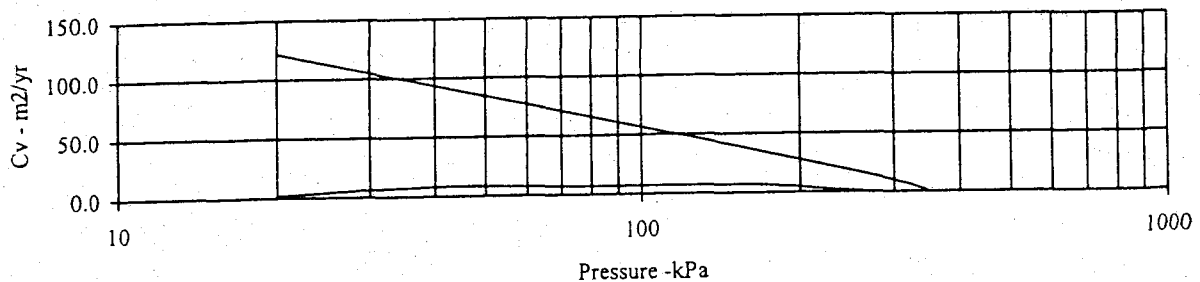
One Dimensional Consolidation Properties

BS 1377: Part 5: 1990

Borehole \ Sample No. 1

Depth (m): 2.00

Initial Conditions		Pressure Range		Mv	Cv	Final Conditions	
		kPa		m2/MN	m2/yr		
Moisture Content (%):	18	0	- 20	0.649	2.042	Moisture Content (%):	15
Bulk Density (Mg/m3):	2.19	20	- 40	0.431	8.161	Bulk Density (Mg/m3):	2.26
Dry Density (Mg/m3):	1.86	40	- 80	0.257	6.877	Dry Density (Mg/m3):	1.96
Voids Ratio:	0.428	80	- 160	0.143	7.039	Voids Ratio:	0.35
Degree of saturation:	110.9	160	- 320	0.110	6.094	Degree of Saturation: :	116.2
Height (mm):	19.25	320	- 20	0.015	121.886	Height (mm):	18.19
Diameter (mm)	75	Remarks: See summary of soil descriptions.					
Particle Density (Mg/m3):	2.65						
Assumed							



Checked and Approved By

Date

R. C.

26/9/01



BICESER.

Contract No. NL211004

Page 1 of 1

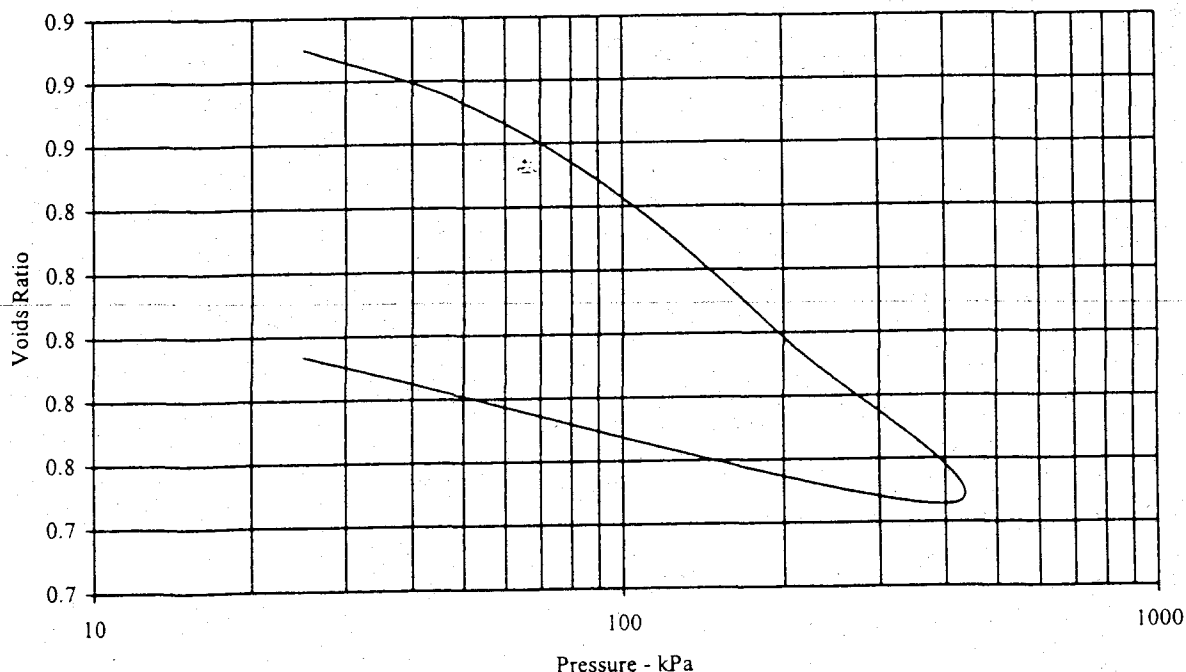
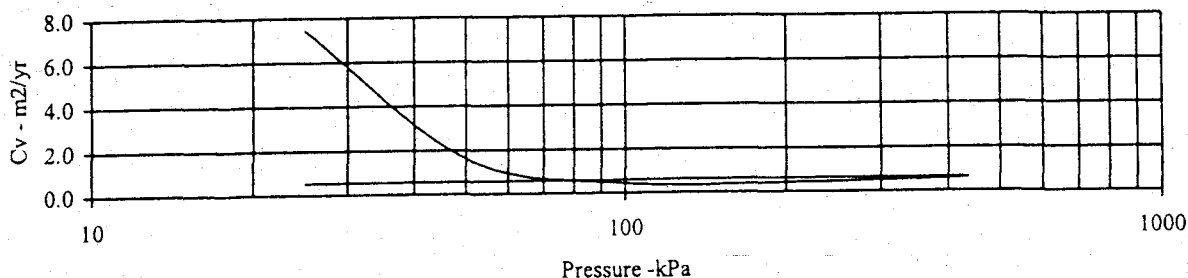
One Dimensional Consolidation Properties

BS 1377: Part 5: 1990

Borehole \ Sample No. 2

Depth (m): 3.00

Initial Conditions		Pressure Range		Mv	Cv	Final Conditions	
		kPa		m ² /MN	m ² /yr		
Moisture Content (%):	40	0	- 25	0.563	7.427	Moisture Content (%):	36
Bulk Density (Mg/m ³):	1.94	25	- 50	0.360	1.602	Bulk Density (Mg/m ³):	2.02
Dry Density (Mg/m ³):	1.38	50	- 100	0.323	0.424	Dry Density (Mg/m ³):	1.48
Voids Ratio:	0.917	100	- 200	0.241	0.419	Voids Ratio:	0.794
Degree of saturation:	116.8	200	- 400	0.147	0.643	Degree of Saturation: :	121.5
Height (mm):	19.62	400	- 25	0.073	0.524	Height (mm):	18.35
Diameter (mm)	75	Remarks: See summary of soil descriptions.					
Particle Density (Mg/m ³):	2.65						
Assumed							



Checked and Approved By *R. Cur* Date 18/9/01



BICESTER

Contract No. NL211004
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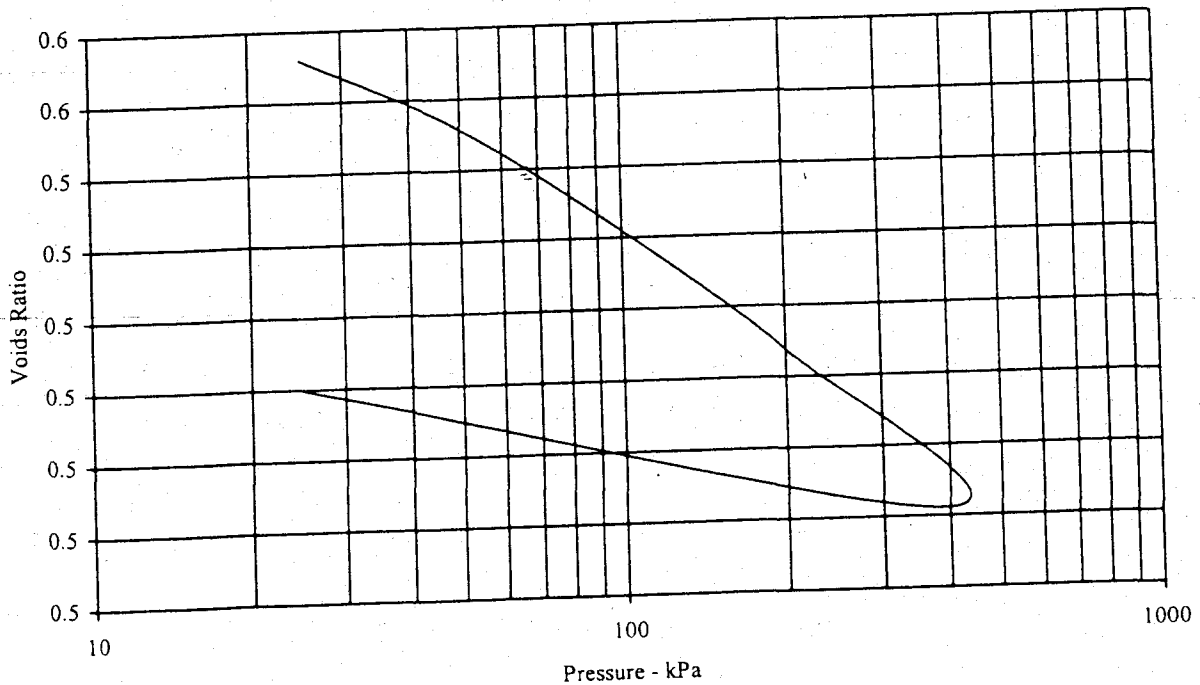
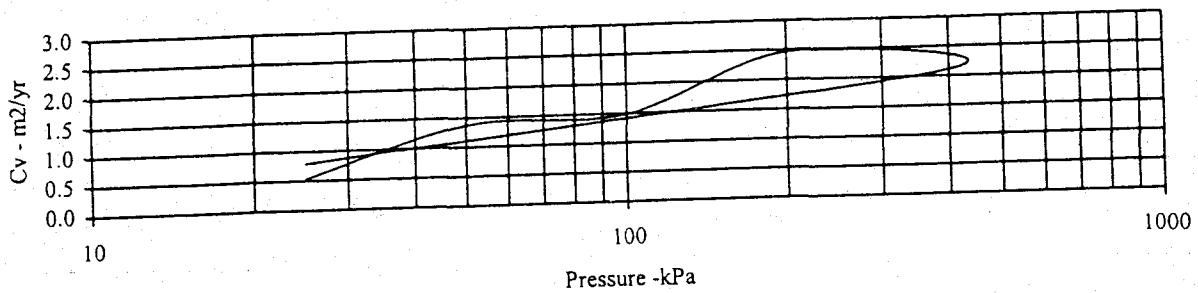
One Dimensional Consolidation Properties

BS 1377: Part 5: 1990

Borehole \ Sample No. 3

Depth (m): 3.00

Initial Conditions		Pressure Range		Mv	Cv	Final Conditions	
		kPa		m ² /MN	m ² /yr		
Moisture Content (%):	27					Moisture Content (%):	24
Bulk Density (Mg/m ³):	2.13	0	- 25	0.527	0.537	Bulk Density (Mg/m ³):	2.18
Dry Density (Mg/m ³):	1.68	25	- 50	0.263	1.367	Dry Density (Mg/m ³):	1.76
Voids Ratio:	0.577	50	- 100	0.191	1.487	Voids Ratio:	0.51
Degree of saturation:	122.6	100	- 200	0.112	2.460	Degree of Saturation: :	125.8
Height (mm):	20.04	200	- 400	0.075	2.106	Height (mm):	19.19
Diameter (mm):	75	400	- 25	0.033	0.791	Remarks:	
Particle Density (Mg/m ³):	2.65	See summary of soil descriptions.					
Assumed							



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BICESTER

Contract No. NL211004
Page 1 of 1

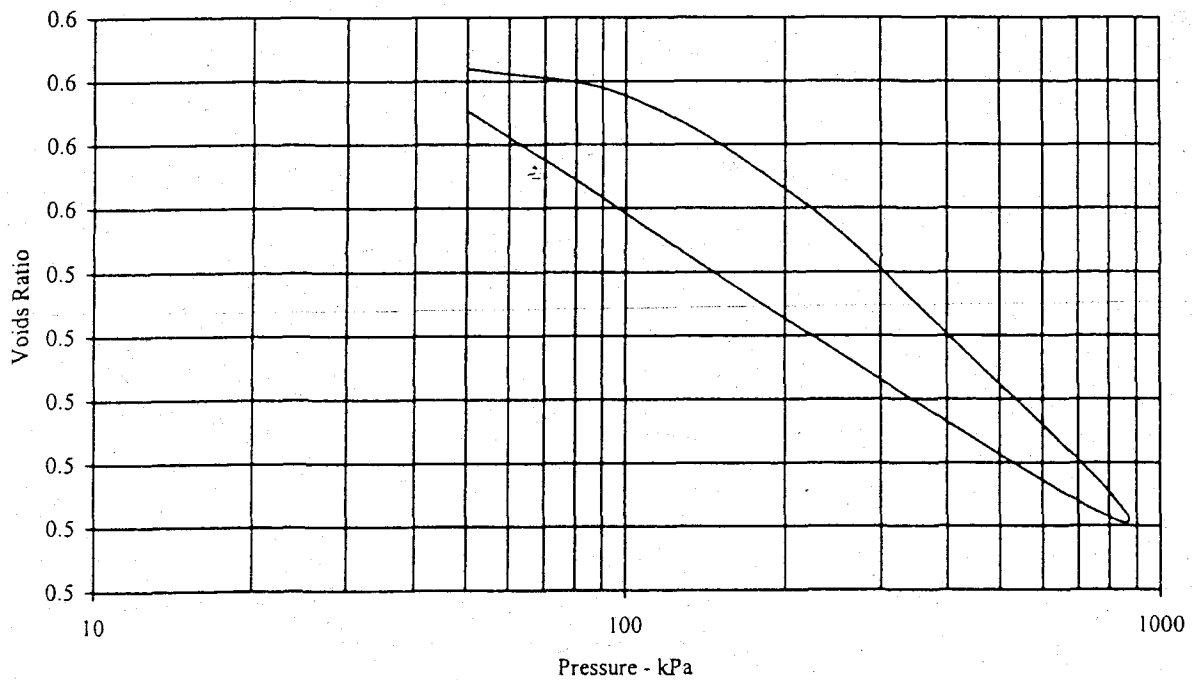
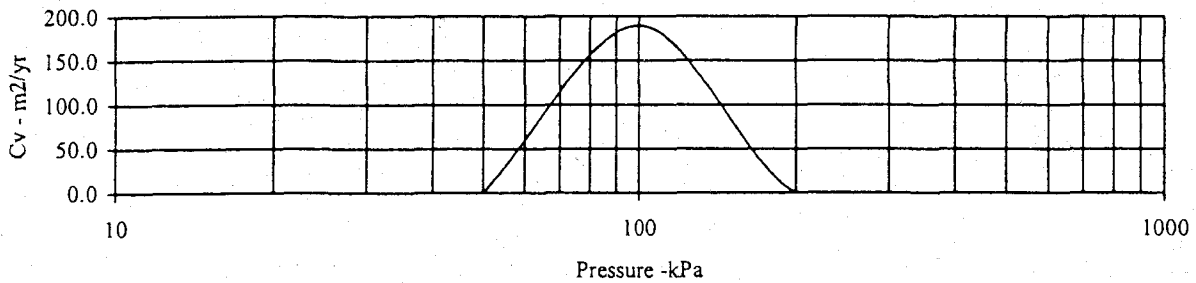
One Dimensional Consolidation Properties

BS 1377: Part 5: 1990

Borehole \ Sample No. 4

Depth (m): 3.00

Initial Conditions		Pressure Range		Mv	Cv	Final Conditions	
Moisture Content (%):	26	kPa		m ² /MN	m ² /yr	Moisture Content (%) :	26
Bulk Density (Mg/m ³):	2.13	0	- 50	Swelling	Swelling	Bulk Density (Mg/m ³) :	2.14
Dry Density (Mg/m ³):	1.69	50	- 100	0.054	189.565	Dry Density (Mg/m ³)	1.69
Voids Ratio:	0.569	100	- 200	0.094	0.377	Voids Ratio:	0.565
Degree of saturation:	121.9	200	- 400	0.073	0.196	Degree of Saturation: :	122.4
Height (mm):	19.81	400	- 800	0.047	0.267	Height (mm) :	19.76
Diameter (mm)	75	800	- 50	0.057	0.061	Remarks:	
Particle Density (Mg/m ³):	2.65	See summary of soil descriptions.					
Assumed							



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BICESTER

Contract No. NL211004

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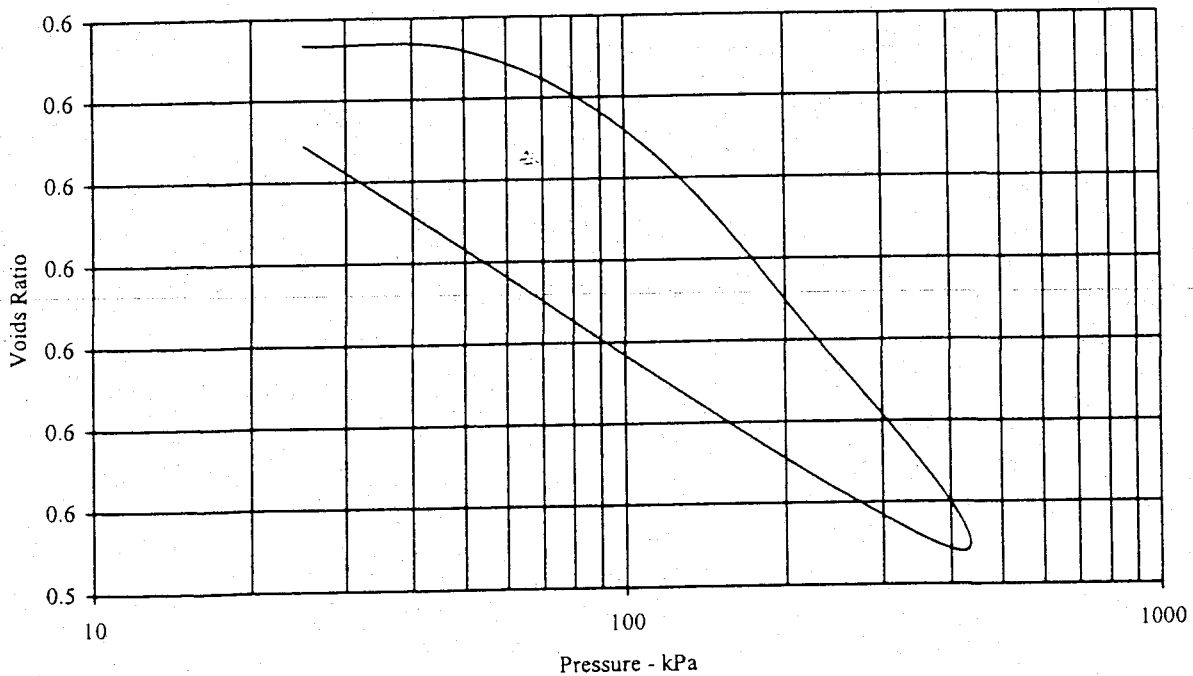
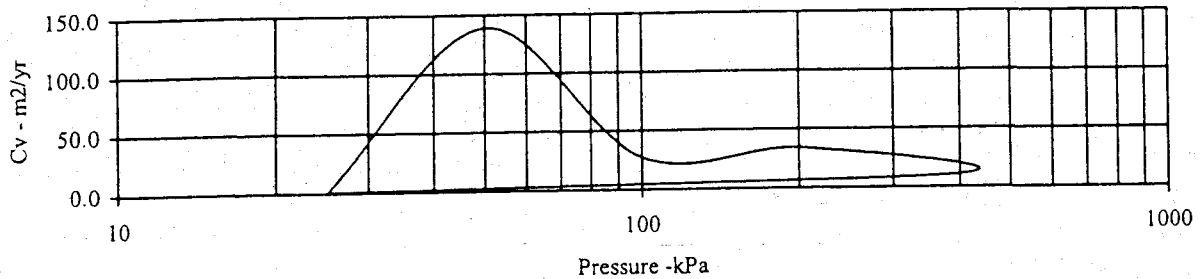
One Dimensional Consolidation Properties

BS 1377: Part 5: 1990

Borehole \ Sample No. 6

Depth (m): 2.00

Initial Conditions		Pressure Range		Mv	Cv	Final Conditions	
Moisture Content (%):	22	kPa		m2/MN	m2/yr	Moisture Content (%):	22
Bulk Density (Mg/m3):	2.01	0	- 25	Swelling	Swelling	Bulk Density (Mg/m3):	2.02
Dry Density (Mg/m3):	1.65	25	- 50	0.021	139.067	Dry Density (Mg/m3):	1.66
Voids Ratio:	0.606	50	- 100	0.124	27.264	Voids Ratio:	0.594
Degree of saturation:	95.4	100	- 200	0.132	33.869	Degree of Saturation: :	97.2
Height (mm):	19.38	200	- 400	0.097	10.687	Height (mm):	19.24
Diameter (mm)	75	400	- 25	0.087	0.835	Remarks:	
Particle Density (Mg/m3):	2.65	See summary of soil descriptions.					
Assumed							



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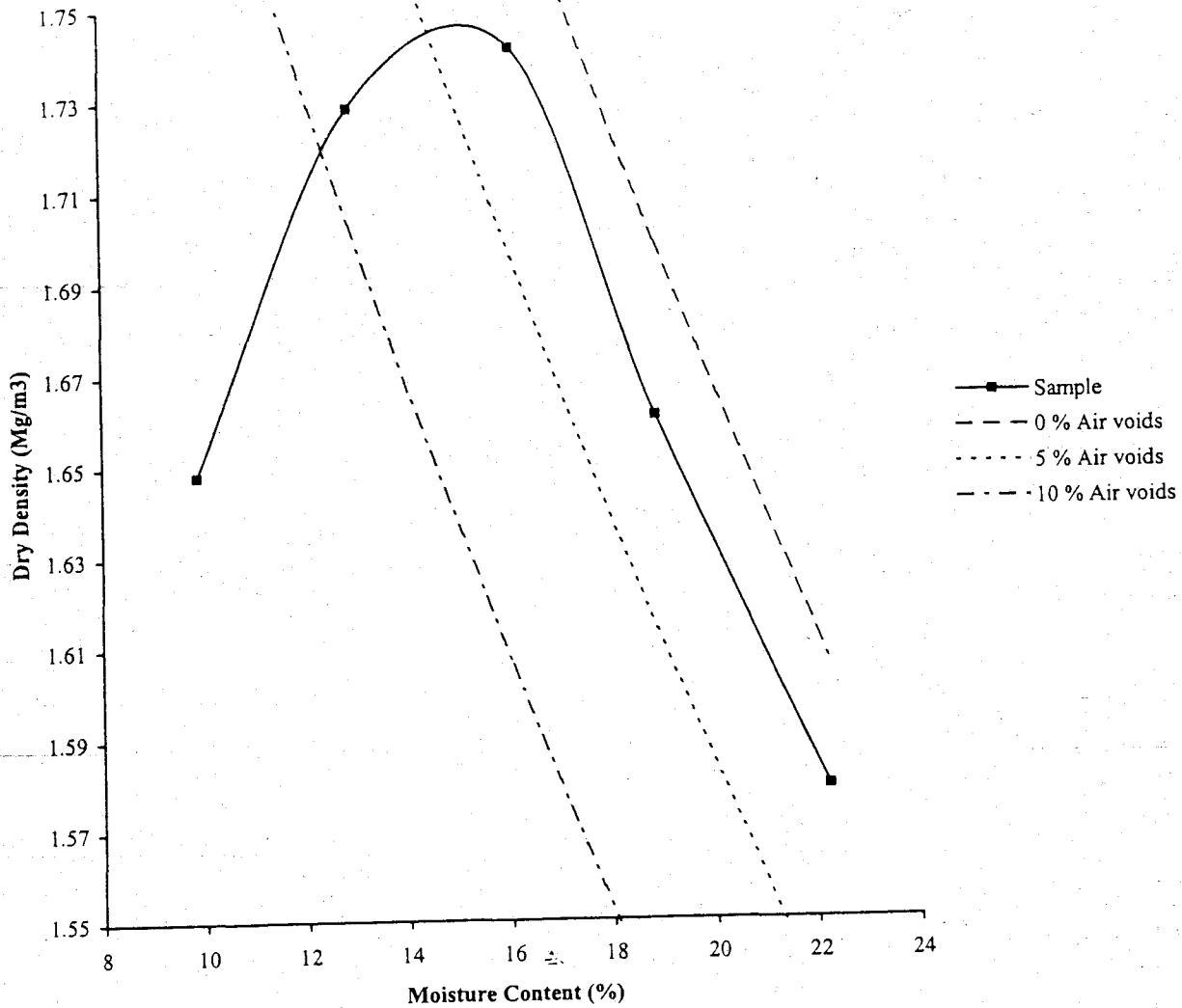
Page 1 of 1

Dry Density /Moisture Content Relationship Test

BS 1377 : Part 4 : 1990

Borehole /Sample Number : 1

Depth (m) : 1.00



Initial Moisture Content:	22	Method of Compaction	4.5 Kg Rammer /	Separate Sample
Particle Density (Mg/m ³):	2.5	Actual	Material Retained on 37.5 mm Test Sieve (%):	1
Maximum Dry Density (mg/m ³):		1.75	Material Retained on 20.0 mm Test Sieve (%):	3
Optimum Moisture Content (%):		15		
Remarks	See summary of soil descriptions.			

Checked By	Date	Approved By	Date
<i>RL</i>	26/9/01	<i>RL</i>	26/9/01

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		NL211004

California Bearing Ratio Test.

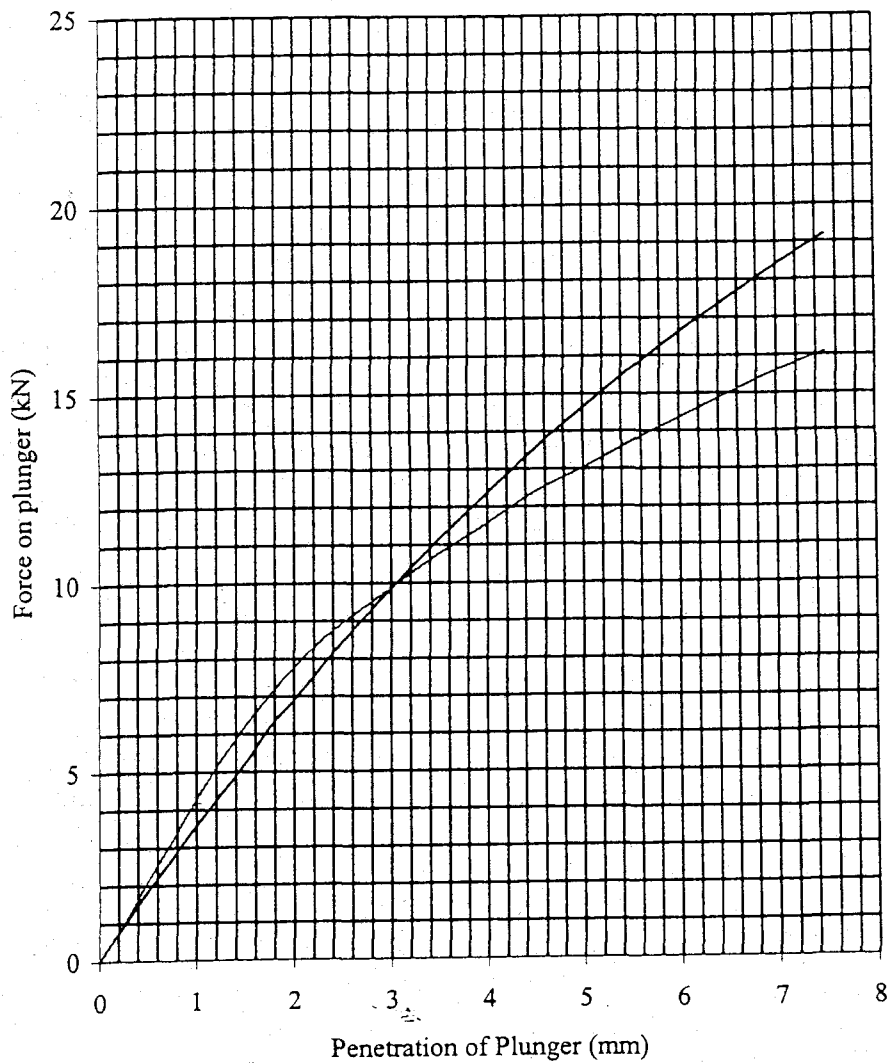
BS 1377 : Part 4 : 1990

Borehole Number

1


Depth (m) :

1.00



Initial Sample Conditions		Test Conditions		Method of compaction		4.5 Kg Rammer	
Moisture Content:	9.8	Surcharge Kg:	4.000	Final Moisture Content %	C.B.R. Value %		
Bulk Density Mg/m ³ :	1.81	Soaking Time hrs	0	Sample Top	10.1	Sample Top	73.1
Dry Density Mg/m ³ :	1.65	Swelling mm:	0	Sample Bottom	10.3	Sample Bottom	67.7
Percentage retained on 20mm	Remarks: See Summary of Soil Description.						
BS test sieve:	4						

Checked by	Date	Approved By	Date
<i>[Signature]</i>	26/10/01	<i>[Signature]</i>	26/10/01

 THYSSEN GEOTECHNICAL	BICESTER.	Contract No. NL211004
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California Bearing Ratio Test.

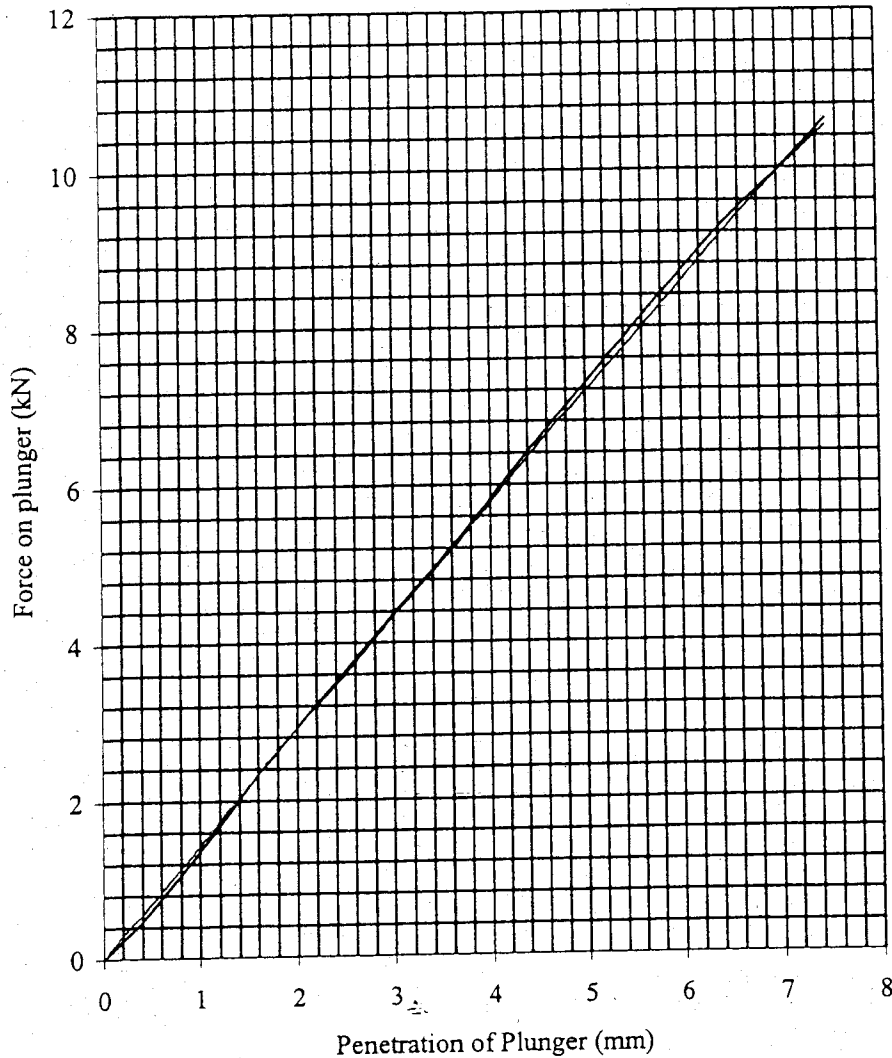
BS 1377 : Part 4 : 1990

Borehole Number

1


Depth (m) :

1.00



Initial Sample Conditions		Test Conditions		Method of compaction		4.5 Kg Rammer	
Moisture Content:	12.9	Surcharge Kg:	4.000	Final Moisture Content %	C.B.R. Value %		
Bulk Density Mg/m ³ :	1.95	Soaking Time hrs	0	Sample Top	13.3	Sample Top	36.4
Dry Density Mg/m ³ :	1.73	Swelling mm:	0	Sample Bottom	12.8	Sample Bottom	35.9
Percentage retained on 20mm	Remarks: See Summary of Soil Description.						
BS test sieve:	4						

Checked by	Date	Approved By	Date
<i>RL</i>	22/10/01	<i>RL</i>	22/10/01

 THYSSEN GEOTECHNICAL	BICESTER.	Contract No.
		NL211004

California Bearing Ratio Test.

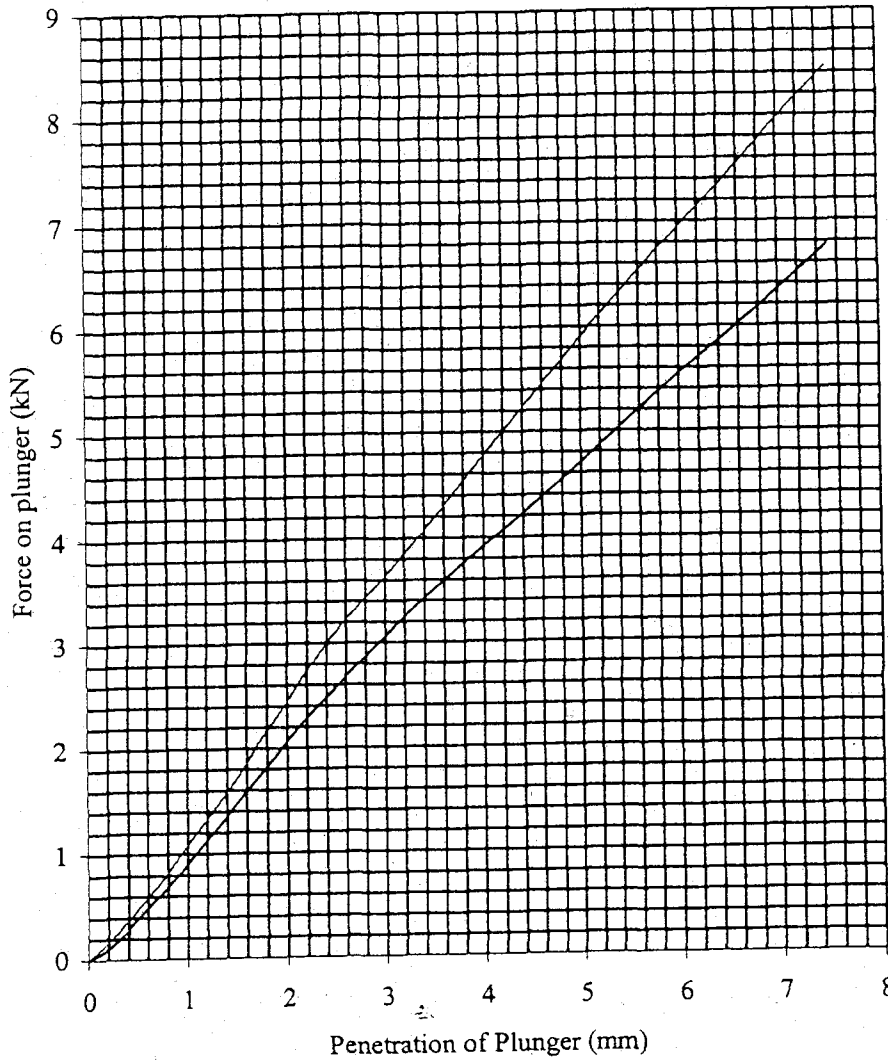
BS 1377 : Part 4 : 1990

Borehole Number

1


Depth (m) :

1.00



Initial Sample Conditions		Test Conditions		Method of compaction		4.5 Kg Rammer	
Moisture Content:	16.0	Surcharge Kg:	4.000	Final Moisture Content %	C.B.R. Value %		
Bulk Density Mg/m ³ :	2.02	Soaking Time hrs	0	Sample Top	16.3	Sample Top	23.5
Dry Density Mg/m ³ :	1.74	Swelling mm:	0	Sample Bottom	16.0	Sample Bottom	29.5
Percentage retained on 20mm	Remarks: See Summary of Soil Description.						
BS test sieve:	4						

Checked by	Date	Approved By	Date
<i>[Signature]</i>	26/9/01	<i>[Signature]</i>	26/9/01

 THYSSEN GEOTECHNICAL	BICESTER.	Contract No. NL211004
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California Bearing Ratio Test.

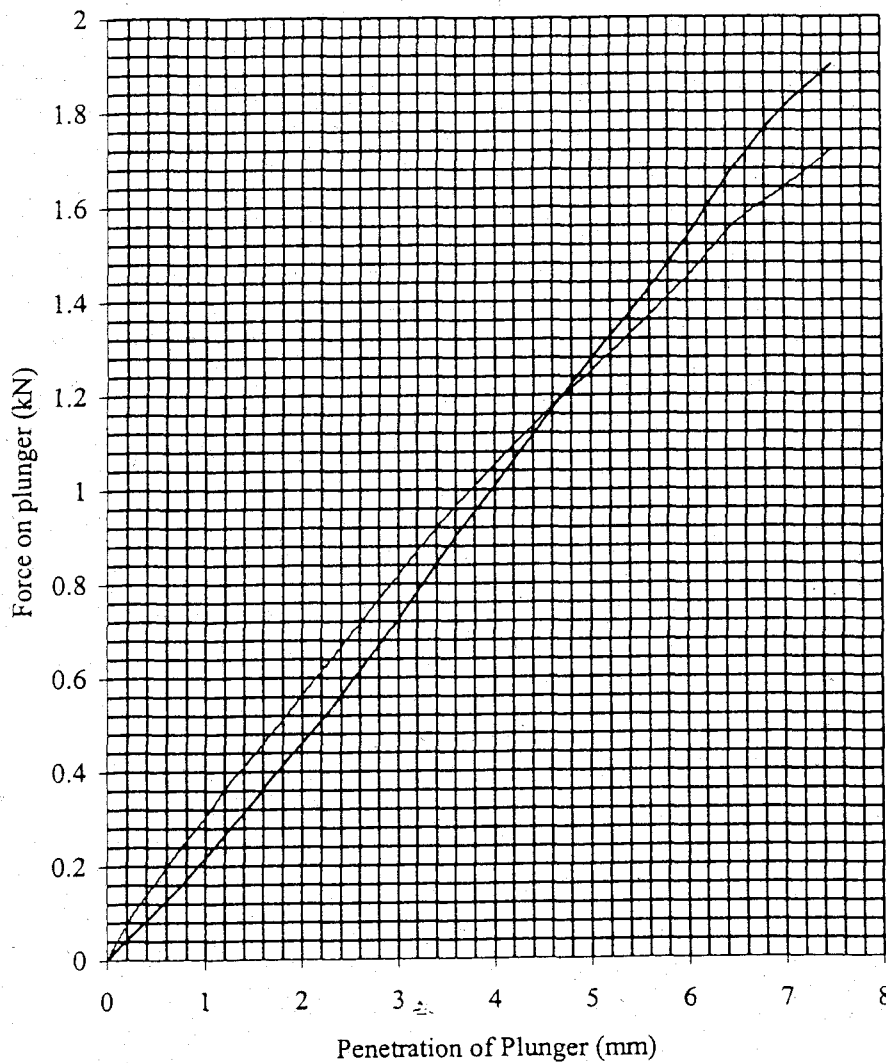
BS 1377 : Part 4 : 1990

Borehole Number

1


Depth (m) :

1.00



Initial Sample Conditions		Test Conditions		Method of compaction		4.5 Kg Rammer	
Moisture Content:	18.9	Surcharge Kg:	4.000	Final Moisture Content %	C.B.R. Value %		
Bulk Density Mg/m ³ :	1.97	Soaking Time hrs	0	Sample Top	19.3	Sample Top	6.4
Dry Density Mg/m ³ :	1.66	Swelling mm:	0	Sample Bottom	18.9	Sample Bottom	6.3
Percentage retained on 20mm	Remarks: See Summary of Soil Description.						
BS test sieve:	4						

Checked by	Date	Approved By	Date
<i>[Signature]</i>	26/9/01	<i>[Signature]</i>	26/9/01

 THYSSEN GEOTECHNICAL	BICESTER.	Contract No. NL211004
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California Bearing Ratio Test.

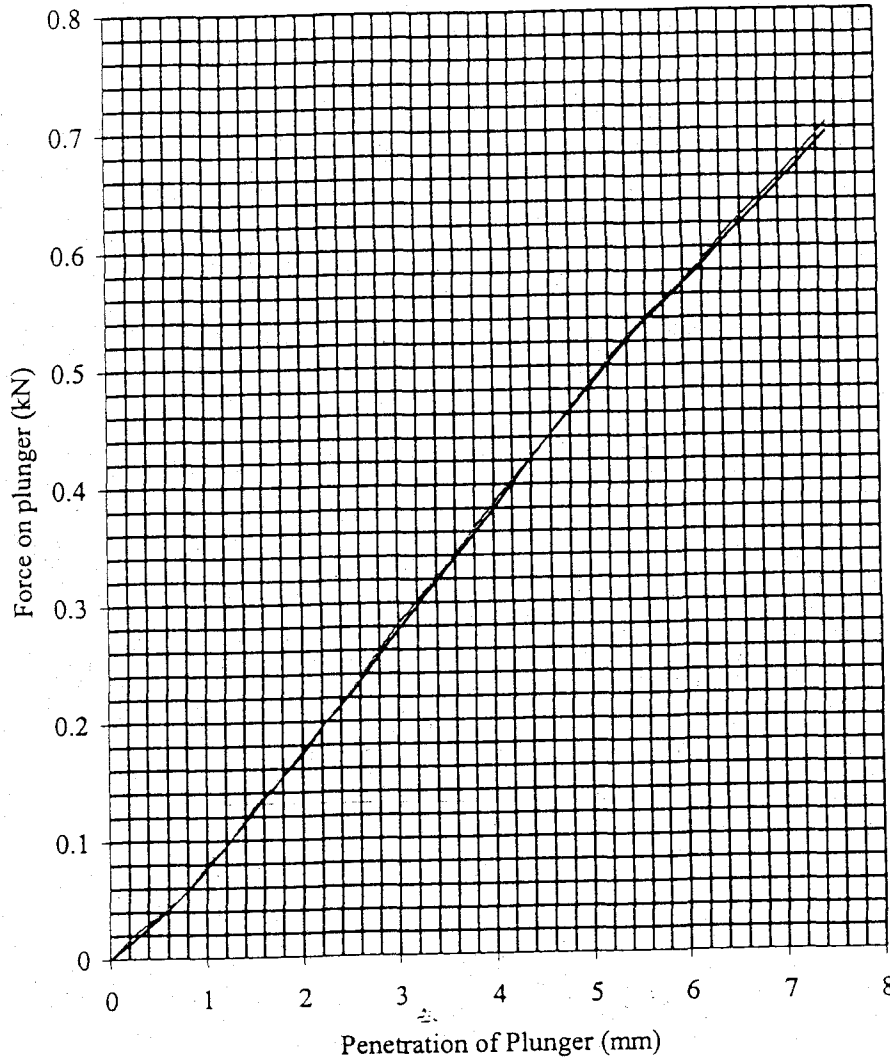
BS 1377 : Part 4 : 1990

Borehole Number

1

Depth (m) :

1.00



Initial Sample Conditions		Test Conditions		Method of compaction		4.5 Kg Rammer	
Moisture Content:	22.2	Surcharge Kg:	4.000	Final Moisture Content %		C.B.R. Value %	
Bulk Density Mg/m ³ :	1.93	Soaking Time hrs	0	Sample Top	21.8	Sample Top	2.4
Dry Density Mg/m ³ :	1.58	Swelling mm:	0	Sample Bottom	22.5	Sample Bottom	2.4
Percentage retained on 20mm		Remarks: See Summary of Soil Description.					
BS test sieve:	4						

Checked by	Date	Approved By	Date
<i>[Signature]</i>	26/9/01	<i>[Signature]</i>	26/9/01



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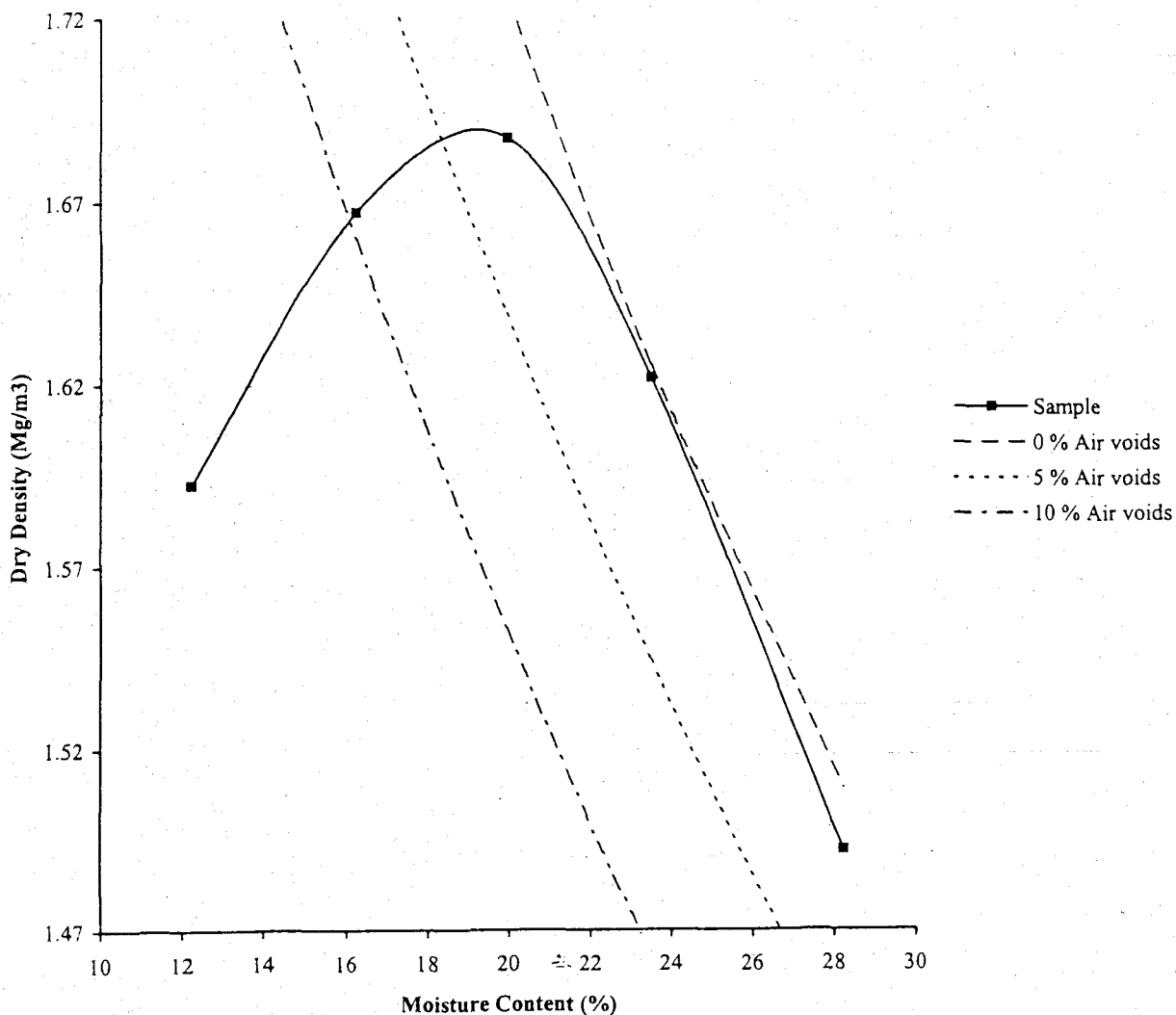
Contract No.
NL211004

Dry Density /Moisture Content Relationship Test

BS 1377 : Part 4 : 1990

Trial Pit /Sample Number : 1A

Depth (m) : 0.50



Initial Moisture Content:	20	Method of Compaction	2.5 Kg Rammer /	Separate Sample
Particle Density (Mg/m ³):	2.63	Actual	Material Retained on 37.5 mm Test Sieve (%):	0
Maximum Dry Density (mg/m ³):		1.69	Material Retained on 20.0 mm Test Sieve (%):	0
Optimum Moisture Content (%):		19		
Remarks	See summary of soil descriptions.			

Checked By	Date	Approved By	Date
<i>[Signature]</i>	26/9/01	<i>[Signature]</i>	26/9/01

	<p align="center">BICESTER.</p>	<p align="center">Contract No. NL211004</p>

California Bearing Ratio Test.

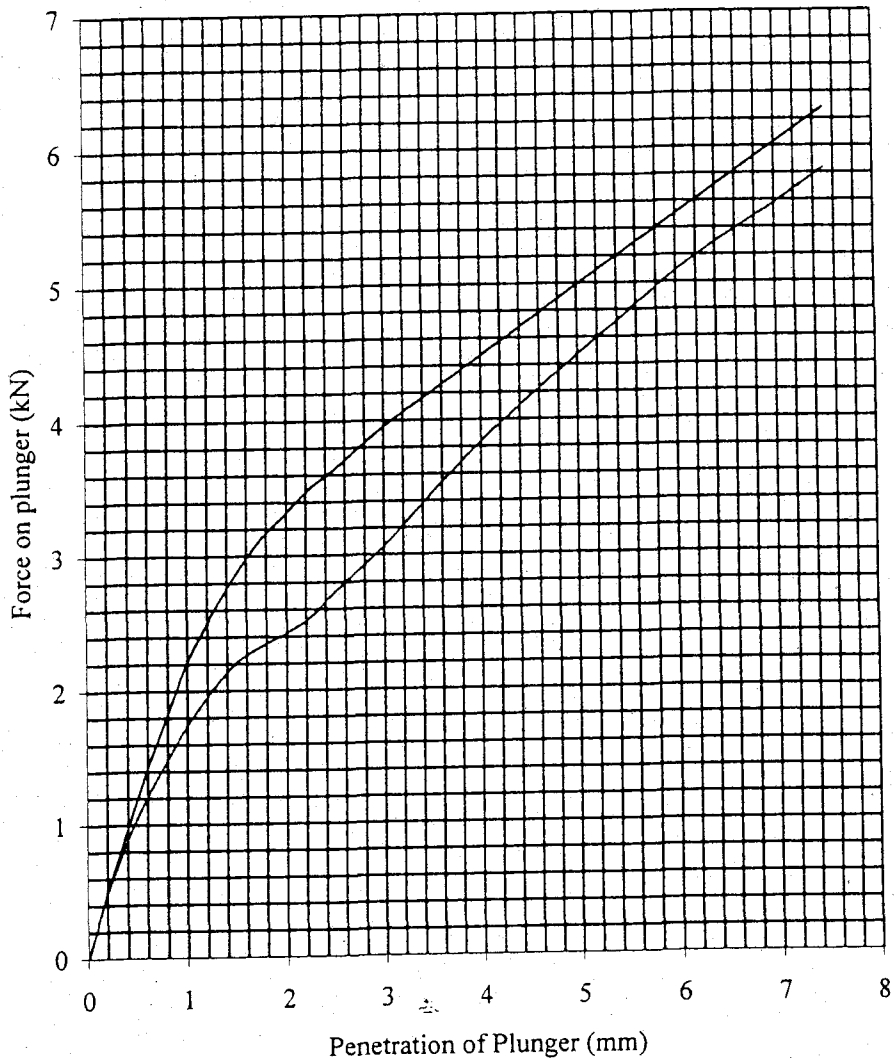
BS 1377 : Part 4 : 1990

Trial Pit Number

1A


Depth (m) :

0.50



Initial Sample Conditions		Test Conditions		Method of compaction		2.5 Kg Rammer	
Moisture Content:	12.2	Surcharge Kg:	4.000	Final Moisture Content %	C.B.R. Value %		
Bulk Density Mg/m ³ :	1.79	Soaking Time hrs	0	Sample Top	12.2	Sample Top	27.6
Dry Density Mg/m ³ :	1.59	Swelling mm:	0	Sample Bottom	12.2	Sample Bottom	22.3
Percentage retained on 20mm	Remarks: See Summary of Soil Description.						
BS test sieve:	0						

Checked by	Date	Approved By	Date
<i>[Signature]</i>	26/4/01	<i>[Signature]</i>	26/4/01

 THYSSEN GEOTECHNICAL	BICESTER.	Contract No. NL211004
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California Bearing Ratio Test.

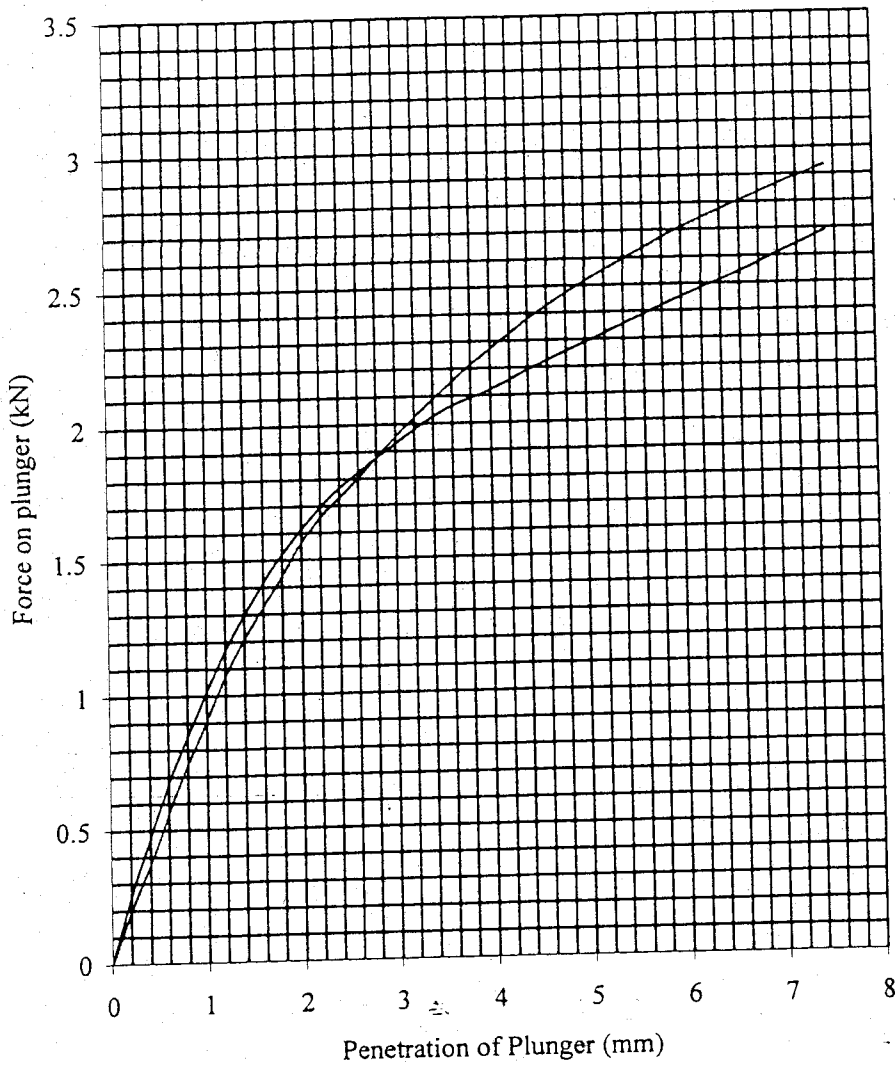
BS 1377 : Part 4 : 1990

Trial Pit Number

1A


Depth (m) :

0.50



Initial Sample Conditions		Test Conditions		Method of compaction		2.5 Kg Rammer	
Moisture Content:	16.2	Surcharge Kg:	4.000	Final Moisture Content %		C.B.R. Value %	
Bulk Density Mg/m ³ :	1.94	Soaking Time hrs	0	Sample Top	16.2	Sample Top	13.6
Dry Density Mg/m ³ :	1.67	Swelling mm:	0	Sample Bottom	16.2	Sample Bottom	13.4
Percentage retained on 20mm	Remarks: See Summary of Soil Description.						
BS test sieve:	0						

Checked by	Date	Approved By	Date
<i>R. Cur</i>	26/9/01	<i>R. Cur</i>	26/9/01

 THYSSEN GEOTECHNICAL	BICESTER.	Contract No. NL211004
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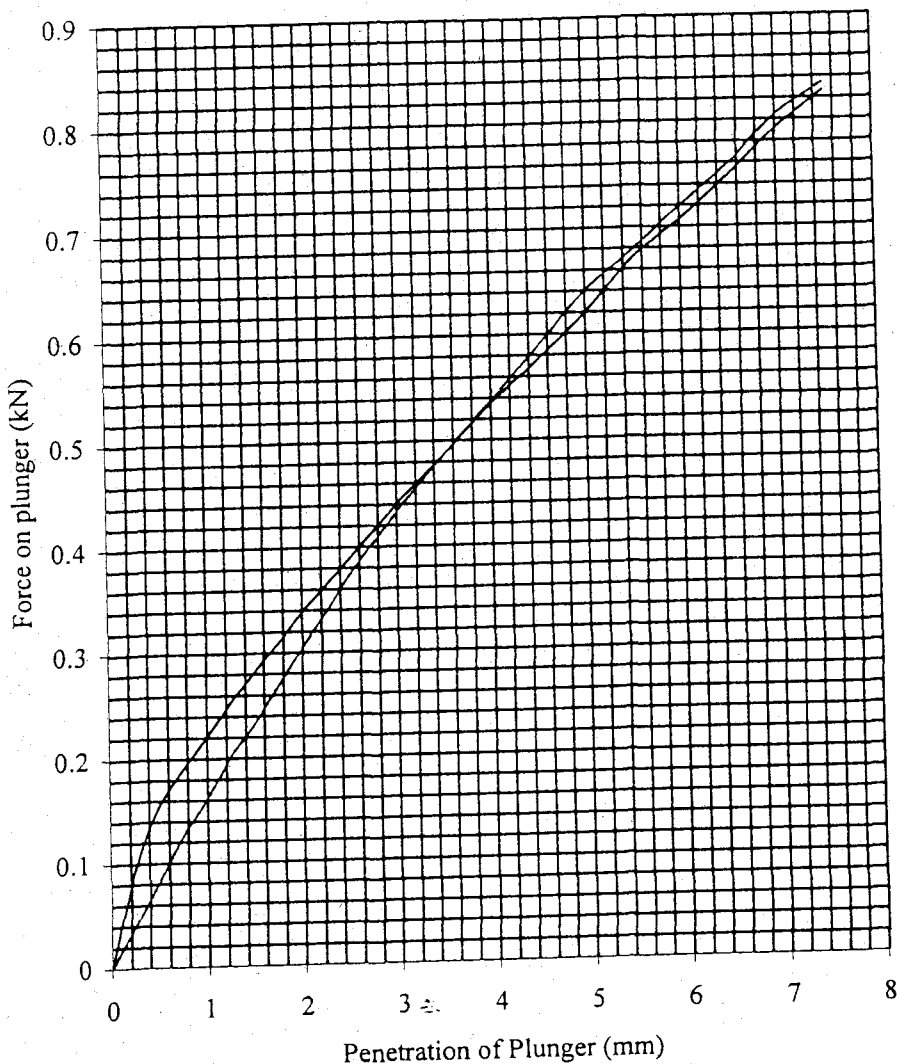
California Bearing Ratio Test.

BS 1377 : Part 4 : 1990

Trial Pit Number


1A

Depth (m) : 0.50



Initial Sample Conditions		Test Conditions		Method of compaction		2.5 Kg Rammer	
Moisture Content:	19.9	Surcharge Kg:	4.000	Final Moisture Content %		C.B.R. Value %	
Bulk Density Mg/m ³ :	2.03	Soaking Time hrs	0	Sample Top	20.0	Sample Top	3.1
Dry Density Mg/m ³ :	1.69	Swelling mm:	0	Sample Bottom	19.8	Sample Bottom	3.2
Percentage retained on 20mm		Remarks: See Summary of Soil Description.					
BS test sieve:	0						

Checked by	Date	Approved By	Date
<i>[Signature]</i>	26/9/01	<i>[Signature]</i>	26/9/01

	<p>BICESTER.</p>	<p>Contract No. NL211004</p>
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California Bearing Ratio Test.

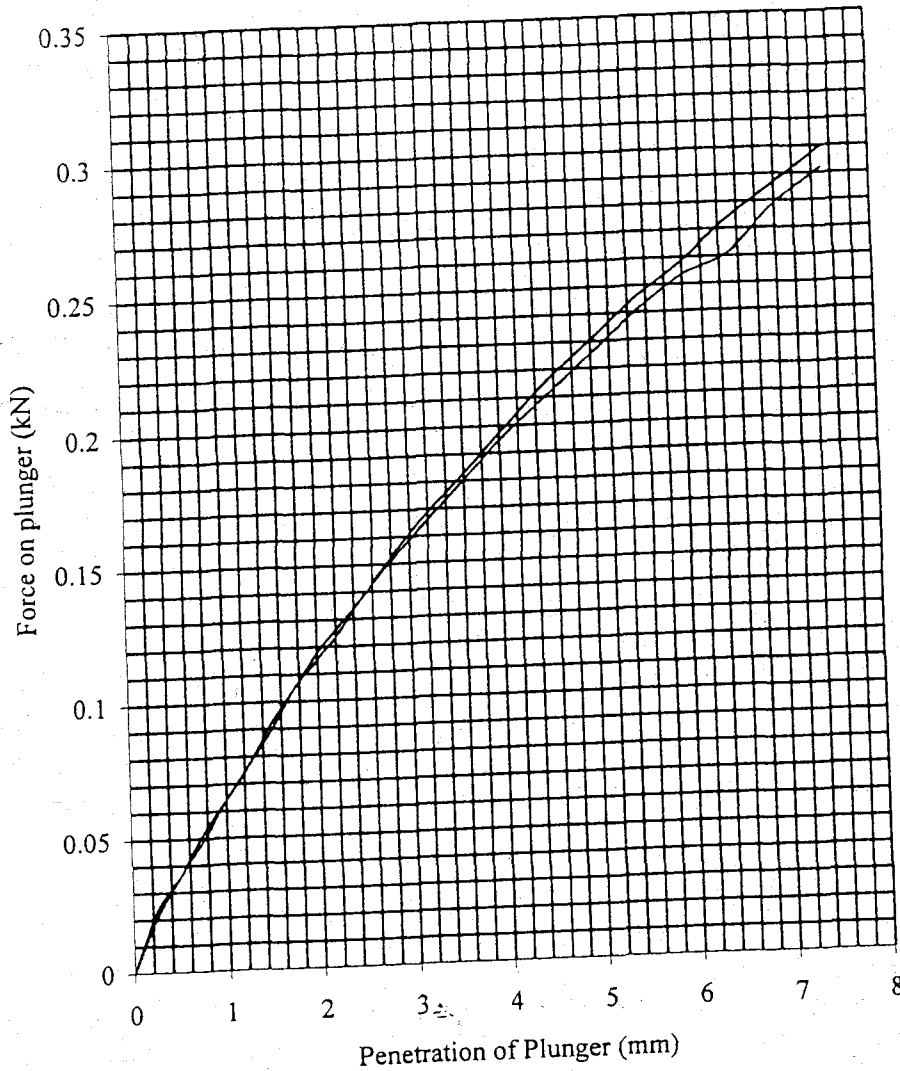
BS 1377 : Part 4 : 1990

Trial Pit Number

1A

Depth (m) :

0.50



Initial Sample Conditions		Test Conditions		Method of compaction		2.5 Kg Rammer	
Moisture Content:	24.2	Surcharge Kg:	4.000	Final Moisture Content %	C.B.R. Value %		
Bulk Density Mg/m ³ :	2.03	Soaking Time hrs	0	Sample Top	24.2	Sample Top	1.2
Dry Density Mg/m ³ :	1.63	Swelling mm:	0	Sample Bottom	24.2	Sample Bottom	1.1
Percentage retained on 20mm	Remarks: See Summary of Soil Description.						
BS test sieve:	0						

Checked by	Date	Approved By	Date
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Contract No.
NL211004

South Kirkby, WF9 3AP

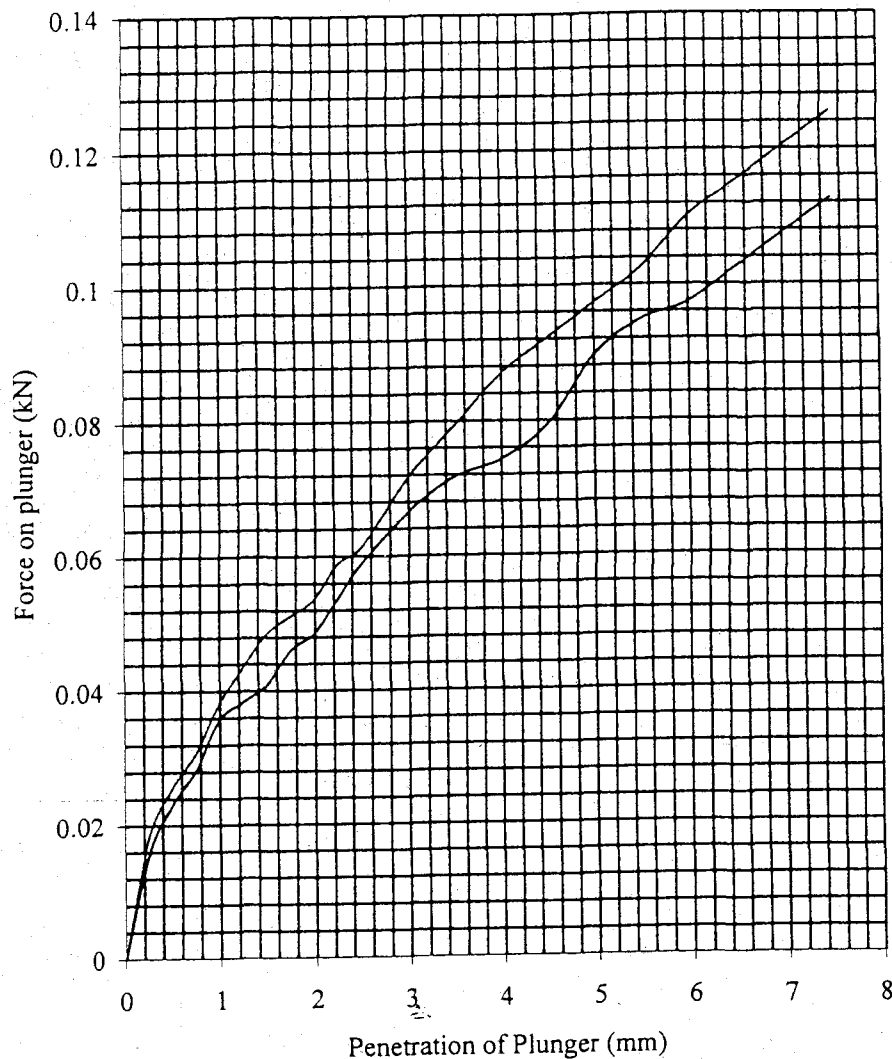
California Bearing Ratio Test.

BS 1377 : Part 4 : 1990

Trial Pit Number


1A

Depth (m) : 0.50



Initial Sample Conditions		Test Conditions		Method of compaction		2.5 Kg Rammer	
Moisture Content:	28.2	Surcharge Kg:	4.000	Final Moisture Content %	C.B.R. Value %		
Bulk Density Mg/m ³ :	1.91	Soaking Time hrs	0	Sample Top	28.2	Sample Top	0.4
Dry Density Mg/m ³ :	1.49	Swelling mm:	0	Sample Bottom	28.2	Sample Bottom	0.5
Percentage retained on 20mm	Remarks: See Summary of Soil Description.						
BS test sieve:	0						

Checked by	Date	Approved By	Date
<i>[Signature]</i>	26/10/01	<i>[Signature]</i>	26/10/01

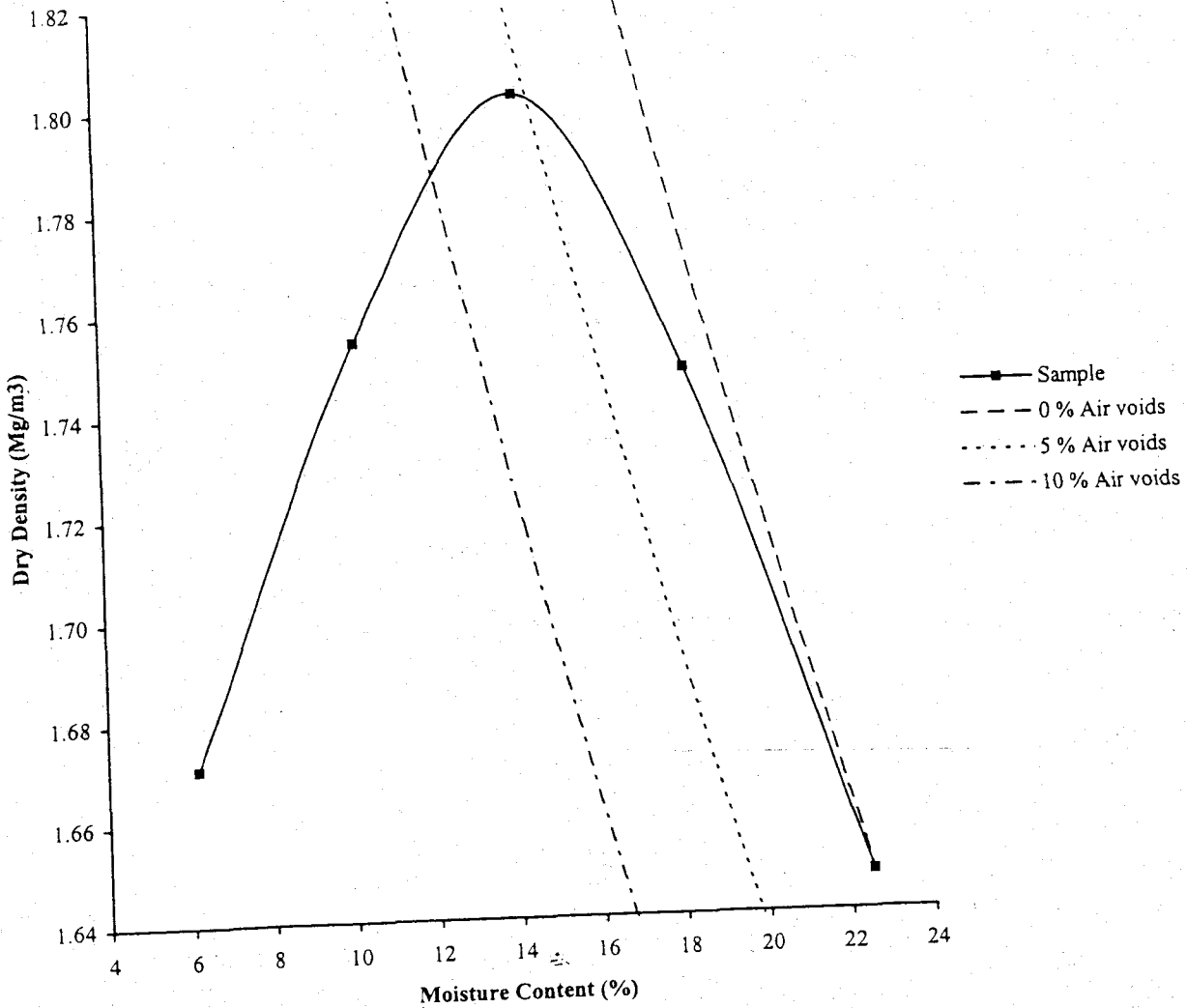
 THYSSEN GEOTECHNICAL	BICESTER.	Contract No. NL211004
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Dry Density /Moisture Content Relationship Test

BS 1377 : Part 4 : 1990

Trial Pit /Sample Number : 14A

Depth (m) : 2.00



Initial Moisture Content:	23	Method of Compaction	4.5 Kg Rammer /	Separate Sample
Particle Density (Mg/m ³):	2.62	Actual	Material Retained on 37.5 mm Test Sieve (%):	0
Maximum Dry Density (mg/m ³):		1.80	Material Retained on 20.0 mm Test Sieve (%):	2
Optimum Moisture Content (%):		14		
Remarks	See summary of soil descriptions.			

Checked By	Date	Approved By	Date
<i>[Signature]</i>	26/9/01	<i>[Signature]</i>	26/9/01

	<p align="center">BICESTER.</p>	<p align="right">Contract No. NL211004</p>
		<p align="right">South Kirkby, WF3 9AP</p>

California Bearing Ratio Test.

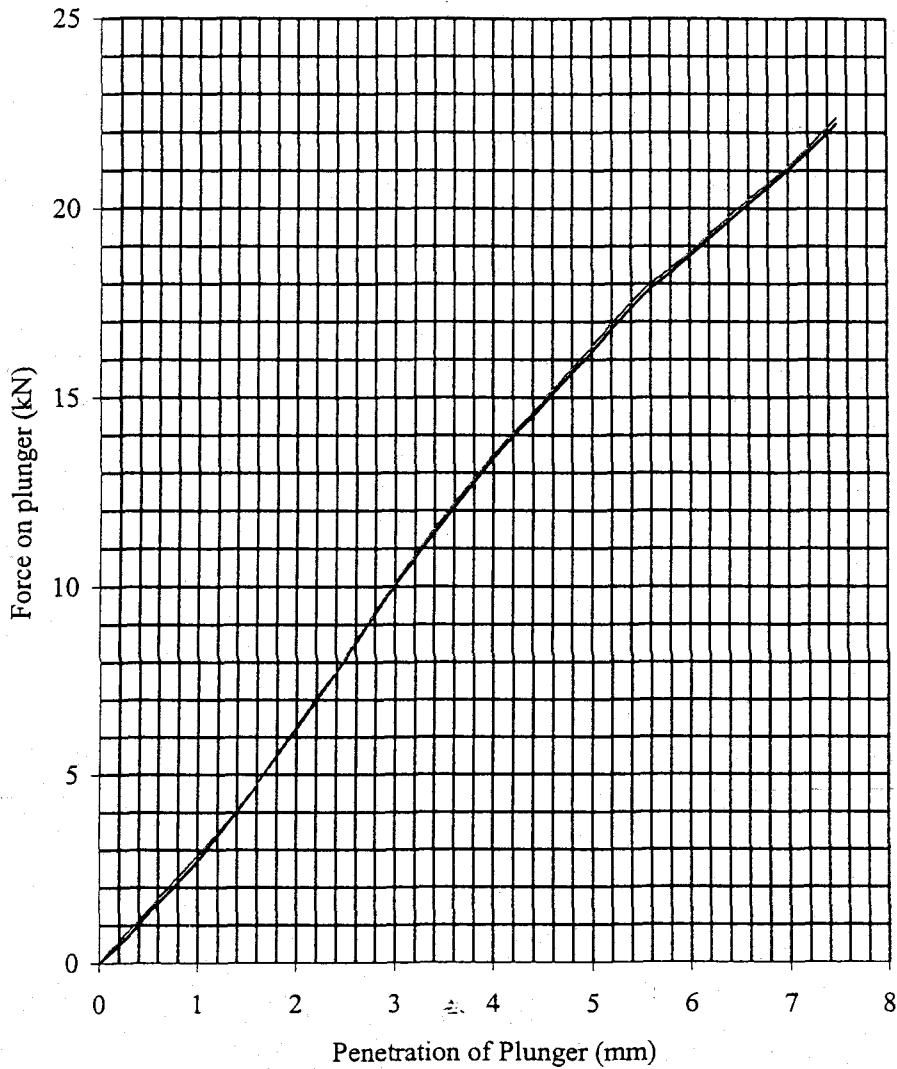
BS 1377 : Part 4 : 1990

Trial Pit Number

14A


Depth (m) :

2.00



Initial Sample Conditions		Test Conditions		Method of compaction		4.5 Kg Rammer	
Moisture Content:	6.2	Surcharge Kg:	4.000	Final Moisture Content %	C.B.R. Value %		
Bulk Density Mg/m ³ :	1.77	Soaking Time hrs	0	Sample Top	6.1	Sample Top	81.0
Dry Density Mg/m ³ :	1.67	Swelling mm:	0	Sample Bottom	6.2	Sample Bottom	81.7
Percentage retained on 20mm	Remarks: See Summary of Soil Description.						
BS test sieve:	2						

Checked by	Date	Approved By	Date
<i>[Signature]</i>	26/9/01	<i>[Signature]</i>	26/9/01

 THYSSEN GEOTECHNICAL	BICESTER.	Contract No. NL211004
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California Bearing Ratio Test.

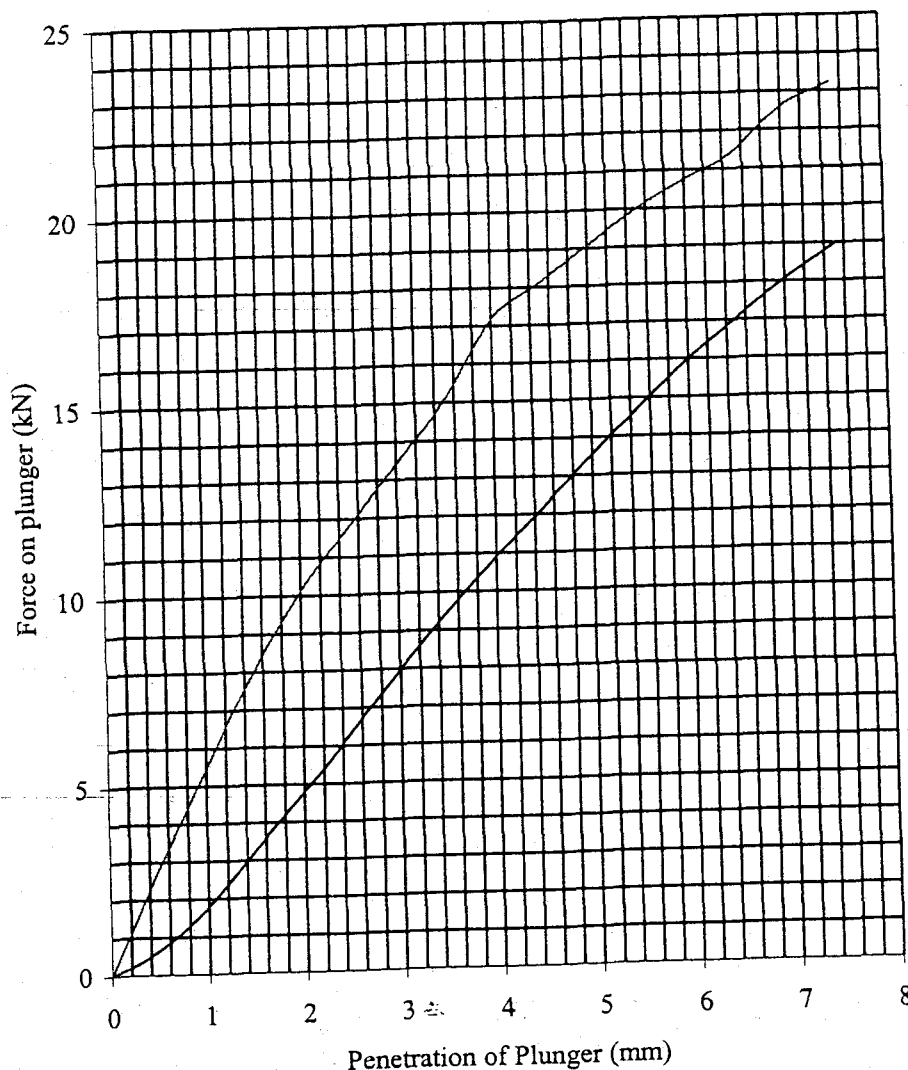
BS 1377 : Part 4 : 1990

Trial Pit Number

14A

Depth (m) :

2.00



Initial Sample Conditions		Test Conditions		Method of compaction		4.5 Kg Rammer	
Moisture Content:	10.2	Surcharge Kg:	4.000	Final Moisture Content %	C.B.R. Value %		
Bulk Density Mg/m ³ :	1.93	Soaking Time hrs	0	Sample Top	10.2	Sample Top	67.7
Dry Density Mg/m ³ :	1.75	Swelling mm:	0	Sample Bottom	10.2	Sample Bottom	95.3
Percentage retained on 20mm	Remarks: See Summary of Soil Description.						
BS test sieve:	2						

Checked by	Date	Approved By	Date
<i>RC</i>	26/9/01	<i>RC</i>	26/9/01

	BICESTER.	Contract No.
		NL211004

California Bearing Ratio Test.

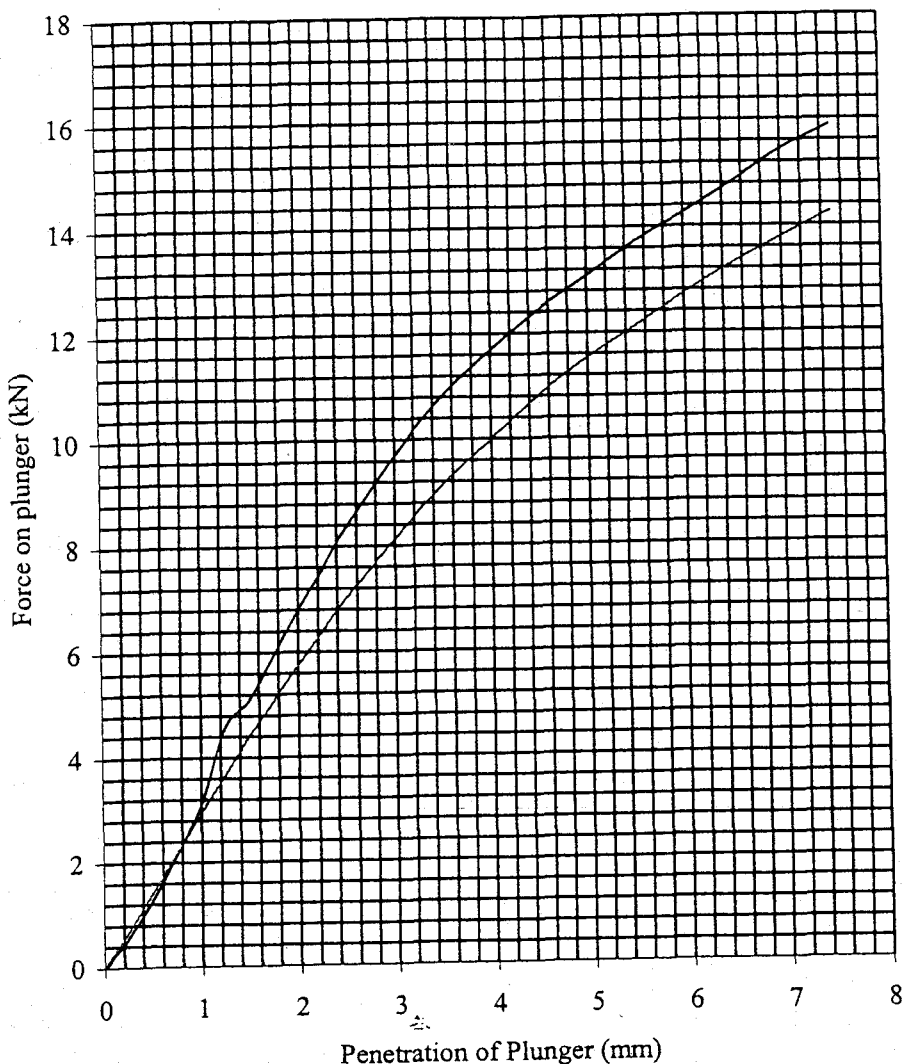
BS 1377 : Part 4 : 1990

Trial Pit Number

14A


Depth (m) :

2.00



Initial Sample Conditions		Test Conditions		Method of compaction		4.5 Kg Rammer	
Moisture Content:	14.2	Surcharge Kg:	4.000	Final Moisture Content %	C.B.R. Value %		
Bulk Density Mg/m ³ :	2.06	Soaking Time hrs	0	Sample Top	14.2	Sample Top	65.4
Dry Density Mg/m ³ :	1.80	Swelling mm:	0	Sample Bottom	14.2	Sample Bottom	57.6
Percentage retained on 20mm	Remarks: See Summary of Soil Description.						
BS test sieve:	2						

Checked by	Date	Approved By	Date
<i>RC</i>	26/10/01	<i>RC</i>	26/10/01

 THYSSEN GEOTECHNICAL	BICESTER.	Contract No.
		NL211004

California Bearing Ratio Test.

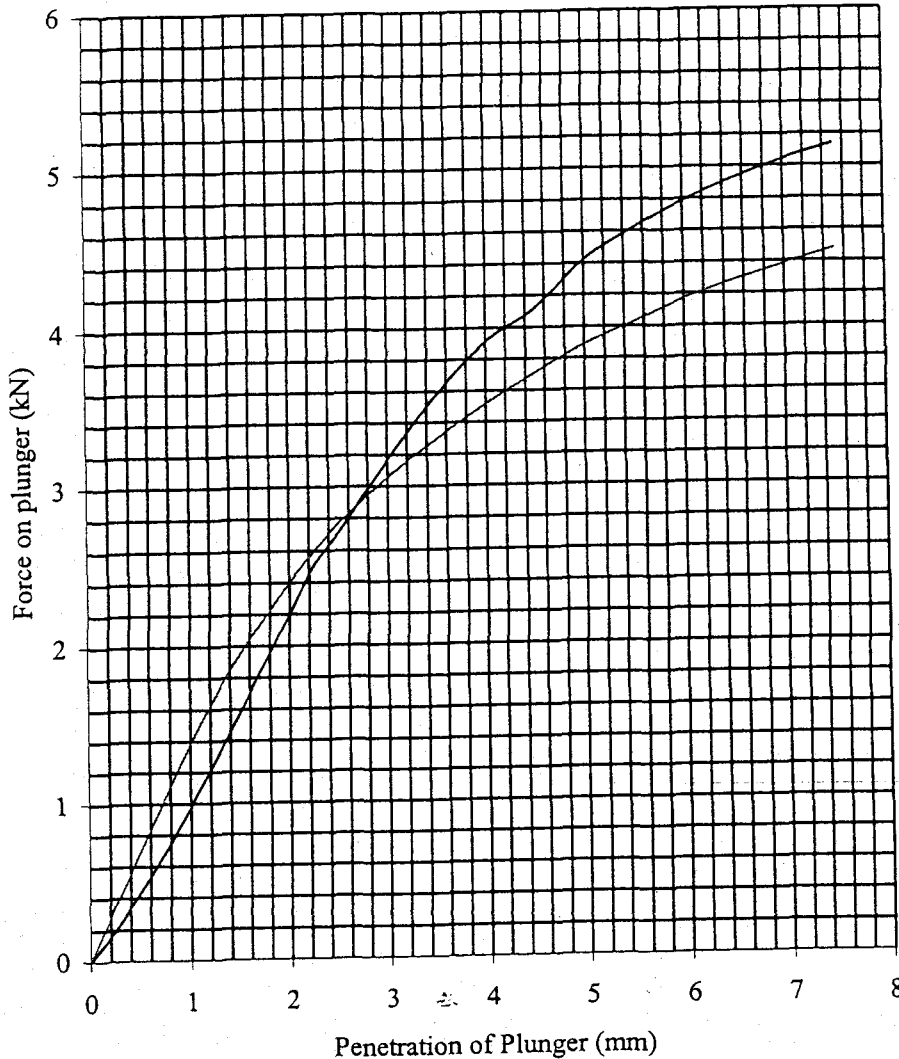
BS 1377 : Part 4 : 1990

Trial Pit Number

14A


Depth (m) :

2.00



Initial Sample Conditions		Test Conditions		Method of compaction		4.5 Kg Rammer	
Moisture Content:	18.2	Surcharge Kg:	4.000	Final Moisture Content %	C.B.R. Value %		
Bulk Density Mg/m ³ :	2.07	Soaking Time hrs	0	Sample Top	18.2	Sample Top	22.1
Dry Density Mg/m ³ :	1.75	Swelling mm:	0	Sample Bottom	18.2	Sample Bottom	21.0
Percentage retained on 20mm	Remarks: See Summary of Soil Description.						
BS test sieve:	2						

Checked by	Date	Approved By	Date
<i>[Signature]</i>	26/4/01	<i>[Signature]</i>	26/4/01

 THYSSEN GEOTECHNICAL	BICESTER.	Contract No. NL211004
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California Bearing Ratio Test.

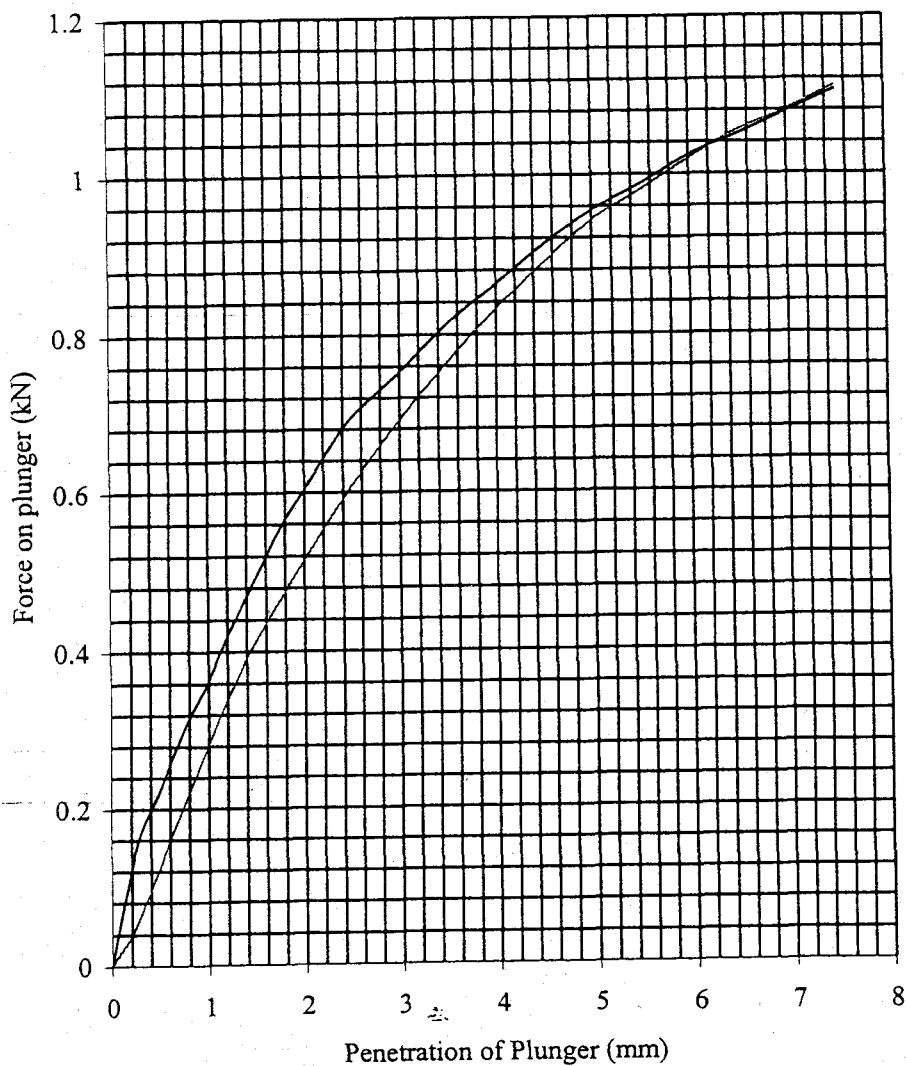
BS 1377 : Part 4 : 1990

Trial Pit Number

14A


Depth (m) :

2.00



Initial Sample Conditions		Test Conditions		Method of compaction		4.5 Kg Rammer	
Moisture Content:	22.5	Surcharge Kg:	4.000	Final Moisture Content %	C.B.R. Value %		
Bulk Density Mg/m ³ :	2.02	Soaking Time hrs	0	Sample Top	23.7	Sample Top	5.3
Dry Density Mg/m ³ :	1.65	Swelling mm:	0	Sample Bottom	23.1	Sample Bottom	4.7
Percentage retained on 20mm	Remarks: See Summary of Soil Description.						
BS test sieve:	2						

Checked by	Date	Approved By	Date
<i>R. Cur</i>	12/10/01	<i>R. Cur</i>	12/10/01

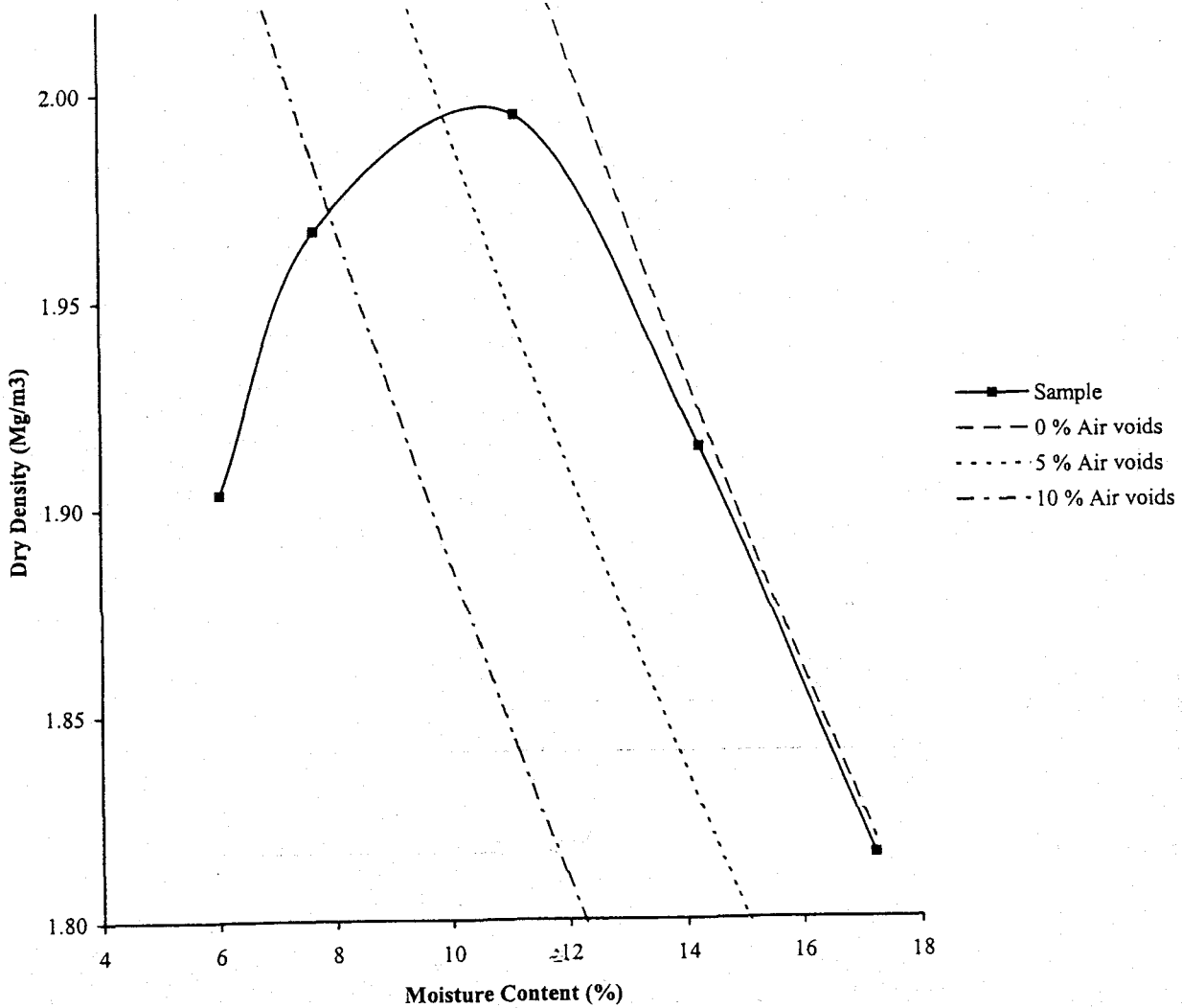
 THYSSEN GEOTECHNICAL	BICESTER.	Contract No. NL211004
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Dry Density /Moisture Content Relationship Test

BS 1377 : Part 4 : 1990

Trial Pit /Sample Number : 72

Depth (m) : 0.50



Initial Moisture Content:	8	Method of Compaction	4.5 Kg Rammer /	Separate Sample
Particle Density (Mg/m ³):	2.65	Actual	Material Retained on 37.5 mm Test Sieve (%):	0
Maximum Dry Density (mg/m ³):	2.00		Material Retained on 20.0 mm Test Sieve (%):	24
Optimum Moisture Content (%):	11			
Remarks	See summary of soil descriptions.			

Checked By	Date	Approved By	Date
<i>R. A.</i>	26/9/01	<i>R. A.</i>	26/9/01

	<p align="center">BICESTER.</p>	<p align="right">Contract No.</p>
		<p align="right">NL211004</p>

California Bearing Ratio Test.

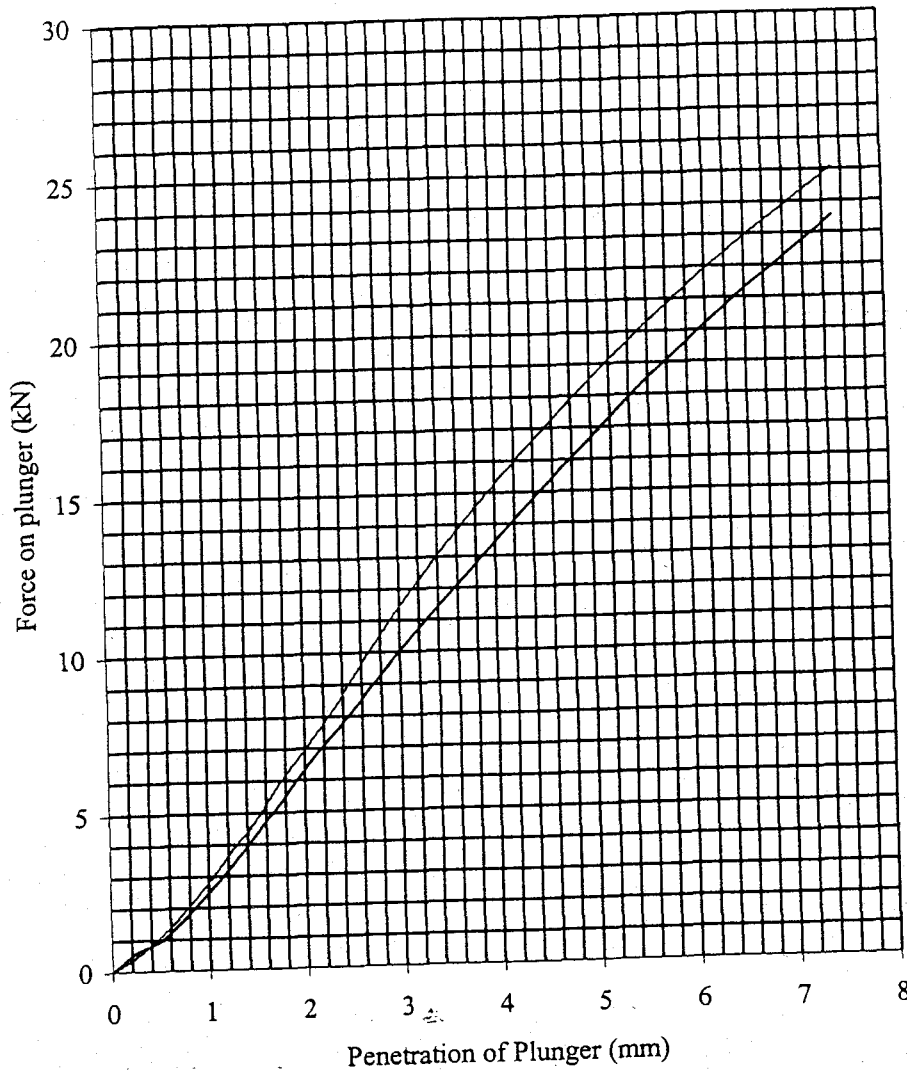
BS 1377 : Part 4 : 1990

Trial Pit Number

72


Depth (m) :

0.60



Initial Sample Conditions		Test Conditions		Method of compaction		4.5 Kg Rammer	
Moisture Content:	6.2	Surcharge Kg:	4.000	Final Moisture Content %		C.B.R. Value %	
Bulk Density Mg/m ³ :	2.02	Soaking Time hrs	0	Sample Top	6.2	Sample Top	83.5
Dry Density Mg/m ³ :	1.90	Swelling mm:	0	Sample Bottom	6.2	Sample Bottom	92.4
Percentage retained on 20mm		Remarks: See Summary of Soil Description.					
BS test sieve:	24						

Checked by	Date	Approved By	Date
<i>[Signature]</i>	26/10/01	<i>[Signature]</i>	26/10/01

 THYSSEN GEOTECHNICAL	BICESTER.	Contract No.
		NL211004

California Bearing Ratio Test.

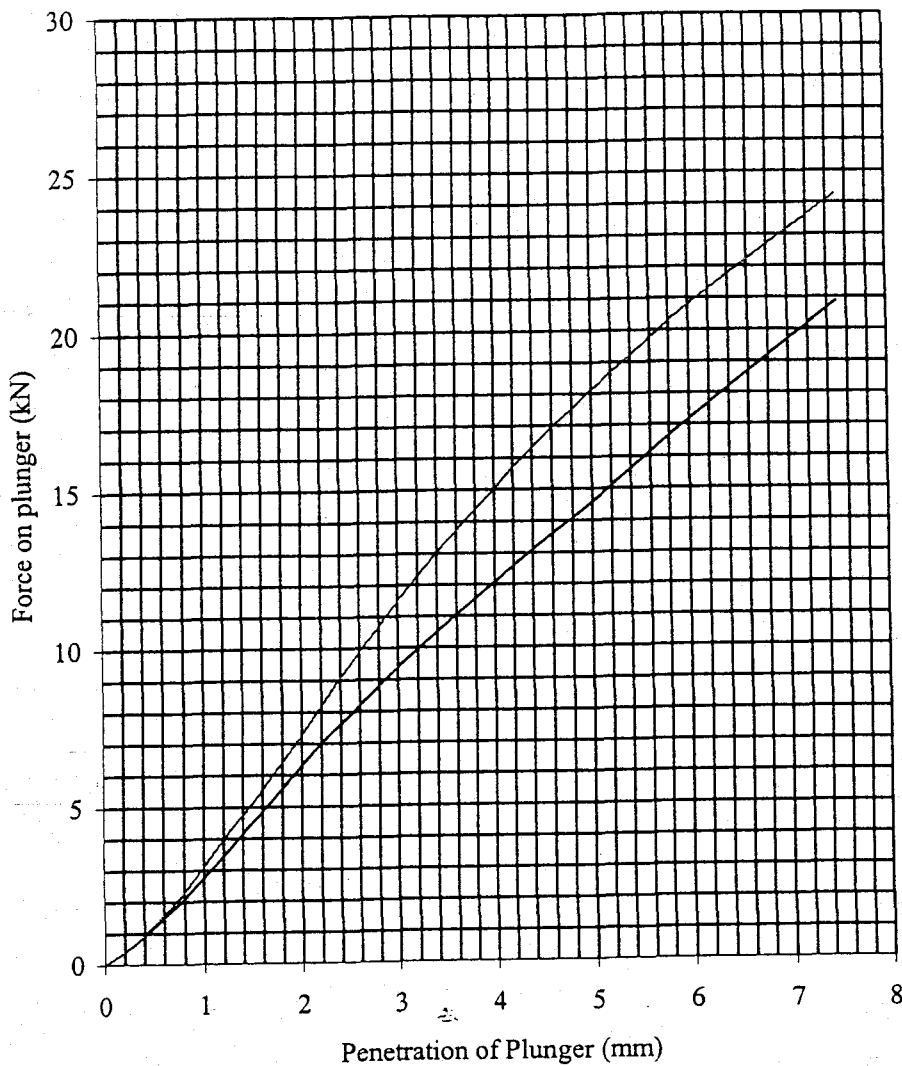
BS 1377 : Part 4 : 1990

Trial Pit Number

72


Depth (m) :

0.60



Initial Sample Conditions		Test Conditions		Method of compaction		4.5 Kg Rammer	
Moisture Content:	7.6	Surcharge Kg:	4.000	Final Moisture Content %	C.B.R. Value %		
Bulk Density Mg/m ³ :	2.12	Soaking Time hrs	0	Sample Top	7.5	Sample Top	72.9
Dry Density Mg/m ³ :	1.97	Swelling mm:	0	Sample Bottom	7.7	Sample Bottom	90.6
Percentage retained on 20mm	Remarks: See Summary of Soil Description.						
BS test sieve:	24						

Checked by	Date	Approved By	Date
<i>RC</i>	26/9/01	<i>RC</i>	26/9/01

 THYSSEN GEOTECHNICAL	BICESTER.	Contract No. NL211004
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California Bearing Ratio Test.

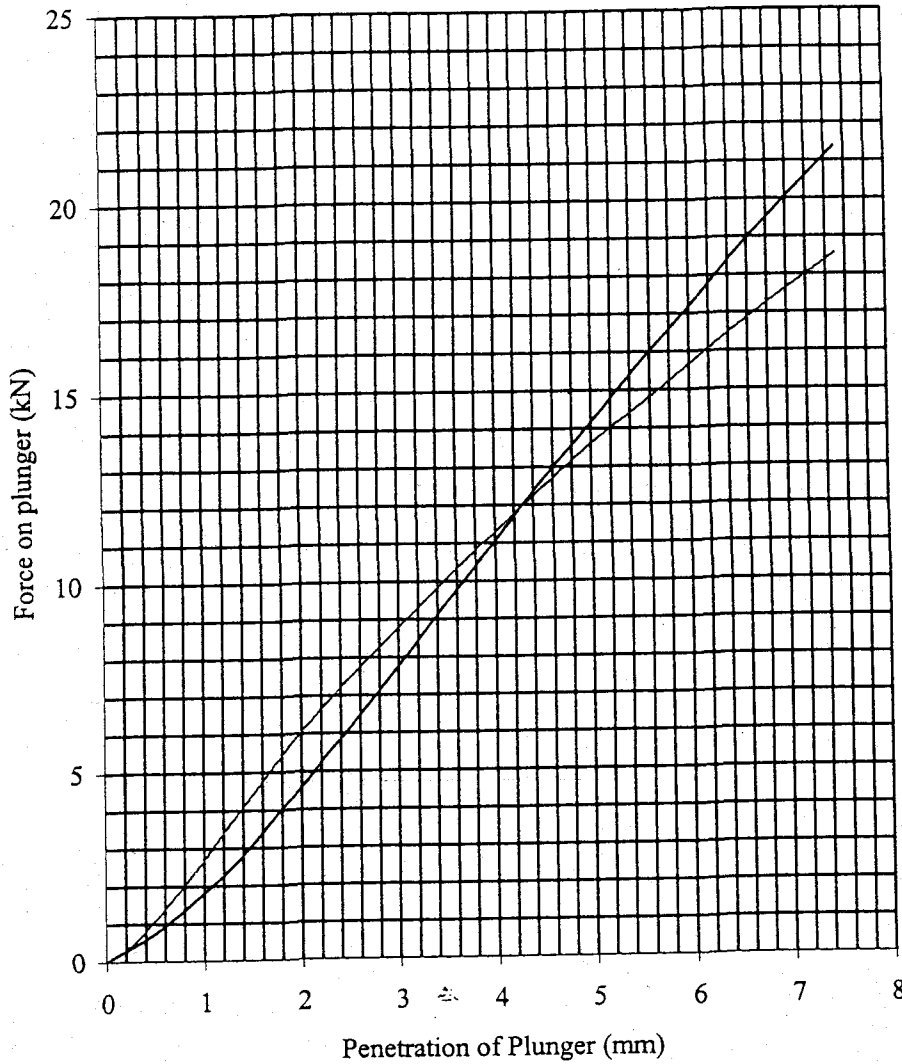
BS 1377 : Part 4 : 1990

Trial Pit Number

72


Depth (m) :

0.60



Initial Sample Conditions		Test Conditions		Method of compaction		4.5 Kg Rammer	
Moisture Content:	11.1	Surcharge Kg:	4.000	Final Moisture Content %		C.B.R. Value %	
Bulk Density Mg/m ³ :	2.22	Soaking Time hrs	0	Sample Top	11.1	Sample Top	70.8
Dry Density Mg/m ³ :	1.99	Swelling mm:	0	Sample Bottom	11.1	Sample Bottom	68.1
Percentage retained on 20mm	Remarks: See Summary of Soil Description.						
BS test sieve:	24						

Checked by	Date	Approved By	Date
<i>[Signature]</i>	26/7/01	<i>[Signature]</i>	26/7/01

 THYSSEN GEOTECHNICAL	BICESTER.	Contract No.
		NL211004

California Bearing Ratio Test.

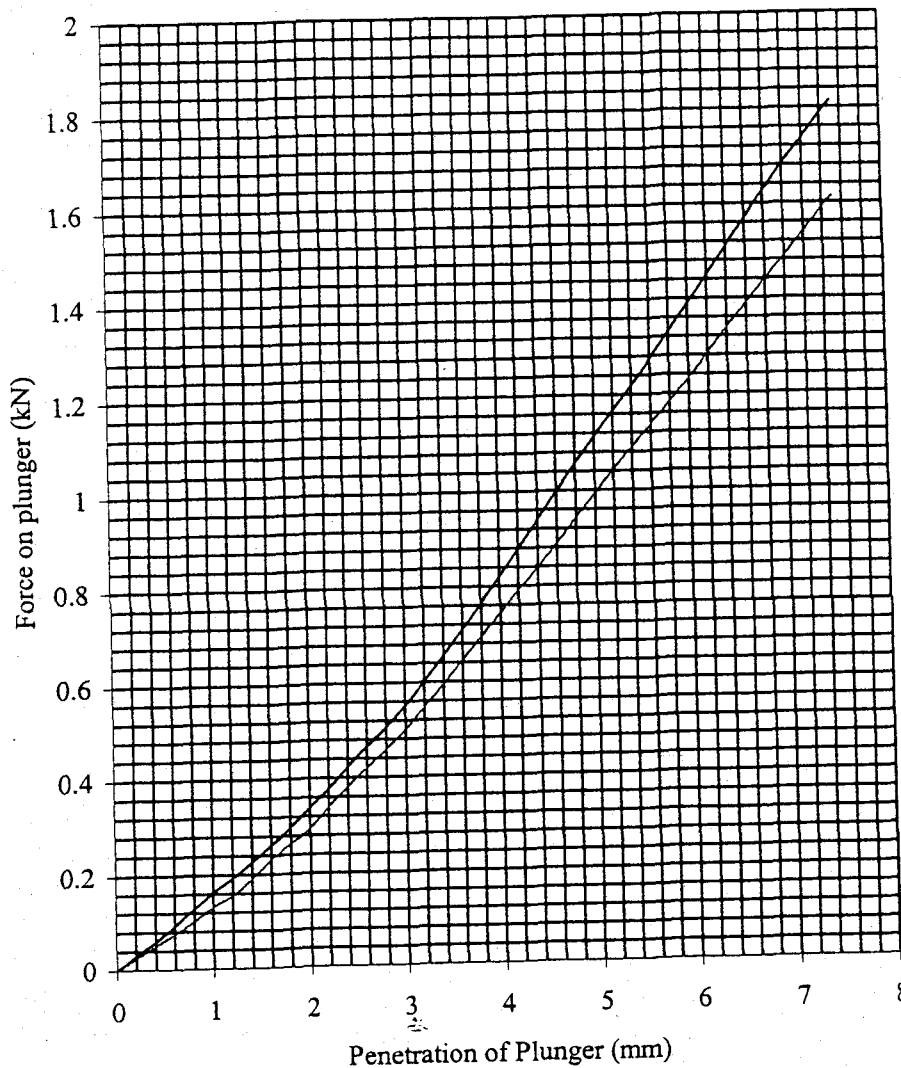
BS 1377 : Part 4 : 1990

Trial Pit Number

72


Depth (m) :

0.60



Initial Sample Conditions		Test Conditions		Method of compaction		4.5 Kg Rammer	
Moisture Content:	14.3	Surcharge Kg:	4.000	Final Moisture Content %	C.B.R. Value %		
Bulk Density Mg/m ³ :	2.19	Soaking Time hrs	0	Sample Top	14.3	Sample Top	5.6
Dry Density Mg/m ³ :	1.91	Swelling mm:	0	Sample Bottom	14.3	Sample Bottom	5.0
Percentage retained on 20mm	Remarks: See Summary of Soil Description.						
BS test sieve:	24						

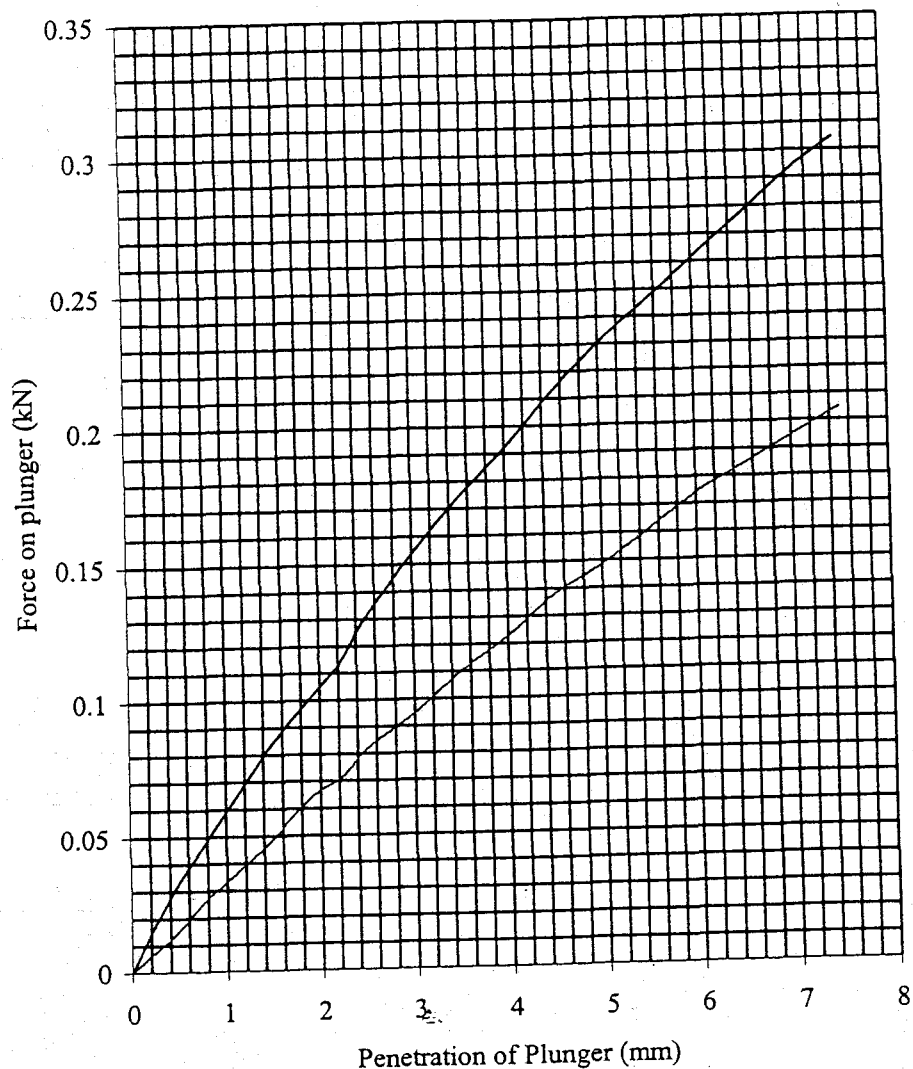
Checked by	Date	Approved By	Date
<i>[Signature]</i>	26/10/01	<i>[Signature]</i>	26/10/01

 THYSSEN GEOTECHNICAL	BICESTER.	Contract No.
		NL211004

California Bearing Ratio Test.

BS 1377 : Part 4 : 1990

Trial Pit Number 72 Depth (m) : 0.60



Initial Sample Conditions		Test Conditions		Method of compaction 4.5 Kg Rammer			
Moisture Content:	17.2	Surcharge Kg:	4.000	Final Moisture Content %		C.B.R. Value %	
Bulk Density Mg/m ³ :	2.13	Soaking Time hrs	0	Sample Top	17.2	Sample Top	1.2
Dry Density Mg/m ³ :	1.82	Swelling mm:	0	Sample Bottom	17.2	Sample Bottom	0.7
Percentage retained on 20mm		Remarks: See Summary of Soil Description.					
BS test sieve:	24						

Checked by	Date	Approved By	Date
<i>[Signature]</i>	26/9/99	<i>[Signature]</i>	26/9/99



BICESTER.

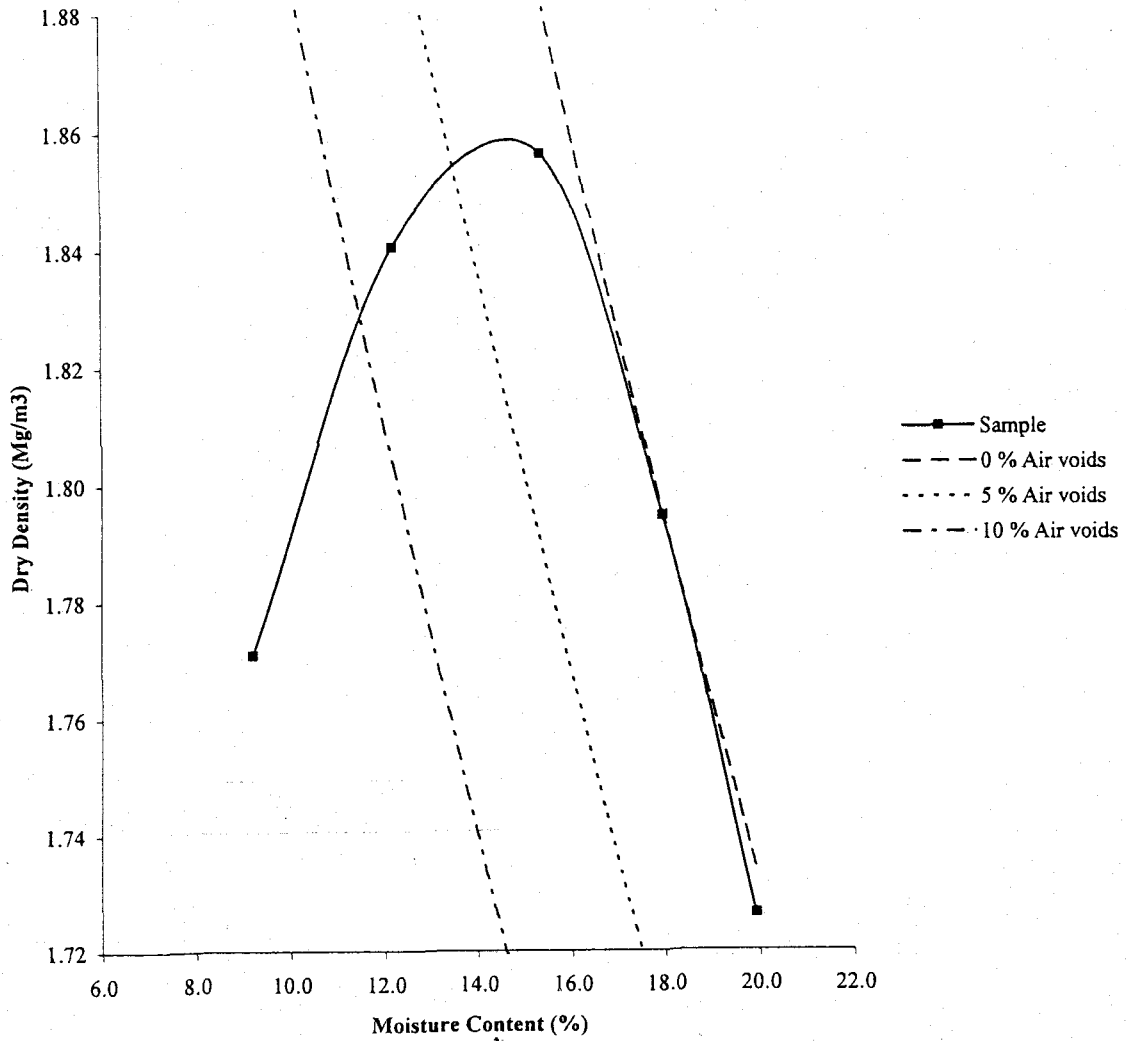
Contract No.
NL211004

Dry Density /Moisture Content Relationship Test

BS 1377 : Part 4 : 1990


Trial Pit \Sample Number 16

Depth (m) : 2.60



Initial Moisture Content:	18	Method of Compaction	4.5 Kg Rammer /	Separate	Sample
Particle Density (Mg/m ³):	2.65	Actual	Material Retained on 37.5 mm Test Sieve (%):	0	
Maximum Dry Density (mg/m ³):	1.86	Material Retained on 20.0 mm Test Sieve (%):	0		
Optimum Moisture Content (%):	15	Sample Preparation Clause :	3.2.6.1		
Remarks	See Summary of Soil Description.				

Checked By	Date	Approved By	Date
<i>[Signature]</i>	26/9/01	<i>[Signature]</i>	26/9/01

 THYSSEN GEOTECHNICAL	BICESTER.	Contract No. NL211004
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California Bearing Ratio Test.

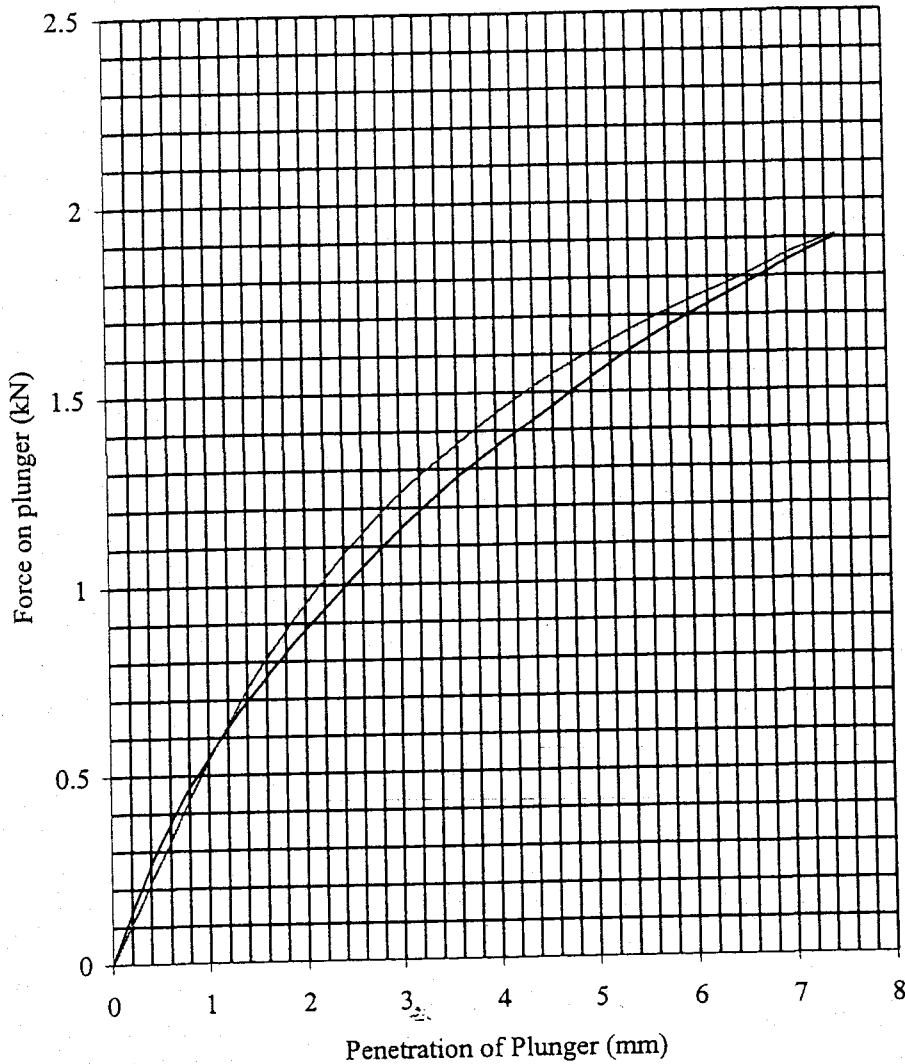
BS 1377 : Part 4 : 1990

Trial Pit Number

16

Depth (m) :

2.60



Initial Sample Conditions		Test Conditions		Method of compaction		4.5 Kg Rammer	
Moisture Content:	18.0	Surcharge Kg:	4.000	Final Moisture Content %	C.B.R. Value %		
Bulk Density Mg/m ³ :	2.12	Soaking Time hrs	0	Sample Top	17.4	Sample Top	7.7
Dry Density Mg/m ³ :	1.79	Swelling mm:	0	Sample Bottom	19.0	Sample Bottom	8.4
Percentage retained on 20mm	Remarks: See Summary of Soil Description.						
BS test sieve:	0						

Checked by	Date	Approved By	Date
<i>R. C.</i>	24/9/01	<i>R. C.</i>	26/9/01



BICESTER.

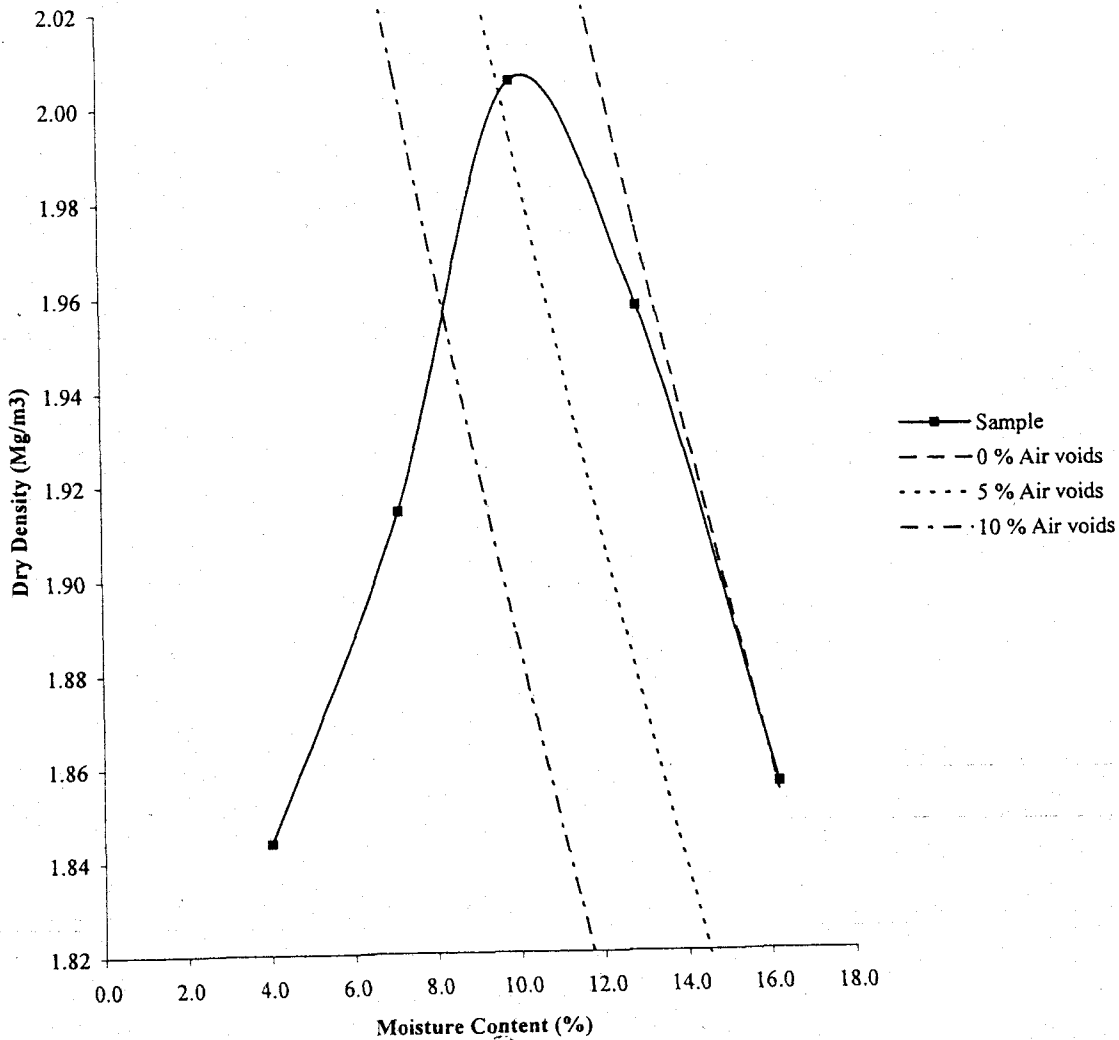
Contract No.
NL211004

Dry Density /Moisture Content Relationship Test

BS 1377 : Part 4 : 1990


Trial Pit \Sample Number 24

Depth (m) : 0.70



Initial Moisture Content:	13	Method of Compaction	4.5 Kg Rammer /	Separate	Sample
Particle Density (Mg/m ³):	2.65	Measured	Material Retained on 37.5 mm Test Sieve (%):	17	
Maximum Dry Density (mg/m ³):		2.01	Material Retained on 20.0 mm Test Sieve (%):	32	
Optimum Moisture Content (%):		10	Sample Preparation Clause :	Non-Standard	
Remarks	See Summary of Soil Description.				

Checked By	Date	Approved By	Date
<i>R. C.</i>	26/9/01	<i>R. C.</i>	26/9/01

 THYSSEN GEOTECHNICAL	BICESTER.	Contract No. NL211004

California Bearing Ratio Test.

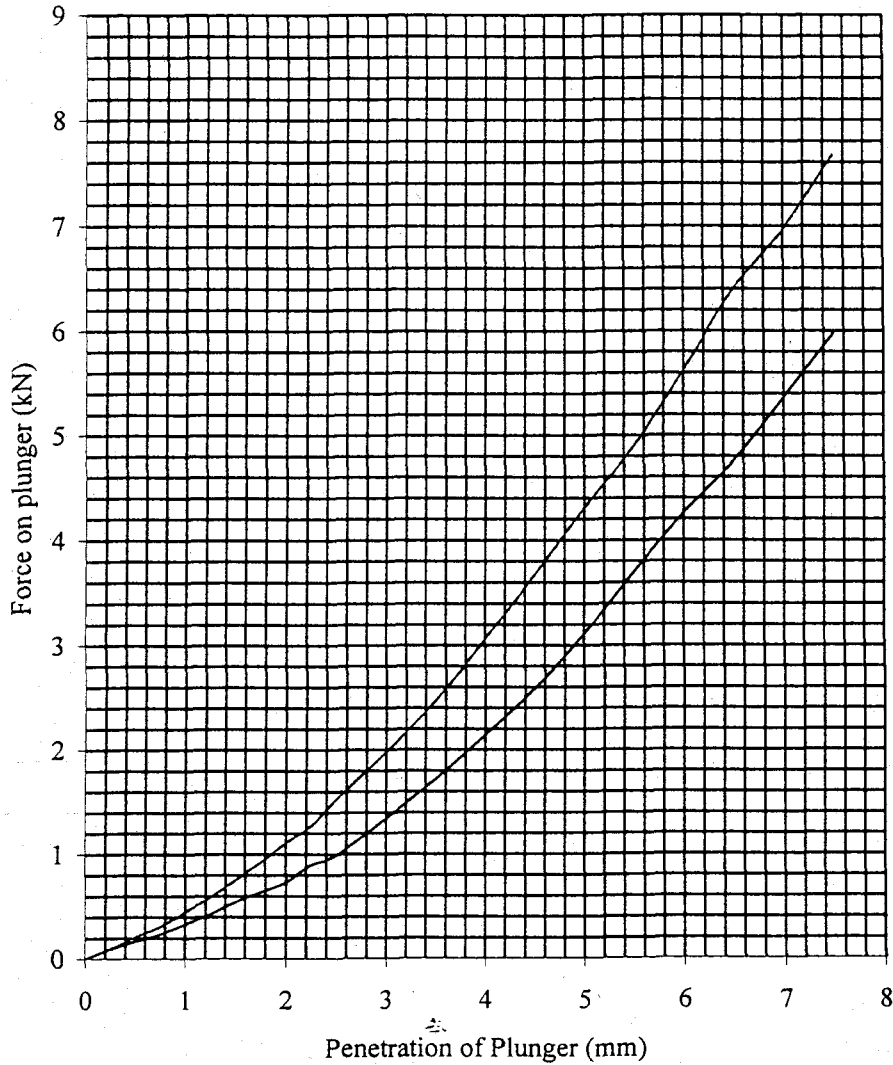
BS 1377 : Part 4 : 1990

Trial Pit Number

24

Depth (m) :

0.70



Initial Sample Conditions		Test Conditions		Method of compaction		4.5 Kg Rammer	
Moisture Content:	12.9	Surcharge Kg:	4.000	Final Moisture Content %	C.B.R. Value %		
Bulk Density Mg/m ³ :	2.21	Soaking Time hrs	0	Sample Top	12.5	Sample Top	15.5
Dry Density Mg/m ³ :	1.96	Swelling mm:	0	Sample Bottom	13.3	Sample Bottom	21.5
Percentage retained on 20mm	Remarks: See Summary of Soil Description.						
BS test sieve:	49						

Checked by	Date	Approved By	Date
<i>[Signature]</i>	26/4/01	<i>[Signature]</i>	26/4/01



BICESTER.

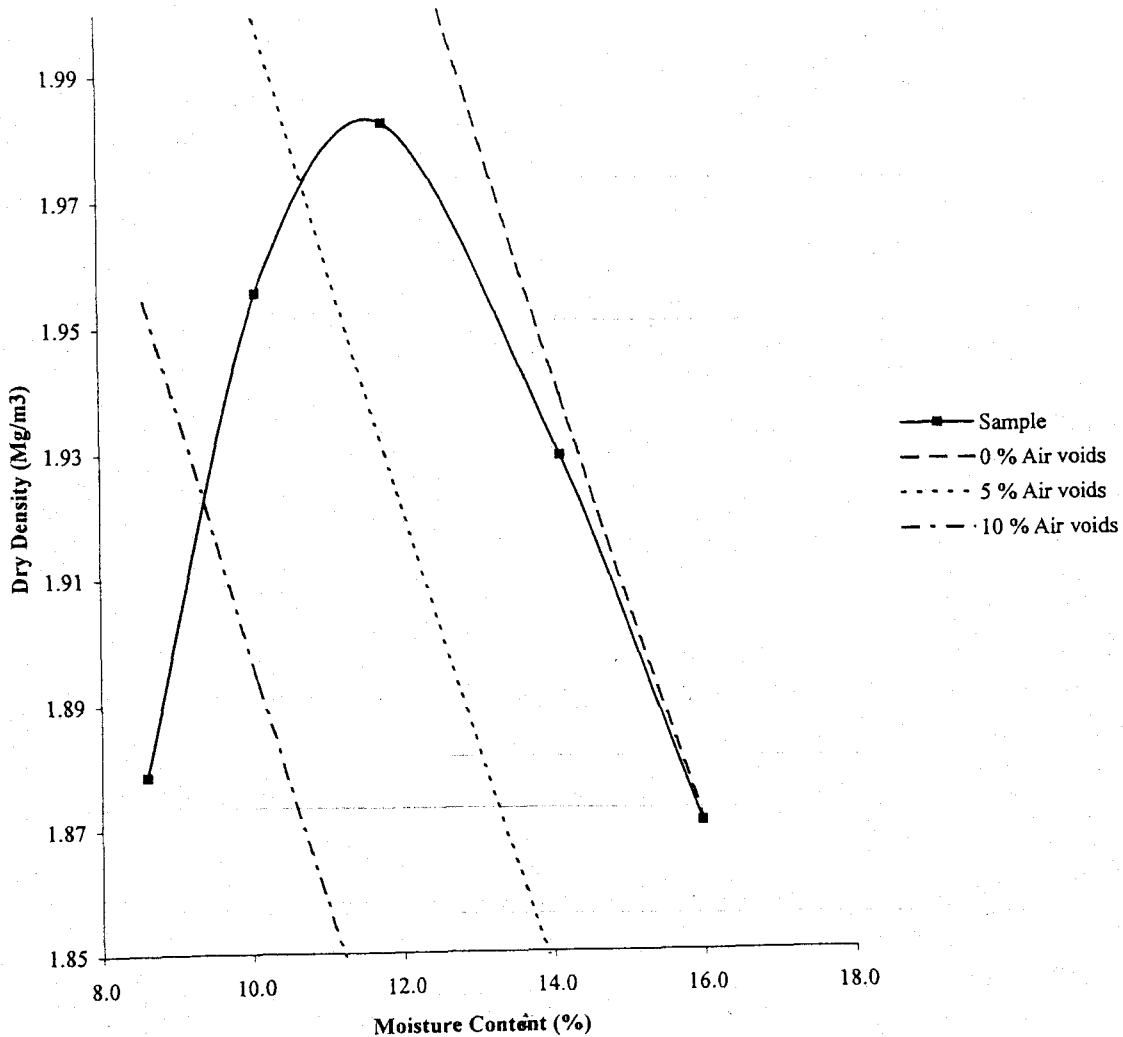
Contract No.
NL211004

Dry Density /Moisture Content Relationship Test

Non - Compliance BS 1377 : Part 4 : 1990


Trial Pit \Sample Number 56

Depth (m) : 0.70



Initial Moisture Content:	11	Method of Compaction	4.5 Kg Rammer /	Single	Sample
Particle Density (Mg/m ³):	2.67	Actual	Material Retained on 37.5 mm Test Sieve (%):	20	
Maximum Dry Density (mg/m ³):		1.98	Material Retained on 20.0 mm Test Sieve (%):	31	
Optimum Moisture Content (%):		12	Sample Preparation Clause :	Non-Standard	
Remarks	See Summary of Soil Description.				

Checked By	Date	Approved By	Date
<i>R. C.</i>	26/9/01	<i>R. C.</i>	26/9/01

 THYSSEN GEOTECHNICAL	BICESTER.	Contract No. NL211004

California Bearing Ratio Test.

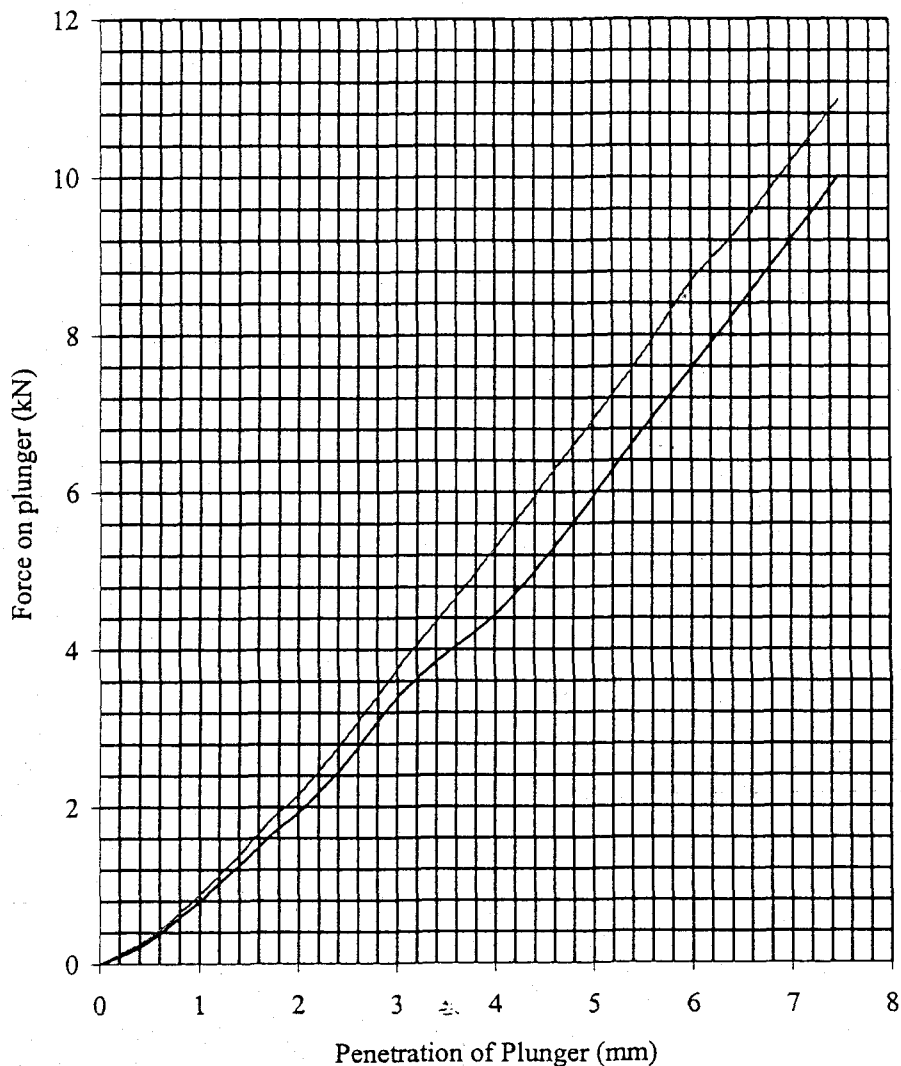
Non Compliance BS 1377 : Part 4 : 1990

Trial Pit Number

56

Depth (m) :

0.70



Initial Sample Conditions		Test Conditions		Method of compaction		4.5 Kg Rammer	
Moisture Content:	11.8	Surcharge Kg:	4.000	Final Moisture Content %	C.B.R. Value %		
Bulk Density Mg/m ³ :	2.22	Soaking Time hrs	0	Sample Top	10.9	Sample Top	29.7
Dry Density Mg/m ³ :	1.98	Swelling mm:	0	Sample Bottom	12.1	Sample Bottom	34.6
Percentage retained on 20mm	Remarks: See Summary of Soil Description.						
BS test sieve:	51						

Checked by	Date	Approved By	Date
<i>R. L.</i>	26/9/01	<i>R. L.</i>	26/9/01



**THYSSEN
GEOTECHNICAL**

BICESTER.

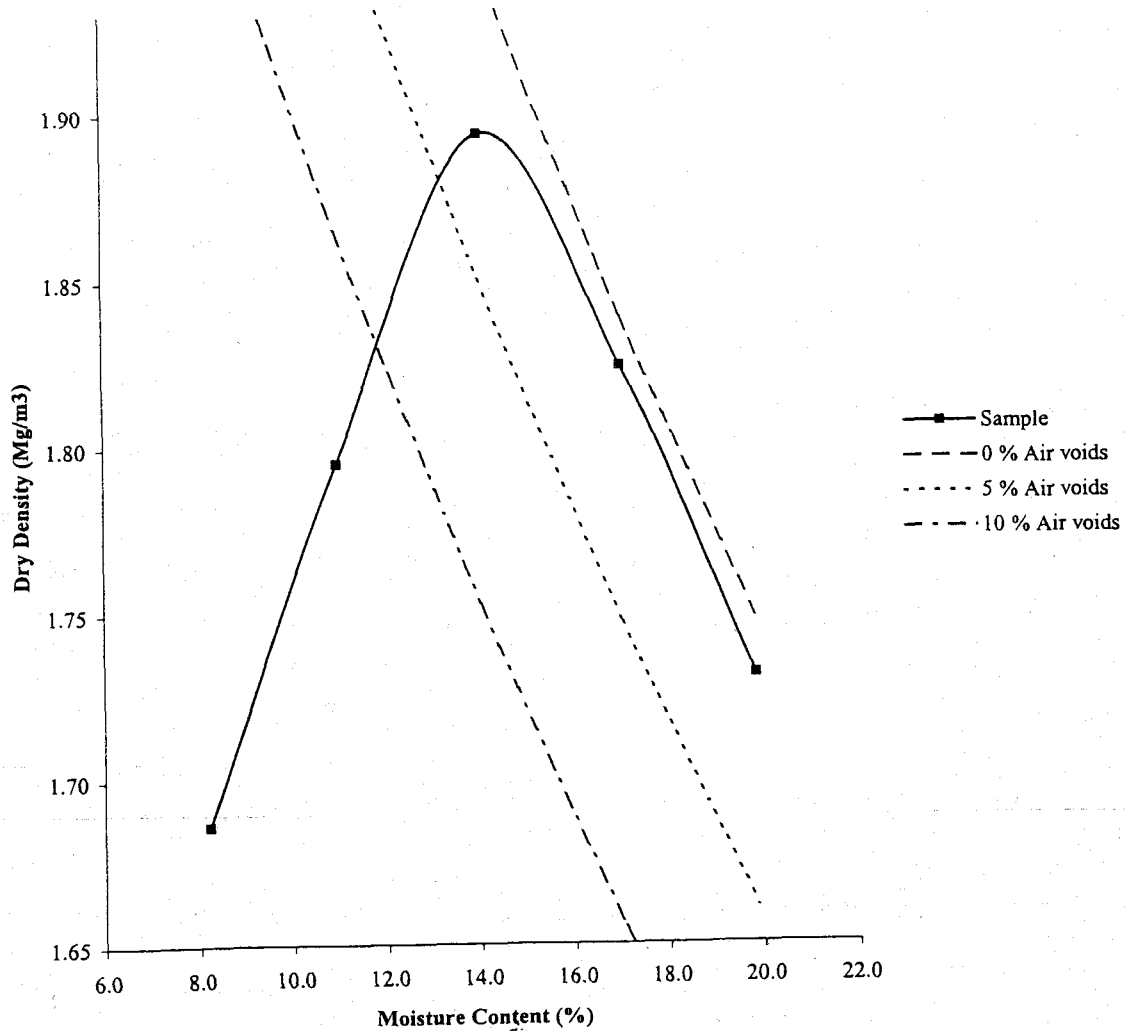
Contract No.
NL211004

Dry Density /Moisture Content Relationship Test

BS 1377 : Part 4 : 1990


Trial Pit \Sample Number 74

Depth (m) : 0.30



Initial Moisture Content:	11	Method of Compaction	2.5 Kg Rammer	/	Separate	Sample
Particle Density (Mg/m ³):	2.68	Actual	Material Retained on 37.5 mm Test Sieve (%):	0		
Maximum Dry Density (mg/m ³):	1.90	Material Retained on 20.0 mm Test Sieve (%):	0			
Optimum Moisture Content (%):	14	Sample Preparation Clause :	3.2.6.1			
Remarks	See Summary of Soil Description.					

Checked By	Date	Approved By	Date
<i>K. Lee</i>	26/9/01	<i>K. Lee</i>	26/9/01

 THYSSEN GEOTECHNICAL	BICESTER.	Contract No. NL211004
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California Bearing Ratio Test.

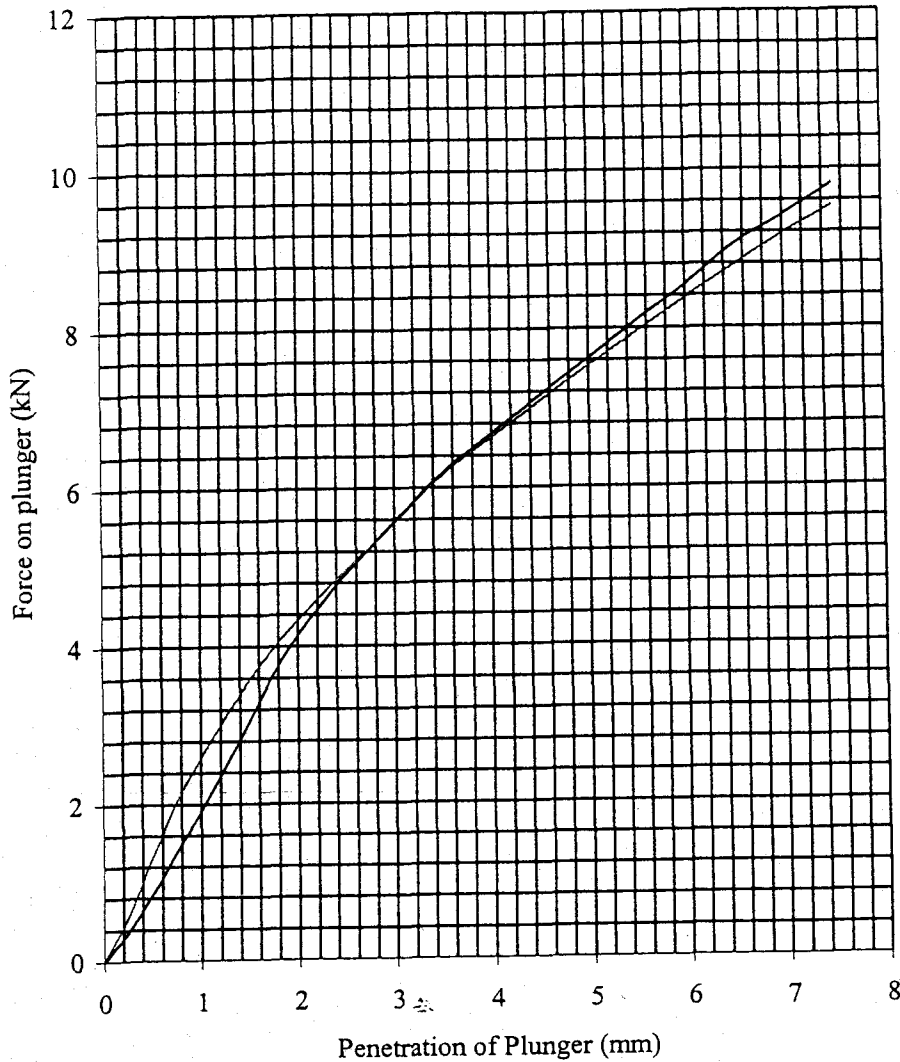
BS 1377 : Part 4 : 1990

Trial Pit Number

74


Depth (m) :

0.30



Initial Sample Conditions		Test Conditions		Method of compaction		2.5 Kg Rammer	
Moisture Content:	10.9	Surcharge Kg:	4.000	Final Moisture Content %		C.B.R. Value %	
Bulk Density Mg/m ³ :	1.99	Soaking Time hrs:	0	Sample Top	10.9	Sample Top	38.1
Dry Density Mg/m ³ :	1.80	Swelling mm:	0	Sample Bottom	11.7	Sample Bottom	37.6
Percentage retained on 20mm		Remarks: See Summary of Soil Description.					
BS test sieve:	0						

Checked by	Date	Approved By	Date
<i>RLC</i>	26/9/01	<i>RLC</i>	26/9/01

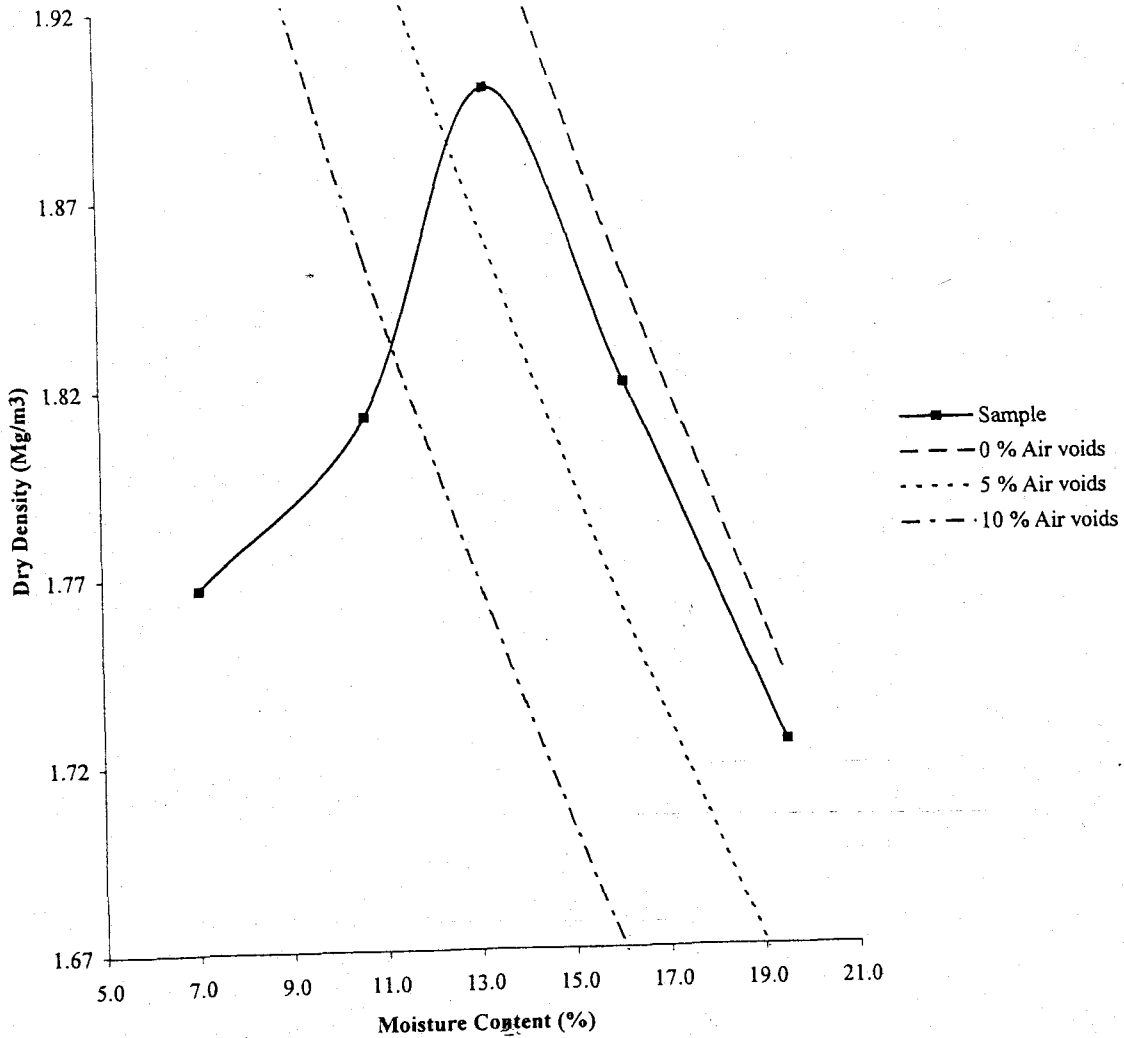
 THYSSEN GEOTECHNICAL	BICESTER.	Contract No.
		NL211004

Dry Density /Moisture Content Relationship Test

Non - Compliance BS 1377 : Part 4 : 1990


Trial Pit \Sample Number 84

Depth (m) : 1.50



Initial Moisture Content:	15	Method of Compaction 2.5 Kg Rammer / Single Sample	
Particle Density (Mg/m ³):	2.64	Actual	Material Retained on 37.5 mm Test Sieve (%): 54
Maximum Dry Density (mg/m ³):		1.90	Material Retained on 20.0 mm Test Sieve (%): 14
Optimum Moisture Content (%):		13	Sample Preparation Clause : Non-Standard
Remarks	See Summary of Soil Description.		

Checked By	Date	Approved By	Date
<i>R. Cur</i>	26/9/01	<i>R. Cur</i>	26/9/01

 THYSSEN GEOTECHNICAL	BICESTER.	Contract No.
		NL211004

California Bearing Ratio Test.

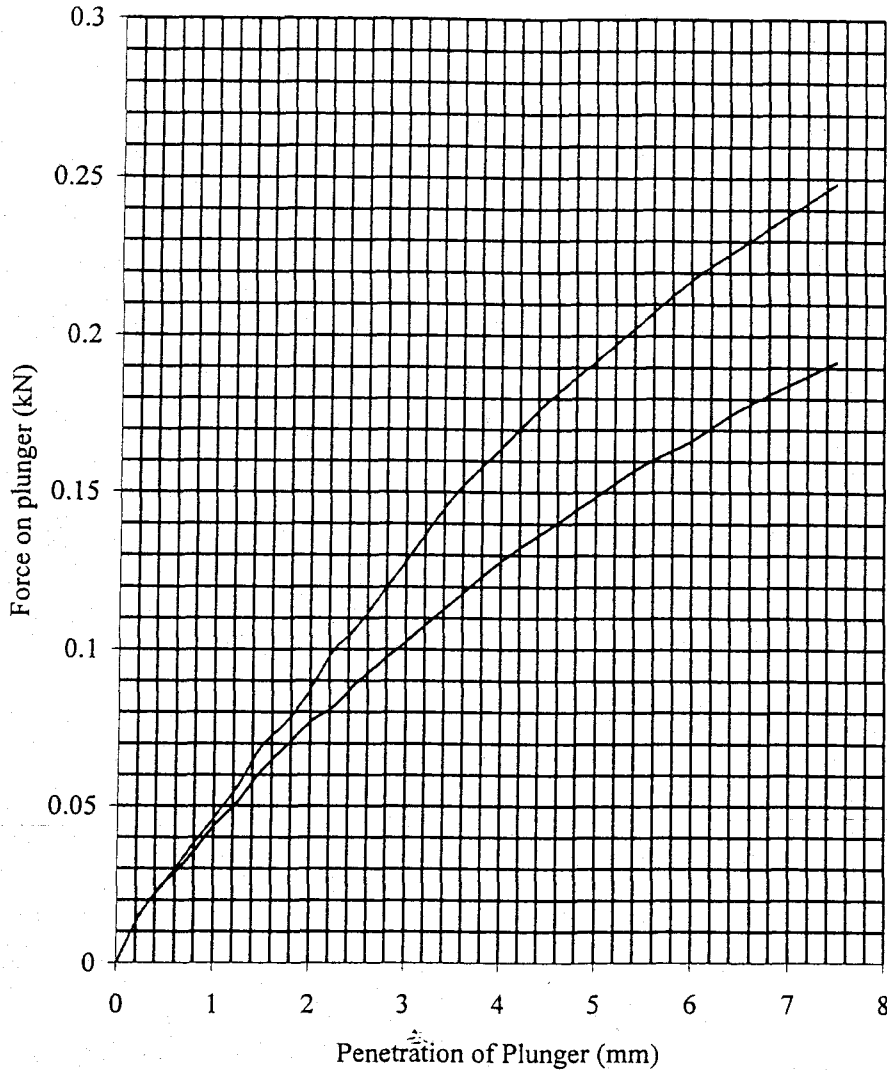
BS 1377 : Part 4 : 1990

Trial Pit Number

84


Depth (m) :

1.50



Initial Sample Conditions		Test Conditions		Method of compaction		2.5 Kg Rammer	
Moisture Content:	15.5	Surcharge Kg:	4.000	Final Moisture Content %	C.B.R. Value %		
Bulk Density Mg/m ³ :	2.15	Soaking Time hrs	0	Sample Top	19.9	Sample Top	0.7
Dry Density Mg/m ³ :	1.86	Swelling mm:	0	Sample Bottom	15.2	Sample Bottom	1.0
Percentage retained on 20mm BS test sieve:	14	Remarks: See Summary of Soil Description.					

Checked by	Date	Approved By	Date
<i>R. L.</i>	26/9/01	<i>R. L.</i>	26/9/01

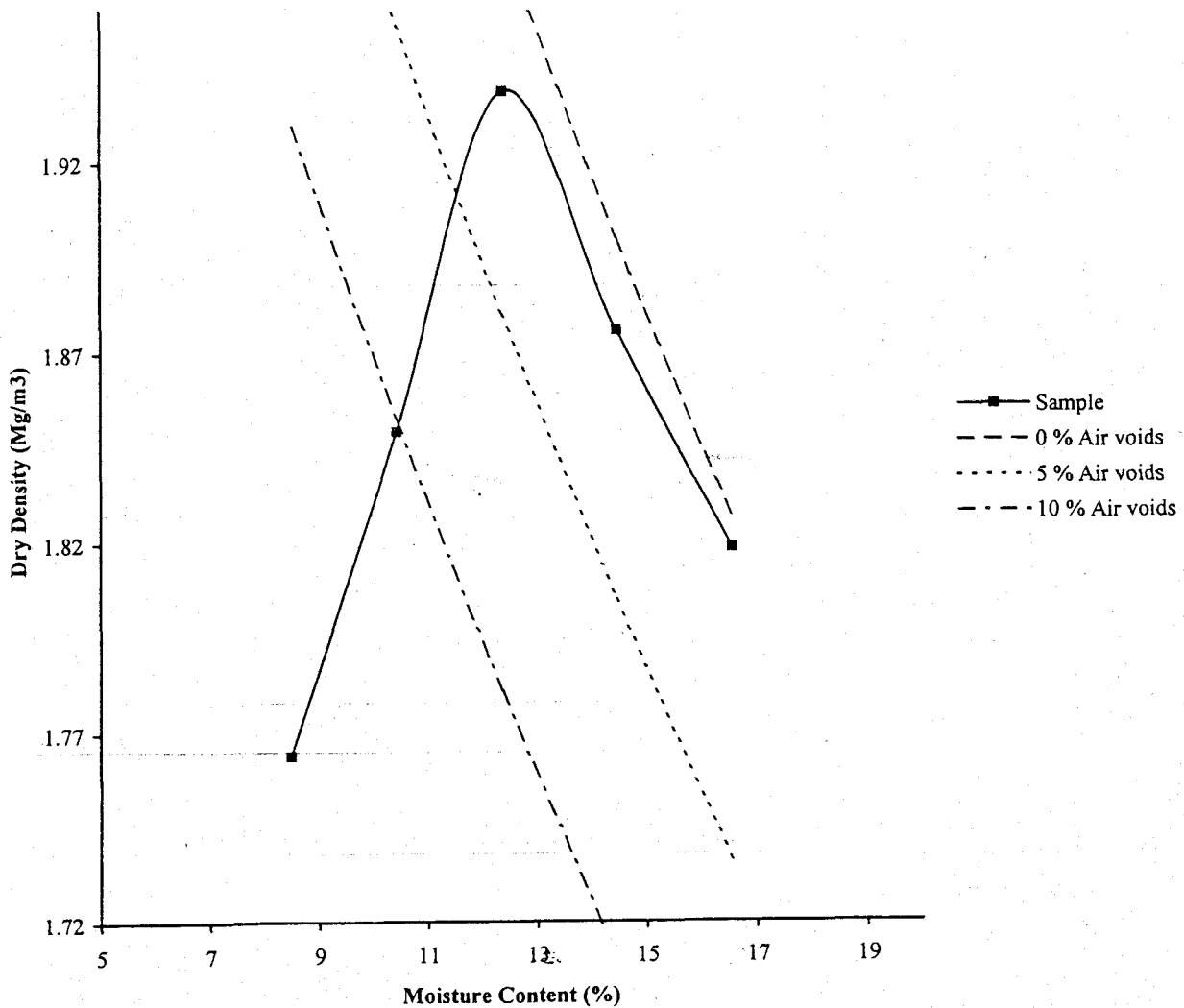
 THYSSEN GEOTECHNICAL	BICESTER.	Contract No. NL21004
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Dry Density /Moisture Content Relationship Test

BS 1377 : Part 4 : 1990

Trial Pit /Sample Number : 89

Depth (m) : 0.90



Initial Moisture Content:	19	Method of Compaction	2.5 Kg Rammer /	Separate Sample
Particle Density (Mg/m ³):	2.62	Actual	Material Retained on 37.5 mm Test Sieve (%):	0
Maximum Dry Density (mg/m ³):	1.94	Material Retained on 20.0 mm Test Sieve (%):	0	
Optimum Moisture Content (%):	12			
Remarks	See summary of soil descriptions.			

Checked By	Date	Approved By	Date
<i>R. Cur</i>	26/9/01	<i>R. Cur</i>	26/9/01

	BICESTER.	Contract No.
		NL211004

California Bearing Ratio Test.

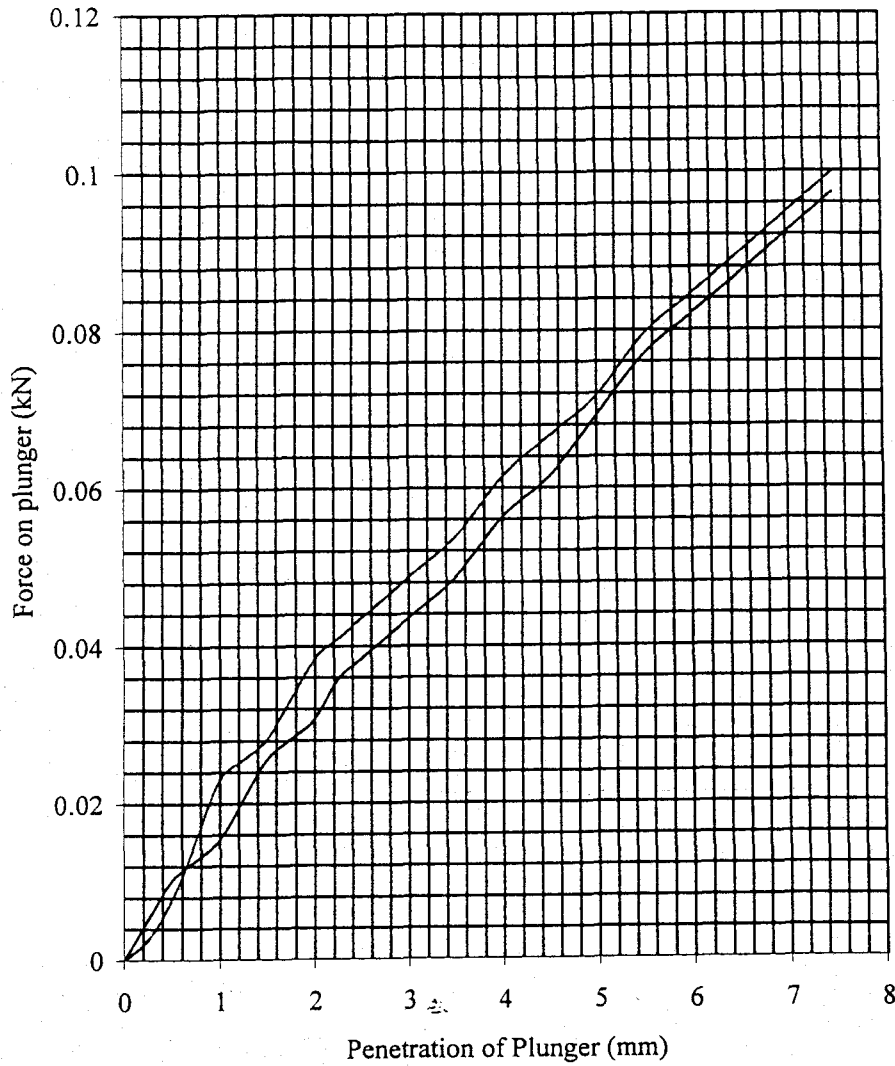
BS 1377 : Part 4 : 1990

Trial Pit Number

89


Depth (m) :

0.90



Initial Sample Conditions		Test Conditions		Method of compaction		2.5 Kg Rammer	
Moisture Content:	18.4	Surcharge Kg:	4.000	Final Moisture Content %	C.B.R. Value %		
Bulk Density Mg/m ³ :	2.06	Soaking Time hrs	0	Sample Top	18.4	Sample Top	0.3
Dry Density Mg/m ³ :	1.74	Swelling mm:	0	Sample Bottom	18.4	Sample Bottom	0.4
Percentage retained on 20mm	Remarks: See Summary of Soil Description.						
BS test sieve:	0						

Checked by	Date	Approved By	Date
<i>[Signature]</i>	26/9/01	<i>[Signature]</i>	26/9/01

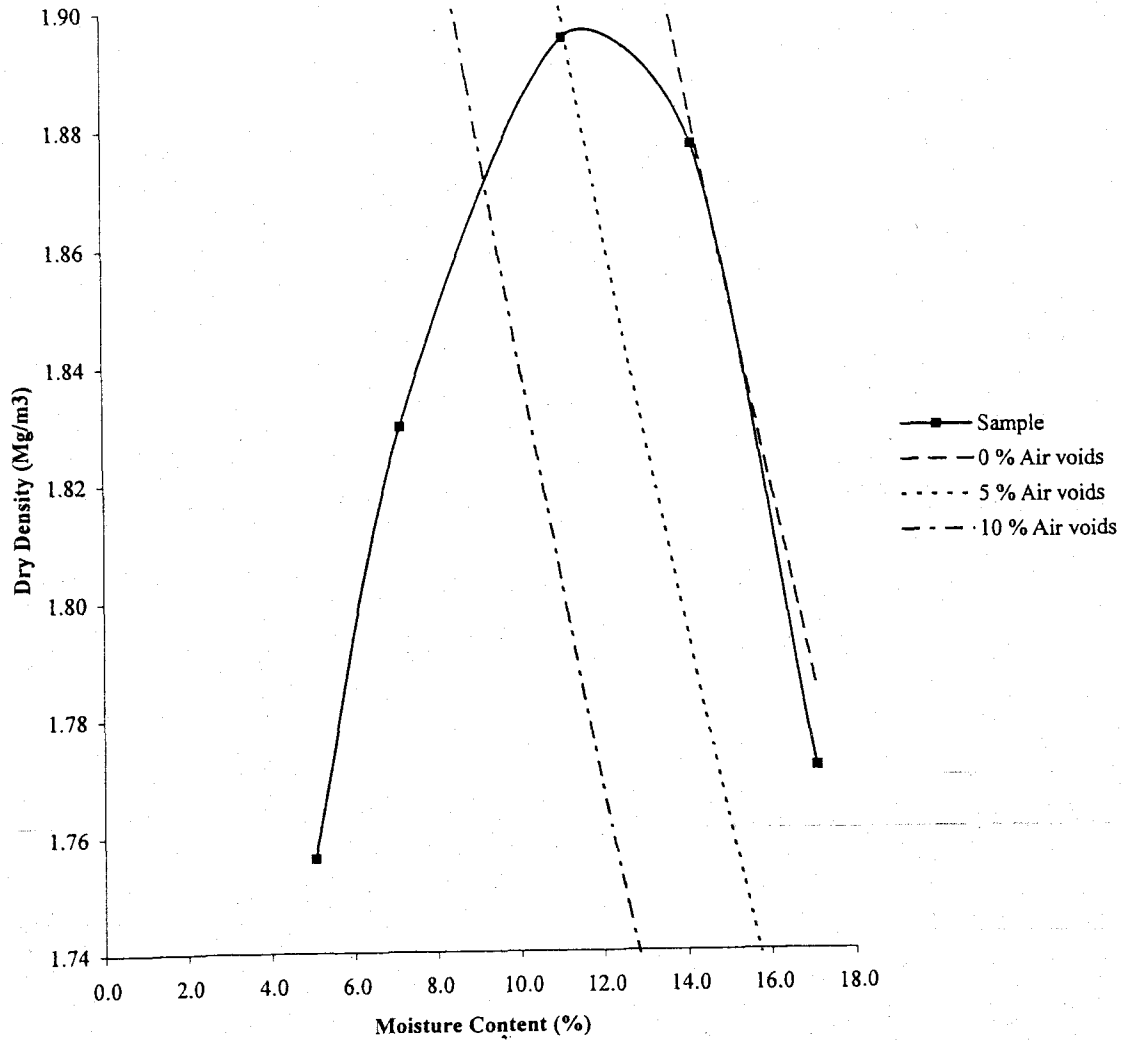
 THYSSEN GEOTECHNICAL	BICESTER.	Contract No. NL211004
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Dry Density /Moisture Content Relationship Test

Non - Compliance BS 1377 : Part 4 : 1990


Trial Pit \Sample Number 35

Depth (m) : 0.50



Initial Moisture Content:	11	Method of Compaction	4.5 Kg Rammer /	Single	Sample
Particle Density (Mg/m ³):	2.57	Actual	Material Retained on 37.5 mm Test Sieve (%):	25	
Maximum Dry Density (mg/m ³):	1.90		Material Retained on 20.0 mm Test Sieve (%):	14	
Optimum Moisture Content (%):	12	Sample Preparation Clause :	Non-Standard		
Remarks	See Summary of Soil Description.				

Checked By	Date	Approved By	Date
<i>R. Cur</i>	22/9/01	<i>R. Cur</i>	22/9/01

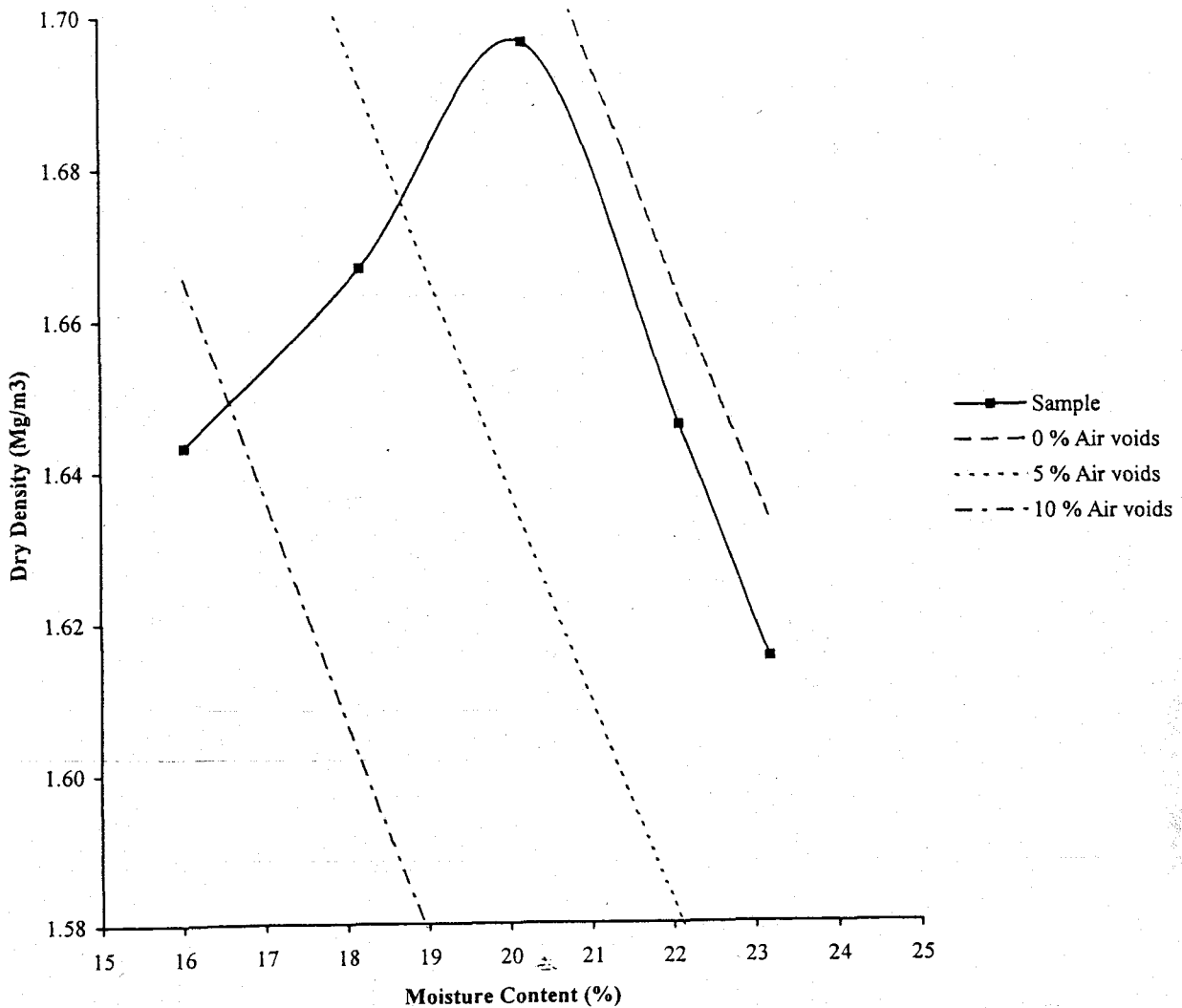
 THYSSEN GEOTECHNICAL	BICESTER.	Contract No. NL211004

Dry Density /Moisture Content Relationship Test

BS 1377 : Part 4 : 1990

Trial Pit /Sample Number : 73

Depth (m) : 0.40



Initial Moisture Content:	18	Method of Compaction	2.5 Kg Rammer /	Separate Sample
Particle Density (Mg/m ³):	2.63	Actual	Material Retained on 37.5 mm Test Sieve (%):	0
Maximum Dry Density (mg/m ³):	1.70		Material Retained on 20.0 mm Test Sieve (%):	1
Optimum Moisture Content (%):	20			
Remarks	See summary of soil descriptions.			

Checked By	Date	Approved By	Date
<i>KC</i>	26/9/01	<i>KC</i>	26/9/01

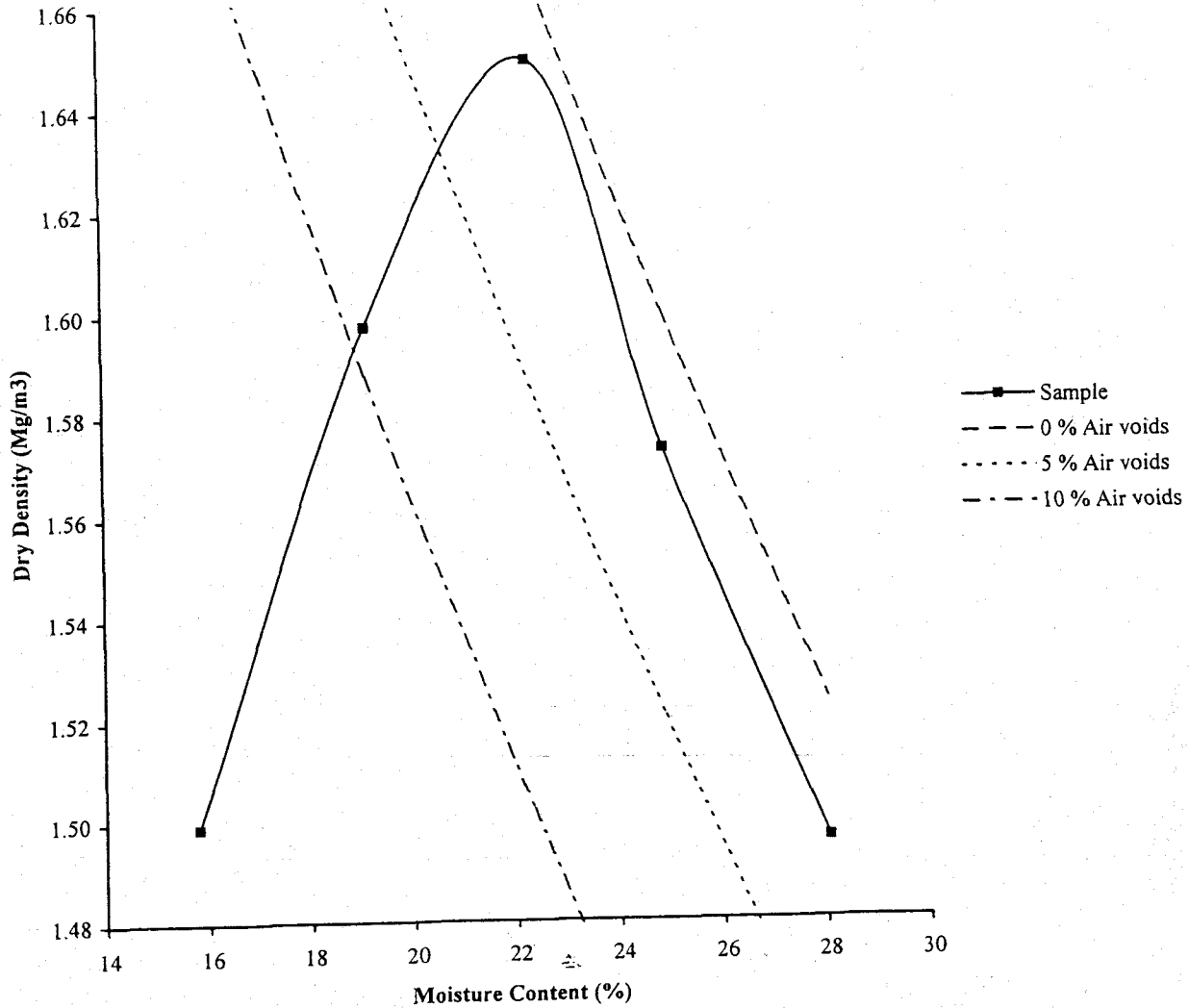
	BICESTER.	Contract No.
		NL211004

Dry Density / Moisture Content Relationship Test

BS 1377 : Part 4 : 1990

Trial Pit / Sample Number : 73

Depth (m) : 0.80



Initial Moisture Content:	19	Method of Compaction	2.5 Kg Rammer /	Separate Sample
Particle Density (Mg/m ³):	2.66	Measured	Material Retained on 37.5 mm Test Sieve (%):	0
Maximum Dry Density (mg/m ³):		1.65	Material Retained on 20.0 mm Test Sieve (%):	0
Optimum Moisture Content (%):		22		
Remarks	See summary of soil descriptions.			

Checked By	Date	Approved By	Date
<i>R. C.</i>	24/9/01	<i>R. C.</i>	26/9/01

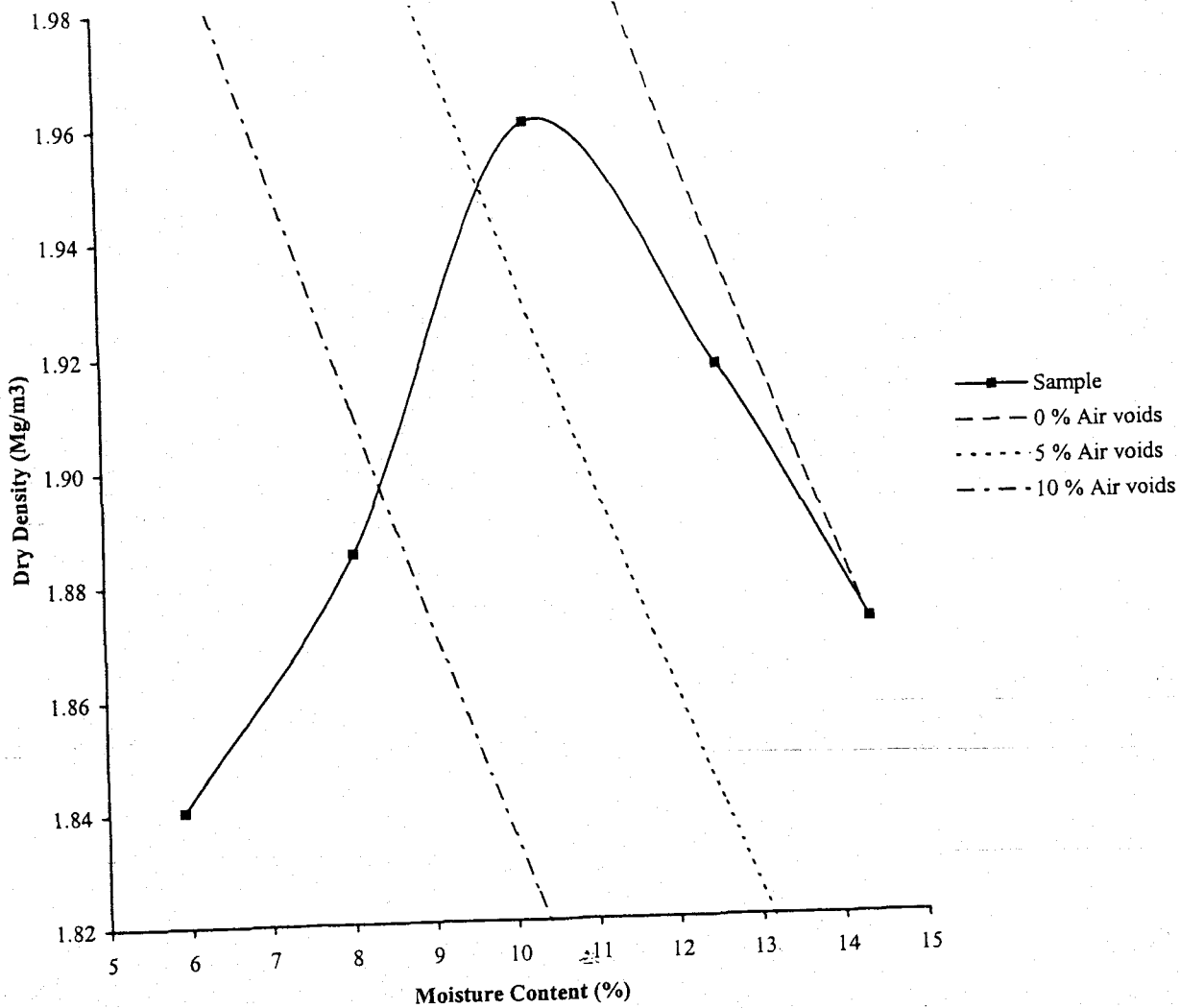
	<p style="text-align: center;">BICESTER.</p>	<p>Contract No.</p> <p style="text-align: center;">NL211004</p>

Dry Density / Moisture Content Relationship Test

Non Compliance BS 1377 : Part 4 : 1990

Trial Pit / Sample Number : 79

Depth (m) : 0.50



Initial Moisture Content:	13	Method of Compaction	4.5 Kg Rammer /	Separate Sample
Particle Density (Mg/m ³):	2.56	Measured	Material Retained on 37.5 mm Test Sieve (%):	0
Maximum Dry Density (mg/m ³):		1.96	Material Retained on 20.0 mm Test Sieve (%):	34
Optimum Moisture Content (%):		10		
Remarks	See summary of soil descriptions.			

Checked By	Date	Approved By	Date
<i>[Signature]</i>	26/1/01	<i>[Signature]</i>	26/1/01

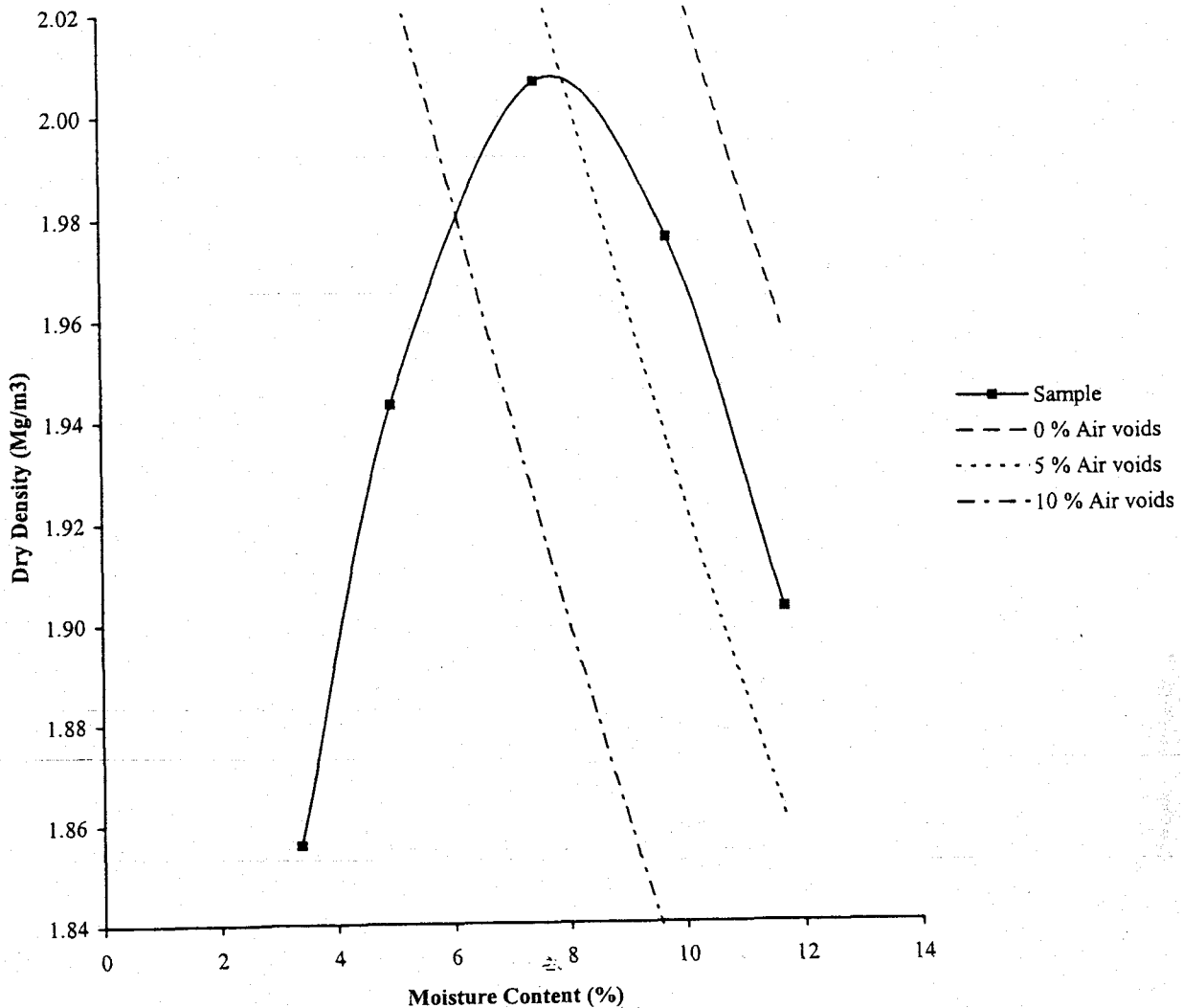
	BICESTER.	Contract No. NL211004
		South Kirkby, WF3 9AP

Dry Density /Moisture Content Relationship Test

Non Compliance BS 1377 : Part 4 : 1990

Trial Pit /Sample Number : 79

Depth (m) : 0.90



Initial Moisture Content:	10	Method of Compaction	4.5 Kg Rammer /	Separate Sample
Particle Density (Mg/m ³):	2.54	Measured	Material Retained on 37.5 mm Test Sieve (%):	22
Maximum Dry Density (mg/m ³):		2.01	Material Retained on 20.0 mm Test Sieve (%):	10
Optimum Moisture Content (%):		8		
Remarks	See summary of soil descriptions.			

Checked By	Date	Approved By	Date
<i>R. C.</i>	26/9/01	<i>R. C.</i>	26/9/01

	<p align="center">BICESTER.</p>	<p align="right">Contract No. NL211004</p>

California Bearing Ratio Test.

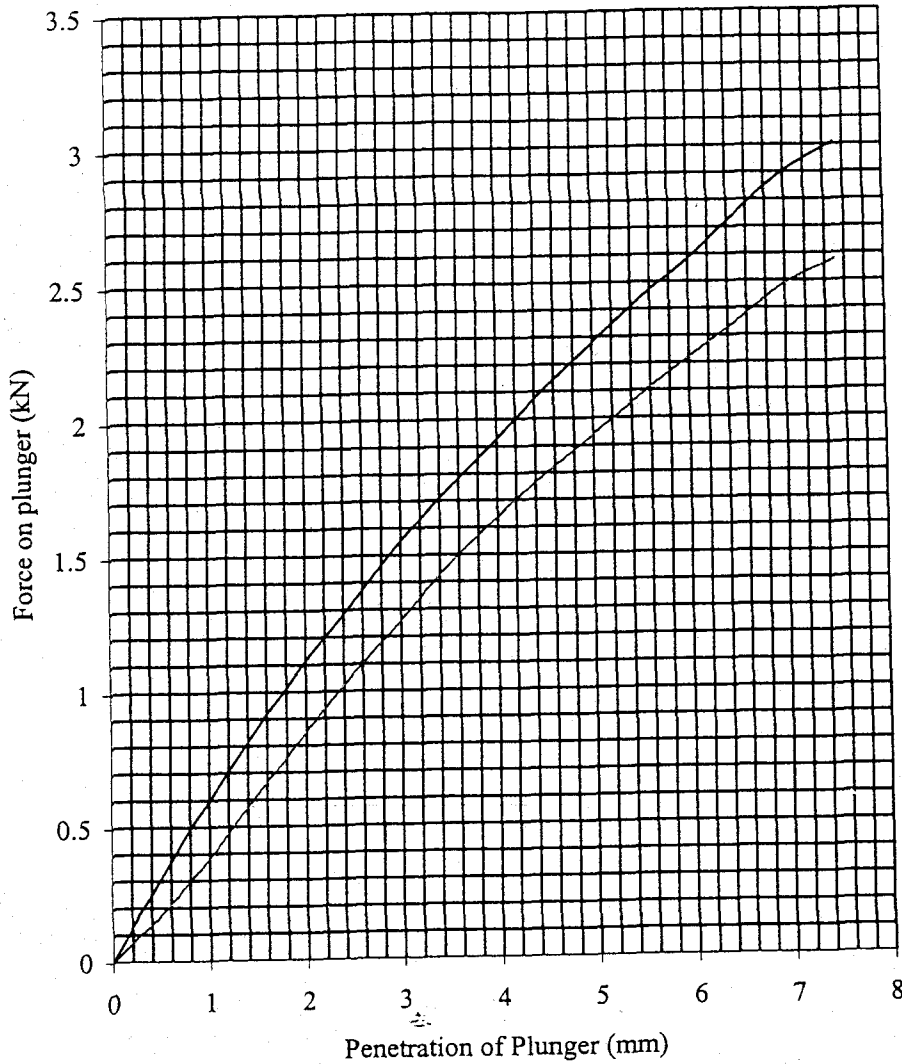
BS 1377 : Part 4 : 1990

Trial Pit Number

63A


Depth (m) :

0.50



Initial Sample Conditions		Test Conditions		Method of compaction		4.5 Kg Rammer	
Moisture Content:	19.2	Surcharge Kg:	4.000	Final Moisture Content %	C.B.R. Value %		
Bulk Density Mg/m ³ :	2.06	Soaking Time hrs	0	Sample Top	18.7	Sample Top	11.4
Dry Density Mg/m ³ :	1.73	Swelling mm:	0	Sample Bottom	19.4	Sample Bottom	9.7
Percentage retained on 20mm	Remarks: See Summary of Soil Description.						
BS test sieve:	7						

Checked by	Date	Approved By	Date
<i>R. Cur</i>	26/9/01	<i>R. Cur</i>	26/9/01

 THYSSEN GEOTECHNICAL	BICESTER.	Contract No.
		NL211004

California Bearing Ratio Test.

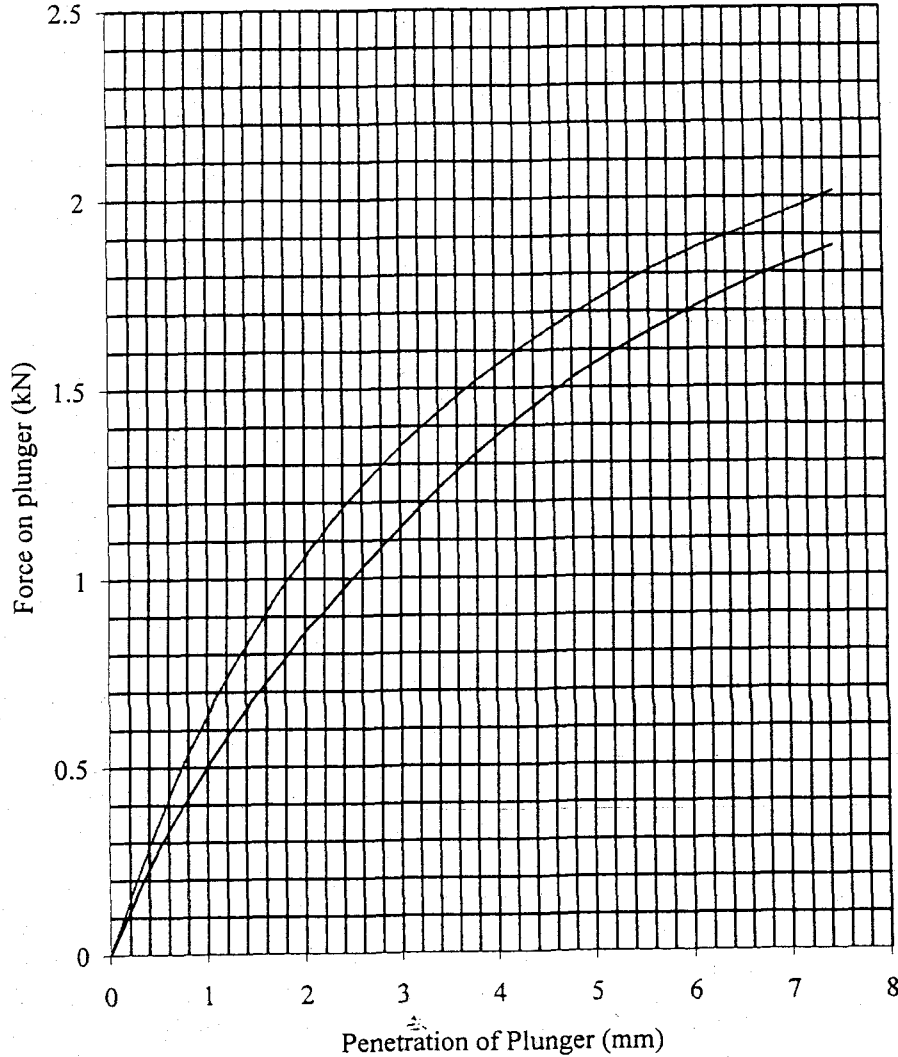
BS 1377 : Part 4 : 1990

Trial Pit Number

67


Depth (m) :

0.50



Initial Sample Conditions		Test Conditions		Method of compaction		2.5 Kg Rammer	
Moisture Content:	18.7	Surcharge Kg:	4.000	Final Moisture Content %		C.B.R. Value %	
Bulk Density Mg/m ³ :	2.03	Soaking Time hrs	0	Sample Top	19.5	Sample Top	7.8
Dry Density Mg/m ³ :	1.71	Swelling mm:	0	Sample Bottom	19.8	Sample Bottom	9.2
Percentage retained on 20mm		Remarks: See Summary of Soil Description.					
BS test sieve:	0						

Checked by	Date	Approved By	Date
<i>R. Cur</i>	26/9/01	<i>R. Cur</i>	26/9/01

 THYSSEN GEOTECHNICAL	BICESTER.	Contract No. NL211004
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California Bearing Ratio Test.

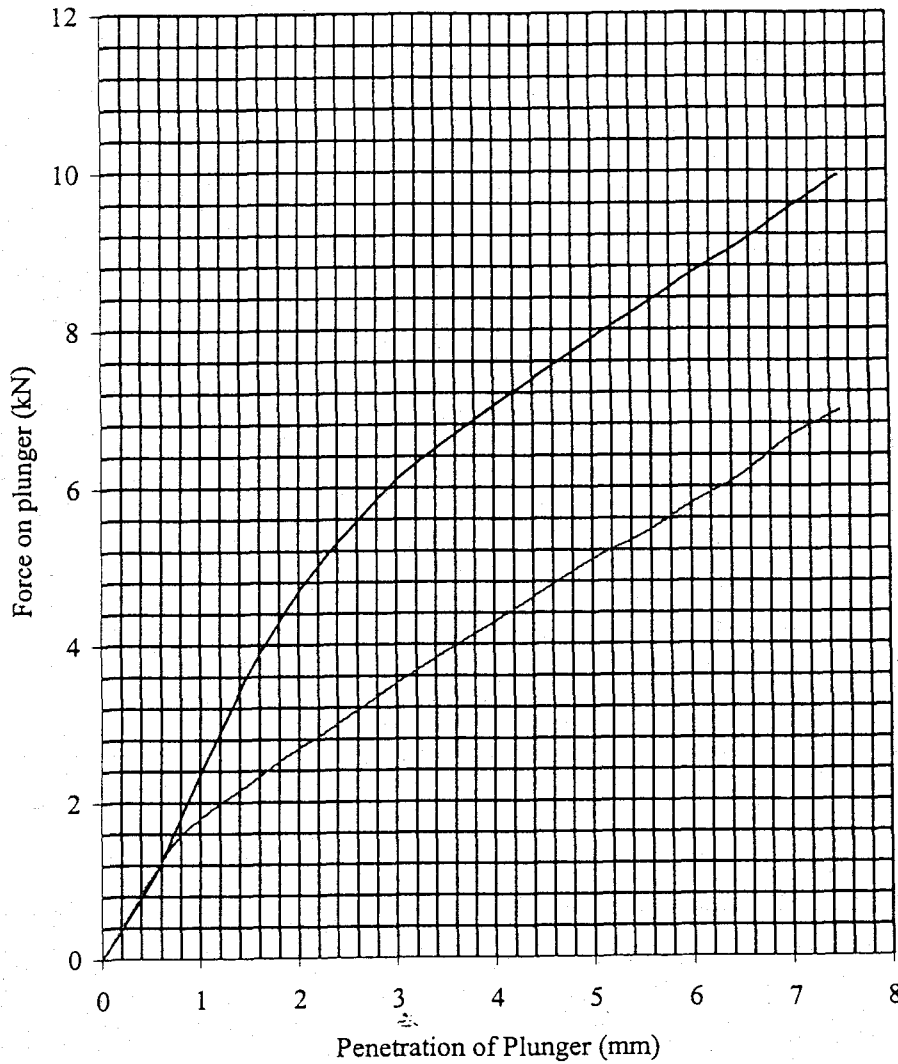
BS 1377 : Part 4 : 1990

Trial Pit Number

82


Depth (m) :

0.30



Initial Sample Conditions		Test Conditions		Method of compaction		4.5 Kg Rammer	
Moisture Content:	8.4	Surcharge Kg:	4.000	Final Moisture Content %	C.B.R. Value %		
Bulk Density Mg/m ³ :	2.08	Soaking Time hrs	0	Sample Top	7.6	Sample Top	41.2
Dry Density Mg/m ³ :	1.92	Swelling mm:	0	Sample Bottom	9.8	Sample Bottom	25.4
Percentage retained on 20mm	Remarks: See Summary of Soil Description.						
BS test sieve:	21						

Checked by	Date	Approved By	Date
<i>R. C.</i>	26/9/01	<i>R. C.</i>	26/9/01

 THYSSEN GEOTECHNICAL	BICESTER.	Contract No. NL211004
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California Bearing Ratio Test.

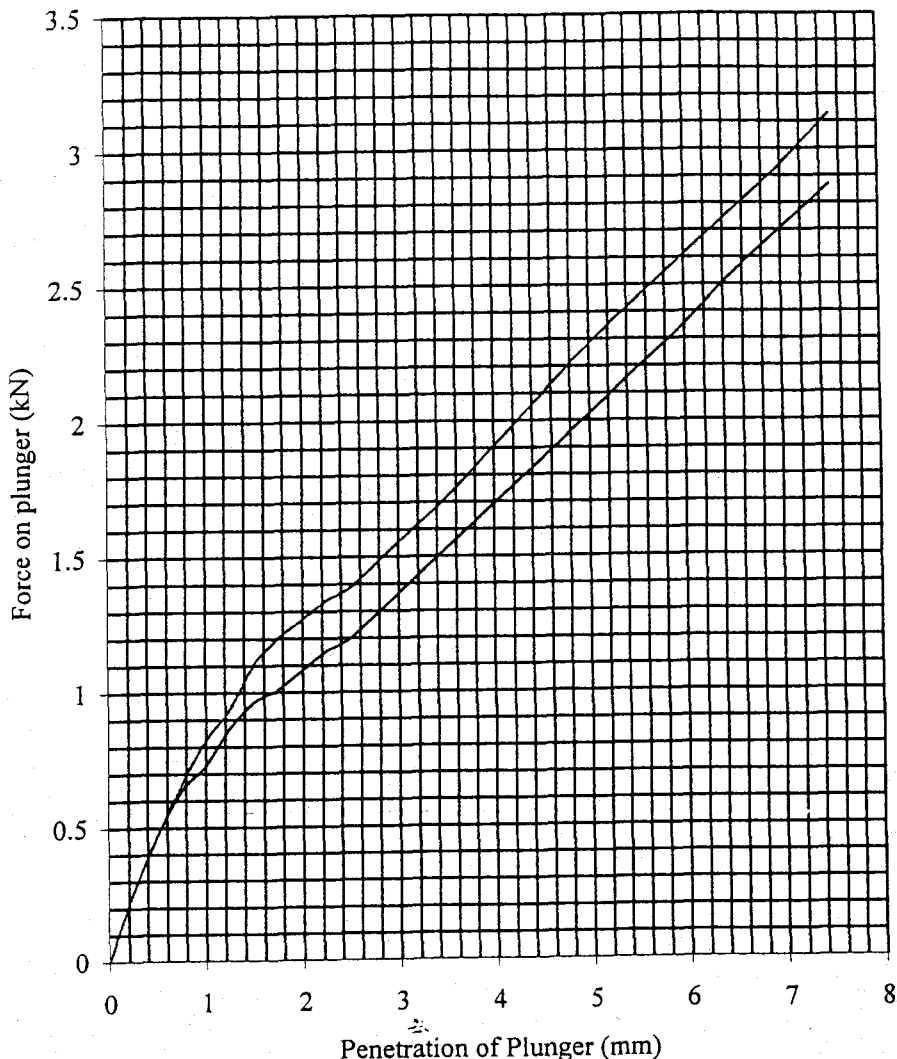
BS 1377 : Part 4 : 1990

Trial Pit Number

86


Depth (m) :

0.50



Initial Sample Conditions		Test Conditions		Method of compaction 4.5 Kg Rammer			
Moisture Content:	24.3	Surcharge Kg:	4.000	Final Moisture Content %		C.B.R. Value %	
Bulk Density Mg/m ³ :	1.96	Soaking Time hrs	0	Sample Top	26.3	Sample Top	10.1
Dry Density Mg/m ³ :	1.58	Swelling mm:	0	Sample Bottom	25.3	Sample Bottom	11.4
Percentage retained on 20mm	Remarks: See Summary of Soil Description.						
BS test sieve:	0						

Checked by	Date	Approved By	Date
<i>R C</i>	26/10/01	<i>R C</i>	26/10/01

 THYSSEN GEOTECHNICAL	BICESTER.	Contract No. NL211004
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California Bearing Ratio Test.

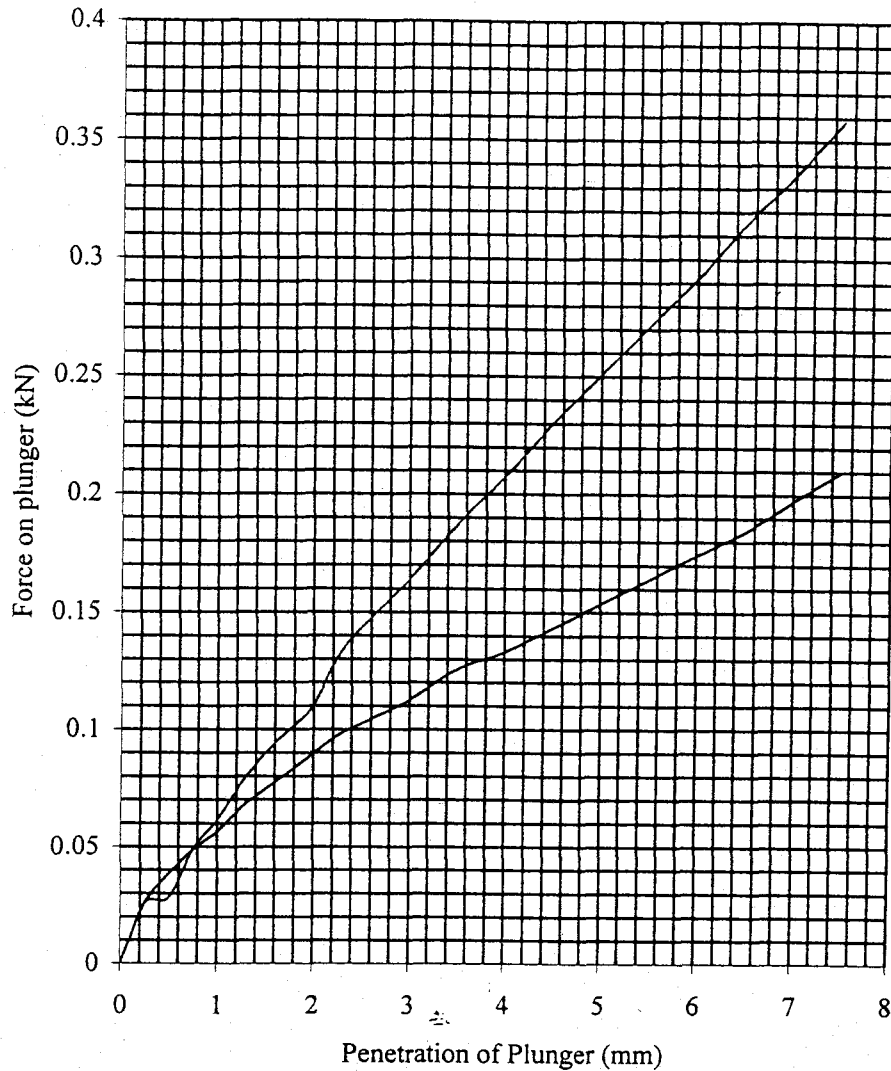
BS 1377 : Part 4 : 1990

Trial Pit Number

89B


Depth (m) :

0.70



Initial Sample Conditions		Test Conditions		Method of compaction		4.5 Kg Rammer	
Moisture Content:	30.3	Surcharge Kg:	4.000	Final Moisture Content %	C.B.R. Value %		
Bulk Density Mg/m ³ :	1.86	Soaking Time hrs	0	Sample Top	33.4	Sample Top	0.8
Dry Density Mg/m ³ :	1.43	Swelling mm:	0	Sample Bottom	31.6	Sample Bottom	1.3
Percentage retained on 20mm BS test sieve:	4	Remarks: See Summary of Soil Description.					

Checked by	Date	Approved By	Date
<i>[Signature]</i>	26/9/01	<i>[Signature]</i>	26/9/01

 THYSSEN GEOTECHNICAL	BICESTER.	Contract No. NL211004
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BICESTER

Summary of Chemical Analyses BS 1377 : Part 3 : 1990

Borehole or Trial Pit	Depth (m)	Sample Number	Sample Type	Laboratory Reference Number	Test 3	Test 4	Test 5.5			Test 6.3	Test 7.2/7.3		Test 9
					Organic Content	Loss on Ignition	Sulphate Content Soil SO ₃ (SO ₄) % Dry mass	Sulphate Content 2:1 Water:Soil extract SO ₃ (SO ₄) g/l	Sulphate Content Groundwater SO ₃ (SO ₄) g/l	Carbonate Content (as CO ₂) * % Dry mass	Chloride Content (as Cl) Soil % Dry mass	Groundwater g/l	pH Value
BH 1	2.00		D	03085/1	3.0			0.43 (0.52)					7.9
BH 2	1.00		D	03085/2	5.2			0.64 (0.77)					7.2
BH 1	1.00		B	03085/3				0.15 (0.18)					8.0
BH 2	1.00		B	03085/4				0.23 (0.28)					7.8
TH 3	2.40		D	03085/5				0.07 (0.08)					8.2
TP 1A	0.50		B	03085/6				0.06 (0.07)					8.1
TP 21	0.25		B	03085/7				0.03 (0.04)					8.2
TP 27	0.30		B	03085/8				0.12 (0.14)					8.2
TP 79A	0.40		B	03085/9				0.02 (0.02)					8.5
TP 79B	0.50		B	03085/10				0.05 (0.06)					8.5
TP 83	0.40		B	03085/11	5.2			0.16 (0.19)					8.4
TP 84	1.00		B	03085/12	1.5			0.05 (0.06)					8.4
TP 89A	0.50		B	03085/13				0.12 (0.14)					8.3
TP 89A	0.70		B	03085/14				0.13 (0.16)					8.2

Approved By: *R. Cur*

Date: 18/7/01

Client Reference: NL211004
Laboratory Reference: 03085



0618
0618 SI

What's so special about a UKAS report or certificate?

- Accreditation of testing is granted by the United Kingdom Accreditation Service (UKAS).
- It's your assurance that the work has been carried out to the highest standards.
- The laboratory issuing the test report has been stringently assessed by independent experts.
- You are assured that the agreed or specified methods and procedures have been followed.
- Measurements are traceable to national and international standards.

Comments:

Tests marked † in this report are not included in the UKAS Accreditation Schedule for the testing laboratory. However, with the continuing development of our QC protocols, these tests will be included in the near future.

Any opinions and interpretations expressed herein are outside the scope of the testing laboratory's UKAS Accreditation.

The Coefficient of Variation CV_T (where $CV_T = \text{standard deviation}/\text{mean} \times 100$) is better than 15%

All analysis carried out using ECoS standard methods unless otherwise agreed. The test results in this report refer only to the actual samples on which testing has been performed.

This test report shall not be reproduced, except in full, without written approval of ECoS Environmental.

Date submitted for analysis : 06/09/01

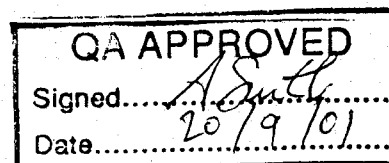
Your Job/Order Number : 410511/32561

Analyst(s) : NB NSP SD JS SJF DF MRH ELD DS SPA

Approved signatories: J R Brown, E Dewell

Signature : 

Report date : 20 September 2001



SOIL

ANALYTE	METHOD OF DETECTION	LIMIT OF DETECTION
Arsenic	ICP-OES	1.0 mg/kg
Cadmium	ICP-OES	0.2 mg/kg
Chromium (total)	ICP-OES	0.2 mg/kg
Lead	ICP-OES	0.5 mg/kg
Mercury	ICP-OES	1.0 mg/kg
Selenium	ICP-OES	1.0 mg/kg
Boron (water soluble)	Colorimetry	0.5 mg/kg
Copper	ICP-OES	0.2 mg/kg
Nickel	ICP-OES	0.2 mg/kg
Zinc	ICP-OES	0.2 mg/kg
PAH (total)	HPLC-UV	10 mg/kg
Phenols	Colorimetry	1.0 mg/kg
Cyanide (total)	HPLC-PED	2.0 mg/kg
Thiocyanate	Colorimetry	10 mg/kg
Sulphate (total)	ICP-OES	30 mg/kg
Sulphide	HPLC-PED	2.0 mg/kg
Sulphur (total)	ICP-OES	10 mg/kg
pH	Aqualyser	N/A
Arsenic (leachable)	AAS-HYDRIDE	1.0 ug/l
Cadmium (leachable)	GF-AAS	0.1 ug/l
Chromium (leachable)	ICP-OES	0.01 mg/l
Lead (leachable)	ICP-OES	0.03 mg/l
Mercury (leachable)	AAS-HYDRIDE	0.1 ug/l
Selenium (leachable)	AAS-HYDRIDE	1.0 ug/l
Boron (leachable)	ICP-OES	0.01 mg/l
Copper (leachable)	ICP-OES	0.01 mg/l
Nickel (leachable)	ICP-OES	0.01 mg/l
Zinc (leachable)	ICP-OES	0.01 mg/l
PAH (total) (leachable)	GC-FID	0.01 mg/l
Phenols (leachable)	Colorimetry	0.01 mg/l
Cyanide (total) (leachable)	Colorimetry	0.01 mg/l
Thiocyanate (leachable)	Colorimetry	1.0 mg/l
Sulphate (leachable)	HPLC-IC	1 mg/l
Sulphur (leachable)	HPLC-UV	10 mg/l
Sulphide (leachable)	Colorimetry	0.1 mg/l
pH (leachable)	Aqualyser	N/A
DRO	GC-FID	0.1 mg/kg
a-HCH	GC-MS	0.1 mg/kg
b-HCH	GC-MS	0.1 mg/kg
g-HCH (lindane)	GC-MS	0.1 mg/kg
d-HCH	GC-MS	0.1 mg/kg
a-Chlordane	GC-MS	0.1 mg/kg
g-Chlordane	GC-MS	0.1 mg/kg
4,4'-DDD	GC-MS	0.1 mg/kg
4,4'-DDE	GC-MS	0.1 mg/kg
4,4'-DDT	GC-MS	0.1 mg/kg
Aldrin	GC-MS	0.1 mg/kg
Dieldrin	GC-MS	0.1 mg/kg
Endosulfan I	GC-MS	0.1 mg/kg
Endosulfan II	GC-MS	0.1 mg/kg
Endosulfan Sulfate	GC-MS	0.1 mg/kg
Endrin	GC-MS	0.1 mg/kg
Endrin aldehyde	GC-MS	0.1 mg/kg
Endrin ketone	GC-MS	0.1 mg/kg
Heptachlor	GC-MS	0.1 mg/kg
Heptachlor epoxide	GC-MS	0.1 mg/kg
Hexachlorobenzene	GC-MS	0.1 mg/kg
Hexachlorocyclopentadiene	GC-MS	0.1 mg/kg

SOIL

ANALYTE	METHOD OF DETECTION	LIMIT OF DETECTION
Methoxychlor	GC-MS	0.1 mg/kg
Fenthion	GC-MS	0.1 mg/kg
Fenitrothion	GC-MS	0.1 mg/kg
Malathion	GC-MS	0.1 mg/kg
Parathion-ethyl	GC-MS	0.1 mg/kg
Dichlorvos	GC-MS	0.1 mg/kg
Permethrin	GC-MS	0.1 mg/kg
Simazine	GC-MS	0.1 mg/kg
Atrazine	GC-MS	0.1 mg/kg
Azinphos-methyl	GC-MS	0.1 mg/kg
Azinphos-ethyl	GC-MS	0.1 mg/kg
Trifluralin	GC-MS	0.1 mg/kg
Alachlor	GC-MS	0.1 mg/kg
cis-Nonachlor	GC-MS	0.1 mg/kg
trans-Nonachlor	GC-MS	0.1 mg/kg
Chlorobenzilate	GC-MS	0.1 mg/kg
Chlorothalonil	GC-MS	0.1 mg/kg
Dacthal	GC-MS	0.1 mg/kg
Etridiazole	GC-MS	0.1 mg/kg
Chloroneb	GC-MS	0.1 mg/kg
Propachlor	GC-MS	0.1 mg/kg
Bentazone	GC-MS	0.1 mg/kg

Summary Of Results
Pell Frischmann Consultants Ltd. - Bicester

ANALYTES	UNITS	TT1	TT2	TT2	TT3	BH1	BH2	TP1	TP2	TP4	TP6	TP7	TP8
		(0.50m)	(0.50m)	(1.00m)	(1.00m)	(3.00m)	(2.60m)	(0.10m)	(0.30m)	(0.30m)	(0.10m)	(0.10m)	(0.70m)
		S0127797	S0127799	S0127800	S0127801	S0127802	S0127803	S0127804	S0127805	S0127806	S0127807	S0127808	S0127809
Arsenic	mg/kg	68.5	122.8	77.8	87.7	4.4	14.0	16.1	18.8	15.8	18.1	16.2	5.8
Cadmium	mg/kg	3.1	2.2	2.7	5.2	0.6	1.0	0.4	0.7	0.6	0.5	0.4	0.3
Chromium (total)	mg/kg	87.7	55.8	58.5	55.5	11.2	12.2	31.7	19.7	19.1	24.2	25.8	9.7
Lead	mg/kg	701.0	1227.0	749.5	1332.5	17.0	64.7	48.8	0.6	14.8	82.2	14.1	0.8
Mercury	mg/kg	<1.0	1.5	<1.0	2.8	1.5	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Selenium	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Boron (water soluble)	mg/kg	1.9	1.3	1.5	1.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Copper	mg/kg	363.3	420.6	363.5	327.2	2.0	22.2	23.2	3.3	13.6	23.2	13.7	<0.2
Nickel	mg/kg	106.0	169.8	131.7	173.0	10.4	19.7	34.0	33.4	29.5	31.7	25.9	11.0
Zinc	mg/kg	2967.0	1660.7	1737.7	1679.7	61.8	266.7	109.1	35.3	75.5	106.6	67.4	35.4
PAH (total)	mg/kg	22	<10	28	<10	<10	<10	<10	<10	<10	<10	<10	<10
Phenols	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cyanide (total)	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Thiocyanate	mg/kg	<10	<10	<10	<10	<10	<10	<10	#	#	#	#	#
Sulphate (total)	mg/kg	4974	6069	4960	3532	594	1144	972	1134	1228	1197	1027	890
Sulphide	mg/kg	9.9	8.0	8.1	12.9	2.2	34.8	<2.0	#	#	#	#	#
Sulphur (total)	mg/kg	1990	2839	2425	2086	248	533	487	#	#	#	#	#
pH	N/A	7.3	7.5	7.4	7.5	8.1	8.0	7.7	8.2	7.8	7.6	7.7	8.2
Arsenic (leachable)	ug/l	2.1	3.1	1.6	2.0	#	#	<1.0	#	#	#	#	#
Cadmium (leachable)	ug/l	<0.1	<0.1	<0.1	<0.1	#	#	<0.1	#	#	#	#	#

Results for soil samples expressed as dry weight

Samples submitted for leachate determination were prepared using agreed procedures and analysed using UKAS accredited methodology where appropriate

: Analyte not requested

Summary Of Results
Pell Frischmann Consultants Ltd. - Bicester

ANALYTES	UNITS	TT1 (0.50m)	TT2 (0.50m)	TT2 (1.00m)	TT3 (1.00m)	BH1 (3.00m)	BH2 (2.60m)	TP1 (0.10m)	TP2 (0.30m)	TP4 (0.30m)	TP6 (0.10m)	TP7 (0.10m)	TP8 (0.70m)
		S0127797	S0127799	S0127800	S0127801	S0127802	S0127803	S0127804	S0127805	S0127806	S0127807	S0127808	S0127809
Chromium (leachable)	mg/l	0.01	<0.01	<0.01	<0.01	#	#	<0.01	#	#	#	#	#
Lead (leachable)	mg/l	<0.03	<0.03	<0.03	<0.03	#	#	<0.03	#	#	#	#	#
Mercury (leachable)	ug/l	<0.1	<0.1	<0.1	<0.1	#	#	<0.1	#	#	#	#	#
Selenium (leachable)	ug/l	1.2	<1.0	<1.0	<1.0	#	#	<1.0	#	#	#	#	#
Boron (leachable)	mg/l	0.09	0.11	0.11	0.18	#	#	0.01	#	#	#	#	#
Copper (leachable)	mg/l	<0.01	<0.01	<0.01	<0.01	#	#	<0.01	#	#	#	#	#
Nickel (leachable)	mg/l	0.03	<0.01	<0.01	<0.01	#	#	<0.01	#	#	#	#	#
Zinc (leachable)	mg/l	0.10	0.12	<0.01	<0.01	#	#	<0.01	#	#	#	#	#
PAH (total) (leachable)	mg/l	<0.01	<0.01	<0.01	<0.01	#	#	<0.01	#	#	#	#	#
Phenols (leachable)	mg/l	0.01	<0.01	0.02	<0.01	#	#	<0.01	#	#	#	#	#
Cyanide (total) (leachable)	mg/l	<0.01	<0.01	<0.01	<0.01	#	#	<0.01	#	#	#	#	#
Thiocyanate (leachable)	mg/l	<1.0	<1.0	<1.0	<1.0	#	#	<1.0	#	#	#	#	#
Sulphate (leachable)	mg/l	12	8	12	20	#	#	<1	#	#	#	#	#
Sulphur (leachable)	mg/l	<10	<10	<10	<10	#	#	<10	#	#	#	#	#
Sulphide (leachable)	mg/l	<0.1	<0.1	<0.1	<0.1	#	#	<0.1	#	#	#	#	#
pH (leachable)	N/A	6.7	7.4	7.6	7.7	#	#	7.4	#	#	#	#	#
DRO	mg/kg	31.2	#	54.0	#	#	#	#	#	#	#	#	#
a-HCH	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#
b-HCH	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#
g-HCH (lindane)	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#

Results for soil samples expressed as dry weight

Samples submitted for leachate determination were prepared using agreed procedures and analysed using UKAS accredited methodology where appropriate

: Analyte not requested

Summary Of Results
Pell Frischmann Consultants Ltd. - Bicester

ANALYTES	UNITS	TT1 (0.50m)	TT2 (0.50m)	TT2 (1.00m)	TT3 (1.00m)	BH1 (3.00m)	BH2 (2.60m)	TP1 (0.10m)	TP2 (0.30m)	TP4 (0.30m)	TP6 (0.10m)	TP7 (0.10m)	TP8 (0.70m)
		S0127797	S0127799	S0127800	S0127801	S0127802	S0127803	S0127804	S0127805	S0127806	S0127807	S0127808	S0127809
d-HCH	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#
a-Chlordane	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#
g-Chlordane	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#
4,4'-DDD	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#
4,4'-DDE	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#
4,4'-DDT	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#
Aldrin	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#
Dieldrin	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#
Endosulfan I	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#
Endosulfan II	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#
Endosulfan Sulfate	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#
Endrin	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#
Endrin aldehyde	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#
Endrin ketone	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#
Heptachlor	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#
Heptachlor epoxide	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#
Hexachlorobenzene	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#
Hexachlorocyclopentadiene	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#
Methoxychlor	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#
Fenthion	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#

Results for soil samples expressed as dry weight

: Analyte not requested

Summary Of Results
Pell Frischmann Consultants Ltd. - Bicester

ANALYTES	UNITS	TT1 (0.50m)	TT2 (0.50m)	TT2 (1.00m)	TT3 (1.00m)	BH1 (3.00m)	BH2 (2.60m)	TP1 (0.10m)	TP2 (0.30m)	TP4 (0.30m)	TP6 (0.10m)	TP7 (0.10m)	TP8 (0.70m)	
		S0127797	S0127799	S0127800	S0127801	S0127802	S0127803	S0127804	S0127805	S0127806	S0127807	S0127808	S0127809	
Fenitrothion	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#	t
Malathion	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#	t
Parathion-ethyl	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#	t
Dichlorvos	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#	t
Permethrin	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#	t
Simazine	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#	t
Atrazine	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#	t
Azinphos-methyl	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#	t
Azinphos-ethyl	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#	t
Trifluralin	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#	t
Alachlor	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#	t
cis-Nonachlor	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#	t
trans-Nonachlor	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#	t
Chlorobenzilate	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#	t
Chlorothalonil	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#	t
Dacthal	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#	t
Etridiazole	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#	t
Chloroneb	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#	t
Propachlor	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#	t
Bentazone	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	#	t

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Pell Frischmann Consultants Ltd. - Bicester

ANALYTES	UNITS	TP13 (0.00 - 0.20m)	TP14 (0.10m)	TP14A (0.10m)	TP14A (1.80m)	TP15A (0.40m)	TP17 (0.20m)	TP19 (0.00 - 0.25m)	TP22 (0.10m)	TP24 (0.10m)	TP28 (0.00 - 0.23m)	TP30 (0.00 - 0.20m)	TP32 (0.50m)
		S0127810	S0127811	S0127812	S0127813	S0127814	S0127815	S0127816	S0127817	S0127820	S0127821	S0127822	S0127823
Arsenic	mg/kg	13.7	18.1	21.7	32.5	23.2	25.7	32.7	20.9	19.8	11.7	11.2	17.7
Cadmium	mg/kg	0.4	0.7	0.7	0.5	0.3	0.7	0.3	0.8	0.4	0.6	0.3	0.7
Chromium (total)	mg/kg	42.1	32.9	35.8	11.0	20.1	34.1	44.4	26.5	34.8	42.1	29.9	13.2
Lead	mg/kg	15.4	45.4	42.6	10.0	7.4	30.7	40.2	24.4	13.5	4.2	6.7	<0.5
Mercury	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.6	<1.0	<1.0	<1.0	<1.0
Selenium	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Boron (water soluble)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5
Copper	mg/kg	23.8	20.1	25.6	25.0	18.3	27.0	27.0	15.8	16.3	16.5	13.4	0.5
Nickel	mg/kg	30.3	33.9	39.0	49.0	45.6	41.1	44.2	35.6	34.6	26.0	16.4	28.8
Zinc	mg/kg	97.7	85.2	92.9	40.3	56.6	106.0	101.6	64.6	80.4	86.9	70.9	23.3
PAH (total)	mg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Phenols	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cyanide (total)	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Sulphate (total)	mg/kg	770	1087	1263	486	687	1295	981	907	685	773	418	827
pH	N/A	7.4	7.7	7.7	8.1	7.9	7.7	7.3	7.8	7.2	6.4	7.7	7.9
a-HCH	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
b-HCH	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
g-HCH (lindane)	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
d-HCH	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
a-Chlordane	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Pell Frischmann Consultants Ltd. - Bicester

ANALYTES	UNITS	TP13 (0.00 - 0.20m)	TP14 (0.10m)	TP14A (0.10m)	TP14A (1.80m)	TP15A (0.40m)	TP17 (0.20m)	TP19 (0.00 - 0.25m)	TP22 (0.10m)	TP24 (0.10m)	TP28 (0.00 - 0.23m)	TP30 (0.00 - 0.20m)	TP32 (0.50m)
		S0127810	S0127811	S0127812	S0127813	S0127814	S0127815	S0127816	S0127817	S0127820	S0127821	S0127822	S0127823
g-Chlordane	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
4,4'-DDD	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
4,4'-DDE	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
4,4'-DDT	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Aldrin	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Dieldrin	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Endosulfan I	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Endosulfan II	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Endosulfan Sulfate	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Endrin	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Endrin aldehyde	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Endrin ketone	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Heptachlor	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Heptachlor epoxide	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Hexachlorobenzene	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Hexachlorocyclopentadiene	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Methoxychlor	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Fenthion	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Fenitrothion	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Malathion	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#

Results for soil samples expressed as dry weight

: Analyte not requested

Summary Of Results
Pell Frischmann Consultants Ltd. - Bicester

ANALYTES	UNITS	TP13 (0.00 - 0.20m)	TP14 (0.10m)	TP14A (0.10m)	TP14A (1.80m)	TP15A (0.40m)	TP17 (0.20m)	TP19 (0.00 - 0.25m)	TP22 (0.10m)	TP24 (0.10m)	TP28 (0.00 - 0.23m)	TP30 (0.00 - 0.20m)	TP32 (0.50m)
		S0127810	S0127811	S0127812	S0127813	S0127814	S0127815	S0127816	S0127817	S0127820	S0127821	S0127822	S0127823
Parathion-ethyl	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Dichlorvos	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Permethrin	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Simazine	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Atrazine	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Azinphos-methyl	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Azinphos-ethyl	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Trifluralin	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Alachlor	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
cis-Nonachlor	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
trans-Nonachlor	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Chlorobenzilate	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Chlorothalonil	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Dacthal	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Etridiazole	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Chloroneb	mg/kg	#	#	#	#	#	#	#	#	0.1	#	#	#
Propachlor	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Bentazone	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Pell Frischmann Consultants Ltd. - Bicester

ANALYTES	UNITS	TP33 (0.50m)	TP34 (0.10m)	TP37 (0.00 - 0.25m)	TP41 (0.00 - 0.30m)	TP42 (0.10m)	TP42 (0.50m)	TP44 (0.50m)	TP47 (0.00 - 0.30m)	TP52 (0.00 - 0.25m)	TP54 (0.10m)	TP55 (0.10m)	TP57 (0.30m)
		S0127824	S0127825	S0127826	S0127827	S0127829	S0127830	S0127831	S0127832	S0127833	S0127835	S0127836	S0127837
Arsenic	mg/kg	17.5	23.0	15.2	9.8	23.1	11.9	20.0	22.4	12.1	20.0	20.8	48.6
Cadmium	mg/kg	0.6	0.6	0.5	0.6	0.6	0.8	0.7	1.1	0.7	0.6	0.7	0.5
Chromium (total)	mg/kg	18.1	38.1	50.4	39.3	33.0	7.6	31.7	62.9	41.1	36.2	33.0	65.6
Lead	mg/kg	3.0	19.5	4.1	<0.5	20.0	2.2	8.8	<0.5	2.1	20.6	26.0	<0.5
Mercury	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Selenium	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Boron (water soluble)	mg/kg	<0.5	0.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Copper	mg/kg	5.0	16.4	21.1	12.8	14.6	<0.2	16.6	19.1	18.3	17.6	17.7	14.7
Nickel	mg/kg	27.4	37.2	28.4	12.1	34.4	12.3	34.8	33.6	29.0	34.9	32.7	48.2
Zinc	mg/kg	33.6	83.1	91.5	68.4	68.2	18.5	68.9	107.1	101.3	78.2	74.8	89.1
PAH (total)	mg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Phenols	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cyanide (total)	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Sulphate (total)	mg/kg	782	753	564	457	887	895	618	636	482	685	696	48
pH	N/A	7.9	7.4	6.7	6.3	7.8	8.1	7.8	7.1	7.6	7.8	7.9	7.8
Arsenic (leachable)	ug/l	#	#	#	<1.0	#	#	#	#	#	<1.0	#	#
Cadmium (leachable)	ug/l	#	#	#	<0.1	#	#	#	#	#	<0.1	#	#
Chromium (leachable)	mg/l	#	#	#	<0.01	#	#	#	#	#	<0.01	#	#
Lead (leachable)	mg/l	#	#	#	<0.03	#	#	#	#	#	<0.03	#	#
Mercury (leachable)	ug/l	#	#	#	<0.1	#	#	#	#	#	<0.1	#	#

Results for soil samples expressed as dry weight

Samples submitted for leachate determination were prepared using agreed procedures and analysed using UKAS accredited methodology where appropriate

: Analyte not requested

Summary Of Results
Pell Frischmann Consultants Ltd. - Bicester

ANALYTES	UNITS	TP33 (0.50m)	TP34 (0.10m)	TP37 (0.00 - 0.25m)	TP41 (0.00 - 0.30m)	TP42 (0.10m)	TP42 (0.50m)	TP44 (0.50m)	TP47 (0.00 - 0.30m)	TP52 (0.00 - 0.25m)	TP54 (0.10m)	TP55 (0.10m)	TP57 (0.30m)
		S0127824	S0127825	S0127826	S0127827	S0127829	S0127830	S0127831	S0127832	S0127833	S0127835	S0127836	S0127837
Selenium (leachable)	ug/l	#	#	#	<1.0	#	#	#	#	#	<1.0	#	#
Boron (leachable)	mg/l	#	#	#	0.02	#	#	#	#	#	0.01	#	#
Copper (leachable)	mg/l	#	#	#	<0.01	#	#	#	#	#	<0.01	#	#
Nickel (leachable)	mg/l	#	#	#	0.02	#	#	#	#	#	0.01	#	#
Zinc (leachable)	mg/l	#	#	#	0.03	#	#	#	#	#	<0.01	#	#
PAH (total) (leachable)	mg/l	#	#	#	<0.01	#	#	#	#	#	<0.01	#	#
Phenols (leachable)	mg/l	#	#	#	<0.01	#	#	#	#	#	<0.01	#	#
Cyanide (total) (leachable)	mg/l	#	#	#	<0.01	#	#	#	#	#	<0.01	#	#
Sulphate (leachable)	mg/l	#	#	#	<1	#	#	#	#	#	<1	#	#
pH (leachable)	N/A	#	#	#	5.9	#	#	#	#	#	7.4	#	#
a-HCH	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
b-HCH	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
g-HCH (lindane)	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
d-HCH	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
a-Chlordane	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
g-Chlordane	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
4,4'-DDD	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
4,4'-DDE	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
4,4'-DDT	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Aldrin	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#

Results for soil samples expressed as dry weight

Samples submitted for leachate determination were prepared using agreed procedures and analysed using UKAS accredited methodology where appropriate

: Analyte not requested

Summary Of Results
Pell Frischmann Consultants Ltd. - Bicester

ANALYTES	UNITS	TP33 (0.50m)	TP34 (0.10m)	TP37 (0.00 - 0.25m)	TP41 (0.00 - 0.30m)	TP42 (0.10m)	TP42 (0.50m)	TP44 (0.50m)	TP47 (0.00 - 0.30m)	TP52 (0.00 - 0.25m)	TP54 (0.10m)	TP55 (0.10m)	TP57 (0.30m)
		S0127824	S0127825	S0127826	S0127827	S0127829	S0127830	S0127831	S0127832	S0127833	S0127835	S0127836	S0127837
Dieldrin	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Endosulfan I	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Endosulfan II	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Endosulfan Sulfate	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Endrin	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Endrin aldehyde	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Endrin ketone	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Heptachlor	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Heptachlor epoxide	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Hexachlorobenzene	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Hexachlorocyclopentadiene	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Methoxychlor	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Fenthion	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Fenitrothion	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Malathion	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Parathion-ethyl	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Dichlorvos	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Permethrin	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Simazine	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#
Atrazine	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Pell Frischmann Consultants Ltd. - Bicester

ANALYTES	UNITS	TP33 (0.50m)	TP34 (0.10m)	TP37 (0.00 - 0.25m)	TP41 (0.00 - 0.30m)	TP42 (0.10m)	TP42 (0.50m)	TP44 (0.50m)	TP47 (0.00 - 0.30m)	TP52 (0.00 - 0.25m)	TP54 (0.10m)	TP55 (0.10m)	TP57 (0.30m)	
		S0127824	S0127825	S0127826	S0127827	S0127829	S0127830	S0127831	S0127832	S0127833	S0127835	S0127836	S0127837	
Azinphos-methyl	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#	t
Azinphos-ethyl	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#	t
Trifluralin	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#	t
Alachlor	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#	t
cis-Nonachlor	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#	t
trans-Nonachlor	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#	t
Chlorobenzilate	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#	t
Chlorothalonil	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#	t
Dacthal	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#	t
Etridiazole	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#	t
Chloroneb	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#	t
Propachlor	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#	t
Bentazone	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#	t

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Pell Frischmann Consultants Ltd. - Bicester

ANALYTES	UNITS	TP58 (0.20m)	TP59 (0.00 - 0.35m)	TP60 (0.00 - 0.34m)	TP63 (0.50m)	TP64 (0.20m)	TP68 (1.50m)	TP70 (0.60m)	TP71 (0.00 - 0.30m)	TP72 (0.60m)	TP73A (1.00m)	TP75 (0.30m)	TP76 (0.50m)
		S0127838	S0127839	S0127840	S0127844	S0127845	S0127846	S0127847	S0127848	S0127849	S0127850	S0127851	S0127852
Arsenic	mg/kg	21.3	13.3	33.3	11.9	32.1	231.0	23.6	19.9	9.3	15.0	103.6	12.0
Cadmium	mg/kg	0.8	0.8	1.1	0.8	0.5	<0.2	<0.2	0.5	0.8	0.2	0.4	0.6
Chromium (total)	mg/kg	59.0	48.5	53.6	14.8	38.0	62.5	22.1	42.0	9.7	40.0	39.2	33.3
Lead	mg/kg	3.5	10.6	7.4	2.7	29.2	6.6	3.6	10.8	<0.5	<0.5	8.3	<0.5
Mercury	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Selenium	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Boron (water soluble)	mg/kg	<0.5	<0.5	<0.5	0.5	0.5	<0.5	<0.5	0.6	0.6	0.5	0.6	0.5
Copper	mg/kg	28.7	20.5	28.2	3.5	31.9	57.8	6.7	17.2	<0.2	16.1	14.5	8.7
Nickel	mg/kg	36.5	29.3	39.3	15.5	40.2	161.7	33.7	36.8	7.9	36.5	43.9	31.4
Zinc	mg/kg	135.2	104.0	105.1	32.4	112.0	271.4	48.5	83.1	27.8	71.9	63.9	58.9
PAH (total)	mg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Phenols	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cyanide (total)	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Sulphate (total)	mg/kg	365	698	865	1508	1433	14027	582	1665	783	241	1144	498
pH	N/A	7.1	7.1	7.8	8.4	7.6	7.7	8.0	7.4	8.1	8.0	7.8	8.0
a-HCH	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#
b-HCH	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#
g-HCH (lindane)	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#
d-HCH	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#
a-Chlordane	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Pell Frischmann Consultants Ltd. - Bicester

ANALYTES	UNITS	TP58 (0.20m)	TP59 (0.00 - 0.35m)	TP60 (0.00 - 0.34m)	TP63 (0.50m)	TP64 (0.20m)	TP68 (1.50m)	TP70 (0.60m)	TP71 (0.00 - 0.30m)	TP72 (0.60m)	TP73A (1.00m)	TP75 (0.30m)	TP76 (0.50m)
		S0127838	S0127839	S0127840	S0127844	S0127845	S0127846	S0127847	S0127848	S0127849	S0127850	S0127851	S0127852
g-Chlordane	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#
4,4'-DDD	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#
4,4'-DDE	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#
4,4'-DDT	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#
Aldrin	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#
Dieldrin	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#
Endosulfan I	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#
Endosulfan II	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#
Endosulfan Sulfate	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#
Endrin	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#
Endrin aldehyde	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#
Endrin ketone	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#
Heptachlor	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#
Heptachlor epoxide	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#
Hexachlorobenzene	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#
Hexachlorocyclopentadiene	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#
Methoxychlor	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#
Fenthion	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#
Fenitrothion	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#
Malathion	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Pell Frischmann Consultants Ltd. - Bicester

ANALYTES	UNITS	TP58 (0.20m)	TP59 (0.00 - 0.35m)	TP60 (0.00 - 0.34m)	TP63 (0.50m)	TP64 (0.20m)	TP68 (1.50m)	TP70 (0.60m)	TP71 (0.00 - 0.30m)	TP72 (0.60m)	TP73A (1.00m)	TP75 (0.30m)	TP76 (0.50m)		
		S0127838	S0127839	S0127840	S0127844	S0127845	S0127846	S0127847	S0127848	S0127849	S0127850	S0127851	S0127852		
Parathion-ethyl	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#	#	t
Dichlorvos	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#	#	t
Permethrin	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#	#	t
Simazine	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#	#	t
Atrazine	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#	#	t
Azinphos-methyl	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#	#	t
Azinphos-ethyl	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#	#	t
Trifluralin	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#	#	t
Alachlor	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#	#	t
cis-Nonachlor	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#	#	t
trans-Nonachlor	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#	#	t
Chlorobenzilate	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#	#	t
Chlorothalonil	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#	#	t
Dacthal	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#	#	t
Etridiazole	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#	#	t
Chloroneb	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#	#	t
Propachlor	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#	#	t
Bentazone	mg/kg	#	<0.1	#	#	#	#	#	#	#	#	#	#	#	t
Arsenic (leachable)	ug/l	#	#	#	#	#	#	#	#	<1.0	#	#	#	<1.0	
Cadmium (leachable)	ug/l	#	#	#	#	#	#	#	#	<0.1	#	#	#	<0.1	

Results for soil samples expressed as dry weight

Samples submitted for leachate determination were prepared using agreed procedures and analysed using UKAS accredited methodology where appropriate

: Analyte not requested

Report No. R01/2901

Summary Of Results
Pe11 Frischmann Consultants Ltd. - Bicester

ANALYTES	UNITS	TP58 (0.20m)	TP59 (0.00 - 0.35m)	TP60 (0.00 - 0.34m)	TP63 (0.50m)	TP64 (0.20m)	TP68 (1.50m)	TP70 (0.60m)	TP71 (0.00 - 0.30m)	TP72 (0.60m)	TP73A (1.00m)	TP75 (0.30m)	TP76 (0.50m)
		S0127838	S0127839	S0127840	S0127844	S0127845	S0127846	S0127847	S0127848	S0127849	S0127850	S0127851	S0127852
Chromium (leachable)	mg/l	#	#	#	#	#	#	#	#	<0.01	#	#	<0.01
Lead (leachable)	mg/l	#	#	#	#	#	#	#	#	<0.03	#	#	<0.03
Mercury (leachable)	ug/l	#	#	#	#	#	#	#	#	<0.1	#	#	<0.1
Selenium (leachable)	ug/l	#	#	#	#	#	#	#	#	<1.0	#	#	<1.0
Boron (leachable)	mg/l	#	#	#	#	#	#	#	#	<0.01	#	#	0.01
Copper (leachable)	mg/l	#	#	#	#	#	#	#	#	<0.01	#	#	<0.01
Nickel (leachable)	mg/l	#	#	#	#	#	#	#	#	<0.01	#	#	<0.01
Zinc (leachable)	mg/l	#	#	#	#	#	#	#	#	<0.01	#	#	<0.01
PAH (total) (leachable)	mg/l	#	#	#	#	#	#	#	#	<0.01	#	#	<0.01
Phenols (leachable)	mg/l	#	#	#	#	#	#	#	#	<0.01	#	#	<0.01
Cyanide (total) (leachable)	mg/l	#	#	#	#	#	#	#	#	<0.01	#	#	<0.01
Sulphate (leachable)	mg/l	#	#	#	#	#	#	#	#	<1	#	#	<1
pH (leachable)	N/A	#	#	#	#	#	#	#	#	7.1	#	#	7.3
DRO	mg/kg	#	#	#	#	#	#	#	#	#	#	#	<0.1

Results for soil samples expressed as dry weight

Samples submitted for leachate determination were prepared using agreed procedures and analysed using UKAS accredited methodology where appropriate

: Analyte not requested

Summary Of Results
Pell Frischmann Consultants Ltd. - Bicester

ANALYTES	UNITS	TP79 (0.50m)	TP79A (0.40m)	TP79B (0.50m)	TP80 (0.85m)	TP83 (0.20m)	TP84 (1.00m)	TP87 (0.10m)	TP89 (0.20m)	TP89A (0.50m)	TP90 (0.50m)		
		S0127854	S0127855	S0127856	S0127857	S0127858	S0127859	S0127860	S0127861	S0127862	S0127863		
Arsenic	mg/kg	18.8	15.2	15.1	19.7	18.3	8.0	25.9	21.9	8.2	41.6	#	#
Cadmium	mg/kg	0.6	0.6	0.8	<0.2	0.5	0.7	0.4	0.5	1.1	0.3	#	#
Chromium (total)	mg/kg	32.7	12.0	9.3	25.8	12.8	27.8	43.5	24.5	51.1	33.9	#	#
Lead	mg/kg	<0.5	<0.5	2.4	0.7	47.5	<0.5	18.9	34.2	<0.5	11.6	#	#
Mercury	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	#	#
Selenium	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	#	#
Boron (water soluble)	mg/kg	<0.5	0.5	0.5	0.6	0.8	0.5	0.5	1.3	1.1	<0.5	#	#
Copper	mg/kg	11.0	<0.2	0.9	8.3	21.6	4.3	25.8	12.3	29.6	19.4	#	#
Nickel	mg/kg	31.6	10.1	9.7	33.6	24.2	19.6	30.3	13.9	27.9	44.6	#	#
Zinc	mg/kg	61.5	22.7	19.0	50.4	69.4	59.0	109.3	142.8	95.5	110.0	#	#
PAH (total)	mg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	#	#
Phenols	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	#	#
Cyanide (total)	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	#	#
Sulphate (total)	mg/kg	1017	945	1112	315	3072	1158	950	3429	2310	776	#	#
pH	N/A	7.9	8.0	8.1	8.1	7.4	7.8	7.4	7.3	7.3	7.8	#	#
Arsenic (leachable)	ug/l	#	<1.0	<1.0	#	#	1.1	#	<1.0	<1.0	<1.0	#	#
Cadmium (leachable)	ug/l	#	<0.1	<0.1	#	#	<0.1	#	<0.1	<0.1	<0.1	#	#
Chromium (leachable)	mg/l	#	<0.01	0.01	#	#	<0.01	#	<0.01	<0.01	<0.01	#	#
Lead (leachable)	mg/l	#	<0.03	<0.03	#	#	<0.03	#	<0.03	<0.03	<0.03	#	#
Mercury (leachable)	ug/l	#	<0.1	<0.1	#	#	<0.1	#	<0.1	<0.1	<0.1	#	#

Results for soil samples expressed as dry weight

Samples submitted for leachate determination were prepared using agreed procedures and analysed using UKAS accredited methodology where appropriate

: Analyte not requested

Summary Of Results
Pell Frischmann Consultants Ltd. - Bicester

ANALYTES	UNITS	TP79 (0.50m)	TP79A (0.40m)	TP79B (0.50m)	TP80 (0.85m)	TP83 (0.20m)	TP84 (1.00m)	TP87 (0.10m)	TP89 (0.20m)	TP89A (0.50m)	TP90 (0.50m)		
		S0127854	S0127855	S0127856	S0127857	S0127858	S0127859	S0127860	S0127861	S0127862	S0127863		
Selenium (leachable)	ug/l	#	<1.0	<1.0	#	#	<1.0	#	<1.0	<1.0	<1.0	#	#
Boron (leachable)	mg/l	#	0.02	<0.01	#	#	<0.01	#	0.06	0.06	0.01	#	#
Copper (leachable)	mg/l	#	<0.01	<0.01	#	#	<0.01	#	<0.01	<0.01	<0.01	#	#
Nickel (leachable)	mg/l	#	<0.01	<0.01	#	#	<0.01	#	<0.01	<0.01	<0.01	#	#
Zinc (leachable)	mg/l	#	<0.01	<0.01	#	#	<0.01	#	<0.01	<0.01	<0.01	#	#
PAH (total) (leachable)	mg/l	#	<0.01	<0.01	#	#	<0.01	#	<0.01	<0.01	<0.01	#	#
Phenols (leachable)	mg/l	#	0.01	<0.01	#	#	<0.01	#	<0.01	<0.01	<0.01	#	#
Cyanide (total) (leachable)	mg/l	#	<0.01	<0.01	#	#	<0.01	#	<0.01	<0.01	<0.01	#	#
Sulphate (leachable)	mg/l	#	<1	<1	#	#	7	#	13	19	<1	#	#
pH (leachable)	N/A	#	7.5	7.3	#	#	7.4	#	7.8	7.4	7.5	#	#

Results for soil samples expressed as dry weight

Samples submitted for leachate determination were prepared using agreed procedures and analysed using UKAS accredited methodology where appropriate

: Analyte not requested



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- Accreditation of testing is granted by the United Kingdom Accreditation Service (UKAS).
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- Measurements are traceable to national and international standards.

Comments:

Tests marked † in this report are not included in the UKAS Accreditation Schedule for the testing laboratory. However, with the continuing development of our QC protocols, these tests will be included in the near future.

Any opinions and interpretations expressed herein are outside the scope of the testing laboratory's UKAS Accreditation.

The Coefficient of Variation CV_T (where $CV_T = \text{standard deviation}/\text{mean} \times 100$) is better than 15%

All analysis carried out using ECoS standard methods unless otherwise agreed. The test results in this report refer only to the actual samples on which testing has been performed.


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Date submitted for analysis : 05/09/01

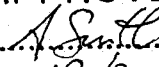
Your Job/Order Number : 410511/32561

Analyst(s) : MRH NB SJF NSP ELD DS SD DF

Approved signatories: J R Brown, E Dewell

Signature : 

Report date : 18 September 2001

QA APPROVED	
Signed.....	
Date.....	18/9/01

WATER

ANALYTE	METHOD OF DETECTION	LIMIT OF DETECTION
Arsenic	AAS-HYDRIDE	1.0 ug/l
Cadmium	GF-AAS	0.1 ug/l
Chromium (hexavalent)	ICP-OES	0.01 mg/l
Chromium	ICP-OES	0.01 mg/l
Lead	ICP-OES	0.03 mg/l
Mercury	AAS-HYDRIDE	0.1 ug/l
Selenium	AAS-HYDRIDE	1.0 ug/l
Boron	ICP-OES	0.01 mg/l
Copper	ICP-OES	0.01 mg/l
Nickel	ICP-OES	0.01 mg/l
Zinc	ICP-OES	0.01 mg/l
PAH (total)	GC-FID	0.01 mg/l
Phenols	Colorimetry	0.01 mg/l
Cyanide (free)	Colorimetry	0.01 mg/l
Cyanide (complex)	Colorimetry	0.01 mg/l
Cyanide (total)	Colorimetry	0.01 mg/l
Thiocyanate	Colorimetry	1.0 mg/l
Sulphate	HPLC-IC	1 mg/l
Sulphide	Colorimetry	0.1 mg/l
Sulphur	HPLC-UV	10 mg/l
pH	Aqualyser	N/A
Naphthalene	GC-FID	0.01 mg/l
Acenaphthylene	GC-FID	0.01 mg/l
Acenaphthene	GC-FID	0.01 mg/l
Fluorene	GC-FID	0.01 mg/l
Phenanthrene	GC-FID	0.01 mg/l
Anthracene	GC-FID	0.01 mg/l
Fluoranthene	GC-FID	0.01 mg/l
Pyrene	GC-FID	0.01 mg/l
Benzo(a)anthracene	GC-FID	0.01 mg/l
Chrysene	GC-FID	0.01 mg/l
Benzo(b)fluoranthene	GC-FID	0.01 mg/l
Benzo(k)fluoranthene	GC-FID	0.01 mg/l
Benzo(a)pyrene	GC-FID	0.01 mg/l
Indeno(1,2,3-cd)pyrene	GC-FID	0.01 mg/l
Dibenz(a,h)anthracene	GC-FID	0.01 mg/l
Benzo(g,h,i)perylene	GC-FID	0.01 mg/l
Chloride	HPLC-IC	1 mg/l
Ammoniacal Nitrogen	Colorimetry	0.1 mg/l as N
TOC	Colorimetry	0.1 %
DRO	GC-FID	0.01 mg/l
PCBs	GC-ECD	0.01 mg/l

Summary Of Results
Pell Frischmann Consultants Ltd. - Bicester

ANALYTES	UNITS	TP14A (1.80m)	TP15A (1.00m)	TP17 (1.10m)	TP36 (0.50m)	TP47 (1.00m)	TP71 (0.90m)	TP76 (2.50m)	TP76B (2.00m)	TP83 (0.80m)	TP89A (0.90m)	Farm Well	
		S0127783	S0127784	S0127785	S0127786	S0127787	S0127788	S0127789	S0127790	S0127791	S0127792	S0127793	
Arsenic	ug/l	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	#
Cadmium	ug/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	#
Chromium (hexavalent)	mg/l	<0.01	#	#	#	#	#	#	#	#	<0.01	<0.01	#
Chromium	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	#
Lead	mg/l	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	#
Mercury	ug/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	#
Selenium	ug/l	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	#
Boron	mg/l	<0.01	<0.01	<0.01	0.41	0.04	0.10	<0.01	0.01	0.07	0.13	0.50	#
Copper	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	#
Nickel	mg/l	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.01	0.01	<0.01	<0.01	<0.01	#
Zinc	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	#
PAH (total)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	#
Phenols	mg/l	0.02	0.03	0.01	0.01	0.03	0.03	0.01	0.01	0.01	0.01	<0.01	#
Cyanide (free)	mg/l	<0.01	#	#	#	#	#	#	#	#	<0.01	<0.01	#
Cyanide (complex)	mg/l	<0.01	#	#	#	#	#	#	#	#	<0.01	<0.01	#
Cyanide (total)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	#
Thiocyanate	mg/l	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	#
Sulphate	mg/l	47	19	48	46	44	43	74	64	59	68	38	#
Sulphide	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	#
Sulphur	mg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	#

Water samples analysed as received
: Analyte not requested

Summary Of Results
Pell Frischmann Consultants Ltd. - Bicester

ANALYTES	UNITS	TP14A (1.80m)	TP15A (1.00m)	TP17 (1.10m)	TP36 (0.50m)	TP47 (1.00m)	TP71 (0.90m)	TP76 (2.50m)	TP76B (2.00m)	TP83 (0.80m)	TP89A (0.90m)	Farm Well	
		S0127783	S0127784	S0127785	S0127786	S0127787	S0127788	S0127789	S0127790	S0127791	S0127792	S0127793	
pH	N/A	7.2	7.2	7.4	7.5	7.2	7.4	7.4	7.4	7.3	7.2	7.9	#
Naphthalene	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	#
Acenaphthylene	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	#
Acenaphthene	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	#
Fluorene	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	#
Phenanthrene	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	#
Anthracene	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	#
Fluoranthene	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	#
Pyrene	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	#
Benzo(a)anthracene	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	#
Chrysene	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	#
Benzo(b)fluoranthene	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	#
Benzo(k)fluoranthene	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	#
Benzo(a)pyrene	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	#
Indeno(1,2,3-cd)pyrene	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	#
Dibenz(a,h)anthracene	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	#
Benzo(g,h,i)perylene	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	#
Chloride	mg/l	15	#	#	#	#	#	21	20	#	#	21	#
Ammoniacal Nitrogen	mg/l as N	<0.1	#	#	#	#	#	<0.1	<0.1	#	#	<0.1	#
TOC	%	<0.1	#	#	#	#	#	<0.1	<0.1	#	#	<0.1	#

Water samples analysed as received
: Analyte not requested

Summary Of Results
Pell Frischmann Consultants Ltd. - Bicester

ANALYTES	UNITS	TP14A (1.80m)	TP15A (1.00m)	TP17 (1.10m)	TP36 (0.50m)	TP47 (1.00m)	TP71 (0.90m)	TP76 (2.50m)	TP76B (2.00m)	TP83 (0.80m)	TP89A (0.90m)	Farm Well	
		S0127783	S0127784	S0127785	S0127786	S0127787	S0127788	S0127789	S0127790	S0127791	S0127792	S0127793	
DRO	mg/l	<0.01	#	#	#	#	#	<0.01	<0.01	#	#	<0.01	# †
PCBs	mg/l	<0.01	#	#	#	#	#	<0.01	<0.01	#	#	<0.01	# †

Water samples analysed as received
: Analyte not requested