APPENDIX B

Field Sampling and in-situ Test Methods & Results

Field Sampling and in-situ Test Methods

Disturbed Samples

Disturbed samples were taken from the trial holes at intervals and stored in sealed glass jars and polythene bags, as appropriate.

Hand Penetrometer Test

The hand penetrometer consists of a spring loaded and calibrated plunger which is forced into the soil. A reading of unconfined compression strength (equal to twice cohesion) is given on a calibrated scale. In common with other hand methods of strength assessment (eg. the shear vane) it does not give an accurate indication of bearing capacity in stiff or fissured soils, because of the small test area. The figures are used for strength classification according to the table below.

Hand Penetrometer Value (kPa)	Undrained Shear Strength cu (kPa)	Undrained Shear Strength of Clays
Less than 20	Less than 10	Extremely Low
20 to 40	10 to 20	Very Low
40 to 80	20 to 40	Low
80 to 150	40 to 75	Medium
150 to 300	75 to 150	High
300 to 600	150 to 300	Very High
More than 600	More than 300	Extremely High

Clay

An approximate value for the shear strength of clay may be obtained using Stroud (1974), which paper indicates that the cohesive strength is a function of plasticity and SPT 'N' value. The relation is:

C_u = f_i x N kPa

C_u = undrained shear strength

f_i = factor related to plasticity index and ranging from 4 to more than 6

Hand Vane Test

The hand shear vane test provides a means of determining the undrained shear strength of the tested soil. The apparatus consists of a cruciform vane on an extensible shaft. The vane is inserted into the clay soil and torque applied to the shaft until the soil fails, as indicated by a constant of dropping torque, by shearing on a circumscribing cylindrical surface. The torque at failure is measured and recorded.

Window Sampler

With the window sampler system an 80mm tube with hardened steel shoe and various soil catching devices is driven into the soil. On withdrawal the soils can be observed and sampled via a "window" in the side of the tube. After logging the sample, successively smaller diameter tubes are driven into the holes formed, and the soil profile can be quickly determined. The system is very suitable for use in areas of restricted access as the individual components are light and easily demounted. As the borehole formed is not supported by casing the system is not suitable for continuous sampling below the water table in cohesionless soils. The equipment is damaged by excessively hard driving such as may be encountered in dense gravels and very weak rock

APPENDIX C

Geotechnical Laboratory Test References & Results

Southern Testing | ST Consult

Atterberg and Moisture Content Summary

To BS1377-2:1990(2003) cl.3.2, 3.3, 4.2, 4.3

AGS

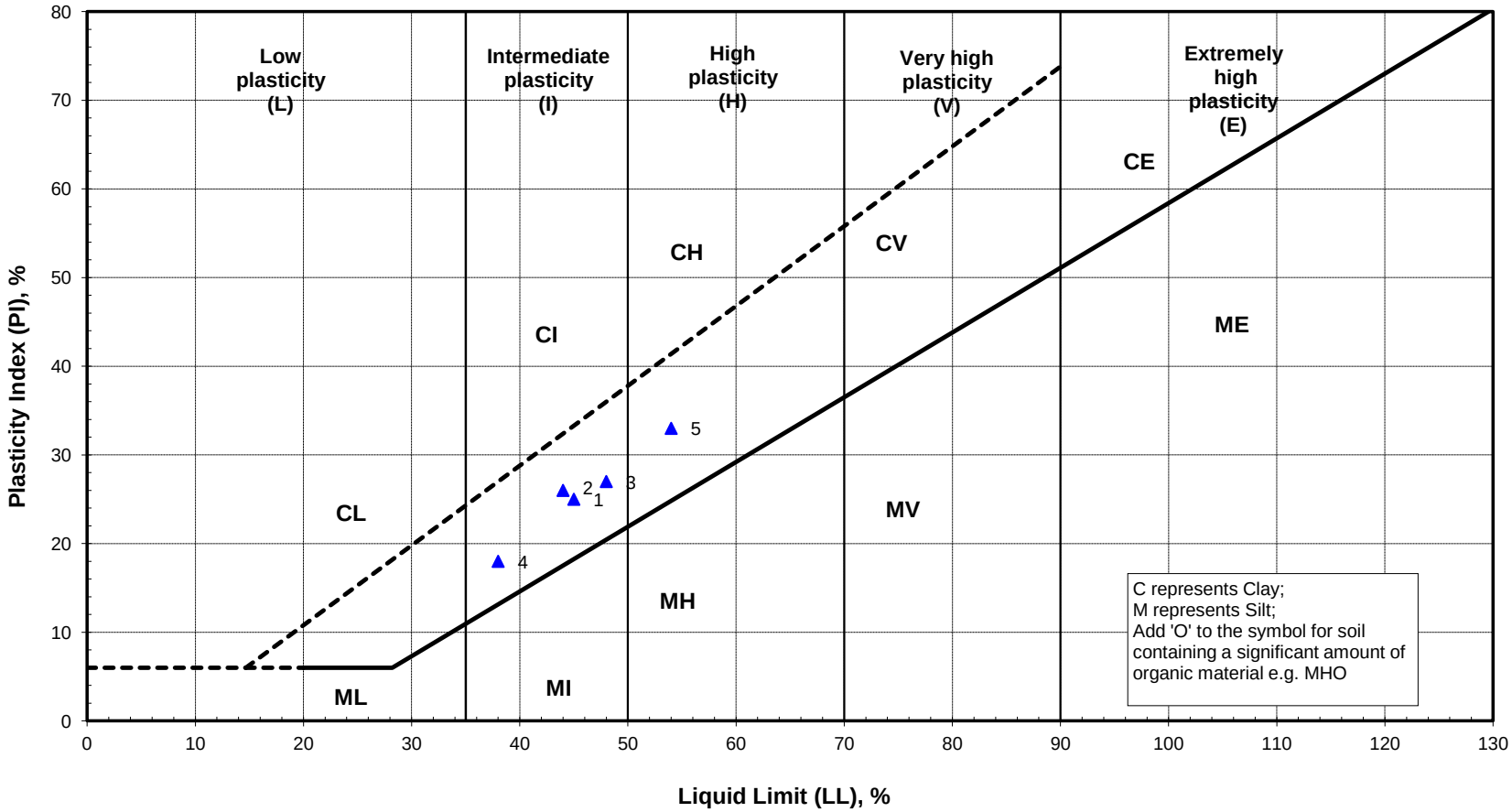
Project Name	2 Gayton Road (London NW3)						Project Number		J12252	
Client	Van Bruggen Limited				PE	DV	Date Issued		28-May-15	
Location	Depth m	Sample Type	Visual Description	Comments	Natural MC %	Liquid Limit %	Plastic Limit %	Plasticity Index	Classi-fication	Passing 425 micron %
WS1	1.50	D	*Soft low strength orange brown sandy CLAY.*		*31*	*45*	*20*	*25*	*CI*	*100*
WS1	2.00	D			*30*					
WS1	2.50	D	*Firm medium strength light brown sandy CLAY.*		*27*	*44*	*18*	*26*	*CI*	*100*
WS1	3.00	D			*30*					
WS1	3.50	D	*Stiff high strength orange brown sandy CLAY.*		*31*	*48*	*21*	*27*	*CI*	*100*
WS1	4.00	D			*27*					
WS1	4.50	D	*Very soft extremely low strength brown very sandy CLAY.*		*34*	*38*	*20*	*18*	*CI*	*100*
WS1	5.00	D			*28*					
WS1	5.50	D	*Stiff very high strength dark grey sandy CLAY.*		*28*	*54*	*21*	*33*	*CH*	*100*
WS1	6.00	D			*25*					

Plasticity Chart for Atterberg Limit Tests

Project Name	*2 Gayton Road (London NW3)*			**Project Number**	*J12252*
Client Name	*Van Bruggen Limited*	**PE**	*DV*	**Date Issued**	*28-May-15*

Key

No.	TH No.	Depth
1	WS1	1.50
2	WS1	2.50
3	WS1	3.50
4	WS1	4.50
5	WS1	5.50



Liquid Limit		**Plastic Limit**		**Plasticity Index**	
Maximum Value	54	Maximum Value	21	Maximum Value	33
Minimum Value	38	Minimum Value	18	Minimum Value	18
Average Value	46	Average Value	20	Average Value	26

MOISTURE CONTENT TEST

Project Name	***2 Gayton Road, London NW3***	**Project Engineer**	***DV***	**Proj. No.**	***J12252***
				Date	***22 May 15***
Client	***Van Bruggen Limited***	**Checked by**	***RJM***	**Tested by**	***AS***

Hole ID	**WS1**	**WS1**	**WS1**	**WS1**	**WS1**	**WS1**	**WS1**
Depth (m)	**1.50**	**2.00**	**2.50**	**3.00**	**3.50**	**4.00**	**4.50**
Sample Type	Small Bag	Small Bag	Small Bag	Small Bag	Small Bag	Small Bag	Small Bag
Tin No.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tin + Wet (g) T_w	100.60	103.05	85.05	106.30	118.40	143.43	55.60
Tin + Dry (g) T_D	82.32	84.49	71.84	87.19	95.71	116.73	46.03
Tin (g) T	23.45	22.52	22.08	23.06	23.00	17.90	17.91
Moisture Content %	**31.1**	**29.9**	**26.5**	**29.8**	**31.2**	**27.0**	**34.0**

Hole ID	**WS1**	**WS1**	**WS1**				
Depth (m)	**5.00**	**5.50**	**6.00**				
Sample Type	Small Bag	Small Bag	Small Bag				
Tin No.	N/A	N/A	N/A				
Tin + Wet (g) T_w	97.67	102.05	128.32				
Tin + Dry (g) T_D	81.76	84.65	107.01				
Tin (g) T	24.21	23.31	22.50				
Moisture Content %	**27.6**	**28.4**	**25.2**				

Hole ID							
Depth (m)							
Sample Type							
Tin No.							
Tin + Wet (g) T_w							
Tin + Dry (g) T_D							
Tin (g) T							
Moisture Content %							

Samples oven dried at 105°C

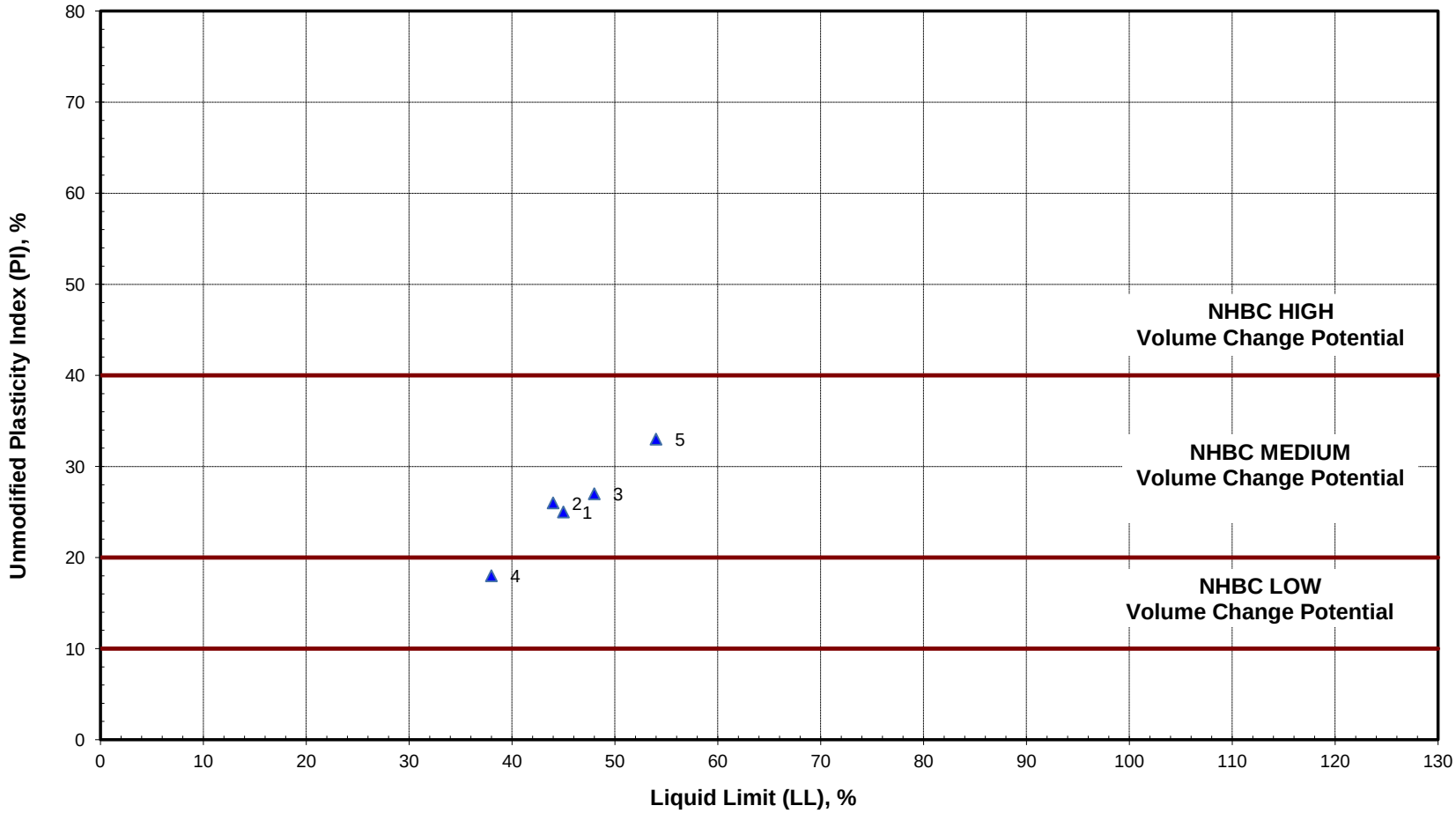
Moisture Content (%) = 100 x $(T_W - T_D) / (T_D - T)$

NHBC Classification for Volume Change Potential

Project Name	*2 Gayton Road (London NW3)*			**Project Number**	*J12252*
Client Name	*Van Bruggen Limited*	**PE**	*DV*	**Date Issued**	*28-May-15*

Key

No.	TH No.	Depth
1	WS1	1.50
2	WS1	2.50
3	WS1	3.50
4	WS1	4.50
5	WS1	5.50



Liquid Limit		**Plastic Limit**		**Unmodified Plasticity Index**	
Maximum Value	54	Maximum Value	21	Maximum Value	33
Minimum Value	38	Minimum Value	18	Minimum Value	18
Average Value	46	Average Value	20	Average Value	26

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CHEMICAL & ELECTROCHEMICAL TESTING SUMMARY

To BS1377-3:1990(2003) cl 5.6 & 9.5

AGS

Project Name		**2 Gayton Road (London NW3)**					**Project Number**		J12252	
Client		**Van Bruggen Limited**			**PE**	*DV*	**Date Issued**		*28-May-15*	
TH No.	Depth m	Sample Type	Visual Description	Comments	Passing 2mm %	pH Value	Soil Sulphate 2:1 Water Extract		Groundwater Sulphate	
							g/l SO_3	BRE mg/l SO_4	g/l SO_3	BRE mg/l SO_4
WS1	3.00	D	Soft low strength light brown sandy CLAY.		100.0	7.3	0.06	77		
WS1	5.00	D	Soft low strength brown sandy CLAY.		100.0	7.4	0.07	86		

APPENDIX D

Contamination Laboratory Test Results