P/2010/00255

APPENDIX K3

Factual Report into Ground Investigation

File: 3.03.2

National Football Centre, Byrkley Park
Factual Report into Ground Investigation

August 2001
121070

Client:
The Football Association

Engineer:
Building Design Partnership
Sunlight House
P O Box 85
Quay Street
Manchester
M60 3JA

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National Football Centre Byrkley Park
Factual Report into Ground Investigation

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National Football Centre

Byrkley Park

Factual Report

CONTENTS

121070

1. INTRODUCTION

It is proposed to develop a national football centre at Byrkley Park.

On the instructions of Building Design Partnership, Consulting Engineers to the Football Association, an investigation was carried out by Exploration Associates to provide information on the ground conditions for the design and construction of the proposed works. A factual report only was requested by Building Design Partnership in a letter ref:MR08799.

The report contains descriptions of the fieldwork and laboratory testing carried out, summaries of the ground and groundwater conditions revealed and results of tests, measurements and descriptions made in the field and in the laboratory.

The investigation was carried out in general accordance with the relevant British Standards[1,2]. General notes on the techniques employed during site investigations carried out by Exploration Associates are given in the Enclosures.

2. THE SITE

The site is located at National Grid reference SK 165 235 as shown on the Site Location Plan (Drawing 1). the area surrounding the derelict Byrkley House comprises some 100 hectares of undulating pasture and woodland. A river flows through the site with two weirs present within the site boundary.

3. FIELDWORK

The fieldwork was specified by Building Design Partnership and carried out during the period 9th May to the 24th May 2001.

Twenty boreholes were sunk at the positions shown on the Exploratory Hole Location Plan (Drawing 2) by soft ground cable percussive boring techniques, rotary coring and open-hole drilling methods to depths of between 2.34m (Borehole 2) and 17.90m (Borehole 5B). Twenty two trial pits were excavated mechanically to depths of between 0.15m (Trial Pit Weir 2) and 5.00m (Trial Pit 15) at positions also shown on the Exploratory Hole Location Plan. The depths of the boreholes and trial pits, descriptions of the strata encountered and comments on the groundwater conditions revealed during the fieldwork operations are given on the borehole and trial pit records (Enclosure A).

Disturbed and undisturbed samples were taken at the depths shown on the records. Small disturbed samples were obtained from throughout the boreholes and trial pits primarily for identification purposes. Bulk disturbed samples were recovered to enable more representative descriptions to be made. General purpose undisturbed samples of 100mm nominal diameter were taken in cohesive materials. Groundwater samples were recovered from trial pits 2, 2R, 3, 4, 4B, 5, 9, 14, Weir 1 and Weir 2.

Standard Penetration Tests (split barrel sampler and cone) were carried out in granular material and weathered bedrock to assess the relative density or hardness of the materials and in cohesive strata to obtain an indication of their consistency. Values of penetration resistance are presented in Enclosure A, on the borehole records.

19mm standpipes were installed in Boreholes 1A, 2A, 5B, 6, 7, 11, 12 and 14 to enable subsequent measurements of groundwater levels to be made. The piezometers were fitted with Casagrande type plastic tips. Details of the installations are given on the relevant borehole records and water levels recorded in the instrument following the fieldwork are given in Enclosure B.

The samples were despatched to the laboratory at Deeside, Flintshire for examination and testing. The descriptions of strata, given on the records, were made in general accordance with the recommendations given in BS 5930; 1999[1].

The exploratory hole positions were set out by representatives of Exploration Associates and Building Design Partnership.

The ground levels and co-ordinates at the exploratory hole positions, given on the records, were obtained using survey station information provided by Building Design Partnership.

4. LABORATORY TESTING

The laboratory work was scheduled by Building Design Partnership.

The principal objectives of the testing programme were to classify the deposits, to determine the shear strength and compressibility of the cohesive materials and to determine the aggressiveness of the soils and groundwater with respect to chemical attack on construction materials. Tests were also made to provide information on the compaction characteristics of the soil materials and for pavement design.

Contaminant analyses were carried out on selected samples by TES Bretby to provide a preliminary assessment of the degree of chemical contamination present within the near surface/made ground materials.

The soil tests were carried out at our UKAS accredited laboratory in Flintshire generally according to BS 1377; 1990[2] unless indicated otherwise.

The tests carried out were:-

- Natural moisture content
- Natural wet density
- Liquid and plastic limit
- Particle size distribution
- Unconsolidated undrained triaxial compression
- California bearing ratio
- Standard and Heavy Compaction
- Moisture Condition Value
- Consolidation
- Sulphate concentration and pH value
- Contaminant analyses

The contaminant analyses were carried out by TES Bretby who are a sister company of Exploration Associates at their UKAS accredited facilities in Burton-on-Trent.

The results of the laboratory tests are given in Enclosure C.

5. GROUND CONDITIONS

5.1 Published Geology

Geological records[3] indicate the site is expected to be underlain by glacial till (recorded as Boulder Clay) overlying rocks forming the Mercia Mudstone Group which is Triassic in age.

5.2 Strata Encountered

Turf was found to cover a thickness of topsoil between 0.05m (Trial Pit 5) and 0.80m (Trial Pit 2).

Elsewhere, Made Ground comprising ashy gravelly sand, sandy gravelly clay and clay bound fill was encountered between 0.40m (Borehole 4) and 3.20m (Borehole 5B).

At the trial pit locations, underlying the topsoil and/or Made Ground, a firm to stiff sandy gravelly clay was encountered within all of the trial pits to a maximum depth of 5.00m (Trial Pit 15).

Beneath the clay, a gravel deposit was encountered at the locations of trial pits 2, 2A, 3, 4, 4A, 4B, 8, 10, 12 to a maximum depth of 4.80m (Trial Pit 8).

At the borehole positions, firm, stiff and very stiff clay was proven between depths , firm, stiff and very stiff clay was proven between depths of 1.30m (Borehole 2) and 10.50m (Borehole 12A).

Within the cohesive strata, granular deposits comprising silty sand, silty sandy gravel were encountered at the location of Borehole 4 between 2.10m and 3.40m.

Underlying the glacial till, a weathered bedrock of mudstone and siltstone was proven to a maximum thickness of 17.40m (Borehole 5B).

5.3 Groundwater

Groundwater was not encountered during in the boreholes throughout the fieldwork period with the exception of boreholes 12, 13 and 14. A rise from 1.30m to 1.25 m was noted in borehole 12, borehole 13 showed a rise from 1.40m to 1.30m after a 20 minutes period with borehole 14 showing a constant head of 1.90m. Seepages were noted within trial pits, ranging in depth from 2.00m (Trial Pit 16) and 4.50m (Trial Pit 14).

The seepages ranged from small seepages to fast inflow into the pit.

For and on behalf of Exploration Associates

A Hussain
Project Geologist

D Daniels
Principal Engineer

REFERENCES

1. BS 5930: 1999. *Code of Practice for Site Investigations*. British Standards Institution.

2. BS 1377: Parts 1 to 9: 1990. *Methods of Test for Soils for Civil Engineering Purposes*. British Standards Institution.

3. British Geological Survey. 1:63,360, *Geological Survey of England and Wales*.

Legend:

Denotes Trial pit location.

Denotes Borehole location.

Notes:

1) Co-ordinates & levels related to existing survey control supplied by Engineer.

2) Baseplan supplied by Engineer.

Reference	East	North	Elevation	Description
BH1	16450.745	23828.490	120.44	BOREHOLE
BH2	16641.608	23759.102	113.09	BOREHOLE
BH3	16369.883	23514.711	121.67	BOREHOLE
BH4	16577.067	23640.934	117.87	BOREHOLE
BH5	16522.063	23563.188	120.37	BOREHOLE
BH5A	16519.844	23562.435	120.44	BOREHOLE
BH6	16414.572	23353.221	116.86	BOREHOLE
BH7	16618.888	23416.832	114.71	BOREHOLE
BH8	16108.495	23442.284	120.35	BOREHOLE
BH9	16076.574	23129.302	118.52	BOREHOLE
BH10	16275.144	23044.583	115.56	BOREHOLE
BH11	16446.677	22957.222	106.12	BOREHOLE
BH12	16582.426	23511.968	118.85	BOREHOLE
BH12A	16585.978	23510.616	118.70	BOREHOLE
BH13	16589.880	23510.879	118.68	BOREHOLE
BH14	16626.516	23669.010	114.43	BOREHOLE
TP1	16453.474	23771.932	123.26	TRIAL PIT
TP2	16741.949	23776.735	113.55	TRIAL PIT
TP2A	16713.121	23792.036	115.00	TRIAL PIT
TP3	16767.323	23916.056	117.01	TRIAL PIT
TP4	16625.098	23675.880	114.25	TRIAL PIT
TP4A	16664.871	23711.881	110.36	TRIAL PIT
TP4B	16671.658	23718.291	110.67	TRIAL PIT
TP5	16489.477	23612.014	121.08	TRIAL PIT
TP6	16590.219	23562.216	118.47	TRIAL PIT
TP7	16599.841	23427.852	115.70	TRIAL PIT
TP8	16608.477	23355.118	110.45	TRIAL PIT
TP9	16187.072	23203.534	119.10	TRIAL PIT
TP10	16239.277	23122.383	117.73	TRIAL PIT
TP11	16331.599	22983.777	113.69	TRIAL PIT
TP11A	16349.588	23033.140	109.86	TRIAL PIT
TP12	15994.788	22998.351	118.52	TRIAL PIT
TP13	16126.671	22986.654	116.80	TRIAL PIT
TP14	16236.882	22904.072	114.32	TRIAL PIT
TP15	16400.920	22840.403	107.06	TRIAL PIT
TP16	16213.556	23324.849	116.92	TRIAL PIT

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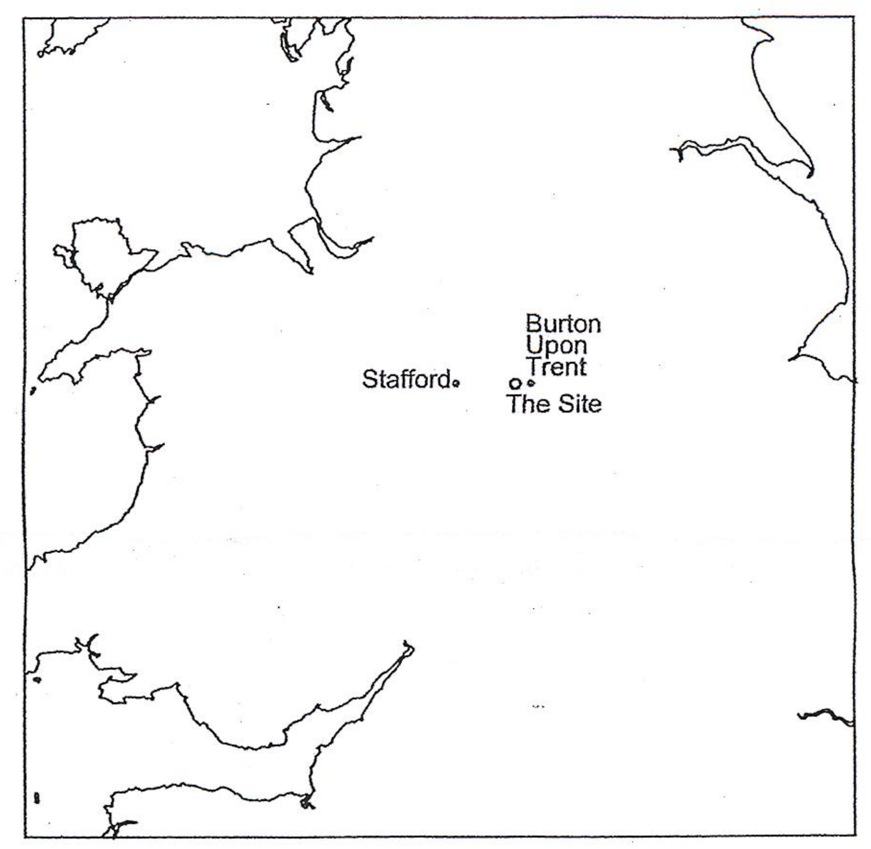
Location Plan:



Rev.	Drawn	Date	Checked	Approved	Details
0	PMD	Jun '01			For Comment

Survey Date:	Surveyor:	Drawn By:
18/06/01 - 19/06/01	PMD	PMD

Engineer:

BDP

Building Design Partnership

Sunlight House
PO Box 85
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Contractor:

Exploration Associates
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Contract:

THE NATIONAL FOOTBALL CENTRE.

DWG:

SITE INVESTIGATION
BOREHOLE & TRIAL PIT
LOCATIONS.
1070/01

Original Sheet Size:	Scale:	Rev.:
A1	Horiz.: 1:2500 Vert.: N.A.	0

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ENCLOSURE A

Exploratory Hole Records

	Sheet
List of Symbols	Key Sheet
Trial Pit Records	TP1 to TP16 including 2A, 4A, 4B, 11A, Weir 1 and Weir 2
Borehole Records	BH1 to BH14 including 1A, 2R, 5A, 5B and 12A

Key to Exploratory Hole Records

Exploration Associates

SAMPLES

Undisturbed

U	Driven tube sample
TW	Pushed thin wall tube sample
P	Pushed piston sample
CBR	CBR mould sample
BLK	Block sample
CS	Core sample (from rotary core) taken for laboratory testing

} nominally 100 mm diameter and full recovery unless otherwise stated

Disturbed

D	Small sample
B	Bulk sample

Other

W	Water sample
G	Gas sample
/	Environmental chemistry samples (in more than one container where appropriate)
ES	Soil sample
EW	Water sample

TEST RESULTS

S or C — Standard Penetration Test, open shoe (S) or solid cone (C)

The Standard Penetration Test is defined in BS 1377 : Part 9 (1990). The incremental blow counts are given in the Field Records column; each increment is 75 mm unless stated otherwise and any penetration under self weight in mm (SW) is noted. Where the full 300 mm test drive is achieved the total number of blows for the test drive is presented as N = ** in the Test column. Where the test drive blows reach 50 (either in total or for a single increment) the total blow count beyond the seating drive is given (without the N = prefix).

IVp IVr	In situ vane test results given as peak and remoulded shear strengths (kN/m^2).
HVp HVr	Hand vane test results given as mean peak and mean remoulded shear strengths (kN/m^2).
PP	Pocket penetrometer test results given as mean undrained shear strength (kN/m^2).

DRILLING RECORDS

The mechanical indices (TCR/SCR/RQD & If) are defined in BS 5930 (1999)

TCR	Total Core Recovery, %
SCR	Solid Core Recovery, %
RQD	Rock Quality Designation, %
If	Fracture spacing, mm. Minimum, typical and maximum spacings are presented. The term non-intact (NI) is used where the core is fragmented.

Flush returns, estimated percentage with colour where relevant, are given in the Records column

CRF	Core recovered (length in m) in the following run
AZCL	Assessed zone of core loss

GROUNDWATER

▼	Groundwater strike
▽	Groundwater level after standing period

INSTALLATION

Standpipe/ piezometer — Details of standpipe/piezometer installations are given on the Record. Legend column shows installed instrument depths including slotted pipe section or tip depth, response zone filter material type and layers of backfill. Details of backfill are provided in Remarks at the base of record.

NOTES

1. Water level observations during boring and drilling are given at the foot of the log and in the Legend column.
2. The assessment of SCR, RQD and Fracture Spacing excludes artificial fractures
3. The declination of bedding and joints is given with respect to the normal to the core axis. Thus in a vertical borehole this will be the dip.
4. Legends are in accordance with BS 5930 (1999)

REFERENCES

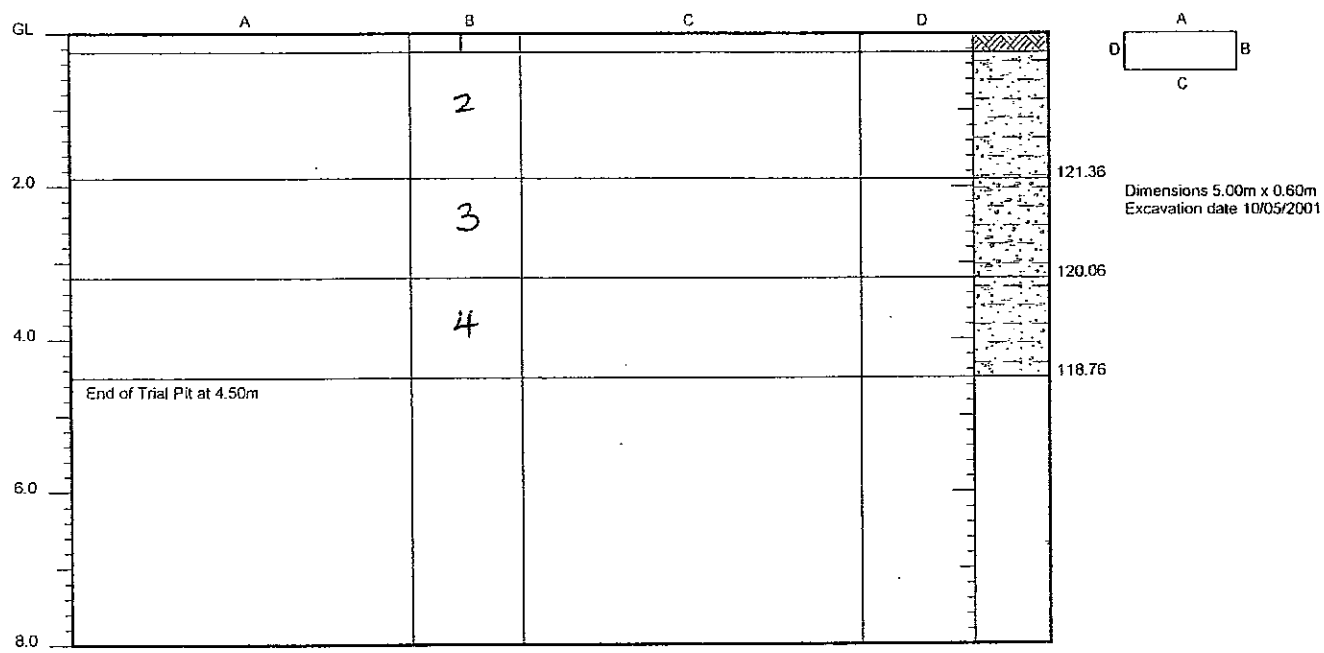
BS 1377 : 1990 : British Standard Methods of test for soils for civil engineering purposes. British Standards Institution
BS 5930 : 1999 : Code of Practice for site investigations. British Standards Institution

Notes:	Project: National Football Centre, Byrkley Park Project No.: 121070 Carried out for: The Football Association	Figure Sheet 1 of 1

Trial Pit Log

Exploration Associates

Logged by ASH Checked by RP	Equipment and Methods Trial Pit/Trench from 0.00m to 4.30m.	Ground Level +123.26 m OD National Grid Coordinates E 16453.47 N 23771.93



Samples and Tests

Depth (m)	Type & No.	Records
0.10	D1	
0.30-0.40	B2	
1.20-1.30	D3	
1.20-1.30	B4	
2.90-3.00	B5	
3.20-3.30	B6	
3.50	D7	
4.20-4.30	B	

Strata

Depth (m)	No.	Description
0.00-0.25	1	MADE GROUND: Brown slightly gravelly sandy clayey topsoil. Gravel is subrounded and rounded fine to coarse.
0.25-1.90	2	Stiff orangish grey slightly sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of coal and sandstone, frequent cobbles, rare boulders
1.90-3.20	3	Firm friable orange and red slightly sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of coal, sandstone, mudstone and quartz. Frequent cobbles
3.20-4.50	4	Very stiff reddish brown slightly sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of sandstone, mudstone, coal, and shale

Groundwater
No groundwater encountered.

Remarks
Stability : Stable. Shoring : None

Notes : For explanation of symbols and abbreviations see key sheet. All depths in metres.

Scale 1 : 100

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

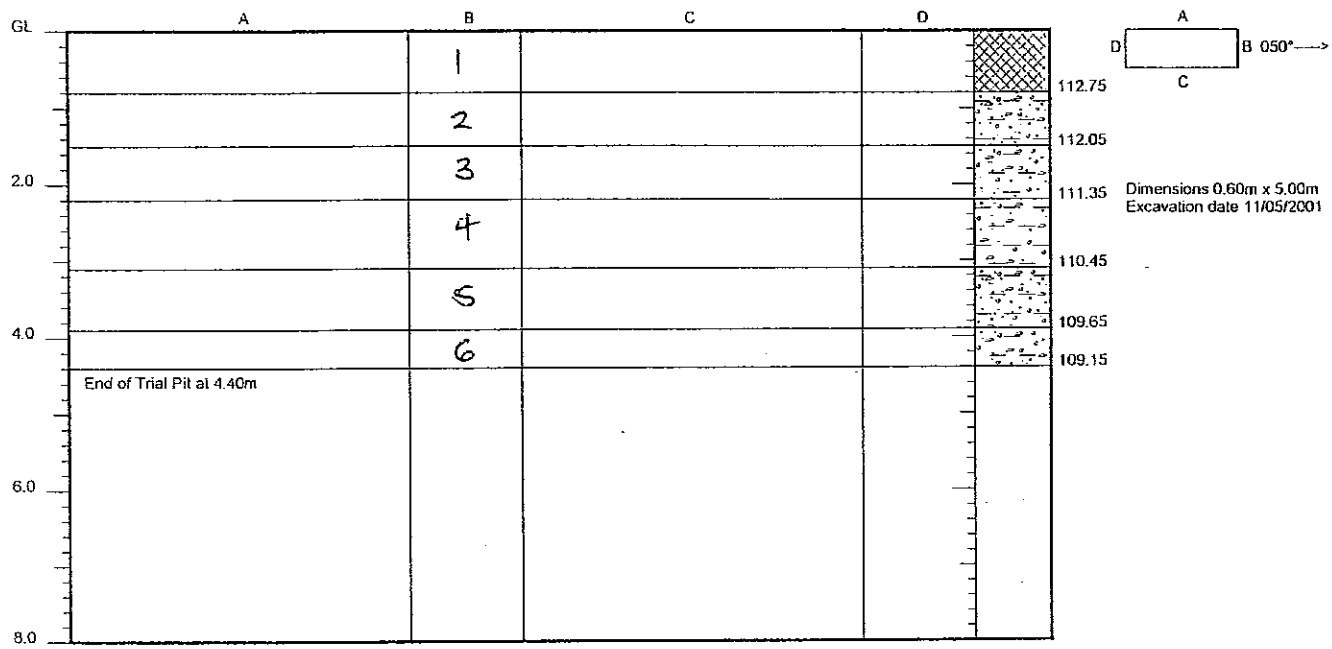
Trial Pit
TP1
Sheet 1 of 1

11/07/2001 16:15:25 ESGLog v2.09

Trial Pit Log

Exploration Associates

Logged by ASH Checked by RP	Equipment and Methods Trial Pit/Trench from 0.00m to 4.40m.	Ground Level +113.55 m OD National Grid Coordinates E 16741.94 N 23776.73



Samples and Tests

Depth (m)	Type & No.	Records
0.10	D1	
0.80-0.90	B2	
0.80-0.90	D3	Hand vane results are 40, 60, 60 kPa. Average result is 53 kPa.
1.50-1.80	B4	
1.50-1.70	D5	
2.30-2.40	B6	
2.30-2.50	D7	
3.20-3.30	D8	
3.20-3.40	B9	
4.00-4.10	D10	
4.00-4.20	B11	
4.30	W12	

Strata

Depth (m)	No.	Description
0.00-0.80	1	MADE GROUND: Brown sandy gravelly clayey topsoil. Gravel is angular to rounded fine to coarse brick and shale. Infrequent cobbles
0.80-1.50	2	Firm orangish grey slightly sandy gravelly CLAY. Gravel is subrounded and rounded fine to coarse.
1.50-2.20	3	Orangish brown slightly sandy clayey GRAVEL. Gravel is angular to rounded fine to coarse of mudstone, quartz, coal and sandstone.
2.20-3.10	4	Stiff friable orange and reddish grey gravelly CLAY. Gravel is angular to rounded fine to coarse of mudstone, sandstone and coal. Rare cobbles
3.10-3.90	5	Soft grey slightly sandy gravelly CLAY. Gravel is angular fine to coarse of mudstone.
3.90-4.40	6	Grey slightly sandy clayey angular fine to coarse GRAVEL of mudstone.

Groundwater

No.	Struck	Behaviour
1	1.40m	Slight water seep
2	3.30m	Water seap, water rose 20 cm at bottom of pit over 120 minute period.

Remarks
Stability : Stable, Shoring : None

Notes : For explanation of symbols and abbreviations see key sheet. All depths in metres.

Scale 1 : 100

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

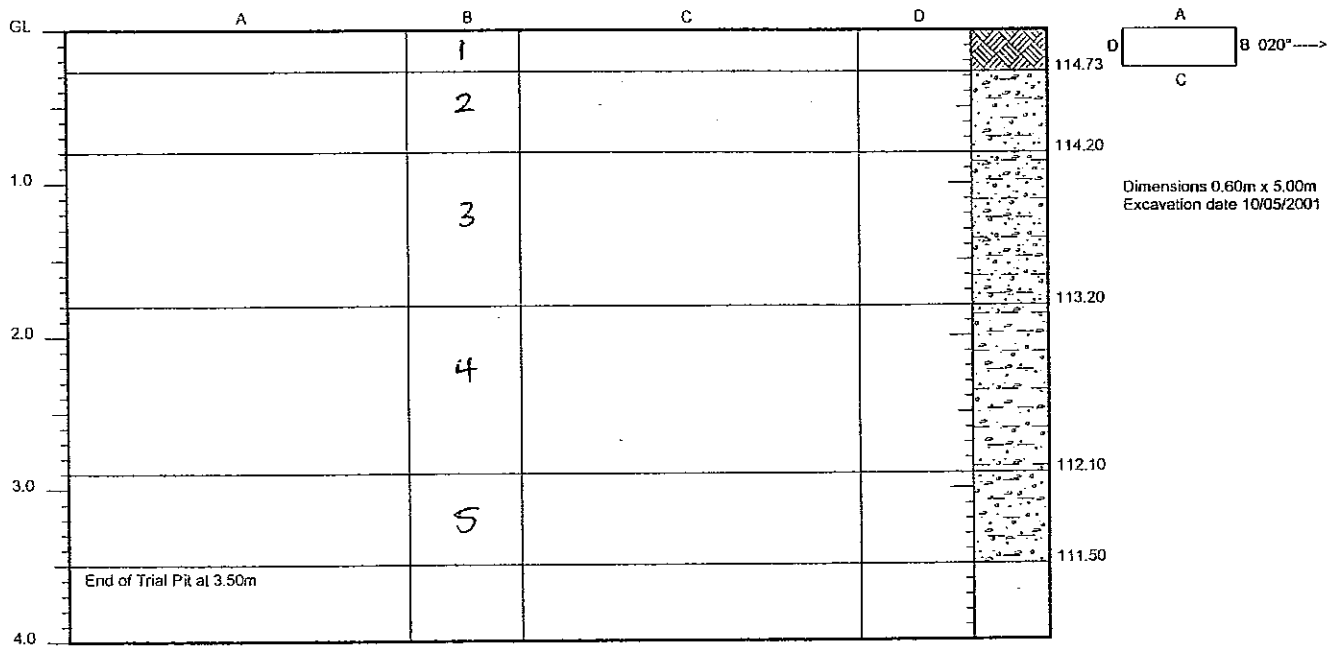
Trial Pit
TP2
Sheet 1 of 1

11/07/2001 16:15:27 ESGLog v2.09

Trial Pit Log

Exploration Associates

Logged by ASH Checked by RP	Equipment and Methods Trial Pit/Trench from 0.00m to 3.50m.	Ground Level +115.00 m OD National Grid Coordinates E 16713.12 N 23792.03



Samples and Tests

Depth (m)	Type & No.	Records
0.10	D1	
0.30-0.40	B2	
0.30-0.40	D3	
0.80	B4	
0.80	D5	Hand vane results are 100, 100 and 100 kPa. Average is 100 kPa.
1.50	B6	
1.50	D7	
1.90-2.50	B8	
1.90-2.00	D9	
3.50	B10	
3.50	D11	
3.50	W12	

Strata

Depth (m)	No.	Description
0.00-0.27	1	Brown slightly sandy gravelly clayey TOPSOIL. Gravel is rounded fine to coarse with infrequent cobbles.
0.27-0.80	2	Orangish yellow sandy clayey rounded fine to coarse GRAVEL.
0.80-1.80	3	Stiff orange, red and grey slightly sandy gravelly CLAY. Gravel angular to rounded fine to coarse of coal, shale, mudstone, sandstone and quartz.
1.80-2.90	4	Soft greyish blue gravelly CLAY. Gravel is angular fine to coarse mudstone.
2.90-3.50	5	Grey slightly sandy clayey angular fine to coarse GRAVEL.

Groundwater

No.	Struck	Behaviour
1	2.80m	Seep from north face.
2	2.90m	

Remarks

Stability : Stable, Shoring : None

Notes : For explanation of symbols and abbreviations see key sheet. All depths in metres.

Scale 1 : 50

Project BYRKLEY PARK

Project no. 121070

Carried out for Football Association

Trial Pit TP2A

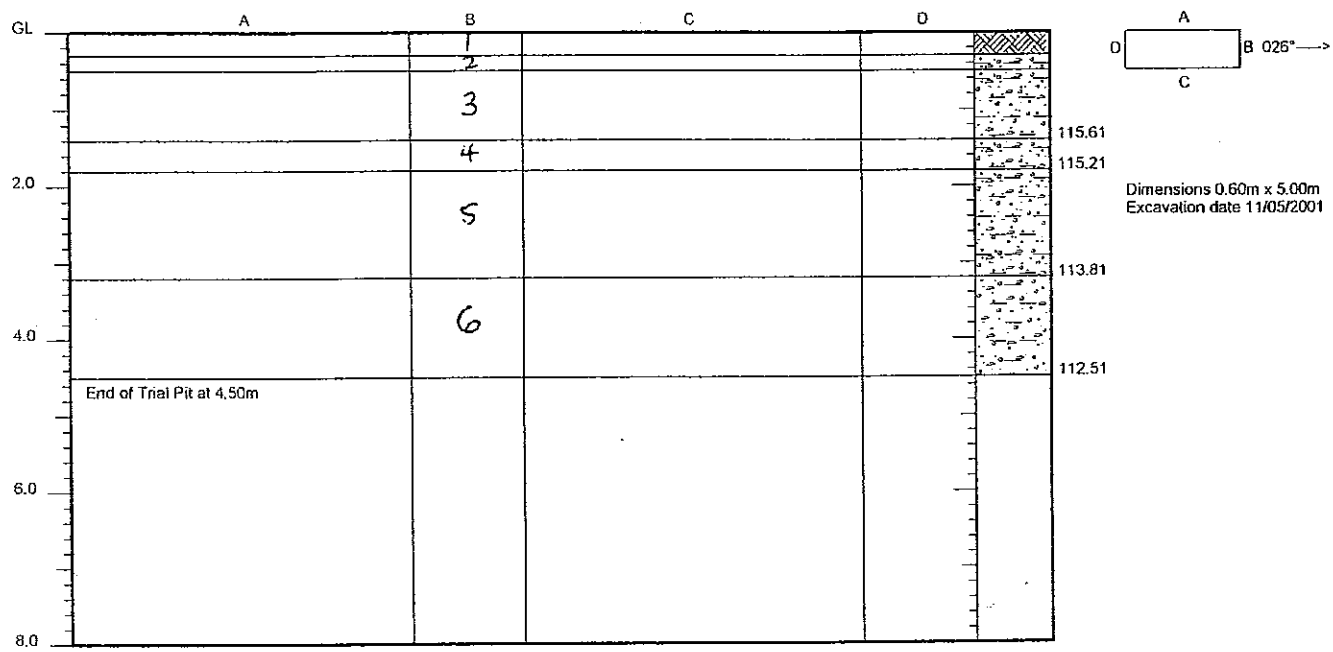
Sheet 1 of 1

11/07/2001 15:15:28 ESGLog v2.09

Trial Pit Log

Exploration Associates

Logged by ASH Checked by RP	Equipment and Methods Trial Pit/Trench from 0.00m to 4.50m.	Ground Level National Grid Coordinates	+117.01 m OD E 16767.32 N 23916.06



Samples and Tests

Depth (m)	Type & No.	Records
0.10	D1	
0.30-0.40	D2	
0.30-0.50	B3	
0.50-0.60	D4	Hand vane results are 80, 80 and 80 kPa. Average is 80 kPa.
0.50-0.70	B5	
1.50-1.60	D	Hand vane results are 70,90 and 90 kPa. Average is 83 kPa.
1.50-1.70	B	
1.90-2.00	D6	Hand vane results are 20, 30 and 20 kPa. Average is 23 kPa.
1.90-2.10	B7	
3.30-3.40	D8	
3.30-3.50	B9	
3.50	W12	Water labeled as 4.30 m - 4.50 m.
4.30-4.40	D10	
4.30-4.50	B11	

Strata

Depth (m)	No.	Description
0.00-0.30	1	Brown slighty sandy gravelly clayey TOPSOIL. Gravel is rounded fine to coarse with infrequent cobbles.
0.30-0.50	2	Soft light orange slightly sandy gravelly CLAY. Gravel is subrounded and rounded fine to coarse.
0.50-1.40	3	Stiff dark orange, red and grey mottled slightly sandy gravelly CLAY. Gravel is subrounded and rounded fine to coarse.
1.40-1.80	4	Stiff grey slightly sandy gravelly CLAY. Gravel is angular fine to coarse mudstone.
1.80-3.20	5	Soft grey slightly sandy gravelly CLAY. Gravel is angular and subangular fine and medium
3.20-4.50	6	Grey slightly sandy clayey angular fine to coarse GRAVEL of mudstone.

Groundwater

No.	Struck	Behaviour
1	3.50m	20 cm rise in pit in 90 minutes

Remarks

1) At 1.20 m, 210 mm red ceramic land drain encountered.
Stability : Stable, Shoring : None

Notes : For explanation of symbols and abbreviations see key sheet. All depths in metres.

Scale 1 : 100

Project BYRKLEY PARK

Project no. 121070

Carried out for Football Association

Trial Pit TP3

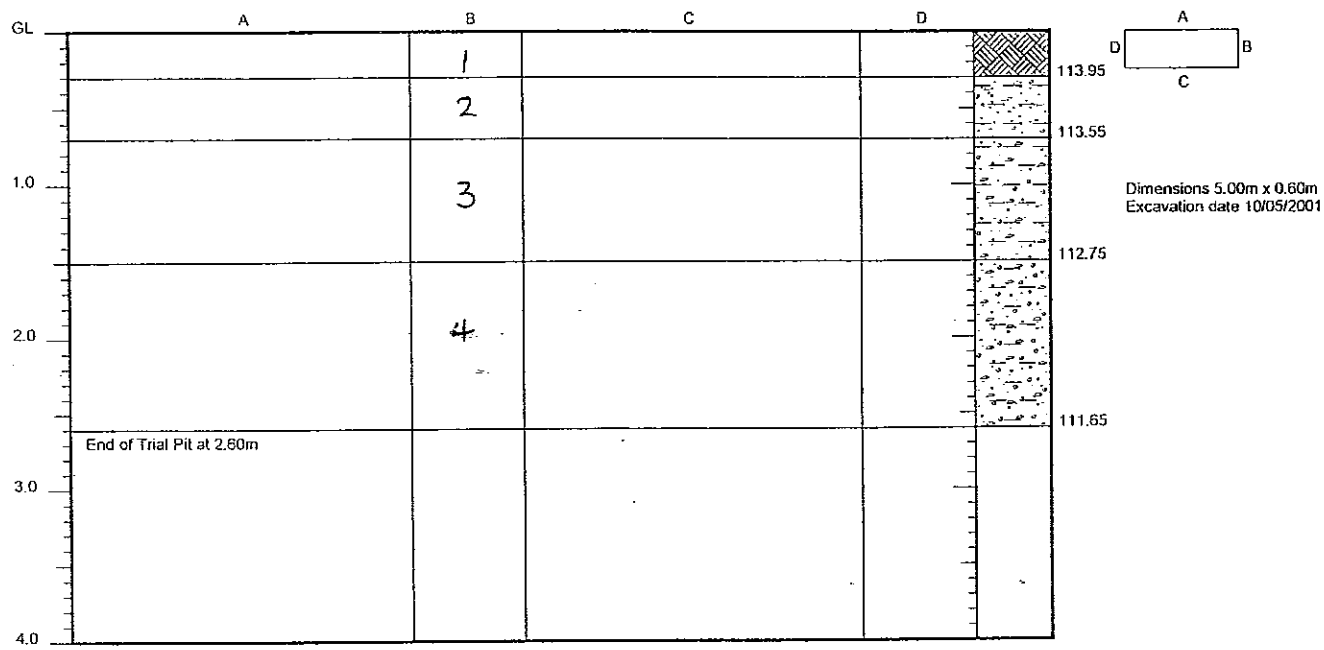
Sheet 1 of 1

11/07/2001 16:15:30 ESGLog v2.09

Trial Pit Log

Exploration Associates

Logged by ASH Checked by RP	Equipment and Methods Trial Pit/Trench from 0.00m to 2.60m.	Ground Level +114.25 m OD National Grid Coordinates E 16625.09 N 23675.88



Samples and Tests

Depth (m)	Type & No.	Records
0.10	D1	
0.30-0.40	B2	Hand vane results are 50,50, and 50 kPa. Average is 50 kPa.
0.30-0.40	D3	
0.70-0.80	B4	
0.70-0.80	D5	
1.50-1.60	B6	
1.50-1.60	D7	
2.40	W8	

Strata

Depth (m)	No.	Description
0.00-0.30	1	Brown slightly sandy gravelly clayey TOPSOIL. Gravel is subrounded and rounded coarse.
0.30-0.70	2	Stiff orange mottled yellow slightly sandy gravelly CLAY. Gravel is subrounded fine to coarse.
0.70-1.50	3	Stiff orange and grey gravelly CLAY. Gravel is subrounded fine to coarse.
1.50-2.60	4	Bluish grey slightly sandy clayey angular and subangular fine to coarse GRAVEL. Frequent cobbles.

Groundwater

No.	Struck	Behaviour
1	2.60m	Rising to 2.50m after 30 mins.
2	2.60m	Rising to 2.30m after 60 mins.
3	2.60m	Rising to 2.00m after 60 mins. Actual time is 120 min

Remarks
Stability : Stable, Shoring : None

Notes : For explanation of symbols and abbreviations see key sheet. All depths in metres.

Scale 1 : 50

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

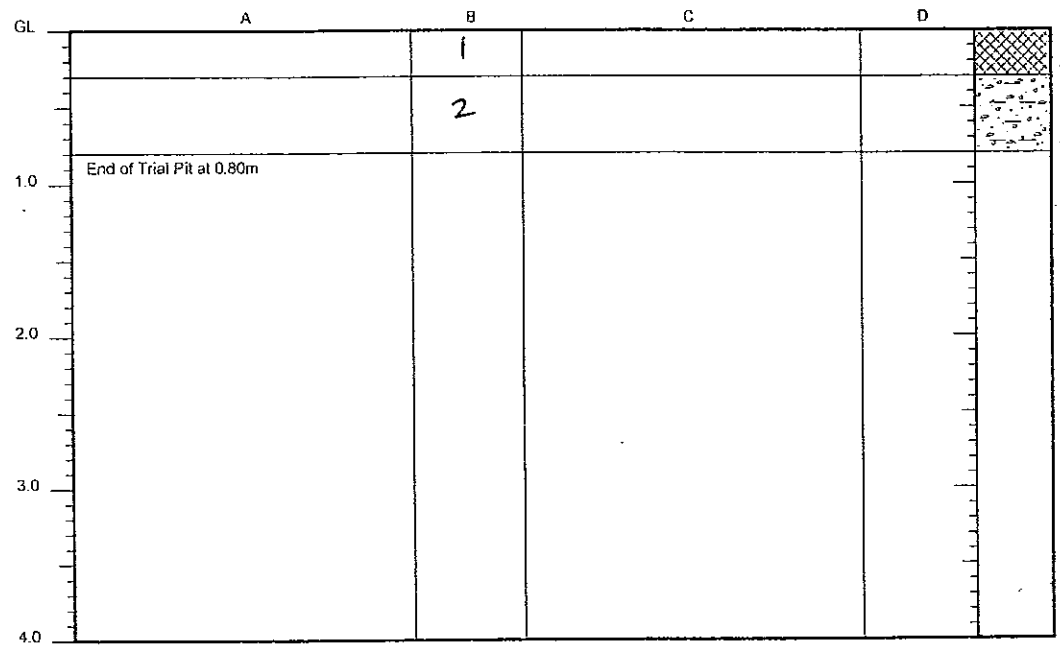
Trial Pit TP4
Sheet 1 of 1

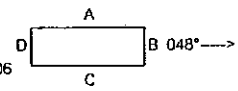
11/07/2001 16:15:32 ESGLog v2.09

Trial Pit Log

Exploration Associates

Logged by ASH Checked by RP	Equipment and Methods Trial Pit/Trench from 0.00m to 0.80m.	Ground Level +110.36 m OD National Grid Coordinates E 16664.87 N 23711.88





Dimensions 0.60m x 5.00m
Excavation date 10/05/2001

Samples and Tests

Depth (m)	Type & No.	Records
0.10	D1	
0.30-0.40	D2	
0.30-0.40	B3	

Strata

Depth (m)	No.	Description
0.00-0.30	1	MADE GROUND: Brown slightly sandy gravelly clayey topsoil. Gravel is angular to rounded fine to coarse brick and glass. Infrequent cobbles
0.30-0 80	2	Grey slightly sandy clayey subrounded and rounded fine to coarse GRAVEL. Infrequent cobbles.

Groundwater
No ground water encountered.

Remarks
1) Trial pit terminted due to being over 220mm land drain.
Stability : Stable, Shoring : None

Notes : For explanation of symbols and abbreviations see key sheet. All depths in metres.

Scale 1 : 50

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

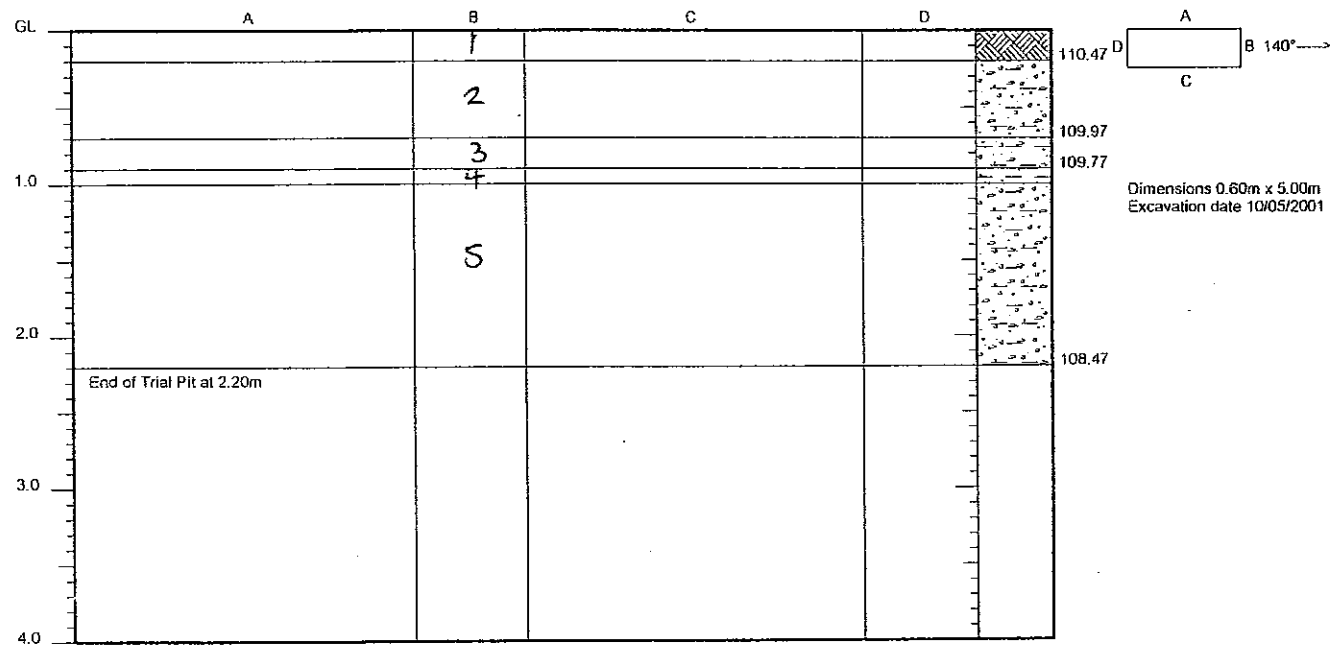
Trial Pit
TP4A
Sheet 1 of 1

11/07/2001 16:15:33 ESGLog v2.09

Trial Pit Log

Exploration Associates

Logged by ASH Checked by RP	Equipment and Methods Trial Pit/Trench from 0.00m to 2.20m.	Ground Level +110.67 m OD National Grid Coordinates E 16671.65 N 23718.29



Samples and Tests

Depth (m)	Type & No.	Records
0.10	D1	
0.30-0.40	B2	
0.30-0.40	D3	
0.70-0.80	B4	Hand vane results are 90, 100 and 110 kPa. Average is 100 kPa.
0.70-0.80	D5	
0.90-1.00	B6	
0.90-1.00	D7	
1.00-1.10	D8	
1.00-1.40	B9	
2.10-2.20	B10	
2.10-2.20	D11	
2.10-2.20	W12	

Strata

Depth (m)	No.	Description
0.00-0.20	1	MADE GROUND: Brown slightly sandy gravelly clayey topsoil. Gravel is angular to rounded fine to coarse including fragments of brick.
0.20-0.70	2	Orangish grey clayey angular to rounded fine to coarse GRAVEL. Infrequent cobbles.
0.70-0.90	3	Stiff light greyish blue gravelly CLAY. Gravel is angular to rounded fine to coarse.
0.90-1.00	4	Soft friable orangish grey sandy CLAY.
1.00-2.20	5	Grey clayey angular fine to coarse GRAVEL. Gravel is mudstone.

Groundwater

No.	Struck	Behaviour
1	2.20m	Rise over 180 minutes.

Remarks

1) At 0.40m 100mm ceramic land drain encountered.

Stability : Stable, Shoring : None

Notes : For explanation of symbols and abbreviations see key sheet. All depths in metres.

Scale 1 : 50

Project BYRKLEY PARK

Project no. 121070

Carried out for Football Association

Trial Pit TP4B

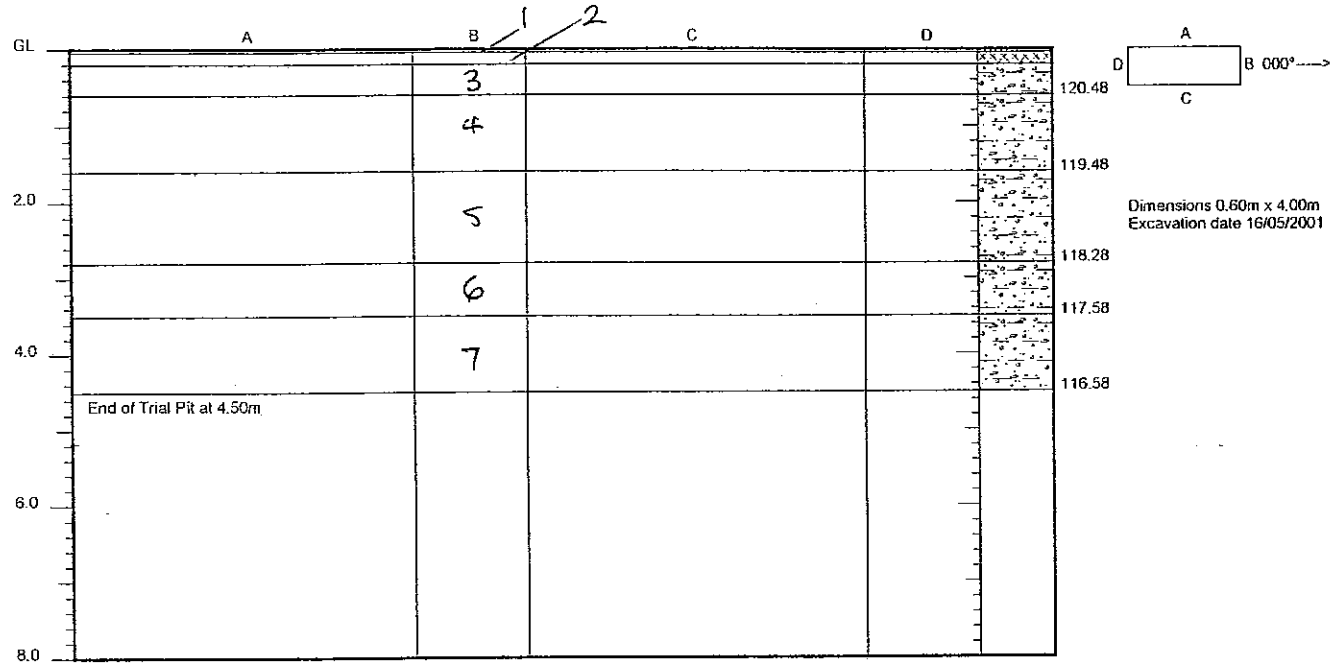
Sheet 1 of 1

11/07/2001 16:15:35 ESGLog v2.09

Trial Pit Log

Exploration Associates

Logged by ASH Checked by RP	Equipment and Methods Trial Pit/Trench from 0.00m to 4.50m.	Ground Level National Grid Coordinates	+121.08 m OD E 16489.47 N 23612.01



Samples and Tests

Depth (m)	Type & No.	Records
0.00-0.05	D1	
0.05-0.20	B2	
0.30-0.40	B3	Hand vane results are 40,50 and 60 kPa. Average is 50 kPa.
0.30-0.40	D4	
0.70-0.80	B5	
0.70-0.80	D6	
1.70-1.80	B7	
1.70-1.80	D8	
2.90-3.00	B9	
2.90-3.00	D10	
3.60-3.80	B12	
3.60-3.70	D11	
3.90	W13	
4.40-4.50	B14	
4.40-4.50	D15	

Strata

Depth (m)	No.	Description
0.00-0.05	1	MADE GROUND: Brown organic slightly sandy topsoil. Many rootlets.
0.05-0.20	2	MADE GROUND: Brown grey angular fine to coarse gravel of concrete and brick.
0.20-0.60	3	Firm orange slightly sandy gravelly CLAY. Gravel is subrounded and rounded fine to coarse.
0.60-1.60	4	Firm friable dark brown, orange, reddish brown and grey mottled slightly sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of coal, mudstone, sandstone, shale and quartz.
1.60-2.80	5	Stiff friable dark reddish brown and grey mottled slightly sandy gravelly CLAY. Gravel angular to rounded fine to coarse of shale, mudstone, coal, sandstone and quartz.
2.80-3.50	6	Stiff friable reddish brown slightly gravelly very sandy CLAY. Gravel is angular to rounded fine to coarse of mudstone, sandstone, shale, coal and quartz.
3.50-4.50	7	Very stiff sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of coal, shale, sandstone, mudstone and quartz.

Groundwater

No.	Struck	Behaviour
1	3.90m	0.10cm rise in bottom of pit.
2	2.80m	Slight water seep

Remarks
Stability : Stable, Shoring : None

Notes : For explanation of symbols and abbreviations see key sheet. All depths in metres.

Scale 1 : 100

Project BYRKLEY PARK
Project no 121070
Carried out for Football Association

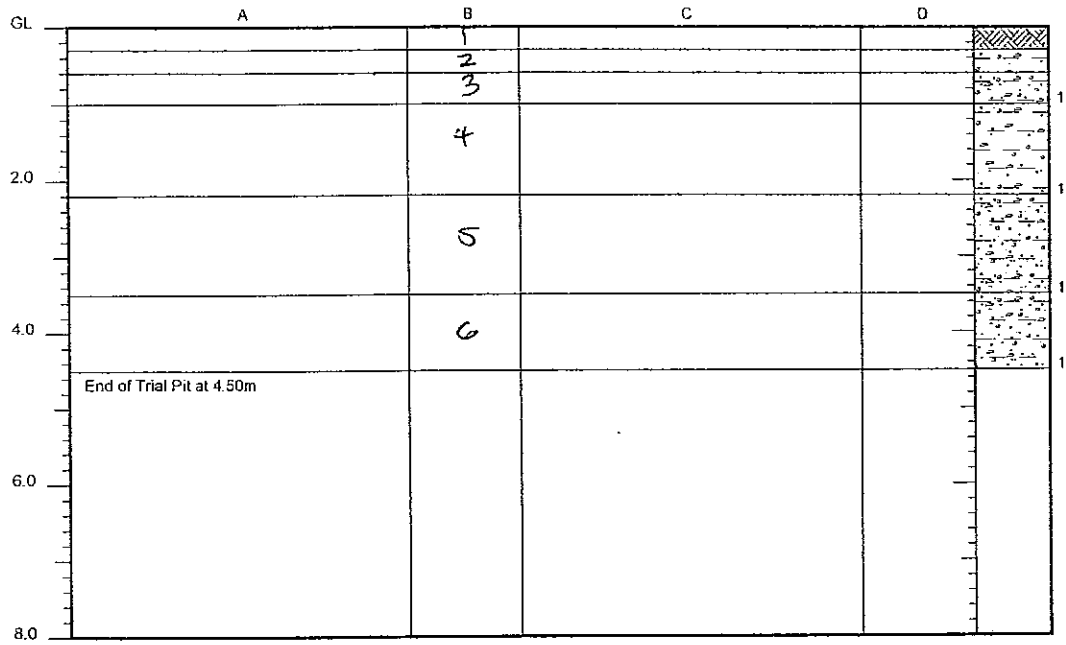
Trial Pit TP5
Sheet 1 of 1

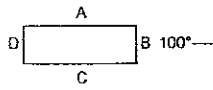
11/07/2001 16:15:37 ESGLog v2.09

Trial Pit Log

Exploration Associates

Logged by ASH Checked by RP	Equipment and Methods Trial Pit/Trench from 0.00m to 4.50m.	Ground Level +118.47 m OD National Grid Coordinates E 16590.21 N 23562.21





Dimensions 5.00m x 0.60m
Excavation date 10/05/2001

Samples and Tests

Depth (m)	Type & No.	Records
0.10	D1	
0.30	B2	
0.30	D3	Hand vane results are 40,50 and 60 kPa. Average is 50 kPa.
0.60-0.70	B4	
0.60-0.70	D5	Hand vane results are 65,69 and 78 Kpa. Average is 71 kPa.
1.50-1.60	B6	
1.50-1.60	D7	Hand vane results are 70,80 \nd 100 kPa. Average is 83 kPa.
2.40	B8	
2.40	D9	Hand vane results are 100,100 and 100 kPa. Averge is 100 kPa.
3.50	B10	
3.50	D11	
4.50	B12	
4.50	D13	

Strata

Depth (m)	No.	Description
0.00-0.30	1	Brown slightly sandy clayey gravelly TOPSOIL. Gravel is angular to rounded fine to coarse.
0.30-0.60	2	Firm orange and yellow gravelly CLAY. Gravel is subrounded and rounded fine to coarse.
0.60-1.00	3	Firm orange and red slightly sandy gravelly CLAY. Gravel is subrounded and rounded fine to coarse with lenses of orange fine to coarse sand
1.00-2.20	4	Stiff reddish brown and grey gravelly CLAY. Gravel is angular to rounded fine to coarse of quartz, mudstone, coal and sandstone fragments.
2.20-3.50	5	Stiff friable reddish brown slightly sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of coal, mudstone, sandstone and quartz.
3.50-4.50	6	Very stiff reddish brown slightly sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of coal, mudstone, sandstone, quartz and gypsum. Infrequent cobbles and boulders

Groundwater

No.	Struck	Behaviour
1	1.40m	Slight seepage from north face of pit.
2	3.40m	Slight seepage from north face of pit.

Remarks
Stability : Stable, Shoring : None

Notes : For explanation of symbols and abbreviations see key sheet. All depths in metres.

Scale 1 : 100

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

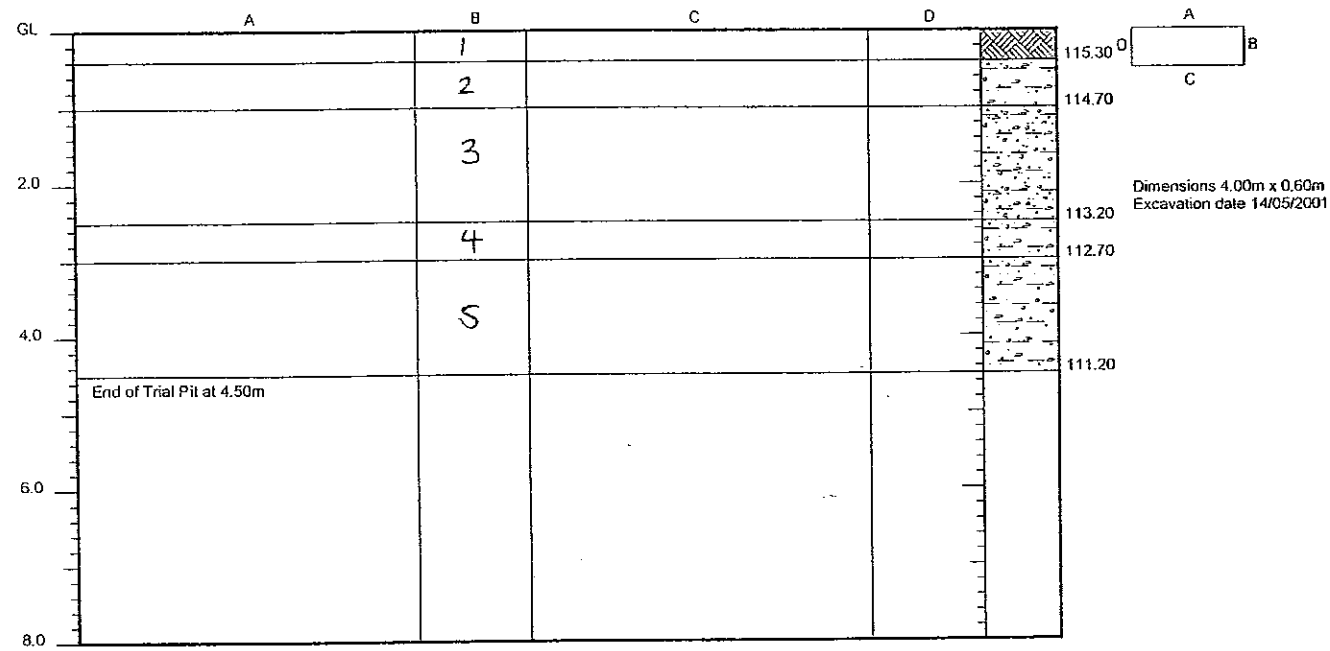
Trial Pit
TP6
Sheet 1 of 1

11/07/2001 16:15:39 ESGLog v2.09

Trial Pit Log

Exploration Associates

Logged by	ASH	Equipment and Methods Trial Pit/Trench from 0.00m to 4.50m.	Ground Level +115.70 m OD National Grid Coordinates E 16599.84 N 23427.85
Checked by	RP		



Samples and Tests

Depth (m)	Type & No.	Records
0.10	D1	
0.50-0.60	B2	Hand vane results are 70,80 and 100 kPa. Average is 83 kPa
0.50-0.60	D3	
1.50-1.60	B4	
1.50-1.60	D5	
2.50-2.60	B6	
2.50-2.60	D7	
3.40-3.50	B8	
3.40-3.50	D9	
4.40-4.50	B10	
4.40-4.50	D11	

Strata

Depth (m)	No.	Description
0.00-0.40	1	Brown slightly sandy gravelly clayey TOPSOIL. Gravel is subrounded and rounded fine to coarse infrequent cobbles. abundant rootlets.
0.40-1.00	2	Stiff friable orangish brown mottled grey gravelly CLAY. Gravel is subangular to rounded fine to coarse.
1.00-2.50	3	Stiff friable brown, red and grey mottled sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of sandstone, mudstone, coal, quartz, and gypsum. Very thin lenses of orangish brown fine to coarse sand.
2.50-3.00	4	Very stiff friable orangish brown gravelly CLAY. Gravel is angular to coarse fine to coarse of coal, mudstone, gypsum, sandstone and quartz fragments.
3.00-4.50	5	Very stiff friable dark brown gravelly CLAY. Gravel is angular to rounded fine to coarse of sandstone, mudstone, gypsum, coal, and quartz.

Groundwater
No groundwater encountered

Remarks
1) At 0.50m red 210mm ceramic land drain encountered.
2) At 0.50m black metal 210mm diameter pipe encountered containing two 1cm black electric cables, direction of pipe is 130°.
Stability : Stable, Shoring : None

Notes : For explanation of symbols and abbreviations see key sheet. All depths in metres.

Scale 1 : 100

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

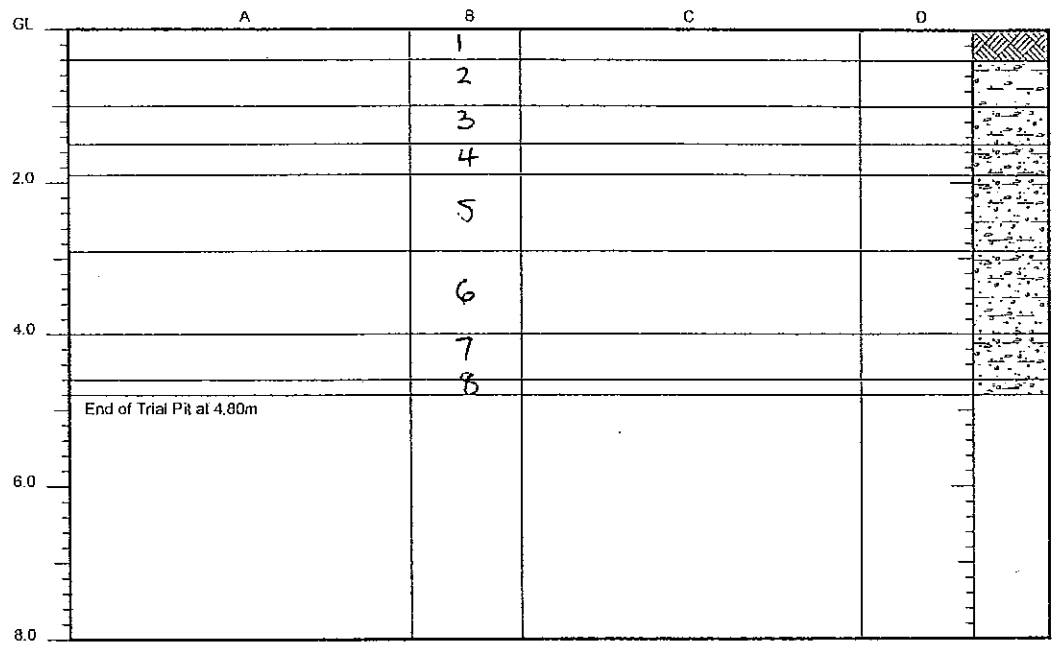
Trial Pit
TP7
Sheet 1 of 1

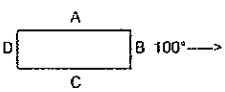
11/07/2001 16:15:41 ESGLog v2.09

Trial Pit Log

Exploration Associates

Logged by ASH Checked by RP	Equipment and Methods Trial Pit/Trench from 0.00m to 4.80m.	Ground Level +110.45 m OD National Grid Coordinates E 16608.47 N 23355.11





Dimensions 4.00m x 0.60m
Excavation date 14/05/2001

Samples and Tests

Depth (m)	Type & No.	Records
0.10	D1	
0.50-0.60	B2	
0.50-0.60	D3	
1.00-1.10	D4	
1.00-1.20	B5	
1.50-1.60	B6	Hand vane results are 50, 40, and 80 kPa. Average is 57 kPa.
1.50-1.60	D7	
1.90-2.00	B8	
1.90-2.00	D9	
2.90-3.00	B10	
2.90-3.00	D11	
4.00-4.10	B12	
4.00-4.10	D13	
4.60-4.80	B15	
4.60-4.70	D14	

Strata

Depth (m)	No.	Description
0.00-0.40	1	Brown slightly sandy gravelly clayey TOPSOIL Gravel is subrounded and rounded fine to coarse.
0.40-1.00	2	Stiff dark orangish brown mottled grey gravelly CLAY. Gravel is angular to rounded fine to coarse.
1.00-1.50	3	Orangish brown sandy clayey subrounded and rounded fine to coarse GRAVEL. Frequent cobbles.
1.50-1.90	4	Firm friable orangish brown slightly gravelly sandy CLAY. Gravel is angular to rounded fine to coarse of sandstone, mudstone, gypsum, coal, and quartz. Very thin orange coarse sand lenses noted.
1.90-2.90	5	Stiff friable grey slightly sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of mudstone, sandstone, coal, gypsum and quartz.
2.90-4.00	6	Stiff friable dark red slightly sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of coal, gypsum, mudstone, sandstone and quartz.
4.00-4.60	7	Soft greyish black and orange slightly sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of coal, gypsum, sandstone, mudstone and quartz.
4.60-4.80	8	Orange and reddish brown slightly clayey sandy angular to rounded fine to coarse GRAVEL with frequent cobbles of mudstone.

Groundwater	Remarks
No groundwater encountered.	Stability : Stable, Shoring : None

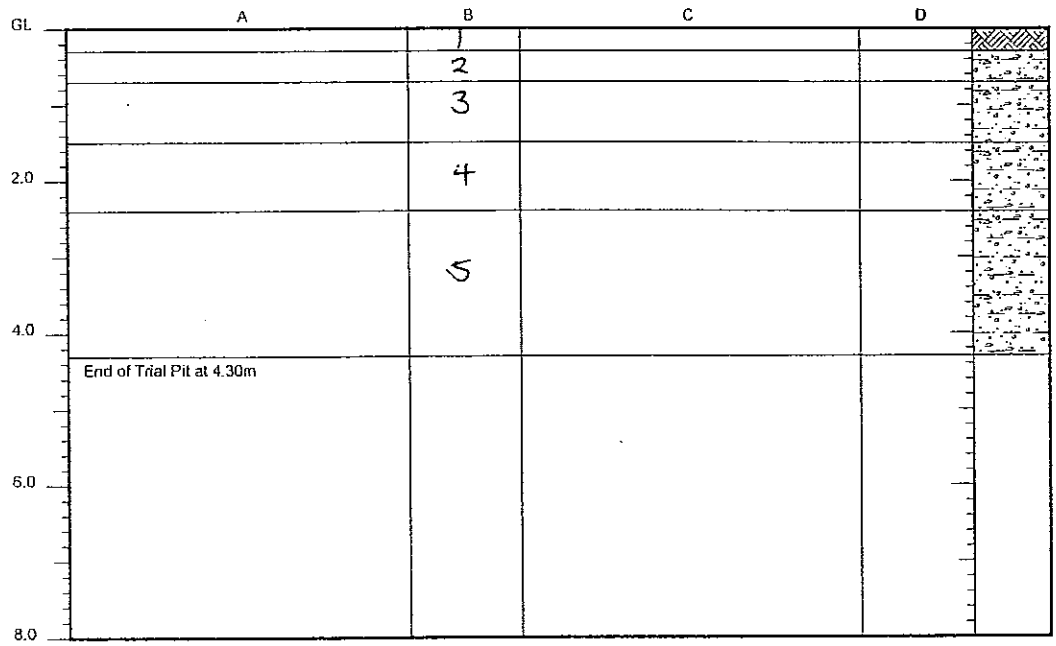
Notes : For explanation of symbols and abbreviations see key sheet. All depths in metres. Scale 1 : 100	Project BYRKLEY PARK Project no. 121070 Carried out for Football Association	Trial Pit TP8 Sheet 1 of 1

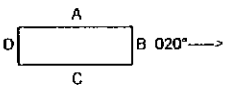
11/07/2001 16:15:42 ESGLog v2.09

Trial Pit Log

Exploration Associates

Logged by ASH Checked by RP	Equipment and Methods Trial Pit/Trench from 0.00m to 4.30m.	Ground Level +119.10 m OD National Grid Coordinates E 16187.07 N 23203.53





Dimensions 0.60m x 4.00m
Excavation date 14/05/2001

Samples and Tests

Depth (m)	Type & No.	Records
0.10	D1	
0.40-0.50	B2	
0.40-0.50	D3	
1.30	D4	
1.40	B5	
1.50-1.60	D6	
1.50-1.60	B7	
2.40-2.50	D8	
2.40-2.50	B9	
3.40-3.50	D10	
3.40-3.50	B11	
4.00	W12	
4.20-4.30	B13	
4.20-4.30	D14	

Strata

Depth (m)	No.	Description
0.00-0.30	1	Brown slightly sandy gravelly clayey TOPSOIL. Gravel is subrounded and rounded fine to coarse.
0.30-0.70	2	Firm orange mottling light yellowish grey slightly sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of mudstone, sandstone, coal and quartz.
0.70-1.50	3	Firm friable reddish brown slightly sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of coal, sandstone, mudstone and qaurtz.
1.50-2.40	4	Stiff friable reddish brown slightly sandy gravelly CLAY. Gravel angular to rounded fine to coarse of coal, mudstone, sandstone and quartz with infrequent cobbles
2.40-4.30	5	Very stiff friable reddish brown slightly sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of coal, gypsum, sandstone, mudstone and quartz.

Groundwater

No.	Struck	Behaviour
1	4.00m	

Remarks

Stability : Stable, Shoring : None

Notes : For explanation of symbols and abbreviations see key sheet. All depths in metres.

Scale 1 : 100

Project BYRKLEY PARK

Project no. 121070

Carried out for Football Association

Trial Pit TP9

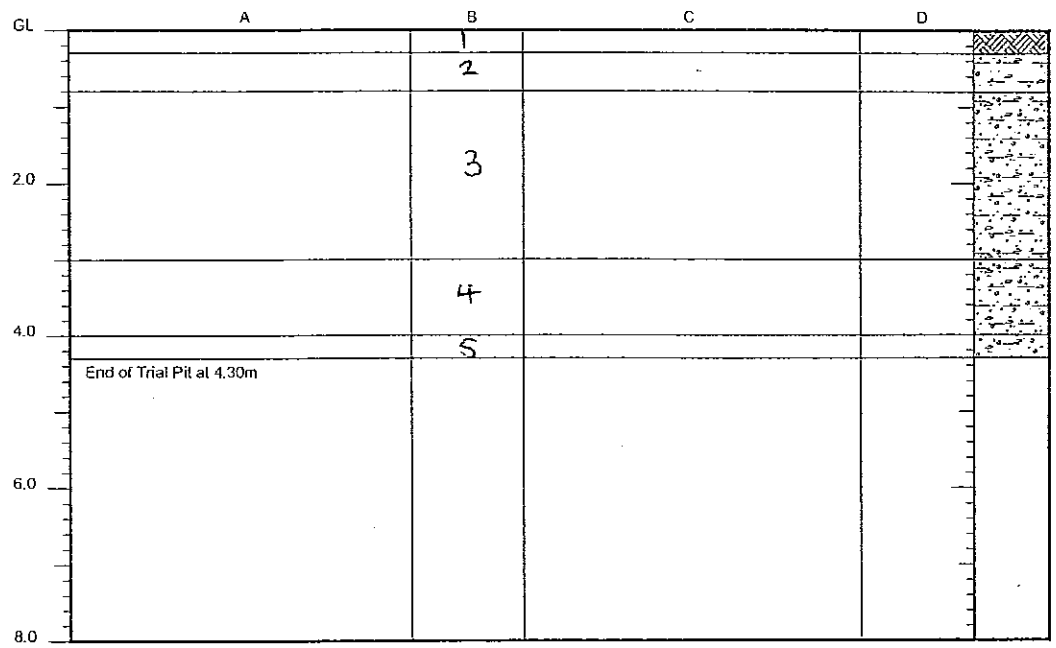
Sheet 1 of 1

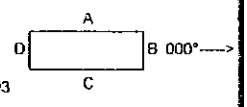
11/07/2001 16:15:44 ESGLog v2.09

Trial Pit Log

Exploration Associates

Logged by ASH Checked by RP	Equipment and Methods Trial Pit/Trench from 0.00m to 4.30m.	Ground Level +117.73 m OD National Grid Coordinates E 16239.27 N 23122.38





Dimensions 4.00m x 0.60m
Excavation date 14/05/2001

Samples and Tests

Depth (m)	Type & No.	Records
0.10	D1	
0.40-0.50	B2	
0.40-0.50	D3	
0.90-1.00	B4	
0.90-1.00	D5	
1.90-2.00	B6	
1.90-2.00	D7	
3.30-3.40	B8	
3.30-3.40	D9	
4.00-4.10	B10	
4.00-4.10	D11	

Strata

Depth (m)	No.	Description
0.00-0.30	1	Brown slightly sandy gravelly clayey TOPSOIL. Gravel is subrounded and rounded fine to coarse.
0.30-0.80	2	Stiff friable orangish brown mottled grey gravelly CLAY. Gravel is angular to rounded fine to coarse of coal, mudstone, sandstone and quartz with infrequent cobbles.
0.80-3.00	3	Stiff friable dark red and purple gravelly CLAY. Gravel is angular to rounded fine to coarse of coal, mudstone, sandstone and quartz.
3.00-4.00	4	Stiff friable dark reddish brown gravelly CLAY. Gravel is angular to rounded fine to coarse of coal, mudstone, sandstone and quartz with infrequent cobbles.
4.00-4.30	5	Dark greyish brown slightly clayey sandy subrounded and rounded fine to coarse GRAVEL.

Groundwater
No groundwater encountered.

Remarks
Stability : Stable. Shoring : None

Notes : For explanation of symbols and abbreviations see key sheet. All depths in metres.

Scale 1 : 100

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

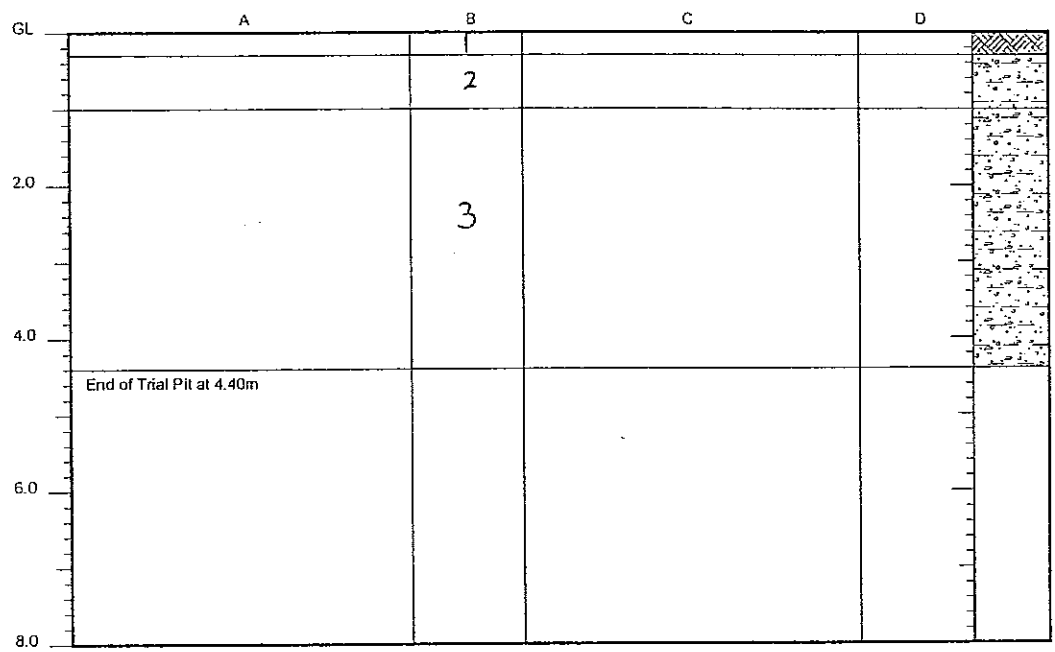
Trial Pit
TP10
Sheet 1 of 1

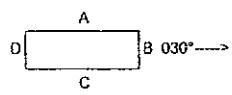
11/07/2001 16:15:46 ESGLog v2.09

Trial Pit Log

Exploration Associates

Logged by ASH Checked by RP	Equipment and Methods Trial Pit/Trench from 0.00m to 4.40m.	Ground Level National Grid Coordinates	+113.69 m OD E 16331.59 N 22983.77





Dimensions 0.60m x 4.00m
Excavation date 14/05/2001

Samples and Tests

Depth (m)	Type & No.	Records
0.10	D1	
0.40-0.50	B2	
0.40-0.50	D3	
1.10-1.20	B3	
1.10-1.20	D4	
2.10-2.20	B5	
2.10-2.20	D6	
3.10-3.20	B7	
3.10-3.20	D8	
4.10-4.20	B9	
4.10-4.20	D10	

Strata

Depth (m)	No.	Description
0.00-0.30	1	Brown sandy clayey gravelly TOPSOIL. Gravel is subrounded and rounded fine to coarse frequent cobbles of quartz.
0.30-1.00	2	Soft orange mottled grey slightly sandy gravelly CLAY. Gravel is angular to rounded of mudstone, coal, gypsum, sandstone, shale and mudstone.
1.00-4.40	3	Stiff friable orange and reddish brown slightly sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of shale, gypsum, mudstone, sandstone and quartz with frequent cobbles

Groundwater
No groundwater encounterd.

Remarks
Stability : Stable, Shoring : None

Notes : For explanation of symbols and abbreviations see key sheet. All depths in metres.

Scale 1 : 100

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

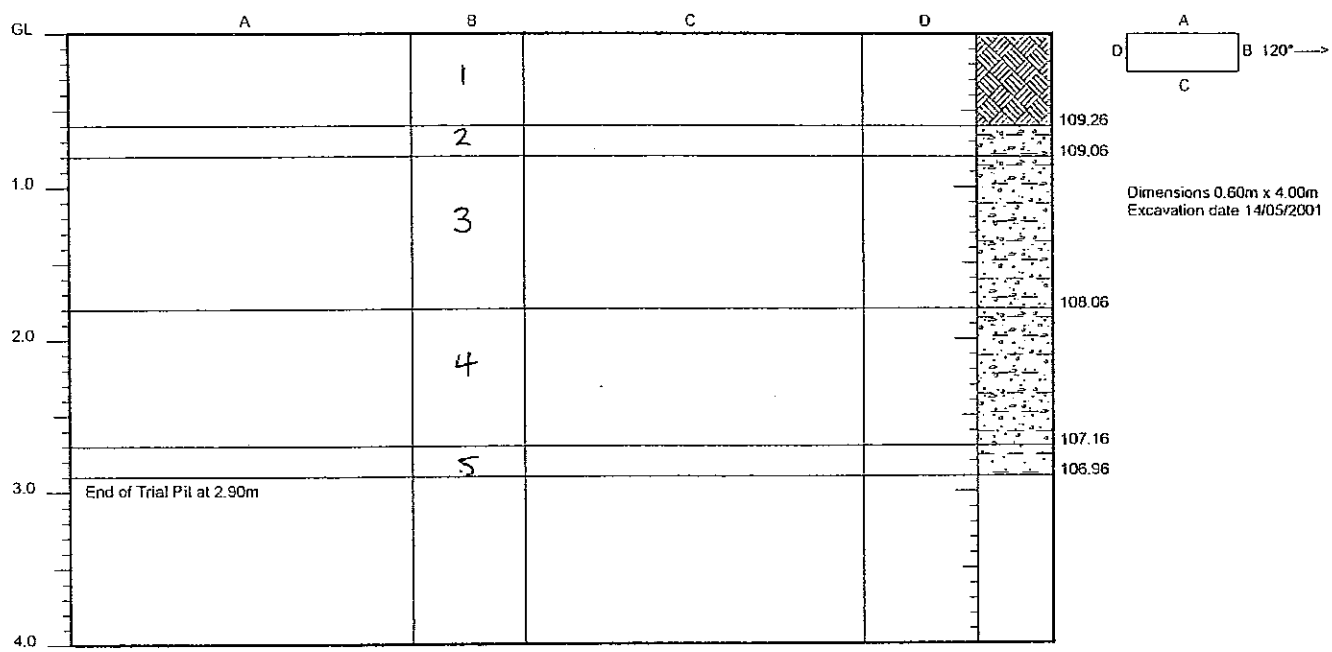
Trial Pit
TP11
Sheet 1 of 1

11/07/2001 16:15:48 ESGLog v2.09

Trial Pit Log

Exploration Associates

Logged by ASH Checked by RP	Equipment and Methods Trial Pit/Trench from 0.00m to 2.90m.	Ground Level +109.86 m OD National Grid Coordinates E 16349.58 N 23033.14



Samples and Tests

Depth (m)	Type & No.	Records

Strata

Depth (m)	No.	Description
0.00-0.60	1	Brown sandy gravelly clayey TOPSOIL. Gravel is subrounded and rounded fine to coarse.
0.60-0.80	2	Soft light orange slight sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of coal, gypsum, shale and sandstone.
0.80-1.80	3	Stiff dark orangish brown slightly sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of shale, coal, mudstone, sandstone and quartz.
1.80-2.70	4	Very stiff dark orangish brown slightly sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of shale, coal, mudstone, sandstone and quartz.
2.70-2.90	5	Soft orange very sandy CLAY.

Groundwater

No.	Struck	Behaviour
1	2.40m	Rapid water entry

Remarks

No sampling clients request.
Stability : Stable, Shoring : None

Notes : For explanation of symbols and abbreviations see key sheet. All depths in metres.

Scale 1 : 50

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

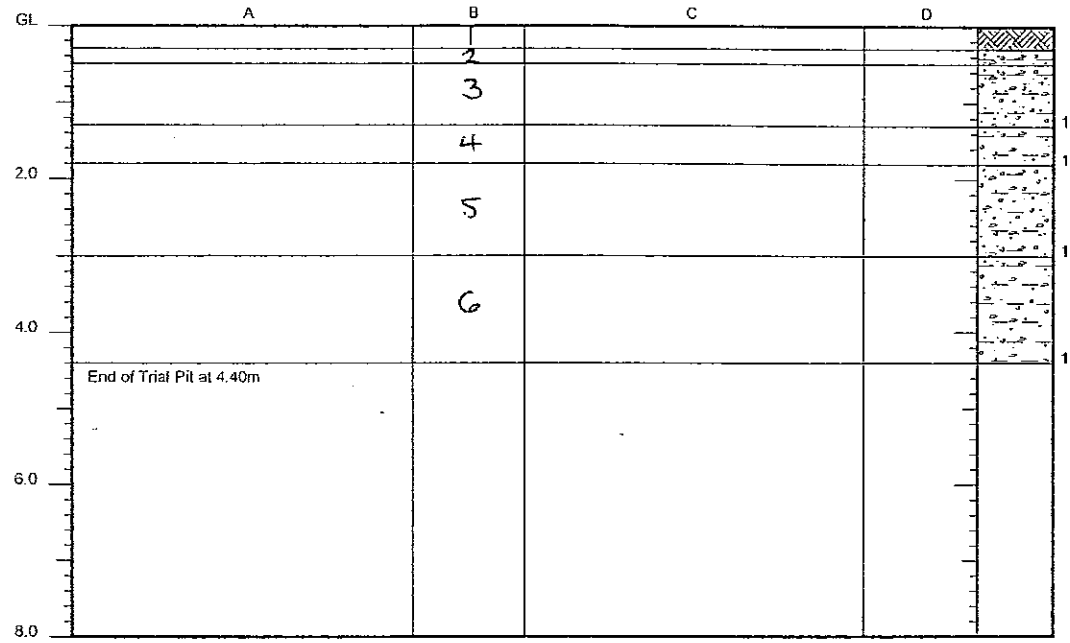
Trial Pit TP11A
Sheet 1 of 1

11/07/2001 16:15:49 ESGLog v2.09

Trial Pit Log

Exploration Associates

Logged by ASH Checked by RP	Equipment and Methods Trial Pit/Trench from 0.00m to 4.40m.	Ground Level +118.52 m OD National Grid Coordinates E 15994.78 N 22998.35



Samples and Tests

Depth (m)	Type & No.	Records
0.10	D1	
0.40-0.50	B2	
0.40-0.50	D3	
1.40-1.50	D4	
1.40-1.80	B5	
1.80-1.90	D6	
1.80-2.00	B7	
3.00-3.10	D8	
3.00-3.10	B9	
4.00-4.10	B10	
4.00-4.20	D11	

Strata

Depth (m)	No.	Description
0.00-0.30	1	Brown slightly sandy gravelly clayey TOPSOIL. Gravel is subrounded and rounded fine to coarse.
0.30-0.50	2	Firm orangish brown and grey slightly gravelly sandy CLAY. Gravel is angular to rounded fine to coarse of sandstone, mudstone, coal and quartz. Rare manganese nodules noted.
0.50-1.30	3	Stiff friable brown and red slightly gravelly sandy CLAY. Gravel is angular to rounded fine to coarse of sandstone, mudstone, coal and quartz. Rare manganese nodules.
1.30-1.80	4	Stiff friable orange and grey gravelly CLAY. Gravel is angular to rounded fine to coarse of sandstone, coal, mudstone and quartz. Rare manganese nodules noted and frequent cobbles.
1.80-3.00	5	Light orange and grey very clayey GRAVEL. Gravel is angular to rounded fine to coarse of coal, mudstone, sandstone and quartz. Rare manganese nodules noted with frequent cobbles and rare boulders.
3.00-4.40	6	Very stiff reddish brown gravelly CLAY. Gravel is angular to rounded fine to coarse of coal, mudstone, sandstone and quartz. Rare manganese nodules noted with frequent cobbles

Groundwater

No.	Struck	Behaviour
1	2.60m	Slight seep

Remarks

Stability : Stable, Shoring : None

Notes : For explanation of symbols and abbreviations see key sheet. All depths in metres.

Scale 1 : 100

Project BYRKLEY PARK

Project no. 121079

Carried out for Football Association

Trial Pit TP12

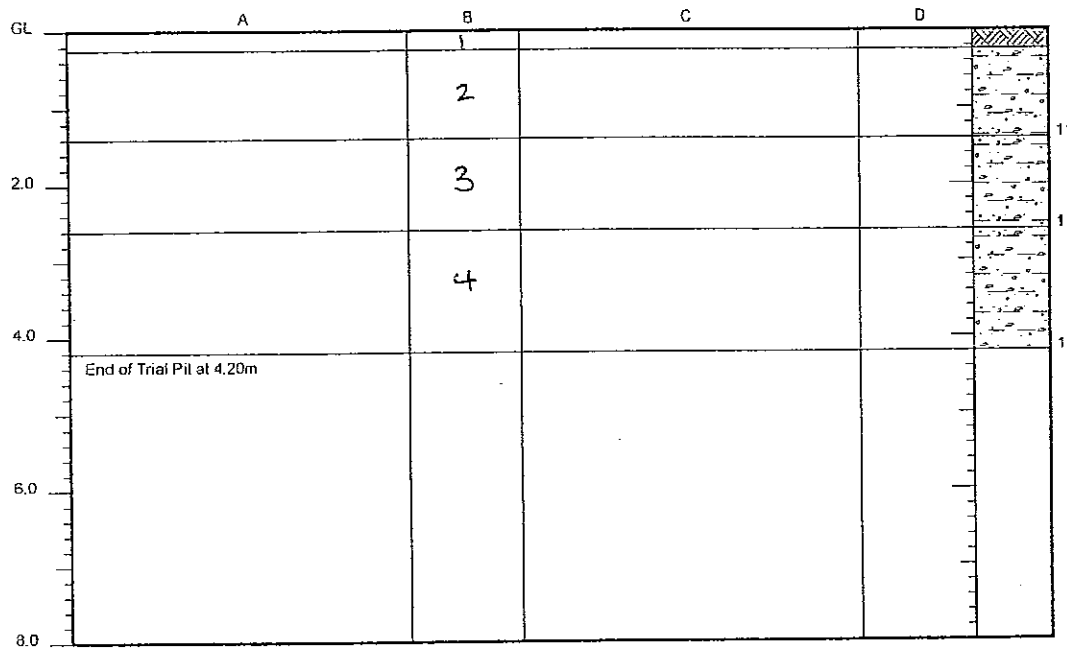
Sheet 1 of 1

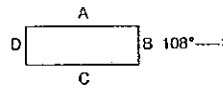
11/07/2001 16:15:51 ESGLog v2.09

Trial Pit Log

Exploration Associates

Logged by ASH Checked by RP	Equipment and Methods Trial Pit/Trench from 0.00m to 4.20m.	Ground Level +116.80 m OD National Grid Coordinates E 16126.61 N 22986.65





Dimensions 4.00m x 0.60m
Excavation date 11/05/2001

Samples and Tests

Depth (m)	Type & No.	Records
0.10	D1	
0.30-0.50	B2	Hand vane results are 60, 60 and 50 kPa. Average is 56 kPa.
0.30-0.50	D3	
1.40-1.50	B4	
1.40-1.70	D5	
2.60-2.80	B6	
2.60-2.70	D7	
3.80-4.20	B8	
3.80-3.90	D9	

Strata

Depth (m)	No.	Description
0.00-0.25	1	Brown slightly sandy gravelly clayey TOPSOIL. Gravel is subrounded and rounded fine to coarse with infrequent cobbles.
0.25-1.40	2	Firm orange and grey gravelly CLAY. Gravel is angular to rounded fine to coarse of sandstone, mudstone, and coal with frequent cobbles and rare boulders.
1.40-2.60	3	Soft friable orangish grey gravelly CLAY. Gravel is angular to rounded fine to coarse of sandstone, mudstone, coal and quartz with infrequent cobbles.
2.60-4.20	4	Stiff dark purplish brown and grey mottled gravelly CLAY. Gravel is angular to rounded fine to coarse of sandstone, mudstone, coal and quartz.

Groundwater
No groundwater encountered.

Remarks
Stability : Stable, Shoring : None

Notes : For explanation of symbols and abbreviations see key sheet. All depths in metres.

Scale 1 : 100

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

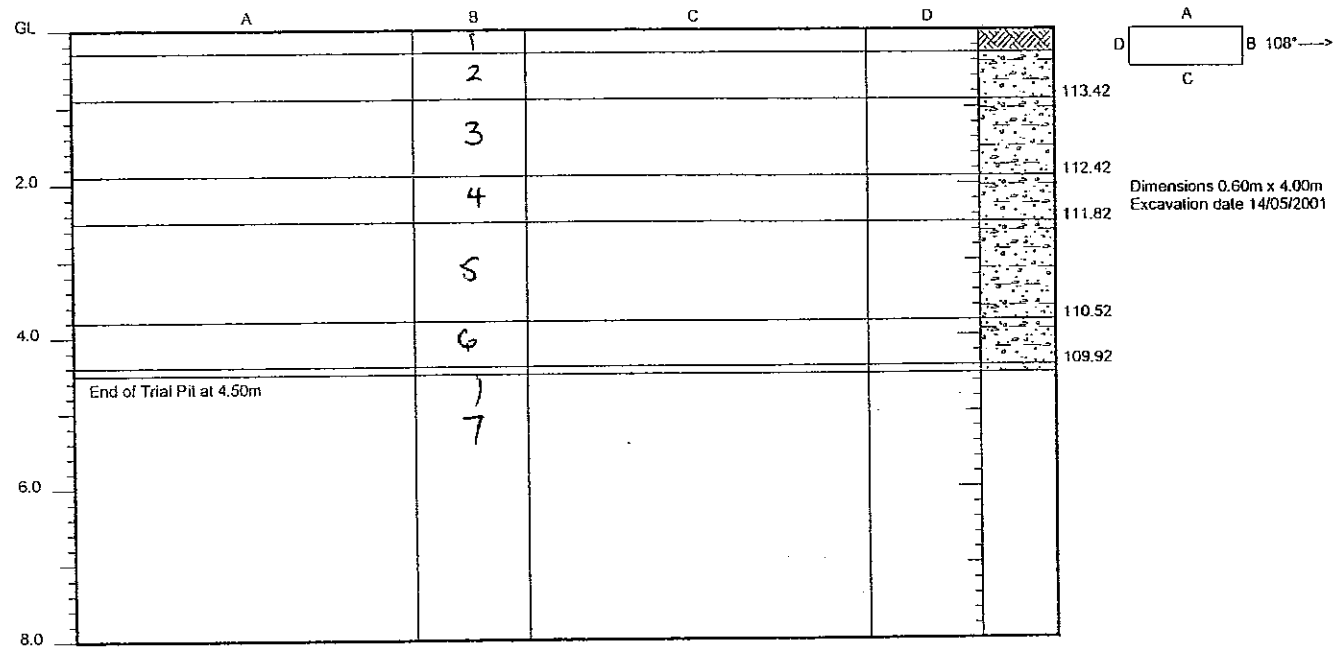
Trial Pit
TP13
Sheet 1 of 1

11/07/2001 16:15:53 ESGLog v2.09

Trial Pit Log

Exploration Associates

Logged by ASH Checked by RP	Equipment and Methods Trial Pit/Trench from 0.00m to 4.50m.	Ground Level +114.32 m OD National Grid Coordinates E 16236.88 N 22904.07



Samples and Tests

Depth (m)	Type & No.	Records
0.10	D1	
0.30-0.40	B2	Hand vane results are 60, 70 and 80 kPa. Average is 70 kPa.
0.30-0.40	D3	
0.90-1.00	B4	Hand vane results are 80, 90 and 90 kPa. Average is 87 kPa.
0.90-1.00	D5	
2.00-2.20	B7	
2.00-2.10	D6	Hand vane results are 30, 40 and 40 kPa. Average is 37 kPa.
3.00-3.10	B8	
3.00-3.10	D9	
4.00-4.20	B10	
4.00-4.20	D11	
4.40-4.50	B12	
4.40-4.50	D13	
4.50	W14	

Strata

Depth (m)	No.	Description
0.00-0.30	1	Brown slightly sandy gravelly clayey TOPSOIL. Gravel is subrounded and rounded fine to coarse.
0.30-0.90	2	Firm orange mottled grey slightly sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of mudstone , sandstone, coal, shale and quartz with frequent cobbles.
0.90-1.90	3	Stiff dark reddish brown mottled grey slightly sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of mudstone, sandstone, coal, shale and quartz.
1.90-2.50	4	Soft friable reddish brown gravelly sandy CLAY. Gravel is angular to rounded fine to coarse of mudstone, coal, shale, gypsum and quartz.
2.50-3.80	5	Stiff very friable dark reddish brown slightly sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of mudstone, shale, sandstone, gypsum and quartz.
3.80-4.40	6	Very stiff dark reddish brown slightly sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of mudstone, sandstone, shale, gypsum, coal and quartz.
4.40-4.50	7	Stiff friable reddish brown slightly sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of shale, mudstone, sandstone, coal, gypsum and quartz. Very thin orange silty sand lenses noted

Groundwater

No.	Struck	Behaviour
1	4.50m	Rapid water entry. 0.30m water rise in 15 minutes at bottom of pit.

Remarks

Notes : For explanation of symbols and abbreviations see key sheet. All depths in metres.

Scale 1 : 100

Project BYRKLEY PARK

Project no. 121070

Carried out for Football Association

Trial Pit TP14

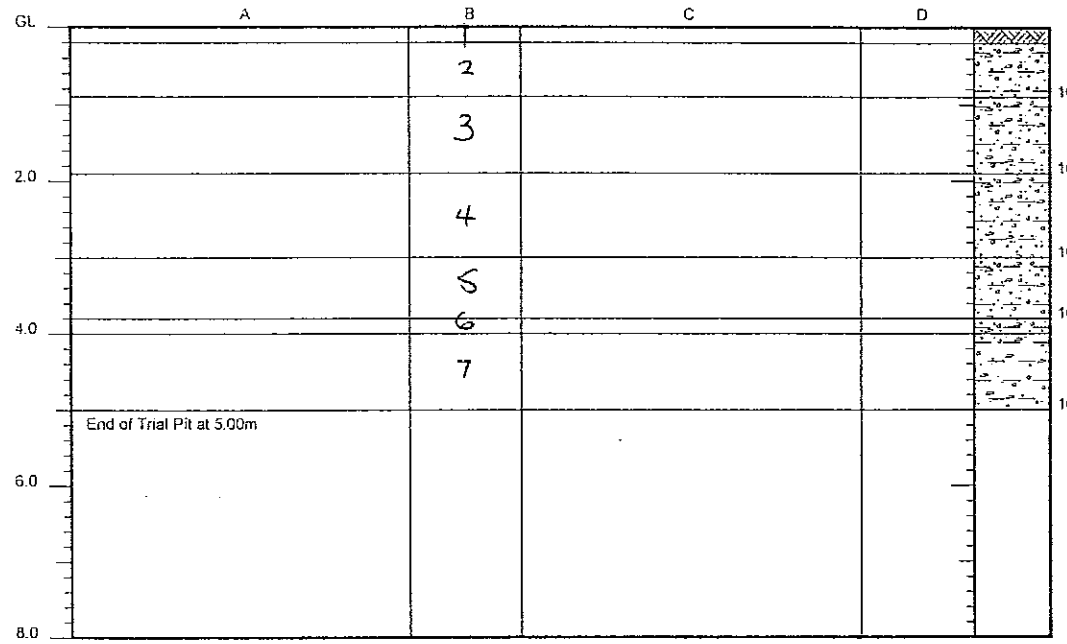
Sheet 1 of 1

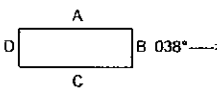
11/07/2001 16:15:55 ESGLog v2.09

Trial Pit Log

Exploration Associates

Logged by ASH Checked by RP	Equipment and Methods Trial Pit/Trench from 0.00m to 5.00m.	Ground Level +107.06 m OD National Grid Coordinates E 16400.92 N 22840.40





Dimensions 4.00m x 0.60m
Excavation date 14/05/2001

Samples and Tests

Depth (m)	Type & No.	Records
0.10	D1	
0.30-0.40	B2	Hand vane results are 40,50 and 50 kPa. Average is 47 kPa.
0.30-0.40	D3	
1.00	B4	Hand vane results are 60, 70 and 70 kPa. Average results are 63 kPa.
1.00	D5	
1.90-2.00	B6	
1.90-2.00	D7	
3.00-3.20	B9	
3.00-3.10	D8	
3.80-3.90	D10	
3.80-3.90	B11	
4.00-4.20	D12	
4.00-4.20	B13	

Strata

Depth (m)	No.	Description
0.00-0.20	1	Brown slightly sandy gravelly TOPSOIL. Gravel is subrounded and rounded fine to coarse
0.20-0.90	2	Firm orange mottled grey slightly sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of sandstone, coal, mudstone and quartz with infrequent cobbles
0.90-1.90	3	Firm friable dark orange and reddish brown slightly sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of coal, mudstone, sandstone and gypsum with infrequent cobbles
1.90-3.00	4	Soft friable orangish brown slightly sandy very gravelly CLAY. Gravel is angular to rounded fine to coarse mudstone.
3.00-3.80	5	Stiff friable dark reddish brown gravelly CLAY. Gravel is angular to rounded fine to coarse of mudstone, coal, sandstone and quartz with rare cobbles
3.80-4.00	6	Stiff friable reddish brown slightly sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of mudstone, sandstone, coal and quartz with rare cobbles.
4.00-5.00	7	Very stiff friable dark reddish brown gravelly CLAY. Gravel is angular to rounded fine to coarse of mudstone, gypsum, sandstone and quartz. Black staining noted.

Groundwater

No.	Struck	Behaviour
1	2.60m	Slight water seep

Remarks

Stability : Stable, Shoring : None

Notes : For explanation of symbols and abbreviations see key sheet. All depths in metres.

Scale 1 : 100

Project BYRKLEY PARK

Project no. 121070

Carried out for Football Association

Trial Pit TP15

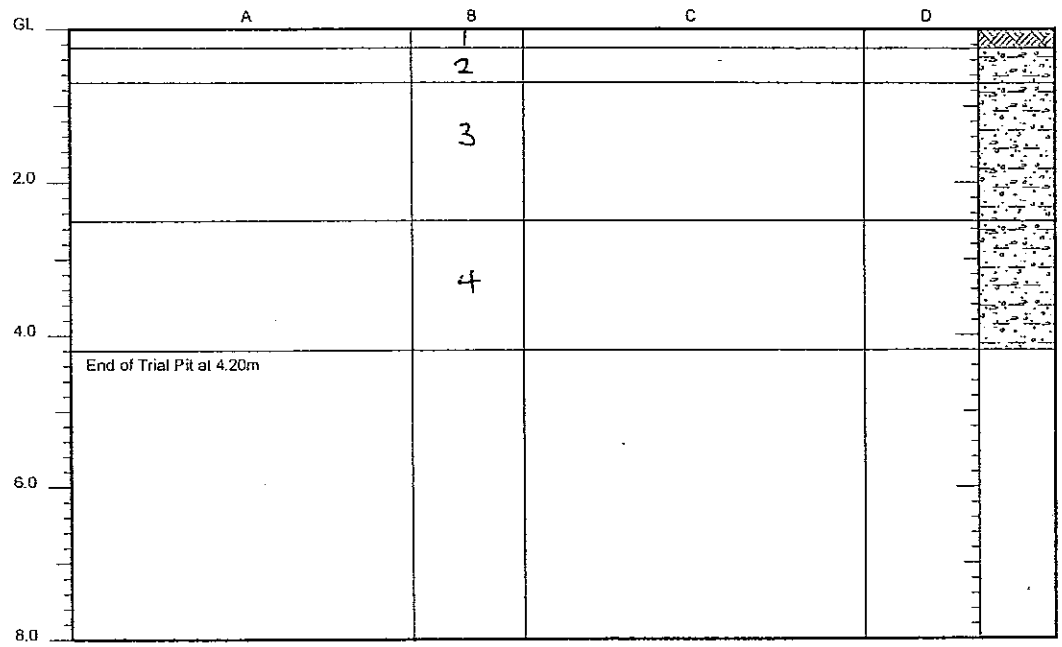
Sheet 1 of 1

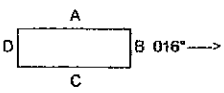
11/07/2001 16:15:57 ESGLog v2.09

Trial Pit Log

Exploration Associates

Logged by ASH Checked by RP	Equipment and Methods Trial Pit/Trench from 0.00m to 4.20m.	Ground Level +116.92 m OD National Grid Coordinates E 16213.55 N 23324.84





Dimensions 0.60m x 4.00m
Excavation date 14/05/2001

Samples and Tests

Depth (m)	Type & No.	Records
0.10	D1	
0.30-0.40	B2	
0.30-0.40	D3	
1.10-1.20	B4	
1.10-1.20	D5	
2.10-2.20	B6	
2.10-2.20	D7	
3.00-3.10	B8	
3.00-3.20	D9	
4.00-4.10	B10	
4.00-4.10	D11	

Strata

Depth (m)	No.	Description
0.00-0.25	1	Brown slightly sandy gravelly clayey TOPSOIL. Gravel is subrounded and rounded fine to coarse.
0.25-0.70	2	Stiff orangish grey slightly gravelly sandy CLAY. Gravel is subrounded and rounded fine to coarse with infrequent cobbles.
0.70-2.50	3	Stiff friable dark red slightly sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of coal, mudstone, sandstone and quartz.
2.50-4.20	4	Very stiff friable brown slightly sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of coal, mudstone, gypsum, sandstone and quartz with frequent cobbles of mudstone and quartz

Groundwater

No.	Struck	Behaviour
1	2.00m	Water seep.

Remarks
Stability : Stable, Shoring : None

Notes : For explanation of symbols and abbreviations see key sheet. All depths in metres.

Scale 1 : 100

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

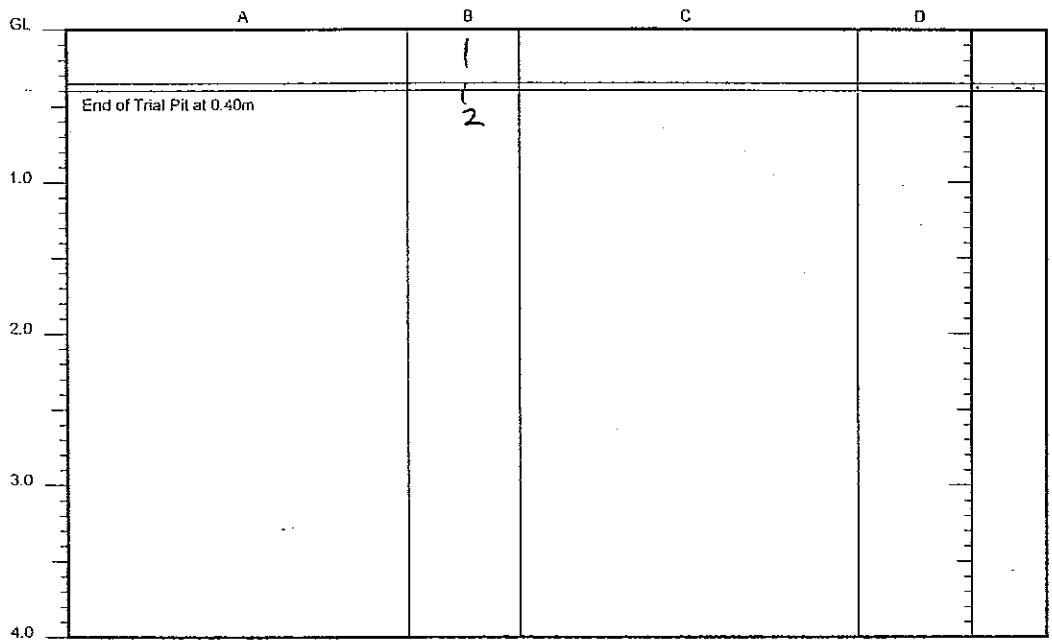
Trial Pit
TP16
Sheet 1 of 1

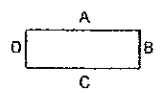
11/07/2001 16:15:59 ESGLog v2.09

Trial Pit Log

Exploration Associates

Logged by ASH Checked by RP	Equipment and Methods Lake sediment sampling.	Ground Level National Grid Coordinates





Excavation date 24/05/2001

Samples and Tests

Depth (m)	Type & No.	Records
0.00	W1	
0.35	D2	
0.35	D3	

Strata

Depth (m)	No.	Description
0.00-0.35	1	Water
0.35-0.40	2	Orangish brown and greyish green slightly silty angular to rounded coarse GRAVEL.

Groundwater
No. Struck Behaviour

Remarks
1) Lake sediment sampling.

Notes : For explanation of symbols and abbreviations see key sheet. All depths in metres.

Scale 1 : 50

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

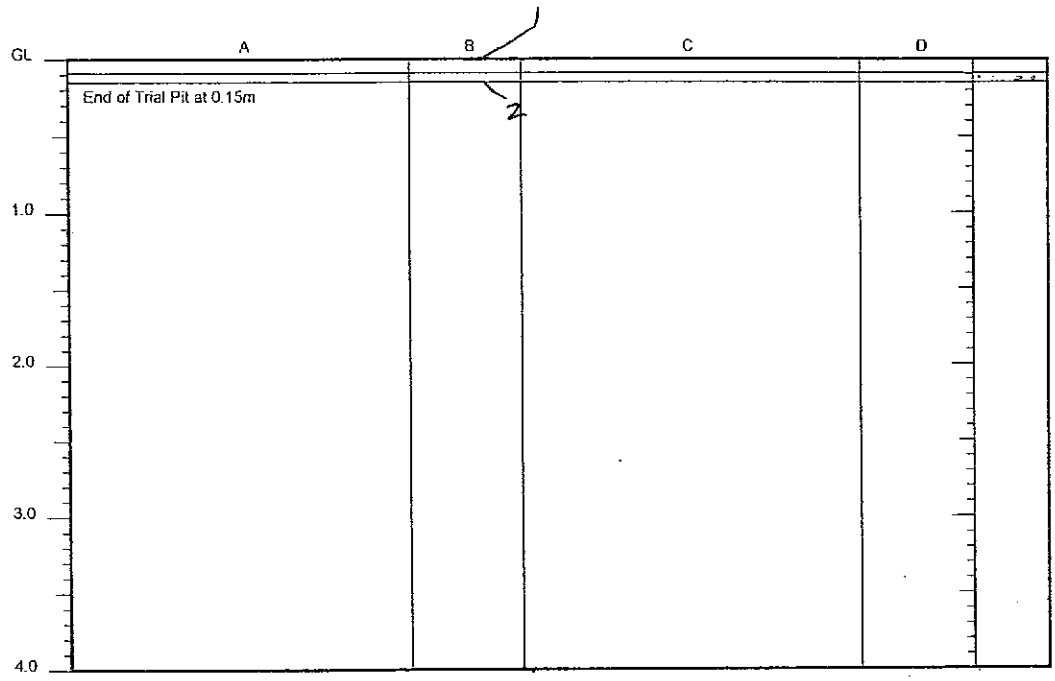
Trial Pit
WEIR 1
Sheet 1 of 1

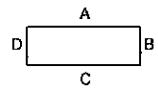
11/07/2001 16:16:00 ESGLog v2.09

Trial Pit Log

Exploration Associates

Logged by ASH Checked by RP	Equipment and Methods Trial Pit/Trench from 0.00m to 0.15m.	Ground Level National Grid Coordinates





Excavation date 24/05/2001

Samples and Tests

Depth (m)	Type & No.	Records
0.00	W1	
0.09	D2	
0.09	D3	

Strata

Depth (m)	No.	Description
0.00-0.09	1	Water
0.09-0.15	2	Orangish brown and grey slightly silty subangular to rounded fine to coarse GRAVEL. Occasional cobbles.

Groundwater
No. Struck Behaviour

Remarks
1) Lake sediment collected.

Notes : For explanation of symbols and abbreviations see key sheet. All depths in metres.

Scale 1 : 50

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

Trial Pit
WEIR 2
Sheet 1 of 1

11/07/2001 16:16:01 ESGLog v2.09

Borehole Log

Exploration Associates

Drilled by AH Logged by ML Checked by RP	Equipment and Methods Cable Percussion 150 mm diameter from 1.20m to 4.82m.	Ground Level National Grid Coordinates	+120.44 m OD E 16450.75 N 23828.49

Samples and Tests

Depth	Type & No.	Records	Date / Casing	Time / Water
			09/05/2001	
0.30	B1			
1.00 - 1.45	U2	84 blows		
1.55	D3			
2.00 - 2.45	D4	S,SW = 0,N=23 4,6/5,7,6,5	1.50	dry
2.00 - 3.00	B5			
3.00 - 3.45	U6	150 blows	1.50	dry
3.55	D7			
4.00 - 4.45	D8	S,SW = 0,N=26 6,5/5,7,6,8	1.50	dry
4.00 - 4.60	B9			
			09/05/2001 1.50	dry
4.70 - 4.78	D10	S,SW = 0,50 25 for 70mm,/50 for 10mm	1.50	dry
4.80 - 4.82	D11	S,SW = 0,50 25 for 10mm,/50 for 10mm	1.50	dry

Strata

Description	Depth,Level (Thickness)	Legend
Turf over brown sandy TOPSOIL (driller's description)	(0.30) 0.30 +120.14	a
Firm red and orangish brown with a little grey mottling slightly sandy gravelly CLAY with occasional fibrous roots. Gravel is angular to rounded fine and medium	(0.90) 1.20 +119.24	
Very stiff reddish brown with bluish grey veining slightly sandy very gravelly CLAY. Gravel is subangular to rounded fine to coarse including blue mudstone.	(3.40)	
Below 3.55m: Dark brown.		
Light grey angular fine and medium GRAVEL of siltstone		
Highly weathered SILTSTONE	4.60 +115.84	
EXPLORATORY HOLE ENDS AT 4.82 m.	4.82 +115.62	

Groundwater
No groundwater encountered.

Remarks
Chiselling : 4.70m to 4.80m 60minutes
Hole backfill : 0.00m to 4.82m Arisings (a).

Notes : For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.
Scale 1 : 50

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

Borehole 1
Sheet 1 of 1

11/07/2001 15:35:30 ESGLog v2.09

Borehole Log

Exploration Associates

Drilled by AH Logged by AH Checked by RP	Equipment and Methods Cable Percussion from 0.00m to 4.50m.	Ground Level National Grid Coordinates

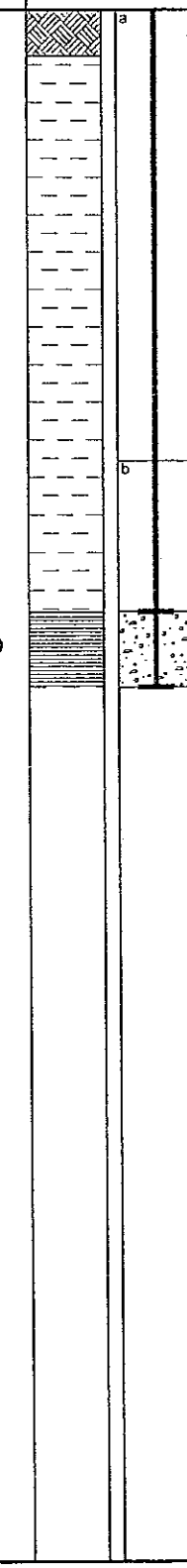
Samples and Tests

Depth	Type & No.	Records	Date / Casing	Time / Water
			22/05/2001	
			22/05/2001	

Strata

Description	Depth,Level (Thickness)
Turf over brown granular top soil. (Drillers despcription) (MADE GROUND)	(0.30) 0.30
Firm to stiff brown boulder CLAY. (Drillers despcription)	(3.70)
Weathered grey MUDSTONE. (Drillers despcription)	4.00 (0.50pen)
EXPLORATORY HOLE ENDS AT 4.50 m.	4.50

Legend



Groundwater
No. Struck Behaviour

Remarks
Chiselling : 4.30m to 4.50m 60minutes
Hole backfill : 0.00m to 3.00m Arisings (a), 3.00m to 4.00m Bentonite (b). Surface protection : Stop Cock Cover
Standpipe installed, 50mm diameter, response zone from 4.00m to 4.50m.

Notes : For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.
Scale 1 : 50

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

Borehole 1A
Sheet 1 of 1

11/07/2001 15:35:34 ESGLog v2.09

Borehole Log

Exploration Associates

Drilled by	AH	Equipment and Methods	Ground Level +113.09 m OD
Logged by	ML	Cable Percussion 150 mm diameter from 0.00m to 2.34m.	National Grid E 16641.61
Checked by	RP		Coordinates N 23759.10

Samples and Tests

Depth	Type & No.	Records	Date / Casing	Time / Water
			09/05/2001	
0.20 - 1.00	B1			
1.00 - 1.45	U2	96 blows		
1.55	D3			
2.00 - 2.28	D4	S,SW = 0,64 13,12 for 60mm/34,30 for 65mm	1.50	dry
			09/05/2001	
			1.50	dry
2.30 - 2.34	D5	S,SW = 0,50 25 for 30mm,/50 for 10mm	1.50	dry

Strata

Description	Depth,Level (Thickness)	Legend
Turf over soft to firm orangish brown and grey mottled CLAY with pockets of greyish brown very clayey subrounded to rounded and flat fine to coarse gravel with cobbles.	(1.30)	a
	1.30 +111.79	
Stiff light grey gravelly CLAY. Gravel is subangular fine and medium mudstone	(1.04pen)	
Highly weathered MUDSTONE Below 2.00m:with many gravel sized lithorelicts		
Below 2.20m Moderately weathered recovered as angular gravel with a little clay.		
EXPLORATORY HOLE ENDS AT 2.34	2.34 +110.75	

Groundwater
No groundwater encountered

Remarks
Chiselling : 2.20m to 2.30m 60minutes
Hole backfill : 0.00m to 2.34m Arisings (a).

Notes : For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.
Scale 1 : 50

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

Borehole 2
Sheet 1 of 1

11/07/2001 15:35:38 ESGLog v2.09

Borehole Log

Exploration Associates

Drilled by AH Logged by DJLS Checked by RP	Equipment and Methods Inspection Pit from 0.00m to 1.50m. Rotary Cored 150 mm diameter from 1.50m to 12.90m.		Ground Level National Grid Coordinates

Samples and Tests

Depth	Type & No.	Records	Date Casing	Time Water
			21/05/2001 0.00	
1.50 - 3.00m	60 53 47	0 100%		
3.00 - 3.45		S,SW = 0,N=23 3,8/3,5,7,8		
3.00 - 4.50m	80 73 60	150 275 400 100%		
4.50 - 4.72		25 62 100 S,SW = 0,50 6,12/50 for 70mm		
4.50 - 5.25m	93 27 13	100%		
5.25 - 5.39		25 62 100 S,SW = 0 25,50 for 68mm		
5.25 - 6.75m	97 83 13	50 75 100 100%		
6.75 - 6.89		20 47 75 S,SW = 0 25,50 for 62mm		
6.75 - 8.00m	100 76 40	100 175 250 100%	21/05/2001 1.50	
			22/05/2001 2.00	2.40
8.00 - 8.10		S,SW = 0 25,50 for 20mm		
8.00 - 9.50m	93 80 53	100 150 200 100%		
9.50 - 9.60		S,SW = 0 25,50 for 25mm		
9.50 - 9.90m	100 75 25	20 50 80 100%		
9.90 - 9.99		S,SW = 0 25,50 for 18mm		
9.90 - 11.40m				
Depth	TCR SCR RQD If	Records	Date Casing	Time Water

Strata

Description	Depth,Level (Thickness)	Legend
	(1.50)	
	1.50	
Greyish green, locally light brown highly weathered thickly laminated MUDSTONE, weak, recovered as stiff clay with lithorelicts	(2.50)	
	4.00	
Slightly to moderately weathered greyish green thinly to thickly laminated MUDSTONE, very weak to weak. Closely to very closely spaced subhorizontal to inclined(45°)discontinuities with brown staining. Locally clayey, locally recovered as clayey gravel From 6.00m to 6.10m:dark grey moderately weathered siltstone From 6.75m to 7.35m:slightly clayey in places	(3.35)	
	7.35	
From 8.30m to 8.40m:open inclined (60°) discontinuitiy with brown staining Reddish brown locally grey slightly weathered thinly to thickly laminated MUDSTONE/SILTSTONE Weak to moderately weak. Closely to medium spaced subhorizontal discontinuities with dark brown staining on faces, both subhorizontal and associated inclined(45-60°) From 8.40m to 9.40m:grey and red brown interbeds. Below 9.40m:red brown	(5.55)	

Groundwater

No. Struck Behaviour

Remarks

Piezometer installed,tip at 7.00m,sand filter from 5.50m to 7.50m
TCR/SCR/RQD: 9.90m to 10.00m 93/87/47
Surface protection : Stop Cock Cover
Standpipe Piezometer installed, 19mm diameter, response zone from 5.50m to 7.50m.

Notes : For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.
Scale 1 : 50

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

Borehole 2R
Sheet 1 of 2

11/07/2001 15:35:45 ESGLog v2.09

Borehole Log

Exploration Associates

Drilled by	AH	Equipment and Methods	Ground Level
Logged by	DJLS	See sheet 1	National Grid Coordinates
Checked by	RP		

Samples and Tests

Strata

Depth	TCR SCR RQD	If	Records	Date Casing	Time Water	Description	Depth,Level (Thickness)	Legend
9.90 - 11.40m	93 87 47		100%			At 10.00m: subhoriszontal white veinlet 1-2mm From 10.40m to 10.90m:open subvertical/inclined (60°) discontinuity with brown staining,		
11.40 - 11.50		50 100 150	S,SW = 0 25,50 for 28mm			As sheet 1	(5.55pen)	
11.40 - 12.90m	97 90 60		100%			From 11.40m to 11.60m,11.90m to 12/.00m and 12.60m to 12.80m open/subvertical (60°) discontinuities with brown staining		
				22/05/2001 2.00	2.40			
12.90 - 12.98			S,SW = 0 25,50 for 8mm			EXPLORATORY HOLE ENDS AT 12.90 m.	12.90	

Groundwater	Remarks
No. Struck Behaviour	

Notes : For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.
Scale 1 : 50

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

Borehole 2R
Sheet 2 of 2

11/07/2001 15:35:50 ESGLog v2.09

Borehole Log

Exploration Associates

Drilled by	AH	Equipment and Methods	Ground Level +121.67 m OD
Logged by	ML	Cable Percussion 150 mm diameter from 0.00m to 3.32m.	National Grid Coordinates E 16389.88 N 23514.71
Checked by	RP		

Samples and Tests

Depth	Type & No.	Records	Date / Casing	Time / Water
			09/05/2001	
0.25 - 1.00	B1			
1.00 - 1.45	U2	110 blows		
1.55	D3			
2.00 - 2.45	D4	S,SW = 0,N=82 4,6/11,15,24,32	1.50	dry
2.00 - 3.00	B5			
3.00 - 3.28	D6	S,SW = 0,89 14,11 for 65mm/39,50 for 65mm	1.50 09/05/2001 1.50	dry dry dry
3.30 - 3.32	D7	S,SW = 0,50 25 for 10mm,/50 for 10mm	1.50	dry

Strata

Description	Depth,Level (Thickness)	Legend
Turf over soft brown granular subsoil (drillers description).	0.25 +121.42	a
	(0.45)	
Soft to firm dark yellowish brown and grey mottled slightly sandy slightly gravelly CLAY. Gravel is subrounded and rounded fine to coarse.	0.70 +120.97	
	(1.45)	
Firm to stiff reddish brown with grey mottling sandy gravelly CLAY. Gravel is subangular and subrounded fine to coarse. Cobbles noted.		
Very stiff bluish grey with yellowish brown and orangish brown mottling slightly gravelly CLAY. Gravel is angular and subangular fine and medium mudstone	2.15 +119.52	
	(1.17pen)	
Below 3.00m with some lithorelics. (Highly to completely weathered MUDSTONE)		
EXPLORATORY HOLE ENDS AT 3.32 m.	3.32 +118.35	

Groundwater
No groundwater encountered.

Remarks
Chiselling : 2.70m to 3.00m 30minutes, 3.20m to 3.30m 60minutes
Hole backfill : 0.00m to 3.32m Arisings (a).

Notes : For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.
Scale 1 : 50

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

Borehole 3
Sheet 1 of 1

11/07/2001 15:35:54 ESGLog v2.09

Borehole Log

Exploration Associates

Drilled by AH Logged by ML Checked by RP	Equipment and Methods Cable Percussion 150 mm diameter from 0.00m to 5.34m.	Ground Level National Grid Coordinates	+117.87 m OD E 16577.06 N 23640.93

Samples and Tests

Depth	Type & No.	Records	Date / Casing	Time / Water
			10/05/2001	
0.40 - 1.00	B1			
1.00 - 1.45	U2	110 blows		
1.55	D3			
2.00 - 2.45	D4	S,SW = 0,N=16 2,4/3,4,4,5	1.50	dry
2.00 - 3.00	B5			
3.00 - 3.45	U6	80 blows	1.50	dry
3.55	D7			
4.00 - 4.45	D8	S,SW = 0,N=20 4,4/6,5,4,5	1.50	dry
4.00 - 4.60	B9			
4.60 - 5.00	B10			
5.00 - 5.30	D11	S,SW = 0,91 9,16/41,50	1.50 10/05/2001 1.50	dry dry
5.32 - 5.34	D12	S,SW = 0,50 25 for 10mm,/50 for 10mm	1.50	dry

Strata

Description	Depth,Level (Thickness)
MADE GROUND: Turf over dark greyish brown ashy, clayey gravelly sand with brick fragments.	(0.40)
	0.40 +117.47
Firm red and orangish brown with light grey mottling slightly gravelly sandy CLAY. Gravel is subangular to subrounded fine to coarse. Cobbles noted. Below 1.55m: Firm to stiff.	(1.70)
	2.10 +115.77
Reddish brown silty fine and medium SAND.	2.30 +115.57
Bluish grey silty sandy angular fine and medium GRAVEL, predominantly of mudstone.	
	3.40 +114.47
Firm to stiff reddish brown slightly sandy gravelly CLAY. Gravel is subangular to rounded fine to coarse gravel Below 4.00m: Stiff to very stiff sandy with much coarse sand and fine gravel of blue siltstone.	(2.30)
	4.60 +113.27
Stiff bluish grey CLAY with occasional lenses of orangish brown fine and medium sand and soft reddish brown clay.	(0.74pen)
EXPLORATORY HOLE ENDS AT 5.34 m.	5.34 +112.53

Legend: a

Groundwater
No groundwater encountered.

Remarks
Chiselling : 4.80m to 5.00m 30minutes, 5.10m to 5.32m 60minutes
Hole backfill : 0.00m to 5.34m Arisings (a).

Notes : For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.
Scale 1 : 50

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

Borehole 4
Sheet 1 of 1

11/07/2001 15:36:00 ESGLog v2.09

Borehole Log

Exploration Associates

Drilled by AH Logged by ML Checked by RP	Equipment and Methods Cable Percussion 450 mm diameter from 0.00m to 6.00m.	Ground Level National Grid Coordinates	+120.37 m OD E 16522.03 N 23563.18

Samples and Tests

Depth	Type & No.	Records	Date Casing	Time Water	Description	Depth,Level (Thickness)	Legend
0.20 - 0.90	B1		10/05/2001		MADE GROUND: Tarmac over soft, firm greyish brown slighlly gravelly very sandy CLAY with pockets of soft reddish brown very sandy slightly gravelly clay and clayey gravelly sand. Gravel includes brick Below 2.00m: soft	(2.90)	a
1.00 - 1.45	U2	100 blows					
1.55	D3						
2.00 - 2.07	D4	S,SW = 0,50 25 for 50mm,/50 for 20mm	1.50	dry			
2.00 - 2.90	B5						
3.00 - 3.45	U6	100 blows	3.00	dry		2.90 +117.47	
3.55	D7				Stiff to very stiff reddish brown sandy gravelly CLAY. Gravel is subangular and subrounded fine and medium Below 5.55m: very stiff with much coarse sand and fine gravel of mudstone	(2.90)	
4.00 - 4.45	D8	S,SW = 0,N=24 5,6/5,7,6,6	3.00	dry			
4.00 - 5.00	B9						
5.00 - 5.45	U10	110 blows 405mm recovered	3.00	dry			
5.55	D11				Light grey angular fine and medium GRAVEL of mudstone (Highly weathered MUDSTONE)	5.80 +114.57	
			10/05/2001 3.00	dry			
5.90 - 5.92	D12	S,SW = 0,50 25 for 10mm,/50 for 10mm	3.00	dry	EXPLORATORY HOLE ENDS AT 6.00 m.	6.00 +114.37	
5.98 - 6.00	D13	S,SW = 0,50 25 for 10mm,/50 for 10mm	3.00	dry			

Groundwater
No groundwater encountered.

Remarks
Chiselling : 5.90m to 6.00m 60minutes
Hole backfill : 0.00m to 6.00m Arisings (a).

Notes : For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.
Scale 1 : 50

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

Borehole 5
Sheet 1 of 1

11/07/2001 15:35:24 ESGLog v2.09

Borehole Log

Exploration Associates

Drilled by	AH	Equipment and Methods	Ground Level +120.44 m OD
Logged by	AH	Rotary Open Hole 150 mm diameter from 0.00m to 5.00m.	National Grid E 16519.84
Checked by			Coordinates N 23562.44

Samples and Tests

Strata

Depth	TCR SCR RQD	If	Records	Date Casing	Time Water	Description	Depth,Level (Thickness)	Legend
				18/05/2001		Open Hole to 5.00m.Obstruction in borehole	(5.00pen)	a
				18/05/2001		EXPLORATORY HOLE ENDS AT 5.00 m.	5.00 +115.44	

Groundwater
No groundwater encountered.

Remarks
Open hole to 5.00m.Obstruction in borehole.Set up on position 5A
Hole backfill : 0.00m to 5.00m Arisings (a).

Notes : For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.
Scale 1 : 50

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

Borehole
BH5A
Sheet 1 of 1

11/07/2001 15:35:18 ESGLog v2.09

Borehole Log

Exploration Associates

Drilled by	AH	Equipment and Methods	Ground Level
Logged by	AH	Rotary Open Hole 150 mm diameter from 0.00m to 5.00m.	National Grid Coordinates
Checked by			

Samples and Tests

Strata

Depth	TCR SCR RQD	If	Records	Date / Casing	Time / Water	Description	Depth,Level (Thickness)	Legend
				21/05/2001		Open Hole to 5.00m.Unable to carry on due to gravel and cobbles	(5.00pen)	a
				21/05/2001		EXPLORATORY HOLE ENDS AT 5.00 m.	5.00	

Groundwater
Dry

Remarks
Open hole to 5.00m.Unable to continue due to gravel and cobbles
Hole backfill : 0.00m to 5.00m Arisings (a).

Notes : For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.
Scale 1 : 50

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

Borehole
BH5B
Sheet 1 of 1

11/07/2001 15:35:20 ESGLog v2.09

Borehole Log

Exploration Associates

Drilled by AH Logged by ML Checked by RP	Equipment and Methods Cable Percussion 150 mm diameter from 0.00m to 7.10m. Rotary Cored 150 mm diameter from 7.00m to 17.40m. Set up on BH5A which was open holed to install rotary casing to 4.80m prior to BH5B rotary hole	Ground Level National Grid Coordinates

Samples and Tests / Strata

Depth	Type & No.	Records	Date Casing	Time Water	Description	Depth, Level (Thickness)	Legend
			22/05/2001		MADE GROUND: Loose brown claybound fill with brick(driller's description) Below 2.00m: Stiff.	(3.20) 3.20	
					Firm to stiff brown boulder CLAY,round cobbles noted ,mudstone lenses 6.30m to 6.40m(driller's description)	(3.70)	
			22/05/2001 4.80		Weathered grey MUDSTONE (driller's description)	6.90 7.00	
9.50 - 11.00m	TCR 90 SCR 83 RQD 27	100%			Light greyish brown thinly to thickly laminated slightly to moderately MUDSTONE/SILTSTONE,very weak to weak.Closely to very closely spaced,occasional brown staining,locally clayey From 11.20m:very closely spaced,locally recovered as gravel with brown staining From 11.60m slightly weathered ,closely spaced From 12.00m to 12.10m:open inclined (60°) discontinuity with orange brown staining Recovered as gravel from 12.20m to 12.30m and 12.50m to 12.80m From 9.90m to 10.40m:open subvertical discontinuity with yellowish brown staining	(10.40)	

Depth	TCR SCR RQD	If	Records	Date Casing	Time Water

Groundwater
No groundwater encountered.

Remarks
Piezometer installed ,tip at 9.00m,sand filter from 7.10m to 9.10m
Hole backfill : 0.00m to 6.00m Arisings (a), . Surface protection : Stop Cock Cover
Standpipe Piezometer installed, 19mm diameter, response zone from 7.10m to 9.10m.

Notes : For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.
Scale 1 : 50

Project	BYRKLEY PARK	Borehole 5B
Project no.	121070	
Carried out for	Football Association	Sheet 1 of 2

Borehole Log

Exploration Associates

Drilled by	AH
Logged by	ML
Checked by	RP

Equipment and Methods
See sheet 1

Ground Level
National Grid Coordinates

Samples and Tests

Strata

Depth	TCR SCR RQD	If	Records	Date Casing	Time Water	Description	Depth,Level (Thickness)	Legend
9.50 - 11.00m	90 83 27	50 125 200	100%			From 10.40m to 15.00m:light grey From 11.00m to 11.20m:recovered as grey clayey sandy gravel and cobbles		
11.00 - 11.15			S,SW = 0,50 25/50 for 70mm					
11.00 - 12.50m	87 73 20	10 30 50 50 75 100	100%					
12.50 - 12.65			S,SW = 0,50 25/50 for 78mm					
12.50 - 13.70m	92 67 17	50 85 120	100%					
13.70 - 13.85			S,SW = 0,50 25/50 for 52mm			As sheet 1 From 13.40m to 13.45m:open inclined(45°)discontinuity with brown staining	(10.40pen)	
13.70 - 14.90m	83 75 33	50 100 150	100%					
14.70 - 14.85			S,SW = 0,50 25/50 for 14mm			Below 15.00m; reddish brown locally grey, slightly weathered,thickly laminated closely spaced From 15.50m to 15.65m:open subvertical discontinuity		
14.90 - 17.40m	38 30 16	50 85 120		23/05/2001 4.80				
				23/05/2001 4.80		EXPLORATORY HOLE ENDS AT 17.40 m.	17.40	
17.40 - 17.49			S,SW = 0,50 25/50 for 10mm					

Groundwater

Remarks

Notes : For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.
Scale 1 : 50

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

Borehole 5B
Sheet 2 of 2

11/07/2001 15:36:13 ESGLog v2.09

Borehole Log

Exploration Associates

Drilled by	MM	Equipment and Methods	Ground Level +116.86 m OD
Logged by	GD	Cable Percussion 150 mm diameter from 0.00m to 6.84m.	National Grid Coordinates E 16414.57 N 23353.22
Checked by	RP		

Samples and Tests

Depth	Type & No.	Records	Date / Casing	Time / Water
			15/05/2001	
0.40 - 1.00	B1			
1.00 - 1.45	U2	75 blows		
1.55	D3			
1.60 - 2.05	U4	82 blows	1.50	dry
2.15	D5			
2.20 - 2.65	U6	130 blows 100mm recovered	1.50	dry
2.75	D7			
2.80 - 3.25	U8	150 blows	1.50	dry
			15/05/2001 2.50	dry
			16/05/2001 2.50	dry
3.35	D9			
3.40 - 3.85	U10	150 blows	3.00	dry
3.95	D11			
4.00 - 4.45	U12	150 blows	4.00	dry
4.55	D13			
4.60 - 5.05	U14	150 blows	4.60	dry
5.15	D15			
5.20 - 5.65	U16	150 blows	5.00	dry
5.75	D17			
5.80 - 6.25	U	150 blows No recovery	5.00	dry
5.80 - 6.30	D18			
			16/05/2001 5.00	dry
6.70	D19			
6.80 - 6.82	D20	S,SW = 0 25 for 10mm,50 for 10mm	5.00	dry

Strata

Description	Depth,Level (Thickness)
Turf over TOPSOIL (drilers description).	(0.40)
MADE GROUND: Dark brown gravelly clay. Gravel is angular to subrounded of ash and brick fragments.	0.40 +116.46 (0.50)
Soft brown gravelly CLAY. Gravel is subangular and subrounded fine to coarse.	0.90 +115.96 (4.90)
Weak grey MUDSTONE with traces of orange sandstone noted by driller.	5.80 +111.06 (0.90)
Weak weathered grey MUDSTONE.	6.70 +110.16
EXPLORATORY HOLE ENDS AT 6.84 m.	6.84 +110.02

Legend: a, b

Groundwater
No groundwater encoutered.

Remarks
Chiselling : 5.70m to 6.80m 60minutes
Hole backfill : 0.00m to 5.10m Arisings (a), 5.10m to 6.10m Bentonite (b). Surface protection : Stop Cock Cover
Standpipe Piezometer installed, 19mm diameter, response zone from 6.10m to 6.84m.

Notes : For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.
Scale 1 : 50

Project: BYRKLEY PARK
Project no.: 121070
Carried out for: Football Association

Borehole 6
Sheet 1 of 1

11/07/2001 15:36:17 ESGLog v2.06

Borehole Log

Exploration Associates

Drilled by MM Logged by ASH Checked by RP	Equipment and Methods Cable Percussion 150 mm diameter from 0.00m to 7.70m.	Ground Level National Grid Coordinates	+114.71 m OD E 16618.88 N 23416.83

Samples and Tests

Strata

Depth	Type & No.	Records	Date / Casing	Time / Water	Description	Depth,Level (Thickness)	Legend
			15/05/2001		Turf over loose brown TOPSOIL.	(0.40)	a
0.40 - 1.00	B1					0.40 +114.31	
1.00 - 1.45	U2	79 blows 338mm recovered					
1.55	D3				Stiff to very stiff brown gravelly CLAY. Gravel is subangular and subrounded fine to coarse. With subrounded to rounded cobbles.	(2.50)	
2.00 - 2.45	D4	S,SW = 0,N=30 5,6/6,7,8,9	1.50	dry			
2.00 - 3.00	B5						
3.00 - 3.45	U6	140 blows	3.00	dry		2.90 +111.81	
3.55	D7						
4.00 - 4.45	D8	S,SW = 0,N=26 4,8/7,5,6,7	3.00	dry	Below 4.00m: With occasioanl pockets of blue grey clay to 2mm.		
4.00 - 5.00	B9						
5.00 - 5.45	U10	150 blows	3.00	dry	Stiff to very stiff brown gravelly CLAY. Gravel is subangular and subrounded fine to coarse.	(4.70)	
5.55	D11						
6.00 - 6.45	D12	S,SW = 0,N=32 6,6/8,8,8,8	3.00	dry			b
6.00 - 7.00	B13						
7.00 - 7.45	U14	125 blows No recovery	3.00	dry			
7.00 - 7.50	B15						
			15/05/2001 3.00	dry	Weak weathered grey MUDSTONE	7.60 +107.11	
7.70		S , Rods bouncing- no recovery.	3.00	dry	EXPLORATORY HOLE ENDS AT 7.70 m.	7.70 +107.01	
7.70	D16						

Groundwater

No groundwater encountered.

Remarks

Chiselling : 5.60m to 5.90m 45minutes, 7.60m to 7.70m 60minutes
Hole backfill : 0.00m to 6.00m Arisings (a), 6.00m to 7.00m Bentonite (b). Surface protection : Stop Cock Cover
Standpipe Piezometer installed, 19mm diameter, response zone from 7.00m to 7.70m.

Notes : For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.
Scale 1 : 50

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

Borehole 7
Sheet 1 of 1

11/07/2001 15:36:20 ESGLog v2.09

Borehole Log

Exploration Associates

Drilled by	AH	Equipment and Methods	Ground Level +120.35 m OD
Logged by	ASH	Cable Percussion 150 mm diameter from 0.00m to 5.47m.	National Grid Coordinates E 16108.49 N 23442.28
Checked by	RP		

Samples and Tests

Depth	Type & No.	Records	Date Casing	Time Water
			23/05/2001	
0.40 - 1.00	B1			
1.00 - 1.45	U2	150 blows		
1.55	D3			
2.00 - 2.45	U4	110 blows	1.50	dry
2.00 - 2.50	B5			
3.00 - 3.45	U6	150 blows 360mm recovered	1.50	dry
3.55	D7			
4.00 - 4.45	U8	150 blows	1.50	dry
4.55	D9			
5.00 - 5.45	U10	150 blows	1.50	dry
5.00 - 5.30	B11			
			23/05/2001	
5.40 - 5.42		S,50 25 for 10mm,/50 for 10mm	1.50	
5.45 - 5.47		S,50 25 for 10mm,/50 for 10mm	1.50	dry

Strata

Description	Depth,Level (Thickness)	Legend
Turf over loose brown granular topsoil. (driller's despcription)	(0.35)	
	0.35 +120.00	
Firm red, orangish brown and light grey mottled slightly sandy gravelly CLAY. Gravel is subangular and subrounded fine to coarse	(0.85)	
	1.20 +119.15	
below 2.00m stiff with occasionally much gravel		
Firm to stiff reddish brown slightly sandy gravelly CLAY. Gravel is angular to subrounded fine to coarse and includes grey and reddish brown mudstone and siltstone	(4.10)	
below 3.00m very stiff		
below 5.00m dark brown with occasional lense of light brown silt		
Light grey MUDSTONE. Recovered as angular gravel sized fragments	5.30 +115.05	
EXPLORATORY HOLE ENDS AT 5.47 m.	5.47 +114.88	

Groundwater
No groundwater encountered

Remarks
Chiselling : 2.20m to 2.40m 30minutes, 5.41m to 5.45m 60minutes

Notes : For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.
Scale 1 : 50

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

Borehole 8
Sheet 1 of 1

11/07/2001 15:36:23 ESGLog v2.09

Borehole Log

Exploration Associates

Drilled by AH Logged by ASH Checked by RP	Equipment and Methods Cable Percussion 150 mm diameter from 0.00m to 5.63m.	Ground Level National Grid Coordinates	+118.52 m OD E 16076.57 N 23129.30

Samples and Tests

Depth	Type & No.	Records	Date Casing	Time Water
			23/05/2001	
0.30 - 1.00	B1			
1.00 - 1.45	U2	134 blows		
1.55	D3			
2.00 - 2.45		C,N=15 3,2/4,3,4,4	1.50	1.30
2.00 - 3.00	B4			
3.00 - 3.45		C,N=11 3,4/2,3,3,3	3.00	2.60
3.00 - 4.00	B5			
4.00 - 4.45		C,N=15 4,3/3,4,4,4	4.00	3.75
4.00 - 4.70	B6			
5.00 - 5.45		S,N=19 4,5/4,5,5,5	4.50	dry
5.00 - 5.50	B7			
5.60 - 5.62		S,50 25 for 10mm,/50 for 10mm	23/05/2001 5.50	dry
5.62 - 5.64		S,50 25 for 10mm,/50 for 10mm	5.50	dry

Strata

Description	Depth,Level (Thickness)
MADE GROUND: Turf over loose brown topsoil. (driller's despcription).	(0.30) 0.30 +118.22
Firm reddish brown with bluish grey veining slightly gravelly sandy CLAY with many lenses of fine medium sand. Gravel is angular and subangular fine to coarse.	(1.10)
Firm red, orangish brown and light greyish blue mottled sandy gravelly CLAY with cobbles and pockets of clayey fine to coarse sand. Gravel is angular to subrounded fine to coarse.	1.40 +117.12 (0.50) 1.90 +116.62
Medium dense slightly sandy very clayey subrounded and rounded GRAVEL with cobbles.	(2.80)
Medium dense light brown clayey fine and medium SAND	4.70 +113.82 (0.80)
Light grey MUDSTONE. Recovered as angular gravel.	5.50 +113.02
EXPLORATORY HOLE ENDS AT 5.63 m.	5.63 +112.89

Legend

Groundwater
No Groundwater Encountered

Remarks
Chiselling : 5.60m to 5.62m 60minutes

Notes : For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.
Scale 1 : 50

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

Borehole 9
Sheet 1 of 1

11/07/2001 15:36:25 ESGLog v2.09

Borehole Log

Exploration Associates

Drilled by MM Logged by ASH Checked by RP	Equipment and Methods Cable Percussion 150 mm diameter from 0.00m to 7.55m.	Ground Level National Grid Coordinates	+115.56 m OD E 16275.14 N 23044.58

Samples and Tests

Depth	Type & No.	Records	Date Casing	Time Water
			16/05/2001	
0.40 - 1.00	B1			
1.00 - 1.45	U2	76 blows		
1.55	D3			
2.00 - 2.45	U4	96 blows	2.00	dry
2.55	D5			
3.00 - 3.45	U6	96 blows	3.00	dry
3.55	D7			
			16/05/2001 3.00	dry
			17/05/2001 3.00	dry
4.00 - 4.45	U8	150 blows	3.00	dry
4.55	D9			
5.00 - 5.45	U10	150 blows	5.00	dry
5.55	D11			
6.00 - 6.45	U12	150 blows	6.00	dry
6.55	D13			
7.00 - 7.45	U14	150 blows	6.00	dry
			17/05/2001 6.00	dry
7.55	D15			

Strata

Description	Depth,Level (Thickness)	Legend
Turf over TOPSOIL (driller's description).	(0.40)	a
	0.40 +115.16	
Stiff brown gravelly CLAY. Gravel is subangular and subrounded fine to coarse occasionally of sandstone.	(1.50)	
	1.90 +113.66	
Stiff to very stiff brown gravelly CLAY. Gravel is subangular and subrounded fine to coarse.	(5.65pen)	
EXPLORATORY HOLE ENDS AT 7.55 m.	7.55 +108.01	

Groundwater
No groundwater encountered.

Remarks
Chiselling : 4.70m to 4.80m 30minutes, 5.80m to 6.00m 45minutes, 6.80m to 6.90m 30minutes
Hole backfill : 0.00m to 7.55m Arisings (a).

Notes : For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.
Scale 1 : 50

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

Borehole 10
Sheet 1 of 1

17/07/2001 10:32:39 ESGLog v2.09
17/07/2001 15:36:27 ESGLog v2.09

Borehole Log

Exploration Associates

Drilled by	MM	Equipment and Methods	Ground Level +118.85 m OD
Logged by	GD	Cable Percussion 150 mm diameter from 0.00m to 6.64m.	National Grid Coordinates E 16582.43 N 23511.97
Checked by	RP		

Samples and Tests

Depth	Type & No.	Records	Date Casing	Time Water
0.20 - 1.00	B1		11/05/2001	
1.50 - 2.00	B2			
2.50 - 2.95	U3	135 blows No recovery	2.50	dry
2.50 - 3.00	B4			
3.00 - 3.45	U5	150 blows 112mm recovered	3.00	dry
3.50 - 3.95	U6	125 blows	3.00	dry
3.50	D7		11/05/2001 3.00	dry
			14/05/2001 3.00	dry
4.00	D8			
4.00 - 4.45	U9	125 blows 337mm recovered	3.00	dry
4.55	D10			
4.60 - 5.05	U11	133 blows 337mm recovered	3.00	dry
5.15	D12			
5.20 - 5.65	U13	140 blows	3.00	dry
5.75	D14			
5.80 - 6.25	U15	140 blows	3.00	dry
			14/05/2001 3.00	dry
6.35	D16			
6.50 - 6.52	D17	S,SW = 0,50 25 for 10mm,/50 for 10mm	3.00	dry
6.60 - 6.62	D18	S,SW = 0,50 25 for 10mm,/50 for 10mm	3.00	dry

Strata

Description	Depth,Level (Thickness)
MADE GROUND: Brown slightly clayey sandy angular and subangular fine to coarse gravel. Sand is fine to coarse. With whole, half and fragments of brick.	(2.30)
	2.30 +116.55
Firm brown gravelly CLAY. Gravel is subangular and subrounded fine to coarse.	(4.20)
Weak weathered grey MUDSTONE.	6.50 +112.35
EXPLORATORY HOLE ENDS AT 6.64 m.	6.64 +112.21

Legend: a; 1; 1; b

Groundwater

No.	Struck	Behaviour
1	1.50m	Rising to 1.25m after 20 mins. Sealed 2.70.

Remarks

Chiselling : 5.15m to 5.20m 30minutes, 6.50m to 6.60m 60minutes
Hole backfill : 0.00m to 4.80m Arisings (a), 4.80m to 5.80m Bentonite (b). Surface protection : Stop Cock Cover
Standpipe Piezometer installed, 19mm diameter, response zone from 5.80m to 6.64m.

Notes : For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.
Scale 1 : 50

Project: BYRKLEY PARK
Project no.: 121070
Carried out for: Football Association

Borehole 12
Sheet 1 of 1

10/05/2001 13:15:23 ESGLog v2.10

Borehole Log

Exploration Associates

Drilled by AH Logged by ASH Checked by RP	Equipment and Methods Cable Percussion 150 mm diameter from 0.00m to 9.50m. Rotary Cored 150 mm diameter from 9.00m to 17.30m.	Ground Level National Grid Coordinates	+118.70 m OD E 16585.97 N 23510.61

Samples and Tests

Depth	Type & No.	Records	Date / Casing	Time / Water
			22/05/2001	
9.00 - 10.50m	67 67 0	0		

Depth	TCR SCR RQD	If	Records	Date / Casing	Time / Water

Strata

Description	Depth,Level (Thickness)
MADE GROUND: Loose brown gravelly clay. Gravel is of brick. (driller's description)	(1.95)
	1.95 +116.75
Firm to stiff brown boulder CLAY with occasional rounded cobbles	(7.05)
	9.00 +109.70
Stiff reddish brown sandy gravelly cobbly CLAY. Gravel and cobbles are subangular to subrounded fine to coarse including quartz and sandstone From 10.40m: greyish brown with lithorelicts	(1.50)

Legend

Groundwater
No groundwater encountered

Remarks
Chiselling : 9.30m to 9.50m 45minutes

Notes : For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.
Scale 1 : 50

Project SYRKLEY PARK
Project no. 121070
Carried out for Football Association

Borehole 12A
Sheet 1 of 2

11/07/2001 15:36:34 ESGLog v2.09

Borehole Log

Exploration Associates

Drilled by AH Logged by ASH Checked by RP	Equipment and Methods See sheet 1	Ground Level National Grid Coordinates	+118.70 m OD E 16585.97 N 23510.61

Samples and Tests

Depth	TCR SCR RQD	If	Records	Date Casing	Time Water
9.00 - 10.50m	67 67 0	0			
10.50 - 10.66			S,SW = 0,50 25,/50 for 85mm		
10.50 - 12.00m	90 87 33	100 250 400			
12.00 - 12.16			S,SW = 0,50 25,/50 for 85mm		
12.00 - 13.30m	81 73 23	20 40 100			
13.30 - 13.44			S,SW = 0,50 25,/50 for 68mm		
13.30 - 14.80m	100 47 27	10 30 50			
14.80 - 14.95		100 150 200	S,SW = 0,50 25,/50 for 74mm		
14.80 - 16.30m	93 87 53	80 115 150			
16.30 - 16.34			S,SW = 0 50 for 42mm.		
16.30 - 17.30m	95 85 70	150 250 350		23/05/2001	

Strata

Description	Depth,Level (Thickness)	Legend
As sheet 1	(1.50)	
Grey and reddish brown highly weathered thickly laminated MUDSTONE, recovered as stiff slightly sandy gravelly clay/clayey gravel. Rare dark siltstone interbeds. Locally brown stained Below 11.80m:slightly to moderately weathered,locally slightly clayey Below 12.10m: to 12.20m:gravel and corestones Below 12.20m:slightly weathered, weak, closely to very closely spaced	10.50 +108.20 (2.20)	
Reddish brown, slightly weathered thickly laminated MUDSTONE/SILTSTONE, weak to moderately weak. Closely to very closely spaced subhorizontal discontinuities with occasional brown staining. Below 14.20m:grey slightly weathered, thickly laminated closely to medium spaced Below 14.80m:red brown closely to medium spaced Below 16.40m: medium spaced to 17.10m From 16.90m to 17.05m:light red brown, grey slightly clayey	12.70 +106.00 (4.60pen)	
EXPLORATORY HOLE ENDS AT 17.30 m.	17.30 +101.40	

Groundwater

Remarks

Notes : For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.
Scale 1 : 50

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

Borehole 12A
Sheet 2 of 2

11/07/2001 15:36:37 ESGLog v2.09

Borehole Log

Exploration Associates

Drilled by AH Logged by ASH Checked by RP	Equipment and Methods Cable Percussion 150 mm diameter from 0.00m to 10.70m.	Ground Level National Grid Coordinates	+118.68 m OD E 16589.88 N 23510.87

Samples and Tests

Depth	Type & No.	Records	Date Casing	Time Water
			24/05/2001	
0.30 - 1.00	B1			
2.00 - 2.60	B2			
3.00 - 3.45 3.00 - 4.00	U3 D4	130 blows	3.00	2.80
4.00 - 4.45	U5	150 blows 337mm recovered	3.00	
4.55	D6			
5.00 - 5.45	U7	150 blows 360mm recovered	3.00	dry
5.55	D8			
6.00 - 6.45	U9	150 blows 225mm recovered	3.00	dry
6.55	D10			
7.00 - 7.45	U11	150 blows 337mm recovered	3.00	dry
7.55	D12			
8.00 - 8.45	U13	150 blows	3.00	dry
8.55	D14			
9.00 - 9.45	U15	150 blows 315mm recovered	3.00	dry
9.55	D16			

Strata

Description	Depth,Level (Thickness)
MADE GROUND: Loose brown clayey gravel. Gravel is of brick. (driller's despcription)	(2.65)
	2.65 +116.03
Very stiff reddish brown slightly gravelly CLAY. Gravel is subrouded, fine and medium mudstone.	(7.95)

Legend: 1 ▽ 1 ▼

Groundwater

No.	Struck	Behaviour
1	1.60m	Rising to 1.30m after 20 mins. Sealed 3.00.

Remarks

Chiselling : 1.20m to 1.40m 30minutes

Notes : For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.
Scale 1 : 50

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

Borehole 13
Sheet 1 of 2

10/09/2001 13:15:26 ESGLog v2.10

Borehole Log

Exploration Associates

Drilled by	AH	Equipment and Methods	Ground Level +118.68 m OD
Logged by	ASH	See sheet 1	National Grid E 16589.88
Checked by	RP		Coordinates N 23510.87

Samples and Tests

Depth	Type & No.	Records	Date / Casing	Time / Water
10.00 - 10.45 10.00 - 10.20	U18 B17	150 blows	3.00	
10.70	D19		24/05/2001	

Strata

Description	Depth,Level (Thickness)	Legend
As sheet 1	(7.95)	
Soft to firm green slightly gravelly CLAY. Gravel is subrounded to angular, fine to coarse, of mudstone.	10.60 +108.08	
EXPLORATORY HOLE ENDS AT 10.70 m.	10.70 +107.98	

Groundwater
No. Struck Behaviour

Remarks

Notes : For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.
Scale 1 : 50

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

Borehole 13
Sheet 2 of 2

10/09/2001 13:15:27 ESGLog v2.10

Borehole Log

Exploration Associates

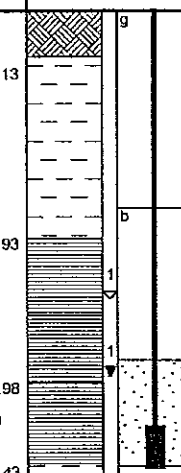
Drilled by	AH	Equipment and Methods	Ground Level +114.43 m OD
Logged by	ASH	Cable Percussion 150 mm diameter from 0.00m to 3.00m.	National Grid Coordinates E 16826.52 N 23669.01
Checked by	RP		

Samples and Tests

Strata

Depth	Type & No.	Records	Date / Casing	Time / Water	Description	Depth,Level (Thickness)
			10/05/2001		Turf over loose brown subsoil (driller's description).	(0.30) 0.30 +114.13
					Firm to stiff brown boulder CLAY with small round cobbles (driller's description).	(1.20) 1.50 +112.93
					Firm grey mottled MUDSTONE (driller's description).	(0.95) 2.45 +111.98
			10/05/2001 2.00	1.90	Weathered grey MUDSTONE (driller's description).	(0.55pen) 3.00 +111.43
					EXPLORATORY HOLE ENDS AT 3.00 m.	

Legend



Groundwater

No.	Struck	Behaviour
1	2.40m	Rising to 1.90m after 20 mins.

Remarks

No samples of strata within borehole taken as piezometer installation only required.
Hole backfill : 0.00m to 1.30m Grout (g), 1.30m to 2.30m Bentonite (b). Surface protection : Stop Cock Cover
Standpipe Piezometer installed, 19mm diameter, response zone from 2.30m to 3.00m.

Notes : For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.
Scale 1 : 50

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

Borehole 14
Sheet 1 of 1

10/09/2001 13:15:29 ESGLog v2.10

ENCLOSURE B

Instrumentation Readings

Instrument Monitoring

Exploration Associates

Hole No	Inst Type	Tip Depth (m BGL)	Observation		Depth to Water (m BGL)	Head Above Tip (m)	Remarks
			Date	Time			
11	SP	3.74	24/05/2001		1.47		
			12/06/2001		2.53		
12	SP	6.64	24/05/2001		5.23		
			12/06/2001		4.80		
14	SP	3.00	24/05/2001		1.21		
			12/06/2001		1.06		
1A	SP	4.50	24/05/2001		2.84		
			12/06/2001		3.00		
2R	SP	7.00	24/05/2001		2.72		
			12/06/2001		3.08		
5B	SP	9.00	24/05/2001		7.20		
			12/06/2001		7.00		
6	SP	6.83	24/05/2001		2.12		
			12/06/2001		3.19		
7	SP	7.70	24/05/2001		6.92		
			12/06/2001		7.51		

Notes
Type : SP - Standpipe, SPIE - Standpipe Piezometer,
HPIE - Hydraulic Piezometer, PPIE - Pneumatic Piezometer,
EPIE - Vibrating Wire Piezometer, PWEL - Pumping Well

Project BYRKLEY PARK
Project no. 121070
Carried out for Football Association

ENCLOSURE C

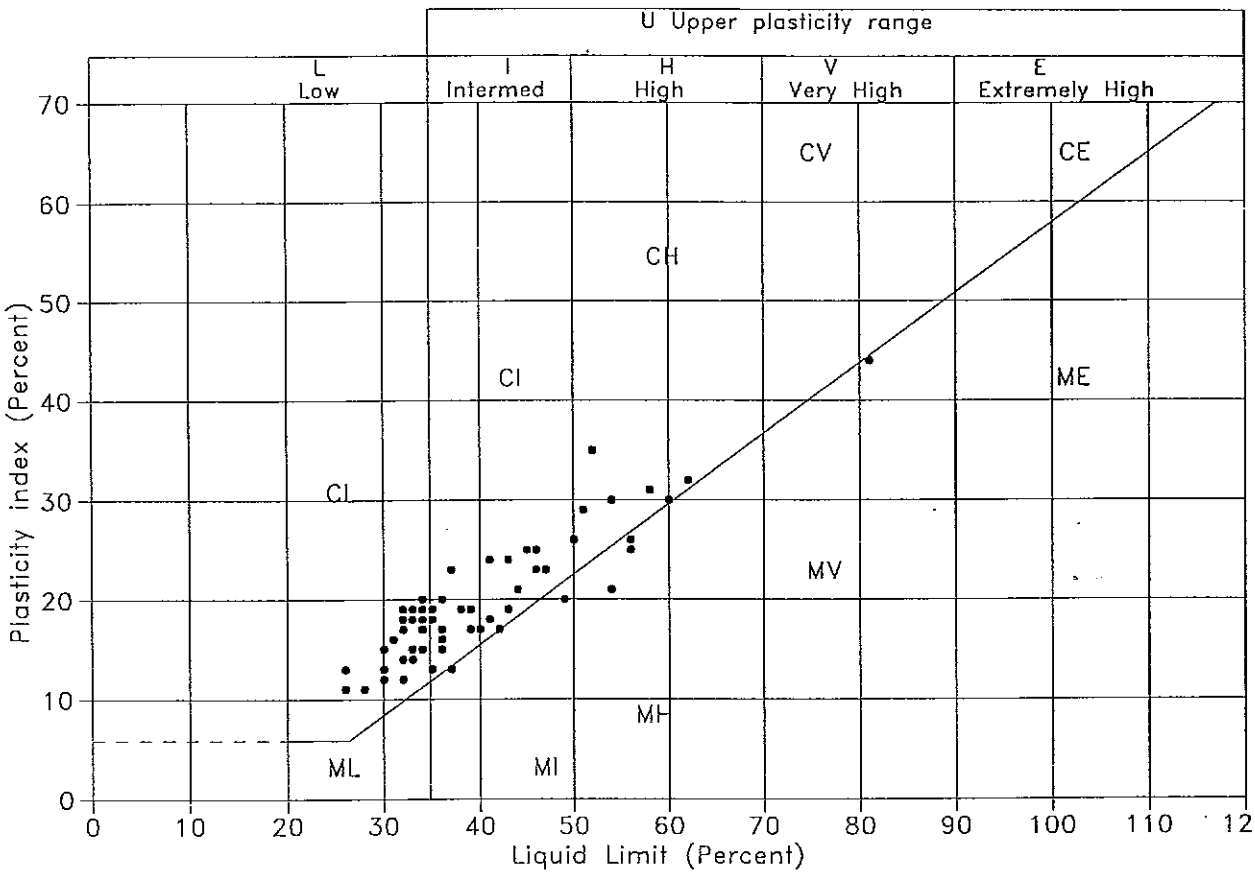
Laboratory Test Results

Key to Laboratory Test Results

Exploration Associates

U	Undisturbed Sample
P	Piston Sample
TWS	Thin Wall Sample
B	Bulk Sample - Disturbed
D	Jar Sample - Disturbed
W	Water Sample
pH	Acidity/Alkalinity Index
SO_3	% - Total Sulphate Content (acid soluble)
SO_3	g/ltr - Water Soluble Sulphate (Water or 2:1 Aqueous Soil Extract)
+	Calcareous Reaction
Cl	Chloride Content
I_p	Plasticity Index
<425	% of material in sample passing 425 micron sieve
w_L	Liquid Limit
w_p	Plastic Limit
w	Water Content
NP	Non Plastic
γ_b	Bulk Density
γ_d	Dry Density
Ps	Particle Density
U/D	Undrained/Drained Triaxial
U/C	Unconsolidated/Consolidated Triaxial
T/M	Single Stage/Multistage Triaxial
100/38	Sample Diameter (mm)
REM	Remoulded Triaxial Test Specimen
TST	Triaxial Suction Test
V	Vane Test
DSB	Drained Shear Box
RSB	Residual Shear Box
RS	Ring Shear
σ_3	Cell Pressure
σ_1-σ_3	Deviator Stress
c	Cohesion
c'	Effective Cohesion Intercept
ϕ	Angle of Shearing Resistance - Degrees
ϕ'	Effective Angle of Shearing Resistance
εf	Strain at Failure
*	Failed under 1st Load
**	Failed under 2nd Load
#	Untestable
##	Excessive Strain
p'o	Effective Overburden Pressure
m_v	Coefficient of Volume Decrease
c_v	Coefficient of Consolidation
Opt	Optimum
Nat	Natural
Std	Standard Compaction - 2.5kg Rammer (¶ CBR)
Hvy	Heavy Compaction - 4.5kg Rammer (§ CBR)
Vib	Vibratory Compaction
CBR	California Bearing Ratio
Sat m.c.	Saturation Moisture Content
MCV	Moisture Condition Value

Notes:	Project: National Football Centre, Byrkley Park Project No.: 121070 Carried out for: The Football Association	Figure



Liquid Limit Versus Plasticity Index	Project BYRKLEY PARK Football Association	Contract 121070
Exploration Associates		Figure LLvPI

Exploration Associates

LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_p %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
1	0.30 - 0.30	B	Red cand orangish brown with a little grey mottling slightly sandy gravelly CLAY																	6.5	(0.04)		
1	1.00 - 1.45	U	Stiff red and orangish brown with a little grey mottling slightly sandy gravelly CLAY	82% 43	425 19	Sieve 24	15	2.22	UUT 102	200	88												Failure Mode: Plastic
1	2.00 - 3.00	B	Reddish brown with bluish grey veining slightly sandy very gravelly CLAY																	8.3	(0.04)		
1	3.00 - 3.45	U	Reddish brown with bluish grey veining slightly sandy very gravelly CLAY	81% 32	425 14	Sieve 18	16		UUT 102	Untestable													
2	1.00 - 1.45	U	Orangish brown and grey mottled CLAY				23	1.88 DD=1.53															
3	0.25 - 1.00	B	Dark yellowish brown and grey mottled slightly sandy slightly gravelly CLAY																	4.4	(0.04)		
3	1.00 - 1.45	U	Stiff reddish brown with grey mottling sandy gravelly CLAY	73% 33	425 19	Sieve 14	15	2.14	UUT 102	200	135												Failure Mode: Plastic
4	1.00 - 1.45	U	Soft red and orangish brown with light grey mottling slightly gravelly sandy CLAY	61% 45	425 20	Sieve 25	14	2.13	UUT 102	200	31												Failure Mode: Compound Ps = 2.62 measured
4	3.00 - 3.45	U	Soft reddish brown slightly sandy gravelly CLAY	85% 32	425 13	Sieve 19	18	2.22	UUT 102	200	24												Failure Mode: Compound

NOTES

For full explanation of symbols please see key sheet

SHEAR STRENGTH - U/C: Unconsolidated/Consolidated U/D: Undrained/Drained Δ with P.W.P. measurement Diameter in mm
T: Single Stage Triaxial M: Multistage Triaxial REM: Remoulded REC: Reconstituted V: Vane SB: Shear Box (resid)

CONSOLIDATION - m_v and c_v given for load increment of 100kPa above assumed overburden pressure

COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

Project

BYRKLEY PARK
Football Association

Form 40/4

Contract

121070

Sheet

L1/1

Exploration Associates

LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_p %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
5	0.20 - 0.90	B	MADE GROUND: Greyish brown slightly gravelly very sandy clay																	8.1	(0.02)		
5	1.00 - 1.45	U	MADE GROUND: Very soft greyish brown slightly gravelly very sandy clay	55% 37	425 14	Sieve 23	11	1.99	UUT 102	200	17												Failure Mode: Compound
5	2.00 - 2.90	B	MADE GROUND: Greyish brown slightly gravelly very sandy clay																	9.0	(0.04)		
5	3.00 - 3.45	U	Stiff reddish brown sandy gravelly CLAY	82% 37	425 14	Sieve 23	18	2.06	UUT 102	200	84												Failure Mode: Plastic Ps = 2.67 measured
5	5.00 - 5.45	U	Very stiff reddish brown sandy gravelly CLAY	81% 34	425 14	Sieve 20	11	1.97	UUT 102	200	163												Failure Mode: Plastic
6	0.40 - 1.00	B	MADE GROUND: Dark brown gravelly clay																	6.8	(0.04)		
6	1.00 - 1.45	U	Brown gravelly CLAY	79% 43	425 24	Sieve 19			UUT 102	Untestable													
6	1.60 - 2.05	U	Brown gravelly CLAY	83% 28	425 17	Sieve 11	10		UUT 102	Untestable													
6	2.20 - 2.65	U	Firm brown gravelly CLAY	57% 32	425 20	Sieve 12	15	2.18	UUT 102	200	69												Failure Mode: Plastic Ps = 2.61 measured
6	2.80 - 3.25	U	Very stiff brown gravelly CLAY	81% 30	425 17	Sieve 13	8.9	2.18	UUT 102	200	200												Failure Mode: Plastic

NOTES

For full explanation of symbols please see key sheet

SHEAR STRENGTH - U/C: Unconsolidated/Consolidated U/D: Undrained/Drained Λ with P.W.P. measurement Diameter in mm
T: Single Stage Triaxial M: Multistage Triaxial REM: Remoulded REC: Reconstituted V: Vane SB: Shear Box (resid)

CONSOLIDATION - m_v and c_v given for load increment of 100kPa above assumed overburden pressure

COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

Project

BYRKLEY PARK
Football Association

Form 40/4

Contract 121070

Sheet L1/2

Exploration Associates

LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_p %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
6	3.40 - 3.85	U	Very stiff brown gravelly CLAY	70% 33	425 14	Sieve 19	12	2.26	UUT 102	200	254												Failure Mode: Plastic Ps = 2.66 measured
6	4.60 - 5.05	U	Brown gravelly CLAY				7.1	2.37 DD=2.21															
6	5.20 - 5.65	U	Very stiff brown gravelly CLAY	81% 32	425 13	Sieve 19	11	2.27	UUT 102	200	252												Failure Mode: Brittle
7	0.40 - 1.00	B	Brown gravelly CLAY																	7.0	(0.02)		
7	1.00 - 1.45	U	Firm brown gravelly CLAY	67% 41	425 23	Sieve 18	17	2.02	UUT 102	200	71												Failure Mode: Brittle
7	2.00 - 2.45	D	Brown gravelly CLAY																	7.9	(0.04)		
7	3.00 - 3.45	U	Very stiff brown gravelly CLAY	92% 41	425 17	Sieve 24	16	2.16	UUT 102	200	240												Failure Mode: Plastic Ps = 2.71 measured
7	5.00 - 5.45	U	Stiff brown gravelly CLAY	81% 37	425 24	Sieve 13	20	2.07	UUT 102	200	92												Failure Mode: Brittle
7	7.00 - 7.45	U	Brown gravelly CLAY	52% 35	425 17	Sieve 18	12																
8	1.00 - 1.45	U	Red, orangish brown and light grey mottled slightly sandy gravelly CLAY				18	2.13 DD=1.80															

NOTES

For full explanation of symbols please see key sheet

SHEAR STRENGTH - U/C: Unconsolidated/Consolidated U/D: Undrained/Drained Λ with P.W.P. measurement Diameter in mm
T: Single Stage Triaxial M: Multistage Triaxial REM: Remoulded REC: Reconstituted V: Vane SB: Shear Box (resid)

CONSOLIDATION - m_v and c_v given for load increment of 100kPa above assumed overburden pressure

COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

Project
BYRKLEY PARK
Football Association

Contract
121070

Sheet
L1/3

Form 40/4

Exploration Associates

LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_p %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	ø ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
8	2.00 - 2.45	U	Reddish brown slightly sandy gravelly CLAY	83% 35	425 Sieve 16	19	14																
8	3.00 - 3.45	U	Reddish brown slightly sandy gravelly CLAY	82% 36	425 Sieve 21	15	13	1.93 DD=2.00	UUT 102	200	123												Failure Mode: Brittle
8	4.00 - 4.45	U	Reddish brown slightly sandy gravelly CLAY				15	2.16 DD=1.88															
8	5.00 - 5.45	U	Reddish brown slightly sandy gravelly CLAY				16																
9	0.30 - 1.00	B	Reddish brown with bluish grey veining slightly gravelly sandy CLAY																	7.7	(0.02)		
9	1.00 - 1.45	U	Firm reddish brown with bluish grey veining slightly gravelly sandy CLAY	92% 56	425 Sieve 31	25	25	2.05	UUT 102	200	54												UUT - Failed Failure Mode: Brittle
9	2.00 - 3.00	B	Slightly sandy very clayey GRAVEL																	6.9	(0.04)		
10	4.00 - 4.45	U	Brown gravelly CLAY	72% 26	425 Sieve 13	13	11		UUT 102	Untestable													
10	5.00 - 5.45	U	Stiff brown gravelly CLAY	79% 30	425 Sieve 18	12	14	2.28	UUT 102	200	106												Failure Mode: Plastic
10	6.00 - 6.45	U	Brown gravelly CLAY	86% 26	425 Sieve 15	11	11		UUT 102	Untestable													

NOTES For full explanation of symbols please see key sheet

SHEAR STRENGTH - U/C: Unconsolidated/Consolidated U/D: Undrained/Drained Λ with P.W.P. measurement Diameter in mm
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CONSOLIDATION - m_v and c_v given for load increment of 100kPa above assumed overburden pressure

COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

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LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_P %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
10	7.00 - 7.45	U	Brown gravelly CLAY					2.34															
							10	DD=2.13															
11	0.30 - 1.00	B	Brown gravelly CLAY																	6.3	(0.04)		
11	3.50 - 3.70	B	Green and greyish brown mottled MUDSTONE																	7.8	(0.04)		
12	2.50 - 2.95	U	Brown gravelly CLAY	70%	425	Sieve																	
				38	19	19	34																
12	3.00 - 3.45	U	Brown gravelly CLAY	87%	425	Sieve		1.79															
				33	14	19	19	DD=1.50															
12	3.50 - 3.95	U	Brown gravelly CLAY	85%	425	Sieve		2.30															
				31	15	16	12	DD=2.05															
12	4.00 - 4.45	U	Brown gravelly CLAY	84%	425	Sieve		1.94															
				33	18	15	27	DD=1.53															
12	4.60 - 5.05	U	Brown gravelly CLAY	85%	425	Sieve																	
				34	15	19	19																
12	5.80 - 6.25	U	Brown gravelly CLAY	86%	425	Sieve		2.26															
				32	15	17	14	DD=1.99															
13	3.00 - 3.45	U	Reddish brown slightly gravelly CLAY	84%	425	Sieve																	
				36	19	17	17																

NOTES

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CONSOLIDATION - m_v and c_v given for load increment of 100kPa above assumed overburden pressure

COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

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LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_p %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
13	4.00 - 4.45	U	Reddish brown slightly gravelly CLAY	86% 34	425 Sieve 19	15	19	2.35 DD=1.97															
13	5.00 - 5.45	U	Reddish brown slightly gravelly CLAY	86% 32	425 Sieve 14	18	14	2.48 DD=2.18															
13	6.00 - 6.45	U	Reddish brown slightly gravelly CLAY	87% 33	425 Sieve 15	18	13	2.00 DD=1.78															
13	7.00 - 7.45	U	Reddish brown slightly gravelly CLAY	84% 34	425 Sieve 16	18	14	1.99 DD=1.74															
13	8.00 - 8.45	U	Reddish brown slightly gravelly CLAY	87% 32	Other 18	14	9.2	2.09 DD=1.91															
13	9.00 - 9.45	U	Reddish brown slightly gravelly CLAY	88% 34	425 Sieve 15	19	19	1.66 DD=1.40															
13	10.00- 10.45	U	Reddish brown slightly gravelly CLAY	89% 35	425 Sieve 17	18	12																
TP1	1.20 - 1.30	D	Orangish grey sandy gravelly CLAY	i			16																

NOTES

For full explanation of symbols please see key sheet

SHEAR STRENGTH - U/C: Unconsolidated/Consolidated U/D: Undrained/Drained Λ with P.W.P. measurement Diameter in mm
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CONSOLIDATION - m_v and c_v given for load increment of 100kPa above assumed overburden pressure

COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

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LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH					CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_p %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.		m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
TP1	1.20 - 1.30	B	Orangish grey sandy gravelly CLAY	78%	425 Sieve											Std		(15)	(1.84)					PSD : CL(/+)SI/SA/GR
				41	17	24	15		REM	50	60					Std		10	1.69					31%/26%/25%/17%
							14	1.95	REM	50	103					Std		14	1.76					Comp/CBR %> 20mm=2.5 37.5mm=0
							15	2.0	REM	50	77					Std		15	1.83					MCV % > 20mm = 8.1
							17	2.1	REM	50	39					Std		17	1.81					
							19	1.95								Std		19	1.73					
																MCV		16	1.91	12.7				
TP1	2.90 - 3.00	B	Orange and red slightly sandy gravelly CLAY													Hvy		(10)	(2.09)					Comp/CBR %> 20mm=4.8 37.5mm=0
																Hvy		<13>	1.99					MCV % > 20mm = 0.0
																Hvy		18	1.82					
																Hvy		16	1.87					
																Hvy		9.3	2.09					
																Hvy		9.1	2.07					
																MCV		12	1.48	13.6				
																MCV		15	1.51	8.4				
																MCV		14	1.52	3.0				
																MCV		8.7	1.51	17.0				
TP1	3.20 - 3.30	B	Reddish brown sandy gravelly CLAY	80%	425 Sieve																			PSD : CL(/+)SI/SA/GR
				36	20	16	14																	26%/33%/25%/16%
TP1	3.50 - 3.50	D	One large SILTSTONE																					
							20																	

NOTES — For full explanation of symbols please see key sheet

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CONSOLIDATION - m_v and c_v given for load increment of 100kPa above assumed overburden pressure

COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

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LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_p %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
TP2A	0.80 - 0.80	B	Orange, red and grey slightly gravelly sandy CLAY	83%	425	Sieve									Std		(20)	(1.69)					PSD : CL(/+)SI/SA/GR
				56	30	26	26		REM	50	179				Std		10	1.55					40%/23%/25%/12%
							17	1.91	REM	50	159				Std		17	1.57					Comp/CBR %> 20mm=2.3 37.5mm=(
							18	1.98	REM	50	86				Std		18	1.64					MCV % > 20mm = 0.0
							21	2.12	REM	50	55				Std		21	1.68					
							23	2.08	REM	50	41				Std		23	1.61					
							26	1.99							Std		26	1.52					
															MCV		14	1.91	16.5				
															MCV		18	1.84	14.4				
															MCV		21	1.73	10.3				
															MCV		23	1.67	8.2				
															MCV		26	1.57	5.9				
TP2A	0.80 - 0.80	D	Orange and reddish grey slightly sandy gravelly CLAY				19																
TP2A	1.90 - 2.50	B	Greyish blue slightly sandy CLAY	100%	425	Sieve																	PSD : CL(/+)SI/SA/GR
				42	25	17	24																27%/73%/1%/0%
TP2A	1.90 - 2.00	D	Bluish grey gravelly CLAY				21																

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COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

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LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_p %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
TP4	0.30 - 0.40	B	Orange mottled yellow slightly gravelly sandy CLAY	90%	425 Sieve				REM	50	431				Std		(24)	(1.60)					PSD : CL(/+)SI/SA/GR
				62	30	32	28		REM	50	224				Std		18	1.51					49%/22%/22%/7%
									REM	50	175				Std		22	1.58					Comp/CBR %> 20mm=0.9 37.5mm=
									REM	50	815				Std		25	1.58					Comp/CBR %> 20mm=0.9 37.5mm=
															Std		24	1.60					MCV % > 20mm = 0.0
									REM	50	643				Hvy		(18)	(1.79)					
									REM	50	431				Hvy		16	1.78					
									REM	50	224				Hvy		18	1.80					
									REM	50	175				Hvy		19	1.73					
									REM	50	815				Hvy		20	1.71					
															Hvy		13	1.76					
															MCV		29	1.53	9.2				
TP4	0.30 - 0.40	D	Orange mottled yellow slightly sandy gravelly CLAY				25																
TP4	0.70 - 0.80	B	Orangish grey slightly sandy slightly gravelly CLAY	98%	425 Sieve																		PSD : CL(/+)SI/SA/GR
				81	37	44	36																75%/19%/5%/1%
TP4	0.70 - 0.80	D	Orangish grey slightly gravelly slightly sandy CLAY				35																
TP4	1.50 - 1.60	B	Bluish grey slightly sandy gravelly CLAY	89%	425 Sieve																		PSD : CL(/+)SI/SA/GR
				42	25	17	34																30%/57%/1%/11%
TP4	1.50 - 1.60	D	Bluish grey slightly sandy gravelly CLAY				26																

NOTES

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COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

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LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_p %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
TP4B	1.00 - 1.40	B	Grey clayey GRAVEL of mudstone												Hvy		(15)	(1.82)					Comp/CBR %> 20mm=13.6 37.5mm=
															Hvy		<20>	1.77					MCV % > 20mm = 0.0
															Hvy		23	1.66					
															Hvy		15	1.82					
															Hvy		13	1.79					
															Hvy		10	1.80					
															MCV		19	1.44	12.2				
															MCV		23	1.44	6.2				
															MCV		15	1.55	18.0				
															MCV		12	1.76	14.8				
TP5	0.30 - 0.40	B	Orange slightly gravelly sandy CLAY	89%	425	Sieve																	PSD : CL(/+)SI/SA/GR
				51	22	29	27																40%/27%/26%/6%
TP5	0.30 - 0.40	D	Orange slightly gravelly sandy CLAY				29																
TP5	0.70 - 0.80	B	Dark orangish brown and reddish brown mottled grey	76%	425	Sieve									Hvy		(11)	(2.01)					PSD : CL(/+)SI/SA/GR
			sandy gravelly CLAY	44	23	21	14								Hvy		<19>	1.77					28%/23%/29%/20%
															Hvy		14	1.95					Comp/CBR %> 20mm=4.7 37.5mm=
															Hvy		12	2.00					MCV % > 20mm = 0.0
															Hvy		10	2.00					
															Hvy		8.0	1.95					
															MCV		16	1.48	10.5				
															MCV		12	1.47	15.4				
															MCV		12	1.46	16.9				
															MCV		9.6	1.53	18.0				

NOTES

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Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

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LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_p %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
TP5	0.70 - 0.80	D	Dark orangish brown and reddish brown mottled grey sandy gravelly CLAY				13																
TP5	1.70 - 1.80	B	Dark reddish brown and grey mottled slightly gravelly sandy CLAY	81% 36	425 16	Sieve 20	16								Hvy		(9.0)	(2.12)					PSD : CL(/+)SI/SA/GR
															Hvy		<16>	1.90					30%/24%/32%/15%
															Hvy		20	1.74					Comp/CBR %> 20mm=4.7 37.5mm=0
															Hvy		12	2.03					MCV % > 20mm = 0.0
															Hvy		8.4	2.12					
															Hvy		6.1	2.01					
															MCV		12	1.47	10.3				
															MCV		16	1.54	4.1				
															MCV		11	1.46	15.2				
															MCV		8.8	1.48	18.0				
TP5	1.70 - 1.80	D	Dark reddish brown and grey slightly sandy gravelly CLAY				13																
TP5	3.60 - 3.80	B	Slightly gravelly sandy CLAY	85% 30	425 15	Sieve 15	12																PSD : CL(/+)SI/SA/GR 24%/34%/33%/9%
TP5	3.60 - 3.70	D	Reddish brown sandy gravelly CLAY				13																
TP6	0.30 - 0.30	B	Orange and yellow mottled slightly gravelly sandy CLAY	93% 35	425 22	Sieve 13	24																PSD : CL(/+)SI/SA/GR 38%/28%/29%/5%
TP6	0.30 - 0.30	D	Orange and yellow gravelly CLAY				26																

NOTES

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COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

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SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_p %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
TP6	0.60 - 0.70	B	Orange and red slightly gravelly sandy CLAY	95%	425 Sieve																		PSD : CL(/+)SI/SA/GR
				39	22	17	22																38%/26%/33%/3%
TP6	0.60 - 0.70	D	Orange and red slightly gravelly sandy CLAY				22																
TP6	1.50 - 1.60	B	Reddish brown mottled grey slightly gravelly sandy CLAY	85%	425 Sieve										Hvy		(11)	(2.03)					PSD : CL(/+)SI/SA/GR
				50	24	26	22								Hvy		<17>	1.85					36%/27%/26%/11%
															Hvy		21	1.70					Comp/CBR %> 20mm=2.8 37.5mm=0
															Hvy		14	1.93					MCV % > 20mm = 0.0
															Hvy		11	2.03					
															Hvy		7.8	1.95					
															MCV		15	1.48	12.2				
															MCV		18	1.51	7.8				
															MCV		14	1.46	16.0				
															MCV		9.8	1.48	18.0				
TP6	1.50 - 1.60	D	Reddish brown mottled grey slightly gravelly sandy CLAY				19																
TP6	2.40 - 2.40	B	Reddish brown slightly gravelly sandy CLAY	68%	425 Sieve																		PSD : CL(/+)SI/SA/GR
				34	16	18	17																26%/43%/27%/5%
TP6	2.40 - 2.40	D	Reddish brown slightly gravelly sandy CLAY				14																
TP8	0.50 - 0.60	B	Dark orangish brown mottled grey slightly gravelly slightly sandy CLAY	91%	425 Sieve																		PSD : CL(/+)SI/SA/GR
				54	24	30	25																47%/29%/18%/6%

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SHEAR STRENGTH - U/C: Unconsolidated/Consolidated U/D: Undrained/Drained Λ with P.W.P. measurement Diameter in mm
T: Single Stage Triaxial M: Multistage Triaxial REM: Remoulded REC: Reconstituted V: Vane SB: Shear Box (resid)

CONSOLIDATION - m_v and c_v given for load increment of 100kPa above assumed overburden pressure

COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

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Football Association

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Exploration Associates

LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_p %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n P'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
TP8	0.50 - 0.60	D	Dark orangish brown mottled grey gravelly CLAY				21																
TP8	1.50 - 1.60	B	Orangish brown slightly gravelly sandy CLAY	78%	425	Sieve									Hvy		(9.5)	(2.03)					PSD : CL(/+)SI/SA/GR
				40	23	17	16		REM	50	562				Hvy		7.9	1.98					26%/25%/32%/17%
									REM	50	197				Hvy		10	2.01					Comp/CBR %> 20mm=2.6 37.5mm=0
									REM	50	188				Hvy		13	1.94					MCV % > 20mm = 0.0
									REM	50	42				Hvy		14	1.93					
															Hvy		6.5	1.88					
															MCV		19	1.79	8.0				
															MCV		12	1.99	13.6				
															MCV		15	1.91	10.6				
															MCV		20	1.73	2.4				
															MCV		16	1.85	8.6				
TP8	1.50 - 1.60	D	Orangish brown slightly gravelly sandy CLAY				19																
TP8	2.90 - 3.00	B	Grey slightly sandy CLAY	99%	425	Sieve																	PSD : CL(/+)SI/SA/GR
				54	33	21	35																48%/46%/5%/0%
TP8	2.90 - 3.00	D	Dark red slightly sandy gravelly CLAY				32																

NOTES

For full explanation of symbols please see key sheet

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CONSOLIDATION - m_v and c_v given for load increment of 100kPa above assumed overburden pressure

COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

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LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_p %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
TP9	1.50 - 1.60	B	Reddish brown slightly sandy gravelly CLAY												Hvy		(11)	(2.05)					Comp/CBR %> 20mm=2.8 37.5mm=4
															Hvy		<15>	1.89					MCV % > 20mm = 0.0
															Hvy		17	1.81					
															Hvy		12	2.02					
															Hvy		11	2.05					
															Hvy		6.7	2.04					
															MCV		12	1.54	15.1				
															MCV		16	1.49	8.0				
															MCV		12	1.46	10.8				
															MCV		9.9	1.46	18.0				
TP10	0.40 - 0.50	B	Orangish brown mottled grey slightly sandy slightly gravelly CLAY	82%	425	Sieve			REM	50	299				Std		(20)	(1.67)					PSD : CL(/+)SI/SA/GR 42%/32%/9%/17%
				60	30	30	16		REM	50	174				Std		20	1.54					
							8	1.95	REM	50	94				Std		19	1.66					Comp/CBR %> 20mm=0 37.5mm=0
							19	2.04	REM	50	51				Std		23	1.64					
							23	2.07							Std		25	1.56					
							25	1.90															
TP10	0.40 - 0.50	D	Orangish brown and grey gravelly CLAY				21																

NOTES

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CONSOLIDATION - m_v and c_v given for load increment of 100kPa above assumed overburden pressure

COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

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LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_p %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n P'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
TP10	0.90 - 1.00	B	Dark reddish purple sandy gravelly CLAY	84%	425	Sieve									Hvy		(9.5)	(2.02)					PSD : CL(/+)SI/SA/GR
				44	23	21	22								Hvy		<19>	1.78					30%/28%/31%/10%
															Hvy		21	1.70					Comp/CBR %> 20mm=7.2 37.5mm=0
															Hvy		15	1.92					MCV % > 20mm = 0.0
															Hvy		13	1.99					
															Hvy		6.8	2.01					
															MCV		17	1.46	10.0				
															MCV		21	1.46	2.0				
															MCV		15	1.46	14.7				
															MCV		11	1.46	18.2				
TP10	0.90 - 1.00	D	Dark reddish purple sandy gravelly CLAY				21																
TP10	3.30 - 3.40	B	Dark reddish brown slightly gravelly sandy CLAY	85%	425	Sieve																	PSD : CL(/+)SI/SA/GR
				34	17	17	13																28%/36%/26%/11%
TP10	3.30 - 3.40	D	Dark reddish brown gravelly CLAY				20																

NOTES

For full explanation of symbols please see key sheet

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CONSOLIDATION - m_v and c_v given for load increment of 100kPa above assumed overburden pressure

COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

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LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_p %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
TP11	1.10 - 1.20	B	Orange and reddish brown slightly sandy gravelly CLAY												Hvy		(12)	(2.00)					Comp/CBR %> 20mm=2.4 37.5mm=0
															Hvy		<17>	1.85					MCV % > 20mm = 0.0
															Hvy		18	1.77					
															Hvy		13	1.98					
															Hvy		9.8	1.99					
															Hvy		7.9	1.97					
															MCV		14	1.49	11.2				
															MCV		16	1.53	9.0				
															MCV		12	1.46	18.2				
															MCV		7.3	1.68	18.0				
TP12	0.40 - 0.50	B	Orangish brown mottled grey sandy gravelly CLAY	52%	425	Sieve									Std		(11)	(1.98)					PSD : CL(/+)SI/SA/GR
				39	22	17	13		REM	50	77				Std		8.3	1.89					18%/13%/26%/43%
							11	1.91	REM	50	55				Std		11	1.94					Comp/CBR %> 20mm=2.9 37.5mm=0
							14	2.09	REM	50	53				Std		13	1.92					
							14	2.05	REM	50	92				Std		14	1.88					
							12	2.07							Std		12	1.96					
TP12	0.40 - 0.50	D	Orangish brown mottled grey sandy gravelly CLAY				18																
TP12	1.40 - 1.50	D	Reddish brown slightly gravelly sandy CLAY				12																

NOTES — For full explanation of symbols please see key sheet

SHEAR STRENGTH - U/C: Unconsolidated/Consolidated U/D: Undrained/Drained Λ with P.W.P. measurement Diameter in mm
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CONSOLIDATION - m_v and c_v given for load increment of 100kPa above assumed overburden pressure

COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

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Football Association

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LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_p %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
TP12	1.40 - 1.80	B	Orange and grey slightly sandy very gravelly CLAY	31%	425 Sieve										Hvy		(11)	(1.96)					PSD : CL(/+)SI/SA/GR
				58	27	31	15								Hvy		<19>	1.80					14%/10%/20%/56%
															Hvy		21	1.70					Comp/CBR %> 20mm=24.6 37.5mm=6
															Hvy		17	1.87					MCV % > 20mm = 0.0
															Hvy		11	1.96					
															Hvy		6.7	1.95					
															MCV		19	1.46	9.9				
															MCV		19	1.48	5.8				
															MCV		13	1.48	12.2				
															MCV		9.5	1.58	18.0				
TP12	1.80 - 1.90	D	Light orangish grey clayey sandy GRAVEL				24																
TP12	1.80 - 2.00	B	Light orangish grey clayey sandy GRAVEL	33%	425 Sieve																		PSD : CL(/+)SI/SA/GR
				49	29	20	13																14%/15%/11%/60%
TP12	3.00 - 3.10	D	Reddish brown slightly gravelly sandy CLAY				26																
TP12	3.00 - 3.10	B	Reddish brown slightly gravelly sandy CLAY	83%	425 Sieve																		PSD : CL(/+)SI/SA/GR
				46	21	25	16																30%/33%/26%/11%
TP13	0.30 - 0.50	B	Orange and grey slightly sandy slightly gravelly CLAY	94%	425 Sieve																		PSD : CL(/+)SI/SA/GR
				46	23	23	24																20%/61%/15%/4%
TP13	0.30 - 0.50	D	Orangish grey gravelly CLAY				21																

NOTES

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COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

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Football Association

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LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_p %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
TP13	1.40 - 1.50	B	Orangish grey slightly gravelly sandy CLAY	86%	425 Sieve										Std		(14)	(1.91)					PSD : CL(/+)SI/SA/GR
				39	20	19	15		REM	50	153				Std		10	1.73					27%/35%/28%/10%
									REM	50	106				Std		14	1.85					Comp/CBR %> 20mm=2.6 37.5mm=0
							4	2.13	REM	50	64				Std		14	1.88					MCV % > 20mm = 0.0
							4	2.25	REM	50	47				Std		17	1.80					
							17	2.14							Std		18	1.77					
							18	1.97							MCV		18	1.85	8.9				
TP13	1.40 - 1.70	D	Orangish grey slightly gravelly sandy CLAY				15																
TP13	2.60 - 2.80	B	Dark purplish brown mottled grey slightly gravelly sandy CLAY	80%	425 Sieve																		PSD : CL(/+)SI/SA/GR
				34	19	15	11																21%/37%/27%/16%
TP13	2.60 - 2.70	D	Dark purplish brown mottled grey slightly gravelly sandy CLAY				10																
TP14	0.90 - 1.00	B	Dark reddish brown mottled grey slightly sandy gravelly CLAY	83%	425 Sieve										Std		(16)	(1.80)					PSD : CL(/+)SI/SA/GR
				52	17	35	19		REM	50	197				Std		11	1.67					26%/35%/27%/11%
							15	2.02	REM	50	127				Std		15	1.72					Comp/CBR %> 20mm=0 37.5mm=0
							17	2.07	REM	50	75				Std		16	1.79					
							18	2.16	REM	50	93				Std		18	1.76					
							19	2.17							Std		19	1.74					

NOTES

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COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

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Exploration Associates

LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_P %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
TP14	4.00 - 4.20	B	Dark reddish brown slightly sandy gravelly CLAY												Hvy		(8.5)	(2.13)					Comp/CBR %> 20mm=6.3 37.5mm=8
															Hvy		<12>	2.03					MCV % > 20mm = 0.0
															Hvy		14	1.93					
															Hvy		16	1.87					
															Hvy		9.7	2.10					
															Hvy		6.0	2.09					
															MCV		12	1.47	11.2				
															MCV		15	1.46	8.6				
															MCV		16	1.48	5.2				
															MCV		8.6	1.47	17.5				
TP15	1.00 - 1.00	B	Dark orange and reddish brown sandy gravelly CLAY	59%	425	Sieve									Hvy		(12)	(1.97)					PSD : CL(/+)SI/SA/GR
				47	24	23	18								Hvy		<19>	1.80					18%/20%/27%/35%
															Hvy		21	1.70					Comp/CBR %> 20mm=7.3 37.5mm=2
															Hvy		15	1.93					MCV % > 20mm = 0.0
															Hvy		9.8	1.97					
															Hvy		8.0	1.96					
															MCV		18	1.44	12.0				
															MCV		20	1.45	8.7				
															MCV		13	1.52	14.8				
															MCV		9.0	1.59	18.0				
TP15	1.00 - 1.00	D	Dark orange and reddish brown sandy gravelly CLAY				13																
TP15	3.80 - 3.90	D	Reddish brown slightly sandy gravelly CLAY				16																

NOTES

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COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

Project

BYRKLEY PARK
Football Association

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Exploration Associates

LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_p %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
TP15	3.80 - 3.90	B	Reddish brown sandy gravelly CLAY	80% 43	425 Sieve 19	24	18																PSD : CL(/+)SI/SA/GR 27%/28%/24%/21%
TP16	2.10 - 2.20	B	Dark red slightly sandy gravelly CLAY												Hvy		(9.5)	(2.10)					Comp/CBR %> 20mm=2.6 37.5mm=0
															Hvy		<16>	1.87					MCV % > 20mm = 0.0
															Hvy		17	1.79					
															Hvy		11	2.05					
															Hvy		10	2.09					
															Hvy		7.2	2.07					
															MCV		14	1.45	10.2				
															MCV		16	1.53	5.4				
															MCV		12	1.46	14.0				
															MCV		9.3	1.48	18.2				

NOTES

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CONSOLIDATION - m_v and c_v given for load increment of 100kPa above assumed overburden pressure

COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

Project

BYRKLEY PARK
Football Association

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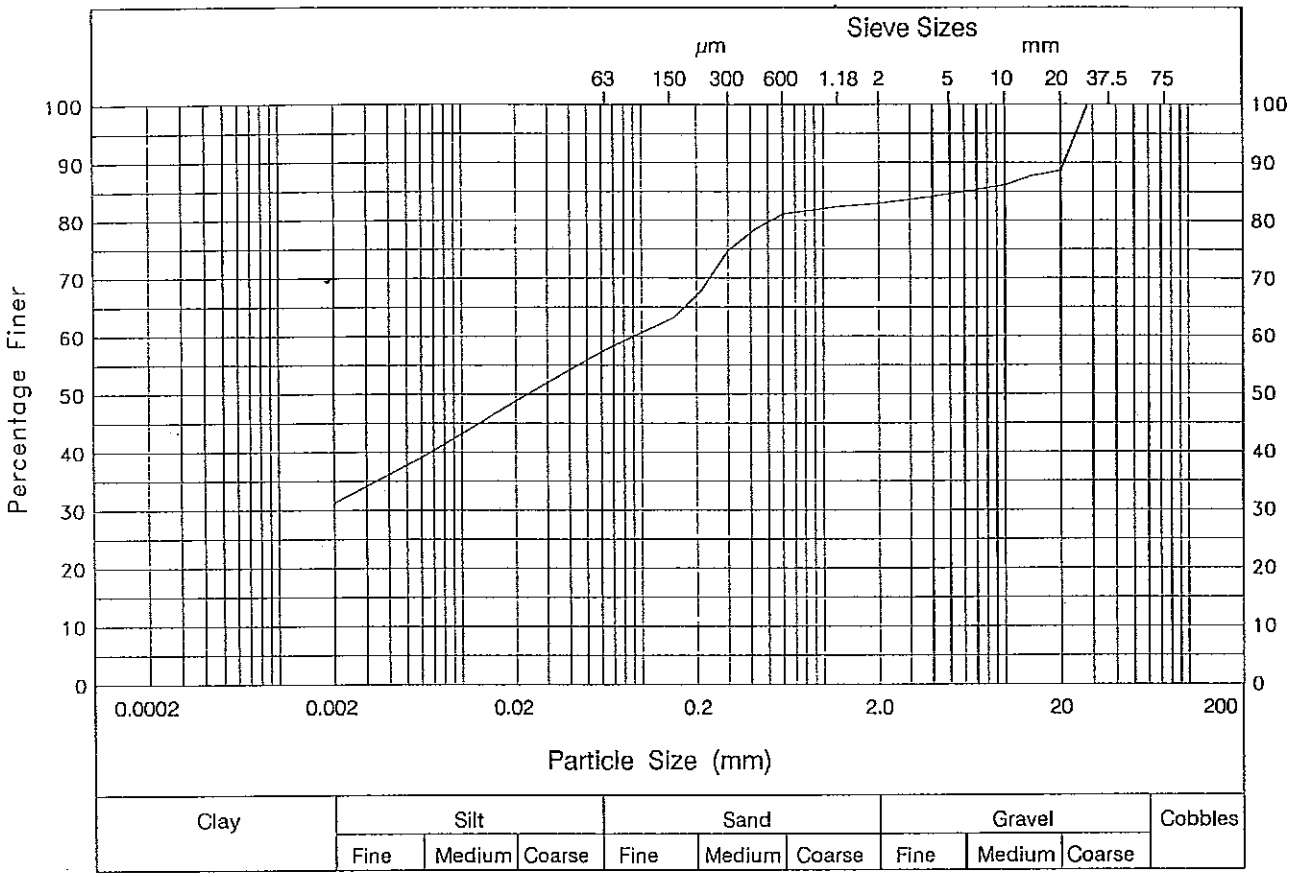

Particle Size	% Passing	Particle Size	% Passing
28 mm	100	212 µm	68
20 mm	89	150 µm	63
14 mm	88	63 µm	58
10 mm	86	20 µm	49
6.3 mm	85	6 µm	39
5 mm	85	2 µm	31
3.35 mm	84		
2 mm	83		
1.18 mm	82		
600 µm	81		
425 µm	78		
300 µm	75		

Hole TP1	Description Orangish grey sandy gravellY CLAY
Depth 1.20 -1.30	
Type B	
Test Performed Wet	Uniformity Coefficient not applicable.

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Laboratory - Particle Size Plot	**Project** BYRKLEY PARK Football Association	**Contract** 121070
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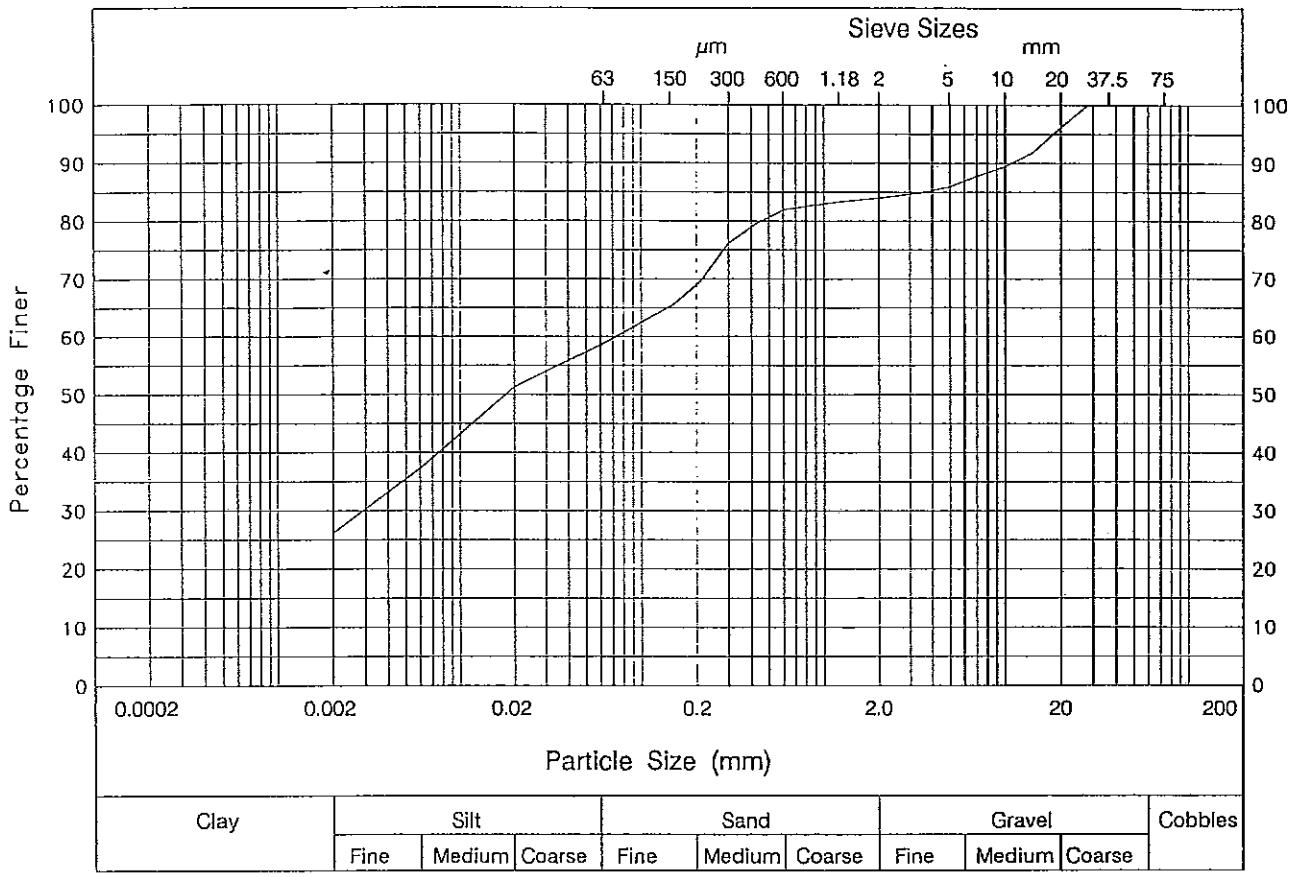
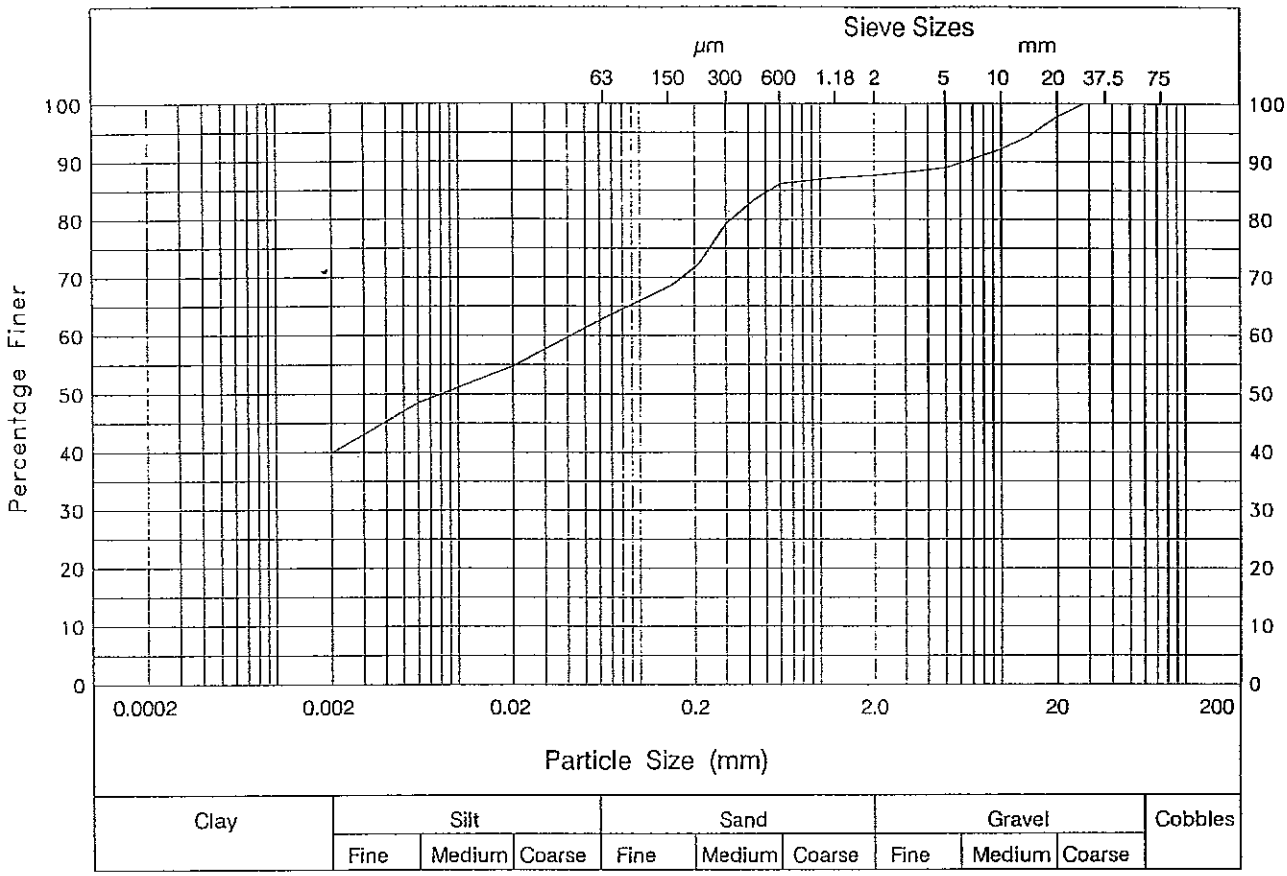


Particle Size	% Passing	Particle Size	% Passing
28 mm	100	212 µm	70
20 mm	96	150 µm	66
14 mm	92	63 µm	59
10 mm	89	20 µm	51
6.3 mm	87	6 µm	37
5 mm	86	2 µm	26
3.35 mm	85		
2 mm	84		
1.18 mm	83		
600 µm	82		
425 µm	80		
300 µm	76		

Hole TP1	Description: Reddish brown sandy gravelly CLAY
Depth 3.20 -3.30	
Type B	
Test Performed Wet	Uniformity Coefficient not applicable.

Form 25/4

Laboratory - Particle Size Plot	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L2/2



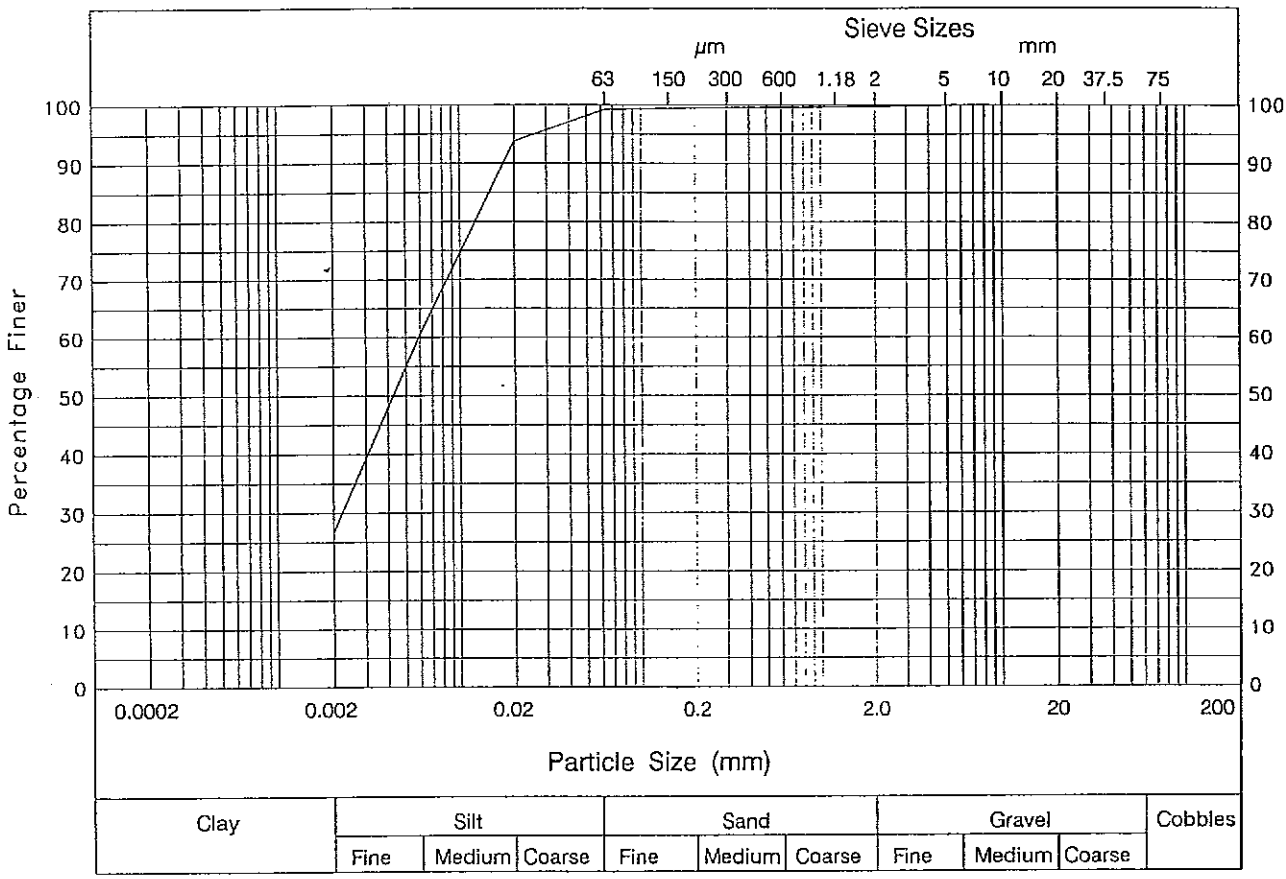
Particle Size	% Passing	Particle Size	% Passing
28 mm	100	212 µm	72
20 mm	98	150 µm	69
14 mm	94	63 µm	63
10 mm	92	20 µm	55
6.3 mm	90	6 µm	48
5 mm	89	2 µm	40
3.35 mm	88		
2 mm	88		
1.18 mm	87		
600 µm	86		
425 µm	83		
300 µm	79		

Hole TP2A	Description Orange, red and grey slightly gravelly sandy CLAY
Depth 0.80 -0.80	
Type B	
Test Performed Wet	Uniformity Coefficient not applicable.

U
Red ✓

Form 25/4

Laboratory - Particle Size Plot	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L2/3

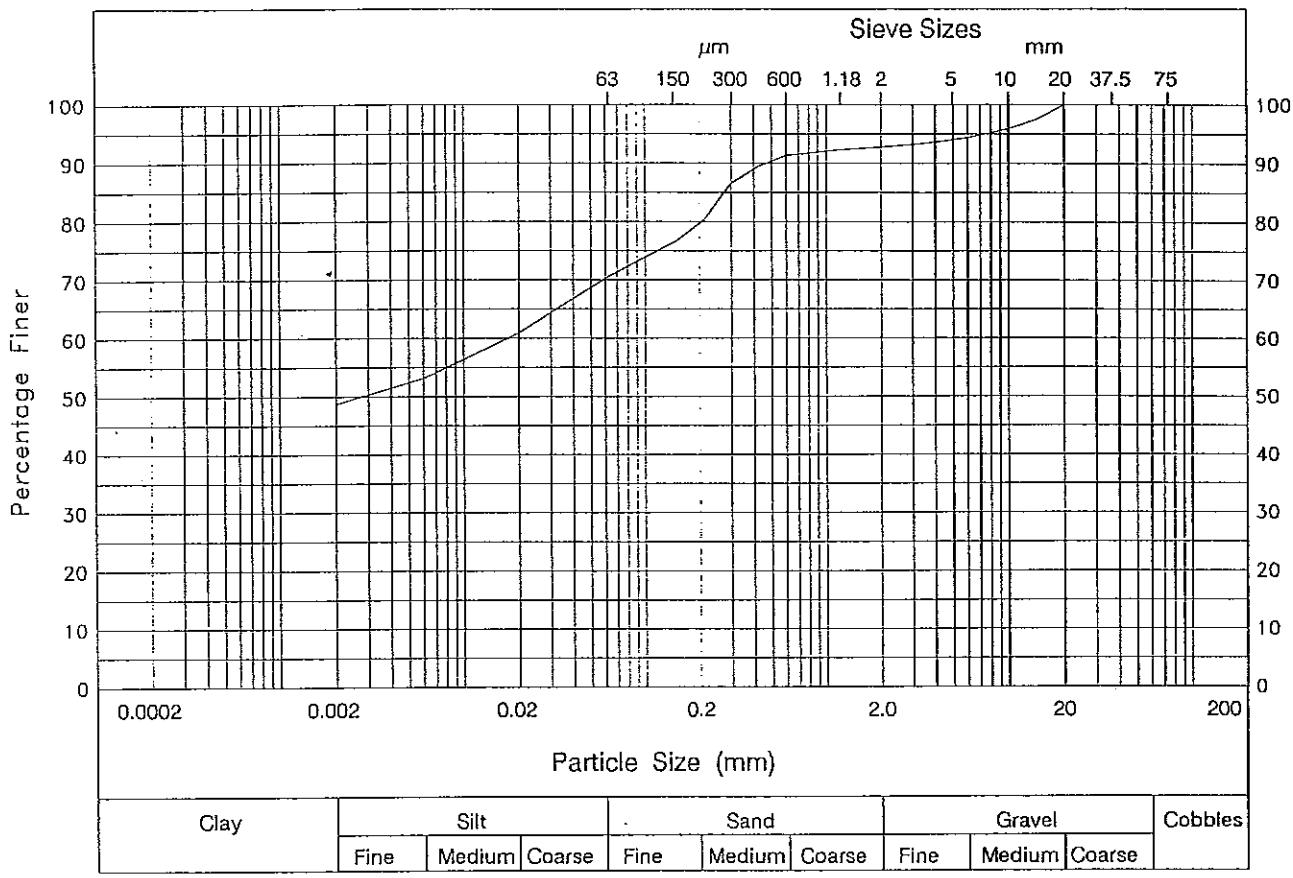


Particle Size	% Passing	Particle Size	% Passing
6.3 mm	100	6 µm	61
5 mm	100	2 µm	27
3.35 mm	100		
2 mm	100		
1.18 mm	100		
600 µm	100		
425 µm	100		
300 µm	100		
212 µm	99		
150 µm	99		
63 µm	99		
20 µm	94		

Hole TP2A	Description Greyish blue slightly sandy CLAY
Depth 1.90 -2.50	
Type B	
Test Performed Wet	Uniformity Coefficient not applicable.

Form 25/4

Laboratory - Particle Size Plot	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L2/4

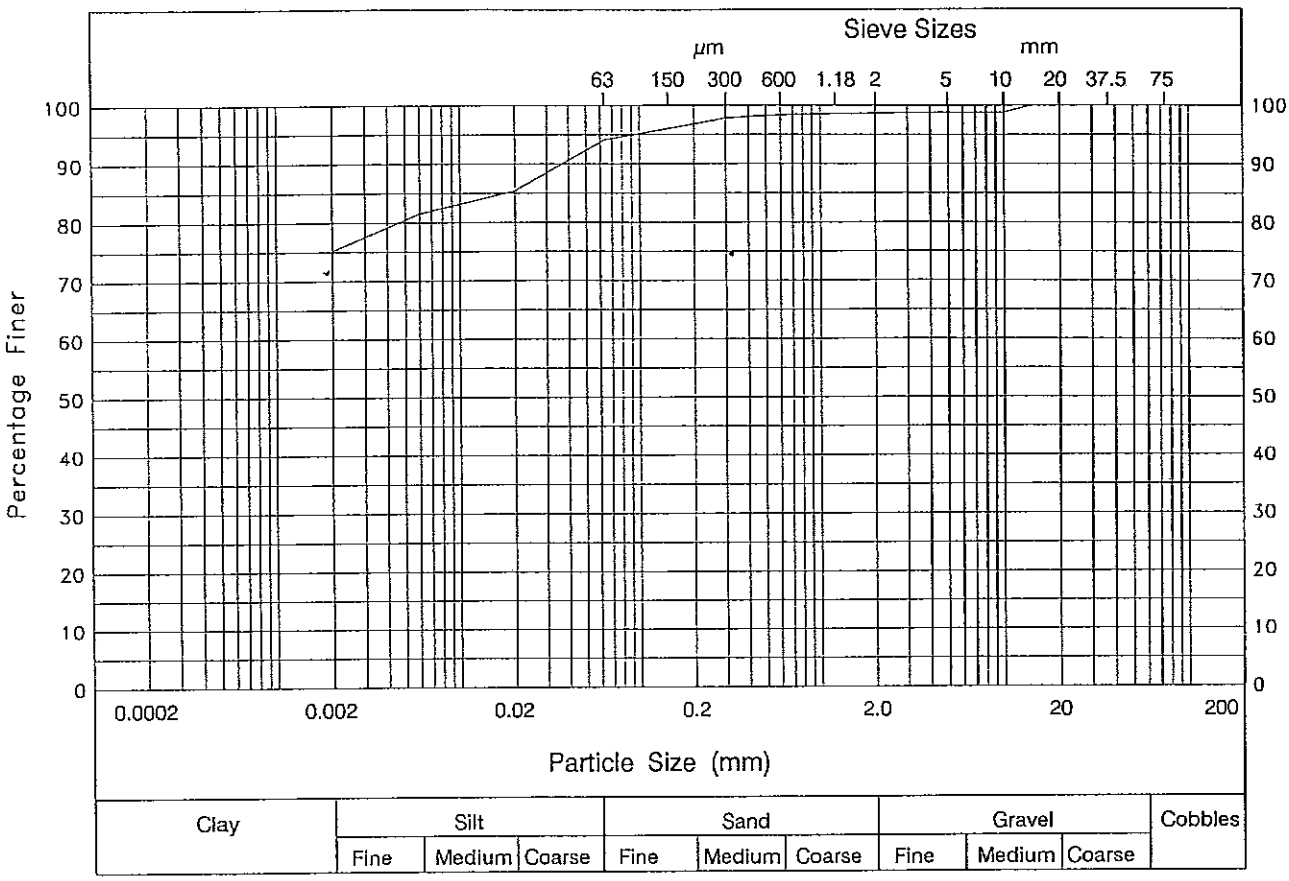


Particle Size	% Passing	Particle Size	% Passing
20 mm	100	150 µm	77
14 mm	97	63 µm	71
10 mm	96	20 µm	61
6.3 mm	94	6 µm	53
5 mm	94	2 µm	49
3.35 mm	93		
2 mm	93		
1.18 mm	92		
600 µm	91		
425 µm	90		
300 µm	87		
212 µm	80		

Hole TP4	Description Orange mottled yellow slightly gravelly sandy CLAY
Depth 0.30 -0.40	
Type B	
Test Performed Wet	Uniformity Coefficient not applicable.

Form 25/4

Laboratory - Particle Size Plot	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L2/5

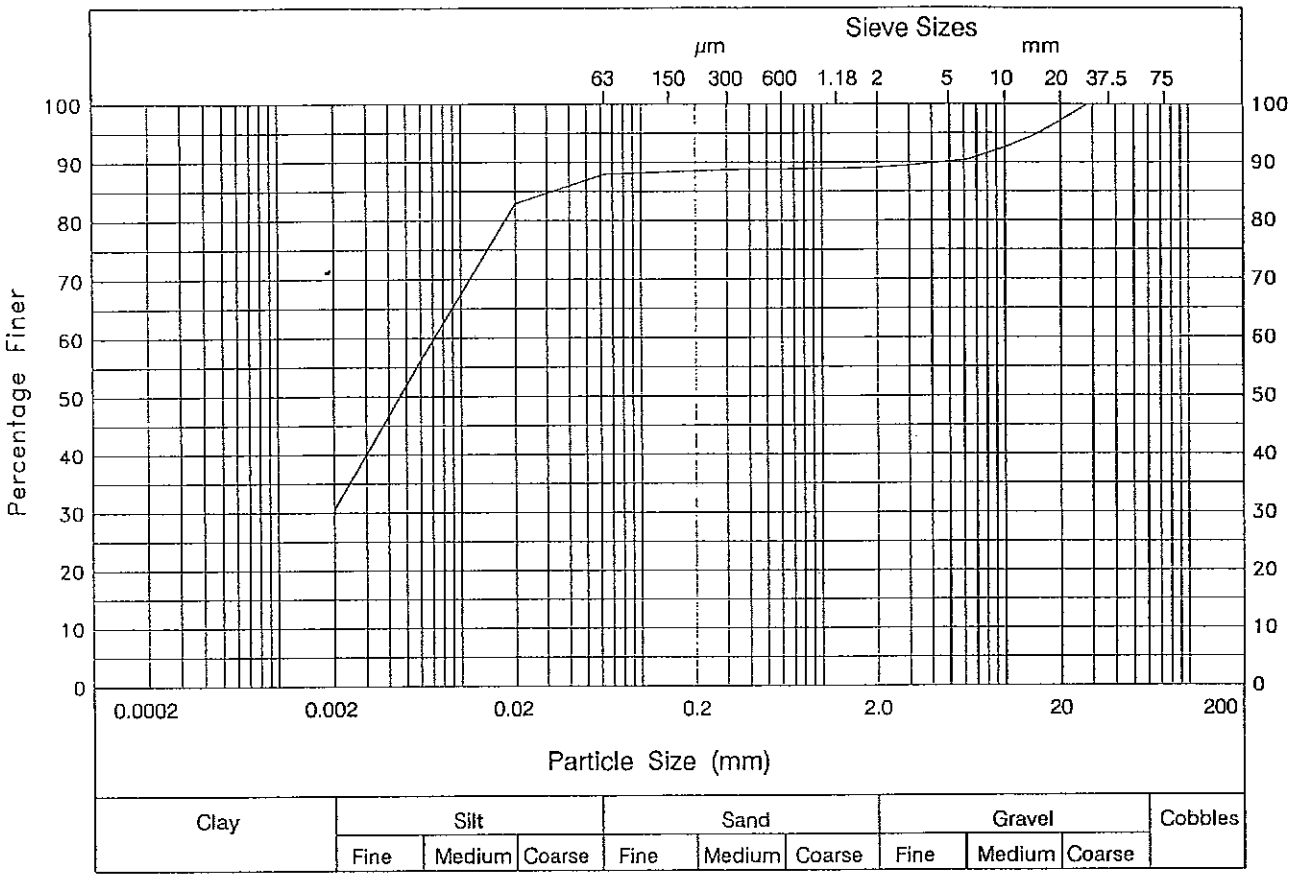


Particle Size	% Passing	Particle Size	% Passing
14 mm	100	63 µm	94
10 mm	99	20 µm	85
6.3 mm	99	6 µm	82
5 mm	99	2 µm	75
3.35 mm	99		
2 mm	99		
1.18 mm	99		
600 µm	98		
425 µm	98		
300 µm	98		
212 µm	97		
150 µm	96		

Hole TP4	Description Orangish grey slightly sandy slightly gravelly CLAY
Depth 0.70 -0.80	
Type B	
Test Performed Wet	Uniformity Coefficient not applicable.

Form 25/4

Laboratory - Particle Size Plot	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L2/6

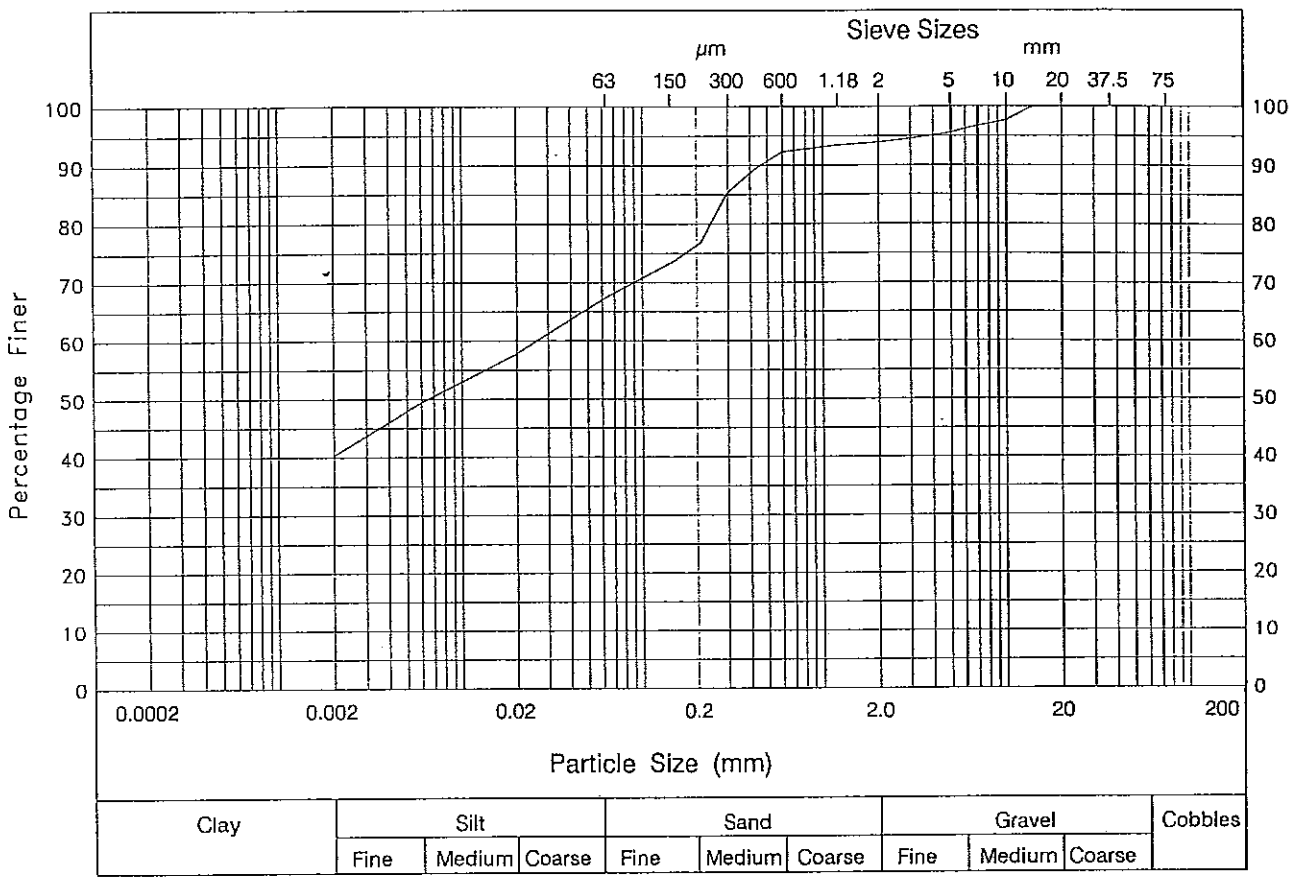


Particle Size	% Passing	Particle Size	% Passing
28 mm	100	212 µm	89
20 mm	97	150 µm	88
14 mm	94	63 µm	88
10 mm	93	20 µm	83
6.3 mm	90	6 µm	56
5 mm	90	2 µm	30
3.35 mm	90		
2 mm	89		
1.18 mm	89		
600 µm	89		
425 µm	89		
300 µm	89		

Hole TP4	Description Bluish grey slightly sandy gravelly CLAY
Depth 1.50 -1.60	
Type B	
Test Performed Wet	Uniformity Coefficient not applicable.

Form 25/4

Laboratory - Particle Size Plot	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L2/7

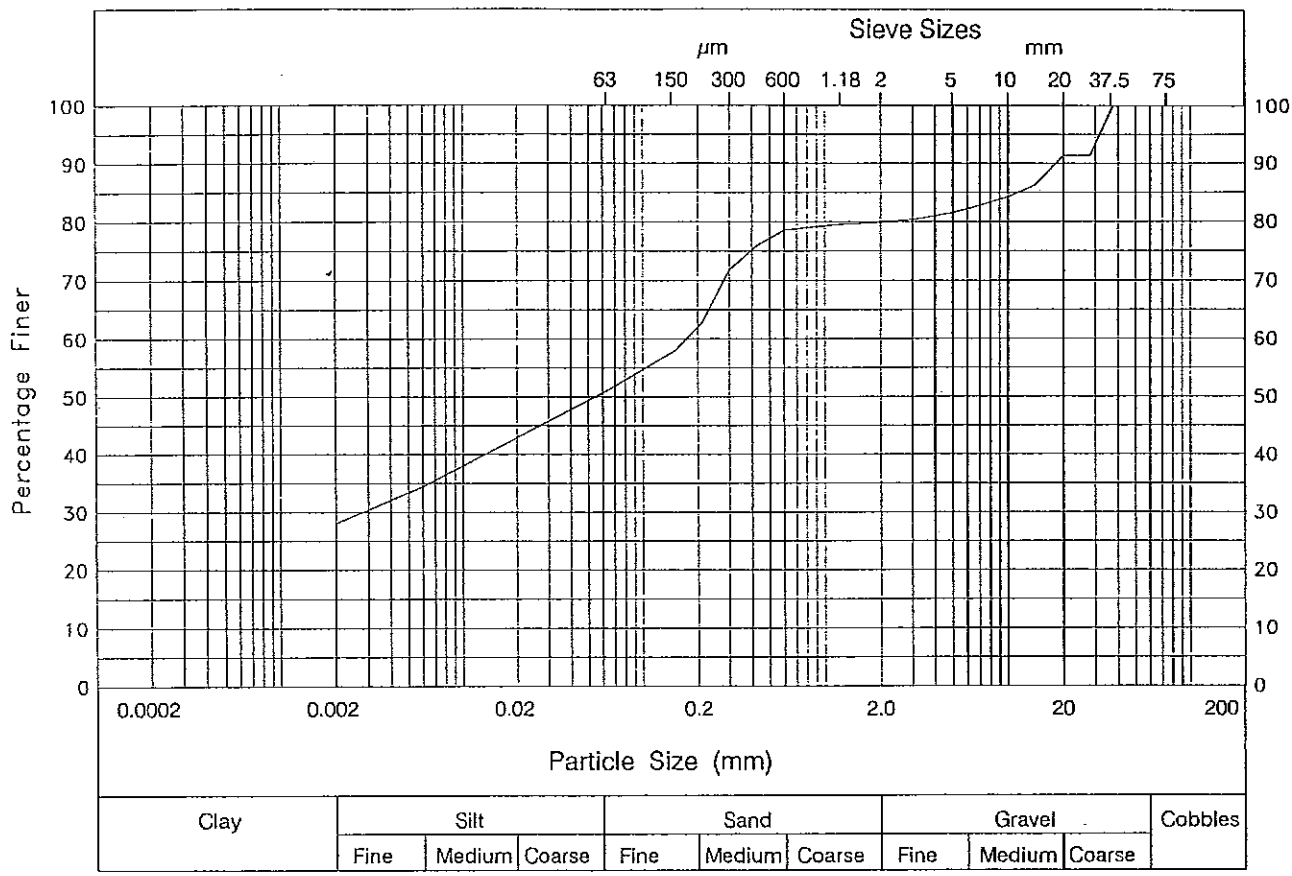


Particle Size	% Passing	Particle Size	% Passing
14 mm	100	63 µm	67
10 mm	98	20 µm	58
6.3 mm	96	6 µm	49
5 mm	96	2 µm	40
3.35 mm	95		
2 mm	94		
1.18 mm	93		
600 µm	92		
425 µm	89		
300 µm	85		
212 µm	77		
150 µm	74		

Hole TP5	Description: Orange slightly gravelly sandy CLAY
Depth 0.30 -0.40	
Type B	
Test Performed Wet	Uniformity Coefficient not applicable.

Form 25/4

Laboratory - Particle Size Plot	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L2/8

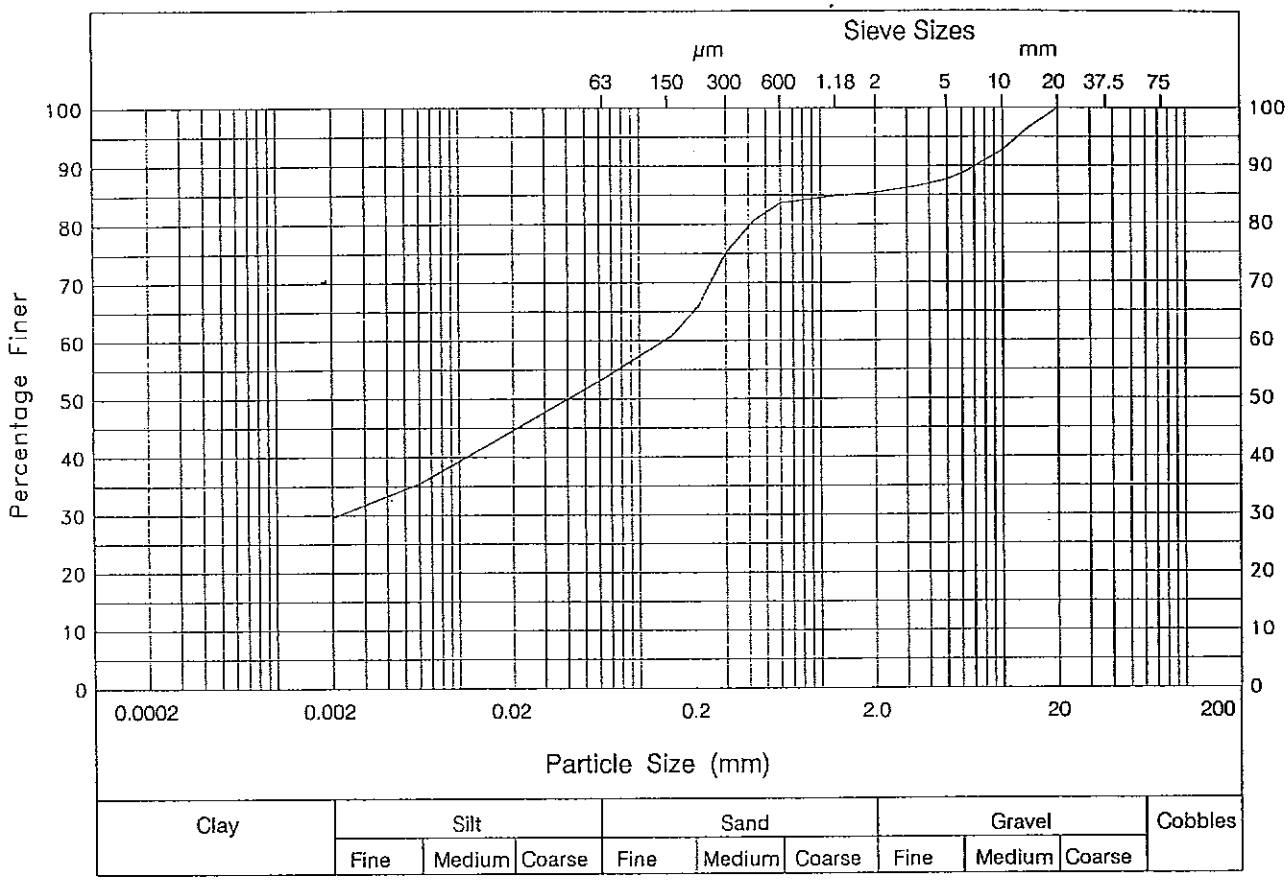


Particle Size	% Passing	Particle Size	% Passing
37.5 mm	100	300 μm	72
28 mm	91	212 μm	63
20 mm	91	150 μm	58
14 mm	86	63 μm	51
10 mm	84	20 μm	43
6.3 mm	82	6 μm	34
5 mm	82	2 μm	28
3.35 mm	81		
2 mm	80		
1.18 mm	80		
600 μm	79		
425 μm	76		

Hole TP5	Description: Dark orangish brown and reddish brown mottled grey sandy gravelly CLAY
Depth 0.70 -0.80	
Type B	
Test Performed Wet	Uniformity Coefficient not applicable.

Form 25/4

Laboratory - Particle Size Plot	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L2/9

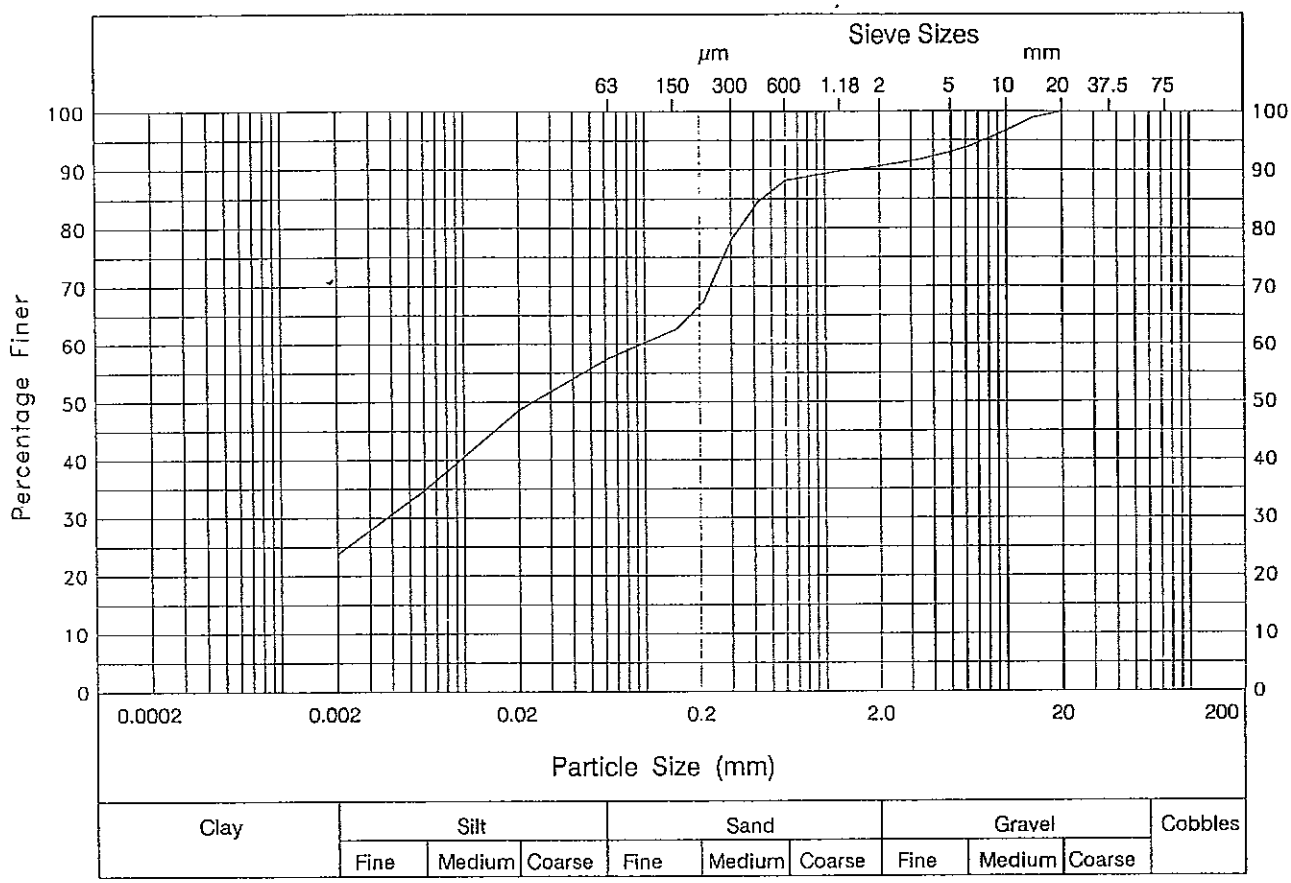


Particle Size	% Passing	Particle Size	% Passing
20 mm	100	150 µm	61
14 mm	97	63 µm	54
10 mm	93	20 µm	45
6.3 mm	89	6 µm	35
5 mm	88	2 µm	30
3.35 mm	86		
2 mm	85		
1.18 mm	85		
600 µm	84		
425 µm	81		
300 µm	75		
212 µm	66		

Hole TP5	Description: Dark reddish brown and grey mottled slightly gravelly sandy CLAY
Depth 1.70 -1.80	
Type B	
Test Performed Wet	Uniformity Coefficient not applicable.

Form 25/4

Laboratory - Particle Size Plot	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L2/10



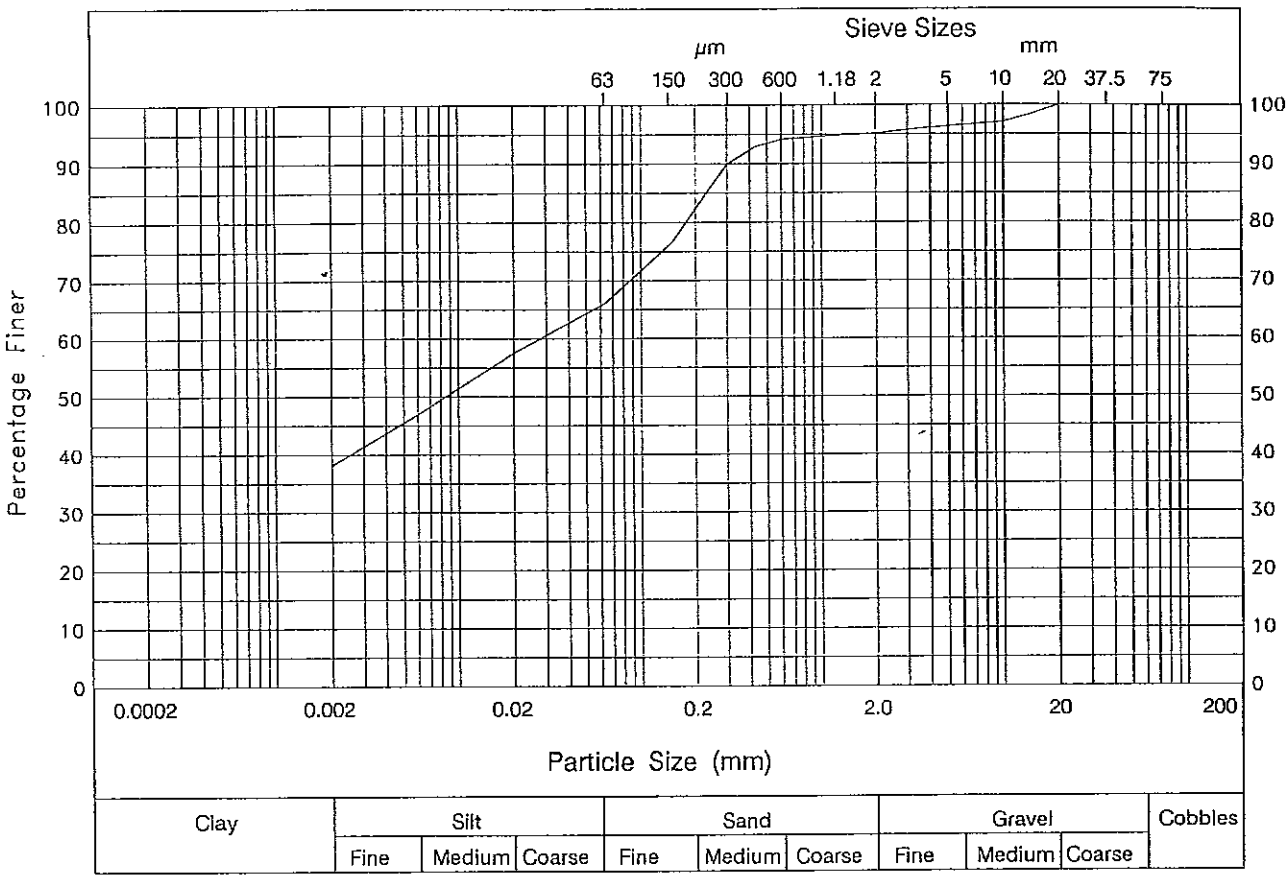
Particle Size	% Passing	Particle Size	% Passing
20 mm	100	150 µm	63
14 mm	99	63 µm	58
10 mm	97	20 µm	49
6.3 mm	94	6 µm	35
5 mm	93	2 µm	24
3.35 mm	92		
2 mm	91		
1.18 mm	90		
600 µm	88		
425 µm	85		
300 µm	78		
212 µm	67		

Hole TP5	Description Slightly gravelly sandy CLAY
Depth 3.60 -3.80	
Type B	
Test Performed Wet	Uniformity Coefficient not applicable.

X ✓

Form 25/4

Laboratory - Particle Size Plot	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L2/11



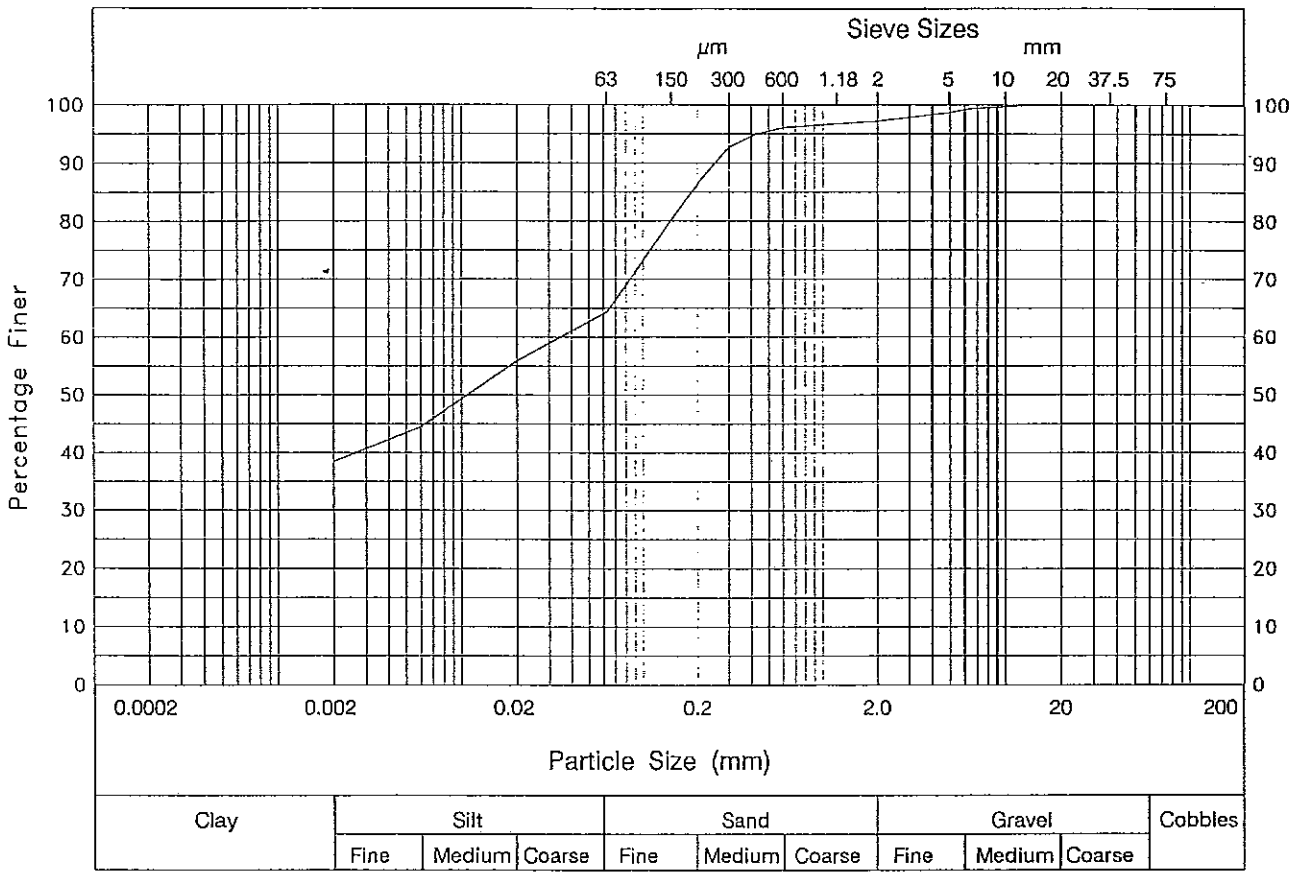
Particle Size	% Passing	Particle Size	% Passing
20 mm	100	150 µm	77
14 mm	98	63 µm	66
10 mm	97	20 µm	57
6.3 mm	97	6 µm	47
5 mm	96	2 µm	38
3.35 mm	96		
2 mm	95		
1.18 mm	95		
600 µm	94		
425 µm	93		
300 µm	90		
212 µm	83		

Hole TP6	Description Orange and yellow mottled slightly gravelly sandy CLAY
Depth 0.30 -0.30	
Type B	
Test Performed Wet	Uniformity Coefficient not applicable.

Y ✓

Form 25/4

Laboratory - Particle Size Plot	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L2/12

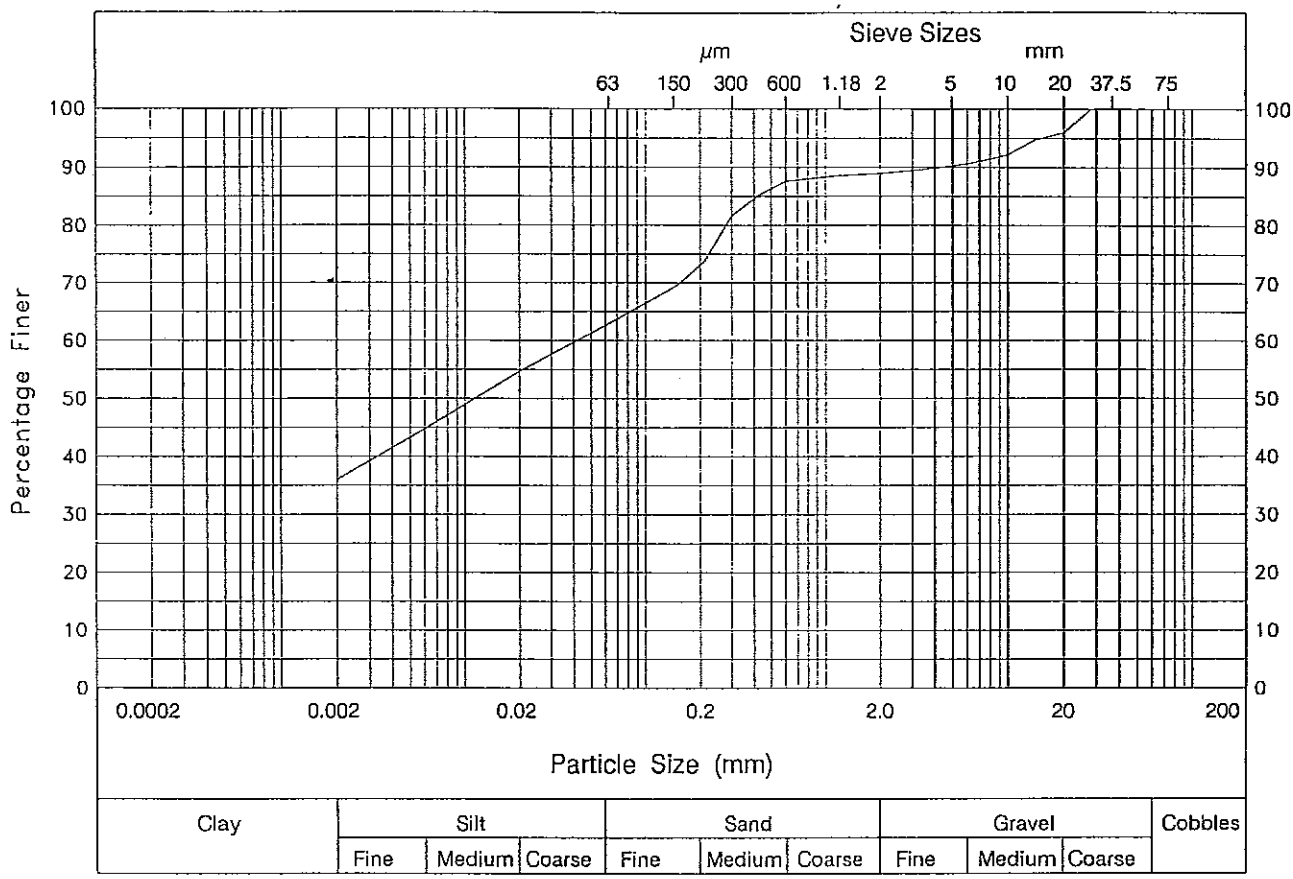


Particle Size	% Passing	Particle Size	% Passing
14 mm	100	63 µm	64
10 mm	100	20 µm	56
6.3 mm	99	6 µm	44
5 mm	99	2 µm	38
3.35 mm	98		
2 mm	97		
1.18 mm	97		
600 µm	96		
425 µm	95		
300 µm	93		
212 µm	87		
150 µm	81		

Hole TP6	Description: Orange and red slightly gravelly sandy CLAY
Depth 0.60 -0.70	
Type B	
Test Performed Wet	Uniformity Coefficient not applicable.

Form 25/4

Laboratory - Particle Size Plot	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L2/13

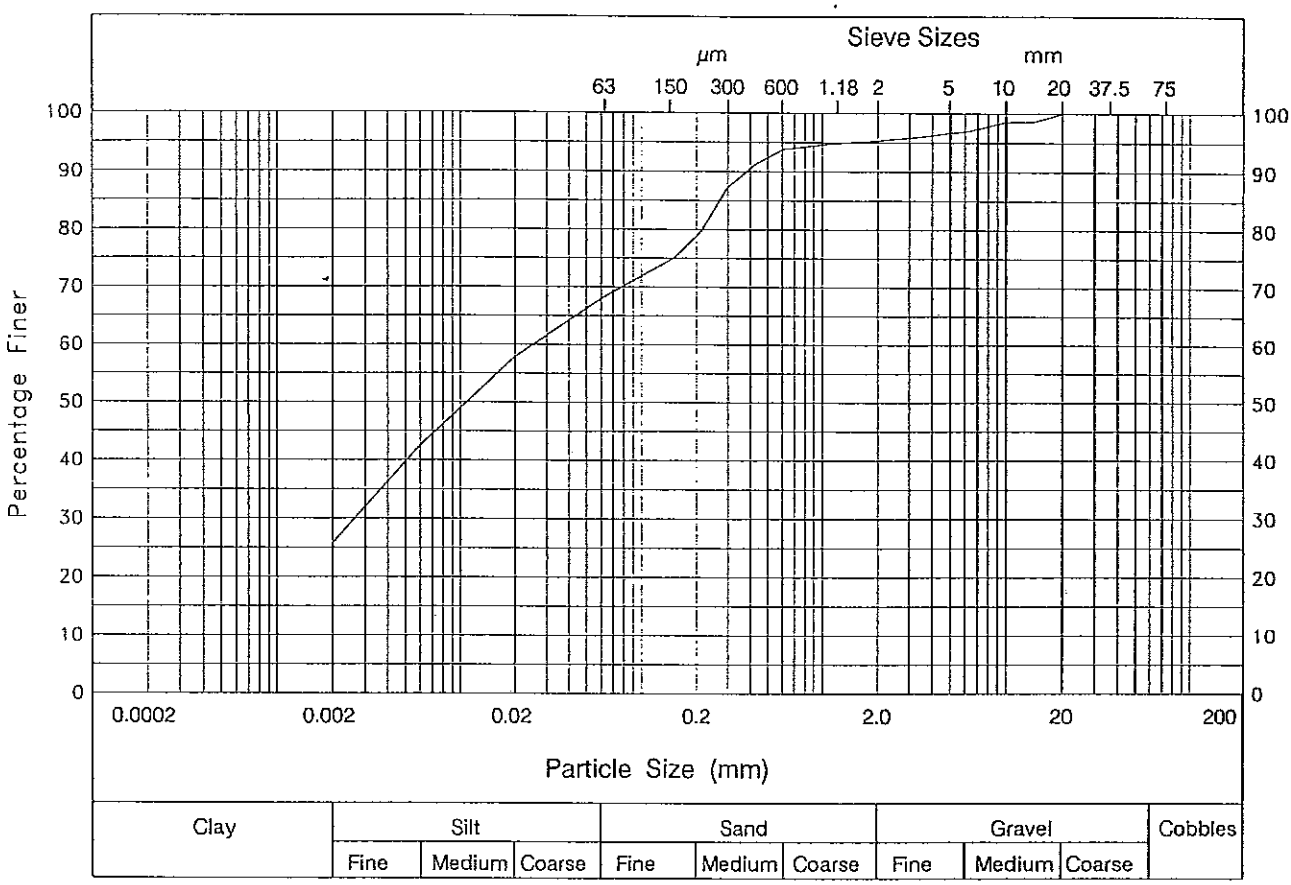


Particle Size	% Passing	Particle Size	% Passing
28 mm	100	212 µm	74
20 mm	96	150 µm	70
14 mm	95	63 µm	63
10 mm	92	20 µm	55
6.3 mm	91	6 µm	45
5 mm	90	2 µm	36
3.35 mm	90		
2 mm	89		
1.18 mm	89		
600 µm	88		
425 µm	85		
300 µm	82		

Hole TP6	Description Reddish brown mottled grey slightly gravelly sandy CLAY
Depth 1.50 -1.60	
Type B	
Test Performed Wet	Uniformity Coefficient not applicable.

Form 25/4

Laboratory - Particle Size Plot	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L2/14

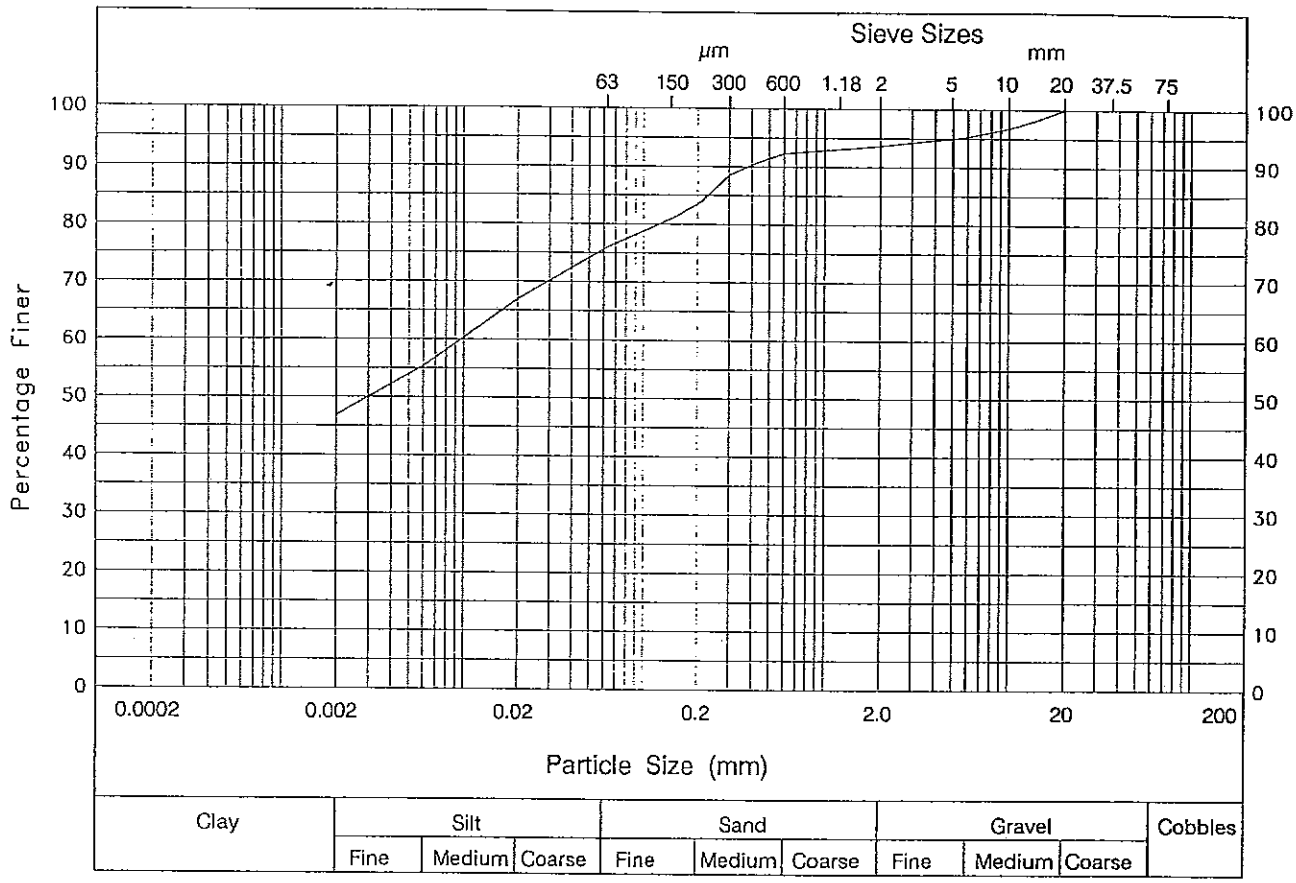


Particle Size	% Passing	Particle Size	% Passing
20 mm	100	150 µm	75
14 mm	99	63 µm	68
10 mm	99	20 µm	58
6.3 mm	97	6 µm	43
5 mm	97	2 µm	26
3.35 mm	96		
2 mm	95		
1.18 mm	95		
600 µm	94		
425 µm	91		
300 µm	87		
212 µm	80		

Hole TP6	Description Reddish brown slightly gravelly sandy CLAY
Depth 2.40 -2.40	
Type B	
Test Performed Wet	Uniformity Coefficient not applicable.

Form 25/4

Laboratory - Particle Size Plot	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L2/15

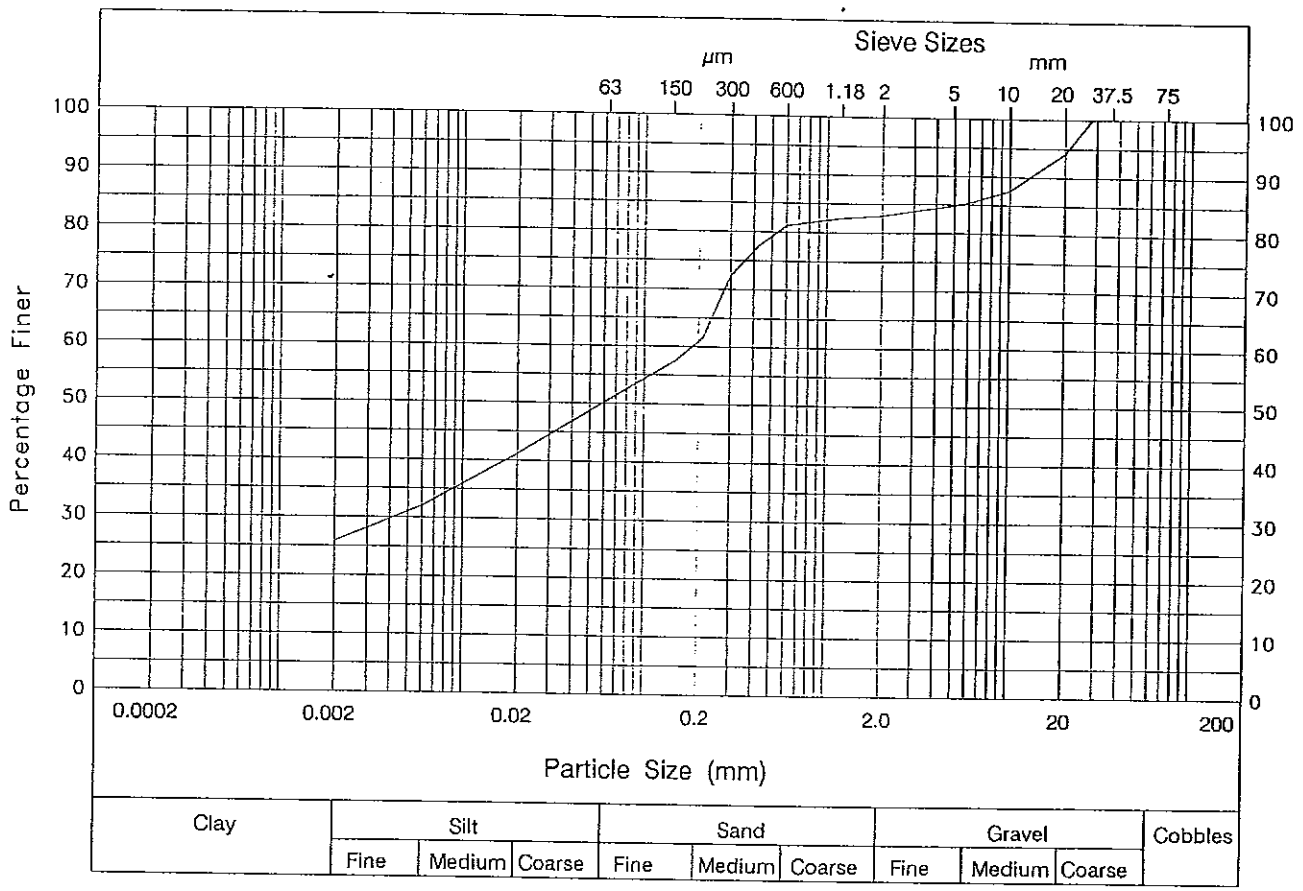


Particle Size	% Passing	Particle Size	% Passing
20 mm	100	150 µm	81
14 mm	98	63 µm	76
10 mm	97	20 µm	67
6.3 mm	95	6 µm	55
5 mm	95	2 µm	47
3.35 mm	94		
2 mm	94		
1.18 mm	93		
600 µm	92		
425 µm	91		
300 µm	89		
212 µm	84		

Hole TP8	Description: Dark orangish brown mottled grey slightly gravelly slightly sandy CLAY
Depth 0.50 -0.60	
Type B	
Test Performed Wet	Uniformity Coefficient not applicable.

Form 25/4

Laboratory - Particle Size Plot	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L2/16

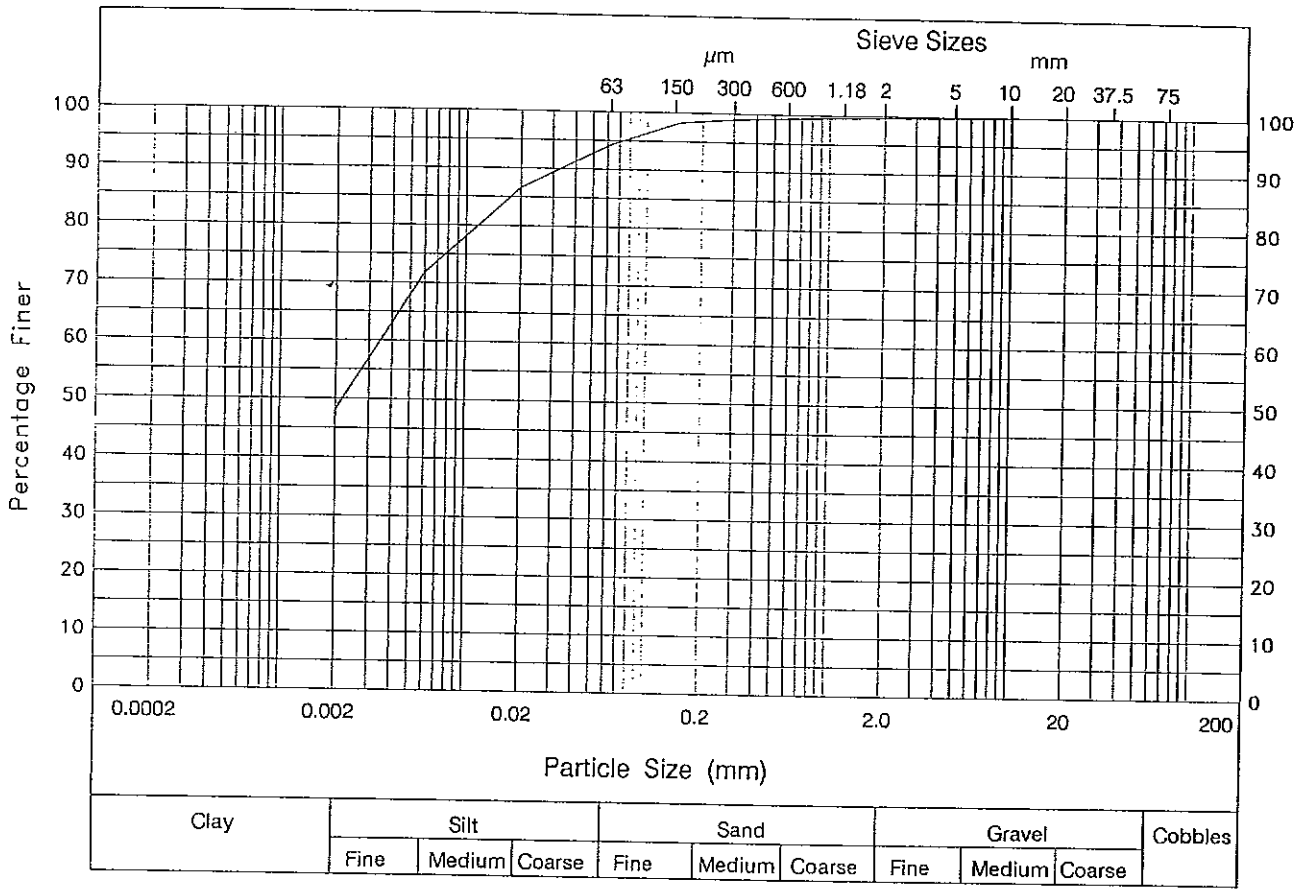


Particle Size	% Passing	Particle Size	% Passing
28 mm	100	212 µm	62
20 mm	94	150 µm	58
14 mm	91	63 µm	51
10 mm	88	20 µm	41
6.3 mm	86	6 µm	32
5 mm	85	2 µm	26
3.35 mm	84		
2 mm	83		
1.18 mm	82		
600 µm	81		
425 µm	78		
300 µm	72		

Hole TP8	Description Orangish brown slightly gravelly sandy CLAY
Depth 1.50 -1.60	
Type B	
Test Performed Wet	Uniformity Coefficient not applicable.

Form 25/4

Laboratory - Particle Size Plot Exploration Associates	**Project** BYRKLEY PARK Football Association	**Contract** 121070 **Sheet** L2/17



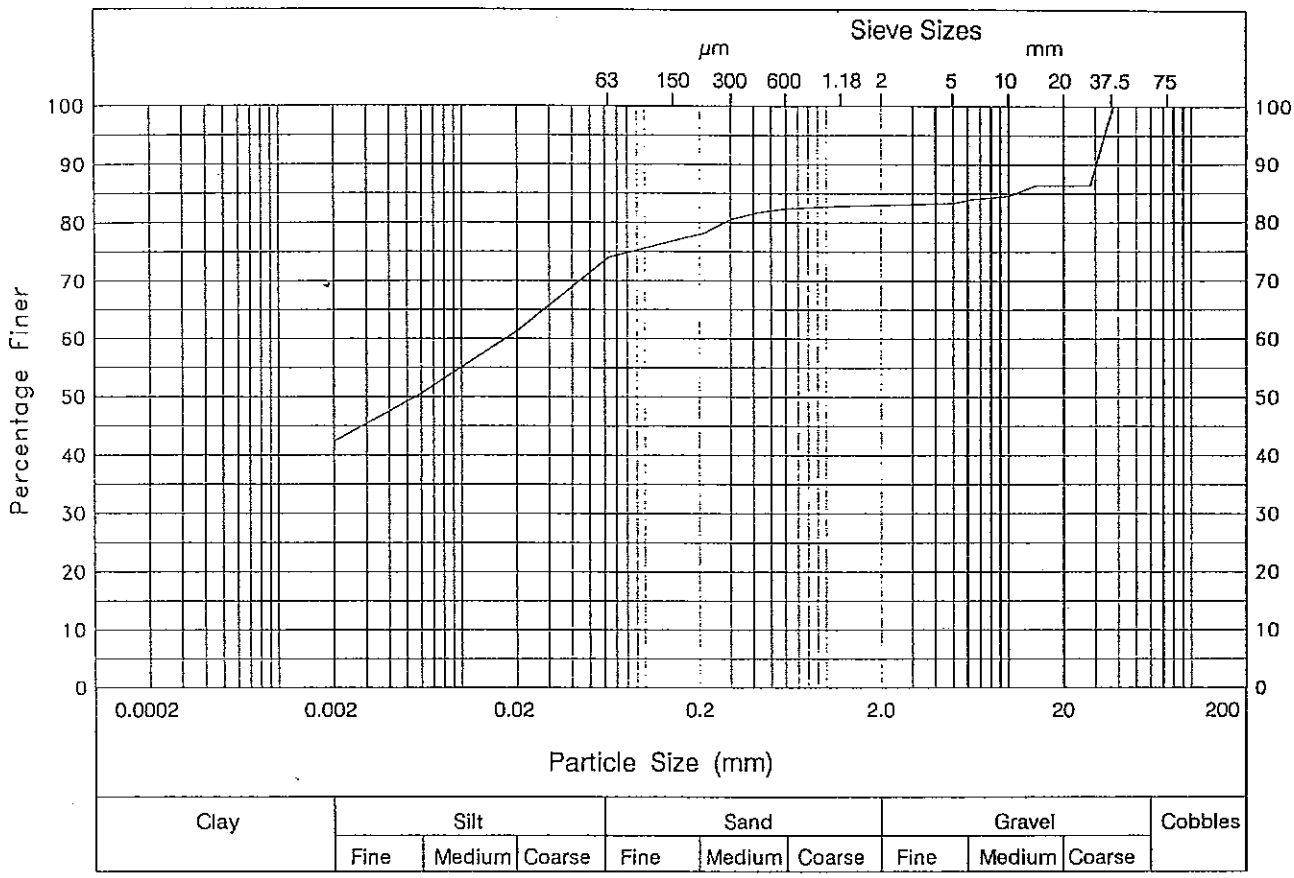
Particle Size	% Passing	Particle Size	% Passing
10 mm	100	20 µm	87
6.3 mm	100	6 µm	72
5 mm	100	2 µm	48
3.35 mm	100		
2 mm	100		
1.18 mm	100		
600 µm	99		
425 µm	99		
300 µm	99		
212 µm	99		
150 µm	98		
63 µm	94		

Hole TP8	Description: Grey slightly sandy CLAY
Depth 2.90 -3.00	
Type B	
Test Performed Wet	Uniformity Coefficient not applicable.

AA ✓

Form 25/4

Laboratory - Particle Size Plot Exploration Associates	**Project** BYRKLEY PARK Football Association	**Contract** 121070 **Sheet** L2/18



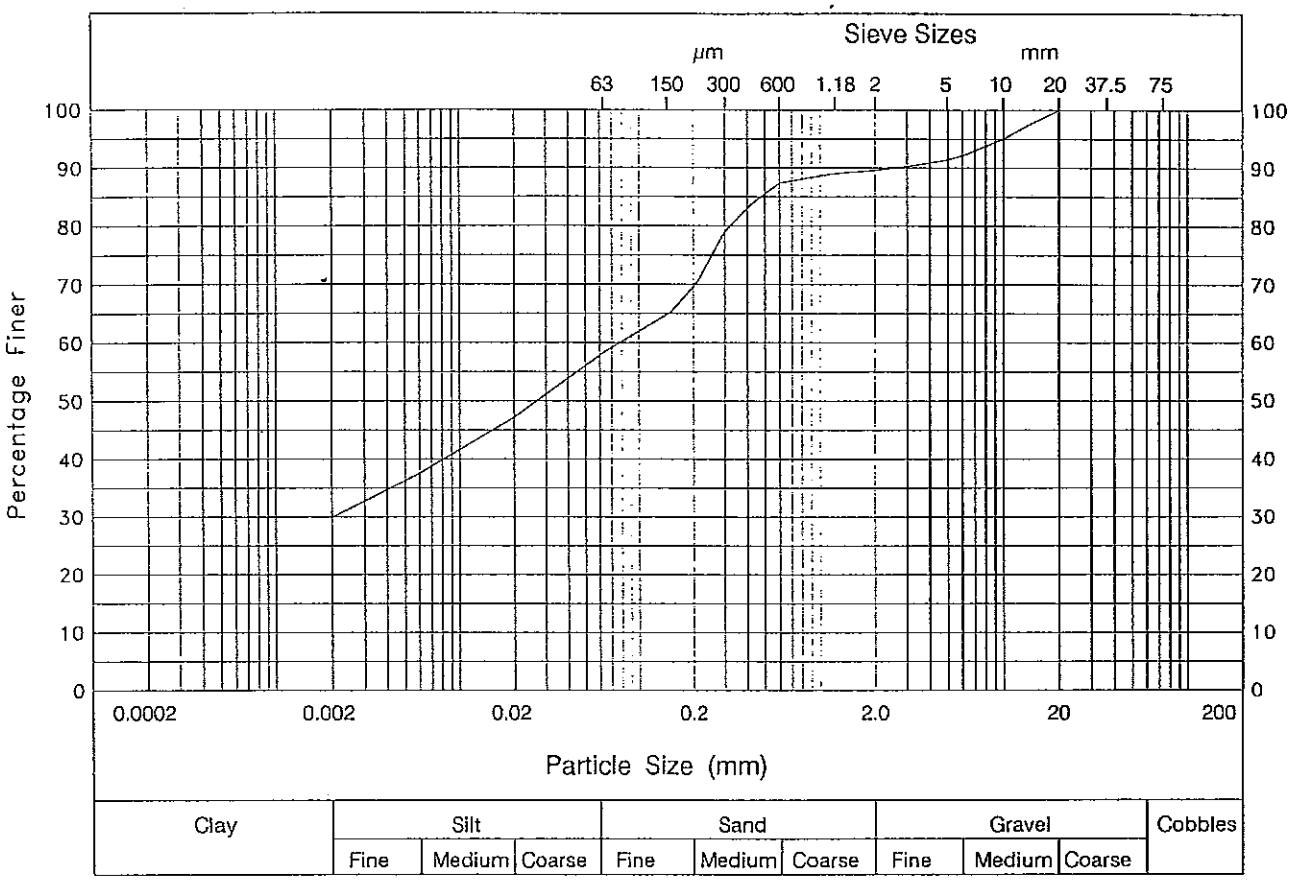
Particle Size	% Passing	Particle Size	% Passing
37.5 mm	100	300 µm	81
28 mm	86	212 µm	78
20 mm	86	150 µm	77
14 mm	86	63 µm	74
10 mm	85	20 µm	61
6.3 mm	84	6 µm	51
5 mm	83	2 µm	42
3.35 mm	83		
2 mm	83		
1.18 mm	83		
600 µm	82		
425 µm	82		

Hole TP10	Description: Orangish brown mottled grey slightly sandy slightly gravelly CLAY
Depth 0.40 -0.50	
Type B	
Test Performed Wet	Uniformity Coefficient not applicable.

AB

Form 25/4

Laboratory - Particle Size Plot	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L2/19

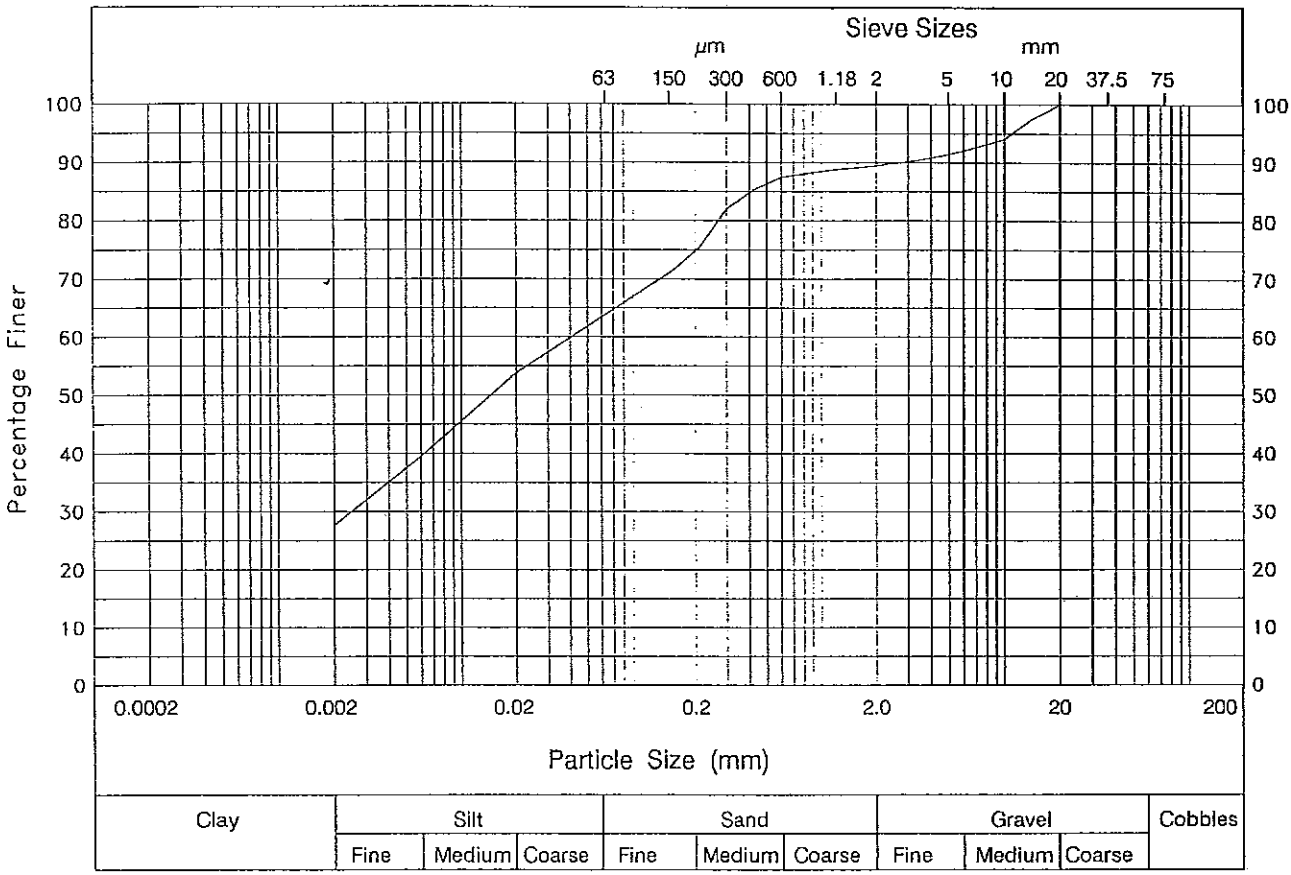


Particle Size	% Passing	Particle Size	% Passing
20 mm	100	150 µm	65
14 mm	98	63 µm	58
10 mm	95	20 µm	47
6.3 mm	92	6 µm	38
5 mm	91	2 µm	30
3.35 mm	90		
2 mm	90		
1.18 mm	89		
600 µm	87		
425 µm	84		
300 µm	79		
212 µm	71		

Hole TP10	Description: Dark reddish purple sandy gravelly CLAY
Depth 0.90 -1.00	
Type B	
Test Performed Wet	Uniformity Coefficient not applicable.

Form 25/4

Laboratory - Particle Size Plot	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L2/20



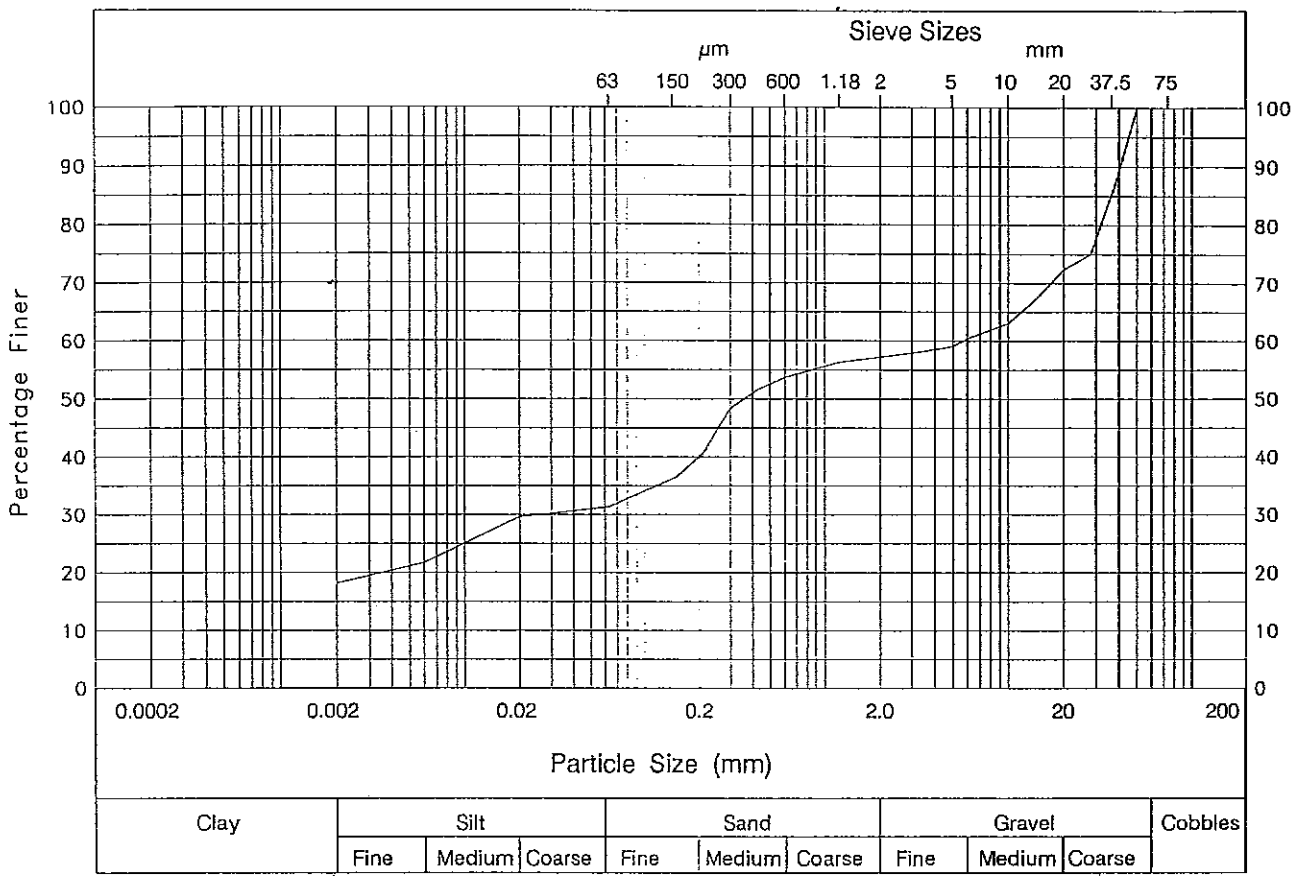
Particle Size	% Passing	Particle Size	% Passing
20 mm	100	150 µm	71
14 mm	97	63 µm	64
10 mm	94	20 µm	54
6.3 mm	92	6 µm	40
5 mm	91	2 µm	28
3.35 mm	90		
2 mm	89		
1.18 mm	89		
600 µm	88		
425 µm	85		
300 µm	82		
212 µm	75		

Hole TP10	Description Dark reddish brown slightly gravelly sandy CLAY
Depth 3.30 -3.40	
Type B	
Test Performed Wet	Uniformity Coefficient not applicable.

AC ✓

Form 25/4

Laboratory - Particle Size Plot	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L2/21

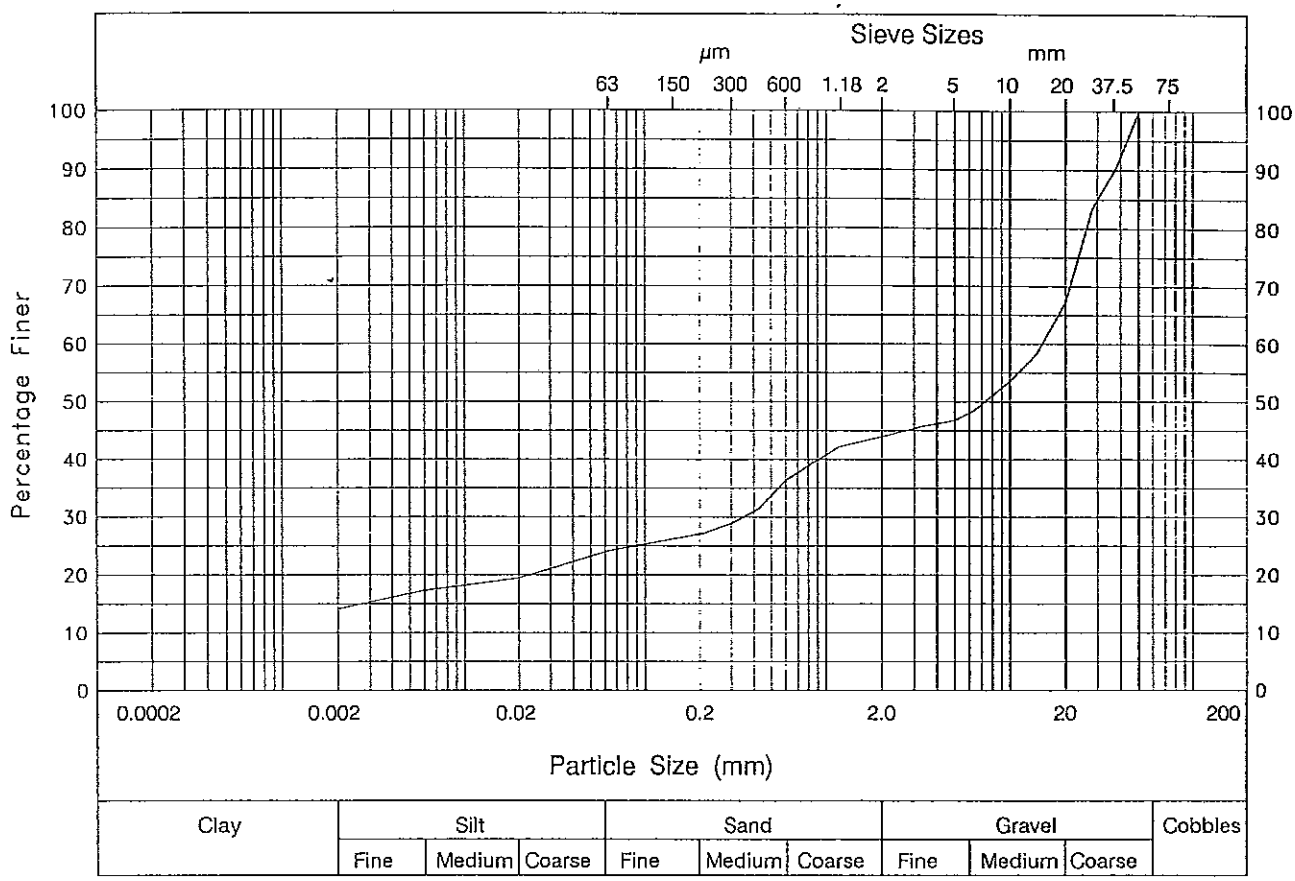


Particle Size	% Passing	Particle Size	% Passing
50 mm	100	425 µm	52
37.5 mm	86	300 µm	48
28 mm	75	212 µm	41
20 mm	72	150 µm	37
14 mm	67	63 µm	31
10 mm	63	20 µm	30
6.3 mm	61	6 µm	22
5 mm	59	2 µm	18
3.35 mm	58		
2 mm	57		
1.18 mm	56		
600 µm	54		

Hole TP12	Description: Orangish brown mottled grey sandy gravelly CLAY
Depth 0.40 -0.50	
Type B	
Test Performed Wet	Uniformity Coefficient not applicable.

Form 25/4

Laboratory - Particle Size Plot	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L2/22



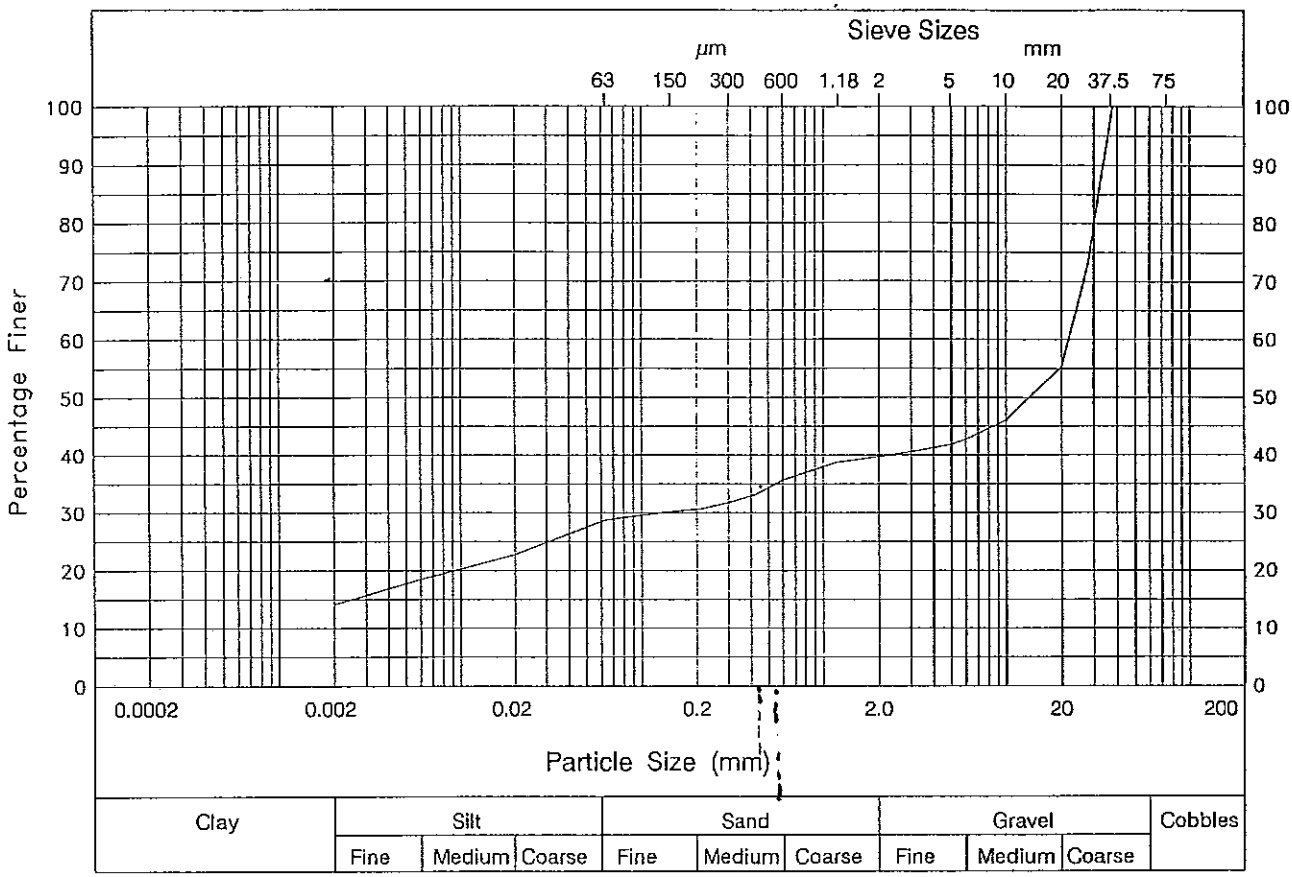
Particle Size	% Passing	Particle Size	% Passing
50 mm	100	425 µm	31
37.5 mm	90	300 µm	29
28 mm	83	212 µm	27
20 mm	67	150 µm	26
14 mm	58	63 µm	24
10 mm	53	20 µm	19
6.3 mm	48	6 µm	17
5 mm	47	2 µm	14
3.35 mm	46		
2 mm	44		
1.18 mm	42		
600 µm	36		

Hole TP12	Description: Orange and grey slightly sandy very gravelly CLAY
Depth 1.40 -1.80	
Type B	
Test Performed Wet	Uniformity Coefficient not applicable.

AD

Form 25/4

Laboratory - Particle Size Plot	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L2/23

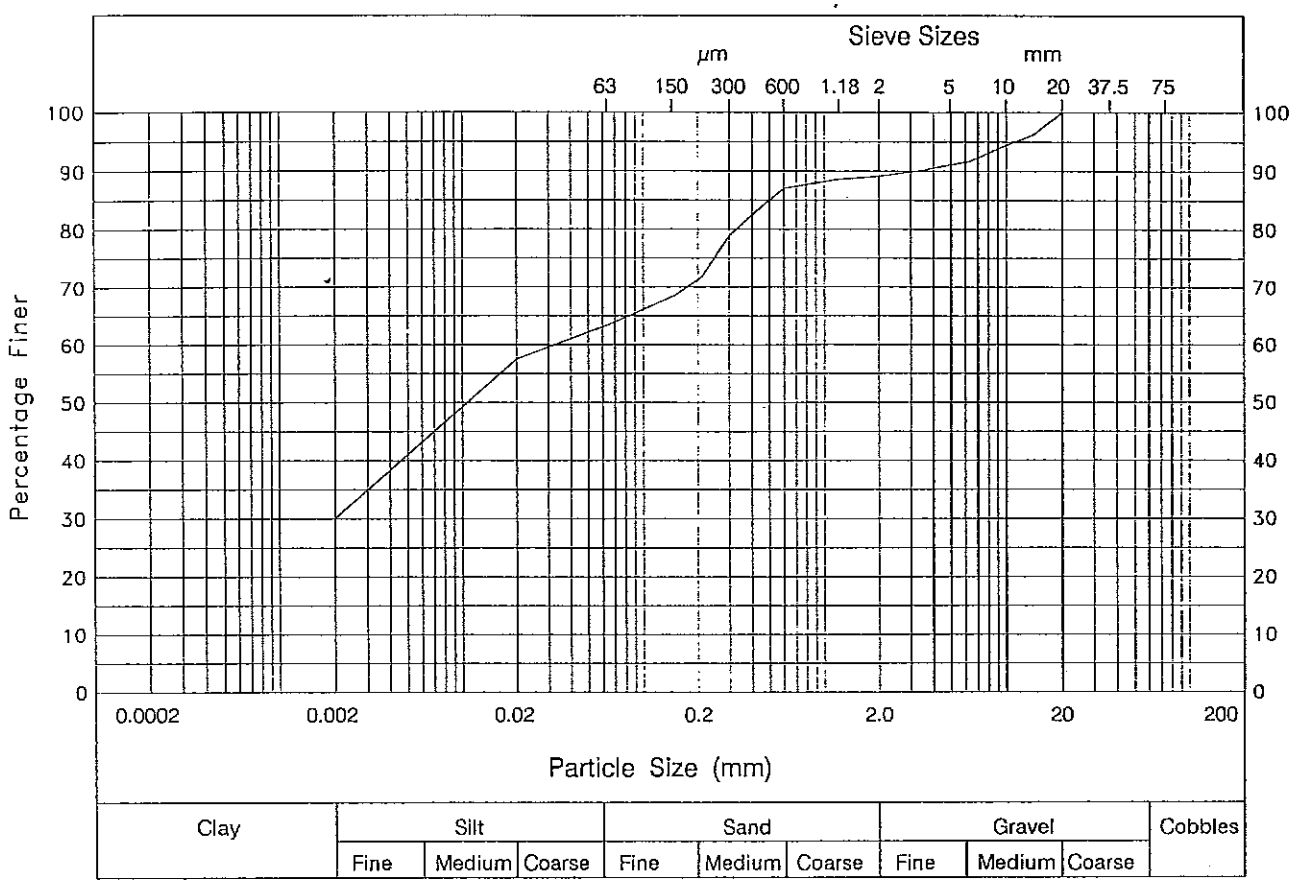


Particle Size	% Passing	Particle Size	% Passing
37.5 mm	100	300 μm	32
28 mm	74	212 μm	31
20 mm	55	150 μm	30
14 mm	51	63 μm	29
10 mm	46	20 μm	23
6.3 mm	43	6 μm	18
5 mm	42	2 μm	14
3.35 mm	41		
2 mm	40		
1.18 mm	39		
600 μm	36		
425 μm	33		

Hole TP12	Description: Light orangish grey clayey sandy GRAVEL
Depth 1.80 -2.00	
Type B	
Test Performed Wet	Uniformity Coefficient not applicable.

Form 25/4

Laboratory - Particle Size Plot	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L2/24

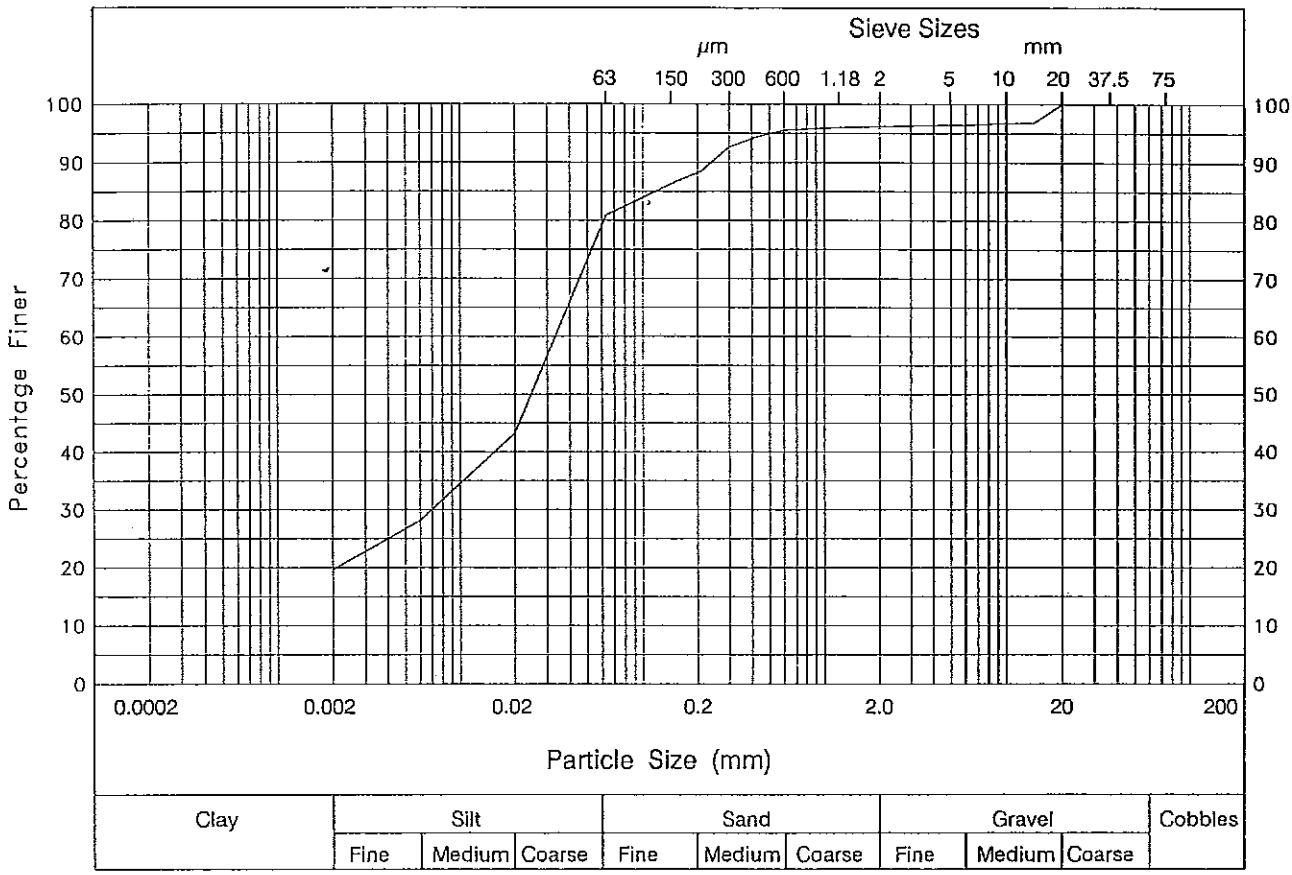


Particle Size	% Passing	Particle Size	% Passing
20 mm	100	150 µm	69
14 mm	96	63 µm	63
10 mm	94	20 µm	58
6.3 mm	92	6 µm	43
5 mm	91	2 µm	30
3.35 mm	90		
2 mm	89		
1.18 mm	89		
600 µm	87		
425 µm	83		
300 µm	79		
212 µm	72		

Hole TP12	Description Reddish brown slightly gravelly sandy CLAY
Depth 3.00 -3.10	
Type B	
Test Performed Wet	Uniformity Coefficient not applicable.

Form 25/4

Laboratory - Particle Size Plot	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L2/25



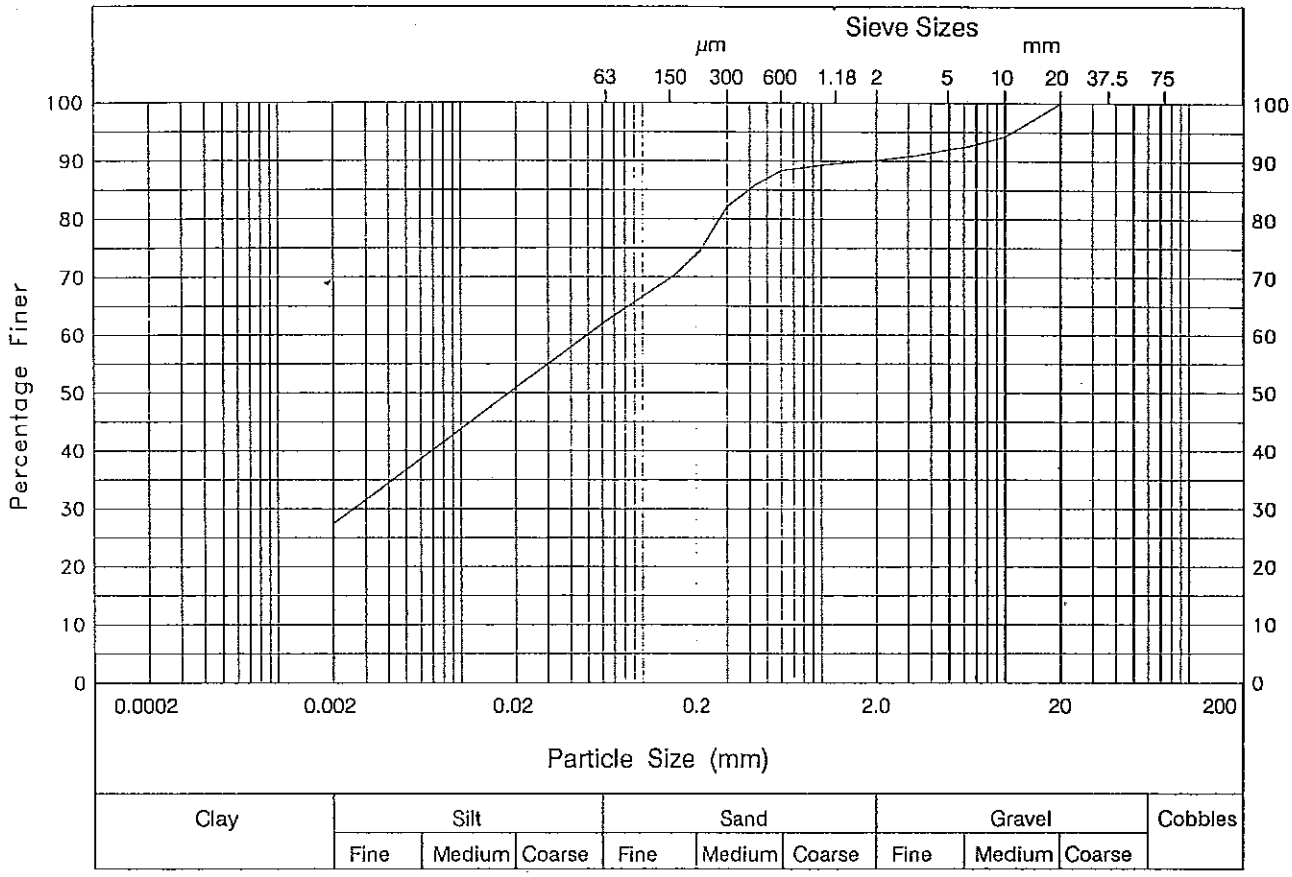
Particle Size	% Passing	Particle Size	% Passing
20 mm	100	150 µm	87
14 mm	97	63 µm	81
10 mm	97	20 µm	43
6.3 mm	96	6 µm	28
5 mm	96	2 µm	20
3.35 mm	96		
2 mm	96		
1.18 mm	96		
600 µm	96		
425 µm	94		
300 µm	93		
212 µm	89		

Hole TP13	Description Orange and grey slightly sandy slightly gravelly CLAY
Depth 0.30 -0.50	
Type B	
Test Performed Wet	Uniformity Coefficient not applicable.

AE ✓

Form 25/4

Laboratory - Particle Size Plot	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L2/26

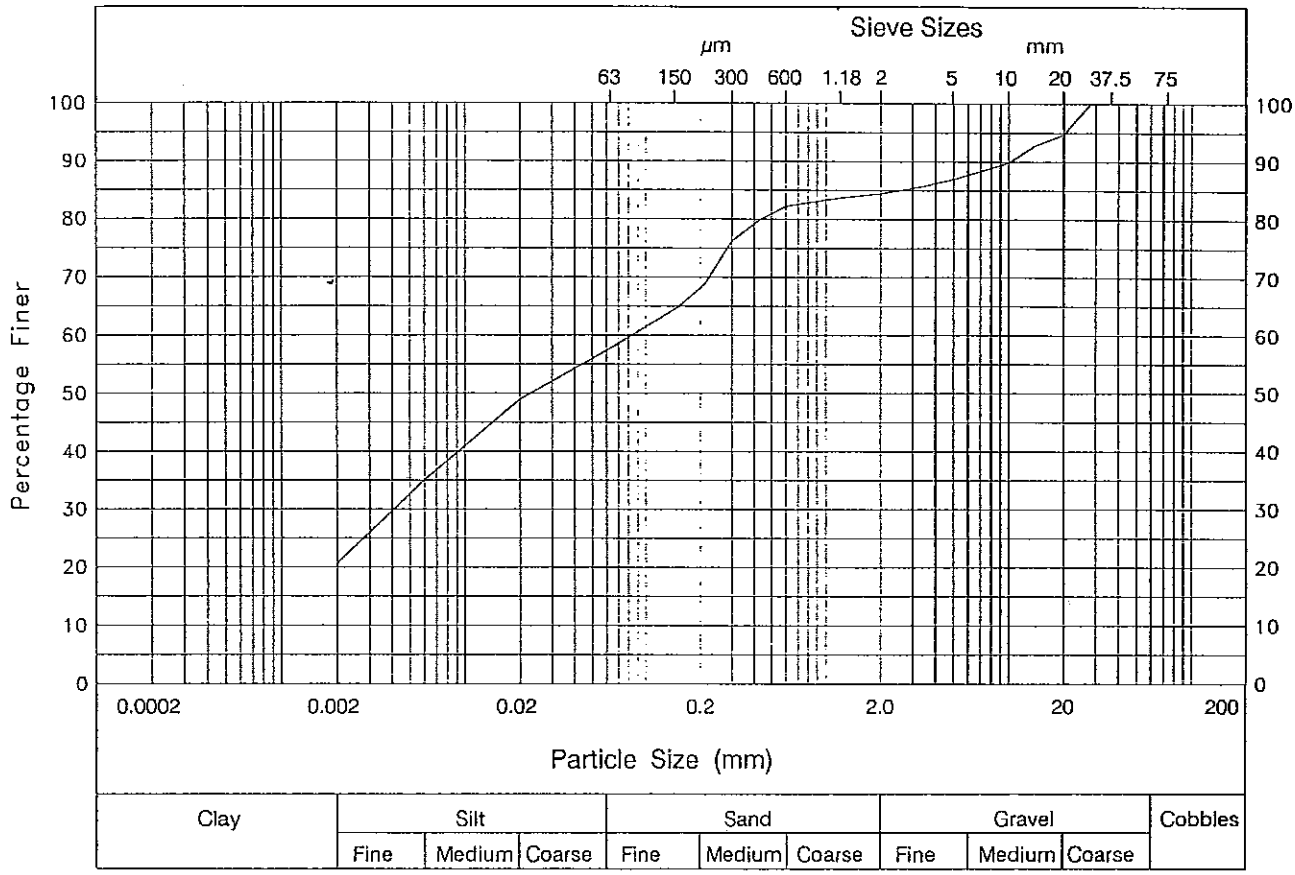


Particle Size	% Passing	Particle Size	% Passing
20 mm	100	150 µm	70
14 mm	97	63 µm	62
10 mm	94	20 µm	51
6.3 mm	93	6 µm	39
5 mm	92	2 µm	27
3.35 mm	91		
2 mm	90		
1.18 mm	90		
600 µm	88		
425 µm	86		
300 µm	82		
212 µm	75		

Hole TP13	Description: Orangish grey slightly gravelly sandy CLAY
Depth 1.40 -1.50	
Type B	
Test Performed Wet	Uniformity Coefficient not applicable.

Form 25/4

Laboratory - Particle Size Plot	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L2/27

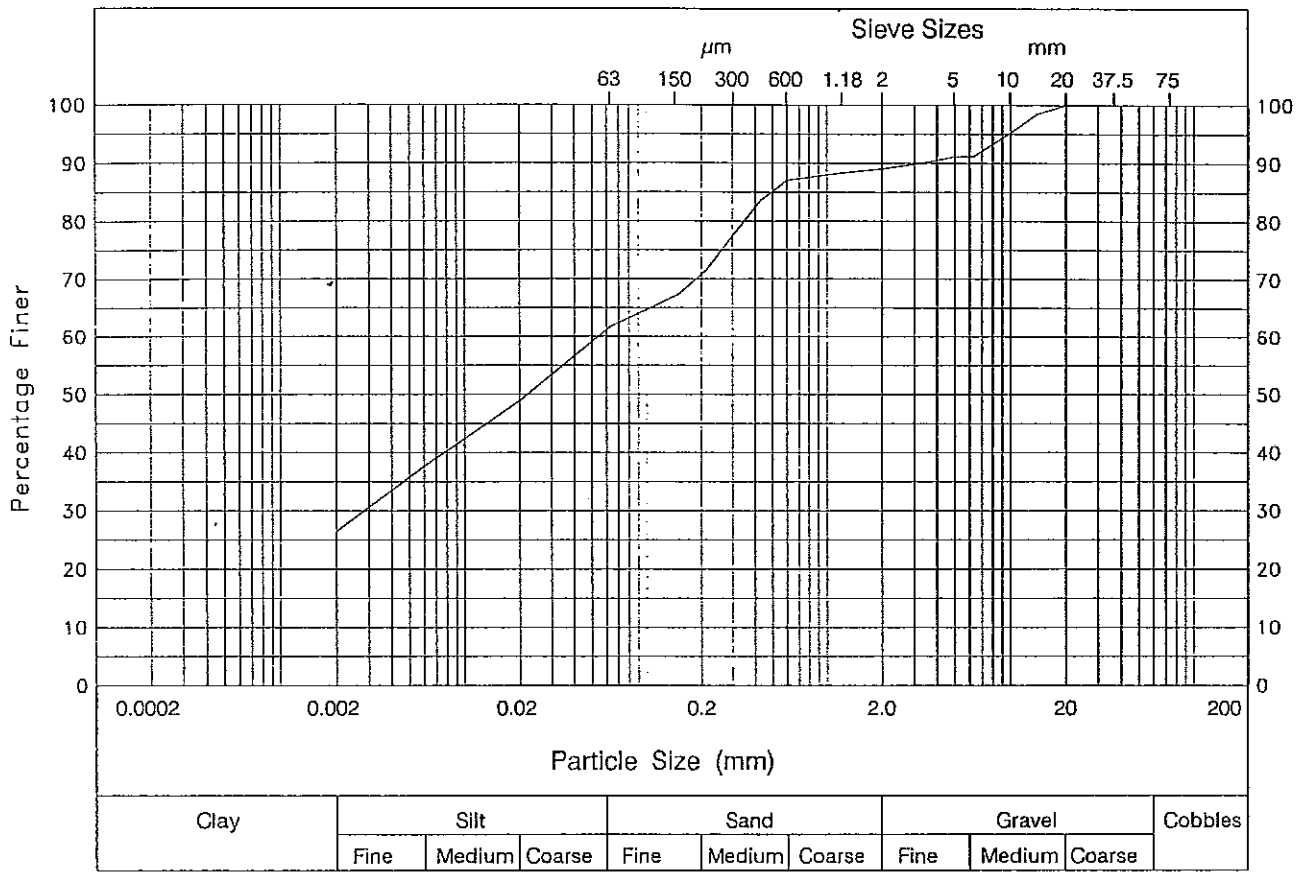


Particle Size	% Passing	Particle Size	% Passing
28 mm	100	212 µm	69
20 mm	95	150 µm	65
14 mm	93	63 µm	58
10 mm	90	20 µm	49
6.3 mm	88	6 µm	35
5 mm	87	2 µm	21
3.35 mm	86		
2 mm	84		
1.18 mm	84		
600 µm	82		
425 µm	80		
300 µm	76		

Hole TP13	Description: Dark purplish brown mottled grey slightly gravelly sandy CLAY
Depth 2.60 -2.80	
Type B	
Test Performed Wet	Uniformity Coefficient not applicable.

Form 25/4

Laboratory - Particle Size Plot	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L2/28



Particle Size	% Passing	Particle Size	% Passing
20 mm	100	150 µm	67
14 mm	99	63 µm	62
10 mm	95	20 µm	49
6.3 mm	91	6 µm	38
5 mm	91	2 µm	26
3.35 mm	90		
2 mm	89		
1.18 mm	88		
600 µm	87		
425 µm	83		
300 µm	77		
212 µm	71		

Hole TP14	Description: Dark reddish brown mottled grey slightly sandy gravelly CLAY
Depth 0.90 -1.00	
Type B	
Test Performed Wet	Uniformity Coefficient not applicable.

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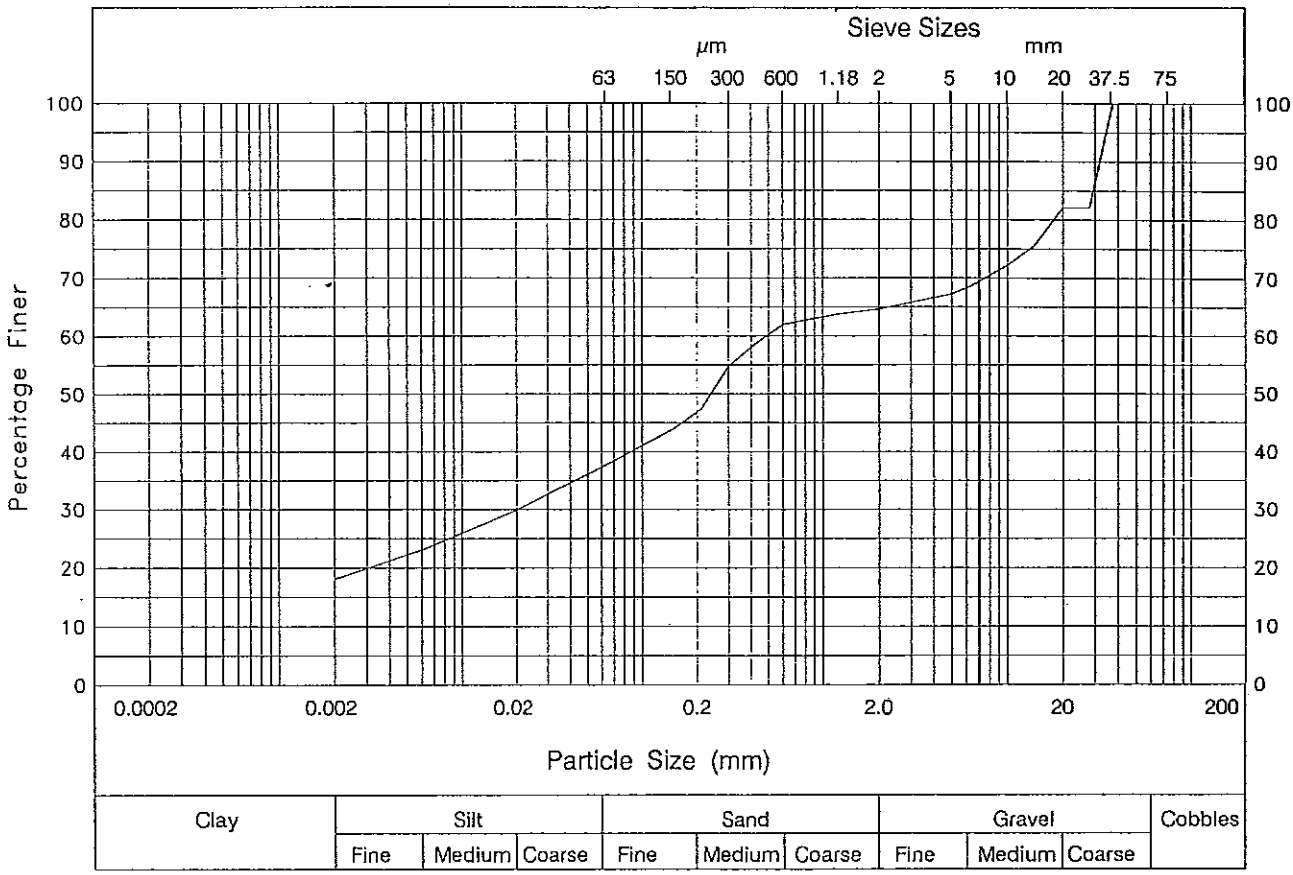
Form 25/4

Laboratory - Particle Size Plot	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L2/29

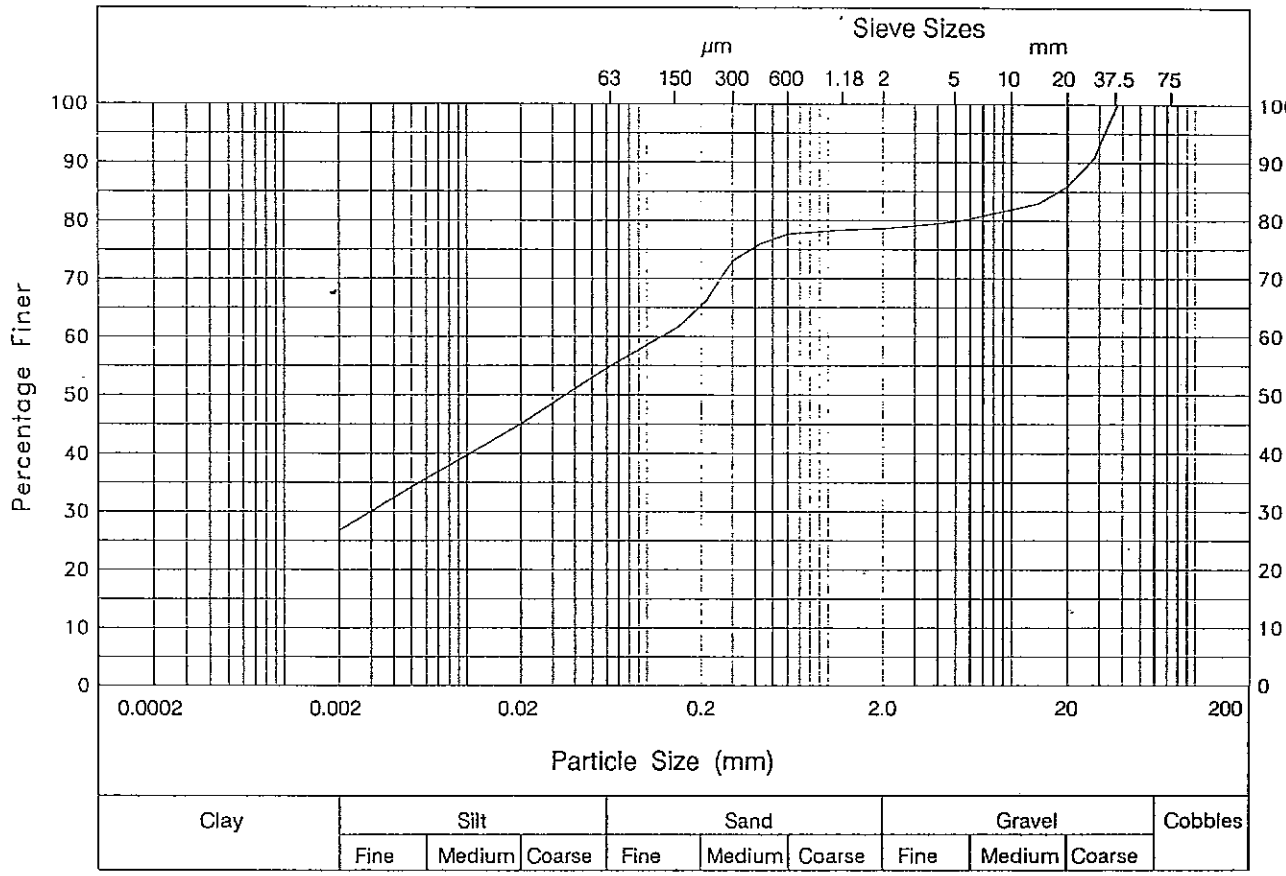


Particle Size	% Passing	Particle Size	% Passing
37.5 mm	100	300 µm	55
28 mm	82	212 µm	47
20 mm	82	150 µm	44
14 mm	76	63 µm	38
10 mm	72	20 µm	30
6.3 mm	69	6 µm	23
5 mm	67	2 µm	18
3.35 mm	66		
2 mm	65		
1.18 mm	64		
600 µm	62		
425 µm	59		

Hole TP15	Description: Dark orange and reddish brown sandy gravelly CLAY
Depth 1.00 -1.00	
Type B	
Test Performed Wet	Uniformity Coefficient not applicable.

Form 25/4

Laboratory - Particle Size Plot	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L2/30



Particle Size	% Passing	Particle Size	% Passing
37.5 mm	100	300 µm	73
28 mm	91	212 µm	66
20 mm	86	150 µm	62
14 mm	83	63 µm	55
10 mm	82	20 µm	45
6.3 mm	80	6 µm	36
5 mm	80	2 µm	27
3.35 mm	79		
2 mm	79		
1.18 mm	78		
600 µm	78		
425 µm	76		

Hole TP15	Description: Reddish brown sandy gravelly CLAY
Depth 3.80 -3.90	
Type B	
Test Performed Wet	Uniformity Coefficient not applicable.

Form 25/4

Laboratory - Particle Size Plot	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L2/31

Samples				Earthworks												
Hole	Depth	Type	Description	CBR Top	CBR Base	CBR Top w%	CBR Base w%	CBR Surch kg.	γ_b Mg/m^3	Comp Type	w% (Opt) <Nat>	γ_d (max) Mg/m^3	ρ_s Mg/m^3	% ret 20/ 37.5 mm	MCV
TP1	1.20-	B	Orangish grey sandy							2.5kg	(15)	(1.84)	2.65	2.5/	
	1.30		gravellY CLAY						1.86	2.5kg	10	1.69		0	
									2.01	2.5kg	14	1.76			
									2.11	2.5kg	15	1.83			
									2.11	2.5kg	17	1.81			
									2.05	2.5kg	19	1.73			
									2.22	MCV	16	1.91		8	12.7
TP1	2.90-	B	Orange and red slightly							4.5kg	(10)	(2.09)	2.65	4.8/	
	3.00		sandy gravelly CLAY						2.25	4.5kg	<13>	1.99		0	
									2.14	4.5kg	18	1.82			
									2.16	4.5kg	16	1.87			
									2.28	4.5kg	9.3	2.09			
									2.26	4.5kg	9.1	2.07			
									1.65	MCV	12	1.48		0	13.6
									1.75	MCV	16	1.51		0	8.4
									1.74	MCV	14	1.52		0	3.0
									1.65	MCV	9.0	1.51		0	17.0
TP2A	0.80-	B	Orange, red and grey							2.5kg	(20)	(1.69)	2.65	2.3/	
	0.80		slightly gravelly sandy						1.71	2.5kg	10	1.55		0	
			CLAY						1.84	2.5kg	17	1.57			
									1.93	2.5kg	18	1.64			
									2.03	2.5kg	21	1.68			
									1.98	2.5kg	23	1.61			
									1.92	2.5kg	26	1.52			
									2.18	MCV	14	1.91		0	16.5
									2.17	MCV	18	1.84		0	14.4
									2.08	MCV	21	1.73		0	10.3
									2.05	MCV	23	1.67		0	8.2
									1.98	MCV	26	1.57		0	5.9
TP4	0.30-	B	Orange mottled yellow							2.5kg	(24)	(1.60)	2.65	0.9/	
	0.40		slightly gravelly sandy						1.78	2.5kg	18	1.51		0	
			CLAY						1.93	2.5kg	22	1.58			
									1.98	2.5kg	25	1.58			
									1.98	2.5kg	24	1.60			
										4.5kg	(18)	(1.79)	2.65	0.9/	
									2.07	4.5kg	16	1.78		0	
									2.12	4.5kg	18	1.80			
									2.06	4.5kg	19	1.73			
									2.05	4.5kg	20	1.71			
									1.99	4.5kg	13	1.76			
									1.98	MCV	29	1.53		0	9.2

Remarks

Form 6/2

Laboratory - Compaction, CBR & MCV Summary	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L3/1

Samples				Earthworks												
Hole	Depth	Type	Description	CBR Top	CBR Base	CBR Top w%	CBR Base w%	CBR Surch kg.	γ_b Mg/m^3	Comp Type	w% (Opt) <Nat>	γ_d (max) Mg/m^3	ρ_s Mg/m^3	% ret 20/ 37.5 mm	MCV
TP4B	1.00-1.40	B	Grey clayey GRAVEL of mudstone							4.5kg	(15)	(1.82)	2.65	14/	
									2.12	4.5kg	<20>	1.77		0	
									2.05	4.5kg	23	1.66			
									2.10	4.5kg	15	1.82			
									2.02	4.5kg	13	1.79			
									1.98	4.5kg	10	1.80			
									1.72	MCV	19	1.44		0	12.2
									1.77	MCV	23	1.44		0	6.2
									1.78	MCV	15	1.55		0	18.0
									1.98	MCV	12	1.76		0	14.8
TP5	0.70-0.80	B	Dark orangish brown and reddish brown mottled grey sandy gravelly CLAY							4.5kg	(11)	(2.01)	2.65	4.7/	
									2.11	4.5kg	<19>	1.77		0	
									2.21	4.5kg	14	1.95			
									2.23	4.5kg	12	2.00			
									2.20	4.5kg	10	2.00			
									2.10	4.5kg	8.0	1.95			
									1.73	MCV	17	1.48		0	10.5
									1.64	MCV	12	1.47		0	15.4
									1.64	MCV	12	1.46		0	16.9
									1.69	MCV	9.9	1.53		0	18.0
TP5	1.70-1.80	B	Dark reddish brown and grey mottled slightly gravelly sandy CLAY							4.5kg	(9.0)	(2.12)	2.65	4.7/	
									2.19	4.5kg	<16>	1.90		0	
									2.08	4.5kg	20	1.74			
									2.27	4.5kg	12	2.03			
									2.30	4.5kg	8.4	2.12			
									2.13	4.5kg	6.1	2.01			
									1.66	MCV	13	1.47		0	10.3
									1.78	MCV	15	1.54		0	4.1
									1.64	MCV	12	1.46		0	15.2
									1.60	MCV	8.6	1.48		0	18.0
TP6	1.50-1.60	B	Reddish brown mottled grey slightly gravelly sandy CLAY							4.5kg	(11)	(2.03)	2.65	2.8/	
									2.16	4.5kg	<17>	1.85		0	
									2.05	4.5kg	21	1.70			
									2.20	4.5kg	14	1.93			
									2.24	4.5kg	11	2.03			
									2.10	4.5kg	7.8	1.95			
									1.71	MCV	15	1.48		0	12.2
									1.79	MCV	19	1.51		0	7.8
									1.66	MCV	14	1.46		0	16.0
									1.62	MCV	9.3	1.48		0	18.0

Remarks

Form 6/2

Laboratory - Compaction, CBR & MCV Summary	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L3/2

Samples				Earthworks												
Hole	Depth	Type	Description	CBR Top	CBR Base	CBR Top w%	CBR Base w%	CBR Surch kg.	γ_b Mg/m^3	Comp Type	w% (Opt) <Nat>	γ_d (max) Mg/m^3	ρ_s Mg/m^3	% ret 20/ 37.5 mm	MCV
TP8	1.50-1.60	B	Orangish brown slightly gravelly sandy CLAY							4.5kg	(9.5)	(2.03)	2.65	2.6/	
									2.13	4.5kg	7.9	1.98		0	
									2.22	4.5kg	10	2.01			
									2.19	4.5kg	13	1.94			
									2.19	4.5kg	14	1.93			
									2.00	4.5kg	6.5	1.88			
									2.13	MCV	19	1.79		0	8.0
									2.24	MCV	12	1.99		0	13.6
									2.19	MCV	15	1.91		0	10.6
									2.08	MCV	20	1.73		0	2.4
									2.14	MCV	16	1.85		0	8.6
TP9	1.50-1.60	B	Reddish brown slightly sandy gravelly CLAY							4.5kg	(11)	(2.05)	2.65	2.8/	
									2.18	4.5kg	<15>	1.89		41	
									2.12	4.5kg	17	1.81			
									2.25	4.5kg	12	2.02			
									2.27	4.5kg	11	2.05			
									2.17	4.5kg	6.7	2.04			
									1.74	MCV	13	1.54		0	15.1
									1.73	MCV	16	1.49		0	8.0
									1.64	MCV	12	1.46		0	10.8
									1.61	MCV	10	1.46		0	18.0
TP10	0.40-0.50	B	Orangish brown mottled grey slightly sandy slightly gravelly CLAY							2.5kg	(20)	(1.67)	2.65	0/	
									1.85	2.5kg	20	1.54		0	
									1.98	2.5kg	19	1.66			
									2.01	2.5kg	23	1.64			
									1.95	2.5kg	25	1.56			
TP10	0.90-1.00	B	Dark reddish purple sandy gravelly CLAY							4.5kg	(9.5)	(2.02)	2.65	7.2/	
									2.12	4.5kg	<19>	1.78		0	
									2.06	4.5kg	21	1.70			
									2.21	4.5kg	15	1.92			
									2.24	4.5kg	13	1.99			
									2.15	4.5kg	6.8	2.01			
									1.71	MCV	18	1.46		0	10.0
									1.76	MCV	20	1.46		0	2.0
									1.66	MCV	14	1.46		0	14.7
									1.63	MCV	11	1.46		0	18.2
TP11	1.10-1.20	B	Orange and reddish brown slightly sandy gravelly CLAY							4.5kg	(12)	(2.00)	2.65	2.4/	
									2.16	4.5kg	<17>	1.85		0	
									2.09	4.5kg	18	1.77			
									2.24	4.5kg	13	1.98			
									2.18	4.5kg	9.8	1.99			
									2.13	4.5kg	7.9	1.97			
									1.70	MCV	14	1.49		0	11.2
									1.79	MCV	17	1.53		0	9.0
									1.65	MCV	13	1.46		0	18.2
									1.80	MCV	7.4	1.68		0	18.0

Remarks

Form 6/2

Laboratory - Compaction, CBR & MCV Summary	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L3/3

Samples				Earthworks												
Hole	Depth	Type	Description	CBR Top	CBR Base	CBR Top w%	CBR Base w%	CBR Surch kg.	γ_b Mg/m^3	Comp Type	w% (Opt) <Nat>	γ_d (max) Mg/m^3	ρ_s Mg/m^3	% ret 20/ 37.5 mm	MCV
TP12	0.40-0.50	B	Orangish brown mottled grey sandy gravelly CLAY							2.5kg	(11)	(1.98)	2.65	2.9/	
									2.05	2.5kg	8.3	1.89		0	
									2.15	2.5kg	11	1.94			
									2.17	2.5kg	13	1.92			
									2.14	2.5kg	14	1.88			
									2.19	2.5kg	12	1.96			
TP12	1.40-1.80	B	Orange and grey slightly sandy very gravelly CLAY							4.5kg	(11)	(1.96)	2.65	25/	
									2.14	4.5kg	<19>	1.80		6.5	
									2.05	4.5kg	21	1.70			
									2.19	4.5kg	17	1.87			
									2.17	4.5kg	11	1.96			
									2.08	4.5kg	6.7	1.95			
									1.70	MCV	17	1.46		0	9.9
									1.78	MCV	20	1.48		0	5.8
									1.68	MCV	13	1.48		0	12.2
									1.73	MCV	9.6	1.58		0	18.0
TP13	1.40-1.50	B	Orangish grey slightly gravelly sandy CLAY							2.5kg	(14)	(1.91)	2.65	2.6/	
									1.91	2.5kg	10	1.73		0	
									2.11	2.5kg	14	1.85			
									2.15	2.5kg	14	1.88			
									2.10	2.5kg	17	1.80			
									2.08	2.5kg	18	1.77			
									2.18	MCV	18	1.85		0	8.9
TP14	0.90-1.00	B	Dark reddish brown mottled grey slightly sandy gravelly CLAY							2.5kg	(16)	(1.80)	2.65	0/	
									1.86	2.5kg	11	1.67		0	
									1.98	2.5kg	15	1.72			
									2.08	2.5kg	16	1.79			
									2.08	2.5kg	18	1.76			
									2.07	2.5kg	19	1.74			
TP14	4.00-4.20	B	Dark reddish brown slightly sandy gravelly CLAY							4.5kg	(8.5)	(2.13)	2.65	6.3/	
									2.28	4.5kg	<12>	2.03		7.6	
									2.21	4.5kg	14	1.93			
									2.16	4.5kg	16	1.87			
									2.30	4.5kg	9.7	2.10			
									2.22	4.5kg	6.0	2.09			
									1.63	MCV	10	1.47		0	11.2
									1.67	MCV	14	1.46		0	8.6
									1.71	MCV	15	1.48		0	5.2
									1.60	MCV	8.2	1.47		0	17.5

Remarks

Form 6/2

Laboratory - Compaction, CBR & MCV Summary	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L3/4

Samples				Earthworks												
Hole	Depth	Type	Description	CBR Top	CBR Base	CBR Top w%	CBR Base w%	CBR Surch kg.	γ_b Mg/m^3	Comp Type	w% (Opt) <Nat>	γ_d (max) Mg/m^3	ρ_s Mg/m^3	% ret 20/ 37.5 mm	MCV
TP15	1.00-1.00	B	Dark orange and reddish brown sandy gravelly CLAY							4.5kg	(12)	(1.97)	2.65	7.3/	
									2.13	4.5kg	<19>	1.80		1.6	
									2.06	4.5kg	21	1.70			
									2.21	4.5kg	15	1.93			
									2.16	4.5kg	9.8	1.97			
									2.12	4.5kg	8.0	1.96			
									1.70	MCV	18	1.44		0	12.0
									1.72	MCV	19	1.45		0	8.7
									1.71	MCV	13	1.52		0	14.8
									1.74	MCV	9.4	1.59		0	18.0
TP16	2.10-2.20	B	Dark red slightly sandy gravelly CLAY							4.5kg	(9.5)	(2.10)	2.65	2.6/	
									2.16	4.5kg	<16>	1.87		0	
									2.10	4.5kg	17	1.79			
									2.27	4.5kg	11	2.05			
									2.30	4.5kg	10	2.09			
									2.22	4.5kg	7.2	2.07			
									1.65	MCV	14	1.45		0	10.2
									1.77	MCV	16	1.53		0	5.4
									1.63	MCV	12	1.46		0	14.0
									1.61	MCV	9.0	1.48		0	18.2

Remarks

Form 6/2

Laboratory - Compaction, CBR & MCV Summary	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		**Sheet** L3/5

Exploration Associates

LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_p %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
TP1	1.20 - 1.30	D	Orangish grey sandy gravelly CLAY				16																
TP1	1.20 - 1.30	B	Orangish grey sandy gravelly CLAY	78%	425	Sieve									Std		(15)	(1.84)					PSD : CL(/+)SI/SA/GR
				41	17	24	15		REM	50	60				Std		10	1.69					31%/26%/25%/17%
									REM	50	103				Std		14	1.76					Comp/CBR %> 20mm=2.5 37.5mm=0
									REM	50	77				Std		15	1.83					MCV % > 20mm = 8.1
									REM	50	39				Std		17	1.81					
															Std		19	1.73					
															MCV		16	1.91	12.7				
TP1	2.90 - 3.00	B	Orange and red slightly sandy gravelly CLAY												Hvy		(10)	(2.09)					Comp/CBR %> 20mm=4.8 37.5mm=0
															Hvy		<13>	1.99					MCV % > 20mm = 0.0
															Hvy		18	1.82					
															Hvy		16	1.87					
															Hvy		9.3	2.09					
															Hvy		9.1	2.07					
															MCV		12	1.48	13.6				
															MCV		15	1.51	8.4				
															MCV		14	1.52	3.0				
															MCV		8.7	1.51	17.0				
TP1	3.20 - 3.30	B	Reddish brown sandy gravelly CLAY	80%	425	Sieve																	PSD : CL(/+)SI/SA/GR
				36	20	16	14																26%/33%/25%/16%
TP1	3.50 - 3.50	D	One large SILTSTONE				20																

NOTES

For full explanation of symbols please see key sheet

SHEAR STRENGTH - U/C: Unconsolidated/Consolidated U/D: Undrained/Drained Λ with P.W.P. measurement Diameter in mm
T: Single Stage Triaxial M: Multistage Triaxial REM: Remoulded REC: Reconstituted V: Vane SB: Shear Box (resid)

CONSOLIDATION - m_v and c_v given for load increment of 100kPa above assumed overburden pressure

COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

Project

BYRKLEY PARK
Football Association

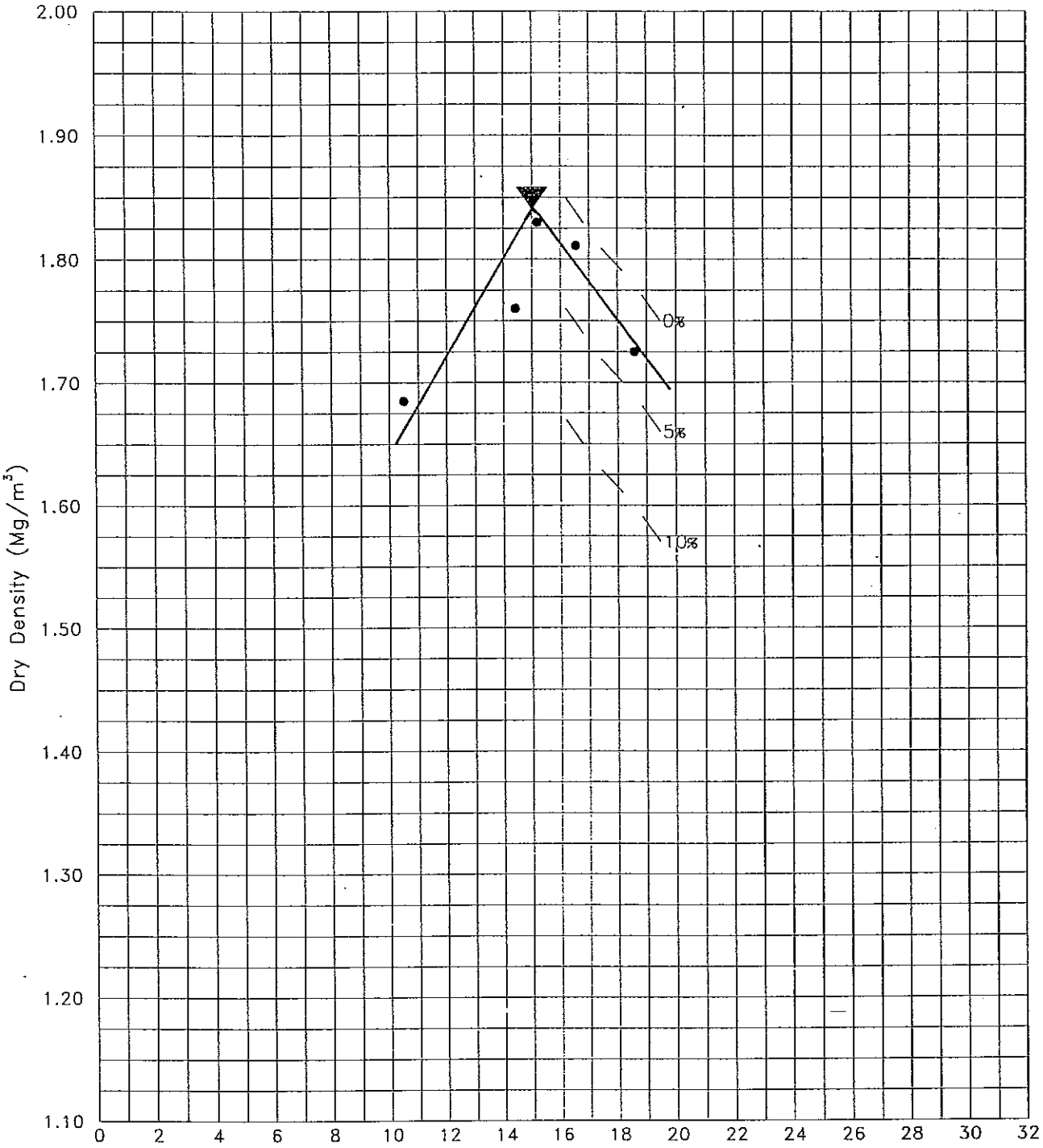
Form 40/4

Contract

121070

Sheet

L3/6



- Moisture Content/Dry Density
- o Compaction at Natural Water Content
- ▼ Maximum Dry Density/Optimum Water Content

Type of Test/Mould	2.5Kg/1Ltr		
Particle Density Assumed	2.65	Mg/m³	
Maximum Dry Density	1.84	Mg/m³	
Optimum Water Content	15	%	
% retained 37.5mm sieve	0		
% retained 20mm sieve	2		

Description

Orangish grey sandy gravelly CLAY

Hole TP1

Depth 1.20 -1.30

Type B

Form 54/0

Remarks

Laboratory - Moisture Content/ Dry Density Relationship

Exploration Associates

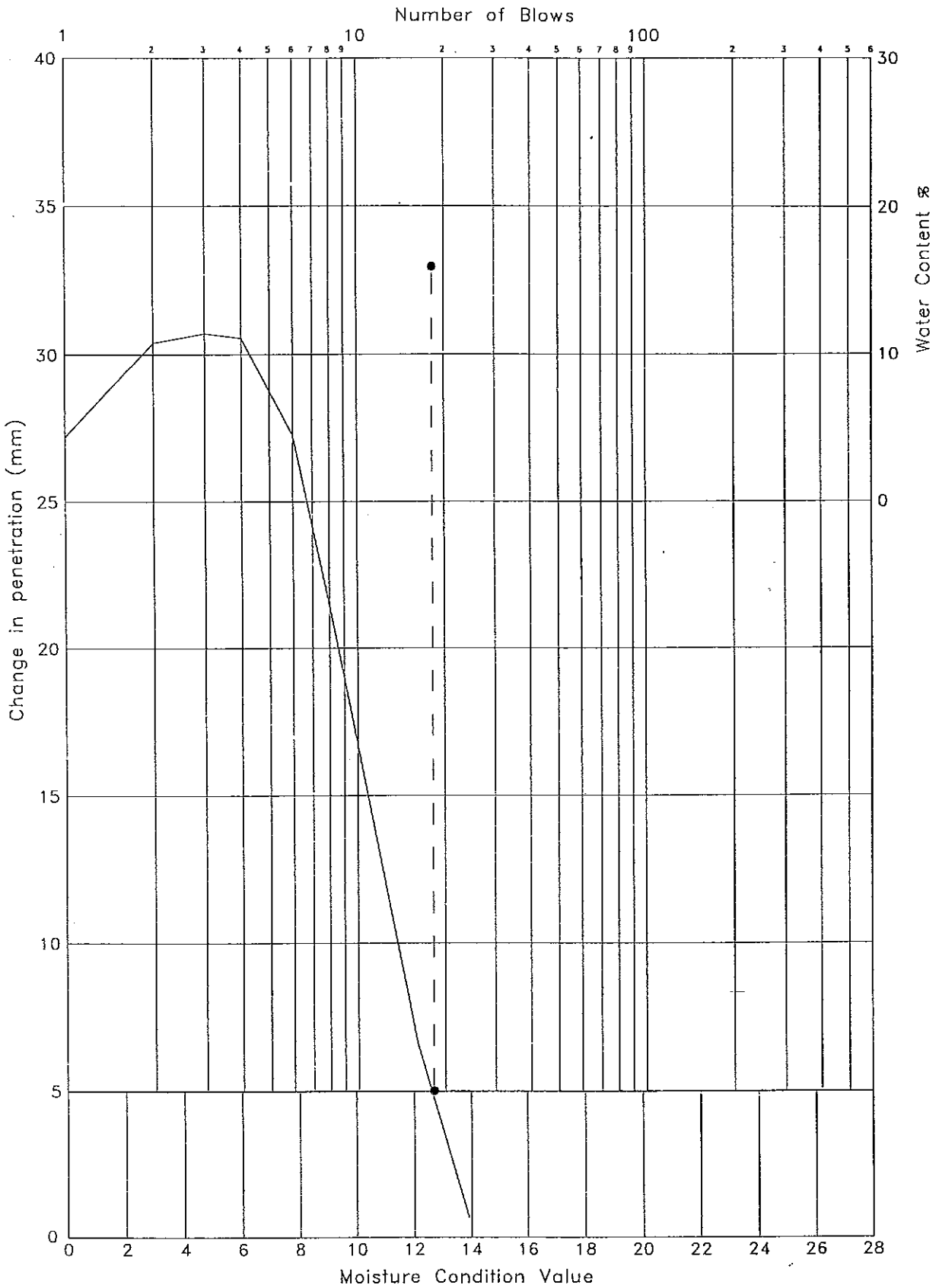
Project

BYRKLEY PARK
Football Association

Contract

121070

L3/7

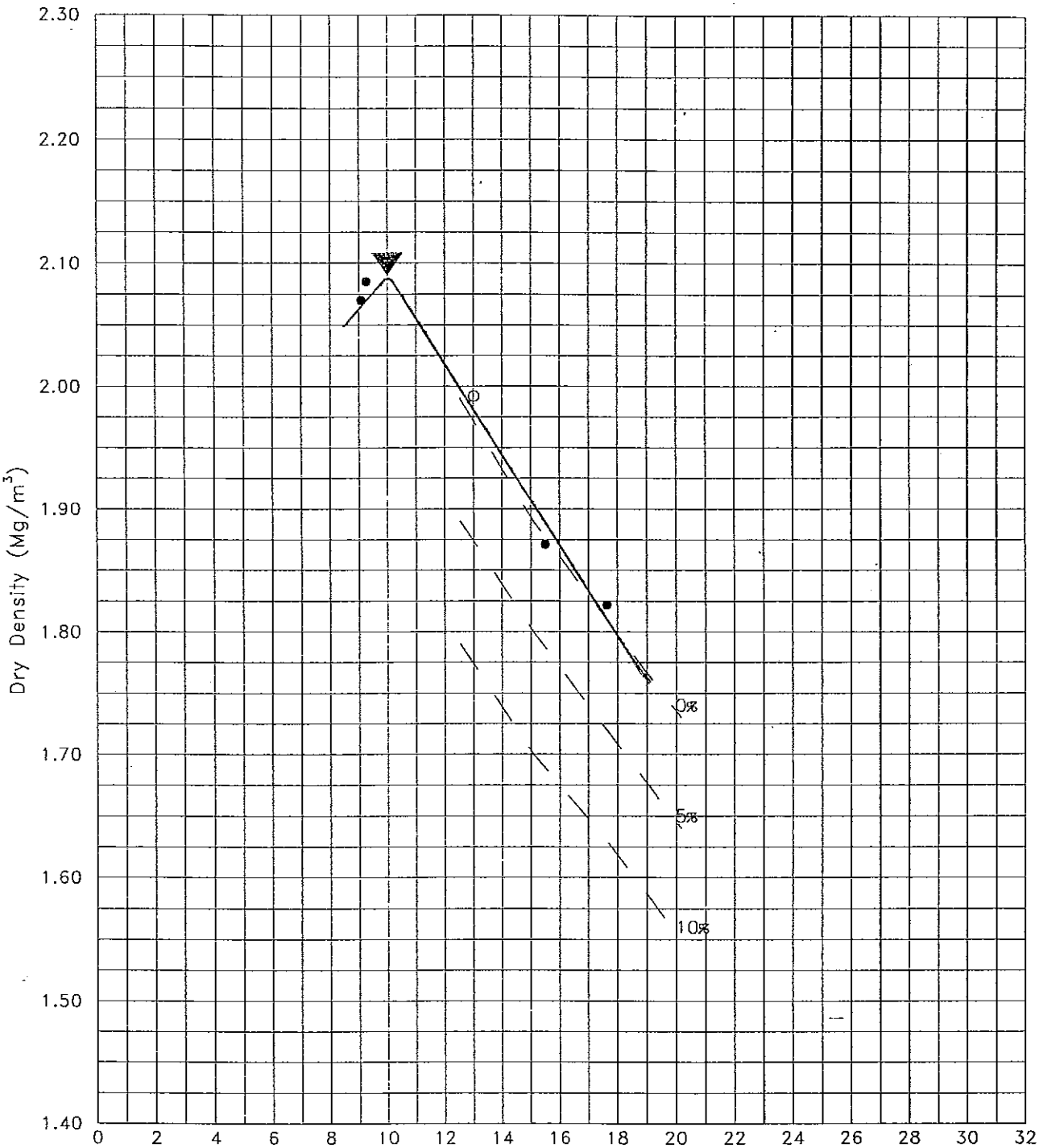


% retained on 20mm sieve 8	Description Orangish grey sandy gravelly CLAY	Hole TP1 Depth 1.20 -1.30 Type B

Remarks

Form 52/1

Laboratory - MCV Exploration Associates	**Project** BYRKLEY PARK Football Association	**Contract** 121070 L3/7/1

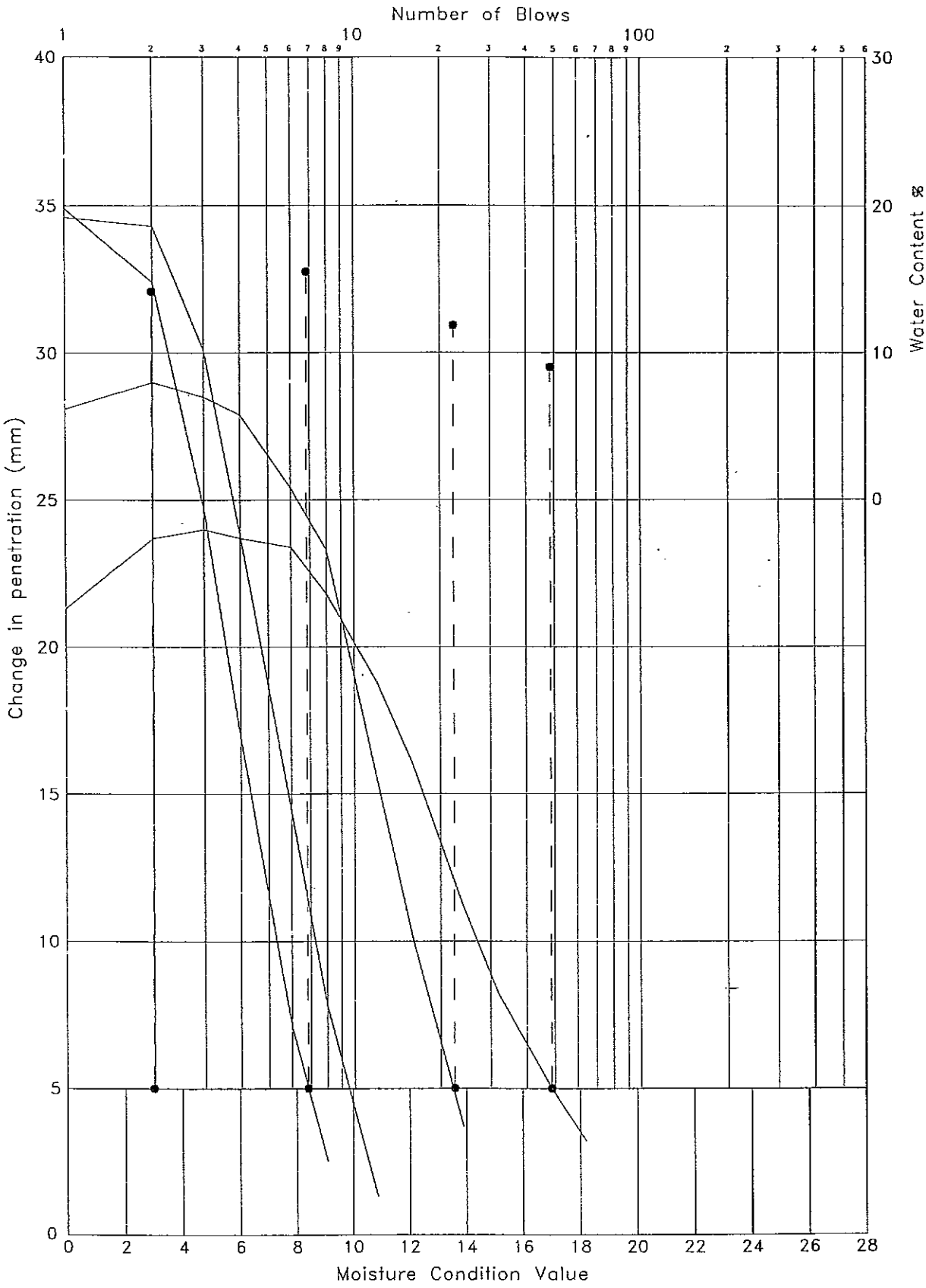


- ● Moisture Content/Dry Density
- o Compaction at Natural Water Content
- ▼ Maximum Dry Density/Optimum Water Content

Type of Test/Mould	4.5Kg/1Ltr	Description	Hole TP1
Particle Density Assumed	2.65 Mg/m³		
Maximum Dry Density	2.09 Mg/m³	Orange and red slightly sandy gravelly CLAY	Depth 2.90 -3.00
Optimum Water Content	10 %		
% retained 37.5mm sieve	0		Type B
% retained 20mm sieve	5		Form 54/0

Remarks

Laboratory - Moisture Content/ Dry Density Relationship	Project BYRKLEY PARK Football Association	Contract 121070
Exploration Associates		L3/8



% retained on 20mm sieve 0	Description Orange and red slightly sandy gravelly CLAY	Hole TP1 Depth 2.90 -3.00 Type B

Remarks

Form 52/1

Laboratory - MCV Exploration Associates	**Project** BYRKLEY PARK Football Association	**Contract** 121070 L3/8/1

Exploration Associates

LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_p %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
TP2A	0.80 - 0.80	B	Orange, red and grey slightly gravelly sandy CLAY	83%	425	Sieve									Std		(20)	(1.69)					PSD : CL(/+)SI/SA/GR
				56	30	26	26		REM	50	179				Std		10	1.55					40%/23%/25%/12%
									REM	50	159				Std		17	1.57					Comp/CBR %> 20mm=2.3 37.5mm=0
									REM	50	86				Std		18	1.64					MCV % > 20mm = 0.0
									REM	50	55				Std		21	1.68					
									REM	50	41				Std		23	1.61					
															Std		26	1.52					
															MCV		14	1.91	16.5				
															MCV		18	1.84	14.4				
															MCV		21	1.73	10.3				
															MCV		23	1.67	8.2				
															MCV		26	1.57	5.9				
TP2A	0.80 - 0.80	D	Orange and reddish grey slightly sandy gravelly CLAY				19																
TP2A	1.90 - 2.50	B	Greyish blue slightly sandy CLAY	100%	425	Sieve																	PSD : CL(/+)SI/SA/GR
				42	25	17	24																27%/73%/1%/0%
TP2A	1.90 - 2.00	D	Bluish grey gravelly CLAY				21																

NOTES

For full explanation of symbols please see key sheet

SHEAR STRENGTH - U/C: Unconsolidated/Consolidated U/D: Undrained/Drained Δ with P.W.P. measurement Diameter in mm
T: Single Stage Triaxial M: Multistage Triaxial REM: Remoulded REC: Reconstituted V: Vane SB: Shear Box (resid)

CONSOLIDATION - m_v and c_v given for load increment of 100kPa above assumed overburden pressure

COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

Project

BYRKLEY PARK
Football Association

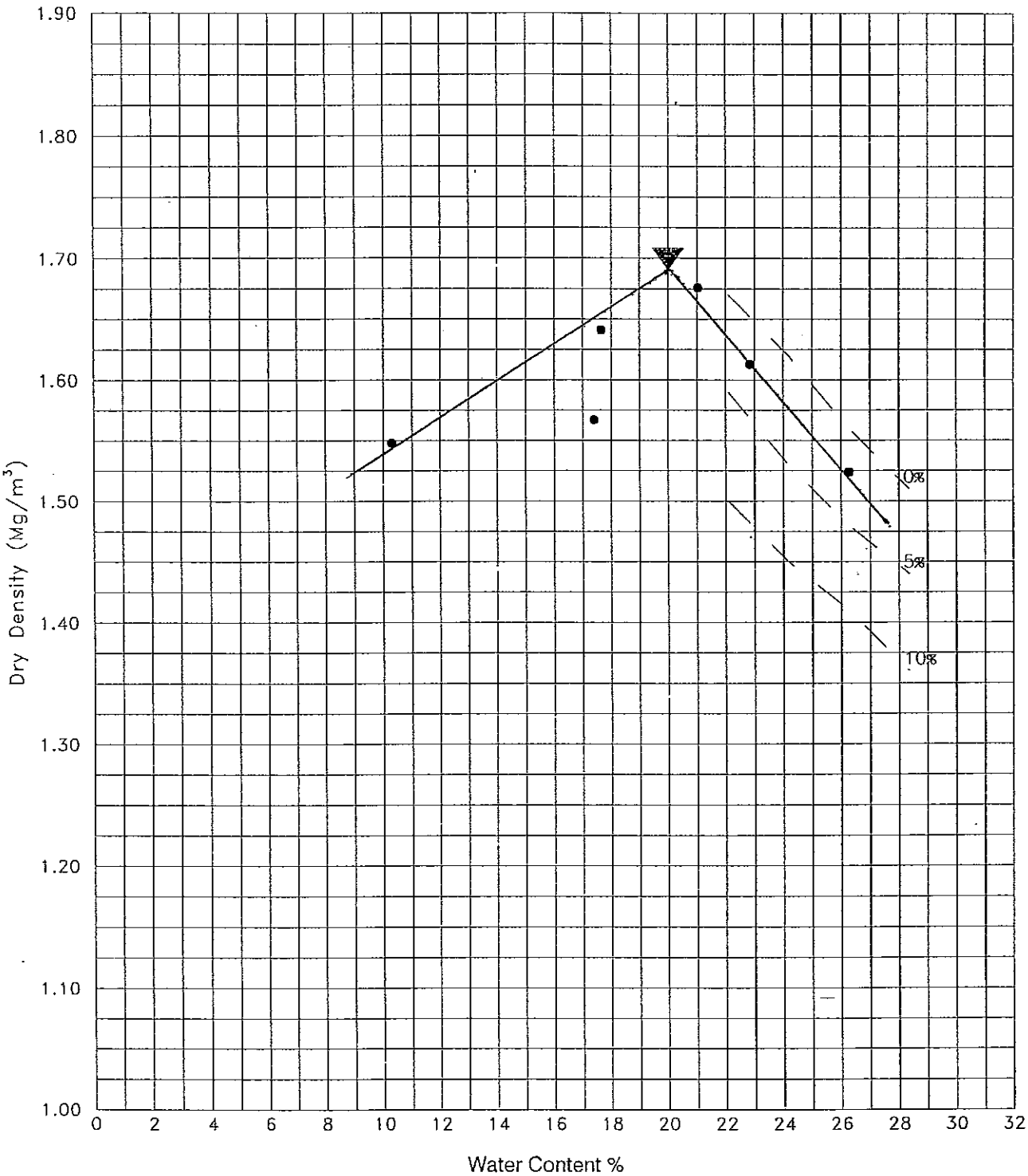
Form 40/4

Contract

121070

Sheet

L3/9



- ● Moisture Content/Dry Density
- ○ Compaction at Natural Water Content
- ▼ Maximum Dry Density/Optimum Water Content

Type of Test/Mould	2.5Kg/1Ltr		
Particle Density Assumed	2.65	Mg/m³	
Maximum Dry Density	1.69	Mg/m³	
Optimum Water Content	20	%	
% retained 37.5mm sieve	0		
% retained 20mm sieve	2		

Description

Orange, red and grey slightly gravelly sandy CLAY

Hole	TP2A	
Depth	0.80	-0.80
Type	B	

Form 54/0

Remarks

Laboratory - Moisture Content/ Dry Density Relationship

Exploration Associates

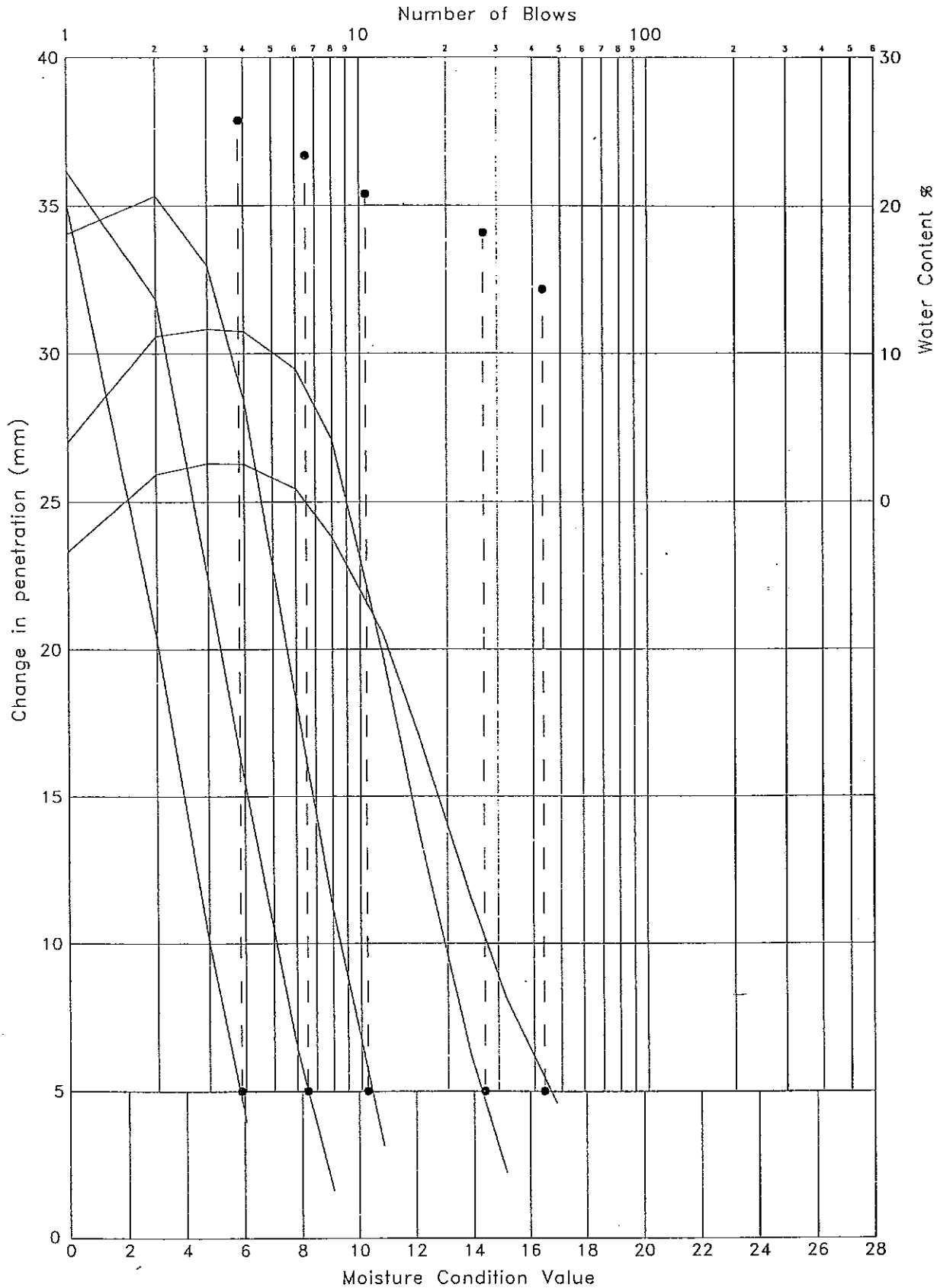
Project

BYRKLEY PARK
Football Association

Contract

121070

L3/10



% retained on 20mm sieve 0	Description Orange, red and grey slightly gravelly sandy CLAY	Hole TP2A Depth 0.80 -0.80 Type B

Remarks

Form 52/1

Laboratory - MCV Exploration Associates	**Project** BYRKLEY PARK Football Association	**Contract** 121070 L3/10/1

Exploration Associates

LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_p %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
TP4	0.30 - 0.40	B	Orange mottled yellow slightly gravelly sandy CLAY	90%	425	Sieve			REM	50	431				Std		(24)	(1.60)					PSD : CL(/+)SI/SA/GR
				62	30	32	28		REM	50	224				Std		18	1.51					49%/22%/22%/7%
									REM	50	175				Std		22	1.58					Comp/CBR %> 20mm=0.9 37.5mm=0
									REM	50	815				Std		25	1.58					Comp/CBR %> 20mm=0.9 37.5mm=0
															Std		24	1.60					MCV % > 20mm = 0.0
									REM	50	643				Hvy		(18)	(1.79)					
									REM	50	431				Hvy		16	1.78					
									REM	50	224				Hvy		18	1.80					
									REM	50	175				Hvy		19	1.73					
									REM	50	815				Hvy		20	1.71					
															Hvy		13	1.76					
															MCV		29	1.53	9.2				
TP4	0.30 - 0.40	D	Orange mottled yellow slightly sandy gravelly CLAY				25																
TP4	0.70 - 0.80	B	Orangish grey slightly sandy slightly gravelly CLAY	98%	425	Sieve																	PSD : CL(/+)SI/SA/GR
				81	37	44	36																75%/19%/5%/1%
TP4	0.70 - 0.80	D	Orangish grey slightly gravelly slightly sandy CLAY				35																
TP4	1.50 - 1.60	B	Bluish grey slightly sandy gravelly CLAY	89%	425	Sieve																	PSD : CL(/+)SI/SA/GR
				42	25	17	34																30%/57%/1%/11%
TP4	1.50 - 1.60	D	Bluish grey slightly sandy gravelly CLAY				26																

NOTES — For full explanation of symbols please see key sheet

SHEAR STRENGTH - U/C: Unconsolidated/Consolidated U/D: Undrained/Drained Λ with P.W.P. measurement Diameter in mm
T: Single Stage Triaxial M: Multistage Triaxial REM: Remoulded REC: Reconstituted V: Vane SB: Shear Box (resid)

CONSOLIDATION - m_v and c_v given for load increment of 100kPa above assumed overburden pressure

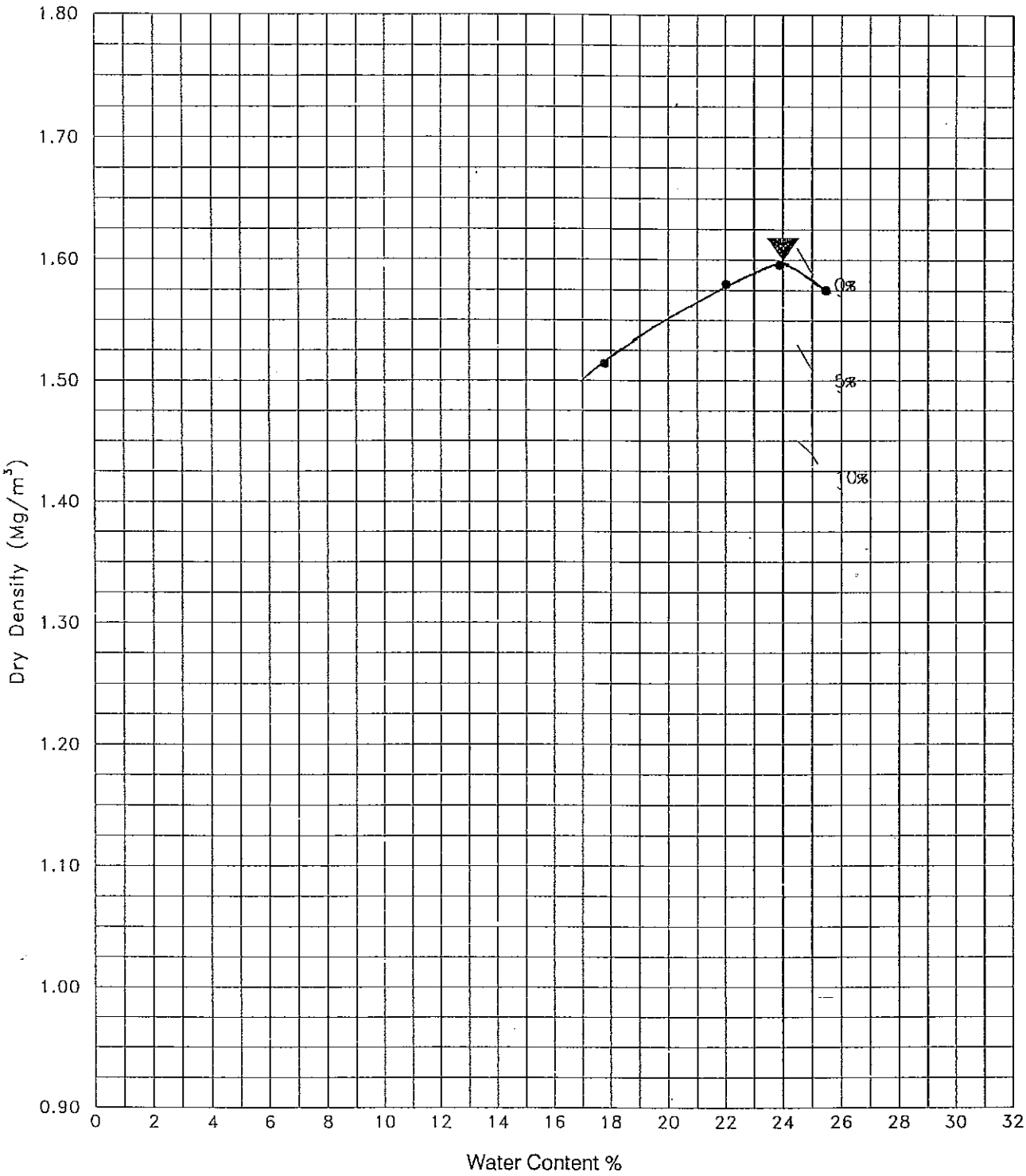
COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

Project
BYRKLEY PARK
Football Association

Form 40/4

Contract
121070

Sheet
L3/11



- Moisture Content/Dry Density
- o Compaction at Natural Water Content
- ▼ Maximum Dry Density/Optimum Water Content

Type of Test/Mould	2.5Kg/1Ltr		
Particle Density Assumed	2.65	Mg/m^3	
Maximum Dry Density	1.60	Mg/m^3	
Optimum Water Content	24	%	
% retained 37.5mm sieve	0		
% retained 20mm sieve	1		

Description

Orange mottled yellow slightly gravelly sandy CLAY

Hole TP4

Depth 0.30 -0.40

Type B

Form 54/0

Remarks

Laboratory - Moisture Content/ Dry Density Relationship

Exploration Associates

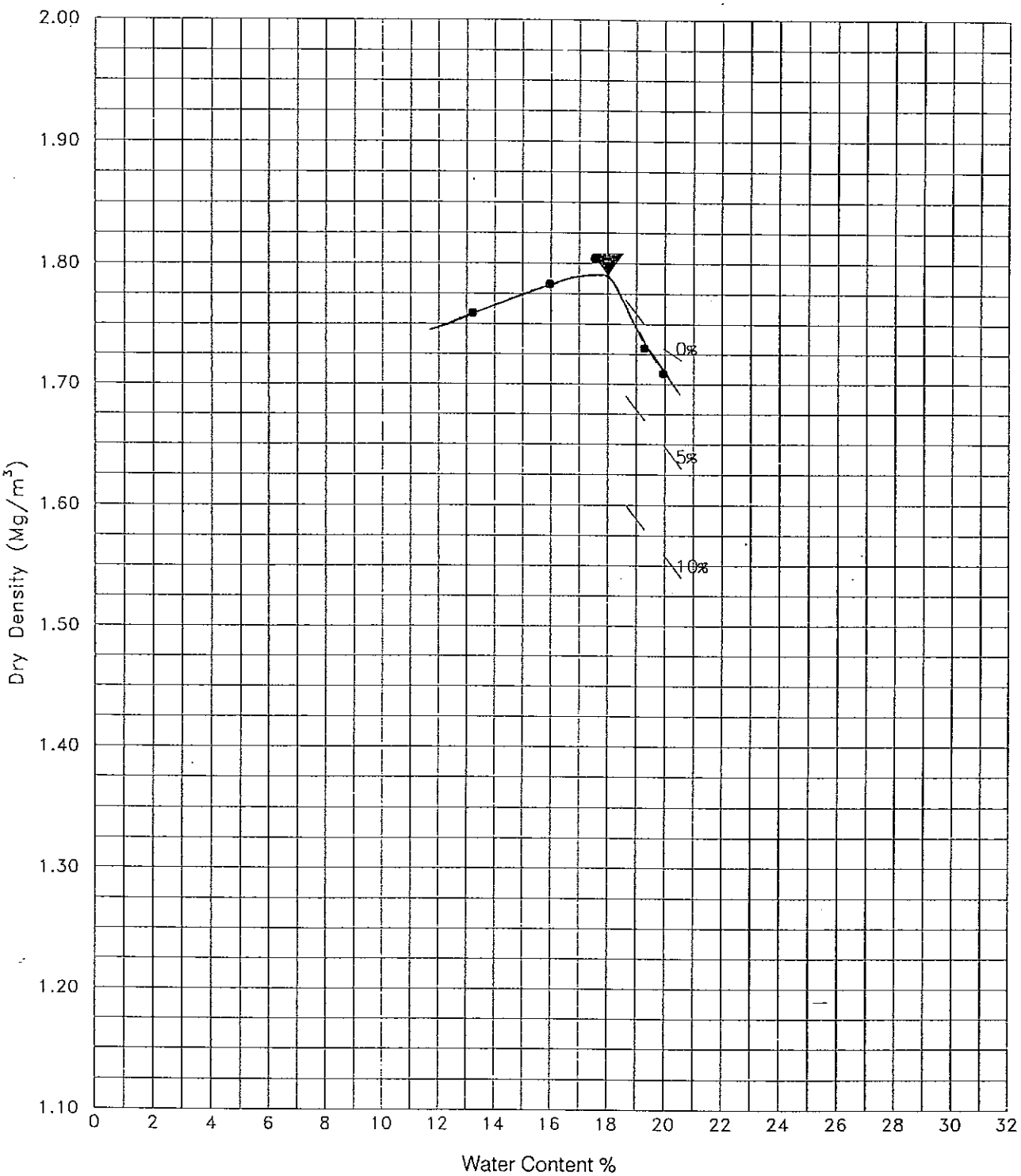
Project

BYRKLEY PARK
Football Association

Contract

121070

L3/12



- ● Moisture Content/Dry Density
- o Compaction at Natural Water Content
- ▼ Maximum Dry Density/Optimum Water Content

Type of Test/Mould	4.5Kg/1Ltr	
Particle Density Assumed	2.65	Mg/m³
Maximum Dry Density	1.79	Mg/m³
Optimum Water Content	18	%
% retained 37.5mm sieve	0	
% retained 20mm sieve	1	

Description

Orange mottled yellow slightly gravelly sandy CLAY

Hole TP4

Depth 0.30 -0.40

Type B

Form 54/0

Remarks

Laboratory - Moisture Content/ Dry Density Relationship

Exploration Associates

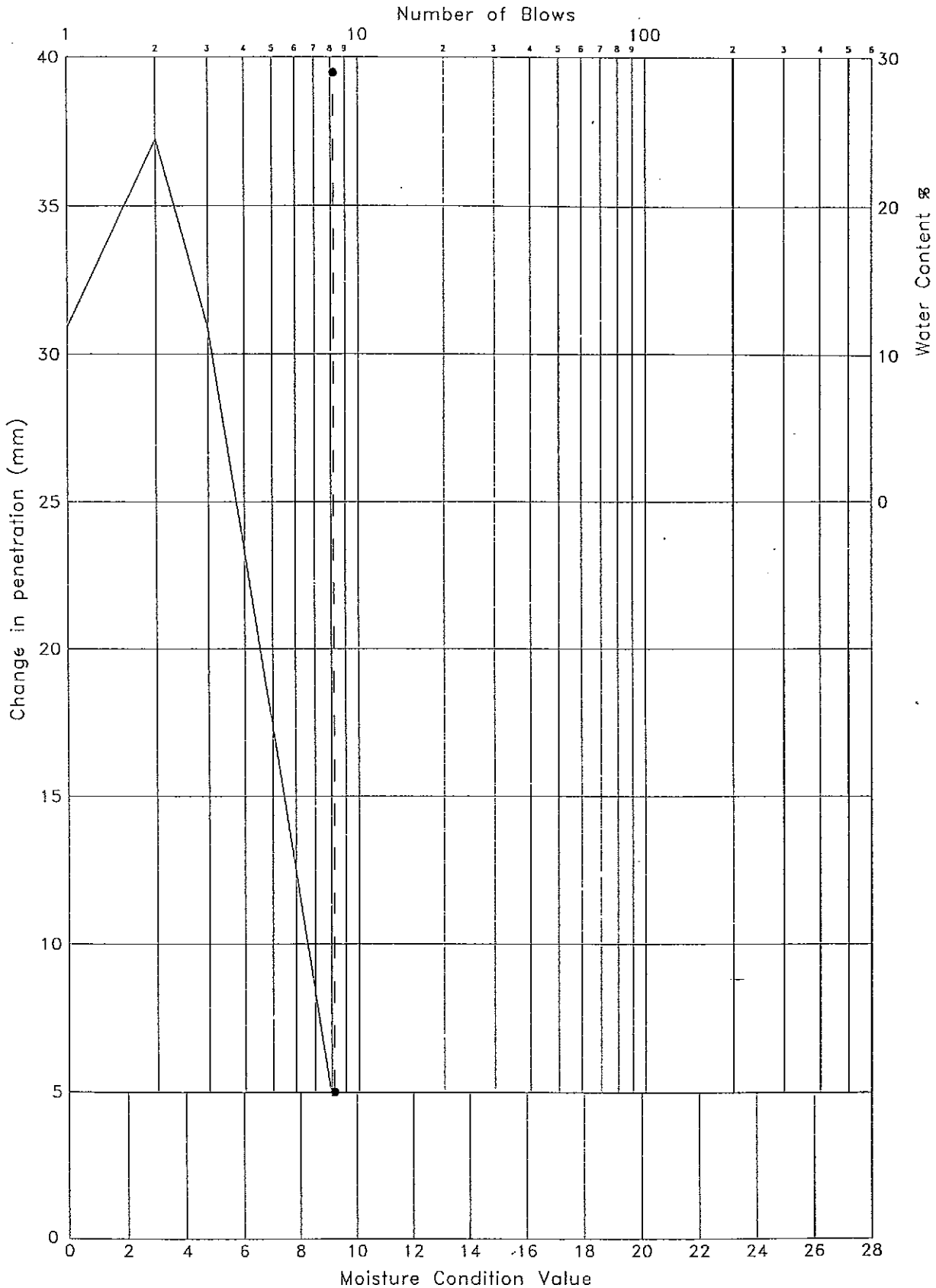
Project

BYRKLEY PARK
Football Association

Contract

121070

L3/13



% retained on 20mm sieve 0	Description Orange mottled yellow slightly gravelly sandy CLAY	Hole TP4 Depth 0.30 -0.40 Type B

Remarks

Form 52/1

Laboratory - MCV	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		L3/13/1

Exploration Associates

LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_P %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
TP4B	1.00 - 1.40	B	Grey clayey GRAVEL of mudstone												Hvy		(15)	(1.82)					Comp/CBR %> 20mm=13.637.5mm=0
															Hvy		<20>	1.77					MCV % > 20mm = 0.0
															Hvy		23	1.66					
															Hvy		15	1.82					
															Hvy		13	1.79					
															Hvy		10	1.80					
															MCV		19	1.44	12.2				
															MCV		23	1.44	6.2				
															MCV		15	1.55	18.0				
															MCV		12	1.76	14.8				

NOTES For full explanation of symbols please see key sheet

SHEAR STRENGTH - U/C: Unconsolidated/Consolidated U/D: Undrained/Drained Δ with P.W.P. measurement Diameter in mm
T: Single Stage Triaxial M: Multistage Triaxial REM: Remoulded REC: Reconstituted V: Vane SB: Shear Box (resid)

CONSOLIDATION - m_v and c_v given for load increment of 100kPa above assumed overburden pressure

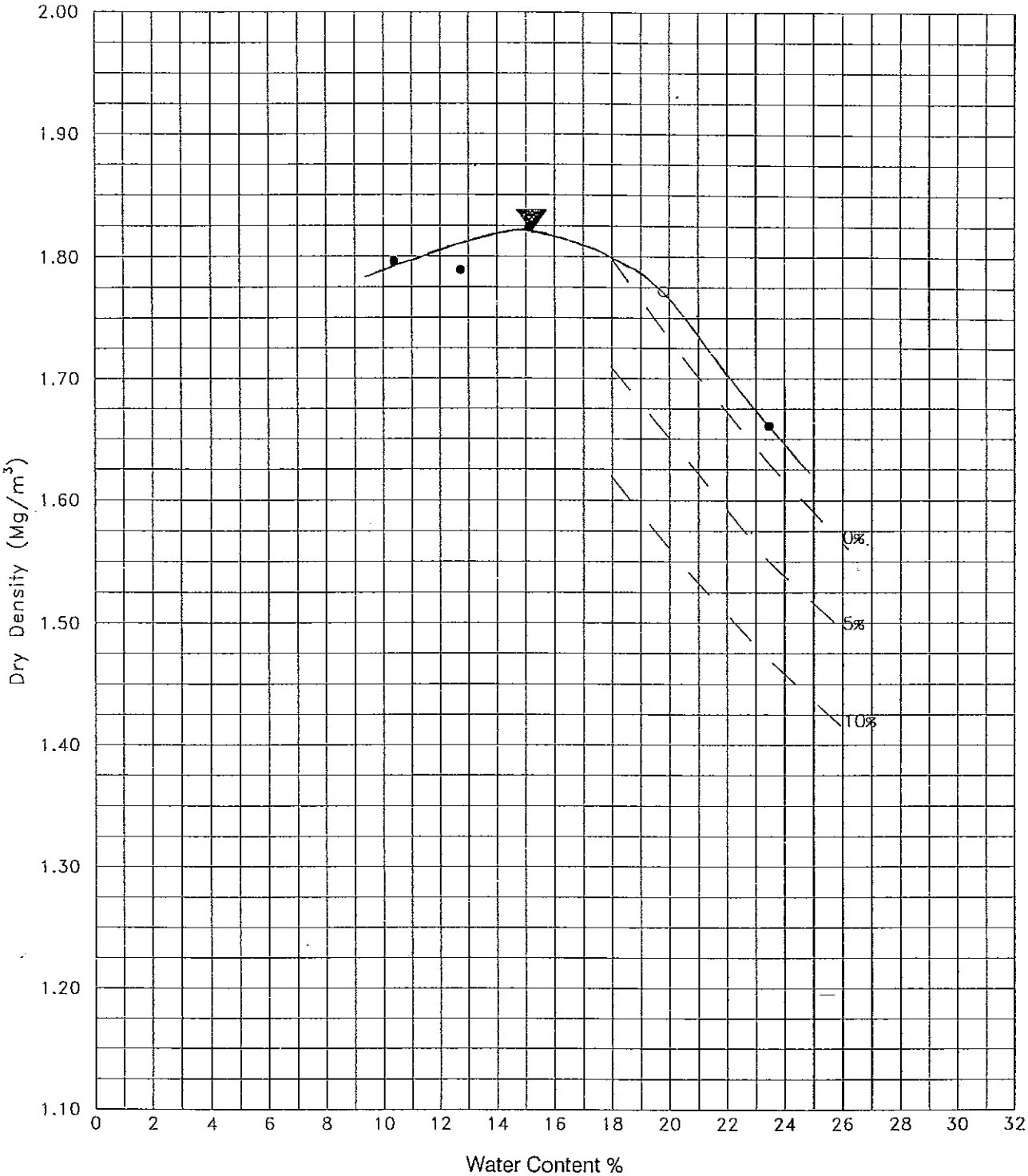
COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

Project
BYRKLEY PARK
Football Association

Contract
121070

Sheet
L3/14

Form 40/4



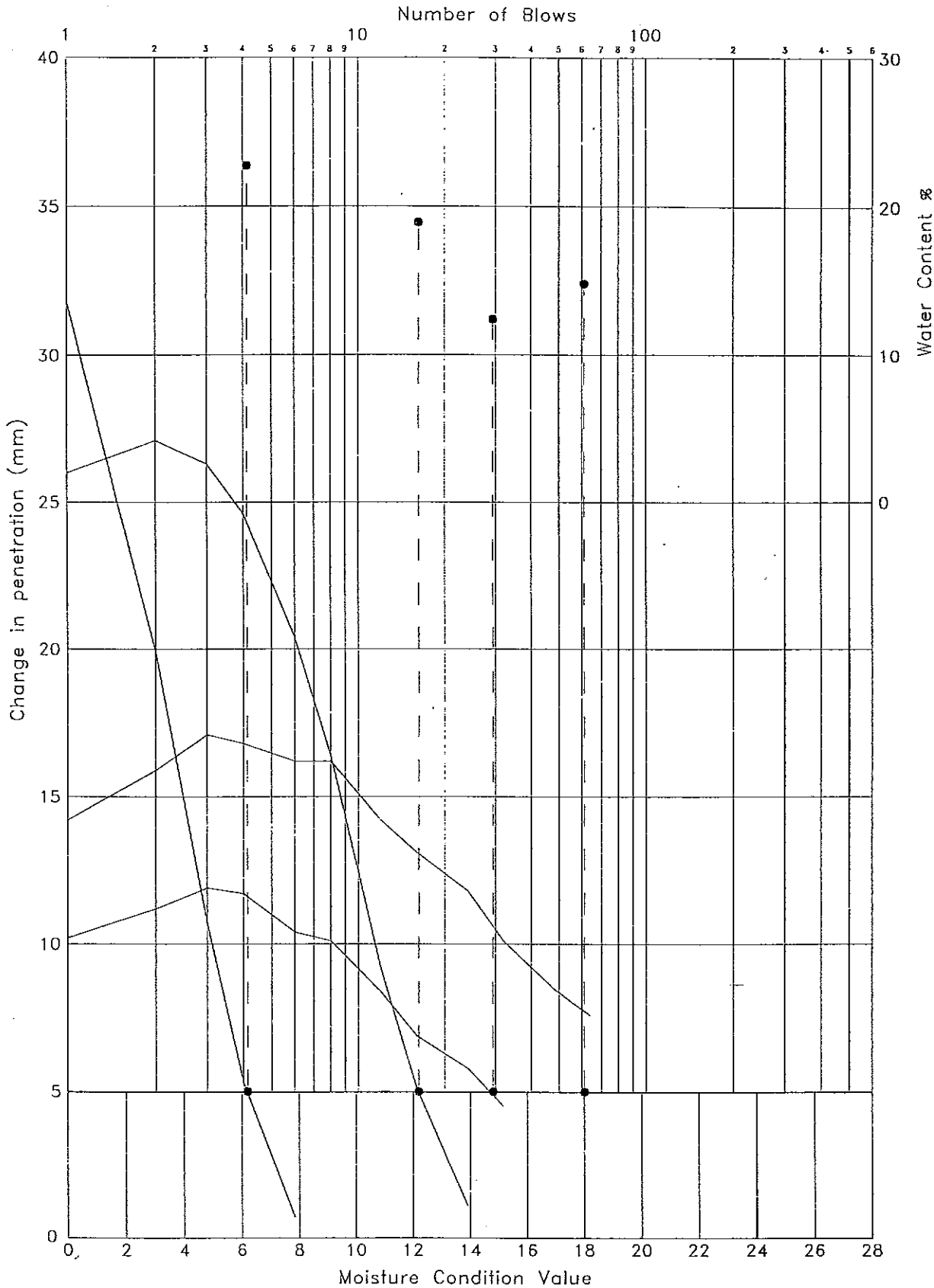
- ● Moisture Content/Dry Density
- o Compaction at Natural Water Content
- ▼ Maximum Dry Density/Optimum Water Content

Type of Test/Mould		4.5Kg/CBR		Description	Hole TP4B
Particle Density	Assumed	2.65	Mg/m³	Grey clayey GRAVEL of mudstone	Depth 1.00 -1.40
Maximum Dry Density		1.82	Mg/m³		Type B
Optimum Water Content		15	%		
% retained 37.5mm sieve		0			
% retained 20mm sieve		14			

Form 54/0

Remarks

Laboratory - Moisture Content/ Dry Density Relationship	Project BYRKLEY PARK Football Association	Contract 121070
Exploration Associates		L3/15



% retained on 20mm sieve 0	Description Grey clayey GRAVEL of mudstone	Hole TP4B Depth 1.00 -1.40 Type B

Remarks

Form 52/1

Laboratory - MCV Exploration Associates	**Project** BYRKLEY PARK Football Association	**Contract** 121070 L3/15/1

Exploration Associates

LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_p %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
TP5	0.30 - 0.40	B	Orange slightly gravelly sandy CLAY	89% 51	425 Sieve 22	29	27																PSD : CL(/+)SI/SA/GR 40%/27%/26%/6%
TP5	0.30 - 0.40	D	Orange slightly gravelly sandy CLAY				29																
TP5	0.70 - 0.80	B	Dark orangish brown and reddish brown mottled grey sandy gravelly CLAY	76% 44	425 Sieve 23	21	14								Hvy		(11)	(2.01)					PSD : CL(/+)SI/SA/GR 28%/23%/29%/20%
															Hvy		<19>	1.77					
															Hvy		14	1.95					Comp/CBR %> 20mm=4.7 37.5mm=0
															Hvy		12	2.00					MCV % > 20mm = 0.0
															Hvy		10	2.00					
															Hvy		8.0	1.95					
															MCV		16	1.48	10.5				
															MCV		12	1.47	15.4				
															MCV		12	1.46	16.9				
															MCV		9.6	1.53	18.0				
TP5	0.70 - 0.80	D	Dark orangish brown and reddish brown mottled grey sandy gravelly CLAY				13																

NOTES

For full explanation of symbols please see key sheet

SHEAR STRENGTH - U/C: Unconsolidated/Consolidated U/D: Undrained/Drained Λ with P.W.P. measurement Diameter in mm
T: Single Stage Triaxial M: Multistage Triaxial REM: Remoulded REC: Reconstituted V: Vane SB: Shear Box (resid)

CONSOLIDATION - m_v and c_v given for load increment of 100kPa above assumed overburden pressure

COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

Project

BYRKLEY PARK
Football Association

Form 40/4

Contract

121070

Sheet

L3/16

Exploration Associates

LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_P %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
TP5	1.70 - 1.80	B	Dark reddish brown and grey mottled slightly gravelly sandy CLAY	81% 36	425 Sieve 16	20	16								Hvy		(9.0)	(2.12)					PSD : CL(/+)SI/SA/GR 30%/24%/32%/15%
															Hvy		<16>	1.90					Comp/CBR %> 20mm=4.7 37.5mm=0
															Hvy		20	1.74					MCV % > 20mm = 0.0
															Hvy		12	2.03					
															Hvy		8.4	2.12					
															Hvy		6.1	2.01					
															MCV		12	1.47	10.3				
															MCV		16	1.54	4.1				
															MCV		11	1.46	15.2				
															MCV		8.8	1.48	18.0				
TP5	1.70 - 1.80	D	Dark reddish brown and grey slightly sandy gravelly CLAY				13																
TP5	3.60 - 3.80	B	Slightly gravelly sandy CLAY	85% 30	425 Sieve 15	15	12																PSD : CL(/+)SI/SA/GR 24%/34%/33%/9%
TP5	3.60 - 3.70	D	Reddish brown sandy gravelly CLAY				13																

NOTES

For full explanation of symbols please see key sheet

SHEAR STRENGTH - U/C: Unconsolidated/Consolidated U/D: Undrained/Drained Λ with P.W.P. measurement Diameter in mm
T: Single Stage Triaxial M: Multistage Triaxial REM: Remoulded REC: Reconstituted V: Vane SB: Shear Box (resid)

CONSOLIDATION - m_v and c_v given for load increment of 100kPa above assumed overburden pressure

COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

Project

BYRKLEY PARK
Football Association

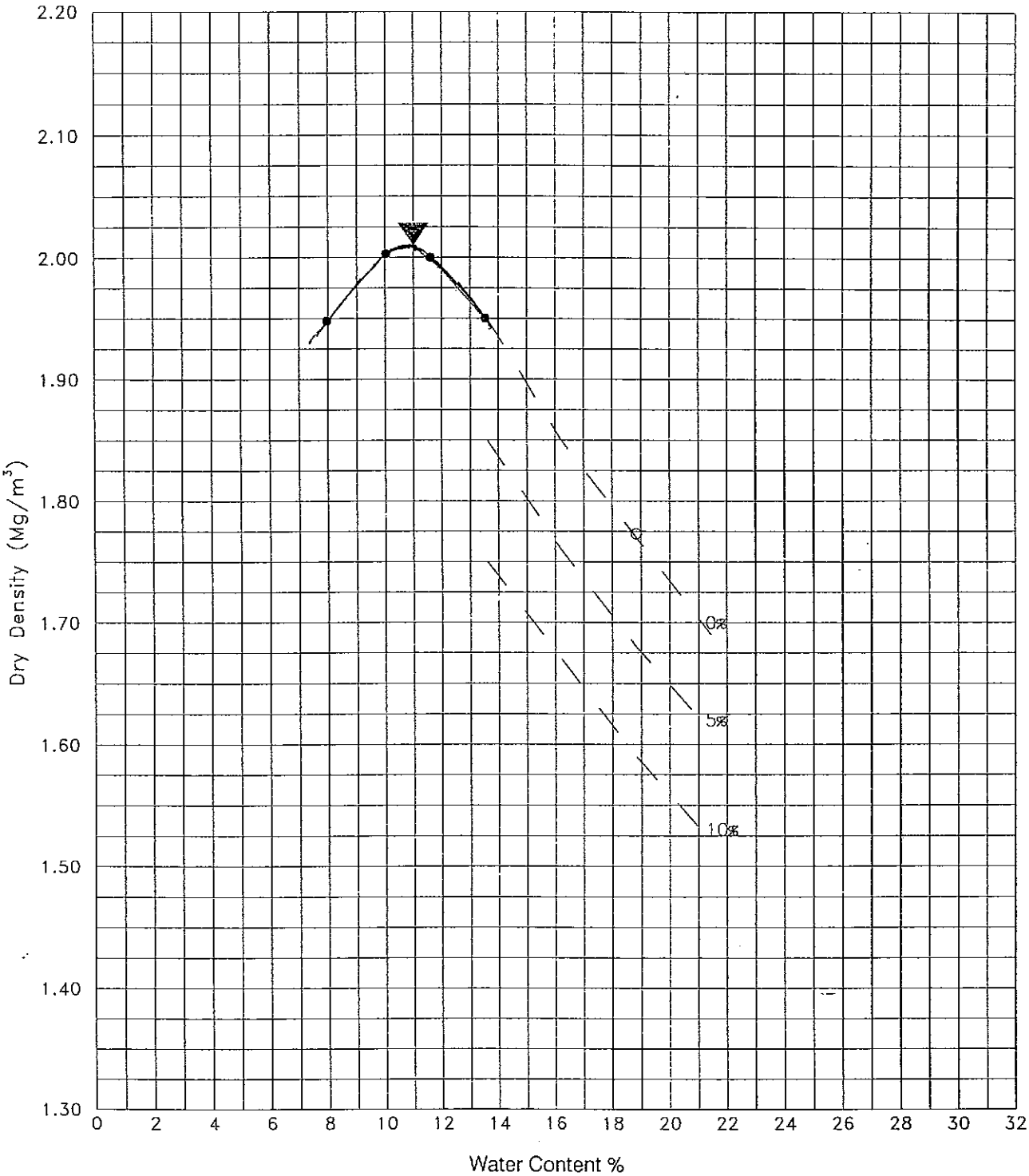
Contract

121070

Sheet

L3/17

Form 40/4



- ● Moisture Content/Dry Density
- o Compaction at Natural Water Content
- ▼ Maximum Dry Density/Optimum Water Content

Type of Test/Mould	4.5Kg/1Ltr		
Particle Density Assumed	2.65	Mg/m^3	
Maximum Dry Density	2.01	Mg/m^3	
Optimum Water Content	11	%	
% retained 37.5mm sieve	0		
% retained 20mm sieve	5		

Description

Dark orangish brown and reddish brown mottled grey sandy gravelly CLAY

Hole TP5

Depth 0.70 -0.80

Type B

Form 54/0

Remarks

Laboratory - Moisture Content/ Dry Density Relationship

Exploration Associates

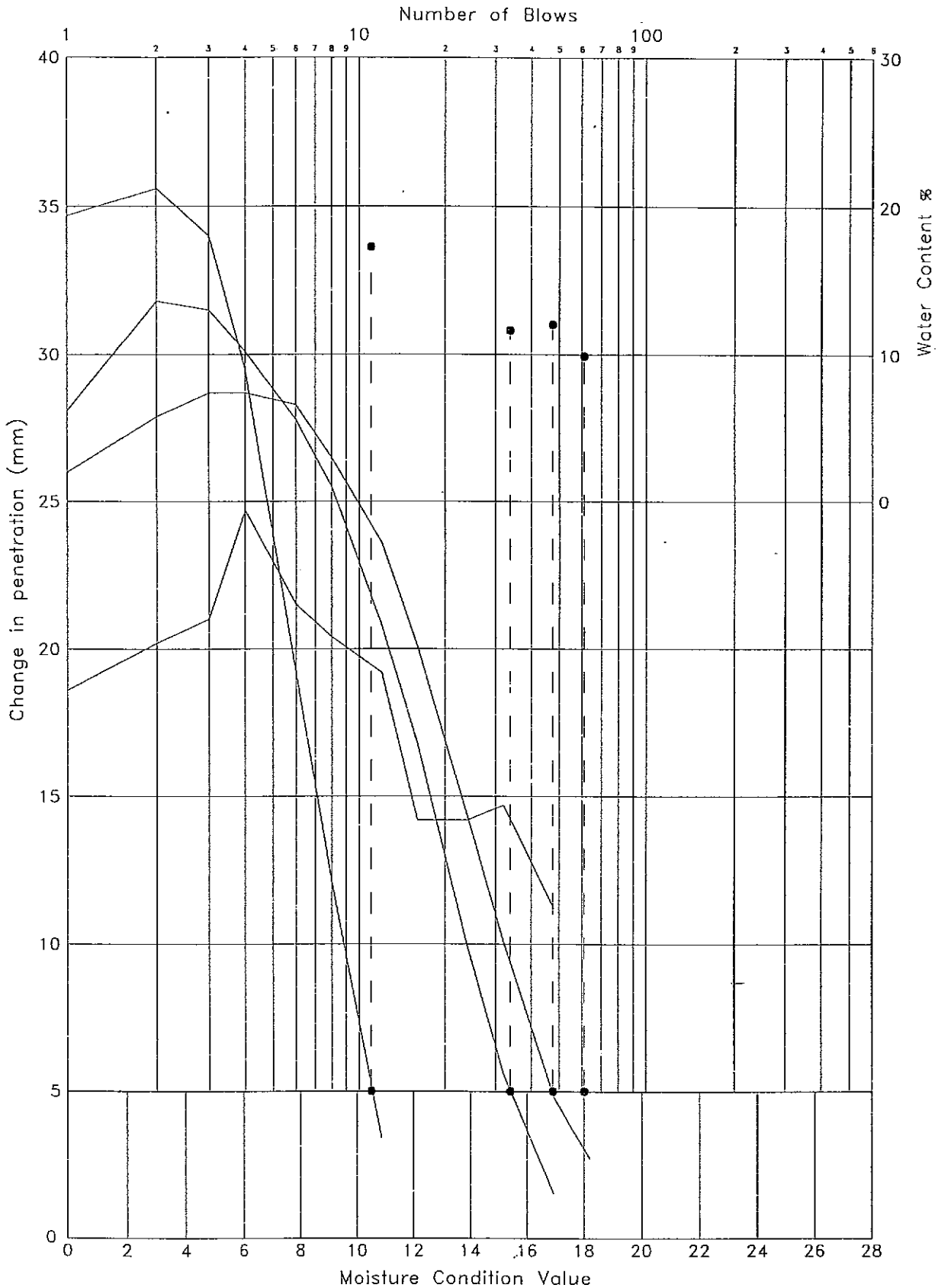
Project

BYRKLEY PARK
Football Association

Contract

121070

L3/18

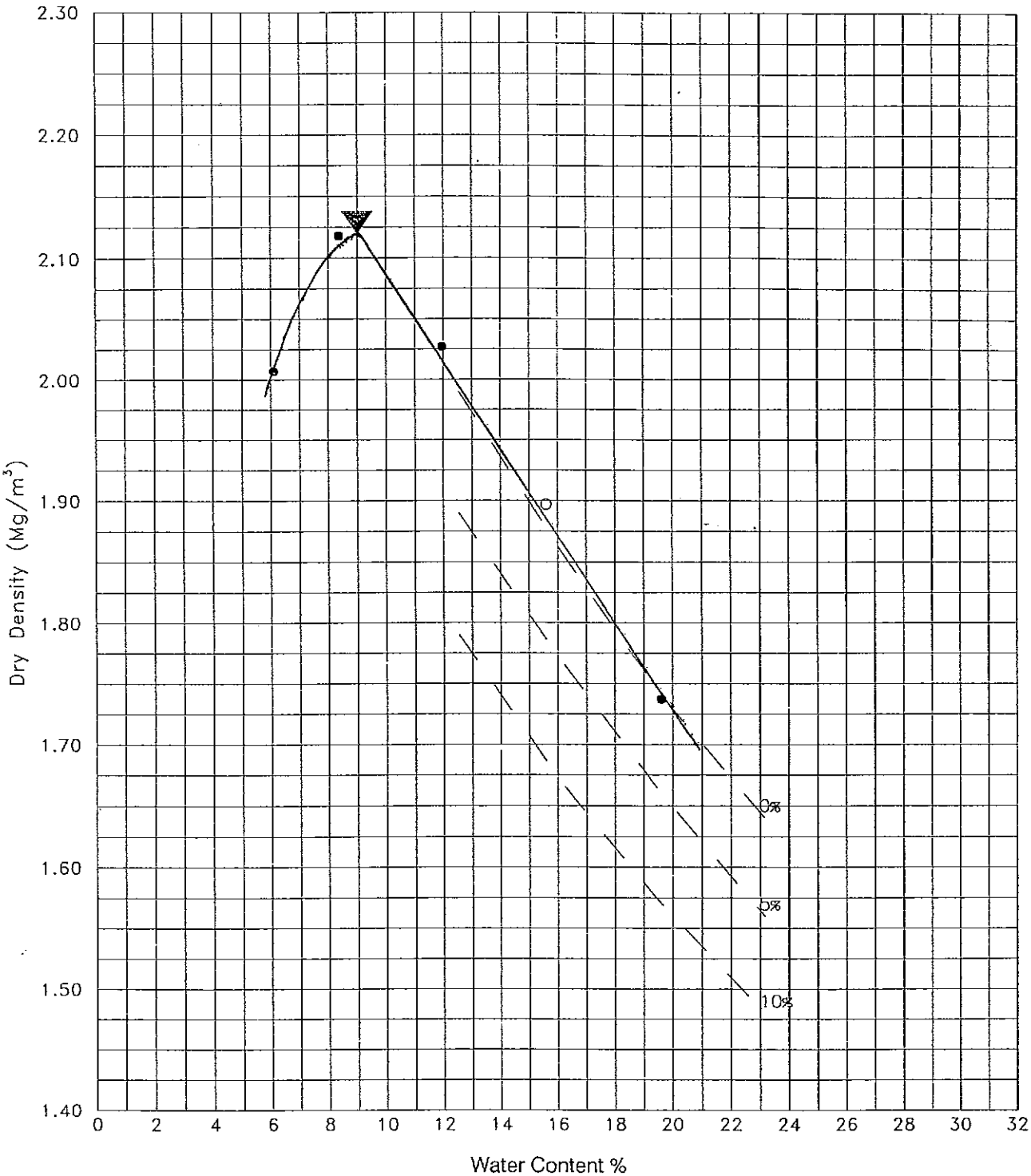


% retained on 20mm sieve 0	Description Dark orangish brown and reddish brown mottled grey sandy gravelly CLAY	Hole TP5 Depth 0.70 -0.80 Type B

Remarks

Form 52/1

Laboratory - MCV Exploration Associates	**Project** BYRKLEY PARK Football Association	**Contract** 121070 L3/18/1



- ● Moisture Content/Dry Density
- o Compaction at Natural Water Content
- ▼ Maximum Dry Density/Optimum Water Content

Type of Test/Mould	4.5Kg/1Ltr		
Particle Density	Assumed 2.65	Mg/m³	
Maximum Dry Density	2.12	Mg/m³	
Optimum Water Content	9.0	%	
% retained 37.5mm sieve	0		
% retained 20mm sieve	5		

Description

Dark reddish brown and grey mottled slightly gravelly sandy CLAY

Hole TP5

Depth 1.70 -1.80

Type B

Form 54/0

Remarks

Laboratory - Moisture Content/ Dry Density Relationship

Exploration Associates

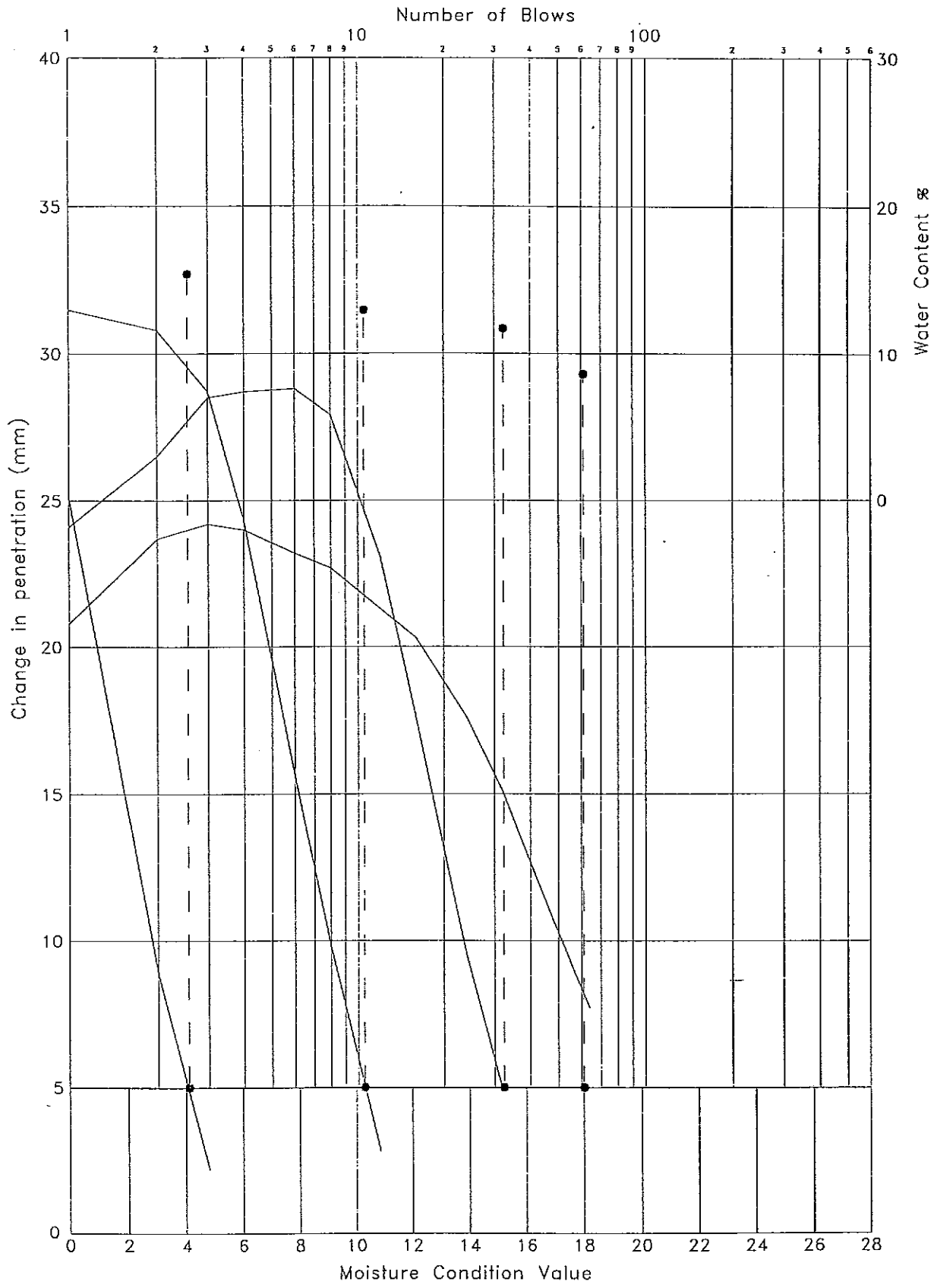
Project

BYRKLEY PARK
Football Association

Contract

121070

L3/19



% retained on 20mm sieve 0	Description Dark reddish brown and grey mottled slightly gravelly sandy CLAY	Hole TP5 Depth 1.70 -1.80 Type B

Remarks

Form 52/1

Laboratory - MCV Exploration Associates	**Project** BYRKLEY PARK Football Association	**Contract** 121070 L3/19/1

Exploration Associates

LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_p %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
TP6	0.30 - 0.30	B	Orange and yellow mottled slightly gravelly sandy CLAY	93% 35	425 22	Sieve 13	24																PSD : CL(/+)SI/SA/GR 38%/28%/29%/5%
TP6	0.30 - 0.30	D	Orange and yellow gravelly CLAY				26																
TP6	0.60 - 0.70	B	Orange and red slightly gravelly sandy CLAY	95% 39	425 22	Sieve 17	22																PSD : CL(/+)SI/SA/GR 38%/26%/33%/3%
TP6	0.60 - 0.70	D	Orange and red slightly gravelly sandy CLAY				22																
TP6	1.50 - 1.60	B	Reddish brown mottled grey slightly gravelly sandy CLAY	85% 50	425 24	Sieve 26	22								Hvy		(11)	(2.03)					PSD : CL(/+)SI/SA/GR 36%/27%/26%/11%
															Hvy		<17>	1.85					Comp/CBR %> 20mm=2.8 37.5mm=0
															Hvy		21	1.70					MCV % > 20mm = 0.0
															Hvy		14	1.93					
															Hvy		11	2.03					
															Hvy		7.8	1.95					
															MCV		15	1.48	12.2				
															MCV		18	1.51	7.8				
															MCV		14	1.46	16.0				
															MCV		9.8	1.48	18.0				
TP6	1.50 - 1.60	D	Reddish brown mottled grey slightly gravelly sandy CLAY				19																
TP6	2.40 - 2.40	B	Reddish brown slightly gravelly sandy CLAY	68% 34	425 16	Sieve 18	17																PSD : CL(/+)SI/SA/GR 26%/43%/27%/5%

NOTES

For full explanation of symbols please see key sheet

SHEAR STRENGTH - U/C: Unconsolidated/Consolidated U/D: Undrained/Drained Λ with P.W.P. measurement Diameter in mm
T: Single Stage Triaxial M: Multistage Triaxial REM: Remoulded REC: Reconstituted V: Vane SB: Shear Box (resid)

CONSOLIDATION - m_v and c_v given for load increment of 100kPa above assumed overburden pressure

COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

Project

BYRKLEY PARK
Football Association

Form 40/4

Contract

121070

Sheet

L3/20

Exploration Associates

LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_p %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
TP6	2.40 - 2.40	D	Reddish brown slightly gravelly sandy CLAY				14																

NOTES

For full explanation of symbols please see key sheet

SHEAR STRENGTH - U/C: Unconsolidated/Consolidated U/D: Undrained/Drained Δ with P.W.P. measurement Diameter in mm
T: Single Stage Triaxial M: Multistage Triaxial REM: Remoulded REC: Reconstituted V: Vane SB: Shear Box (resid)

CONSOLIDATION - m_v and c_v given for load increment of 100kPa above assumed overburden pressure

COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

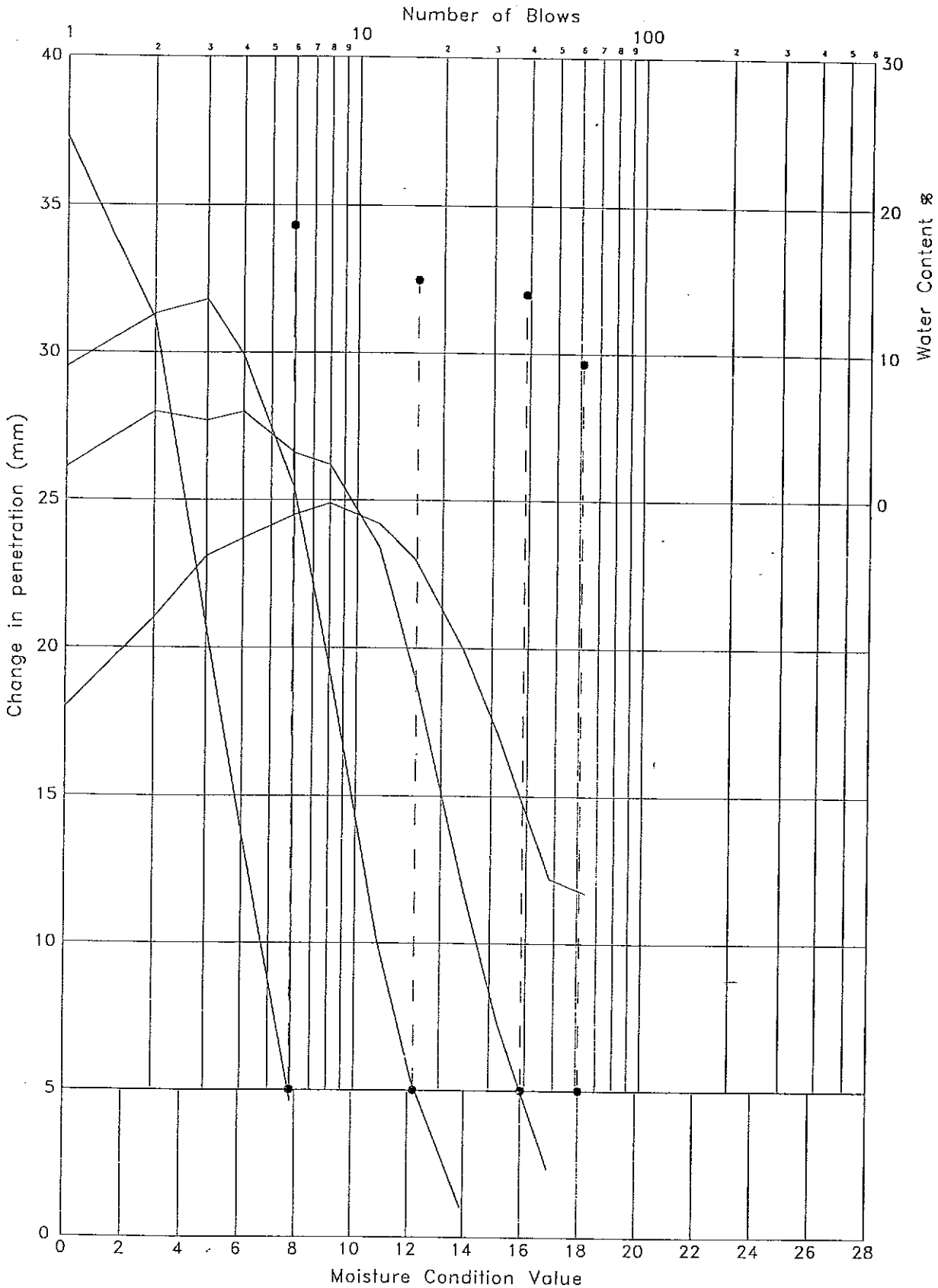
Project

BYRKLEY PARK
Football Association

Contract 121070

Sheet L3/21

Form 40/4



% retained on 20mm sieve 0	Description Reddish brown mottled grey slightly gravelly sandy CLAY	Hole TP6 Depth 1.50 -1.60 Type B

Remarks

Form 52/1

Laboratory - MCV Exploration Associates	**Project** BYRKLEY PARK Football Association	**Contract** 121070 L3/22/1

Exploration Associates

LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_p %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
TP8	0.50 - 0.60	B	Dark orangish brown mottled grey slightly gravelly slightly sandy CLAY	91% 54	425 24	Sieve 30	25																PSD : CL(/+)SI/SA/GR 47%/29%/18%/6%
TP8	0.50 - 0.60	D	Dark orangish brown mottled grey gravelly CLAY				21																
TP8	1.50 - 1.60	B	Orangish brown slightly gravelly sandy CLAY	78% 40	425 23	Sieve 17	16		REM	50	562				Hvy		(9.5) 7.9	(2.03) 1.98					PSD : CL(/+)SI/SA/GR 26%/25%/32%/17%
									REM	50	197				Hvy		10	2.01					Comp/CBR %> 20mm=2.6 37.5mm=0
									REM	50	188				Hvy		13	1.94					MCV % > 20mm = 0.0
									REM	50	42				Hvy		14	1.93					
															Hvy		6.5	1.88					
															MCV		19	1.79	8.0				
															MCV		12	1.99	13.6				
															MCV		15	1.91	10.6				
															MCV		20	1.73	2.4				
															MCV		16	1.85	8.6				
TP8	1.50 - 1.60	D	Orangish brown slightly gravelly sandy CLAY				19																
TP8	2.90 - 3.00	B	Grey slightly sandy CLAY	99% 54	425 33	Sieve 21	35																PSD : CL(/+)SI/SA/GR 48%/46%/5%/0%
TP8	2.90 - 3.00	D	Dark red slightly sandy gravelly CLAY				32																

NOTES

For full explanation of symbols please see key sheet

SHEAR STRENGTH - U/C: Unconsolidated/Consolidated U/D: Undrained/Drained Λ with P.W.P. measurement Diameter in mm
T: Single Stage Triaxial M: Multistage Triaxial REM: Remoulded REC: Reconstituted V: Vane SB: Shear Box (resid)

CONSOLIDATION - m_v and c_v given for load increment of 100kPa above assumed overburden pressure

COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

Project

BYRKLEY PARK
Football Association

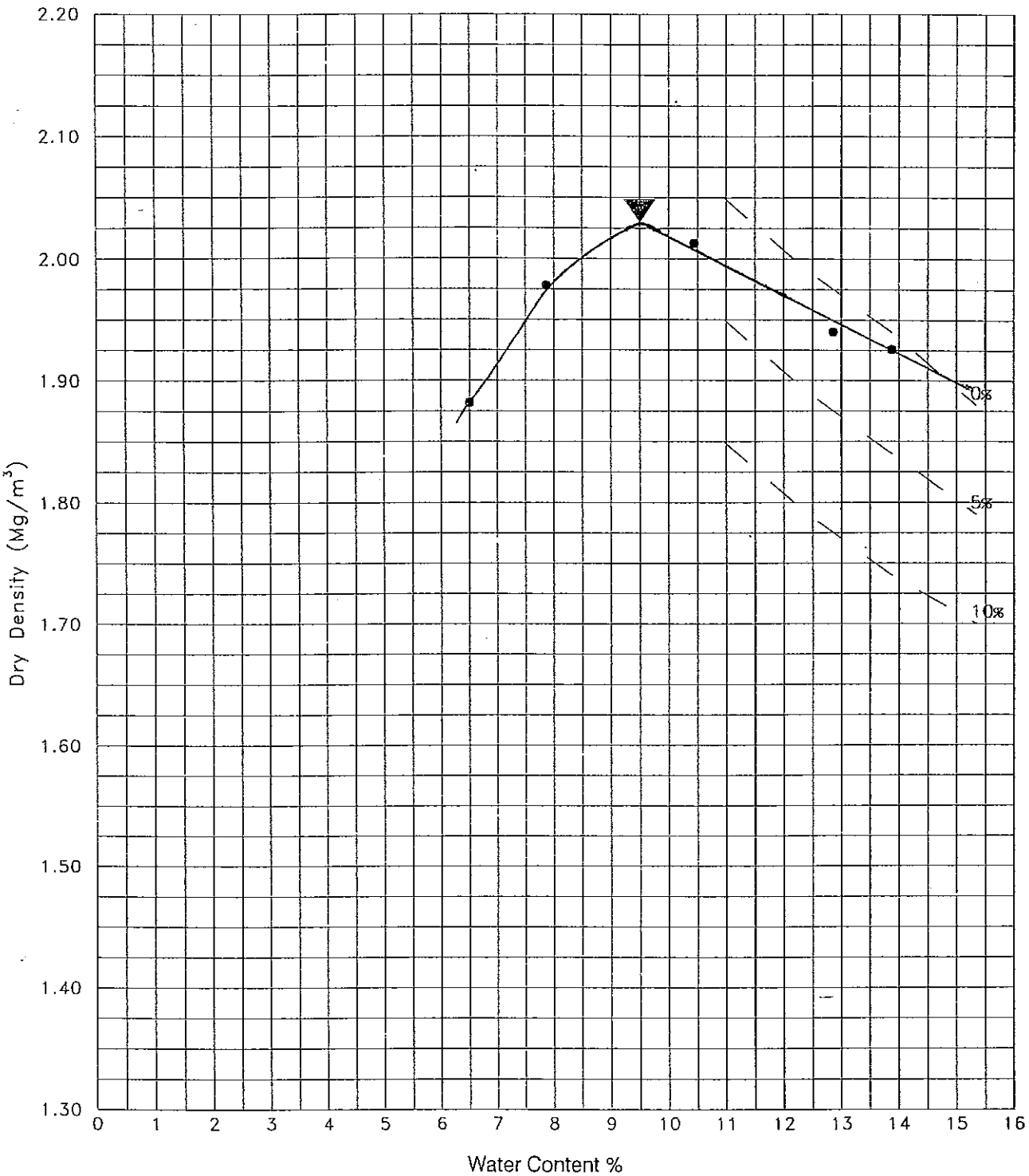
Form 40/4

Contract

121070

Sheet

L3/23



- ● Moisture Content/Dry Density
- ○ Compaction at Natural Water Content
- ▼ Maximum Dry Density/Optimum Water Content

Type of Test/Mould	4.5Kg/1Ltr		
Particle Density	Assumed 2.65	Mg/m^3	
Maximum Dry Density	2.03	Mg/m^3	
Optimum Water Content	9.5	%	
% retained 37.5mm sieve	0		
% retained 20mm sieve	3		

Description

Orangish brown slightly gravelly sandy CLAY

Hole TP8

Depth 1.50 -1.60

Type B

Form 54/0

Remarks

Laboratory - Moisture Content/ Dry Density Relationship

Exploration Associates

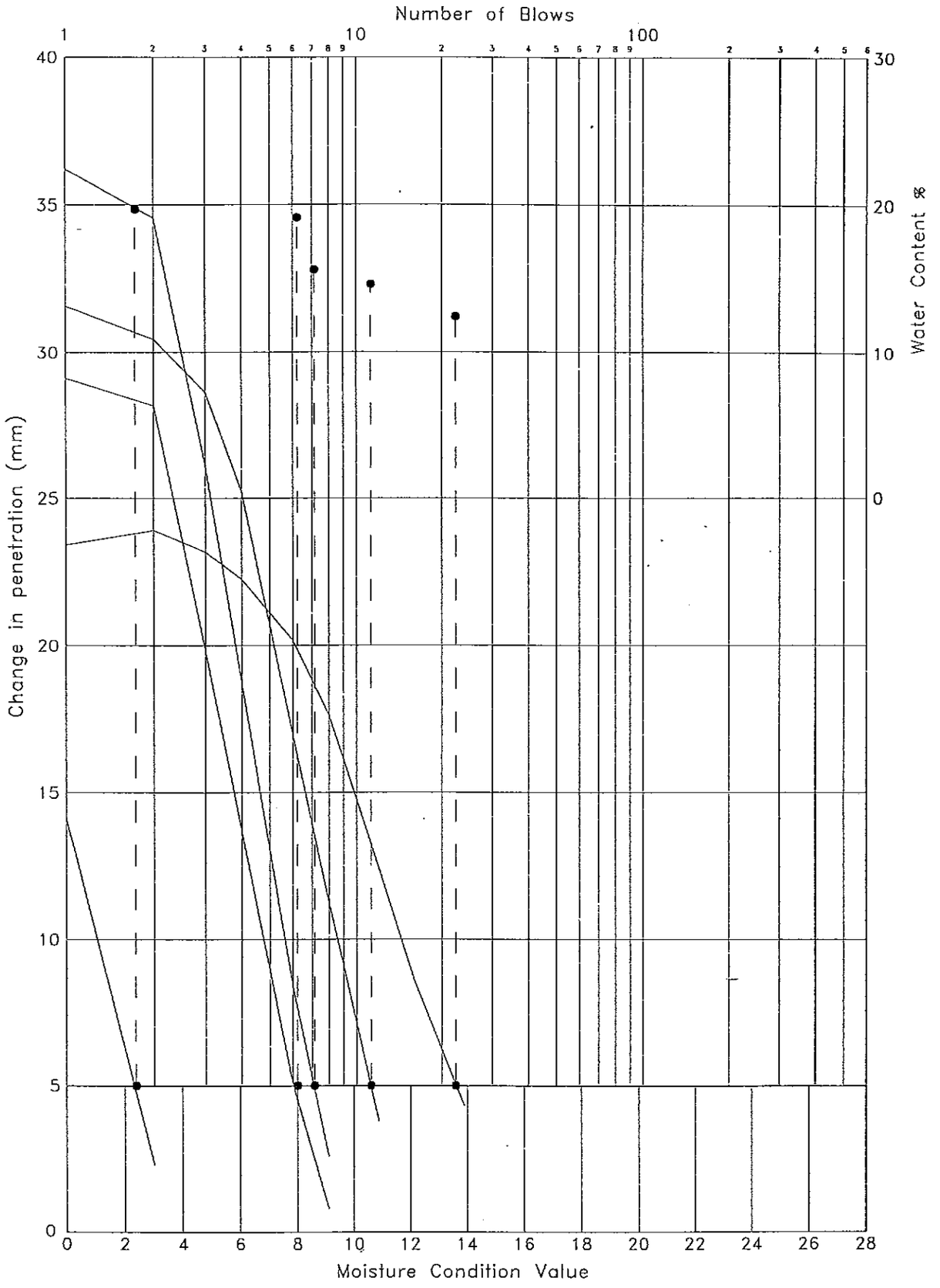
Project

BYRKLEY PARK
Football Association

Contract

121070

L3/24

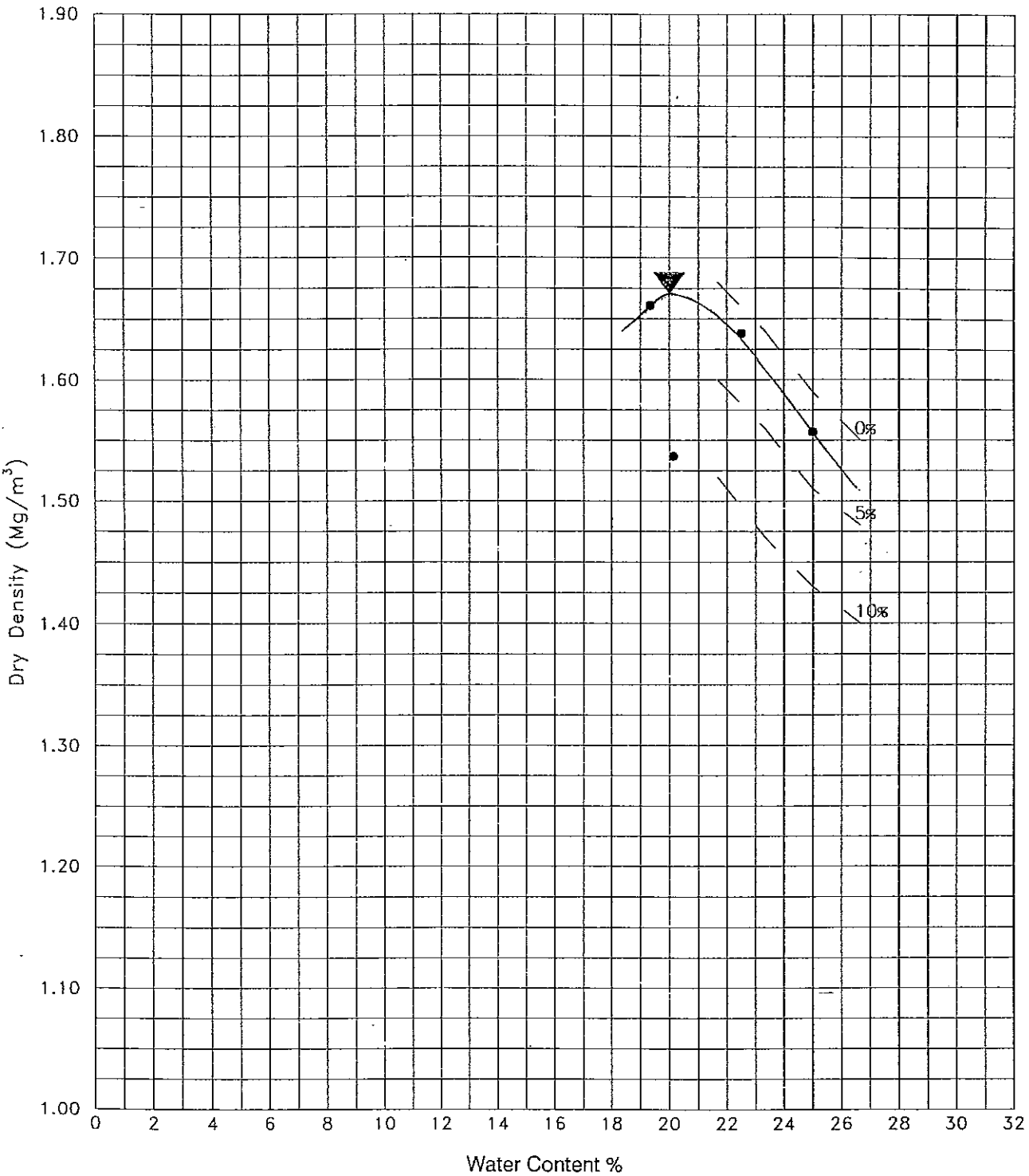


% retained on 20mm sieve 0	Description Orangish brown slightly gravelly sandy CLAY	Hole TP8 Depth 1.50 -1.60 Type B

Remarks

Form 52/1

Laboratory - MCV Exploration Associates	**Project** BYRKLEY PARK Football Association	**Contract** 121070 L3/24/1



- ● Moisture Content/Dry Density
- o Compaction at Natural Water Content
- ▼ Maximum Dry Density/Optimum Water Content

Type of Test/Mould	2.5Kg/1Ltr	
Particle Density Assumed	2.65	Mg/m³
Maximum Dry Density	1.67	Mg/m³
Optimum Water Content	20	%
% retained 37.5mm sieve	0	
% retained 20mm sieve	0	

Description

Orangish brown mottled grey slightly sandy slightly gravelly CLAY

Hole	TP10	
Depth	0.40	-0.50
Type	B	

Form 54/0

Remarks

Laboratory - Moisture Content/ Dry Density Relationship

Exploration Associates

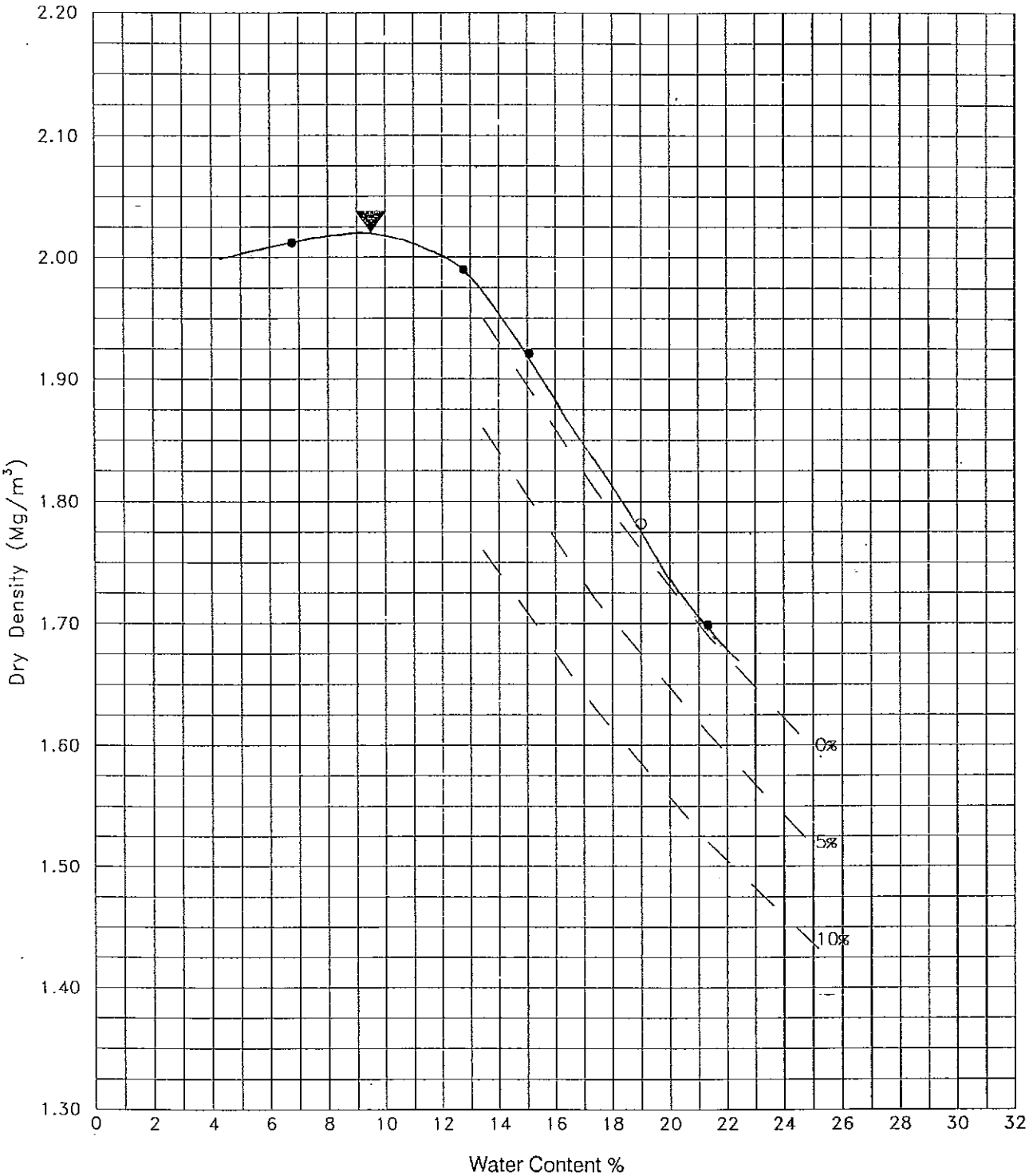
Project

BYRKLEY PARK
Football Association

Contract

121070

L3/26

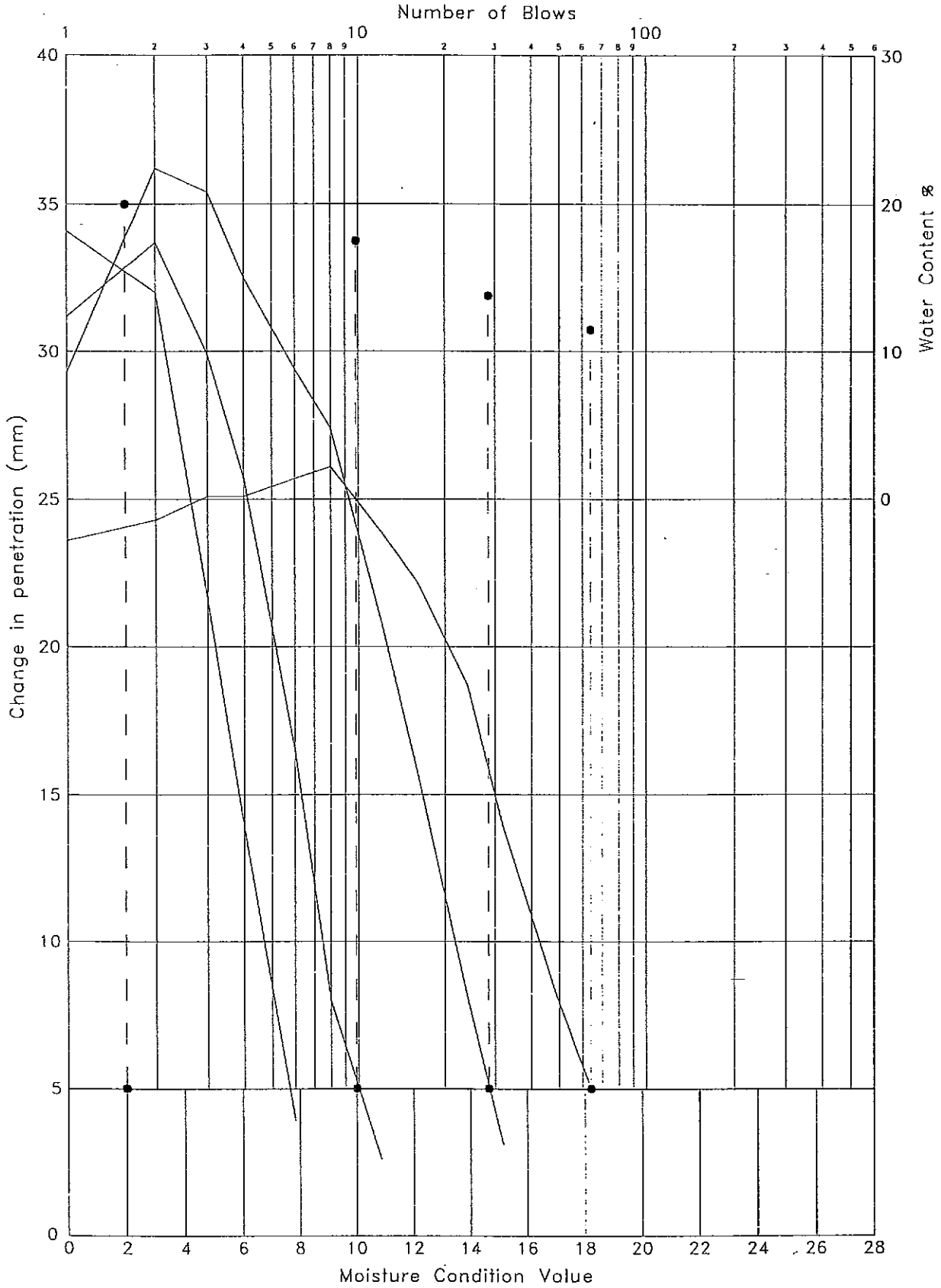


- ■ Moisture Content/Dry Density
- o Compaction at Natural Water Content
- ▼ Maximum Dry Density/Optimum Water Content

Type of Test/Mould	4.5Kg/CBR	Description	Hole TP10
Particle Density Assumed	2.65 Mg/m³		
Maximum Dry Density	2.02 Mg/m³	Dark reddish purple sandy gravelly CLAY	Depth 0.90 -1.00
Optimum Water Content	9.5 %		
% retained 37.5mm sieve	0		Type B
% retained 20mm sieve	7		Form 54/0

Remarks

Laboratory - Moisture Content/ Dry Density Relationship	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		L3/27



% retained on 20mm sieve 0	Description Dark reddish purple sandy gravelly CLAY	Hole TP10 Depth 0.90 -1.00 Type B

Remarks

Form 52/1

Laboratory - MCV Exploration Associates	**Project** BYRKLEY PARK Football Association	**Contract** 121070 L3/27/1

Exploration Associates

LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 w_L %	Prep w_p %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
TP11	1.10 - 1.20	B	Orange and reddish brown slightly sandy gravelly CLAY												Hvy		(12)	(2.00)					Comp/CBR %> 20mm=2.4 37.5mm=0
															Hvy		<17>	1.85					MCV % > 20mm = 0.0
															Hvy		18	1.77					
															Hvy		13	1.98					
															Hvy		9.8	1.99					
															Hvy		7.9	1.97					
															MCV		14	1.49	11.2				
															MCV		16	1.53	9.0				
															MCV		12	1.46	18.2				
															MCV		7.3	1.68	18.0				

NOTES

For full explanation of symbols please see key sheet

SHEAR STRENGTH - U/C: Unconsolidated/Consolidated U/D: Undrained/Drained Λ with P.W.P. measurement Diameter in mm
T: Single Stage Triaxial M: Multistage Triaxial REM: Remoulded REC: Reconstituted V: Vane SB: Shear Box (resid)

CONSOLIDATION - m_v and c_v given for load increment of 100kPa above assumed overburden pressure

COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

Project

BYRKLEY PARK
Football Association

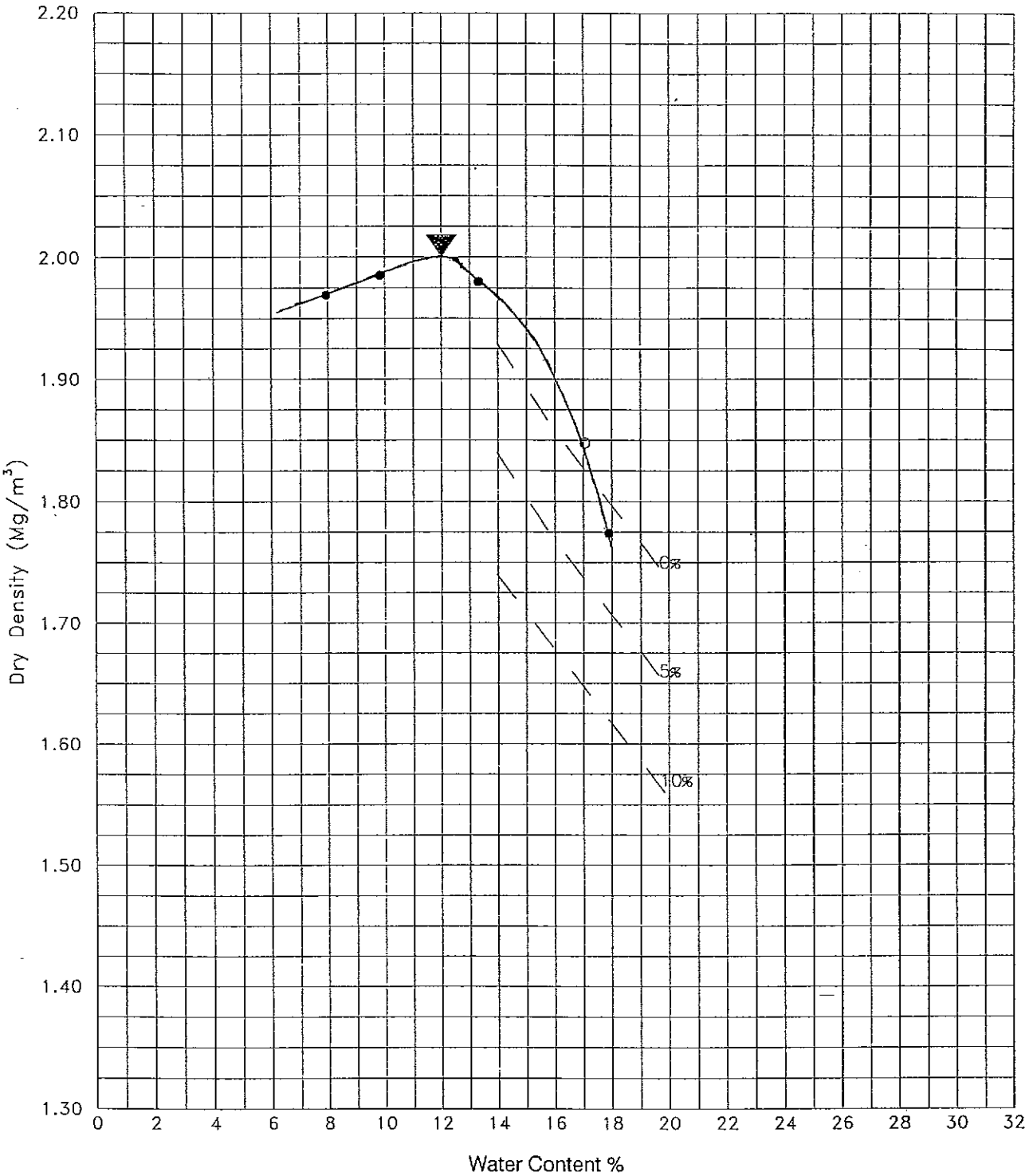
Contract

121070

Sheet

L3/28

Form 40/4



- ● Moisture Content/Dry Density
- o Compaction at Natural Water Content
- ▼ Maximum Dry Density/Optimum Water Content

Type of Test/Mould	4.5Kg/1Ltr		
Particle Density Assumed	2.65	Mg/m^3	
Maximum Dry Density	2.00	Mg/m^3	
Optimum Water Content	12	%	
% retained 37.5mm sieve	0		
% retained 20mm sieve	2		

Description

Orange and reddish brown slightly sandy gravelly CLAY

Hole TP11

Depth 1.10 -1.20

Type B

Form 54/0

Remarks

Laboratory - Moisture Content/ Dry Density Relationship

Project

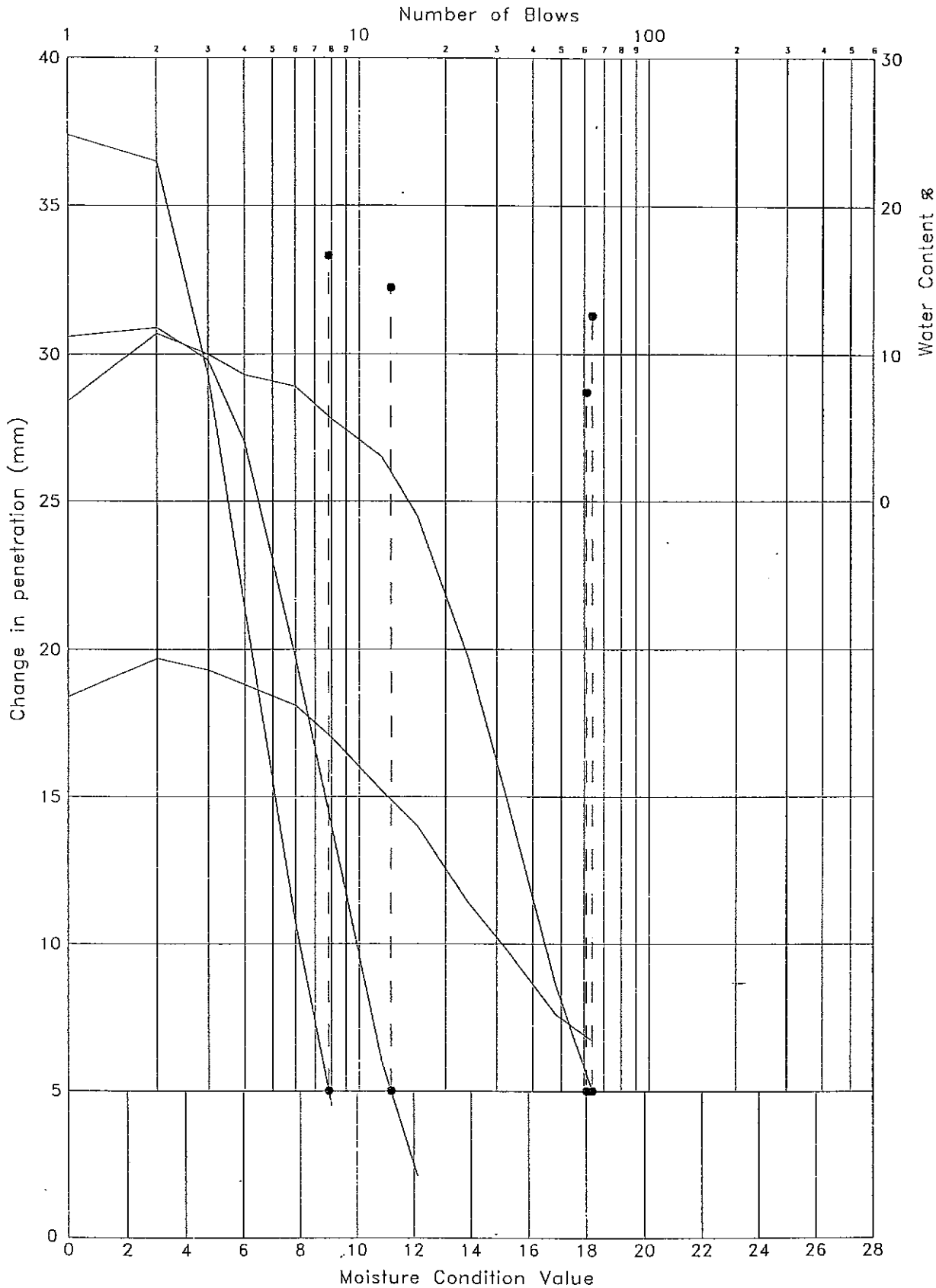
BYRKLEY PARK
Football Association

Contract

121070

Exploration Associates

L3/29



% retained on 20mm sieve 0	Description Orange and reddish brown slightly sandy gravelly CLAY	Hole TP11 Depth 1.10 -1.20 Type B

Remarks

Form 52/1

Laboratory - MCV Exploration Associates	**Project** BYRKLEY PARK Football Association	**Contract** 121070 L3/29/1

Exploration Associates

LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_p %	Ip	Nat Water %	γ_{b_a} Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
TP12	0.40 - 0.50	B	Orangish brown mottled grey sandy gravelly CLAY	52%	425 Sieve										Std		(11)	(1.98)					PSD : CL(/+)SI/SA/GR
				39	22	17	13		REM	50	77				Std		8.3	1.89					18%/13%/26%/43%
									REM	50	55				Std		11	1.94					Comp/CBR %> 20mm=2.9 37.5mm=0
									REM	50	53				Std		13	1.92					
									REM	50	92				Std		14	1.88					
															Std		12	1.96					
TP12	0.40 - 0.50	D	Orangish brown mottled grey sandy gravelly CLAY				18																
TP12	1.40 - 1.50	D	Reddish brown slightly gravelly sandy CLAY				12																
TP12	1.40 - 1.80	B	Orange and grey slightly sandy very gravelly CLAY	31%	425 Sieve										Hvy		(11)	(1.96)					PSD : CL(/+)SI/SA/GR
				58	27	31	15								Hvy		<19>	1.80					14%/10%/20%/56%
															Hvy		21	1.70					Comp/CBR %> 20mm=24.6 37.5mm=6
															Hvy		17	1.87					MCV % > 20mm = 0.0
															Hvy		11	1.96					
															Hvy		6.7	1.95					
															MCV		19	1.46	9.9				
															MCV		19	1.48	5.8				
															MCV		13	1.48	12.2				
															MCV		9.5	1.58	18.0				
TP12	1.80 - 1.90	D	Light orangish grey clayey sandy GRAVEL				24																

NOTES — For full explanation of symbols please see key sheet

SHEAR STRENGTH - U/C: Unconsolidated/Consolidated U/D: Undrained/Drained Λ with P.W.P. measurement Diameter in mm
T: Single Stage Triaxial M: Multistage Triaxial REM: Remoulded REC: Reconstituted V: Vane SB: Shear Box (resid)

CONSOLIDATION - m_v and c_v given for load increment of 100kPa above assumed overburden pressure

COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

Project
BYRKLEY PARK
Football Association

Contract
121070

Sheet
L3/30

Form 40/4

Exploration Associates

LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_p %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp. Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
TP12	1.80 - 2.00	B	Light orangish grey clayey sandy GRAVEL	33%	425 Sieve																		PSD : CL(/+)SI/SA/GR
				49	29	20	13																14%/15%/11%/60%
TP12	3.00 - 3.10	D	Reddish brown slightly gravelly sandy CLAY				26																
TP12	3.00 - 3.10	B	Reddish brown slightly gravelly sandy CLAY	83%	425 Sieve																		PSD : CL(/+)SI/SA/GR
				46	21	25	16																30%/33%/26%/11%

NOTES

For full explanation of symbols please see key sheet

SHEAR STRENGTH - U/C: Unconsolidated/Consolidated U/D: Undrained/Drained Λ with P.W.P. measurement Diameter in mm
T: Single Stage Triaxial M: Multistage Triaxial REM: Remoulded REC: Reconstituted V: Vane SB: Shear Box (resid)

CONSOLIDATION - m_v and c_v given for load increment of 100kPa above assumed overburden pressure

COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

Project

BYRKLEY PARK
Football Association

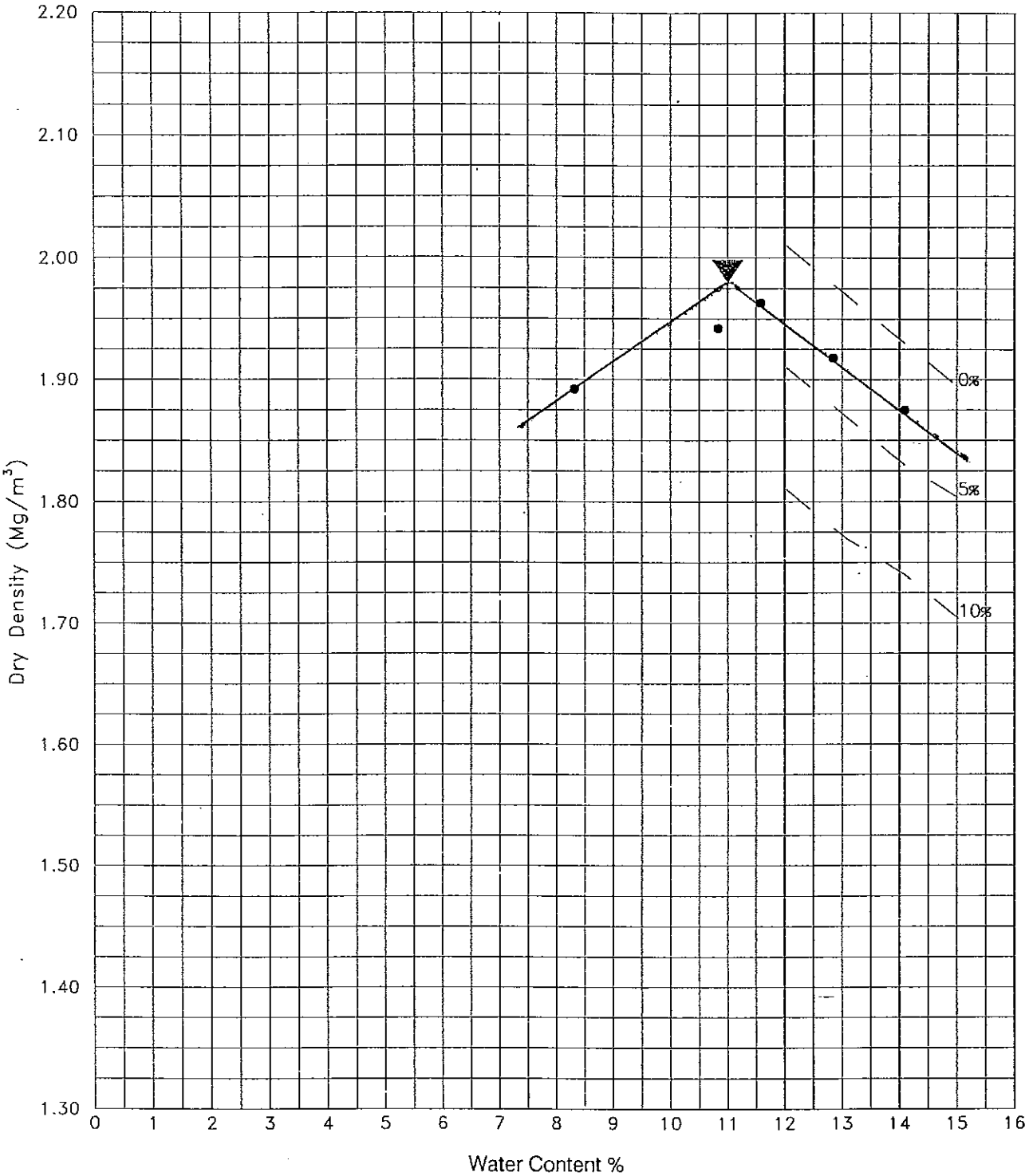
Form 40/4

Contract

121070

Sheet

L3/31



- ● Moisture Content/Dry Density
- o Compaction at Natural Water Content
- ▼ Maximum Dry Density/Optimum Water Content

Type of Test/Mould	2.5Kg/1Ltr		
Particle Density Assumed	2.65	Mg/m³	
Maximum Dry Density	1.98	Mg/m³	
Optimum Water Content	11	%	
% retained 37.5mm sieve	0		
% retained 20mm sieve	3		

Description

Orangish brown mottled grey sandy gravelly CLAY

Hole TP12

Depth 0.40 -0.50

Type B

Form 54/0

Remarks

Laboratory - Moisture Content/ Dry Density Relationship

Exploration Associates

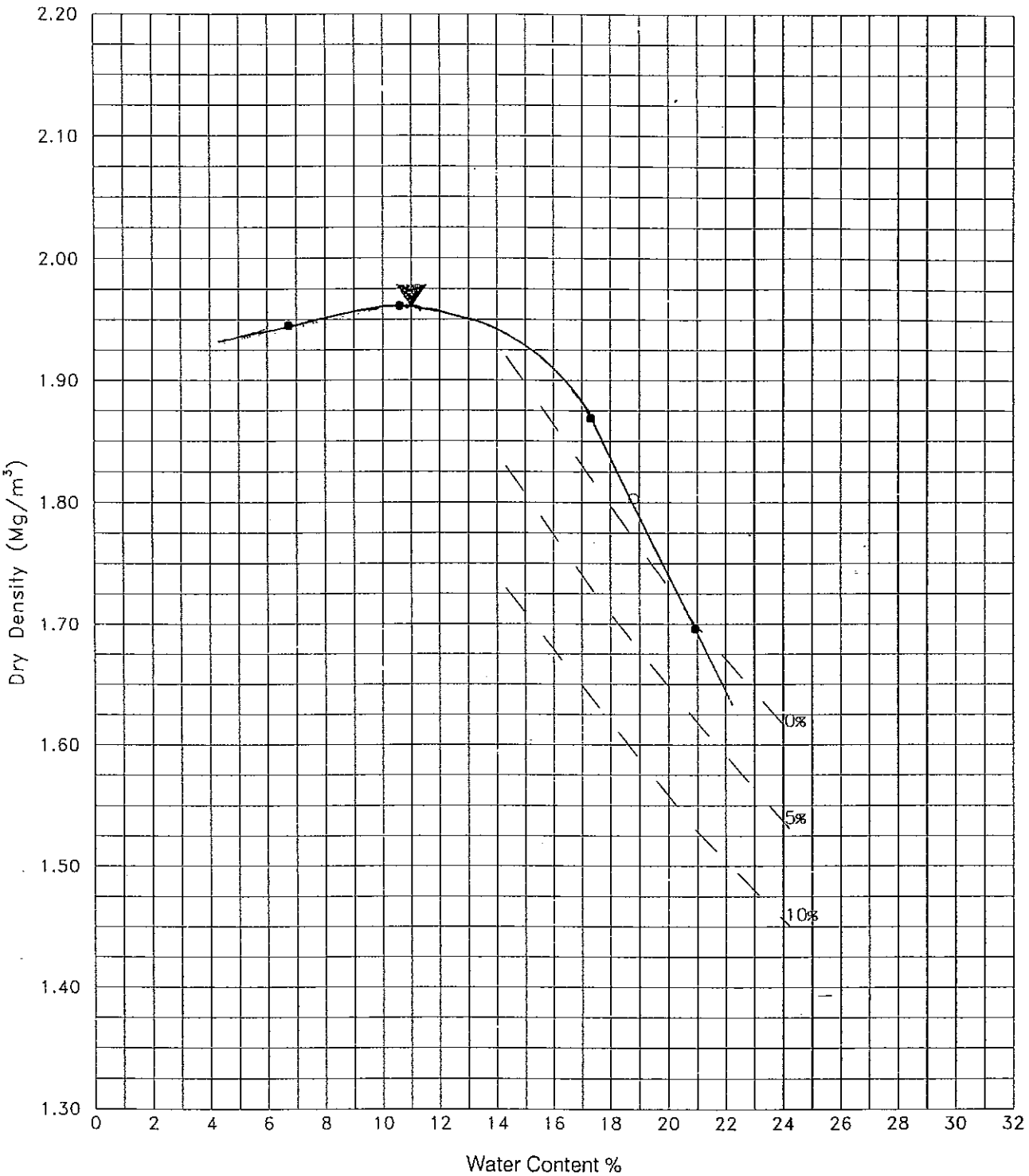
Project

BYRKLEY PARK
Football Association

Contract

121070

L3/32



- ● Moisture Content/Dry Density
- o Compaction at Natural Water Content
- ▼ Maximum Dry Density/Optimum Water Content

Type of Test/Mould	4.5Kg/CBR		
Particle Density Assumed	2.65	Mg/m^3	
Maximum Dry Density	1.96	Mg/m^3	
Optimum Water Content	11	%	
% retained 37.5mm sieve	6		
% retained 20mm sieve	25		

Description

Orange and grey slightly sandy very gravelly CLAY

Hole TP12

Depth 1.40 -1.80

Type B

Form 54/0

Remarks

Laboratory - Moisture Content/ Dry Density Relationship

Exploration Associates

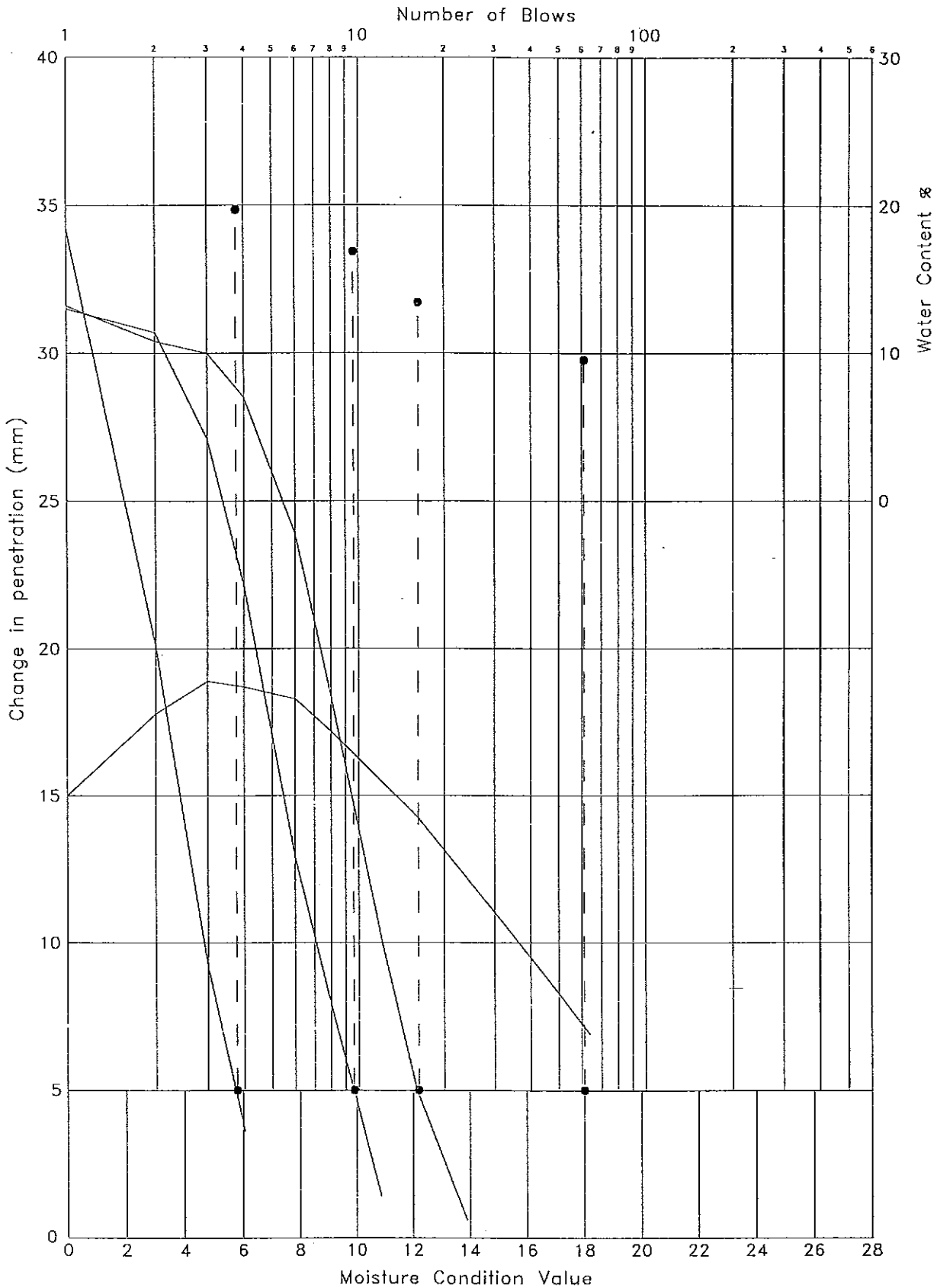
Project

BYRKLEY PARK
Football Association

Contract

121070

L3/33



% retained on 20mm sieve 0	Description Orange and grey slightly sandy very gravelly CLAY	Hole TP12 Depth 1.40 -1.80 Type B

Remarks

Form 52/1

Laboratory - MCV Exploration Associates	**Project** BYRKLEY PARK Football Association	**Contract** 121070 L3/33/1

Exploration Associates

LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_p %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
TP13	0.30 - 0.50	B	Orange and grey slightly sandy slightly gravelly CLAY	94% 46	425 Sieve 23	23	24																PSD : CL(/+)SI/SA/GR 20%/61%/15%/4%
TP13	0.30 - 0.50	D	Orangish grey gravelly CLAY				21																
TP13	1.40 - 1.50	B	Orangish grey slightly gravelly sandy CLAY	86% 39	425 Sieve 20	19	15		REM REM REM REM	50 50 50 50	153 106 64 47				Std Std Std Std Std Std MCV		(14) 10 14 14 17 18 18	(1.91) 1.73 1.85 1.88 1.80 1.77 1.85	8.9				PSD : CL(/+)SI/SA/GR 27%/35%/28%/10% Comp/CBR %> 20mm=2.6 37.5mm=0 MCV % > 20mm = 0.0
TP13	1.40 - 1.70	D	Orangish grey slightly gravelly sandy CLAY				15																
TP13	2.60 - 2.80	B	Dark purplish brown mottled grey slightly gravelly sandy CLAY	80% 34	425 Sieve 19	15	11																PSD : CL(/+)SI/SA/GR 21%/37%/27%/16%
TP13	2.60 - 2.70	D	Dark purplish brown mottled grey slightly gravelly sandy CLAY				10																

NOTES For full explanation of symbols please see key sheet

SHEAR STRENGTH - U/C: Unconsolidated/Consolidated U/D: Undrained/Drained Λ with P.W.P. measurement Diameter in mm
T: Single Stage Triaxial M: Multistage Triaxial REM: Remoulded REC: Reconstituted V: Vane SB: Shear Box (resid)

CONSOLIDATION - m_v and c_v given for load increment of 100kPa above assumed overburden pressure

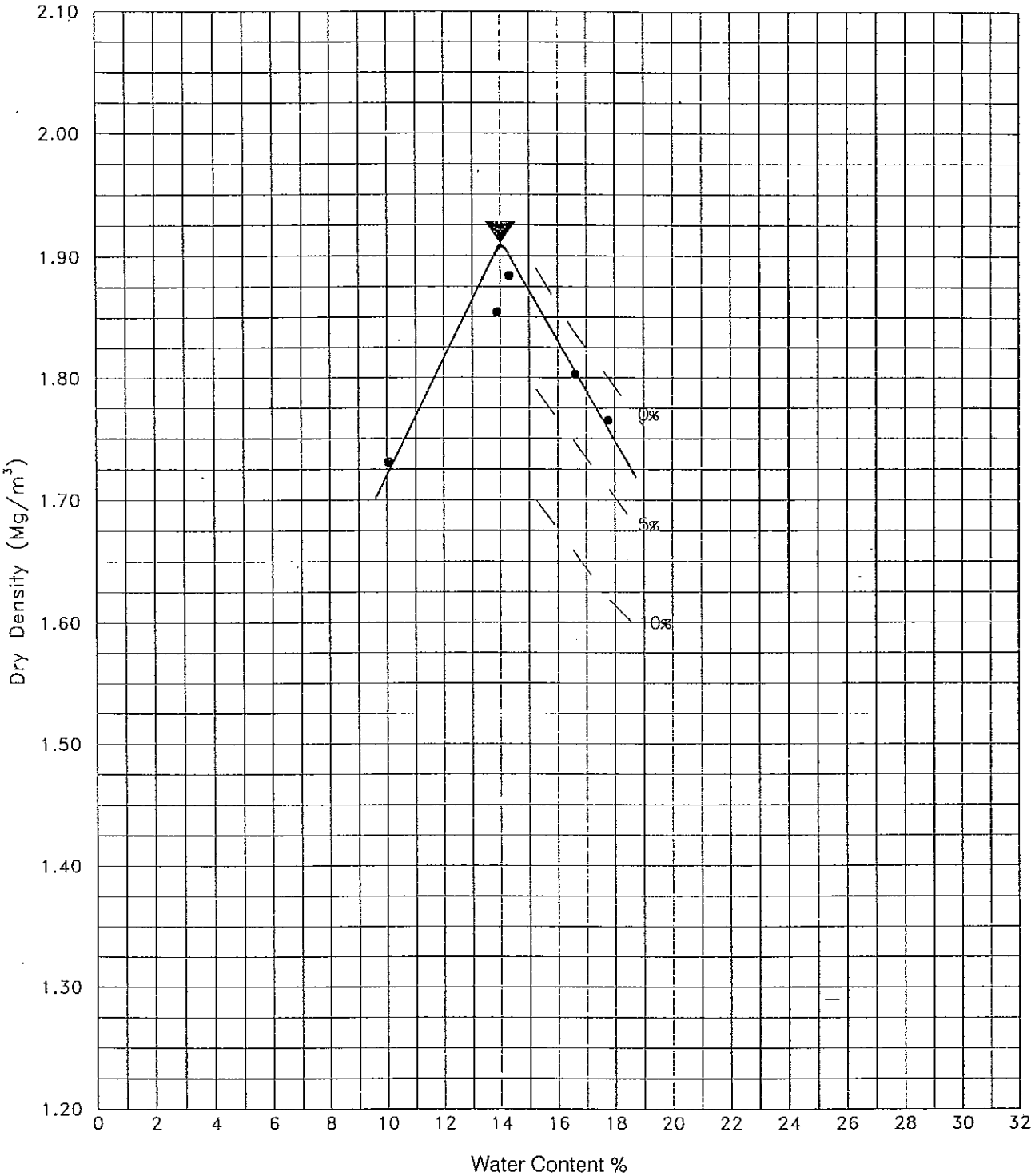
COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

Project
BYRKLEY PARK
Football Association

Form 40/4

Contract
121070

Sheet
L3/34



- ● Moisture Content/Dry Density
- o Compaction at Natural Water Content
- ▼ Maximum Dry Density/Optimum Water Content

Type of Test/Mould	2.5Kg/1Ltr		
Particle Density Assumed	2.65	Mg/m^3	
Maximum Dry Density	1.91	Mg/m^3	
Optimum Water Content	14	%	
% retained 37.5mm sieve	0		
% retained 20mm sieve	3		

Description

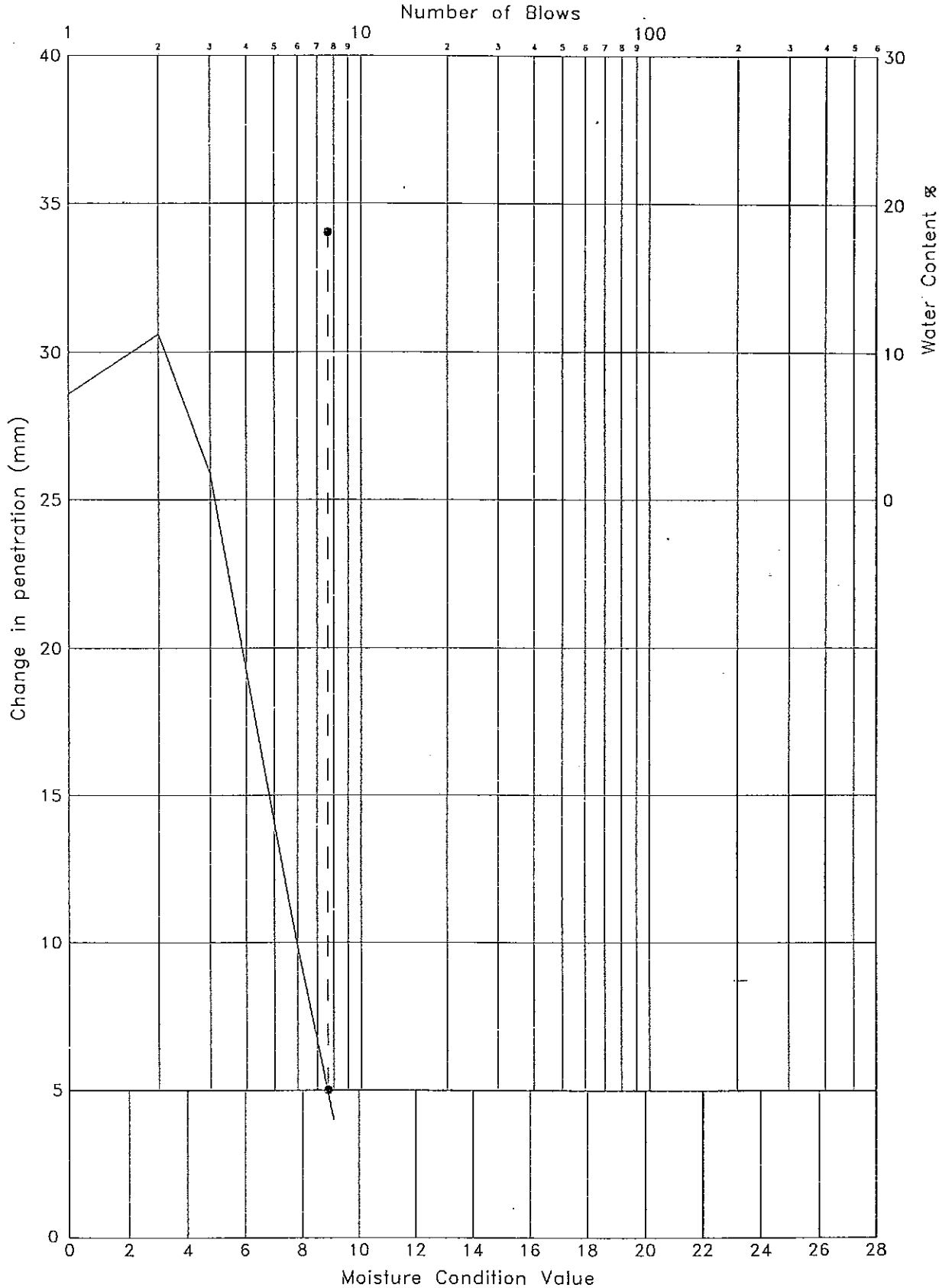
Orangish grey slightly gravelly sandy CLAY

Hole	TP13	
Depth	1.40	-1.50
Type	B	

Form 54/0

Remarks

Laboratory - Moisture Content/ Dry Density Relationship	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		L3/35



% retained on 20mm sieve 0	Description Orangish grey slightly gravelly sandy CLAY	Hole TP13 Depth 1.40 -1.50 Type B

Remarks

Form 52/1

Laboratory - MCV	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		L3/35/1

Exploration Associates

LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_p %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
TP14	0.90 - 1.00	B	Dark reddish brown mottled grey slightly sandy	83%	425	Sieve									Std		(16)	(1.80)					PSD : CL(/+)SI/SA/GR
			gravelly CLAY	52	17	35	19		REM	50	197				Std		11	1.67					26%/35%/27%/11%
									REM	50	127				Std		15	1.72					Comp/CBR %> 20mm=0 37.5mm=0
									REM	50	75				Std		16	1.79					
									REM	50	93				Std		18	1.76					
															Std		19	1.74					
TP14	4.00 - 4.20	B	Dark reddish brown slightly sandy gravelly CLAY												Hvy		(8.5)	(2.13)					Comp/CBR %> 20mm=6.3 37.5mm=8
															Hvy		<12>	2.03					MCV % > 20mm = 0.0
															Hvy		14	1.93					
															Hvy		16	1.87					
															Hvy		9.7	2.10					
															Hvy		6.0	2.09					
															MCV		12	1.47	11.2				
															MCV		15	1.46	8.6				
															MCV		16	1.48	5.2				
															MCV		8.6	1.47	17.5				

NOTES

For full explanation of symbols please see key sheet

SHEAR STRENGTH - U/C: Unconsolidated/Consolidated U/D: Undrained/Drained Λ with P.W.P. measurement Diameter in mm
T: Single Stage Triaxial M: Multistage Triaxial REM: Remoulded REC: Reconstituted V: Vane SB: Shear Box (resid)

CONSOLIDATION - m_v and c_v given for load increment of 100kPa above assumed overburden pressure

COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

Project

BYRKLEY PARK
Football Association

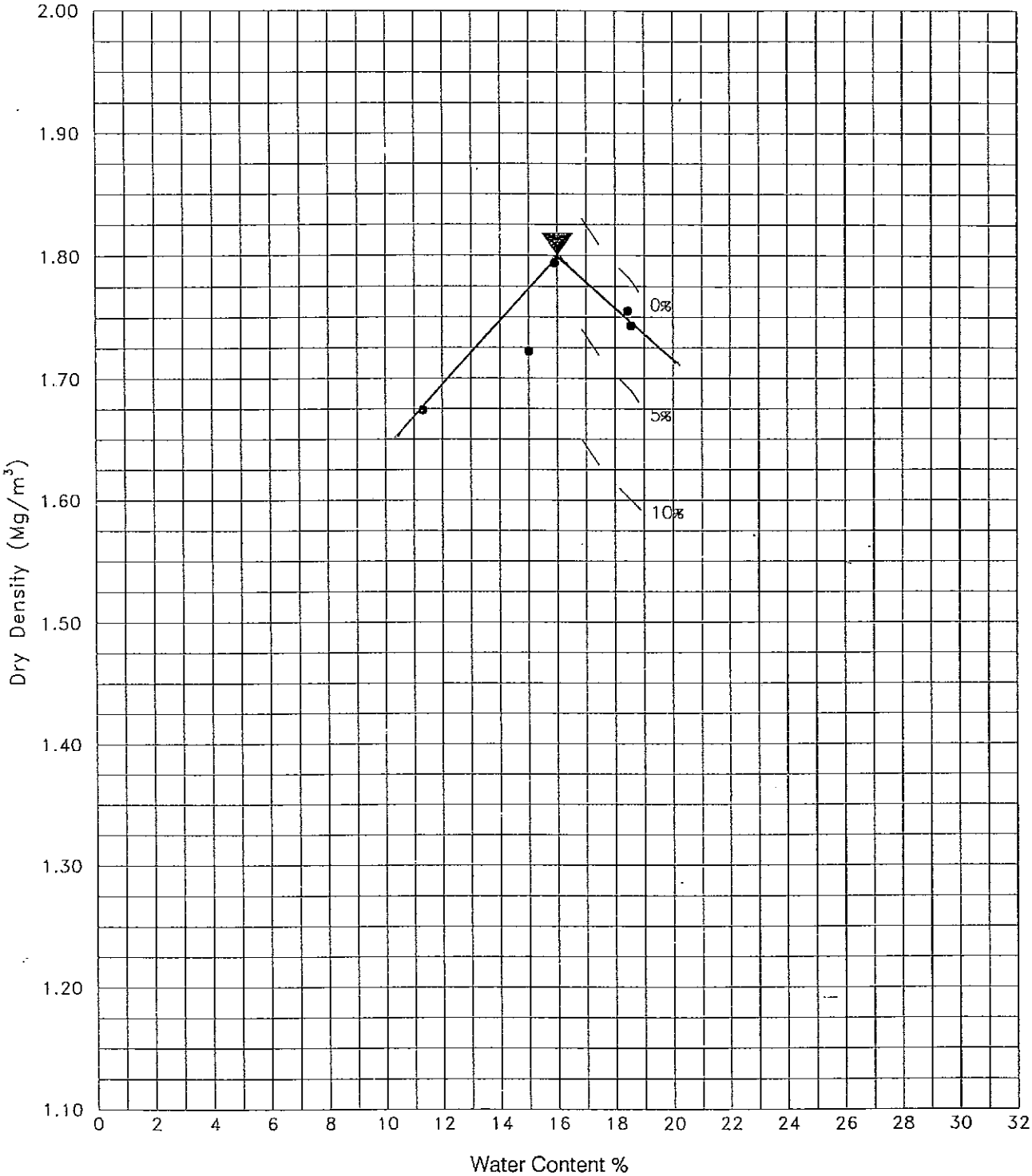
Form 40/4

Contract

121070

Sheet

L3/36



- ● Moisture Content/Dry Density
- o Compaction at Natural Water Content
- ▼ Maximum Dry Density/Optimum Water Content

Type of Test/Mould	2.5Kg/1Ltr	
Particle Density Assumed	2.65	Mg/m³
Maximum Dry Density	1.80	Mg/m³
Optimum Water Content	16	%
% retained 37.5mm sieve	0	
% retained 20mm sieve	0	

Description

Dark reddish brown mottled grey slightly sandy gravelly CLAY

Hole	TP14	
Depth	0.90	-1.00
Type	B	

Form 54/0

Remarks

Laboratory - Moisture Content/ Dry Density Relationship

Exploration Associates

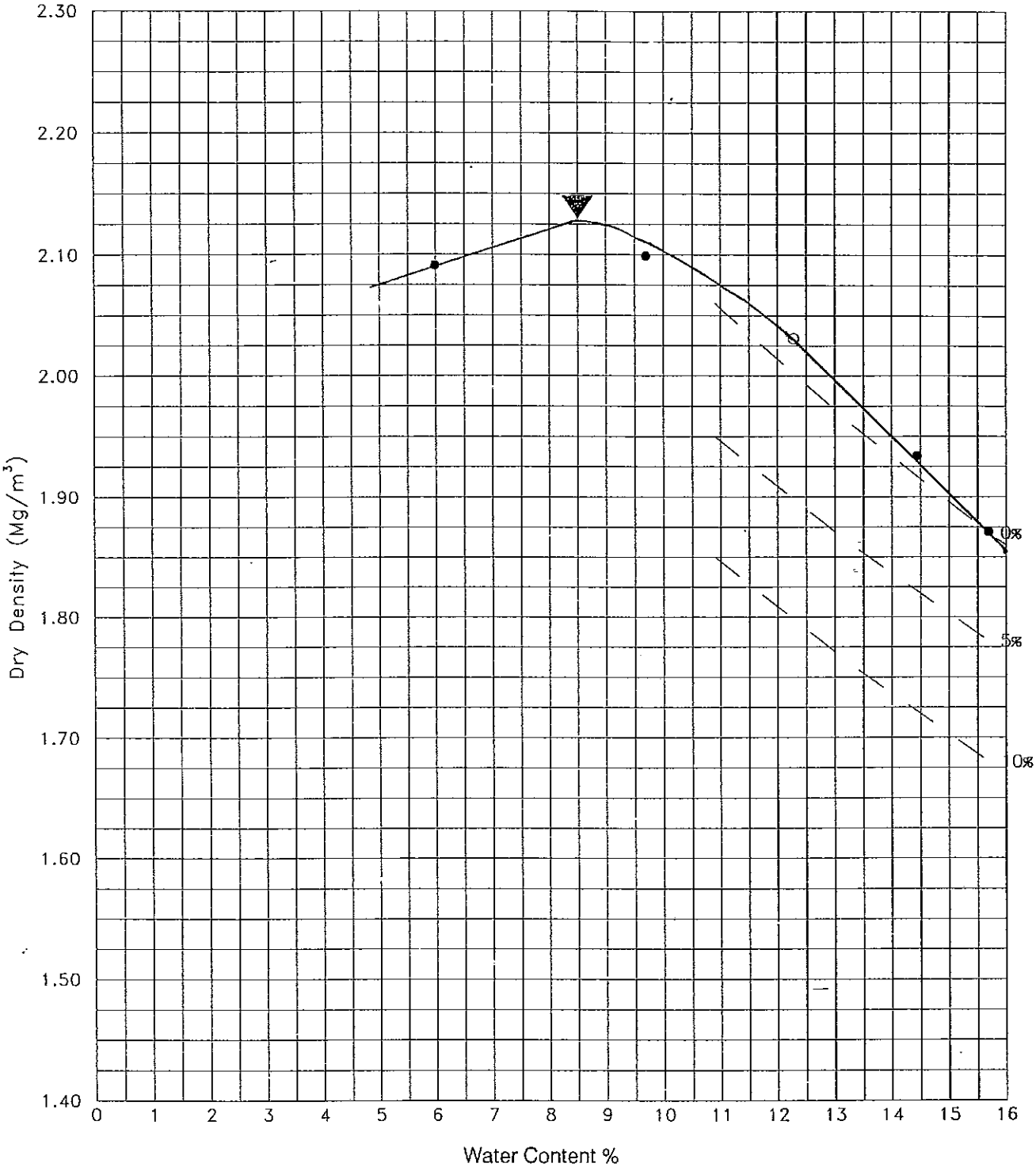
Project

BYRKLEY PARK
Football Association

Contract

121070

L3/37



- ● Moisture Content/Dry Density
- o Compaction at Natural Water Content
- ▼ Maximum Dry Density/Optimum Water Content

Type of Test/Mould	4.5Kg/CBR		
Particle Density Assumed	2.65	Mg/m^3	
Maximum Dry Density	2.13	Mg/m^3	
Optimum Water Content	8.5	%	
% retained 37.5mm sieve	8		
% retained 20mm sieve	6		

Description

Dark reddish brown slightly sandy gravelly CLAY

Hole TP14

Depth 4.00 -4.20

Type B

Form 54/0

Remarks

Laboratory - Moisture Content/ Dry Density Relationship

Exploration Associates

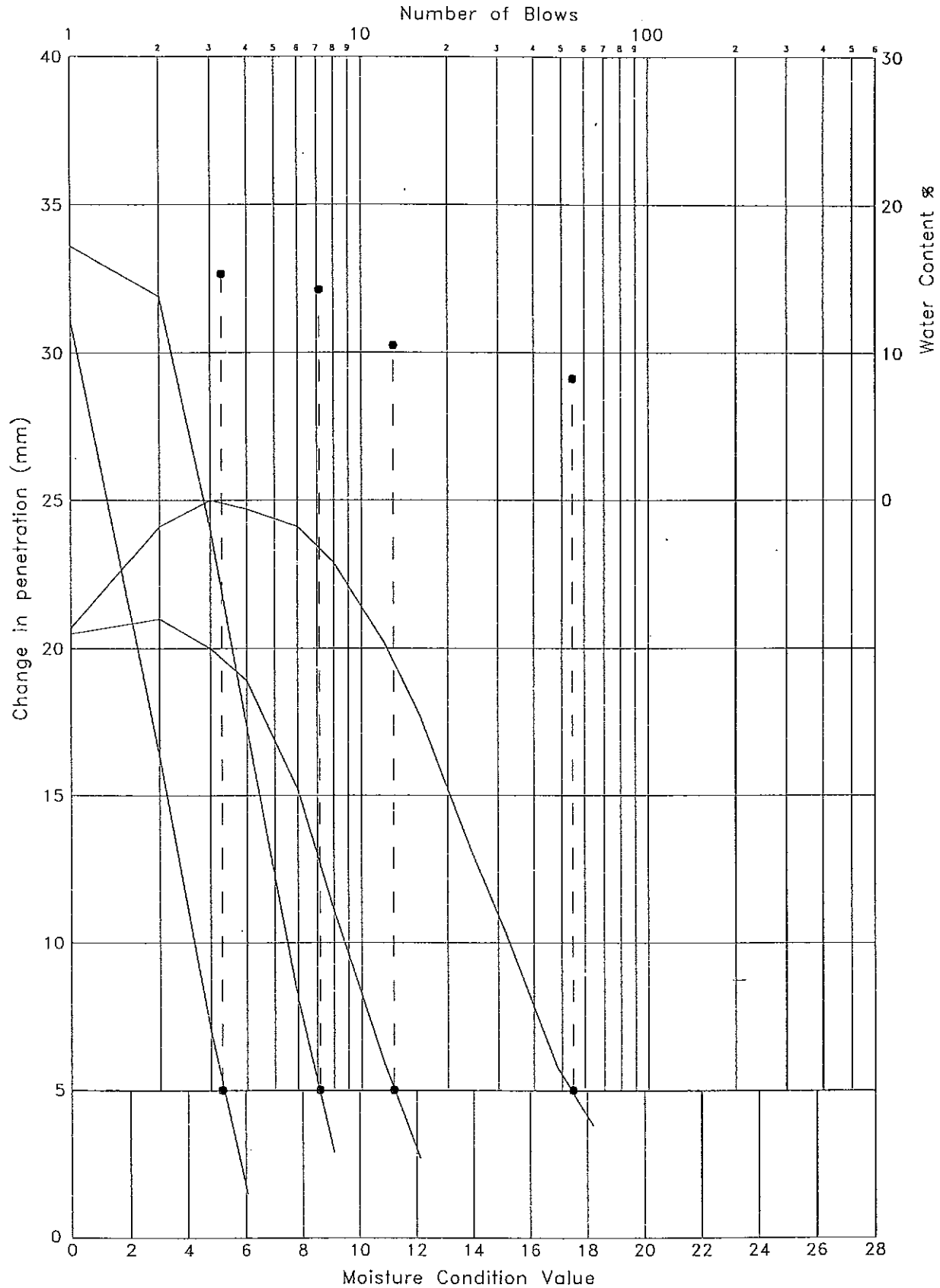
Project

BYRKLEY PARK
Football Association

Contract

121070

L3/38



% retained on 20mm sieve 0	Description Dark reddish brown slightly sandy gravelly CLAY	Hole TP14 Depth 4.00 -4.20 Type B

Remarks

Form 52/1

Laboratory - MCV	**Project** BYRKLEY PARK Football Association	**Contract** 121070
Exploration Associates		L3/38/1

Exploration Associates

LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_p %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
TP15	1.00 - 1.00	B	Dark orange and reddish brown sandy gravelly CLAY	59%	425 Sieve										Hvy		(12)	(1.97)					PSD : CL(/+)SI/SA/GR
				47	24	23	18								Hvy		<19>	1.80					18%/20%/27%/35%
															Hvy		21	1.70					Comp/CBR %> 20mm=7.3 37.5mm=2
															Hvy		15	1.93					MCV % > 20mm = 0.0
															Hvy		9.8	1.97					
															Hvy		8.0	1.96					
															MCV		18	1.44	12.0				
															MCV		20	1.45	8.7				
															MCV		13	1.52	14.8				
															MCV		9.0	1.59	18.0				
TP15	1.00 - 1.00	D	Dark orange and reddish brown sandy gravelly CLAY				13																
TP15	3.80 - 3.90	D	Reddish brown slightly sandy gravelly CLAY				16																
TP15	3.80 - 3.90	B	Reddish brown sandy gravelly CLAY	80%	425 Sieve																		PSD : CL(/+)SI/SA/GR
				43	19	24	18																27%/28%/24%/21%

NOTES — For full explanation of symbols please see key sheet

SHEAR STRENGTH - U/C: Unconsolidated/Consolidated U/D: Undrained/Drained Λ with P.W.P. measurement Diameter in mm
T: Single Stage Triaxial M: Multistage Triaxial REM: Remoulded REC: Reconstituted V: Vane SB: Shear Box (resid)

CONSOLIDATION - m_v and c_v given for load increment of 100kPa above assumed overburden pressure

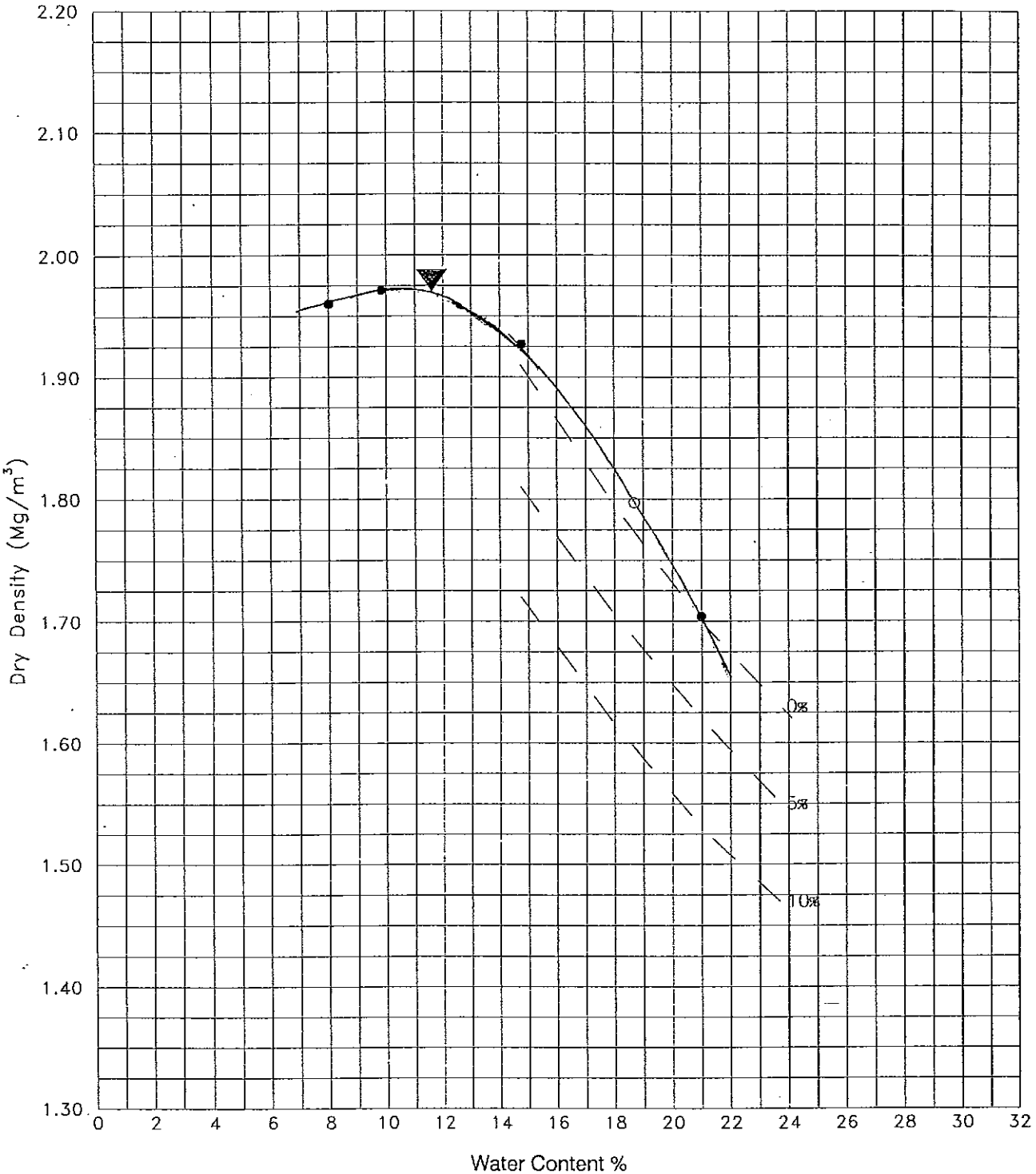
COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

Project
BYRKLEY PARK
Football Association

Form 40/4

Contract
121070

Sheet
L3/39



- ● Moisture Content/Dry Density
- o Compaction at Natural Water Content
- ▼ Maximum Dry Density/Optimum Water Content

Type of Test/Mould	4.5Kg/CBR		
Particle Density Assumed	2.65	Mg/m^3	
Maximum Dry Density	1.97	Mg/m^3	
Optimum Water Content	12	%	
% retained 37.5mm sieve	2		
% retained 20mm sieve	7		

Description

Dark orange and reddish brown sandy gravelly CLAY

Hole	TP15	
Depth	1.00	-1.00
Type	B	

Form 54/0

Remarks

Laboratory - Moisture Content/ Dry Density Relationship

Exploration Associates

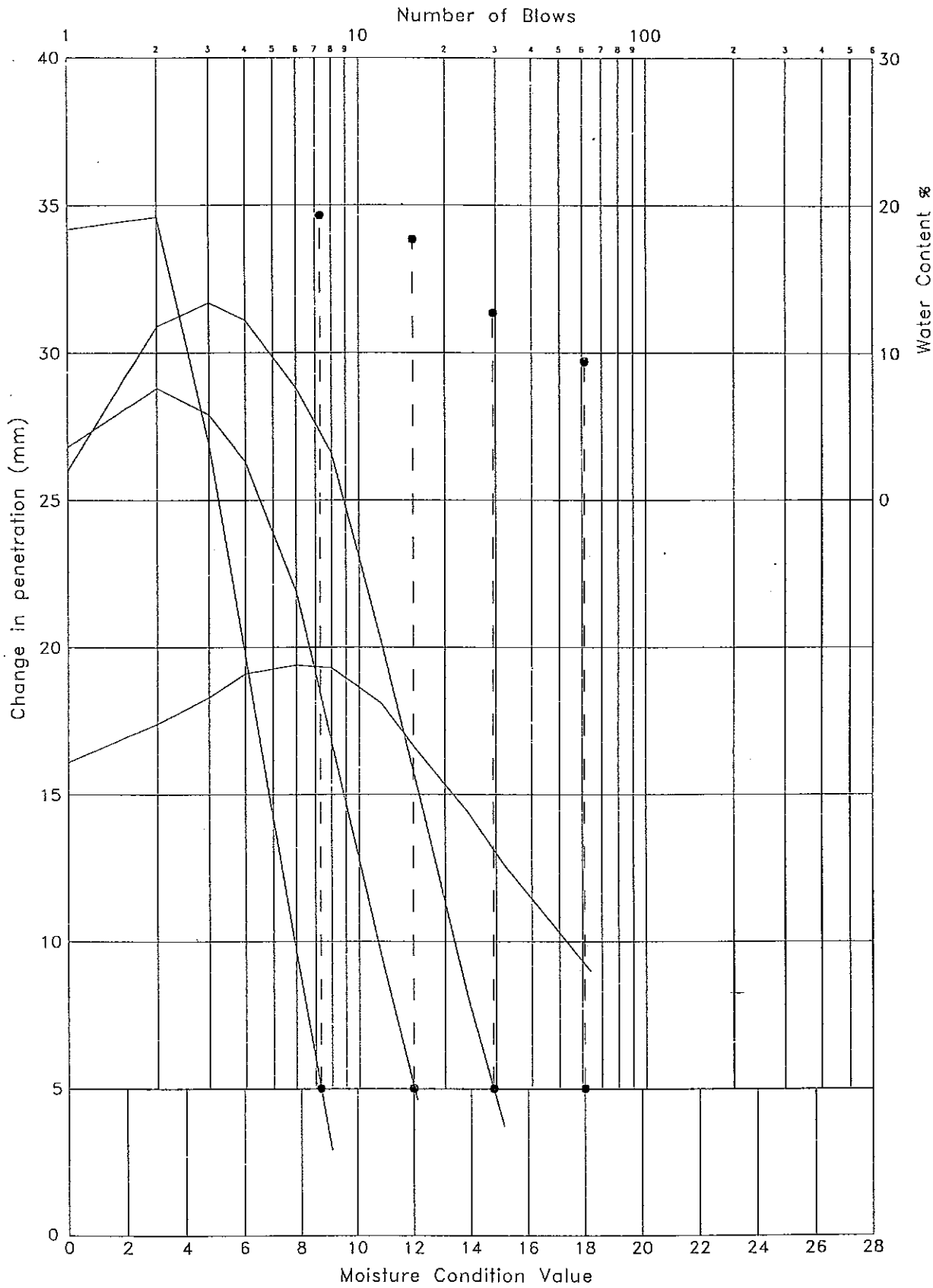
Project

BYRKLEY PARK
Football Association

Contract

121070

L3/40



% retained on 20mm sieve 0	Description Dark orange and reddish brown sandy gravelly CLAY	Hole TP15 Depth 1.00 -1.00 Type B

Remarks

Form 52/1

Laboratory - MCV Exploration Associates	**Project** BYRKLEY PARK Football Association	**Contract** 121070 L3/40/1

Exploration Associates

LABORATORY TEST SUMMARY SHEET

SAMPLE DETAILS				CLASSIFICATION TESTS					SHEAR STRENGTH				CONSOL-IDATION		COMPACTION EARTHWORKS					CHEMICAL			OTHER
Hole	Depth m	Type No.	Description	<425 W_L %	Prep W_p %	Ip	Nat Water %	γ_b Mg/m^3	Test Type	σ_3 σ_n p'_o kPa	C C' kPa	Ø Ø' Deg.	m_v m^2/MN	c_v m^2/yr	Comp Type/ Mould	CBR %	Water %	γ_d Mg/m^3	MCV	pH	SO_3 (SO_4) Soil %	SO_3 (SO_4) Water g/ltr	Test Remarks and Notes
TP16	2.10 - 2.20	B	Dark red slightly sandy gravelly CLAY												Hvy		(9.5)	(2.10)					Comp/CBR %> 20mm=2.6 37.5mm=0
															Hvy		<16>	1.87					MCV % > 20mm = 0.0
															Hvy		17	1.79					
															Hvy		11	2.05					
															Hvy		10	2.09					
															Hvy		7.2	2.07					
															MCV		14	1.45	10.2				
															MCV		16	1.53	5.4				
															MCV		12	1.46	14.0				
															MCV		9.3	1.48	18.2				

NOTES For full explanation of symbols please see key sheet

SHEAR STRENGTH - U/C: Unconsolidated/Consolidated U/D: Undrained/Drained Λ with P.W.P. measurement Diameter in mm
T: Single Stage Triaxial M: Multistage Triaxial REM: Remoulded REC: Reconstituted V: Vane SB: Shear Box (resid)

CONSOLIDATION - m_v and c_v given for load increment of 100kPa above assumed overburden pressure

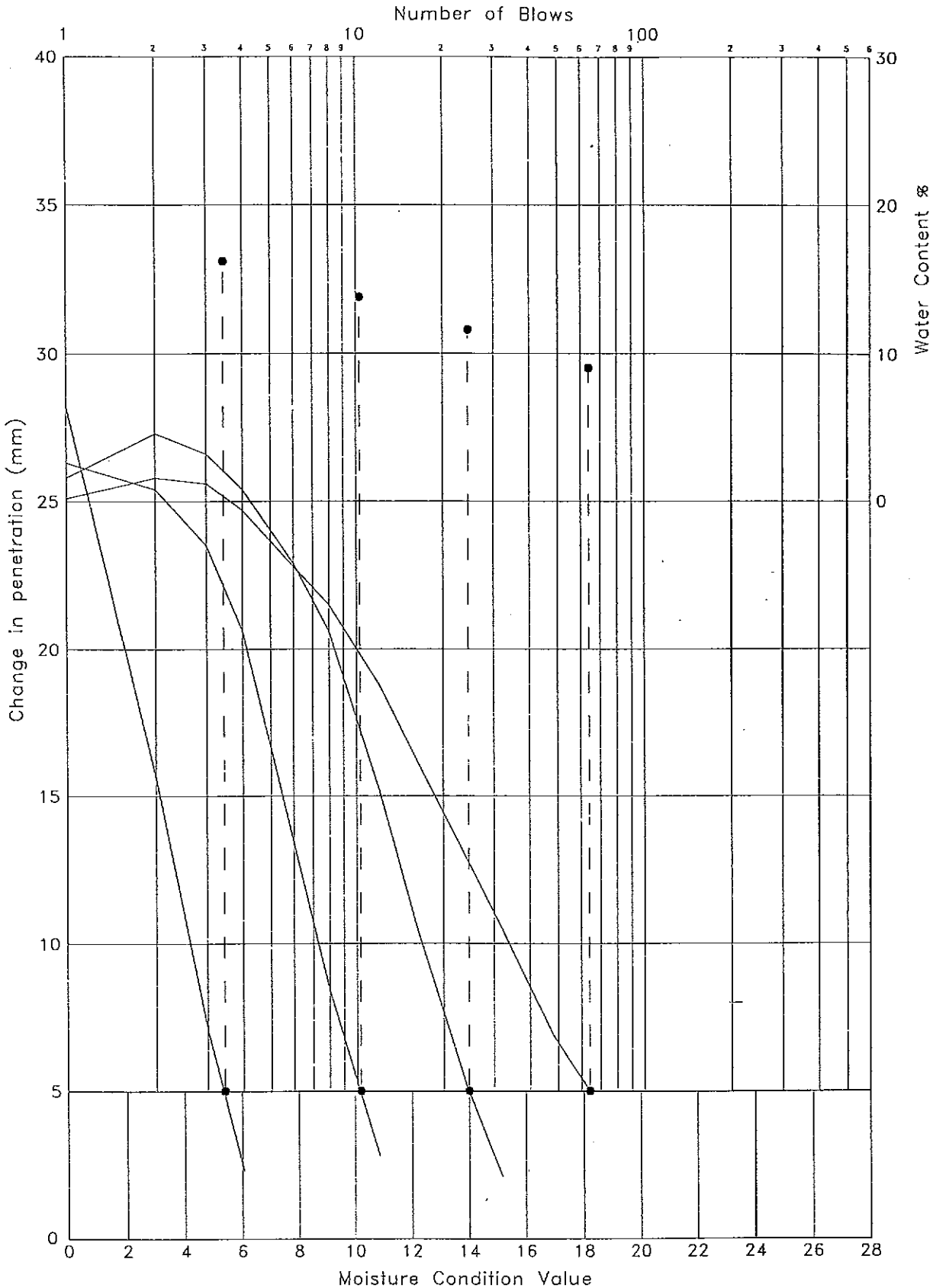
COMPACTION EARTHWORKS - Std: 2.5kg Hvy: 4.5kg Vib: Vibratory Mould - P: Proctor C: CBR γ_d (max)
Water% (Optimum) <Natural> CBR - T: Top B: Base A: Average REL - Relationship Test

Project
BYRKLEY PARK
Football Association

Form 40/4

Contract
121070

Sheet
L3/41

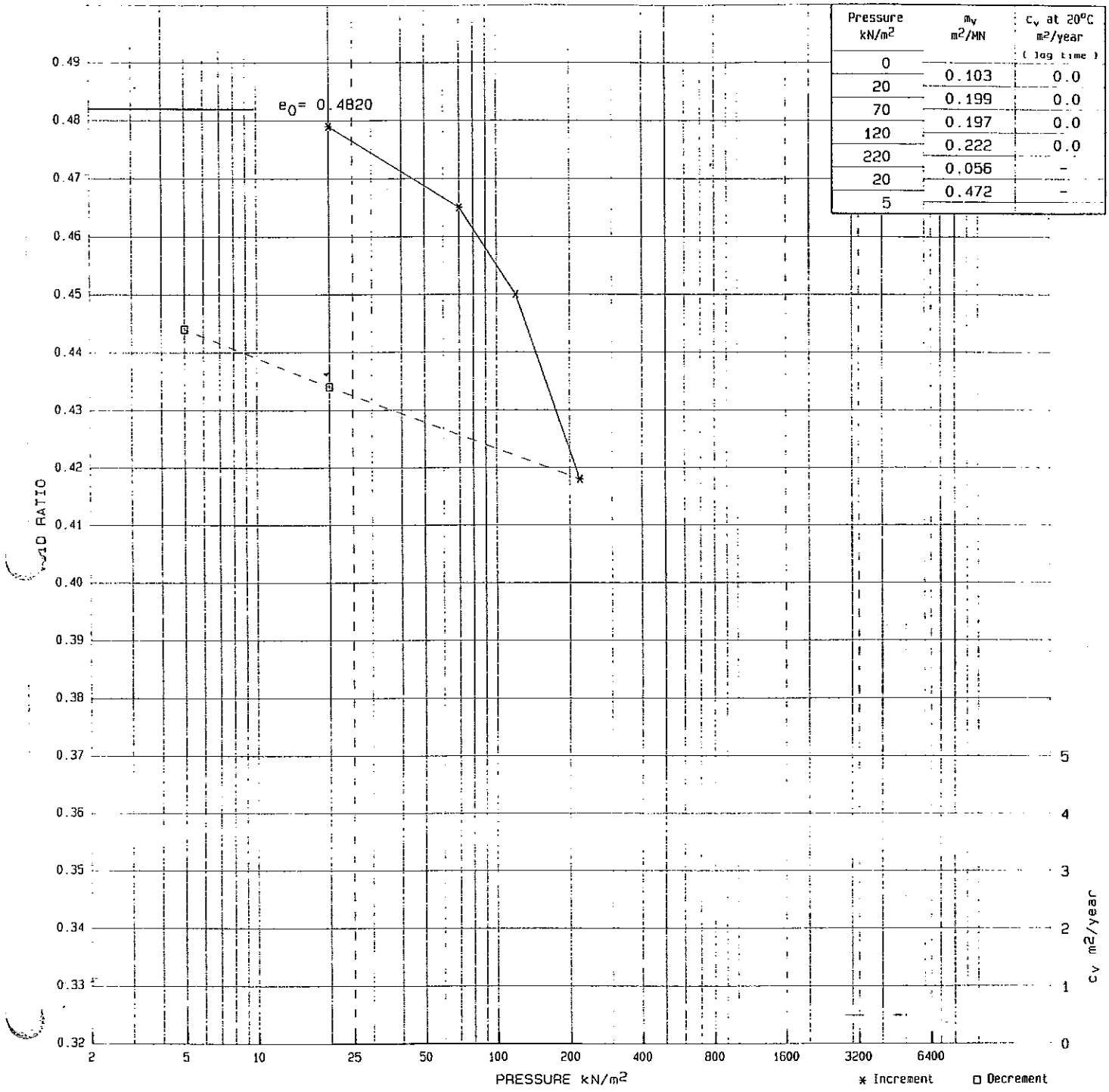


% retained on 20mm sieve 0	Description Dark red slightly sandy gravelly CLAY	Hole TP16 Depth 2.10 -2.20 Type B

Remarks

Form 52/1

Laboratory - MCV Exploration Associates	**Project** BYRKLEY PARK Football Association	**Contract** 121070 L3/42/1



Pressure kN/m²	m_v m²/MN	c_v at 20°C m²/year (log time)
0		
20	0.103	0.0
70	0.199	0.0
120	0.197	0.0
220	0.222	0.0
20	0.056	-
5	0.472	-

Soil Description: Stiff dark red brown sandy gravelly CLAY

Liquid limit % Plastic limit % Particle density 2.65 Mg/m³ (Assumed)

Initial specimen dimensions: 75.0 mm dia. x 19.0 mm high. Area = 4414 mm²

Specimen Preparation and Orientation: Undisturbed, normal to sample axis unless otherwise stated below

	Moisture content %	Bulk density Mg/m³	Dry density Mg/m³	Void ratio	Saturation %	Average Temperature	Date started
Initial	16	2.07	1.79	0.4820	85	20 °C	27/06/01
Final	18	2.16	1.84	0.4440	105		

Notes: 1) Swelling occured under 20 kN/m2 pressure

2) Some remoulding required due to gravel content

ONE DIMENSIONAL CONSOLIDATION TEST

BS 1377 : PART 5 : 1990 : CLAUSE 3

Borehole No. 3
Sample Type U
Sample No.

Specimen taken 40 mm from base

Depth 1.00m to 1.45m

SLR 5.3 Rev. 2 July 95 | Soil Mechanics | Location: BYRKLEY PARK | Loc No. 121070 | Fig. L4.1

Jul-09-2001 16:14

ONE DIMENSIONAL CONSOLIDATION TEST

BEFORE TEST

Weight of sample + ring	292.50 g	Diameter	
Weight of ring	119.30 g	Area	44
Weight of sample	173.20 g	Thickness	
Weight of dry sample	149.93 g	Volume	
Weight of initial moisture	23.27 g	Density	
Initial moisture content	15.5 %	Dry density	
Liquid limit		Plastic limit	
Particle density (Assumed)	2.65		
Initial void ratio	0.482	Test started	27/
Swelling pressure	0.000	Cell Number	
Initial saturation	85 %	Ring Number	
Void ratio change factor	0.07	Average temperature	

AFTER TEST

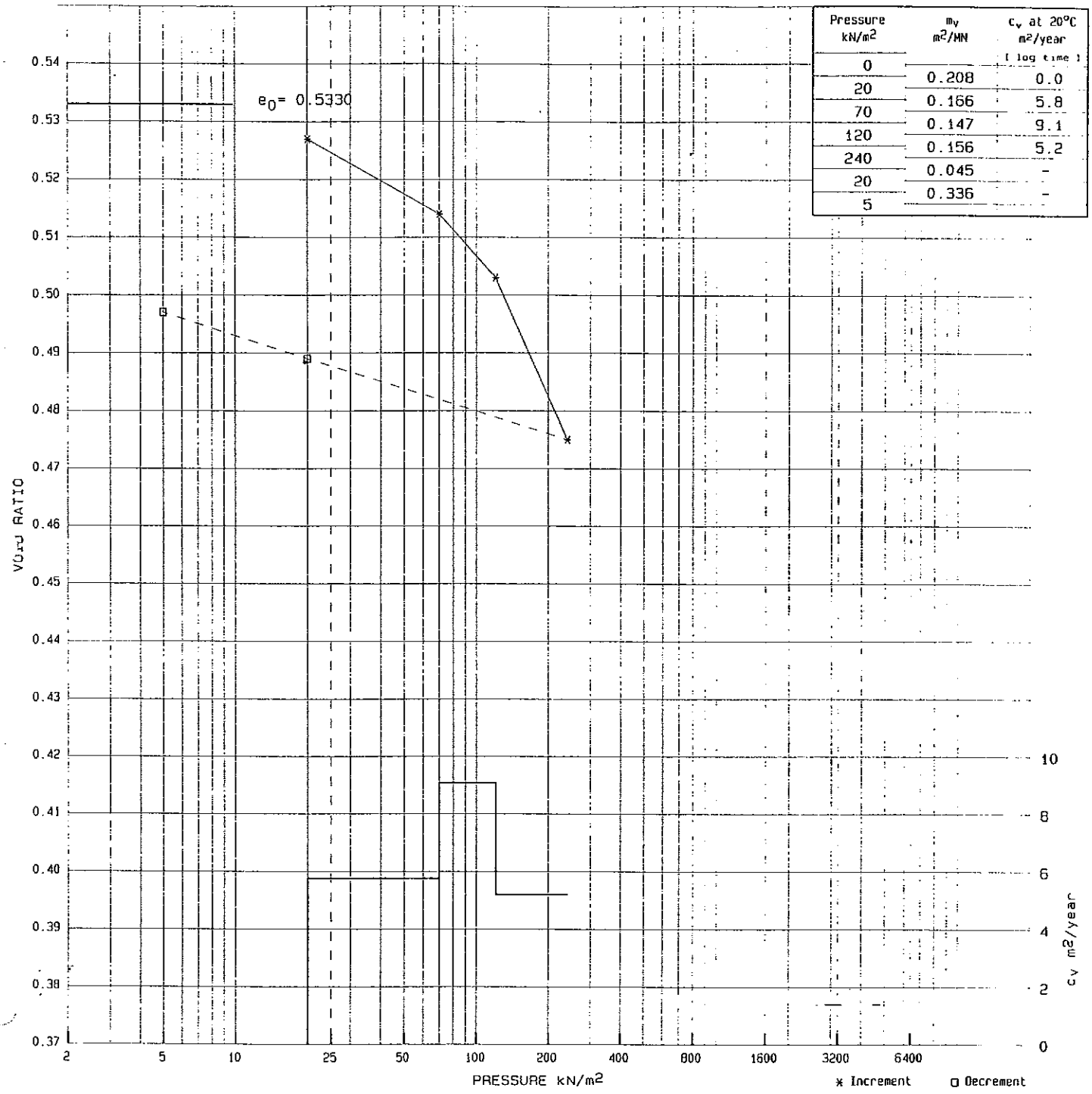
Weight of MAIN sample + tin	353.40 g	Overall settlement	
Weight of MAIN dry sample + tin	327.03 g	Volume change	
Weight of wet sample	177.10 g	Final volume	
Weight of dry sample	149.93 g	Final density	
Weight of moisture	26.37 g	Final dry density	
Final moisture content	17.5 %	Final void ratio	
Additional dry weight	0.00 g		
Final saturation	104 %		

GRAPHICAL DATA

Applied Pressure kN/m²	δH mm	Thickness H1 mm	Thickness H2 mm	Voids Ratio	Mv m²/MN	Log Time t50	Log Time Cv m²/year	Log Time t90	R
20.00	0.039	19.000	18.961	0.4794	0.103		*****.**		
70.00	0.228	18.961	18.772	0.4646	0.199		*****.**		
120.00	0.413	18.772	18.587	0.4502	0.197		*****.**		
220.00	0.825	18.587	18.175	0.4181	0.222	-	*****.**		
20.00	0.623	18.175	18.377	0.4338	0.056				
5.00	0.493	18.377	18.507	0.4440	0.472				

Hole number 3 Sample number Depth 1.00m to 1.45m
Specimen 40 mm from base of tube

Location number 121070 Da
Job name BYRKLEY PARK



Pressure kN/m²	m_v m²/MN	c_v at 20°C m²/year (log time)
0		
20	0.208	0.0
70	0.166	5.8
120	0.147	9.1
240	0.156	5.2
20	0.045	-
5	0.336	-

Soil Description: Stiff red brown sandy gravelly CLAY

Liquid limit % Plastic limit % Particle density 2.62 Mg/m³ (Measured)

Initial specimen dimensions: 74.9 mm dia. x 19.0 mm high. Area = 4412 mm²

Specimen Preparation and Orientation: Undisturbed, normal to sample axis unless otherwise stated below

	Moisture content %	Bulk density Mg/m³	Dry density Mg/m³	Void ratio	Saturation %	Average Temperature	Date started
Initial	21	2.07	1.71	0.5330	104	20 °C	28/06/01
Final	20	2.10	1.75	0.4970	105		

Notes: 1) Some remoulding required due to gravel content

ONE DIMENSIONAL CONSOLIDATION TEST

BS 1377 : PART 5 : 1990 : CLAUSE 3

Borehole No. 4
Sample Type U
Sample No.

Specimen taken 50 mm from base

Depth 1.00m to 1.45m

Location BYRKLEY PARK

Loc No. 121070

Fig. 1.14/3

Jul-09-2001 15:10

ONE DIMENSIONAL CONSOLIDATION TEST

BEFORE TEST

Weight of sample + ring	293.40 g	Diameter	
Weight of ring	119.80 g	Area	4.
Weight of sample	173.60 g	Thickness	
Weight of dry sample	143.28 g	Volume	
Weight of initial moisture	30.32 g	Density	
Initial moisture content	21.1 %	Dry density	
Liquid limit		Plastic limit	
Particle density (Measured)	2.62		
Initial void ratio	0.532	Test started	28/
Swelling pressure	0.000	Cell Number	
Initial saturation	104 %	Ring Number	
Void ratio change factor	0.08	Average temperature	

AFTER TEST

Weight of MAIN sample + tin	351.70 g	Overall settlement	
Weight of MAIN dry sample + tin	320.88 g	Volume change	
Weight of wet sample	177.60 g	Final volume	
Weight of dry sample	143.28 g	Final density	
Weight of moisture	30.82 g	Final dry density	
Final moisture content	19.9 %	Final void ratio	
Additional dry weight	0.00 g		
Final saturation	105 %		

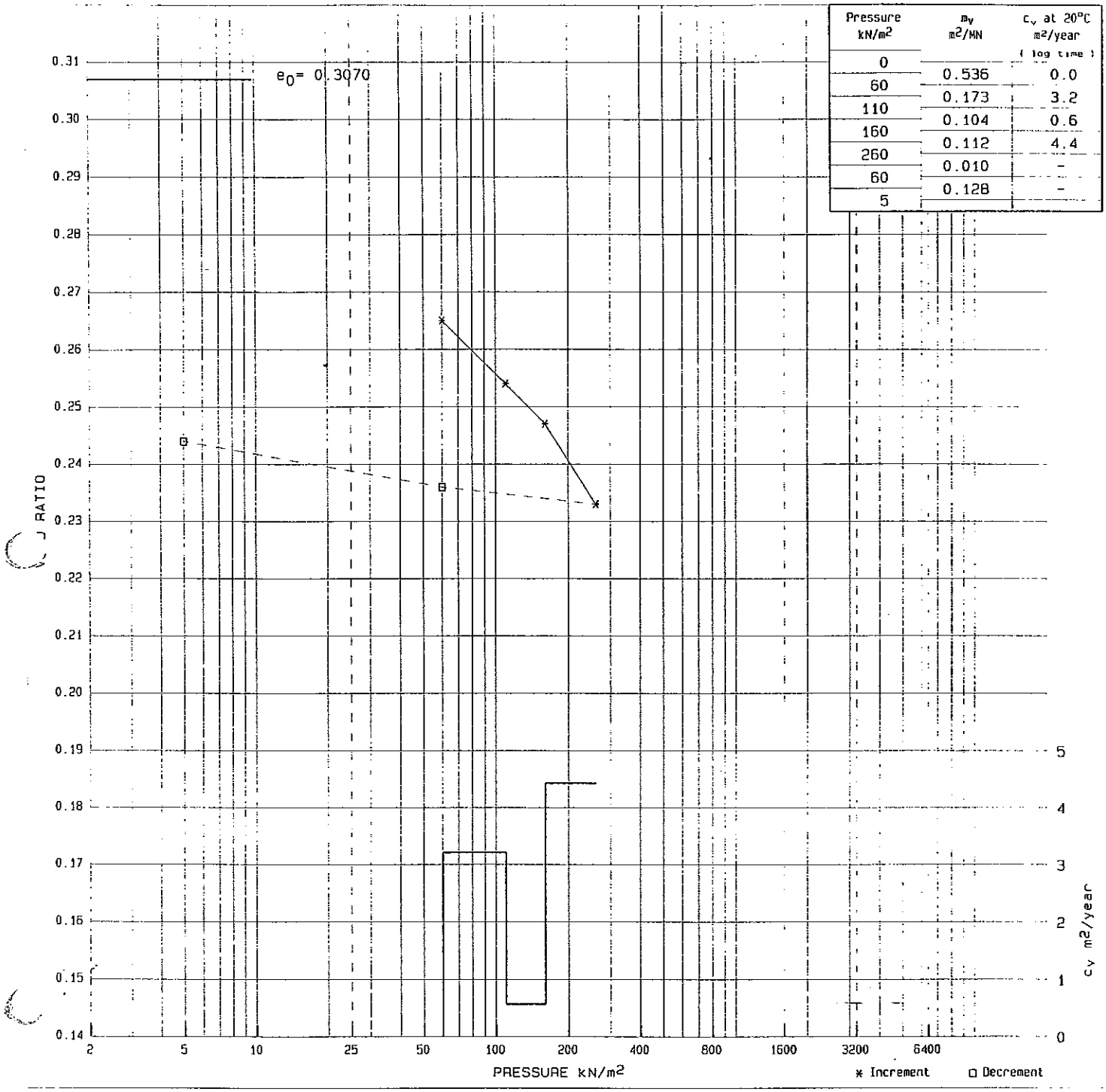
Corrected from 113% by adjustment of final m/c from 21.5%

GRAPHICAL DATA

Applied Pressure kN/m²	δH mm	Thickness H1 mm	Thickness H2 mm	Voids Ratio	Mv m²/MN	Log Time t50	Cv m²/year	R t90
20.00	0.079	19.000	18.921	0.5265	0.208		******.**	
70.00	0.236	18.921	18.764	0.5138	0.166	1.6	5.77	
120.00	0.374	18.764	18.626	0.5027	0.147	1.0	9.09	
240.00	0.722	18.626	18.278	0.4746	0.156	1.7	5.21	
20.00	0.543	18.278	18.457	0.4891	0.045			
5.00	0.450	18.457	18.550	0.4966	0.336			

Hole number 4 Sample number Depth 1.00m to 1.45m
Specimen 50 mm from base of tube

Location number 121070 Da
Job name BYRKLEY PARK



Pressure kN/m²	m_v m²/MN	c_v at 20°C m²/year (log time)
0		
	0.536	0.0
60		
	0.173	3.2
110		
	0.104	0.6
160		
	0.112	4.4
260		
	0.010	-
60		
	0.128	-
5		

Soil Description: Firm red brown sandy gravelly CLAY

Liquid limit % Plastic limit % Particle density 2.65 Mg/m³ (Assumed)

Initial specimen dimensions: 75.0 mm dia. x 19.0 mm high. Area = 4414 mm²

Specimen Preparation and Orientation: Undisturbed, normal to sample axis unless otherwise stated below

	Moisture content %	Bulk density Mg/m³	Dry density Mg/m³	Void ratio	Saturation %	Average Temperature	Date started
Initial	12	2.28	2.03	0.3070	108	20 °C	28/06/01
Final	9.7	2.34	2.13	0.2440	105		

Notes: 1) Some remoulding required due to gravel content

ONE DIMENSIONAL CONSOLIDATION TEST

BS 1377 : PART 5 : 1990 : CLAUSE 3

Borehole No. 4 Specimen taken 60 mm from base

Sample Type U

Sample No. Depth 3.00m to 3.45m

SLA 5.3 Rev. 2 July 95 | Soil Mechanics | Location BYAKLEY PARK | Loc No. 121070 | Fig. 14/5

Jul-09-2001 16:06

ONE DIMENSIONAL CONSOLIDATION TEST

BEFORE TEST

Weight of sample + ring	311.00 g	Diameter	
Weight of ring	120.10 g	Area	44
Weight of sample	190.90 g	Thickness	
Weight of dry sample	169.73 g	Volume	
Weight of initial moisture	21.17 g	Density	
Initial moisture content	12.4 %	Dry density	
Liquid limit		Plastic limit	
Particle density (Assumed)	2.65		
Initial void ratio	0.306	Test started	28/
Swelling pressure	0.000	Cell Number	
Initial saturation	107 %	Ring Number	
Void ratio change factor	0.06	Average temperature	

AFTER TEST

Weight of MAIN sample + tin	368.70 g	Overall settlement	
Weight of MAIN dry sample + tin	347.63 g	Volume change	
Weight of wet sample	177.90 g	Final volume	
Weight of dry sample	169.73 g	Final density	
Weight of moisture	21.07 g	Final dry density	
Final moisture content	9.6 %	Final void ratio	
Additional dry weight	0.00 g		
Final saturation	105 %		

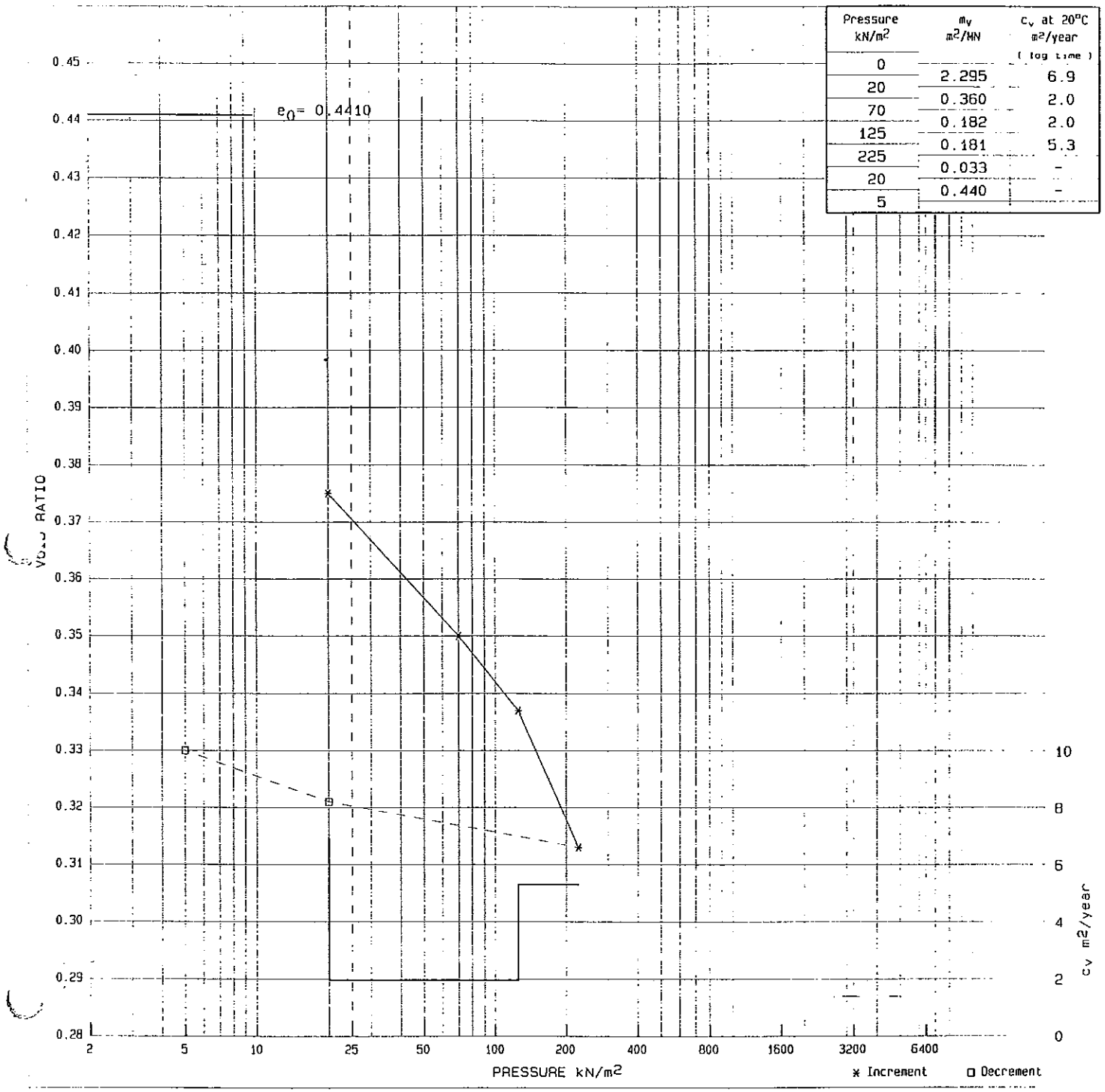
Corrected from 135% by adjustment of final m/c from 12.4%

GRAPHICAL DATA

Applied Pressure kN/m²	δH mm	Thickness H1 mm	Thickness H2 mm	Voids Ratio	Mv m²/MN	Log Time t50	Log Time Cv m²/year	R t90
60.00	0.610	18.960	18.350	0.2647	0.536		*****.**	
110.00	0.769	18.350	18.191	0.2537	0.173	2.7	3.21	
160.00	0.864	18.191	18.096	0.2472	0.104	14.9	0.57	
260.00	1.066	18.096	17.894	0.2333	0.112	1.9	4.43	
60.00	1.030	17.894	17.930	0.2358	0.010			
5.00	0.904	17.930	18.056	0.2444	0.128			

Hole number 4 Sample number Depth 3.00m to 3.45m
Specimen 60 mm from base of tube

Location number 121070 Da
Job name BYRKLEY PARK



Pressure kN/m²	m_v m²/MN	c_v at 20°C m²/year (log time)
0		
20	2.295	6.9
70	0.360	2.0
125	0.182	2.0
225	0.181	5.3
20	0.033	-
5	0.440	-

Soil Description: Soft brown sandy gravelly CLAY with pockets of loose brown sand and some brick fragments

Liquid limit % Plastic limit % Particle density 2.65 Mg/m³ (Assumed)

Initial specimen dimensions: 75.0 mm dia. x 19.0 mm high. Area = 4414 mm²

Specimen Preparation and Orientation: Undisturbed, normal to sample axis unless otherwise stated below

	Moisture content %	Bulk density Mg/m³	Dry density Mg/m³	Void ratio	Saturation %	Average Temperature	Date started
Initial	18	2.17	1.83	0.4410	110	20 °C	29/06/01
Final	13	2.25	1.99	0.3300	105		

Notes: 1) Some remoulding required due to gravel content

ONE DIMENSIONAL CONSOLIDATION TEST

BS 1377 : PART 5 : 1990 : CLAUSE 3

Borehole No. 5
Sample Type U
Sample No.

Specimen taken 50 mm from base

Depth 1.00m to 1.45m

ONE DIMENSIONAL CONSOLIDATION TEST

BEFORE TEST

Weight of sample + ring	302.20 g	Diameter	
Weight of ring	119.60 g	Area	4.
Weight of sample	182.60 g	Thickness	
Weight of dry sample	154.39 g	Volume	
Weight of initial moisture	28.21 g	Density	
Initial moisture content	18.2 %	Dry density	
Liquid limit		Plastic limit	
Particle density (Assumed)	2.65		
Initial void ratio	0.441	Test started	29,
Swelling pressure	0.000	Cell Number	
Initial saturation	109 %	Ring Number	
Void ratio change factor	0.07	Average temperature	

AFTER TEST

Weight of MAIN sample + tin	356.90 g	Overall settlement	
Weight of MAIN dry sample + tin	331.59 g	Volume change	
Weight of wet sample	177.20 g	Final volume	
Weight of dry sample	154.39 g	Final density	
Weight of moisture	25.31 g	Final dry density	
Final moisture content	13.0 %	Final void ratio	

Additional dry weight	0.00 g
Final saturation	105 %

Corrected from 132% by adjustment of final m/c from 16.4%

GRAPHICAL DATA

Applied Pressure kN/m²	δH mm	Thickness H1 mm	Thickness H2 mm	Voids Ratio	Mv m²/MN	Log Time t50	Cv m²/year	t9
20.00	0.873	19.020	18.147	0.3750	2.295	1.3	6.91	
70.00	1.200	18.147	17.820	0.3502	0.360	4.3	1.96	
125.00	1.378	17.820	17.642	0.3367	0.182	4.2	1.95	
225.00	1.697	17.642	17.323	0.3125	0.181	1.5	5.30	
20.00	1.581	17.323	17.439	0.3213	0.033			
5.00	1.466	17.439	17.554	0.3300	0.440			

Hole number 5 Sample number Depth 1.00m to 1.45m
Specimen 50 mm from base of tube

Location number 121070 D
Job name BYRKLEY PARK

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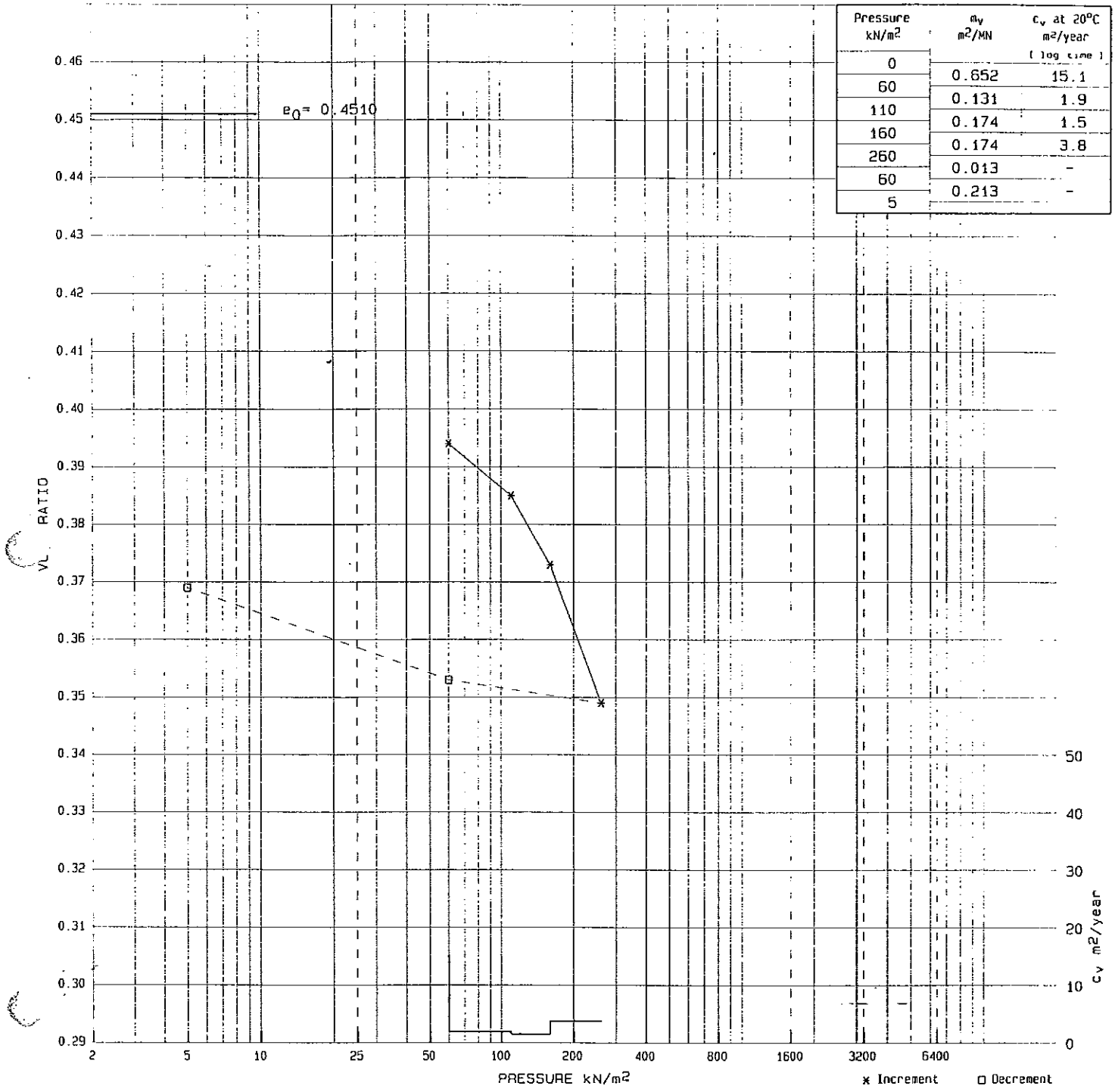

Pressure kN/m²	m_v m²/MN	c_v at 20°C m²/year (log time)
0		
60	0.652	15.1
110	0.131	1.9
160	0.174	1.5
260	0.174	3.8
60	0.013	-
5	0.213	-

Soil Description: Firm red brown gravelly CLAY

Liquid limit % Plastic limit % Particle density 2.67 Mg/m³ (Measured)

Initial specimen dimensions: 75.0 mm dia. x 19.0 mm high. Area = 4416 mm²

Specimen Preparation and Orientation: Undisturbed, normal to sample axis unless otherwise stated below

	Moisture content %	Bulk density Mg/m³	Dry density Mg/m³	Void ratio	Saturation %	Average Temperature	Date started
Initial	16	2.14	1.84	0.4510	96	20 °C	29/06/01
Final	15	2.23	1.95	0.3690	105		

Notes: 1) Some remoulding required due to gravel content

ONE DIMENSIONAL CONSOLIDATION TEST

BS 1377 : PART 5 : 1990 : CLAUSE 3

Borehole No. 5
Sample Type U
Sample No.

Specimen taken 50 mm from base

Depth 3.00m to 3.45m

SLR 5.3 Soil Mechanics
Rev. 2 July 95

Location BYRKLEY PARK

Loc No. 121070

Fig. L4/7

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ONE DIMENSIONAL CONSOLIDATION TEST

BEFORE TEST

Weight of sample + ring	299.90 g	Diameter	
Weight of ring	120.00 g	Area	4
Weight of sample	179.90 g	Thickness	
Weight of dry sample	154.77 g	Volume	
Weight of initial moisture	25.13 g	Density	
Initial moisture content	16.2 %	Dry density	
Liquid limit		Plastic limit	
Particle density (Measured)	2.67		
Initial void ratio	0.451	Test started	29/
Swelling pressure	0.000	Cell Number	
Initial saturation	96 %	Ring Number	
Void ratio change factor	0.07	Average temperature	

AFTER TEST

Weight of MAIN sample + tin	358.60 g	Overall settlement	
Weight of MAIN dry sample + tin	333.37 g	Volume change	
Weight of wet sample	178.60 g	Final volume	
Weight of dry sample	154.77 g	Final density	
Weight of moisture	25.23 g	Final dry density	
Final moisture content	14.5 %	Final void ratio	
Additional dry weight	0.00 g		
Final saturation	105 %		

Corrected from 118% by adjustment of final m/c from 16.3%

GRAPHICAL DATA

Applied Pressure kN/m²	δH mm	Thickness H1 mm	Thickness H2 mm	Voids Ratio	Mv m²/MN	Log Time t50	Cv m²/year	R t90
60.00	0.745	19.050	18.305	0.3944	0.652	0.6	15.12	
110.00	0.865	18.305	18.185	0.3852	0.131	4.5	1.92	
160.00	1.023	18.185	18.027	0.3732	0.174	5.7	1.50	
260.00	1.336	18.027	17.714	0.3493	0.174	2.2	3.77	
60.00	1.289	17.714	17.761	0.3529	0.013	—	-	
5.00	1.081	17.761	17.969	0.3688	0.213			

Hole number 5 Sample number Depth 3.00m to 3.45m
Specimen 50 mm from base of tube

Location number 121070 Da
Job name BYRKLEY PARK

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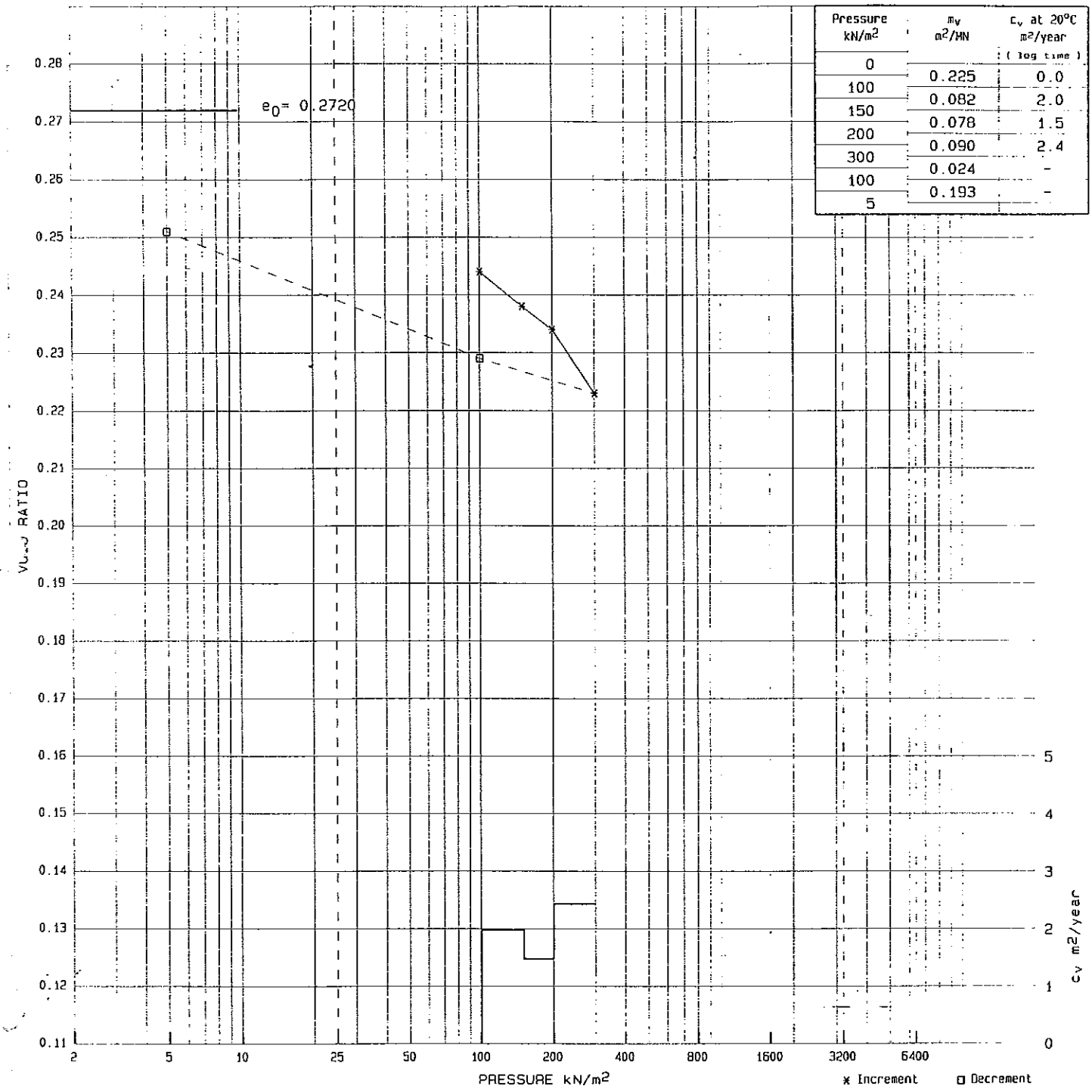

Pressure kN/m²	m_v m²/MN	c_v at 20°C m²/year (log time)
0		
100	0.225	0.0
150	0.082	2.0
200	0.078	1.5
300	0.090	2.4
100	0.024	-
5	0.193	-

Soil Description: Stiff red brown sandy gravelly CLAY

Liquid limit % Plastic limit % Particle density 2.65 Mg/m³ (Assumed)

Initial specimen dimensions: 75.0 mm dia. x 19.0 mm high. Area = 4414 mm²

Specimen Preparation and Orientation: Undisturbed, normal to sample axis unless otherwise stated below

	Moisture content %	Bulk density Mg/m³	Dry density Mg/m³	Void ratio	Saturation %	Average Temperature	Date started
Initial	12	2.33	2.08	0.2720	116	20 °C	29/06/01
Final	10	2.33	2.12	0.2510	105		

Notes: 1) Some remoulding required due to gravel content

ONE DIMENSIONAL CONSOLIDATION TEST

BS 1377 : PART 5 : 1990 : CLAUSE 3

Borehole No. 5
Sample Type U
Sample No.

Specimen taken 50 mm from base

Depth 5.00m to 5.45m

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Location BYRKLEY PARK

Loc No. 121070

Fig. 14/11

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ONE DIMENSIONAL CONSOLIDATION TEST

BEFORE TEST

Weight of sample + ring	315.70 g	Diameter	
Weight of ring	120:30 g	Area	4
Weight of sample	195.40 g	Thickness	
Weight of dry sample	174.62 g	Volume	
Weight of initial moisture	20.78 g	Density	
Initial moisture content	11.9 %	Dry density	
Liquid limit		Plastic limit	
Particle density (Assumed)	2.65		
Initial void ratio	0.272	Test started	29
Swelling pressure	0.000	Cell Number	
Initial saturation	115 %	Ring Number	
Void ratio change factor	0.06	Average temperature	

AFTER TEST

Weight of MAIN sample + tin	377.00 g	Overall settlement	
Weight of MAIN dry sample + tin	353.02 g	Volume change	
Weight of wet sample	178.40 g	Final volume	
Weight of dry sample	174.62 g	Final density	
Weight of moisture	23.98 g	Final dry density	
Final moisture content	9.9 %	Final void ratio	
Additional dry weight	0.00 g		
Final saturation	105 %		

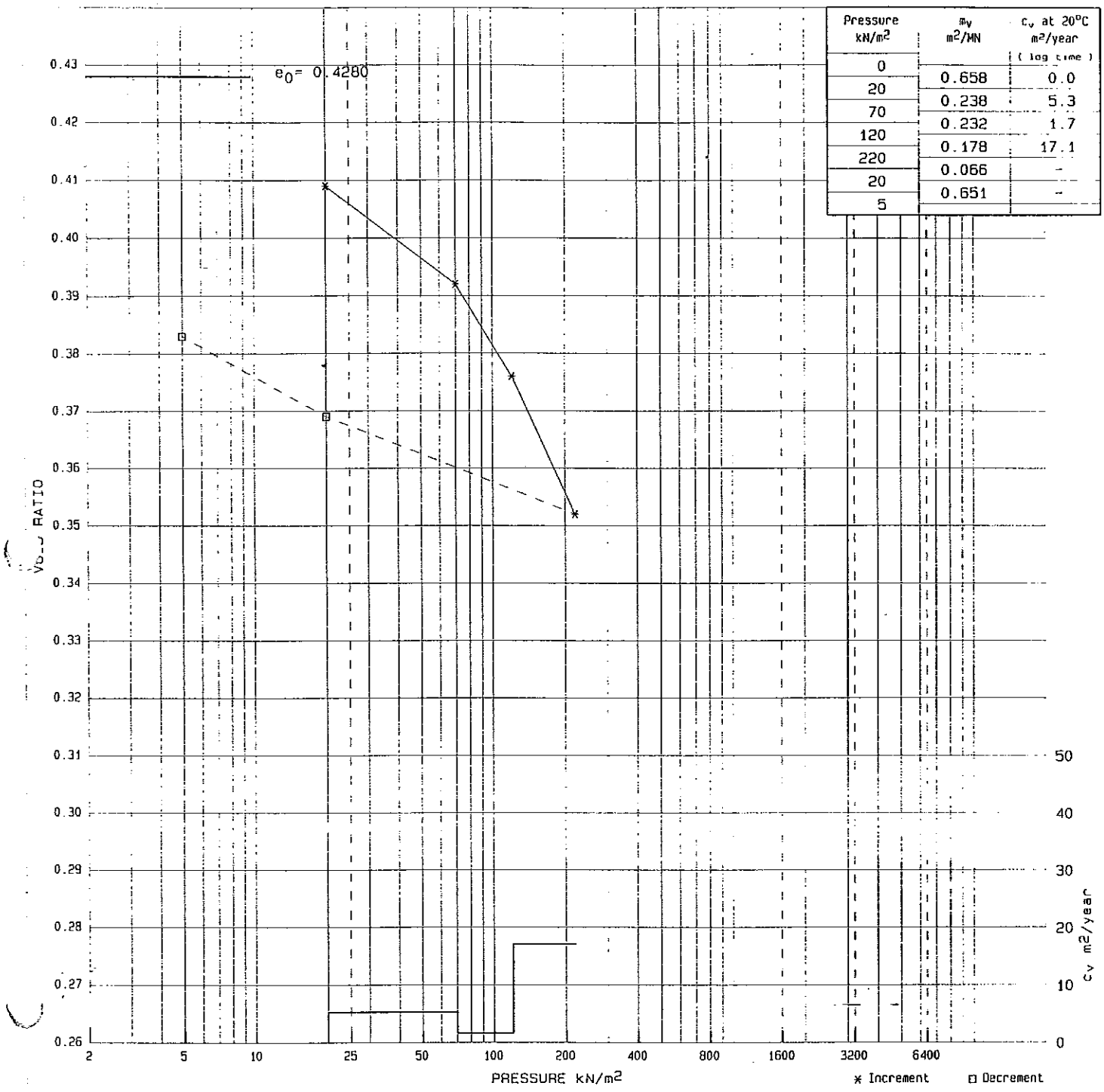
Corrected from 145% by adjustment of final m/c from 13.7%

GRAPHICAL DATA

Applied Pressure kN/m²	δH mm	Thickness H1 mm	Thickness H2 mm	Voids Ratio	Mv m²/MN	Log Time t50	Cv m²/year	R t90
100.00	0.428	18.990	18.562	0.2435	0.225		******.**	
150.00	0.504	18.562	18.486	0.2384	0.082	4.5	1.98	
200.00	0.576	18.486	18.414	0.2336	0.078	6.0	1.48	
300.00	0.741	18.414	18.249	0.2225	0.090	3.6	2.43	
100.00	0.652	18.249	18.338	0.2285	0.024			
5.00	0.315	18.338	18.675	0.2511	0.193			

Hole number 5 Sample number Depth 5.00m to 5.45m
Specimen 50 mm from base of tube

Location number 121070 Da
Job name BYRKLEY PARK



Pressure kN/m²	m_v m²/MN	c_v at 20°C m²/year (log time)
0		
20	0.658	0.0
70	0.238	5.3
120	0.232	1.7
220	0.178	17.1
20	0.066	-
5	0.651	-

Soil Description: Firm red brown gravelly CLAY

Liquid limit % Plastic limit % Particle density 2.65 Mg/m³ (Assumed)

Initial specimen dimensions: 74.5 mm dia. x 19.0 mm high. Area = 4362 mm²

Specimen Preparation and Orientation: Undisturbed, normal to sample axis unless otherwise stated below

	Moisture content %	Bulk density Mg/m³	Dry density Mg/m³	Void ratio	Saturation %	Average Temperature	Date started
Initial	17	2.18	1.86	0.4280	108	20 °C	02/07/01
Final	15	2.21	1.92	0.3830	105		

Notes: 1) Some remoulding required due to gravel content

ONE DIMENSIONAL CONSOLIDATION TEST

BS 1377 : PART 5 : 1990 : CLAUSE 3

Borehole No. 6
Sample Type U
Sample No.

Specimen taken 50 mm from base

Depth 1.00m to 1.45m

ONE DIMENSIONAL CONSOLIDATION TEST

BEFORE TEST

Weight of sample + ring	286.30 g	Diameter	
Weight of ring	105.70 g	Area	43
Weight of sample	180.60 g	Thickness	
Weight of dry sample	153.82 g	Volume	
Weight of initial moisture	26.78 g	Density	
Initial moisture content	17.4 %	Dry density	
Liquid limit		Plastic limit	
Particle density (Assumed)	2.65		
Initial void ratio	0.427	Test started	02/
Swelling pressure	0.000	Cell Number	
Initial saturation	107 %	Ring Number	
Void ratio change factor	0.07	Average temperature	

AFTER TEST

Weight of MAIN sample + tin	345.70 g	Overall settlement	
Weight of MAIN dry sample + tin	317.52 g	Volume change	
Weight of wet sample	163.70 g	Final volume	
Weight of dry sample	153.82 g	Final density	
Weight of moisture	28.18 g	Final dry density	
Final moisture content	15.1 %	Final void ratio	
Additional dry weight	0.00 g		
Final saturation	105 %		

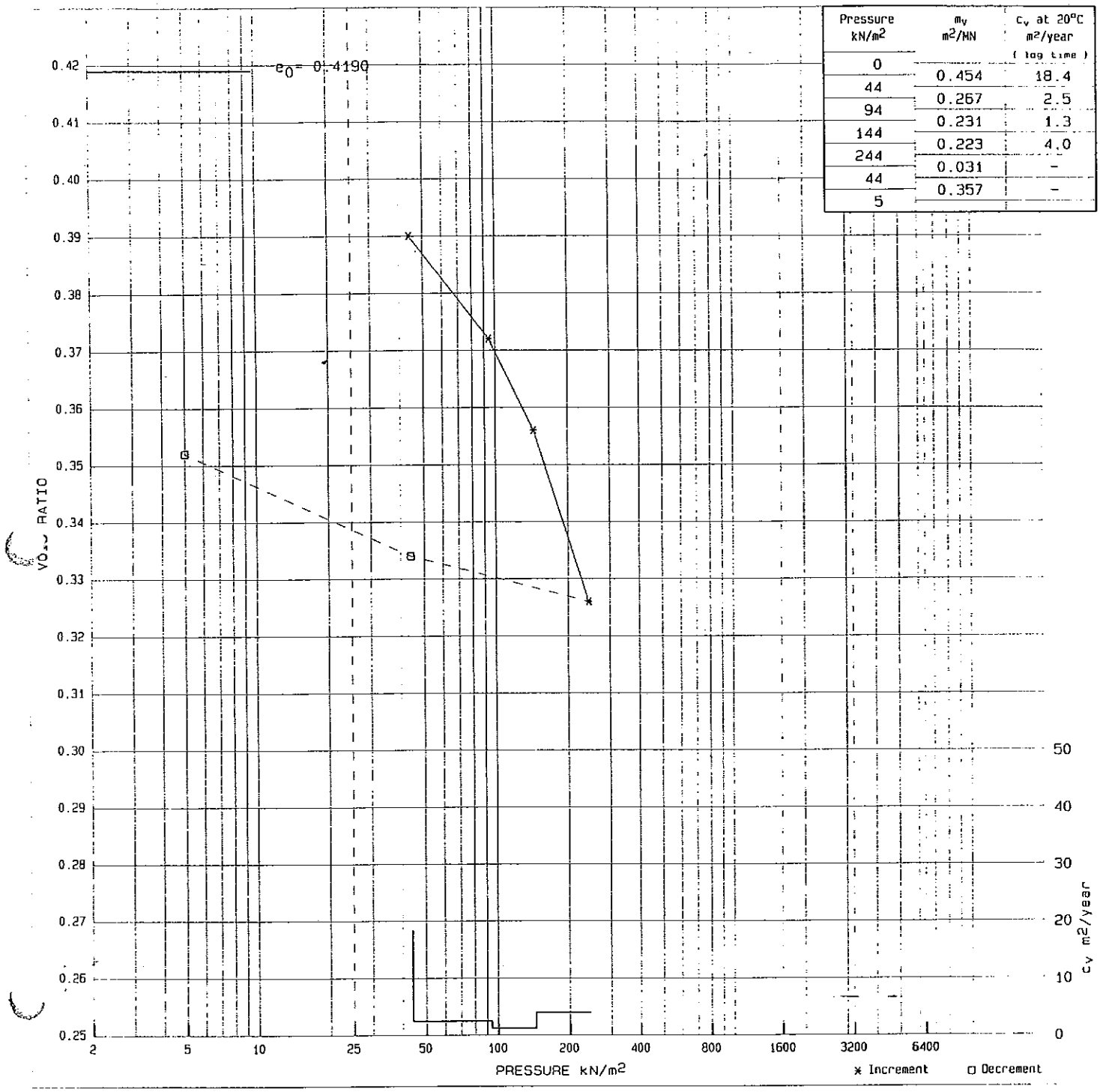
Corrected from 127% by adjustment of final m/c from 18.3%

GRAPHICAL DATA

Applied Pressure kN/m²	δH mm	Thickness H1 mm	Thickness H2 mm	Voids Ratio	Mv m²/MN	Log Time t50	Cv m²/year	R t90
20.00	0.250	19.000	18.750	0.4089	0.658		*****.**	
70.00	0.473	18.750	18.527	0.3921	0.238	1.7	5.31	
120.00	0.688	18.527	18.312	0.3760	0.232	5.3	1.66	
220.00	1.014	18.312	17.986	0.3515	0.178	0.5	17.13	
20.00	0.776	17.986	18.224	0.3693	0.066			
5.00	0.598	18.224	18.402	0.3827	0.651			

Hole number 6 Sample number Depth 1.00m to 1.45m
Specimen 50 mm from base of tube

Location number 121070 Da
Job name BYRKLEY PARK



Pressure kN/m²	m_v m²/MN	c_v at 20°C m²/year (log time)
0		
44	0.454	18.4
94	0.267	2.5
144	0.231	1.3
244	0.223	4.0
44	0.031	-
5	0.357	-

Soil Description: Firm brown gravelly CLAY

Liquid limit % Plastic limit % Particle density 2.60 Mg/m³ (Measured)

Initial specimen dimensions: 75.0 mm dia. x 19.0 mm high. Area = 4414 mm²

Specimen Preparation and Orientation: Undisturbed, normal to sample axis unless otherwise stated below

	Moisture content %	Bulk density Mg/m³	Dry density Mg/m³	Void ratio	Saturation %	Average Temperature	Date started
Initial	18	2.15	1.83	0.4190	109	20 °C	02/07/01
Final	14	2.20	1.93	0.3520	105		

Notes: 1) Some remoulding required due to gravel

ONE DIMENSIONAL CONSOLIDATION TEST

BS 1377 : PART 5 : 1990 : CLAUSE 3

Borehole No. 6
Sample Type U
Sample No.

Specimen taken 70 mm from base

Depth 2.20m to 2.65m

ONE DIMENSIONAL CONSOLIDATION TEST

BEFORE TEST

Weight of sample + ring	300.90 g	Diameter	
Weight of ring	120.20 g	Area	44
Weight of sample	180.70 g	Thickness	
Weight of dry sample	153.79 g	Volume	
Weight of initial moisture	26.91 g	Density	
Initial moisture content	17.4 %	Dry density	
Liquid limit		Plastic limit	
Particle density (Measured)	2.60		
Initial void ratio	0.418	Test started	02/
Swelling pressure	0.000	Cell Number	
Initial saturation	108 %	Ring Number	
Void ratio change factor	0.07	Average temperature	

AFTER TEST

Weight of MAIN sample + tin	360.00 g	Overall settlement	
Weight of MAIN dry sample + tin	332.15 g	Volume change	
Weight of wet sample	178.36 g	Final volume	
Weight of dry sample	153.79 g	Final density	
Weight of moisture	27.85 g	Final dry density	
Final moisture content	14.2 %	Final void ratio	
Additional dry weight	0.00 g		
Final saturation	105 %		

Corrected from 134% by adjustment of final m/c from 18.1%

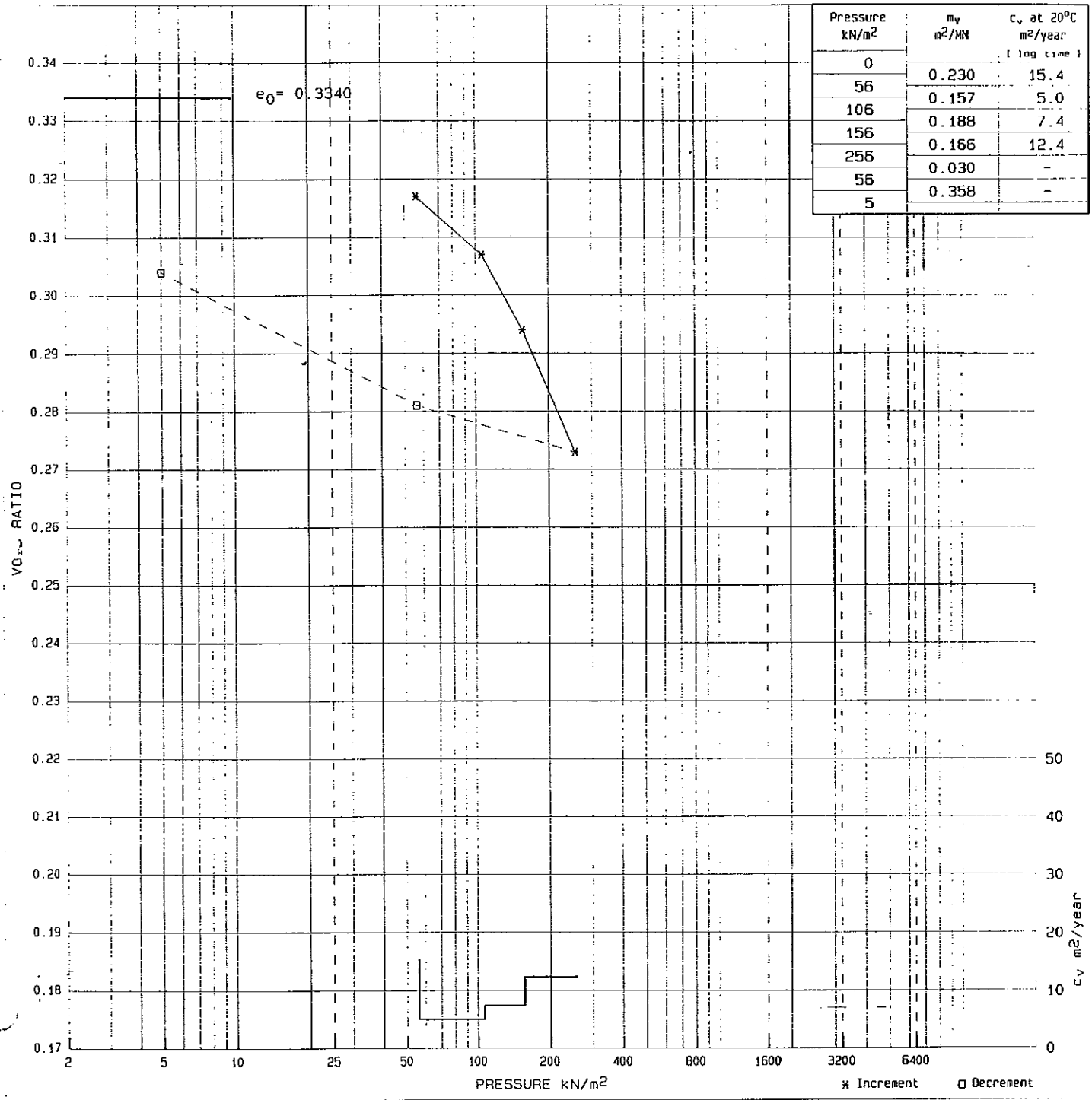
GRAPHICAL DATA

Applied Pressure kN/m²	δH mm	Thickness H1 mm	Thickness H2 mm	Voids Ratio	Mv m²/MN	Log Time t50	Cv m²/year	R t90
44.00	0.380	19.010	18.630	0.3903	0.454	0.5	18.42	
94.00	0.629	18.630	18.381	0.3718	0.267	3.6	2.47	
144.00	0.841	18.381	18.169	0.3559	0.231	6.9	1.26	
244.00	1.247	18.169	17.763	0.3256	0.223	2.1	4.00	
44.00	1.137	17.763	17.873	0.3339	0.031	-	-	
5.00	0.888	17.873	18.122	0.3524	0.357			

Hole number 6 Sample number Depth 2.20m to 2.65m
Specimen 70 mm from base of tube

Location number 121070 Da
Job name BYRKLEY PARK

L4/16



Pressure kN/m²	m_v m²/MN	c_v at 20°C m²/year [log time]
0		
56	0.230	15.4
106	0.157	5.0
156	0.188	7.4
256	0.166	12.4
56	0.030	-
5	0.358	-

Soil Description: Stiff brown gravelly CLAY

Liquid limit % Plastic limit % Particle density 2.65 Mg/m³ (Assumed)

Initial specimen dimensions: 75.0 mm dia. x 19.0 mm high. Area = 4417 mm²

Specimen Preparation and Orientation: Undisturbed, normal to sample axis unless otherwise stated below

	Moisture content %	Bulk density Mg/m³	Dry density Mg/m³	Void ratio	Saturation %	Average Temperature	Date started
Initial	11	2.20	1.98	0.3340	87	20 °C	02/07/01
Final	12	2.28	2.03	0.3040	105		

Notes: 1) Some remoulding required due to gravel content

ONE DIMENSIONAL CONSOLIDATION TEST

BS 1377 : PART 5 : 1990 : CLAUSE 3

Borehole No. 6
Sample Type U
Sample No.

Specimen taken 60 mm from base

Depth 2.80m to 3.25m

SLR 5.3 Rev. 2 July 95 | Soil Mechanics | Location BYRKLEY PARK | Loc No. 121070 | Fig. 12/17

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ONE DIMENSIONAL CONSOLIDATION TEST

BEFORE TEST

Weight of sample + ring	304.90 g	Diameter	
Weight of ring	120.10 g	Area	4
Weight of sample	184.80 g	Thickness	
Weight of dry sample	166.50 g	Volume	
Weight of initial moisture	18.30 g	Density	
Initial moisture content	10.9 %	Dry density	
Liquid limit		Plastic limit	
Particle density (Assumed)	2.65		
Initial void ratio	0.334	Test started	02/
Swelling pressure	0.000	Cell Number	
Initial saturation	87 %	Ring Number	
Void ratio change factor	0.07	Average temperature	

AFTER TEST

Weight of MAIN sample + tin	368.20 g	Overall settlement	
Weight of MAIN dry sample + tin	345.30 g	Volume change	
Weight of wet sample	178.80 g	Final volume	
Weight of dry sample	166.50 g	Final density	
Weight of moisture	22.90 g	Final dry density	
Final moisture content	12.0 %	Final void ratio	
Additional dry weight	0.00 g		
Final saturation	105 %		

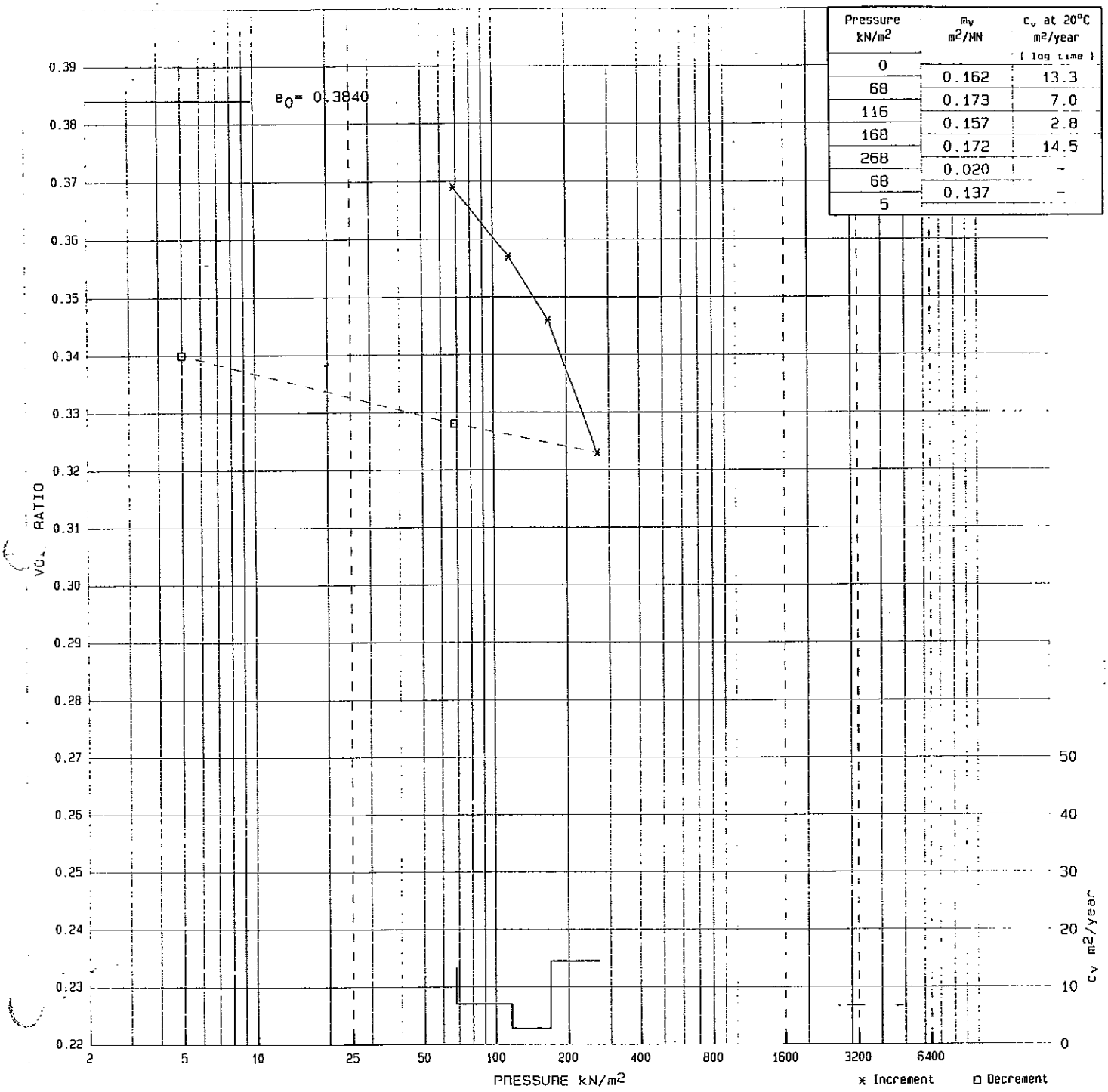
Corrected from 120% by adjustment of final m/c from 13.8%

GRAPHICAL DATA

Applied Pressure kN/m²	δH mm	Thickness H1 mm	Thickness H2 mm	Voids Ratio	Mv m²/MN	Log Time t50	Cv m²/year	R t90
56.00	0.244	18.980	18.736	0.3171	0.230	0.6	15.41	
106.00	0.391	18.736	18.589	0.3067	0.157	1.8	5.03	
156.00	0.566	18.589	18.414	0.2944	0.188	1.2	7.42	
256.00	0.871	18.414	18.109	0.2730	0.166	0.7	12.39	
56.00	0.761	18.109	18.219	0.2807	0.030			
5.00	0.428	18.219	18.552	0.3041	0.358			

Hole number 6 Sample number Depth 2.80m to 3.25m
Specimen 60 mm from base of tube

Location number 121070 Da
Job name BYRKLEY PARK



Pressure kN/m²	m_v m²/MN	c_v at 20°C m²/year (log time)
0		
68	0.162	13.3
116	0.173	7.0
168	0.157	2.8
268	0.172	14.5
68	0.020	-
5	0.137	-

Soil Description: Stiff brown gravelly CLAY

Liquid limit % Plastic limit % Particle density 2.66 Mg/m³ (Measured)

Initial specimen dimensions: 75.0 mm dia. x 19.0 mm high. Area = 4414 mm²

Specimen Preparation and Orientation: Undisturbed, normal to sample axis unless otherwise stated below

	Moisture content %	Bulk density Mg/m³	Dry density Mg/m³	Void ratio	Saturation %	Average Temperature	Date started
Initial	12	2.16	1.93	0.3840	84	20 °C	02/07/01
Final	13	2.25	1.98	0.3400	105		

Notes: 1) Some remoulding required due to gravel content

ONE DIMENSIONAL CONSOLIDATION TEST

BS 1377 : PART 5 : 1990 : CLAUSE 3

Borehole No. 6
Sample Type U
Sample No.

Specimen taken 50 mm from base

Depth 3.40m to 3.85m

ONE DIMENSIONAL CONSOLIDATION TEST

BEFORE TEST

Weight of sample + ring	299.90 g	Diameter	
Weight of ring	119.20 g	Area	44
Weight of sample	180.70 g	Thickness	
Weight of dry sample	161.13 g	Volume	
Weight of initial moisture	19.57 g	Density	
Initial moisture content	12.1 %	Dry density	
Liquid limit		Plastic limit	
Particle density (Measured)	2.66		
Initial void ratio	0.383	Test started	02/
Swelling pressure	0.000	Cell Number	
Initial saturation	84 %	Ring Number	
Void ratio change factor	0.07	Average temperature	

AFTER TEST

Weight of MAIN sample + tin	361.90 g	Overall settlement	
Weight of MAIN dry sample + tin	338.13 g	Volume change	
Weight of wet sample	177.00 g	Final volume	
Weight of dry sample	161.13 g	Final density	
Weight of moisture	23.77 g	Final dry density	
Final moisture content	13.4 %	Final void ratio	

Additional dry weight 0.00 g
Final saturation 105 %
Corrected from 115% by adjustment of final m/c from 14.8%

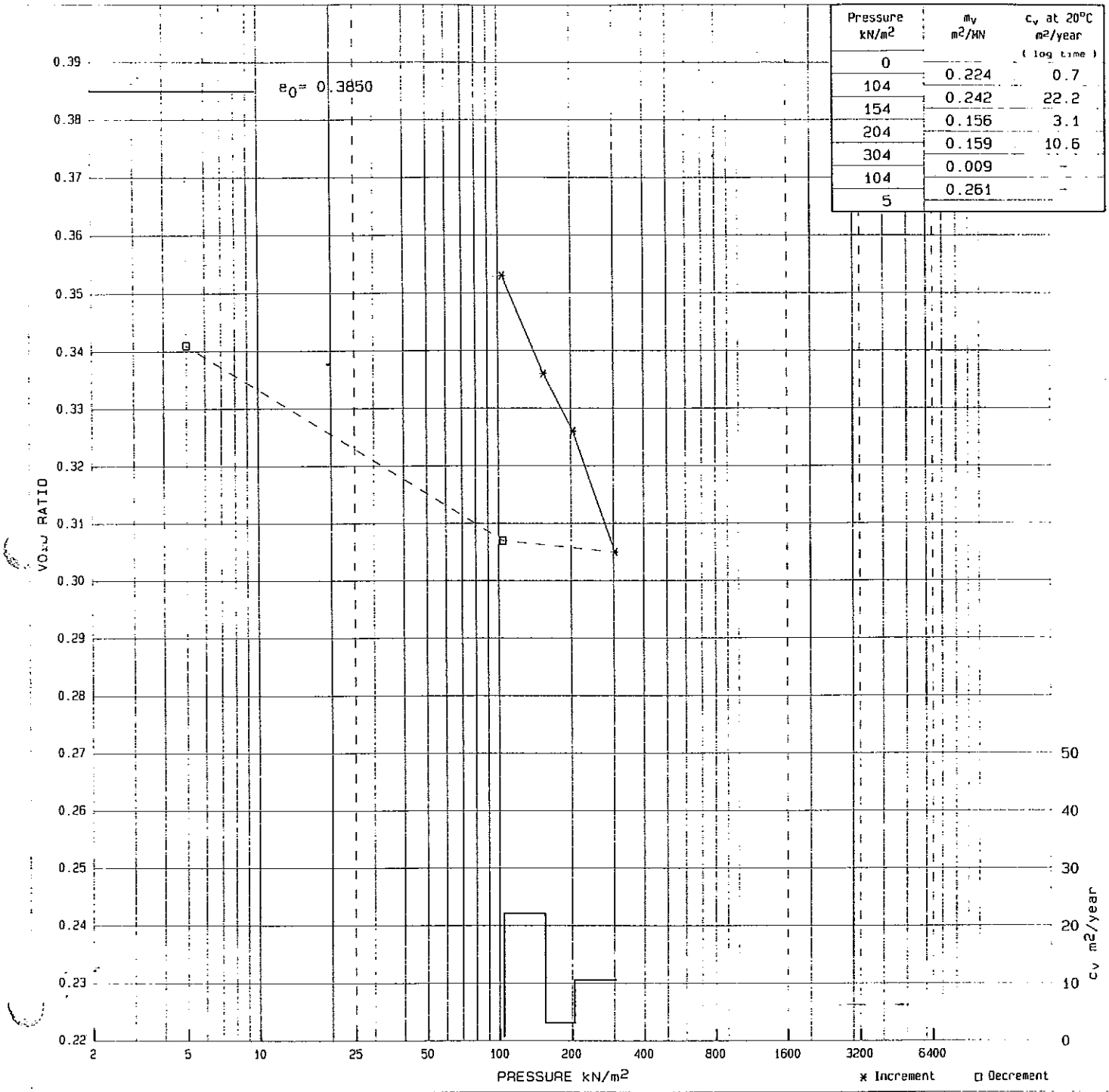
GRAPHICAL DATA

Applied Pressure kN/m²	δH mm	Thickness H1 mm	Thickness H2 mm	Voids Ratio	Mv m²/MN	Log Time t50	Cv m²/year	R t90
68.00	0.209	18.990	18.781	0.3686	0.162	0.7	13.25	
116.00	0.365	18.781	18.625	0.3573	0.173	1.3	7.00	
168.00	0.517	18.625	18.473	0.3462	0.157	3.2	2.80	
268.00	0.835	18.473	18.155	0.3230	0.172	0.6	14.53	
68.00	0.762	18.155	18.228	0.3283	0.020			
5.00	0.605	18.228	18.385	0.3398	0.137			

Hole number 6 Sample number Depth 3.40m to 3.85m
Specimen 50 mm from base of tube

Location number 121070 Da
Job name BYRKLEY PARK

L4/20



Pressure kN/m²	m_v m²/MN	c_v at 20°C m²/year (log time)
0		
104	0.224	0.7
154	0.242	22.2
204	0.156	3.1
304	0.159	10.6
104	0.009	-
5	0.261	-

Soil Description: Stiff brown gravelly CLAY

Liquid limit % Plastic limit % Particle density 2.65 Mg/m³ (Assumed)

Initial specimen dimensions: 75.0 mm dia. x 19.0 mm high. Area = 4413 mm²

Specimen Preparation and Orientation: Undisturbed, normal to sample axis unless otherwise stated below

	Moisture content %	Bulk density Mg/m³	Dry density Mg/m³	Void ratio	Saturation %	Average Temperature	Date started
Initial	11	2.13	1.91	0.3850	79	20 °C	02/07/01
Final	14	2.24	1.97	0.3410	105		

Notes: 1) Some remoulding required due to gravel content

ONE DIMENSIONAL CONSOLIDATION TEST

BS 1377 : PART 5 : 1990 : CLAUSE 3

Borehole No. 6
Sample Type U
Sample No.

Specimen taken 60 mm from base

Depth 5.20m to 5.65m

ONE DIMENSIONAL CONSOLIDATION TEST

BEFORE TEST

Weight of sample + ring	300.10 g	Diameter	
Weight of ring	121.10 g	Area	44
Weight of sample	179.00 g	Thickness	
Weight of dry sample	160.62 g	Volume	
Weight of initial moisture	18.38 g	Density	
Initial moisture content	11.4 %	Dry density	
Liquid limit		Plastic limit	
Particle density (Assumed)	2.65		
Initial void ratio	0.384	Test started	02/
Swelling pressure	0.000	Cell Number	
Initial saturation	78 %	Ring Number	
Void ratio change factor	0.07	Average temperature	

AFTER TEST

Weight of MAIN sample + tin	362.40 g	Overall settlement	
Weight of MAIN dry sample + tin	339.52 g	Volume change	
Weight of wet sample	178.90 g	Final volume	
Weight of dry sample	160.62 g	Final density	
Weight of moisture	22.88 g	Final dry density	
Final moisture content	13.5 %	Final void ratio	
Additional dry weight	0.00 g		
Final saturation	105 %		

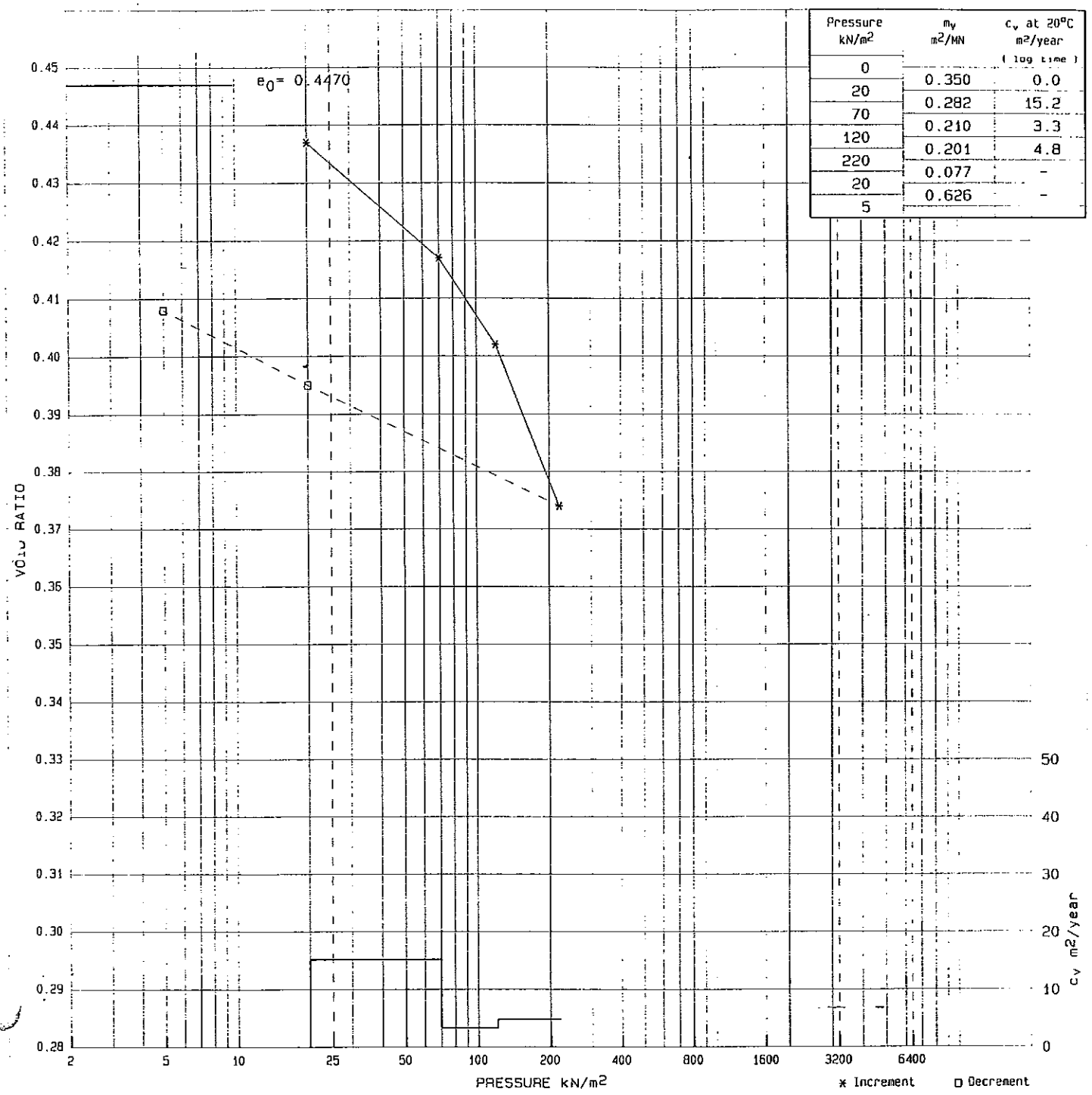
Corrected from 111% by adjustment of final m/c from 14.2%

GRAPHICAL DATA

Applied Pressure kN/m²	δH mm	Thickness H1 mm	Thickness H2 mm	Voids Ratio	Mv m²/MN	Log Time t50	Cv m²/year	R t90
104.00	0.443	19.020	18.577	0.3526	0.224	13.5	0.68	
154.00	0.668	18.577	18.352	0.3362	0.242	0.4	22.16	
204.00	0.811	18.352	18.209	0.3258	0.156	2.8	3.10	
304.00	1.101	18.209	17.919	0.3047	0.159	0.8	10.61	
104.00	1.069	17.919	17.951	0.3070	0.009			
5.00	0.605	17.951	18.415	0.3408	0.261			

Hole number 6 Sample number Depth 5.20m to 5.65m
Specimen 60 mm from base of tube

Location number 121070 Da
Job name BYRKLEY PARK



Pressure kN/m²	m_v m²/MN	c_v at 20°C m²/year (log time)
0		
20	0.350	0.0
70	0.282	15.2
120	0.210	3.3
220	0.201	4.8
20	0.077	-
5	0.626	-

Soil Description: Stiff brown gravelly CLAY

Liquid limit % Plastic limit % Particle density 2.65 Mg/m³ (Assumed)

Initial specimen dimensions: 75.0 mm dia. x 19.0 mm high. Area = 4414 mm²

Specimen Preparation and Orientation: Undisturbed, normal to sample axis unless otherwise stated below

	Moisture content %	Bulk density Mg/m³	Dry density Mg/m³	Void ratio	Saturation %	Average Temperature	Date started
Initial	17	2.14	1.83	0.4470	102	20 °C	04/07/01
Final	16	2.19	1.89	0.4080	105		

Notes: 1) Swelling occured under 20 kN/m2 pressure

2) Some remoulding required due to gravel

ONE DIMENSIONAL CONSOLIDATION TEST

BS 1377 : PART 5 : 1990 : CLAUSE 3

Borehole No. 7
Sample Type U
Sample No.

Specimen taken 50 mm from base

Depth 1.00m to 1.45m

ONE DIMENSIONAL CONSOLIDATION TEST

BEFORE TEST

Weight of sample + ring	299.70 g	Diameter	
Weight of ring	119.80 g	Area	44
Weight of sample	179.90 g	Thickness	
Weight of dry sample	153.55 g	Volume	
Weight of initial moisture	26.35 g	Density	
Initial moisture content	17.1 %	Dry density	
Liquid limit		Plastic limit	
Particle density (Assumed)	2.65		
Initial void ratio	0.447	Test started	04/
Swelling pressure	0.000	Cell Number	
Initial saturation	101 %	Ring Number	
Void ratio change factor	0.07	Average temperature	

AFTER TEST

Weight of MAIN sample + tin	360.10 g	Overall settlement	
Weight of MAIN dry sample + tin	331.35 g	Volume change	
Weight of wet sample	177.80 g	Final volume	
Weight of dry sample	153.55 g	Final density	
Weight of moisture	28.75 g	Final dry density	
Final moisture content	16.1 %	Final void ratio	
Additional dry weight	0.00 g		
Final saturation	105 %		

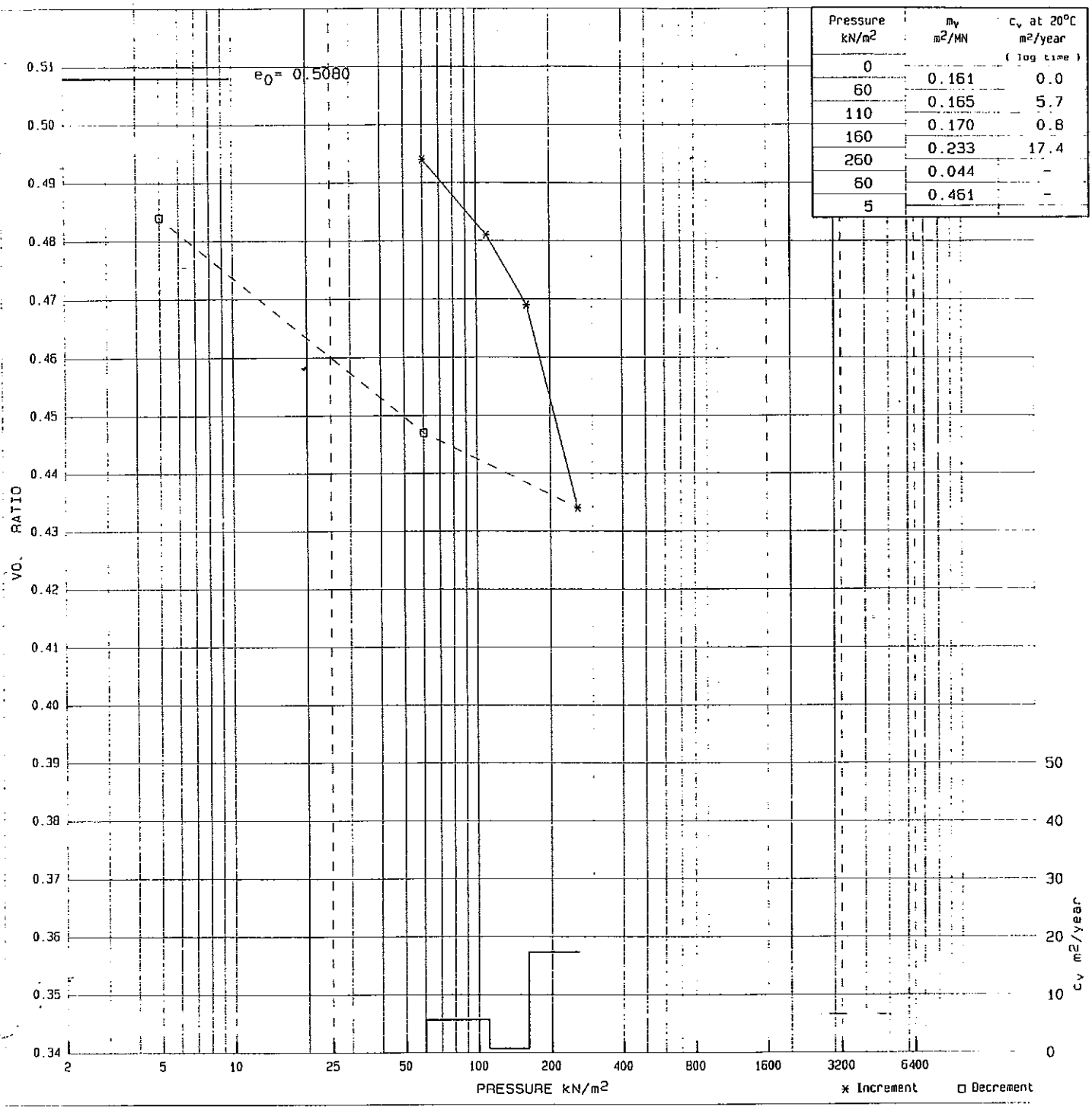
Corrected from 122% by adjustment of final m/c from 18.7%

GRAPHICAL DATA

Applied Pressure kN/m²	δH mm	Thickness H1 mm	Thickness H2 mm	Voids Ratio	Mv m²/MN	Log Time t50	Cv m²/year	R t90
20.00	0.133	19.000	18.867	0.4374	0.350		*****.**	
70.00	0.399	18.867	18.601	0.4171	0.282	0.6	15.21	
120.00	0.594	18.601	18.406	0.4022	0.210	2.7	3.30	
220.00	0.964	18.406	18.036	0.3740	0.201	1.8	4.80	
20.00	0.687	18.036	18.313	0.3951	0.077			
5.00	0.515	18.313	18.485	0.4083	0.626			

Hole number 7 Sample number Depth 1.00m to 1.45m
Specimen 50 mm from base of tube

Location number 121070 Da
Job name BYRKLEY PARK



Pressure kN/m²	m_v m²/MN	c_v at 20°C m²/year (log time)
0		
60	0.161	0.0
110	0.165	5.7
160	0.170	0.8
260	0.233	17.4
60	0.044	-
5	0.461	-

Soil Description: Stiff brown gravelly CLAY

Liquid limit % Plastic limit % Particle density 2.65 Mg/m³ (Assumed)

Initial specimen dimensions: 74.9 mm dia. x 19.0 mm high. Area = 4412 mm²

Specimen Preparation and Orientation: Undisturbed, normal to sample axis unless otherwise stated below

	Moisture content %	Bulk density Mg/m³	Dry density Mg/m³	Void ratio	Saturation %	Average Temperature	Date started
Initial	17	2.06	1.76	0.5080	90	20 °C	06/07/01
Final	19	2.13	1.79	0.4840	105		

Notes: 1) Swelling occured under 60 kN/m2 pressure

2) Some remoulding required due to gravel content

ONE DIMENSIONAL CONSOLIDATION TEST

BS 1377 : PART 5 : 1990 : CLAUSE 3

Borehole No. 7
Sample Type U
Sample No.

Specimen taken 50 mm from base

Depth 3.00m to 3.45m

SLA 5.3 Rev. 2 July 95 Soil Mechanics

Location BYRKLEY PARK

Loc No. 121070

Fig. 6.6/5

Jul-23-2001 11:20

ONE DIMENSIONAL CONSOLIDATION TEST

BEFORE TEST

Weight of sample + ring	292.40 g	Diameter	
Weight of ring	119.80 g	Area	44
Weight of sample	172.60 g	Thickness	
Weight of dry sample	147.29 g	Volume	
Weight of initial moisture	25.31 g	Density	
Initial moisture content	17.1 %	Dry density	
Liquid limit		Plastic limit	
Particle density (Assumed)	2.65		
Initial void ratio	0.508	Test started	06/
Swelling pressure	0.000	Cell Number	
Initial saturation	89 %	Ring Number	
Void ratio change factor	0.07	Average temperature	

AFTER TEST

Weight of MAIN sample + tin	356.00 g	Overall settlement	
Weight of MAIN dry sample + tin	325.19 g	Volume change	
Weight of wet sample	177.90 g	Final volume	
Weight of dry sample	147.29 g	Final density	
Weight of moisture	30.81 g	Final dry density	
Final moisture content	19.1 %	Final void ratio	
Additional dry weight	0.00 g		
Final saturation	105 %		

Corrected from 115% by adjustment of final m/c from 20.9%

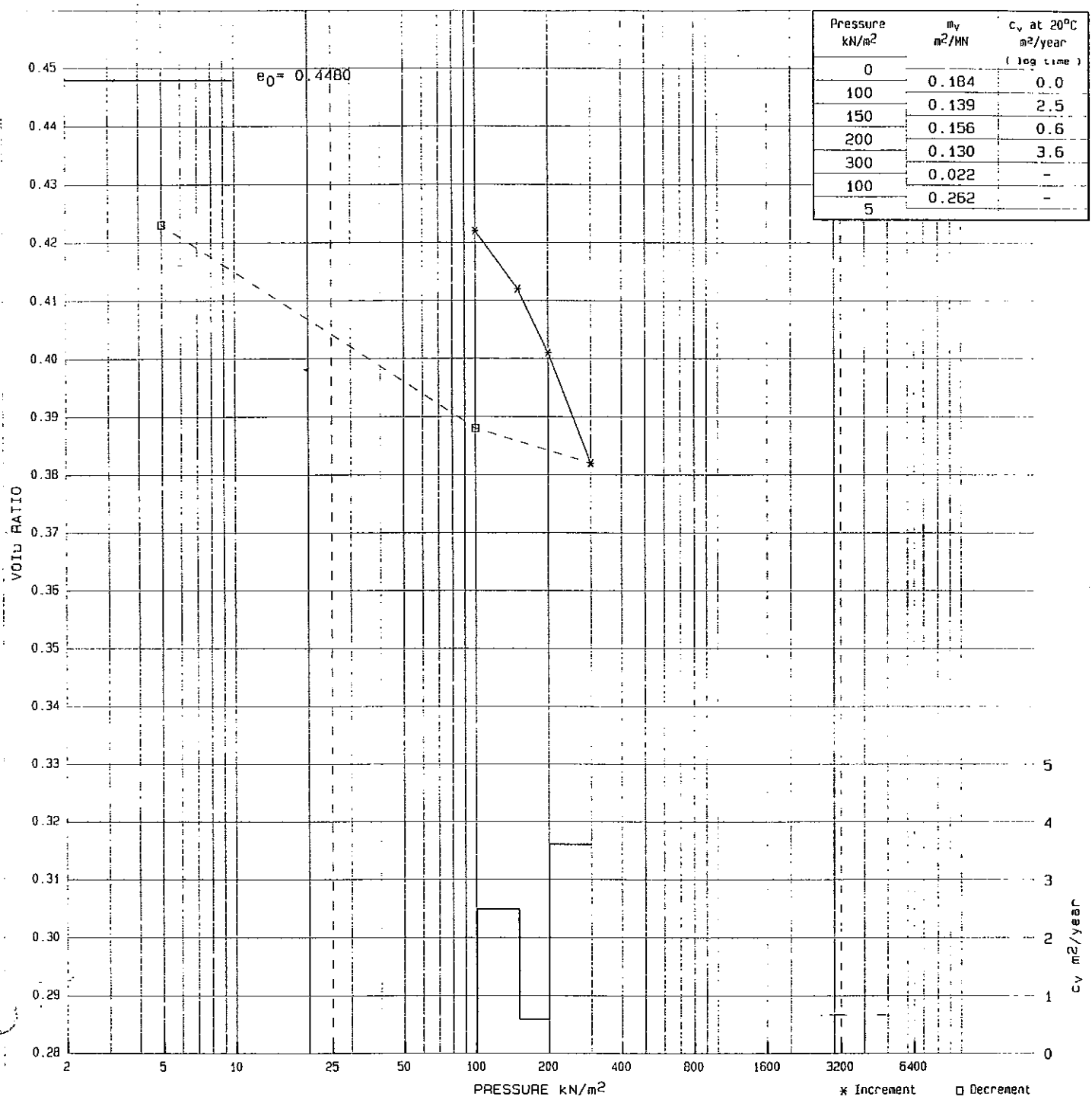
GRAPHICAL DATA

Applied Pressure kN/m²	δH mm	Thickness H1 mm	H2 mm	Voids Ratio	Mv m²/MN	Log Time t50	Cv m²/year	R t90
60.00	0.184	19.000	18.816	0.4936	0.161		*****.**	
110.00	0.339	18.816	18.661	0.4813	0.165	1.6	5.71	
160.00	0.498	18.661	18.502	0.4687	0.170	12.0	0.75	
260.00	0.930	18.502	18.070	0.4344	0.233	0.5	17.39	
60.00	0.772	18.070	18.228	0.4469	0.044			
5.00	0.310	18.228	18.690	0.4836	0.461			

Hole number 7 Sample number Depth 3.00m to 3.45m
Specimen 50 mm from base of tube

Location number 121070 Da
Job name BYRKLEY PARK

L4/26



Pressure kN/m²	m_v m²/MN	c_v at 20°C m²/year (log time)
0		
	0.184	0.0
100		
	0.139	2.5
150		
	0.156	0.6
200		
	0.130	3.6
300		
	0.022	-
100		
	0.262	-
5		

Soil Description: Stiff brown gravelly CLAY

Liquid limit % Plastic limit % Particle density 2.65 Mg/m³ (Assumed)

Initial specimen dimensions: 75.0 mm dia. x 19.0 mm high. Area = 4414 mm²

Specimen Preparation and Orientation: Undisturbed, normal to sample axis unless otherwise stated below

	Moisture content %	Bulk density Mg/m³	Dry density Mg/m³	Void ratio	Saturation %	Average Temperature	Date started
Initial	16	2.12	1.83	0.4480	93	20.0°C	04/07/01
Final	17	2.17	1.86	0.4230	105		

Notes: 1) Some remoulding required due to gravel content

ONE DIMENSIONAL CONSOLIDATION TEST

BS 1377 : PART 5 : 1990 : CLAUSE 3

Borehole No. 7
Sample Type U
Sample No.

Specimen taken 80 mm from base

Depth 5.00m to 5.45m

SLR 5.3 Rev. 2 July 95 | Soil Mechanics | Location BYRKLEY PARK | Loc No. 121070 | Fig. 5/7

Jul-16-2001 08:57

ONE DIMENSIONAL CONSOLIDATION TEST

BEFORE TEST

Weight of sample + ring	297.40 g	Diameter	
Weight of ring	119.80 g	Area	44
Weight of sample	177.60 g	Thickness	
Weight of dry sample	153.48 g	Volume	
Weight of initial moisture	24.12 g	Density	
Initial moisture content	15.7 %	Dry density	
Liquid limit		Plastic limit	
Particle density (Assumed)	2.65		
Initial void ratio	0.448	Test started	04/
Swelling pressure	0.000	Cell Number	
Initial saturation	92 %	Ring Number	
Void ratio change factor	0.07	Average temperature	

AFTER TEST

Weight of MAIN sample + tin	359.30 g	Overall settlement	
Weight of MAIN dry sample + tin	331.38 g	Volume change	
Weight of wet sample	177.90 g	Final volume	
Weight of dry sample	153.48 g	Final density	
Weight of moisture	27.92 g	Final dry density	
Final moisture content	16.7 %	Final void ratio	

Additional dry weight 0.00 g
Final saturation 105 %
Corrected from 114% by adjustment of final m/c from 18.2%

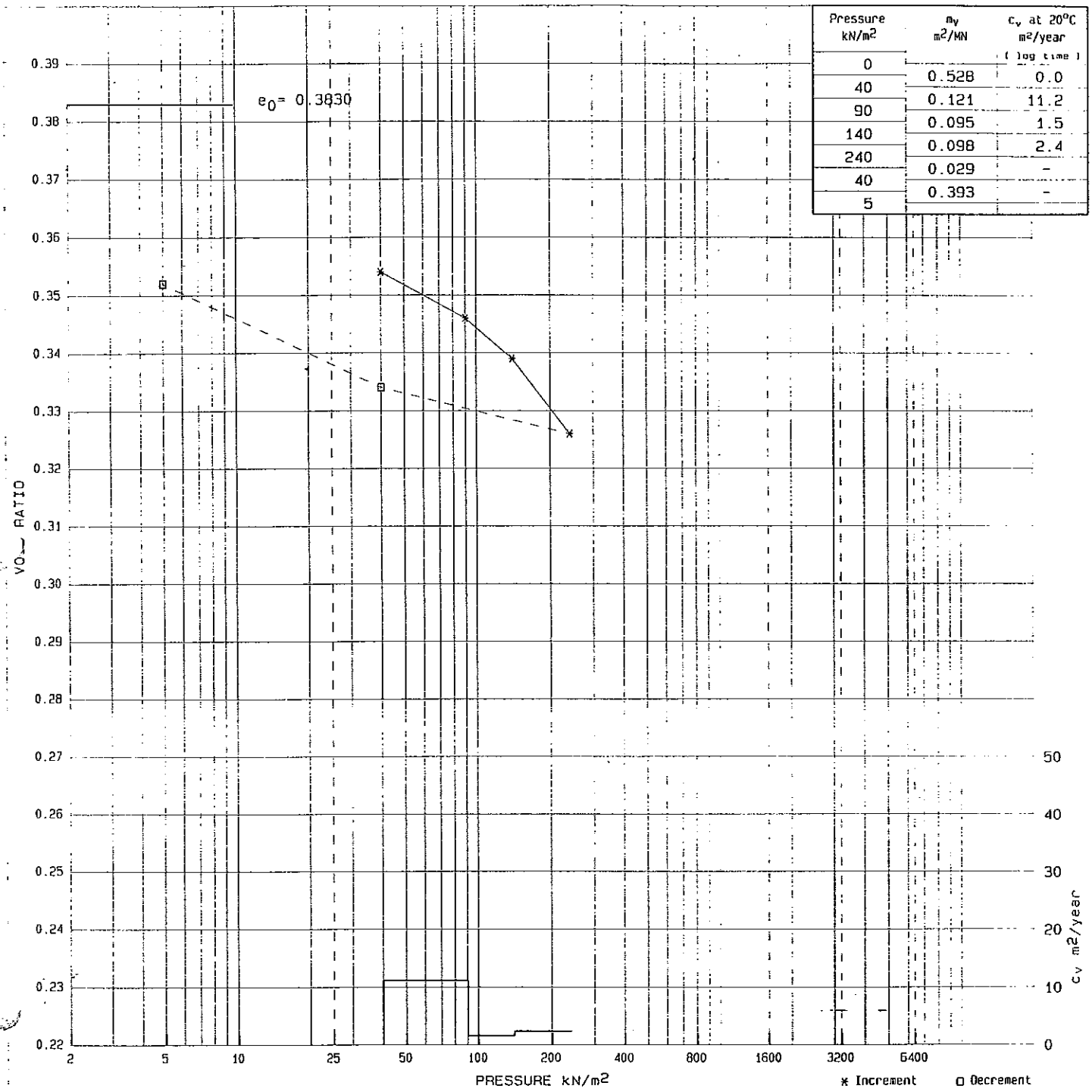
GRAPHICAL DATA

Applied Pressure kN/m²	δH mm	Thickness H1 mm	H2 mm	Voids Ratio	Mv m²/MN	Log Time t50	Cv m²/year	R t90
100.00	0.350	19.000	18.650	0.4215	0.184		*****.**	
150.00	0.480	18.650	18.520	0.4116	0.139	3.6	2.49	
200.00	0.624	18.520	18.376	0.4006	0.156	15.1	0.59	
300.00	0.863	18.376	18.137	0.3824	0.130	2.4	3.61	
100.00	0.784	18.137	18.216	0.3884	0.022			
5.00	0.331	18.216	18.669	0.4229	0.262			

Hole number 7 Sample number Depth 5.00m to 5.45m
Specimen 80 mm from base of tube

Location number 121070 Da
Job name BYRKLEY PARK

L4/28



Pressure kN/m²	m_v m²/MN	c_v at 20°C m²/year (log time)
0		
40	0.528	0.0
90	0.121	11.2
140	0.095	1.5
240	0.098	2.4
40	0.029	-
5	0.393	-

Soil Description: Stiff brown gravelly CLAY

Liquid limit % Plastic limit % Particle density 2.65 Mg/m³ (Assumed)

Initial specimen dimensions: 75.0 mm dia. x 19.0 mm high. Area = 4414 mm²

Specimen Preparation and Orientation: Undisturbed, normal to sample axis unless otherwise stated below

	Moisture content %	Bulk density Mg/m³	Dry density Mg/m³	Void ratio	Saturation %	Average Temperature	Date started
Initial	14	2.18	1.91	0.3830	96	20 °C	09/07/01
Final	14	2.23	1.96	0.3520	105		

Notes: 1) Swelling occured under 40 kN/m2 pressure

2) Some remoulding required due to gravel content

ONE DIMENSIONAL CONSOLIDATION TEST

BS 1377 : PART 5 : 1990 : CLAUSE 3

Borehole No. 8
Sample Type U
Sample No.

Specimen taken 50 mm from base

Depth 3.00m to 3.45m

SLR 5.3 Rev. 2 July 95 | Soil Mechanics

Location: BYRKLEY PARK

Loc No. 121070

Fig. L4/21

Jul-23-2001 11:18

ONE DIMENSIONAL CONSOLIDATION TEST

BEFORE TEST

Weight of sample + ring	302.70 g	Diameter	
Weight of ring	119.60 g	Area	4
Weight of sample	183.10 g	Thickness	
Weight of dry sample	160.86 g	Volume	
Weight of initial moisture	22.24 g	Density	
Initial moisture content	13.8 %	Dry density	
Liquid limit		Plastic limit	
Particle density (Assumed)	2.65		
Initial void ratio	0.383	Test started	09/
Swelling pressure	0.000	Cell Number	
Initial saturation	95 %	Ring Number	
Void ratio change factor	0.07	Average temperature	

AFTER TEST

Weight of MAIN sample + tin	364.10 g	Overall settlement	
Weight of MAIN dry sample + tin	339.26 g	Volume change	
Weight of wet sample	178.40 g	Final volume	
Weight of dry sample	160.86 g	Final density	
Weight of moisture	24.84 g	Final dry density	
Final moisture content	13.9 %	Final void ratio	
Additional dry weight	0.00 g		
Final saturation	105 %		

Corrected from 116% by adjustment of final m/c from 15.4%

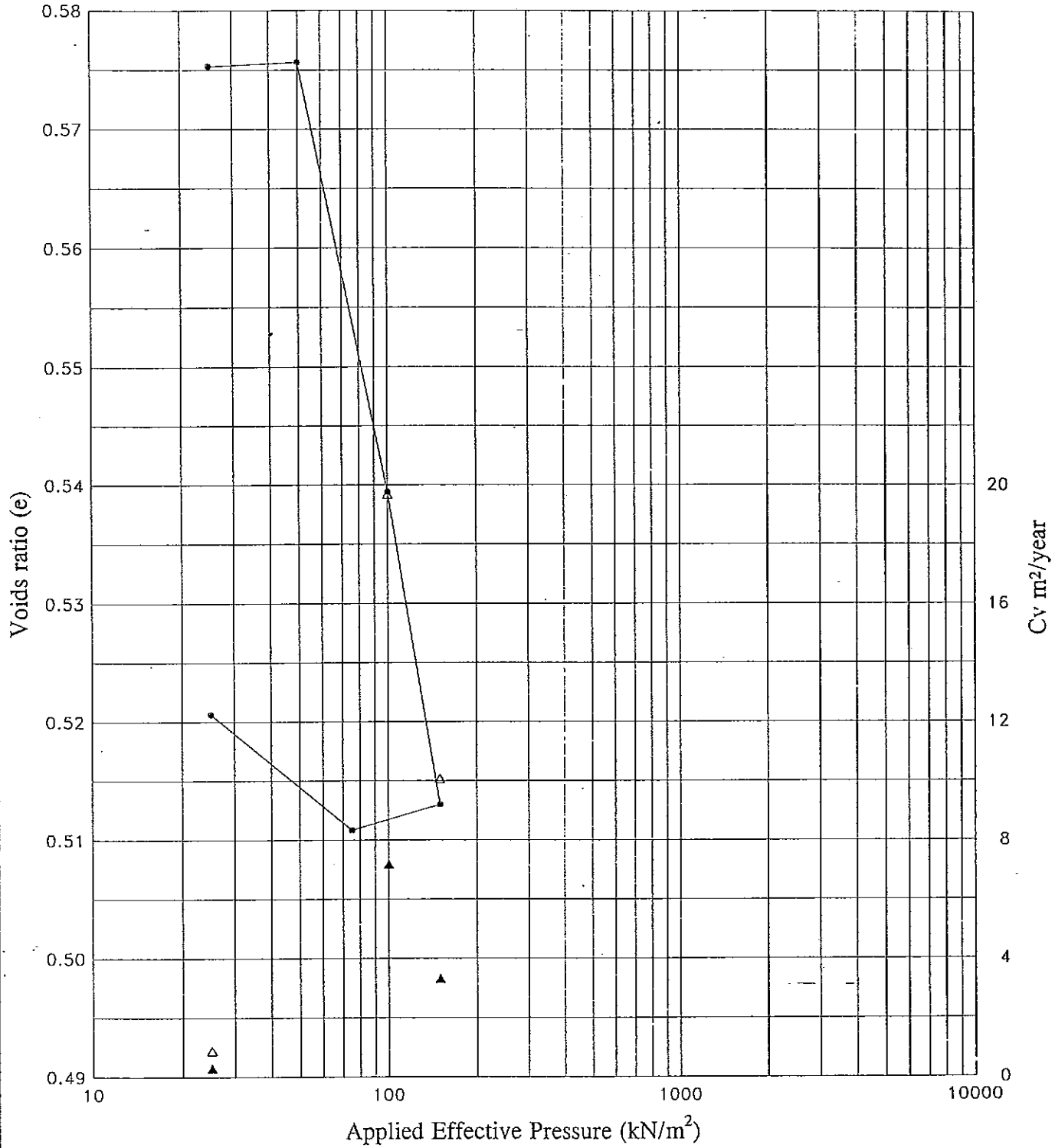
GRAPHICAL DATA

Applied Pressure kN/m²	δH mm	Thickness H1 mm	Thickness H2 mm	Voids Ratio	Mv m²/MN	Log Time t50	Cv m²/year	F t9C
40.00	0.402	19.020	18.618	0.3539	0.528		*****.**	
90.00	0.515	18.618	18.505	0.3457	0.121	0.8	11.20	
140.00	0.603	18.505	18.417	0.3393	0.095	5.8	1.53	
240.00	0.784	18.417	18.236	0.3261	0.098	3.7	2.36	
40.00	0.678	18.236	18.342	0.3339	0.029			
5.00	0.426	18.342	18.594	0.3522	0.393			

Hole number 8 Sample number Depth 3.00m to 3.45m
Specimen 50 mm from base of tube

Location number 121070 Da
Job name BYRKLEY PARK

L4/30



Sample Dimensions	74.63 mm dia. 13.700 mm high	Pressure	kN/m²	0 25	25 50	50 100	100 150	150 75	75 25			
Initial Voids Ratio	.561	m_v	m^2/MN	-.368	-.009	.460	.343	-.019	.130			
Final Voids Ratio	.521	C_v Log t_{50} ▲	m^2/yr	-	-	7.17	3.31	-	.30			
Swelling Pressure	- kN/m²	C_v Root t_{90} △	m^2/yr	-	-	19.68	10.07	-	.89			
Initial Water Content	11.61 %	Final Voids Ratio		.575	.576	.539	.513	.511	.521			
Final Water Content	19.49 %											
Initial Saturation	54.84 %											
Initial Bulk Density	1.89 Mg/m³											
Initial Dry Density	1.70 Mg/m³											
Particle Density	2.65 ASSUMED											
Sample Type	REMOULDED											

Description
Remould @10%

Hole TP1
Depth 1.20 m
Sample Type B

Laboratory - One Dimensional Consolidation Test

Exploration Associates

Project
Byrkley Park.
Football Association.

Contract 121070

Sheet L5/1

Form 45/1

Consolidation Test

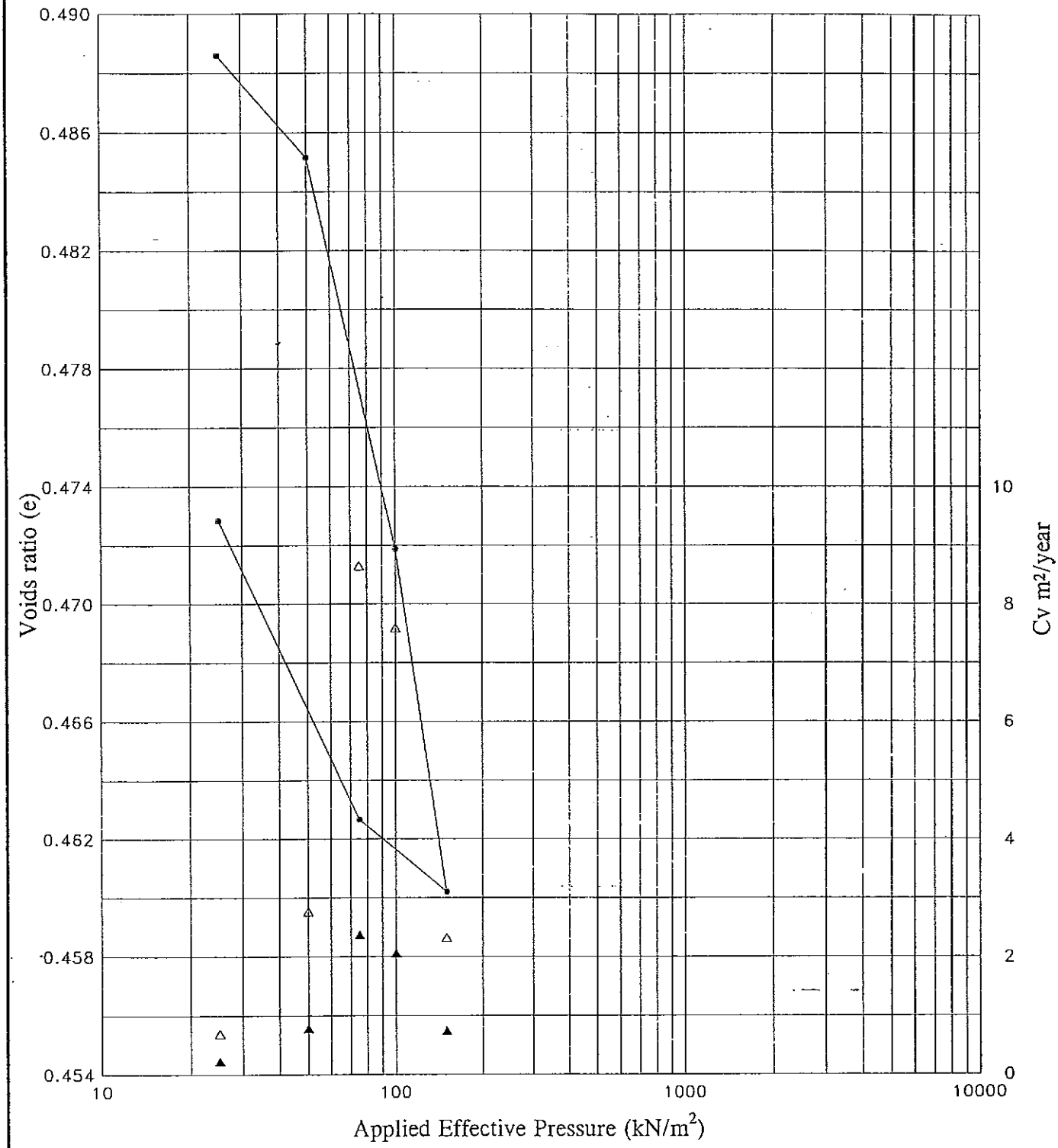
Contract Title	: **Byrkley Park.**	Bore Hole	: **TP1**
Date	: **07/08/01**	Depth	: **1.20** m
Description	Remould @10%	Sub Sample	: 1

Ring weight	110.28 g		
Sample + Ring weight (before)	223.83 g	Specific Gravity	2.65 Assumed
Sample + Ring weight (after)	231.85 g	Height	13.700 mm
Dry weight + Ring weight	212.02 g	Diameter	74.63 mm
Dry weight	101.74 g		
Mass of Water (before)	11.81 g	Area	4374.4 mm^2
Mass of Water (after)	19.83 g	Volume	59929.0 mm^3
Initial Moisture content	11.61 %		
Final Moisture content	19.49 %	Saturation	54.84 %
Initial Bulk density	1.89 Mg/m^3	Ht of solids	8.777 mm
Initial Dry density	1.70 Mg/m^3		

Load kN/M^2	Height Change	Actual Height	Ht Of Voids	Voids Ratio	Mv m^2/MN	t50 (i)	t90 (ii)	Mean Height	Cv (i) m^2/yr	Cv (ii) m^2/yr
0	-	13.700	4.923	.561						
					-.368	-	-	13.763	-	-
25	-.126	13.826	5.049	.575						
					-.009	-	-	13.828	-	-
50	-.003	13.829	5.052	.576						
					.460	.63	.98	13.670	7.17*	19.68*
100	.318	13.511	4.734	.539						
					.343	1.31	1.84	13.395	3.31*	10.07*
150	.232	13.279	4.502	.513						
					-.019	-	-	13.270	-	-
75	.019	13.260	4.483	.511						
					.130	14.79	21.06	13.303	.30*	.89*
25	-.086	13.346	4.569	.521						

* Denotes Temperature correction applied in calculating Cv value

ONE DIMENSIONAL OEDOMETER TEST	Project Byrkley Park. Football Association.	Contract 121070
Exploration Associates		Figure 1.5.2



Sample Dimensions	74.62 mm dia. 13.710 mm high	Pressure	kN/m²	0 25	25 50	50 100	100 150	150 75	75 25			
Initial Voids Ratio	.469	m_v	m^2/MN	-.534	.092	.179	.159	.023	.139			
Final Voids Ratio	.473	C_v Log t_{50} ▲	m^2/yr	-	.79	2.06	.74	2.37	.23			
Swelling Pressure	- kN/m²	C_v Root t_{90} △	m^2/yr	-	2.76	7.59	2.31	8.65	.69			
Initial Water Content	13.53 %	Final Voids Ratio		.489	.485	.472	.460	.463	.473			
Final Water Content	17.79 %											
Initial Saturation	76.43 %											
Initial Bulk Density	2.05 Mg/m³											
Initial Dry Density	1.80 Mg/m³											
Particle Density	2.65 ASSUMED											
Sample Type	REMOULDED											

Description
Remould @ 12%

Hole TP1
Depth 1.20 m
Sample Type B

Laboratory - One Dimensional Consolidation Test

Project
Byrkley Park.
Football Association.

Contract 121070

Sheet 5/3

Exploration Associates

Form 45/1

Consolidation Test

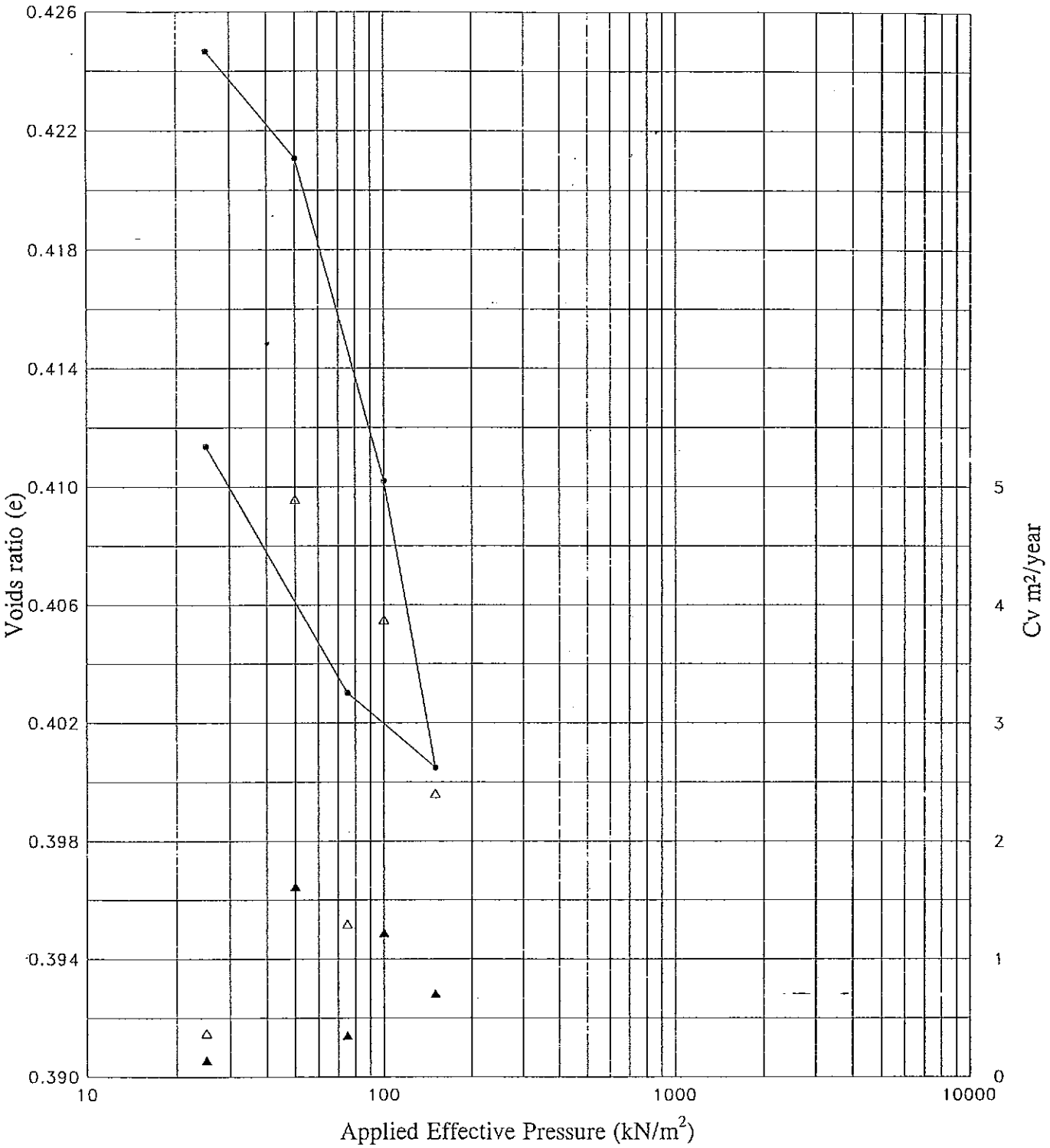
Contract Title	: Byrkley Park.	Bore Hole	: TP1
Date	: 07/08/01	Depth	: 1.20 m
Description	Remould @ 12%	Sub Sample	: 2

Ring weight	108.47 g		
Sample + Ring weight (before)	231.26 g	Specific Gravity	2.65 Assumed
Sample + Ring weight (after)	235.87 g	Height	13.710 mm
Dry weight + Ring weight	216.63 g	Diameter	74.62 mm
Dry weight	108.16 g		
Mass of Water (before)	14.63 g	Area	4373.2 mm^2
Mass of Water (after)	19.24 g	Volume	59956.7 mm^3
Initial Moisture content	13.53 %		
Final Moisture content	17.79 %	Saturation	76.43 %
Initial Bulk density	2.05 Mg/m^3	Ht of solids	9.333 mm
Initial Dry density	1.80 Mg/m^3		

Load kN/M^2	Height Change	Actual Height	Ht Of Voids	Voids Ratio	Mv m^2/MN	t50 (i)	t90 (ii)	Mean Height	Cv (i) m^2/yr	Cv (ii) m^2/yr
0	-	13.710	4.377	.469						
					-.534	-	-	13.802	-	-
25	-.183	13.893	4.560	.489						
					.092	5.99	7.27	13.877	.79*	2.76*
50	.032	13.861	4.528	.485						
					.179	2.24	2.59	13.799	2.06*	7.59*
100	.124	13.737	4.404	.472						
					.159	6.11	8.35	13.683	.74*	2.31*
150	.109	13.628	4.295	.460						
					.023	1.90	2.22	13.640	2.37*	8.65*
75	-.023	13.651	4.318	.463						
					.139	20.50	28.52	13.699	.23*	.69*
25	-.095	13.746	4.413	.473						

* Denotes Temperature correction applied in calculating Cv value

ONE DIMENSIONAL OEDOMETER TEST	Project Byrkley Park. Football Association.	Contract 121070
Exploration Associates		Figure 15/2



Sample Dimensions	74.64 mm dia. 13.780 mm high	Pressure	kN/m^2	0 25	25 50	50 100	100 150	150 75	75 25		
Initial Voids Ratio	.455	m_v	m^2/MN	.836	.101	.153	.138	.024	.119		
Final Voids Ratio	.411	C_v Log t_{50} ▲	m^2/yr	-	1.61	1.22	.71	.35	.14		
Swelling Pressure	- kN/m^2	C_v Root t_{90} △	m^2/yr	-	4.90	3.87	2.40	1.30	.37		
Initial Water Content	15.56 %	Final Voids Ratio		.425	.421	.410	.400	.403	.411		
Final Water Content	17.46 %										
Initial Saturation	90.63 %										
Initial Bulk Density	2.10 Mg/m^3										
Initial Dry Density	1.82 Mg/m^3										
Particle Density	2.65 ASSUMED										
Sample Type	REMOULDED										

Description
Remould @14%

Hole TP1
Depth 1.20 m
Sample Type B

Laboratory - One Dimensional Consolidation Test

Project
Byrkley Park.
Football Association.

Contract 121070

Sheet

Exploration Associates

Form 45/1

Consolidation Test

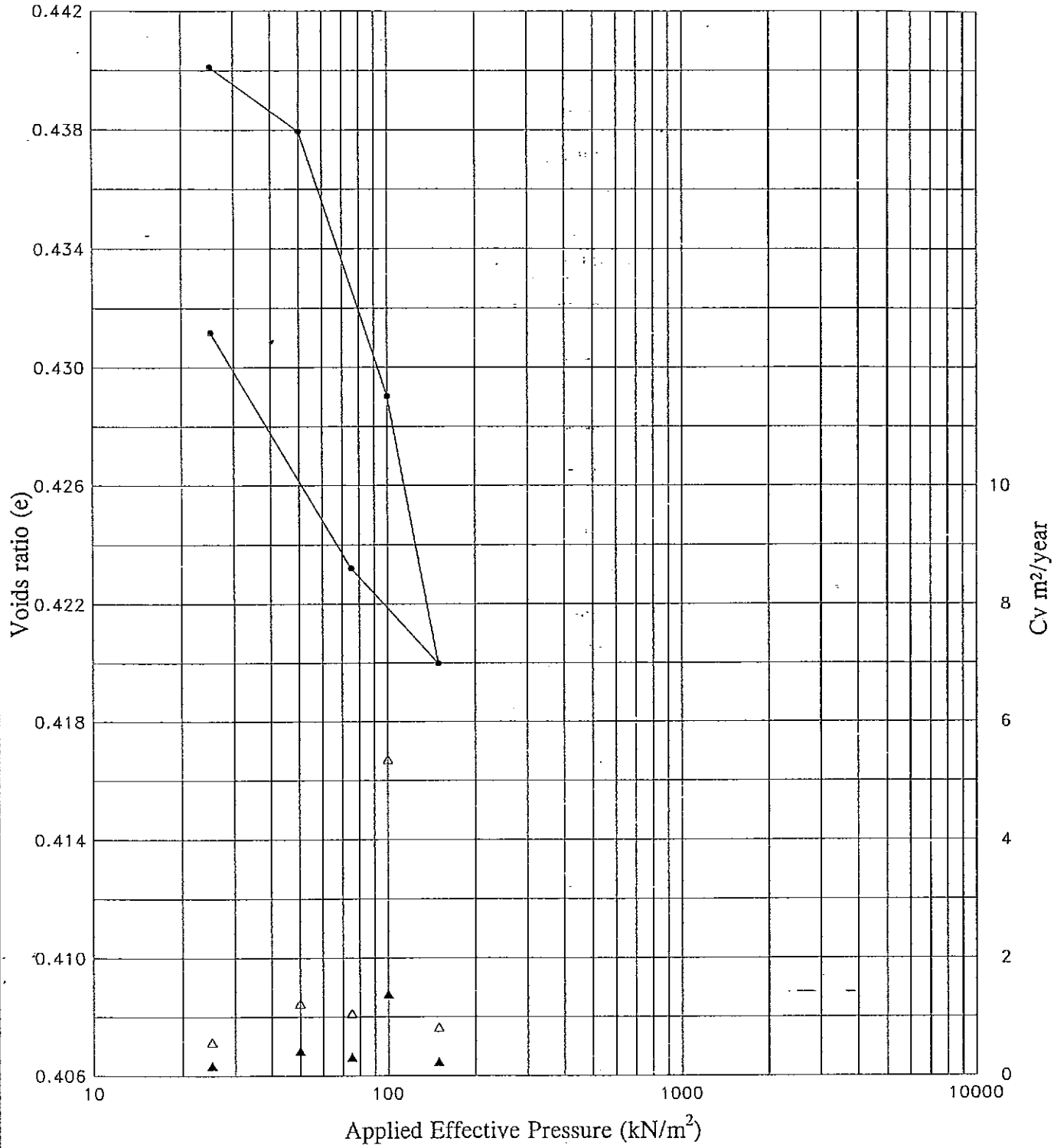
Contract Title	: **Byrkley Park.**	Bore Hole	: **TP1**
Date	: **08/08/01**	Depth	: **1.20 m**
Description	Remould @14%	Sub Sample	: **3**

Ring weight	108.57 g		
Sample + Ring weight (before)	235.47 g	Specific Gravity	2.65 Assumed
Sample + Ring weight (after)	237.55 g	Height	13.780 mm
Dry weight + Ring weight	218.38 g	Diameter	74.64 mm
Dry weight	109.81 g		
Mass of Water (before)	17.09 g	Area	4375.6 mm^2
Mass of Water (after)	19.17 g	Volume	60295.1 mm^3
Initial Moisture content	15.56 %		
Final Moisture content	17.46 %	Saturation	90.63 %
Initial Bulk density	2.10 Mg/m^3	Ht of solids	9.470 mm
Initial Dry density	1.82 Mg/m^3		

Load kN/M^2	Height Change	Actual Height	Ht Of Voids	Voids Ratio	Mv m^2/MN	t50 (i)	t90 (ii)	Mean Height	Cv (i) m^2/yr	Cv (ii) m^2/yr
0	-	13.780	4.310	.455						
					.836	-	-	13.636	-	-
25	.288	13.492	4.022	.425						
					.101	2.75	3.87	13.475	1.61*	4.90*
50	.034	13.458	3.988	.421						
					.153	3.56	4.79	13.407	1.22*	3.87*
100	.103	13.355	3.885	.410						
					.138	6.06	7.61	13.309	.71*	2.40*
150	.092	13.263	3.793	.400						
					.024	12.12	14.04	13.275	.35*	1.30*
75	-.024	13.287	3.817	.403						
					.119	30.73	50.42	13.327	.14*	.37*
25	-.079	13.366	3.896	.411						

* Denotes Temperature correction applied in calculating Cv value

ONE DIMENSIONAL OEDOMETER TEST	Project Byrkley Park. Football Association.	Contract 121070
Exploration Associates		Figure L5/6



Sample Dimensions	74.63 mm dia. 13.690 mm high
Initial Voids Ratio	.473
Final Voids Ratio	.431
Swelling Pressure	- kN/m²
Initial Water Content	16.48 %
Final Water Content	17.73 %
Initial Saturation	92.26 %
Initial Bulk Density	2.10 Mg/m³
Initial Dry Density	1.80 Mg/m³
Particle Density	2.65 ASSUMED
Sample Type	REMOULDED

Pressure kN/m²	0 25	25 50	50 100	100 150	150 75	75 25
m_v m²/MN	.903	.060	.124	.127	.030	.112
C_v Log t_{50} ▲ m²/yr	-	.42	1.38	.24	.31	.17
C_v Root t_{90} △ m²/yr	-	1.23	5.35	.82	1.06	.57
Final Voids Ratio	.440	.438	.429	.420	.423	.431

Description
Remould @16%

Hole TP1
Depth 1.20 m
Sample Type B

Laboratory - One Dimensional Consolidation Test

Exploration Associates

Project
Byrkley Park.
Football Association.

Contract 121070

Sheet 5/7

Form 45/1

Consolidation Test

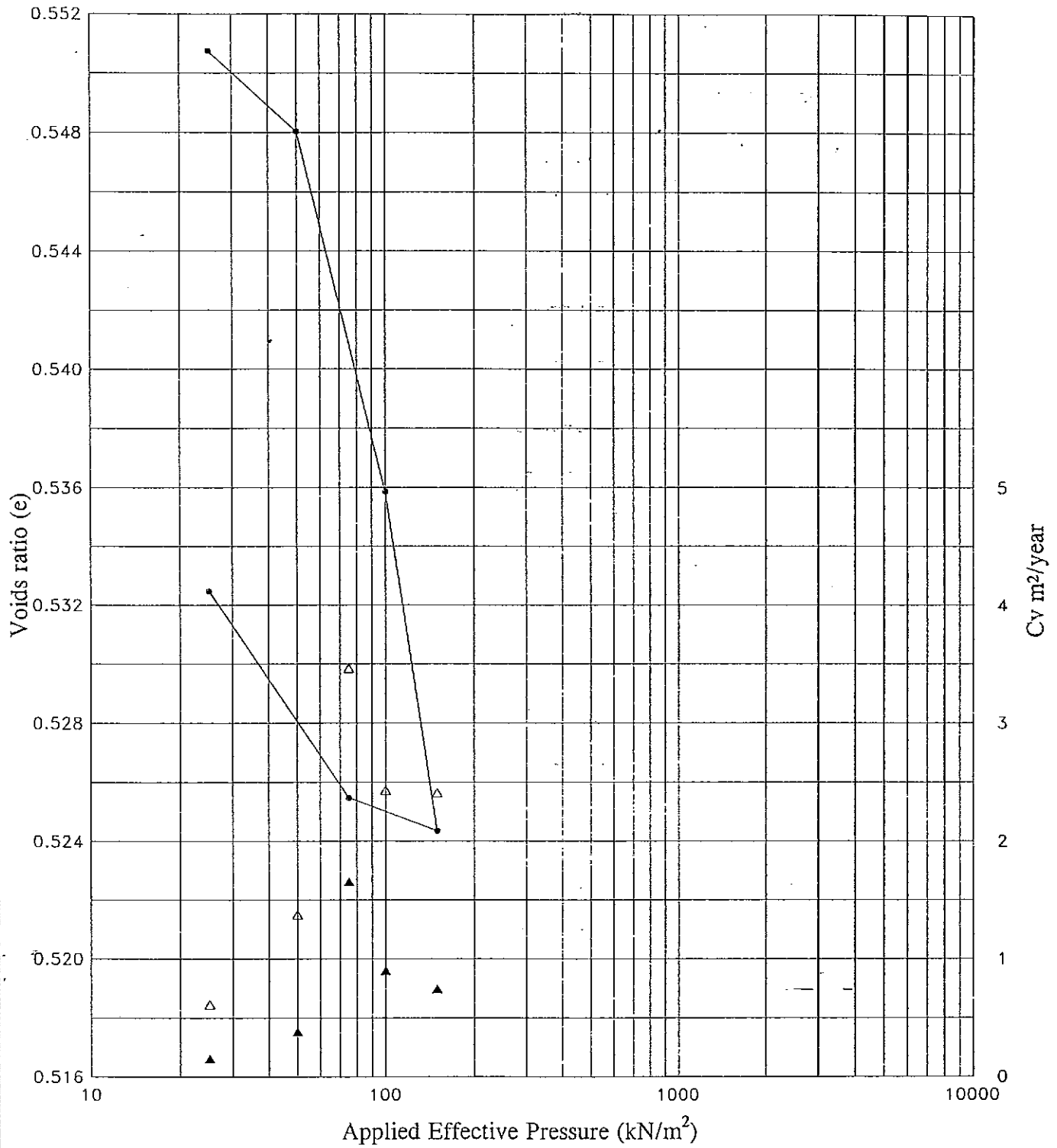
Contract Title	: **Byrkley Park.**	Bore Hole	: **TP1**
Date	: **08/08/01**	Depth	: **1.20** m
Description	Remould @16%	Sub Sample	: **4**

Ring weight	110.16 g		
Sample + Ring weight (before)	235.62 g	Specific Gravity	2.65 Assumed
Sample + Ring weight (after)	236.97 g	Height	13.690 mm
Dry weight + Ring weight	217.87 g	Diameter	74.63 mm
Dry weight	107.71 g		
Mass of Water (before)	17.75 g	Area	4374.4 mm^2
Mass of Water (after)	19.10 g	Volume	59885.3 mm^3
Initial Moisture content	16.48 %		
Final Moisture content	17.73 %	Saturation	92.26 %
Initial Bulk density	2.10 Mg/m^3	Ht of solids	9.292 mm
Initial Dry density	1.80 Mg/m^3		

Load kN/M^2	Height Change	Actual Height	Ht Of Voids	Voids Ratio	Mv m^2/MN	t50 (i)	t90 (ii)	Mean Height	Cv (i) m^2/yr	Cv (ii) m^2/yr
0	-	13.690	4.398	.473						
					.903	-	-	13.536	-	-
25	.309	13.381	4.089	.440						
					.060	10.39	15.21	13.371	.42*	1.23*
50	.020	13.361	4.069	.438						
					.124	3.10	3.42	13.320	1.38*	5.35*
100	.083	13.278	3.986	.429						
					.127	17.91	22.08	13.236	.24*	.82*
150	.084	13.194	3.902	.420						
					.030	13.42	17.06	13.209	.31*	1.06*
75	-.030	13.224	3.932	.423						
					.112	25.64	32.43	13.261	.17*	.57*
25	-.074	13.298	4.006	.431						

* Denotes Temperature correction applied in calculating Cv value

ONE DIMENSIONAL OEDOMETER TEST	Project Byrkley Park. Football Association.	Contract 121070
Exploration Associates		Figure L5/8



Sample Dimensions	75.60 mm dia. 13.970 mm high	Pressure	kN/m²	0 25	25 50	50 100	100 150	150 75	75 25		
Initial Voids Ratio	.576	m_v	m²/MN	.639	.070	.157	.150	.010	.092		
Final Voids Ratio	.532	C_v Log t_{50} ▲	m²/yr	-	.38	.90	.74	1.65	.15		
Swelling Pressure	- kN/m²	C_v Root t_{90} △	m²/yr	-	1.37	2.43	2.41	3.46	.61		
Initial Water Content	19.29 %	Final Voids Ratio		.551	.548	.536	.524	.525	.532		
Final Water Content	19.75 %										
Initial Saturation	88.76 %										
Initial Bulk Density	2.01 Mg/m³										
Initial Dry Density	1.68 Mg/m³										
Particle Density	2.65 ASSUMED										
Sample Type	REMOULDED										

Description
Remould @ 18%

Hole TP1
Depth 1.20 m
Sample Type B

Laboratory - One Dimensional Consolidation Test

Project
Byrkley Park.
Football Association.

Contract 121070

Sheet 15/7

Exploration Associates

Form 45/1

Consolidation Test

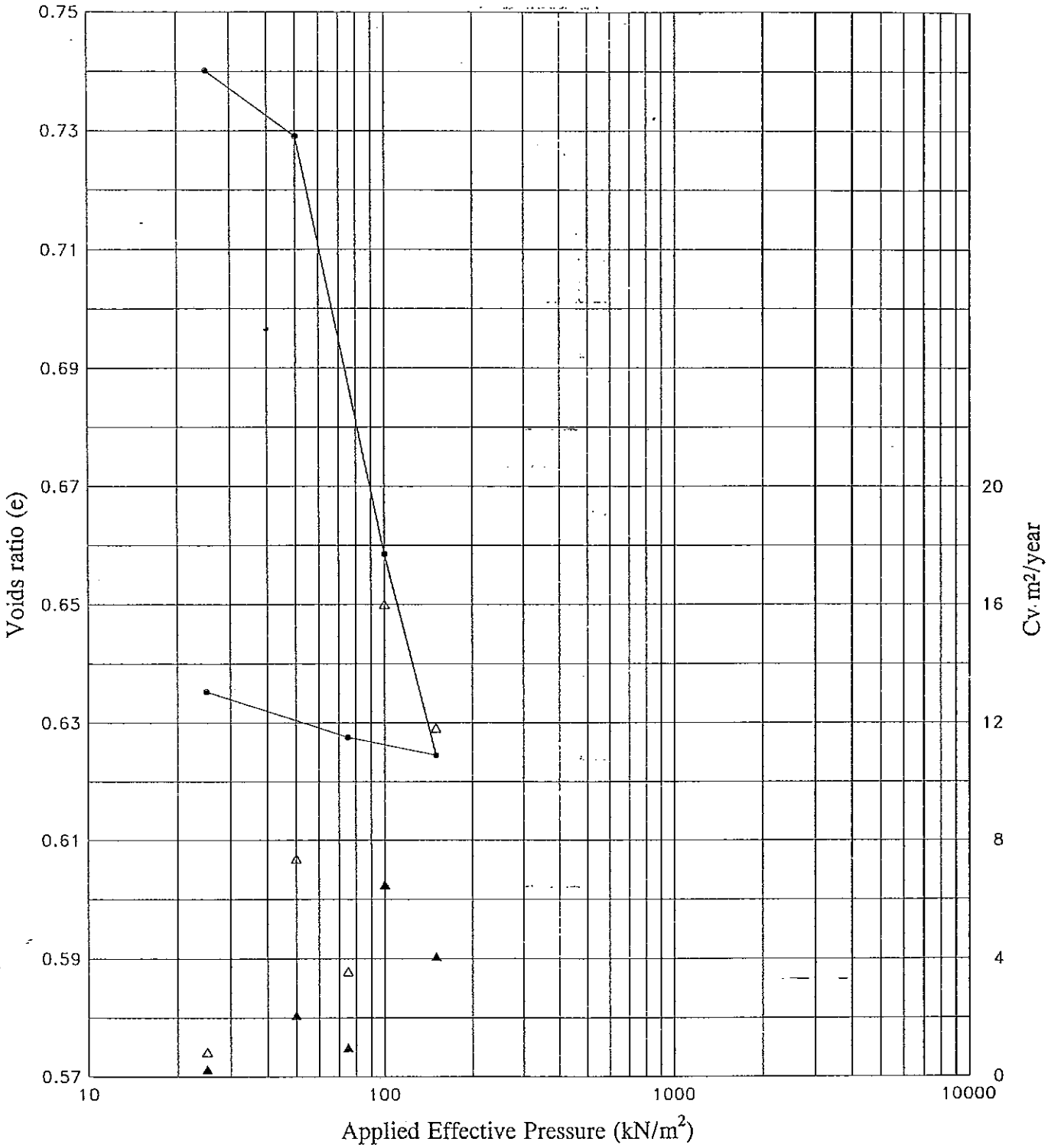
Contract Title	: **Byrkley Park.**	Bore Hole	: **TP1**
Date	: **08/08/01**	Depth	: **1.20 m**
Description	Remould @ 18%	Sub Sample	: **5**

Ring weight	104.27 g		
Sample + Ring weight (before)	230.06 g	Specific Gravity	2.65 Assumed
Sample + Ring weight (after)	230.55 g	Height	13.970 mm
Dry weight + Ring weight	209.72 g	Diameter	75.60 mm
Dry weight	105.45 g		
Mass of Water (before)	20.34 g	Area	4488.8 mm^2
Mass of Water (after)	20.83 g	Volume	62709.0 mm^3
Initial Moisture content	19.29 %		
Final Moisture content	19.75 %	Saturation	88.76 %
Initial Bulk density	2.01 Mg/m^3	Ht of solids	8.865 mm
Initial Dry density	1.68 Mg/m^3		

Load kN/M^2	Height Change	Actual Height	Ht Of Voids	Voids Ratio	Mv m^2/MN	t50 (i)	t90 (ii)	Mean Height	Cv (i) m^2/yr	Cv (ii) m^2/yr
0	-	13.970	5.105	.576						
					.639	-	-	13.859	-	-
25	.223	13.747	4.882	.551						
					.070	12.00	14.33	13.735	.38*	1.37*
50	.024	13.723	4.858	.548						
					.157	5.03	7.93	13.669	.90*	2.43*
100	.108	13.615	4.750	.536						
					.150	5.99	7.88	13.564	.74*	2.41*
150	.102	13.513	4.648	.524						
					.010	2.67	5.45	13.518	1.65*	3.46*
75	-.010	13.523	4.658	.525						
					.092	29.45	31.64	13.554	.15*	.61*
25	-.062	13.585	4.720	.532						

* Denotes Temperature correction applied in calculating Cv value

ONE DIMENSIONAL OEDOMETER TEST	Project Byrkley Park. Football Association.	Contract 121070
Exploration Associates		Figure L5/10



Sample Dimensions	75.02 mm dia. 13.650 mm high	Pressure kN/m²	0 25	25 50	50 100	100 150	150 75	75 25			
Initial Voids Ratio	.754	m_v m²/MN	.319	.254	.816	.411	.025	.095			
Final Voids Ratio	.635	C_v Log t_{50} ▲ m²/yr	-	2.09	6.49	4.07	.99	.24			
Swelling Pressure	- kN/m²	C_v Root t_{90} △ m²/yr	-	7.37	16.00	11.82	3.57	.84			
Initial Water Content	11.74 %	Final Voids Ratio	.740	.729	.659	.624	.628	.635			
Final Water Content	25.15 %										
Initial Saturation	41.25 %										
Initial Bulk Density	1.69 Mg/m³										
Initial Dry Density	1.51 Mg/m³										
Particle Density	2.65 ASSUMED										
Sample Type	REMOULDED										

Description
Remould @ 11%

Hole TP2A
Depth .80 m
Sample Type B

Laboratory - One Dimensional Consolidation Test

Project
Byrkley Park.
Football Association.

Contract 121070

Sheet 15/11

Exploration Associates

Form 45/1

Consolidation Test

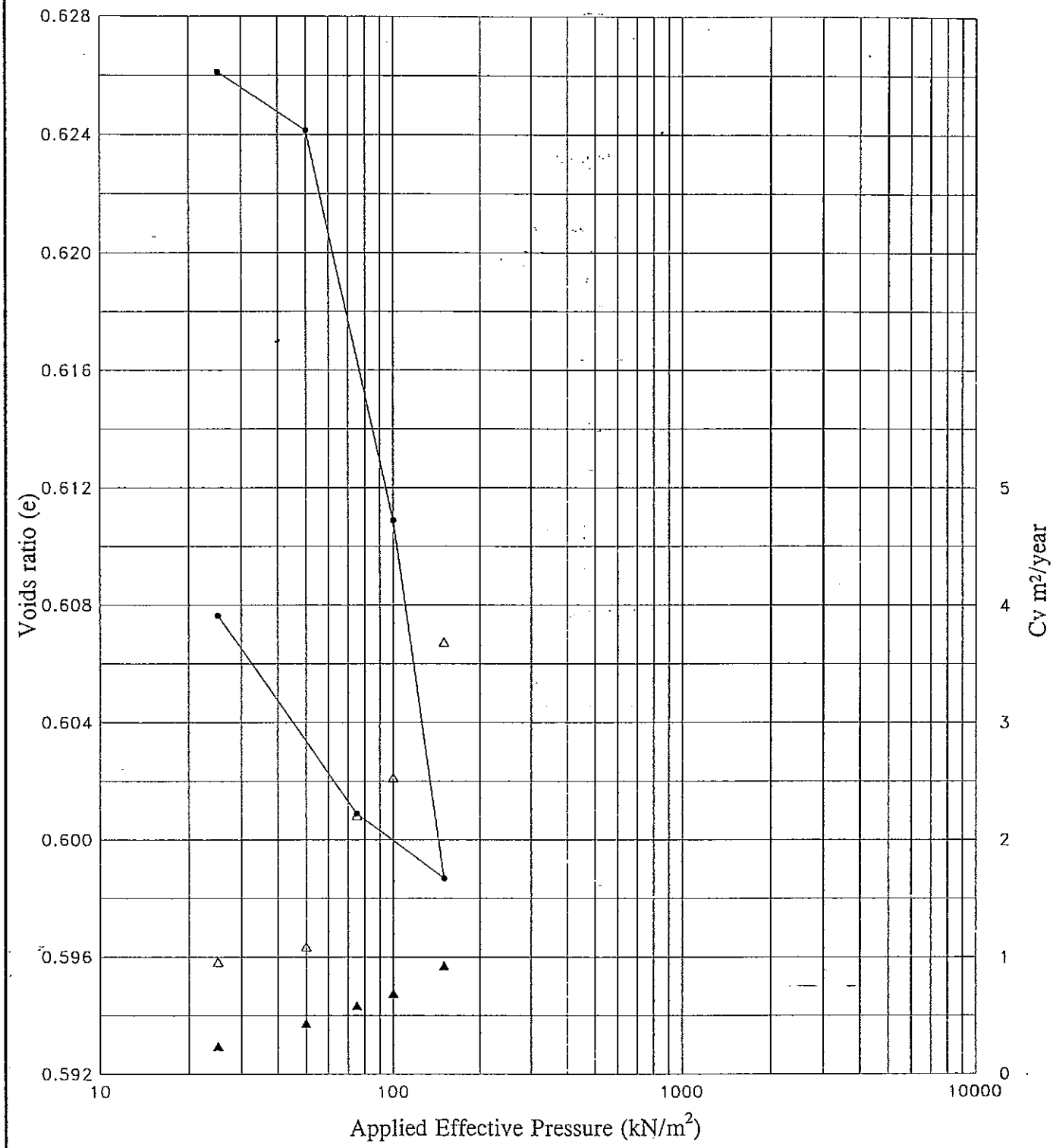
Contract Title	: **Byrkley Park.**	Bore Hole	: **TP2A**
Date	: **06/08/01**	Depth	: **.80 m**
Description	Remould @ 11%	Sub Sample	: **1**

Ring weight	103.05 g		
Sample + Ring weight (before)	204.90 g	Specific Gravity	2.65 Assumed
Sample + Ring weight (after)	217.12 g	Height	13.650 mm
Dry weight + Ring weight	194.20 g	Diameter	75.02 mm
Dry weight	91.15 g		
Mass of Water (before)	10.70 g	Area	4420.2 mm^2
Mass of Water (after)	22.92 g	Volume	60336.0 mm^3
Initial Moisture content	11.74 %		
Final Moisture content	25.15 %	Saturation	41.25 %
Initial Bulk density	1.69 Mg/m^3	Ht of solids	7.782 mm
Initial Dry density	1.51 Mg/m^3		

Load kN/M^2	Height Change	Actual Height	Ht Of Voids	Voids Ratio	Mv m^2/MN	t50 (i)	t90 (ii)	Mean Height	Cv (i) m^2/yr	Cv (ii) m^2/yr
0	-	13.650	5.868	.754						
					.319	-	-	13.596	-	-
25	.109	13.541	5.759	.740						
					.254	2.24	2.71	13.498	2.09*	7.37*
50	.086	13.455	5.673	.729						
					.816	.67	1.16	13.181	6.49*	16.00*
100	.549	12.906	5.124	.659						
					.411	.98	1.44	12.774	4.07*	11.82*
150	.265	12.641	4.859	.624						
					.025	4.00	4.73	12.653	.99*	3.57*
75	-.024	12.665	4.883	.628						
					.095	16.23	20.13	12.695	.24*	.84*
25	-.060	12.725	4.943	.635						

* Denotes Temperature correction applied in calculating Cv value

ONE DIMENSIONAL OEDOMETER TEST	Project Byrkley Park. Football Association.	Contract 121070
Exploration Associates		Figure



Sample Dimensions	74.61 mm dia. 13.740 mm high	Pressure	kN/m²	0 25	25 50	50 100	100 150	150 75	75 25		
Initial Voids Ratio	.597	m_v	m^2/MN	-.725	.049	.163	.152	.018	.084		
Final Voids Ratio	.608	C_v Log t_{50} ▲	m^2/yr	-	.43	.69	.93	.58	.24		
Swelling Pressure	- kN/m²	C_v Root t_{90} △	m^2/yr	-	1.09	2.53	3.68	2.21	.96		
Initial Water Content	15.81 %	Final Voids Ratio		.626	.624	.611	.599	.601	.608		
Final Water Content	22.39 %										
Initial Saturation	70.17 %										
Initial Bulk Density	1.92 Mg/m³										
Initial Dry Density	1.66 Mg/m³										
Particle Density	2.65 ASSUMED										
Sample Type	REMOULDED										

Description
Remould @ 14%

Hole TP2A
Depth .80 m
Sample Type B

Laboratory - One Dimensional Consolidation Test

Project
Byrkley Park.
Football Association.

Contract 121070

Sheet 45/13

Exploration Associates

Form 45/1

Consolidation Test

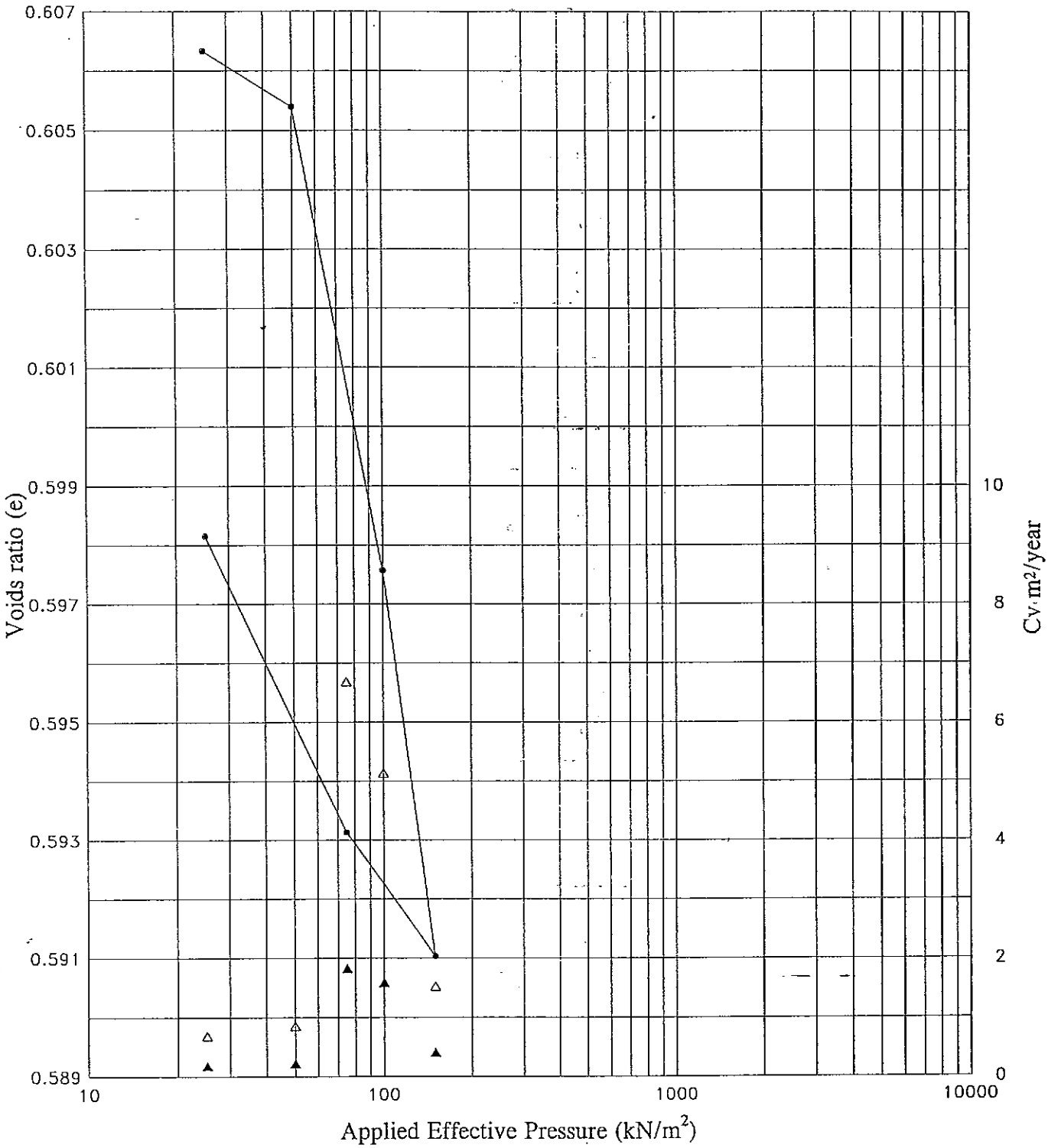
Contract Title	: **Byrkley Park.**	Bore Hole	: **TP2A**
Date	: **06/08/01**	Depth	: **.80 m**
Description	Remould @ 14%	Sub Sample	: **2**

Ring weight	110.88 g		
Sample + Ring weight (before)	226.31 g	Specific Gravity	2.65 Assumed
Sample + Ring weight (after)	232.87 g	Height	13.740 mm
Dry weight + Ring weight	210.55 g	Diameter	74.61 mm
Dry weight	99.67 g		
Mass of Water (before)	15.76 g	Area	4372.0 mm^2
Mass of Water (after)	22.32 g	Volume	60071.8 mm^3
Initial Moisture content	15.81 %		
Final Moisture content	22.39 %	Saturation	70.17 %
Initial Bulk density	1.92 Mg/m^3	Ht of solids	8.603 mm
Initial Dry density	1.66 Mg/m^3		

Load kN/M^2	Height Change	Actual Height	Ht Of Voids	Voids Ratio	Mv m^2/MN	t50 (i)	t90 (ii)	Mean Height	Cv (i) m^2/yr	Cv (ii) m^2/yr
0	-	13.740	5.137	.597						
					-.725	-	-	13.865	-	-
25	-.249	13.989	5.386	.626						
					.049	11.58	19.73	13.981	.43*	1.09*
50	.017	13.972	5.369	.624						
					.163	7.05	8.18	13.915	.69*	2.53*
100	.114	13.858	5.255	.611						
					.152	5.03	5.40	13.806	.93*	3.68*
150	.105	13.753	5.150	.599						
					.018	8.00	9.05	13.763	.58*	2.21*
75	-.019	13.772	5.169	.601						
					.084	19.56	20.78	13.801	.24*	.96*
25	-.058	13.830	5.227	.608						

* Denotes Temperature correction applied in calculating Cv value

ONE DIMENSIONAL OEDOMETER TEST	Project Byrkley Park. Football Association.	Contract 121070
Exploration Associates		Figure



Sample Dimensions	74.68 mm dia. 13.710 mm high
Initial Voids Ratio	.602
Final Voids Ratio	.598
Swelling Pressure	- kN/m²
Initial Water Content	18.70 %
Final Water Content	22.12 %
Initial Saturation	82.36 %
Initial Bulk Density	1.96 Mg/m³
Initial Dry Density	1.65 Mg/m³
Particle Density	2.65 ASSUMED
Sample Type	REMOULDED

Pressure kN/m²	0	25	50	100	150	75
	25	50	100	150	75	25
m_v m²/MN	-.117	.023	.098	.082	.018	.063
C_v Log t_{50} ▲ m²/yr	-	.22	1.58	.41	1.82	.18
C_v Root t_{90} △ m²/yr	-	.86	5.13	1.52	6.68	.69
Final Voids Ratio	.606	.605	.598	.591	.593	.598

Description
Remould @ 17%

Hole TP2A
Depth .80 m
Sample Type B

Laboratory - One Dimensional Consolidation Test

Exploration Associates

Project
Byrkley Park.
Football Association.

Contract 121070

Sheet 45/15

Form 45/1

Consolidation Test

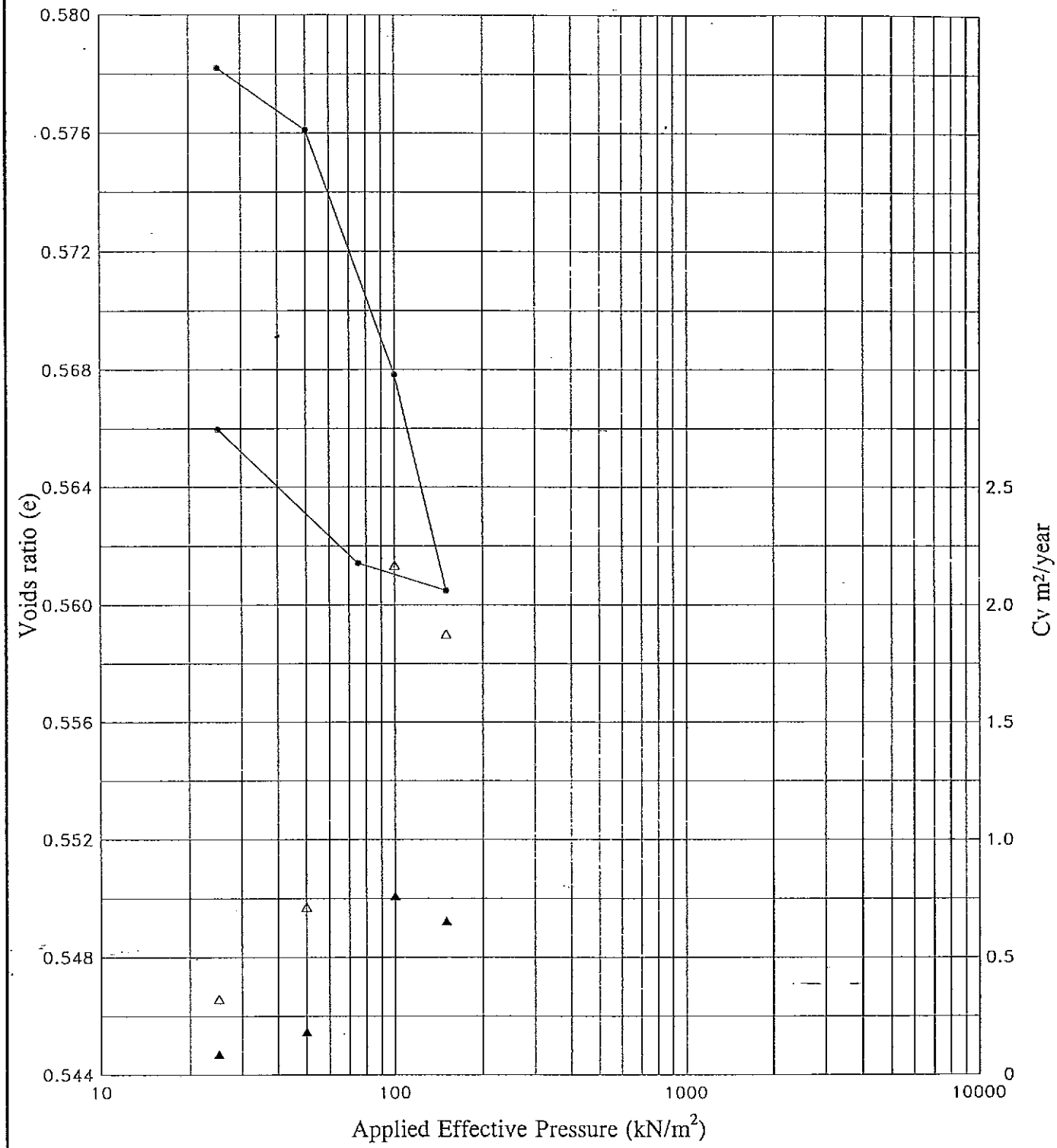
Contract Title	: Byrkley Park.	Bore Hole	: TP2A
Date	: 06/08/01	Depth	: .80 m
Description	Remould @ 17%	Sub Sample	: 3

Ring weight	111.36 g		
Sample + Ring weight (before)	229.30 g	Specific Gravity	2.65 Assumed
Sample + Ring weight (after)	232.70 g	Height	13.710 mm
Dry weight + Ring weight	210.72 g	Diameter	74.68 mm
Dry weight	99.36 g		
Mass of Water (before)	18.58 g	Area	4380.2 mm^2
Mass of Water (after)	21.98 g	Volume	60053.2 mm^3
Initial Moisture content	18.70 %		
Final Moisture content	22.12 %	Saturation	82.36 %
Initial Bulk density	1.96 Mg/m^3	Ht of solids	8.560 mm
Initial Dry density	1.65 Mg/m^3		

Load kN/M^2	Height Change	Actual Height	Ht Of Voids	Voids Ratio	Mv m^2/MN	t50 (i)	t90 (ii)	Mean Height	Cv (i) m^2/yr	Cv (ii) m^2/yr
0	-	13.710	5.150	.602						
					-.117	-	-	13.730	-	-
25	-.040	13.750	5.190	.606						
					.023	22.20	24.18	13.746	.22*	.86*
50	.008	13.742	5.182	.605						
					.098	2.97	3.91	13.709	1.58*	5.13*
100	.067	13.675	5.115	.598						
					.082	11.20	12.76	13.647	.41*	1.52*
150	.056	13.619	5.059	.591						
					.018	2.52	2.93	13.628	1.82*	6.68*
75	-.018	13.637	5.077	.593						
					.063	25.33	28.29	13.659	.18*	.69*
25	-.043	13.680	5.120	.598						

* Denotes Temperature correction applied in calculating Cv value

ONE DIMENSIONAL OEDOMETER TEST	Project Byrkley Park. Football Association.	Contract 121070
Exploration Associates		Figure 15/6



Sample Dimensions	74.63 mm dia. 13.790 mm high
Initial Voids Ratio	.607
Final Voids Ratio	.566
Swelling Pressure	- kN/m²
Initial Water Content	20.66 %
Final Water Content	21.49 %
Initial Saturation	90.21 %
Initial Bulk Density	1.99 Mg/m³
Initial Dry Density	1.65 Mg/m³
Particle Density	2.65 ASSUMED
Sample Type	REMOULDED

Pressure kN/m²	0 25	25 50	50 100	100 150	150 75	75 25
m_v m²/MN	.711	.053	.105	.094	.008	.058
C_v Log t_{50} ▲ m²/yr	-	.18	.76	.65	-	.09
C_v Root t_{90} △ m²/yr	-	.71	2.17	1.88	-	.32
Final Voids Ratio	.578	.576	.568	.560	.561	.566

Description
Remould @ 20%

Hole TP2A
Depth .80 m
Sample Type B

Laboratory - One Dimensional Consolidation Test

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Consolidation Test

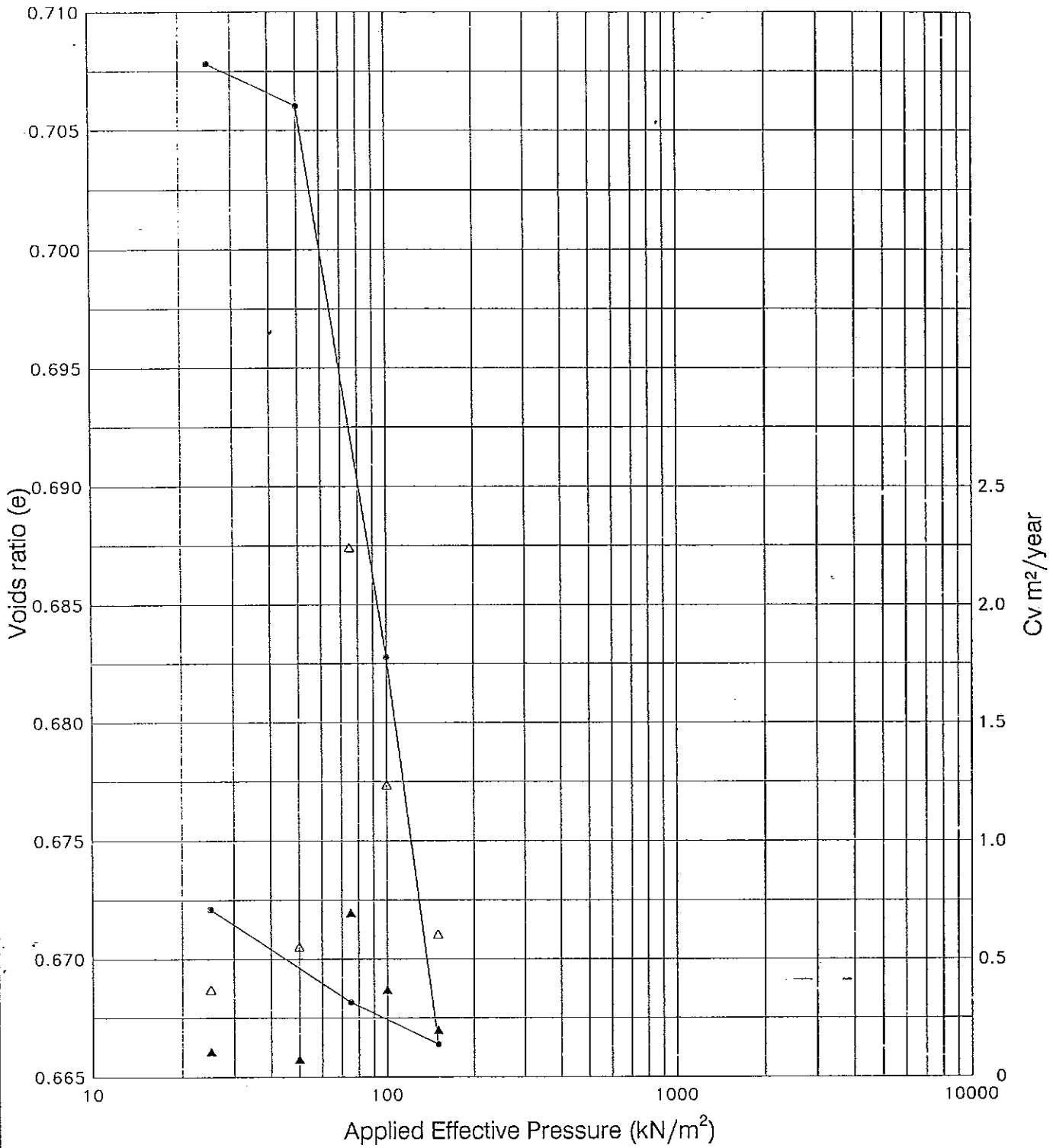
Contract Title	: Byrkley Park.	Bore Hole	: TP2A
Date	: 08/08/01	Depth	: .80 m
Description	Remould @ 20%	Sub Sample	: 4

Ring weight	108.62 g		
Sample + Ring weight (before)	228.66 g	Specific Gravity	2.65 Assumed
Sample + Ring weight (after)	229.49 g	Height	13.790 mm
Dry weight + Ring weight	208.11 g	Diameter	74.63 mm
Dry weight	99.49 g		
Mass of Water (before)	20.55 g	Area	4374.4 mm^2
Mass of Water (after)	21.38 g	Volume	60322.7 mm^3
Initial Moisture content	20.66 %		
Final Moisture content	21.49 %	Saturation	90.21 %
Initial Bulk density	1.99 Mg/m^3	Ht of solids	8.583 mm
Initial Dry density	1.65 Mg/m^3		

Load kN/M^2	Height Change	Actual Height	Ht Of Voids	Voids Ratio	Mv m^2/MN	t50 (i)	t90 (ii)	Mean Height	Cv (i) m^2/yr	Cv (ii) m^2/yr
0	-	13.790	5.207	.607						
					.711	-	-	13.668	-	-
25	.245	13.545	4.962	.578						
					.053	24.57	27.09	13.536	.18*	.71*
50	.018	13.527	4.944	.576						
					.105	5.99	8.97	13.492	.76*	2.17*
100	.071	13.456	4.873	.568						
					.094	6.99	10.40	13.425	.65*	1.88*
150	.063	13.393	4.810	.560						
					.008	-	-	13.397	-	-
75	-.008	13.401	4.818	.561						
					.058	52.38	60.61	13.421	.09*	.32*
25	-.039	13.440	4.857	.566						

* Denotes Temperature correction applied in calculating Cv value

ONE DIMENSIONAL OEDOMETER TEST	Project Byrkley Park. Football Association.	Contract 121070
Exploration Associates		Figure L5/8



Sample Dimensions	74.63 mm dia. 13.730 mm high
Initial Voids Ratio	.745
Final Voids Ratio	.672
Swelling Pressure	- kN/m²
Initial Water Content	26.23 %
Final Water Content	26.41 %
Initial Saturation	93.34 %
Initial Bulk Density	1.92 Mg/m³
Initial Dry Density	1.52 Mg/m³
Particle Density	2.65 ASSUMED
Sample Type	REMOULDED

Pressure kN/m²	0 25	25 50	50 100	100 150	150 75	75 25
m_v m²/MN	.848	.042	.273	.195	.014	.047
C_v Log t_{50} ▲ m²/yr	-	.08	.37	.20	.70	.11
C_v Root t_{90} △ m²/yr	-	.55	1.24	.60	2.24	.37
Final Voids Ratio	.708	.706	.683	.666	.668	.672

Description
Remould @ 25%

Hole TP2A
Depth .80 m
Sample Type B

Laboratory - One Dimensional Consolidation Test

Exploration Associates

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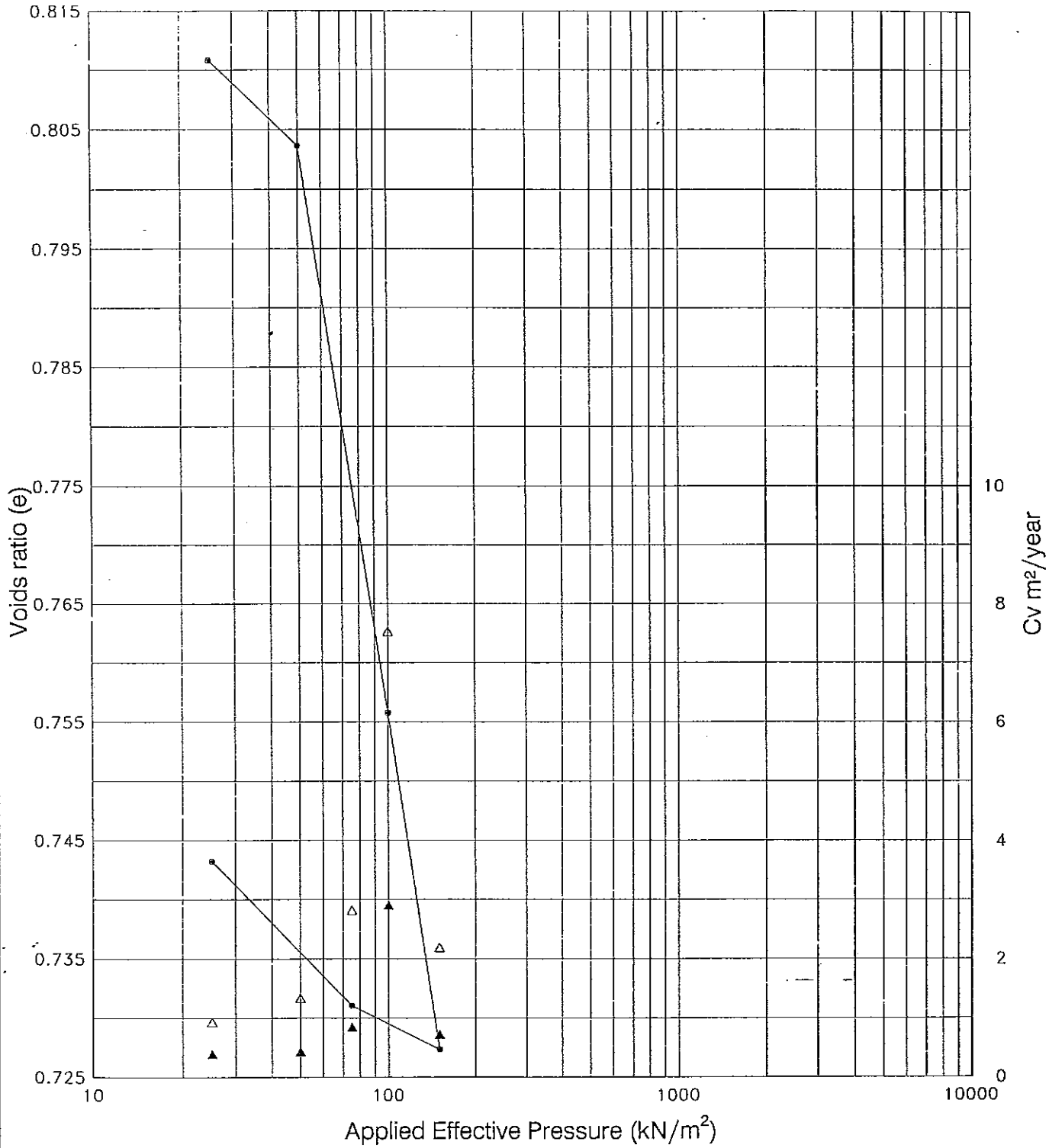

Sample Dimensions	74.62 mm dia. 13.770 mm high	Pressure kN/m²	0 25	25 50	50 100	100 150	150 75	75 25			
Initial Voids Ratio	.763	m_v m²/MN	1.086	.158	.531	.324	.029	.141			
Final Voids Ratio	.743	C_v Log t_{50} ▲ m²/yr	-	.43	2.90	.72	.85	.39			
Swelling Pressure	- kN/m²	C_v Root t_{90} △ m²/yr	-	1.33	7.53	2.19	2.82	.93			
Initial Water Content	16.23 %	Final Voids Ratio	.811	.804	.756	.727	.731	.743			
Final Water Content	27.84 %										
Initial Saturation	56.37 %										
Initial Bulk Density	1.75 Mg/m³										
Initial Dry Density	1.50 Mg/m³										
Particle Density	2.65 ASSUMED										
Sample Type	REMOULDED										

Description
Remould @ 14%

Hole TP4
Depth .30 - .40 m
Sample Type B

Laboratory - One Dimensional Consolidation Test

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Consolidation Test

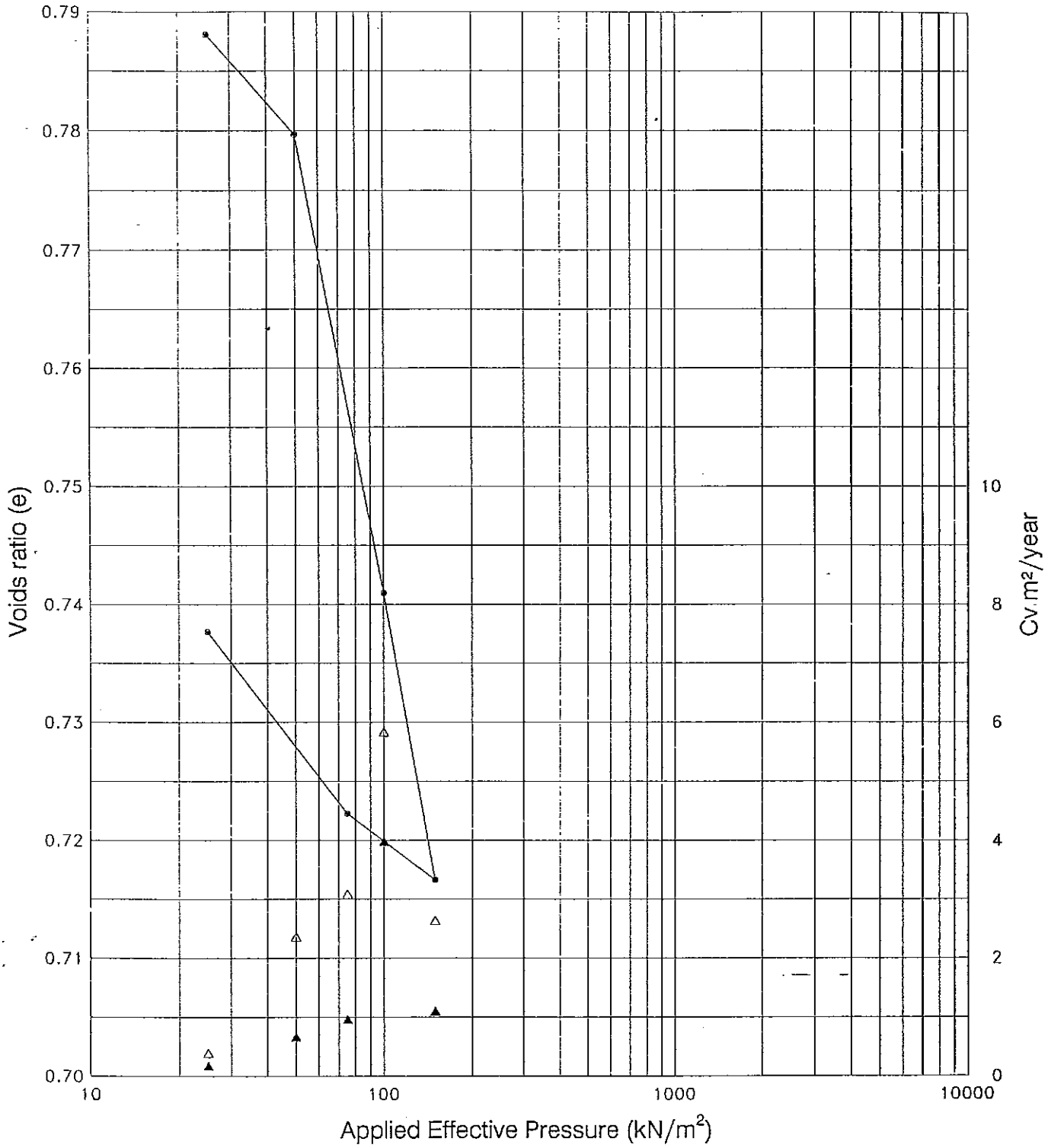
Contract Title	: **Byrkley Park.**	Bore Hole	: **TP4**
Date	: **22/08/01**	Depth	: **.30 - .40** m
Description	Remould @ 14%	Sub Sample	: 1

Ring weight	112.28 g		
Sample + Ring weight (before)	217.49 g	Specific Gravity	2.65 Assumed
Sample + Ring weight (after)	228.00 g	Height	13.770 mm
Dry weight + Ring weight	202.80 g	Diameter	74.62 mm
Dry weight	90.52 g		
Mass of Water (before)	14.69 g	Area	4373.2 mm^2
Mass of Water (after)	25.20 g	Volume	60219.1 mm^3
Initial Moisture content	16.23 %		
Final Moisture content	27.84 %	Saturation	56.37 %
Initial Bulk density	1.75 Mg/m^3	Ht of solids	7.811 mm
Initial Dry density	1.50 Mg/m^3		

Load kN/M^2	Height Change	Actual Height	Ht Of Voids	Voids Ratio	Mv m^2/MN	t50 (i)	t90 (ii)	Mean Height	Cv (i) m^2/yr	Cv (ii) m^2/yr
0	-	13.770	5.959	.763						
					-1.086	-	-	13.957	-	-
25	-.374	14.144	6.333	.811						
					.158	11.17	15.42	14.116	.43*	1.33*
50	.056	14.088	6.277	.804						
					.531	1.61	2.65	13.901	2.90*	7.53*
100	.374	13.714	5.903	.756						
					.324	6.32	8.91	13.603	.72*	2.19*
150	.222	13.492	5.681	.727						
					.029	5.33	6.83	13.507	.85*	2.82*
75	-.029	13.521	5.710	.731						
					.141	11.62	20.80	13.569	.39*	.93*
25	-.095	13.616	5.805	.743						

* Denotes Temperature correction applied in calculating Cv value

ONE DIMENSIONAL OEDOMETER TEST	Project Byrkley Park. Football Association.	Contract 121070
Exploration Associates		Figure LS/2.4



Sample Dimensions	74.62 mm dia. 13.750 mm high
Initial Voids Ratio	.751
Final Voids Ratio	.738
Swelling Pressure	- kN/m²
Initial Water Content	18.69 %
Final Water Content	27.19 %
Initial Saturation	65.94 %
Initial Bulk Density	1.80 Mg/m³
Initial Dry Density	1.51 Mg/m³
Particle Density	2.65 ASSUMED
Sample Type	REMOULDED

Pressure kN/m²	0 25	25 50	50 100	100 150	150 75	75 25
m_v m²/MN	-.841	.188	.435	.279	.044	.179
C_v Log t_{50} ▲ m²/yr	-	.67	3.98	1.10	.96	.17
C_v Root t_{90} △ m²/yr	-	2.36	5.83	2.63	3.08	.39
Final Voids Ratio	.788	.780	.741	.717	.722	.738

Description
Remould @ 17%

Hole TP4
Depth .30 - .40 m
Sample Type B

Laboratory - One Dimensional Consolidation Test

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