

Soil Mechanics

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Report No D6072

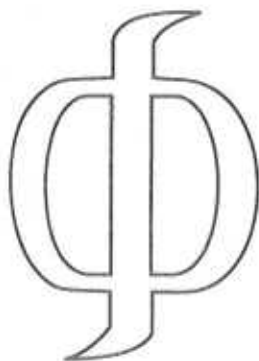
HAVANT THICKET, HAMPSHIRE

FACTUAL REPORT ON GROUND INVESTIGATION

Carried out for : Portsmouth Water Ltd

Engineer : Entec UK Ltd

Date : March 2007



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CONTENTS

	Page
1 INTRODUCTION	2
2 THE SITE AND GEOLOGY	2
2.1 The Site	
2.2 Published Geology	
3 FIELDWORK	3
3.1 General	
3.2 Exploratory Holes	
4 LABORATORY TESTING	3
REFERENCES	5
ENCLOSURES	
A EXPLORATORY HOLE RECORDS	
B GEOTECHNICAL LABORATORY TEST RESULTS	
C PHOTOGRAPHS	
D DRAWINGS	
E DIGITAL DATA	



1 INTRODUCTION

During November 2006 Soil Mechanics were commissioned by Entec UK Ltd (Entec), on behalf of Portsmouth Water Ltd, to carry out a ground investigation at Havant Thicket, Hampshire. The aim of this investigation was to obtain geotechnical information on the ground conditions across the site for a proposed reservoir construction.

The scope of the investigation, which was specified by Entec, comprised cable percussive boreholes, trial pitting and laboratory testing. The investigation was carried out in accordance with the contract specification and relevant standards (see References). The fieldwork for this investigation was carried out between 10th and 22nd November 2006.

This report presents the factual records of the fieldwork and laboratory testing. The report is also presented separately in digital in Enclosure E.

2 THE SITE AND GEOLOGY

2.1 The Site

Havant Thicket is situated between the A3(M) (with Junction 2 to the north west) and the B2149 in southern Hampshire. The site is situated approximately 3.7 kilometres to the north east of Havant town centre, with Chichester approximately 12 kilometres to the southeast. The site is at approximate National Grid reference SU 725 098, see Site Location Plan in Enclosure D.

The site is owned by Portsmouth Water and is situated adjacent to Forestry Commission land and residential estates.

2.2 Published Geology

The published geological map covering the site BGS Sheet 316 (1998) Fareham, shows Quaternary Head Deposits comprising sandy and gravelly clays, underlain by the Eocene London Clay Formation, which in turn is underlain by clays of the Reading Formation.



3 FIELDWORK

3.1 General

The fieldwork was carried out in general accordance with BS 5930 (1999) and Part 9 of BS 1377 (1990).

The exploratory hole locations were selected by a representative from Entec as shown on the Exploratory Hole Location Plan in Enclosure D. The locations were set out from local features. The co-ordinates and reduced levels were surveyed on site to National Grid by Entec.

3.2 Exploratory Holes

The exploratory holes are listed in the following table.

SUMMARY OF EXPLORATORY HOLES

Type	Quantity	Maximum Depth (m)	Remarks
Cable Percussive Boreholes	4	14.55	BH101 to BH104
Trial Pits	4	3.40	TP101 to TP104

The exploratory hole records are presented in Enclosure A and should be read in conjunction with the Key included therein. The records provide descriptions, in accordance with BS 5930 (1999), of the materials encountered and details of the samples taken, together with observations made during boring and pitting. Photographs of the trial pits are presented in Enclosure C.

4 LABORATORY TESTING

On completion of the fieldwork the samples required for geotechnical testing were transported to K4 Soils Laboratories for temporary retention and testing. The laboratory testing was scheduled by Entec.

The geotechnical testing was carried out in accordance with BS 1377 (1990). The testing is summarised on the following page and the results are presented in Enclosure B.



REFERENCES

British Standards and Codes of Practice

BS 1377 : 1990 : Methods of test for soils for civil engineering purposes. British Standards Institution.

BS 5930 : 1999 : Code of practice for site investigations. British Standards Institution.

Site Investigation Steering Group : 1993 : Specification for site investigations. Thomas Telford.

Geological Maps

BGS England and Wales Sheet 31 : 1998 : Fareham. 1:50 000 geological map (solid & drift). Geological Survey of Great Britain

Ordnance Survey Maps

Sheet 197 : 1998 : Chichester and the Downs. 1:50 000 Landranger map. Ordnance Survey

AGS.



**SUMMARY OF GEOTECHNICAL LABORATORY TESTING**

Type	Remarks
Moisture Content Determination	23
Atterberg Limit Determination	23
pH Level and Sulphate Content of Soils	4
Particle Size Distribution Analysis	13
Particle Density Determination	6
Undrained Triaxial Compression Testing	4
Heavy Compaction Testing	7
Dry Density / Moisture Content Relationship Determination	3
Shear Box Testing	3

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