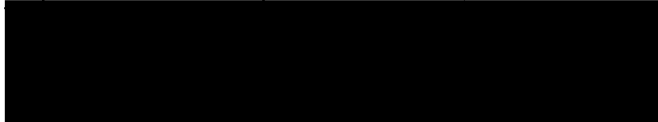

HEMSLEY CONSULTING

CONSULTING CIVIL & STRUCTURAL ENGINEERS

Unit 9, Park Farm, Hundred Acre Lane, Wivelsfield Green, West Sussex RH17 7RU



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ROUNDSTONE LANE, ANGMERING, WEST SUSSEX
SITE INVESTIGATION REPORT

Client:
Bedaro Ltd
Suite 9 Beech House
Padgate Business Park
Green Lane
Warrington
WA1 4JN

HC5382
20th February 2018

Directors: G J Hemsley W K Elson Ph.D., C.Eng., M.I.C.E.
Consultant: M P Skinner FRICS, Building Surveyor
Hemsley Consulting Limited Registered Office: South Stour Offices, Roman Road, Mersham, Ashford, Kent, TN25 7HS
Registered in England and Wales Company Number: 4740380

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ROUNDSTONE LANE, ANGMERING, WEST SUSSEX
SITE INVESTIGATION

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SITE INVESTIGATION

1.0 Introduction

A site at the southern end of Roundstone Lane, Angmering (Grid reference TQ 704 034) is to be redeveloped. The proposed layout of the development is shown on Drawing N° (08)008 by Crowther Associates. An instruction to undertake a site investigation was given by Bedaro Ltd on 9th January 2018 and Order N° 80001/00/AH refers.

The 1/50,000 geological map (Sheet 3.7) indicates the area to be underlain by a drift of Brickearth, with a solid geology of Upper Chalk. The Brickearth comprises interbedded solifluction flows of silty clays, and may contain bands of flint gravel. The area was once a wave cut platform and banks of marine sand may be present below the Brickearth.

To explore the site 10 N° window sampler boreholes were drilled on 17th and 18th January 2018. In addition super heavy dynamic probes adjacent to each borehole.

2.0 Soil Conditions

The boreholes demonstrated the site to be underlain by Brickearth, a brown silty clay with a trace of flint gravel. Bands of flint gravel were occasionally encountered in some of the boreholes. At a depth of about 3m irregular bands of dense flint gravel was encountered in some of the boreholes, although there was no obvious pattern to the distribution of the gravel bands. At the eastern end of the site, Borehole N°2 and 3 a brown medium to fine sand (Marine Sand) was encountered at a depth of between 3.2 and 3.5m.

Chalk was encountered in Borehole N°6 and 8 at a depth of about 4m. The other boreholes were not deep enough to prove the chalk; however the depth to the chalk may be inferred from the super heavy dynamic probes by comparing the pattern of blow counts with those recorded in Borehole N°6 and 8.

No ground water was encountered within 4m of the surface of the site. However it is known that Nurseries in the area pump water from the aquifer in the underlying Chalk.

3.0 Soil Properties

Generally the Brickearth classified as a clay of intermediate plasticity with a plasticity index of about 20 percent. Such soils are of a low to medium shrinkability and serious cases of subsidence caused by seasonal drying of the Brickearth are uncommon.

Generally the water content of the Brickearth was in the range 20 to 30 percent, although flints in some of the samples will influence the results. The water content was a few percent greater than the plastic limit of the soil and there was no evidence of desiccation over the majority of the site.

Borehole N°9 was adjacent to a mature lime of tree and the soils in this borehole were considerably drier than that in other boreholes. The water content was less than the plastic limit; hence it is likely that deep seated drying of the Brickearth has occurred within the vicinity of the tree.

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The silty clays were of a firm to stiff consistency and the dynamic probe blow counts were reasonably uniform in the Brickearth giving N_{100} values of 1 to 2 blows/100mm. Slightly higher N_{100} values were recorded in Borehole N^o6 and 9. In both these boreholes the soils were somewhat drier and hence stiff; at Borehole N^o9 due to the presence of the large lime tree.

Based on the recorded N_{100} values the nett allowable bearing capacity of the Brickearth has been estimated to be 80kN/m². Typically mass concrete strip footings will be satisfactory.

4.0 Site Drainage etc

4.1 Site Drainage

Two infiltration tests were undertaken in the boreholes, and the coefficient of permeability of the soils has been calculated using Hvorslev's formula; with the following results:

Borehole N ^o 1	$k = 1.75 \times 10^{-6} \text{m/s}$
Borehole N ^o 8	$k \text{ less than } 1 \times 10^{-7} \text{m/s}$

Borehole N^o1 penetrated a thick bed of medium to fine sand and a grading analysis of the sand from Borehole N^o3 demonstrated there was very little fines in the material. Based on Hazen's formula, $k = d_{10}^2 / 100$, the coefficient of permeability of the sand could be as high as $1 \times 10^{-4} \text{m/s}$.

The permeability of the Brickearth in Borehole N^o8 was very low and soakaways in the Brickearth will not be satisfactory.

Soakaways in the northeast area of the site will be effective provided they penetrate into the sand stratum. Considering only the sand a coefficient of permeability of $1 \times 10^{-5} \text{m/s}$ may be adopted for design purposes.

The underlying Chalk will be permeable and an alternative for the storm drainage of the site would be to adopt borehole soakaways. The Chalk is an aquifer and should this option be considered advice from the Environment Agency should be sought.

4.2 Road Design

The Californian Bearing Ratio of the soils was determined using a TRRL Dynamic Cone Penetrometer. The results of these tests are given in Appendix C. The CBR values at the formation level of the access road range from 4.5 to 11 percent, with typical values of about 8 percent. The TRRL have also published typical CBR values (TRRL Laboratory Report 1132) and for soils with a plasticity index of 20 percent equilibrium CBR is given as 5 to 6 percent.

It would be reasonable to adopt a CBR of 6 percent for the design of the access road. Any soft areas apparent during construction should be excavated by a further 300mm and the area made up with compacted crushed stone.

5.0 Contamination

The site was largely undisturbed; however a bund of soil had been built to screen the area. The bund was tallest on the northern boundary and the possibility of contamination in the fill was considered. Samples N^{os} 4, 5 and 7 were taken from the bunds. Other samples were taken from the topsoil in the central area of the site.

The samples were assayed for a range of common contaminants, including screening for asbestos of selected samples. The concentration of the various contaminants may be compared to be published site screening values for residential occupation (Table 1). None of the determinands were at concentrations that exceeded the site screening values and no asbestos was detected.

The site was assessed to be uncontaminated and no remediation will be required. When demolition of the existing bungalow undertaken. The excavations to remove the foundations should be inspected for the possible presence of contaminants. Similarly any excavations into the boundary bands should be visibly checked.

The Health Protection Agency map for the south region indicates the area may be at risk of emissions of radon gas and that basic radon protection should be provided.

6.0 Conclusion

The site in Roundstone Lane, Angmering proved to be underlain by brown silty clays (Brickearth) with Chalk at a depth of more than 4m. The site was found to be undisturbed, although bunds had been construction around the perimeter to screen the existing house.

The Brickearth was of an intermediate plasticity and of a firm to stiff consistency. The proposed houses may be founded on mass concrete strip footings designed to a nett allowable bearing capacity of 80 kN/m² and with a minimum depth of 0.90m. Near retained trees the foundation depth should be increased to comply with the NHBC Specification Chapter 4.2.

No contamination was found on the site or in the surrounding bunds, and no remediation of the site will be required. The area may be a risk of emissions of radon and a full radon assessment of the site should be obtained to confirm the need for basic radon protection measures in the design of the houses.

Investigation & Report by

W K Elson Ph.D., C.Eng., M.I.C.E.
Director
20th February 2018

TABLE 1**Site Screening Values for Soils****Metals**

Determinand	Screening Value	Reference
Arsenic	37 mg/kg	DEFRA SP1010 ¹
Boron (water soluble)	3 mg/kg 290 mg/kg	MAFF (1998) ³ LQM/CIEH ²
Cadmium	17 mg/kg	DEFRA SP1010 (2014) ¹
Chromium	910 mg/kg	LQM/CIEH ²
Copper	130 mg/kg 2400 mg/kg	MAFF (1998) ³ LQM/CIEH ²
Lead	200 mg/kg	DEFRA SP1010 ¹
Mercury (organic)	40 mg/kg	LQM/CIEH ²
Nickel	130 mg/kg	LQM/CIEH ²
Selenium	250 mg/kg	LQM/CIEH ²
Zinc	300 mg/kg 3700 mg/kg	MAFF (1998) ³ LQM/CIEH ²

cont.....

Site Screening Values for Soils

Organic Compounds

Determinand	Screening Value	Reference
Total PAH	50 mg/kg	WRAS Paper 9-04-03 ⁴
Benzo- α -pyrene	2.5 mg/kg	DEFRA SP1010 (2014) ¹
Fluorene	400 mg/kg	LQM/CIEH ²
Dibenzo (a,h) Anthracene	0.3 mg/kg	LQM/CIEH ²
Naphthalene	5.6 mg/kg	LQM/CIEH ²

¹ DEFRA Category 4 Screening Values SP1010 July 2014

² Generic Assessment Criteria for Human Health Assessment by Land Quality Management and Chartered Institute of Environmental Health, 2015 (S4UL).

³ The Soil Code MAFF 1998. Phyto-toxic criteria for plant growth.

⁴ Selection of Materials for Water Supply Pipes to be Laid in Contaminated Lane, WRSA Paper 9-04-03, October 2002.

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SITE INVESTIGATION

APPENDICES

A. Site Plan

B. Borehole Logs

Logs of Boreholes 1 to 10

C. Laboratory Test Results

D. Analytical Report 18-15878

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SITE INVESTIGATION

APPENDIX A

Site Plan

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SITE INVESTIGATION

APPENDIX B

Borehole Logs

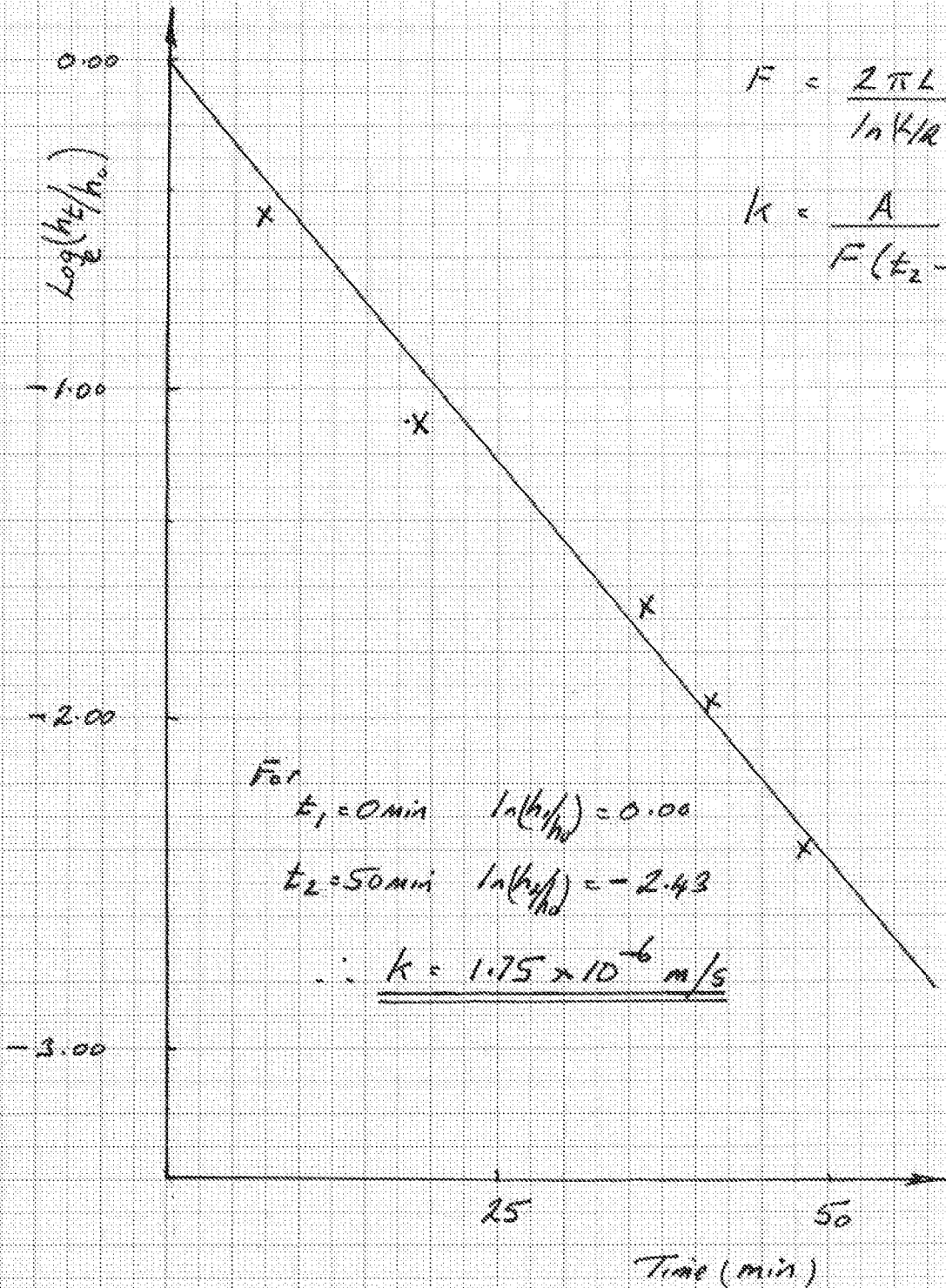
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ROUNDSTONE LANE, ANGMERING, SUSSEX

BOREHOLE N°1

FALLING HEAD PERMEABILITY TEST

Hvorslev M.I (1957)



$$F = \frac{2\pi L}{\ln(R/r)}$$

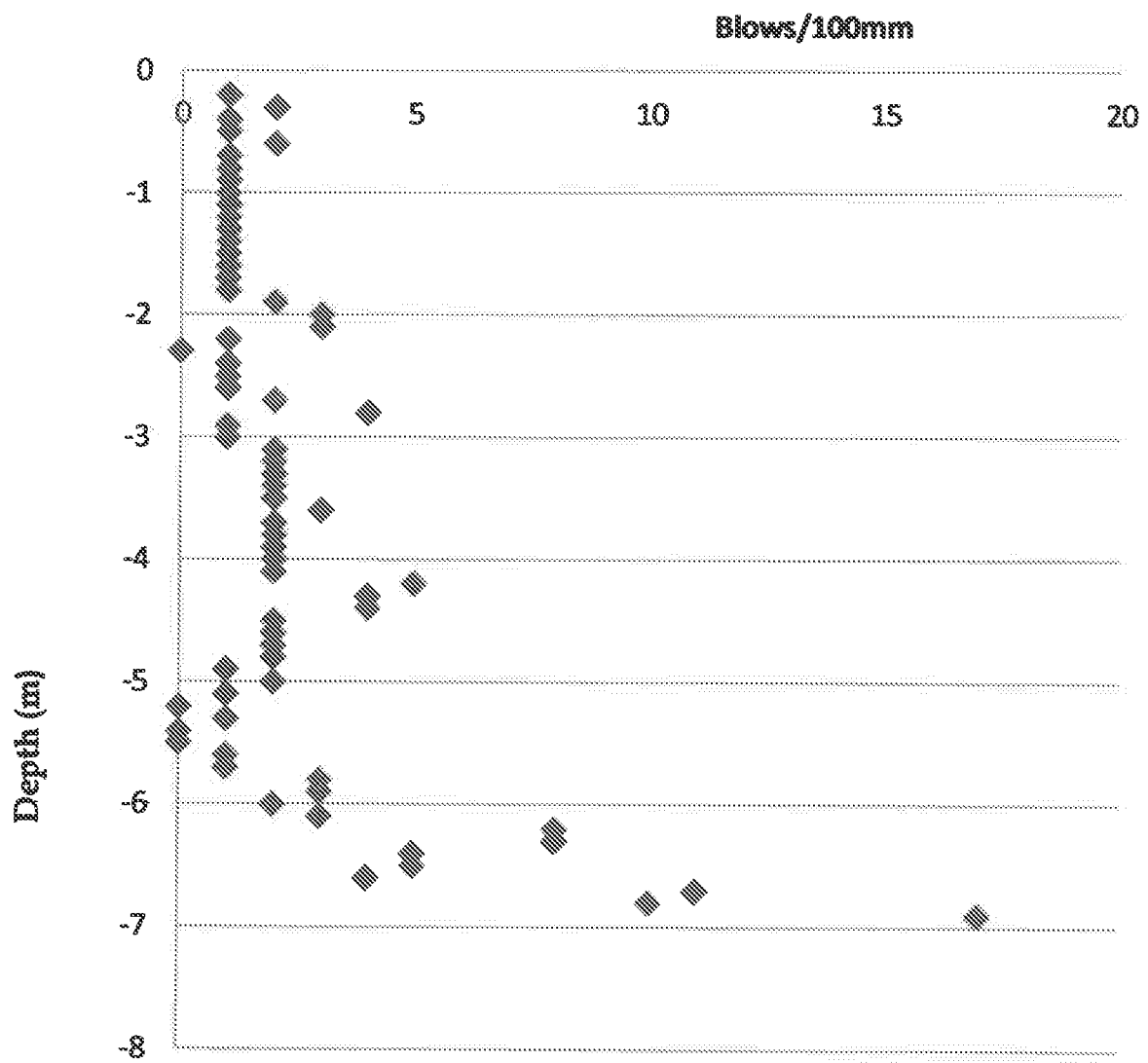
$$k = \frac{A}{F(t_2 - t_1)} \ln(h_1/h_2)$$

For $t_1 = 0 \text{ min}$ $\ln(h_1/h_0) = 0.00$

$t_2 = 50 \text{ min}$ $\ln(h_2/h_0) = -2.43$

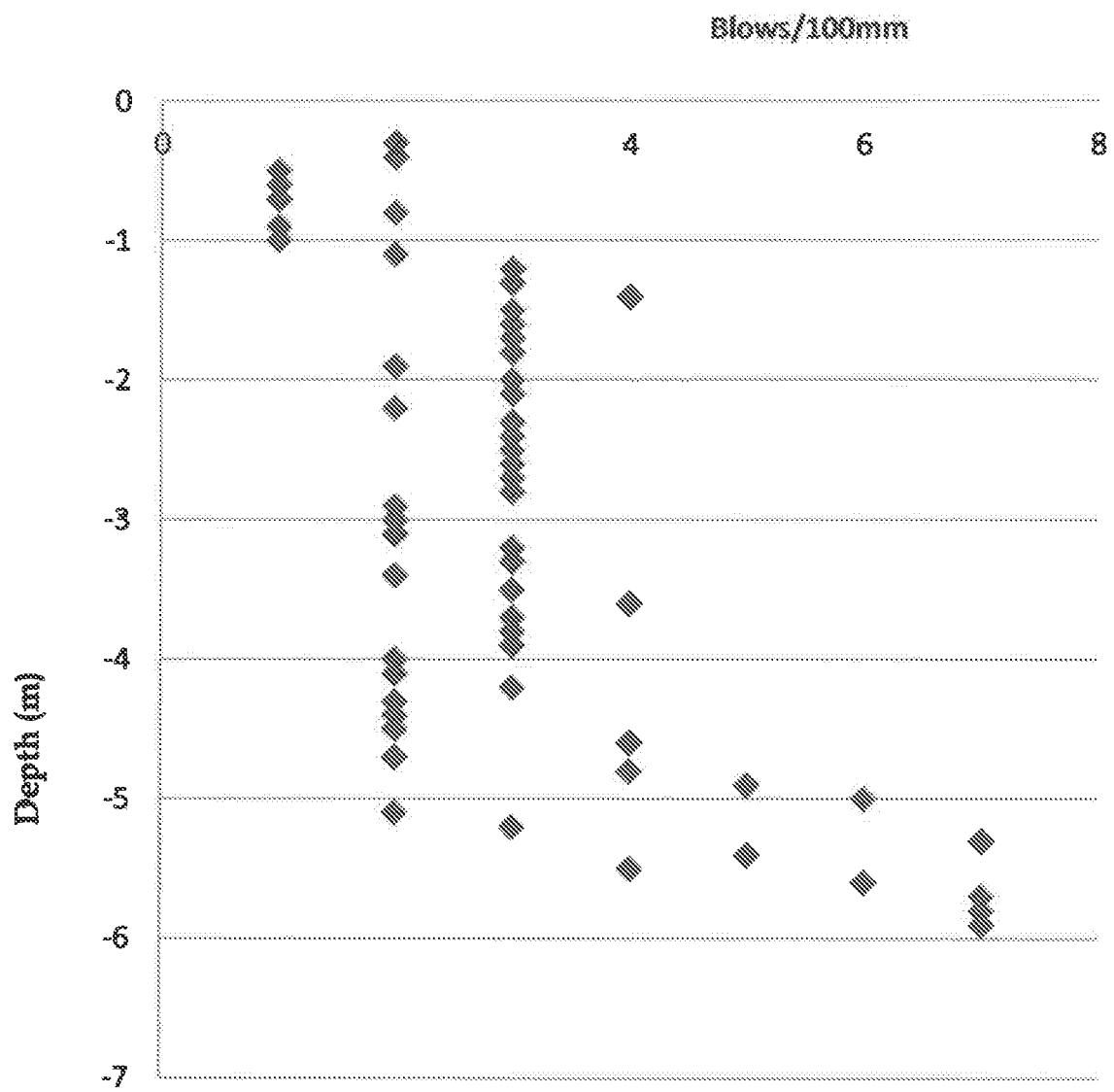
$\therefore \underline{\underline{k = 1.75 \times 10^{-6} \text{ m/s}}}$

DPT No WS1



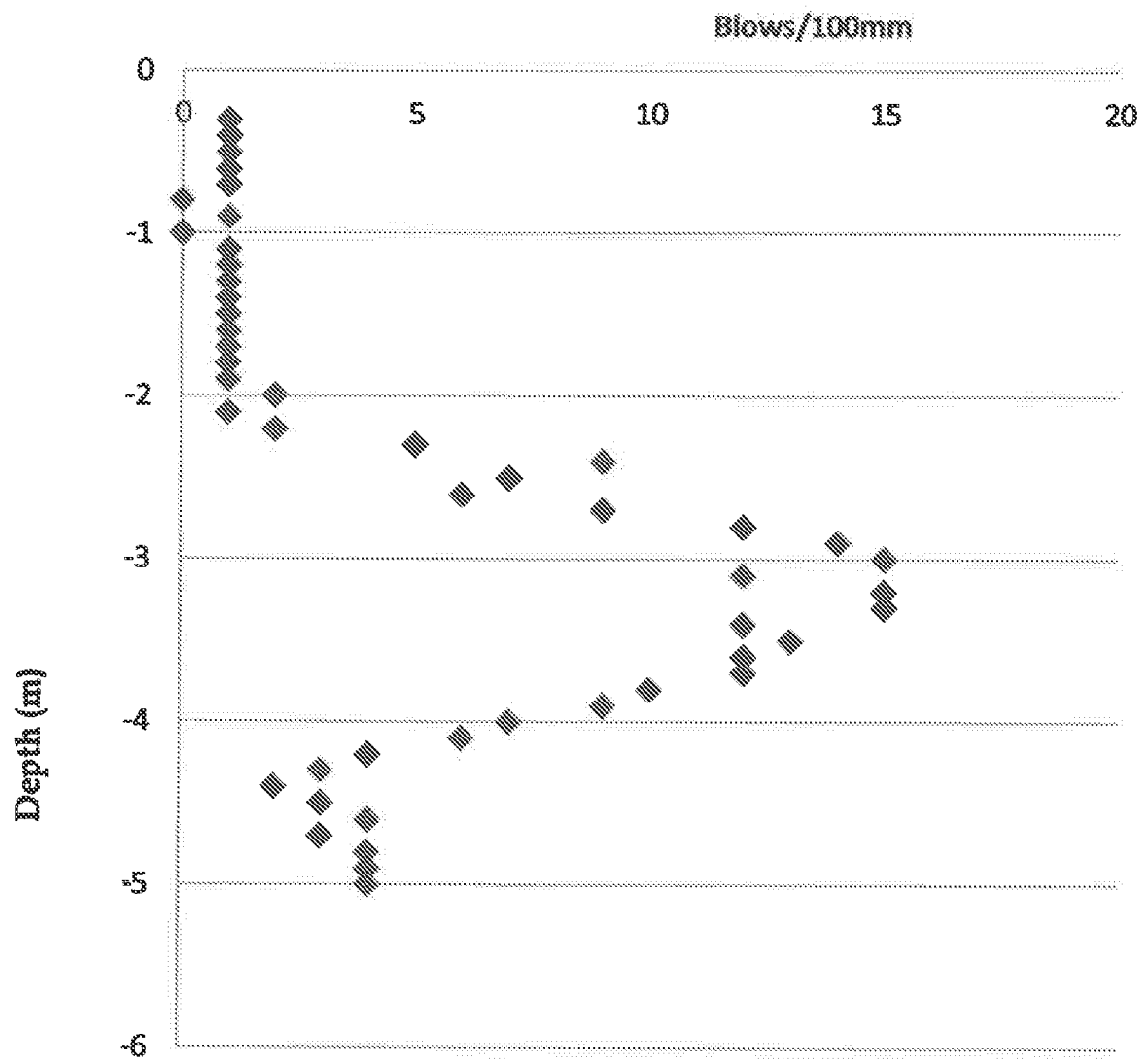
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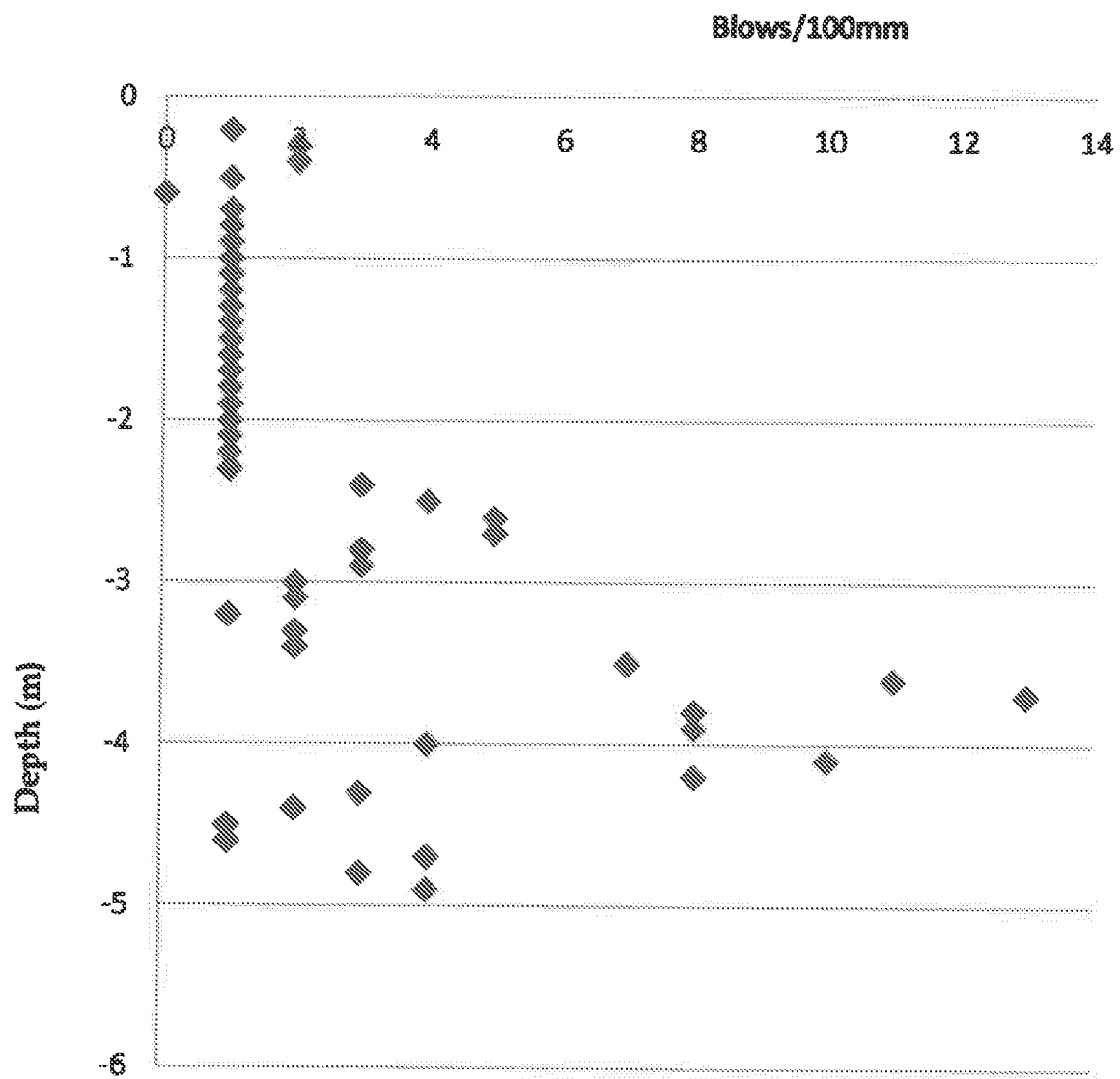
ARUN DISTRICT COUNCIL A/70/18/DOC

DPT No WS3



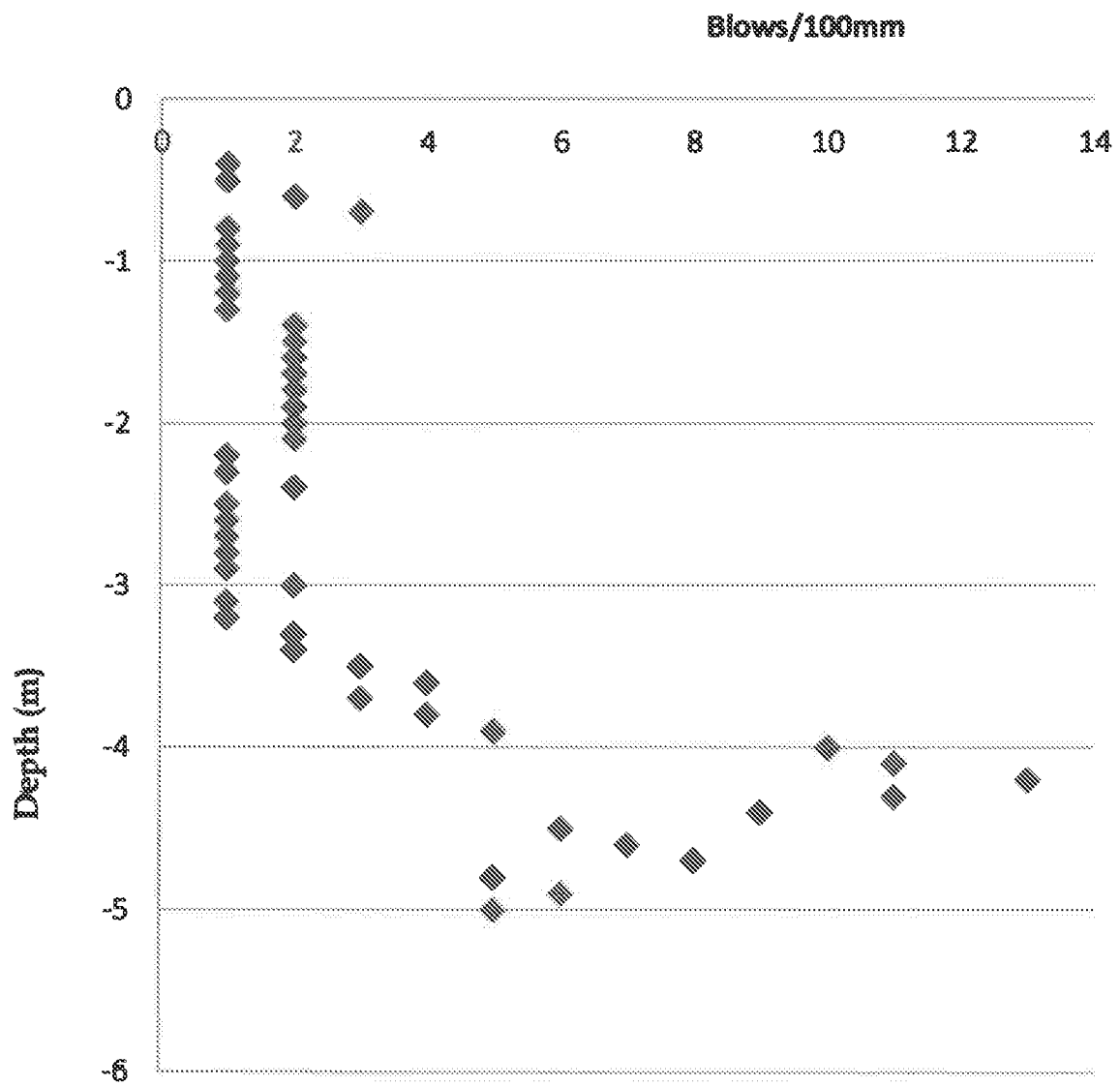
ARUN DISTRICT COUNCIL A/70/18/DOC

DPT No WS4



Project Title : ROUNDSTONE LANE ANGMERING						Project No.:	
TRIAL PIT RESULTS						Pit No. & Location	
Date : 17-01-18				Engineer :		BH 5	
Ground Level							
Description	Legend	water level	Depth	Reduced Level	Samples	Soils tests	Remarks
TOPSOIL			0m				
Brown silty CLAY, firm to stiff consistency			1m		D		
Occasional flint gravel bands			2m		D	V	Su = 78 kN/m²
					D		
Orange brown sandy CLAY, with increasing flint gravel			3.10m				
			4.00m	E.H. D			
KEY:- D Disturbed sample B Bulk sample W Water sample U Undisturbed				INSITU TESTS :- Shear strength in K Pa P Penetrometer V Vane test			

DPT No WS5



Project Title : ROUNDSTONE LANE ANGMERING							Project No.:
TRIAL PIT RESULTS							Pit No. & Location
Date : 17-01-18		Engineer : TH					BHG
Ground Level							
Description	Legend	water Level	Depth	Reduced Level	Samples	Soils Tests	Remarks
TOPSOIL			0m				
			0.40				
Light brown silty CLAY	X						
	X						
Orange ferruginous staining	X		1m		D		
	X						
Orange brown silty CLAY Trace gravel	X		2m		D		
	X						
	X						
	X						
	X						
Band of flint GRAVEL	AB		3.00 3.2				
Possibly clay band							No recovery.
White weathered CHALK	X		4.10				
	X						
	X						
	X						
	X		5.00		Full D		

KEY:-

D Disturbed sample

B Bulk sample

W Water sample

U Undisturbed

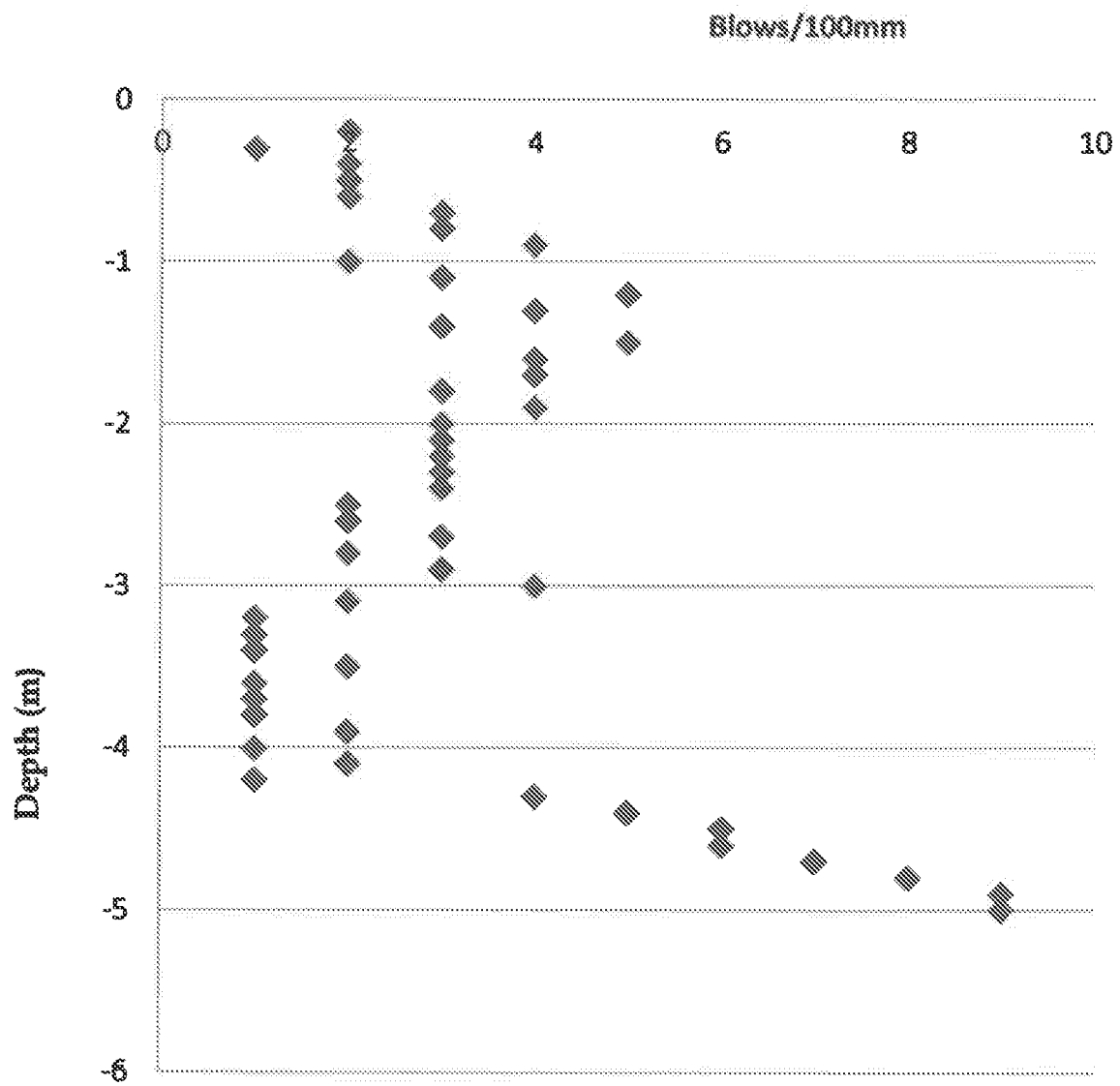
INSITU TESTS :-

Shear strength in K Pa

P Penetrometer

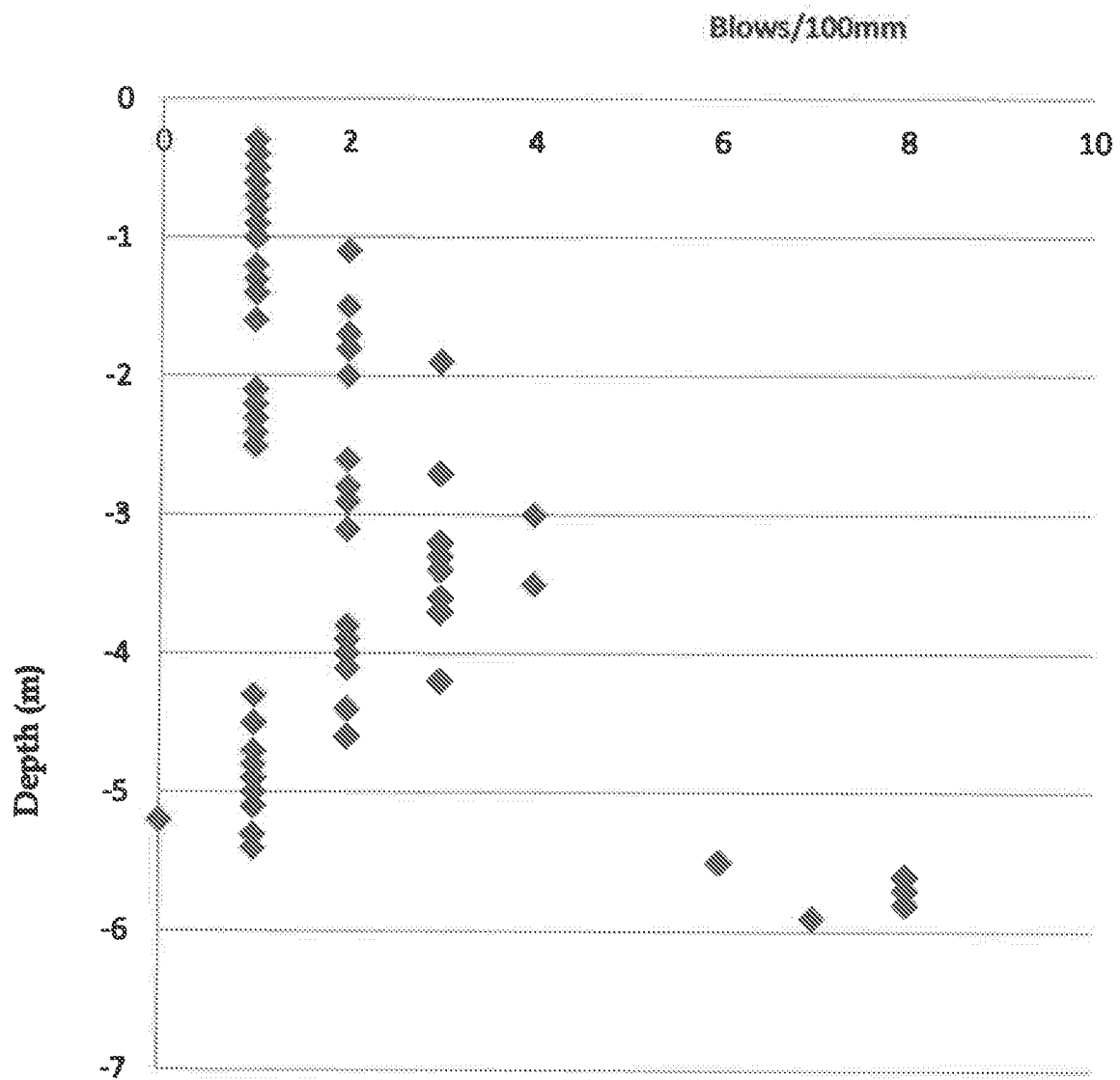
V Vane test

DPT No WS6



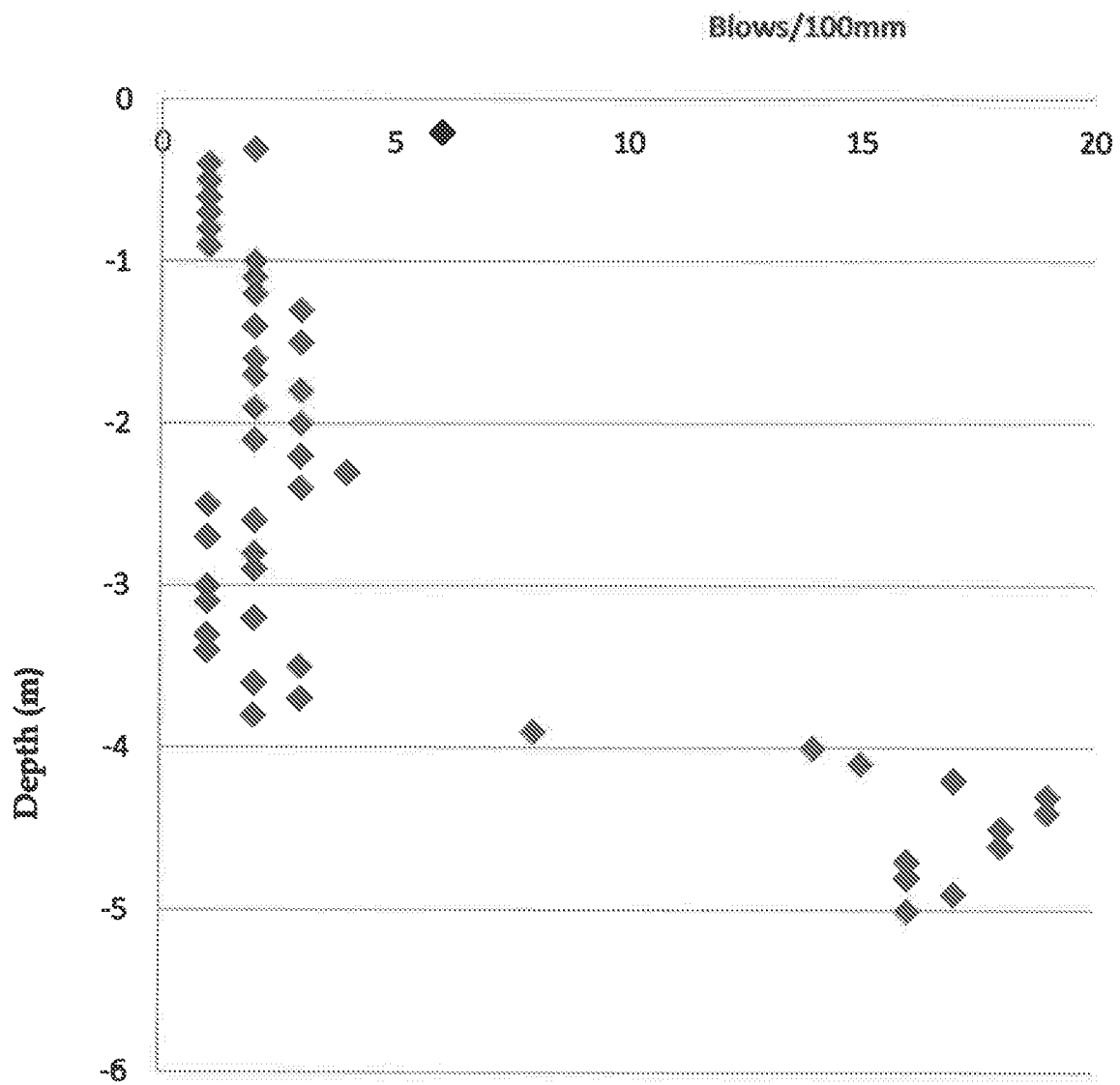
Project Title : ROUNSTONE LANE ANGMERING						Project No.:	
TRIAL PIT RESULTS						Pit No. & Location	
Date : 18-01-18 Engineer : WKR						BH 7	
Ground Level							
Description	Legend	Water Level	Depth	Reduced Level	Samples	In situ Tests	Remarks
<i>Thin concrete on gravel</i>			0m	0.15			
<i>Brown silt, CLAY, firm</i>							
<i>Orange brown silt, CLAY, dead roots</i>			0.70				
<i>Occasional band of flint gravel</i>			1m		D	V	$S_{cl} = 95 \text{ kN/m}^2$
<i>Brown yellowish silt, CLAY, occasional fine flint gravel</i>			2.00		D		
<i>Flint GRAVEL with clay matrix. Medium dense</i>			2.50				
					D		
			3m				
					D		
			4.00	EotH			
KEY:- D Disturbed sample B Bulk sample W Water sample U UNDO Undisturbed				INSITU TESTS :- Shear strength in K Pa P Penetrometer V Vane test			

DPT No WS7



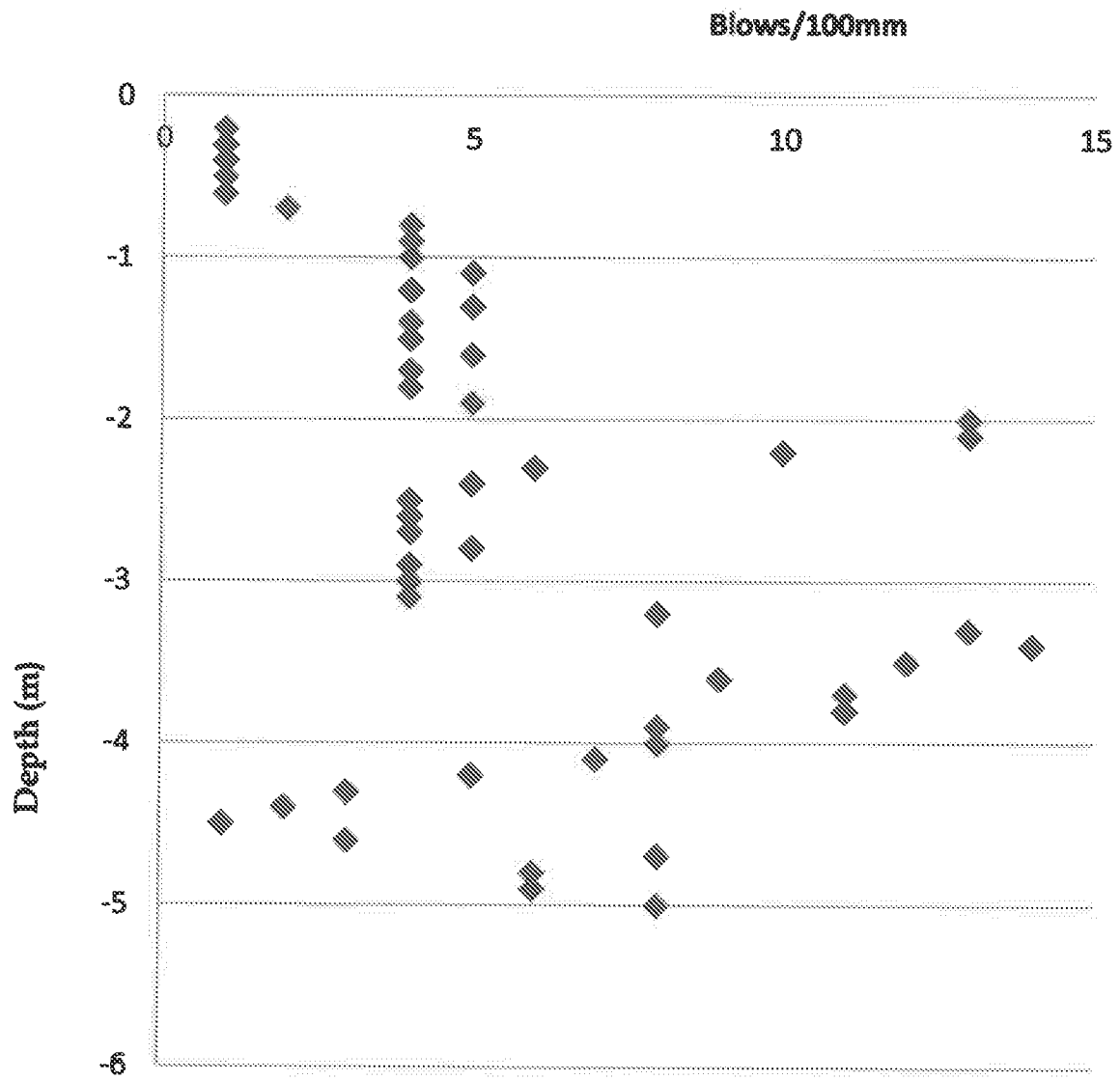
ARUN DISTRICT COUNCIL A/70/18/DOC

DPT No WS8



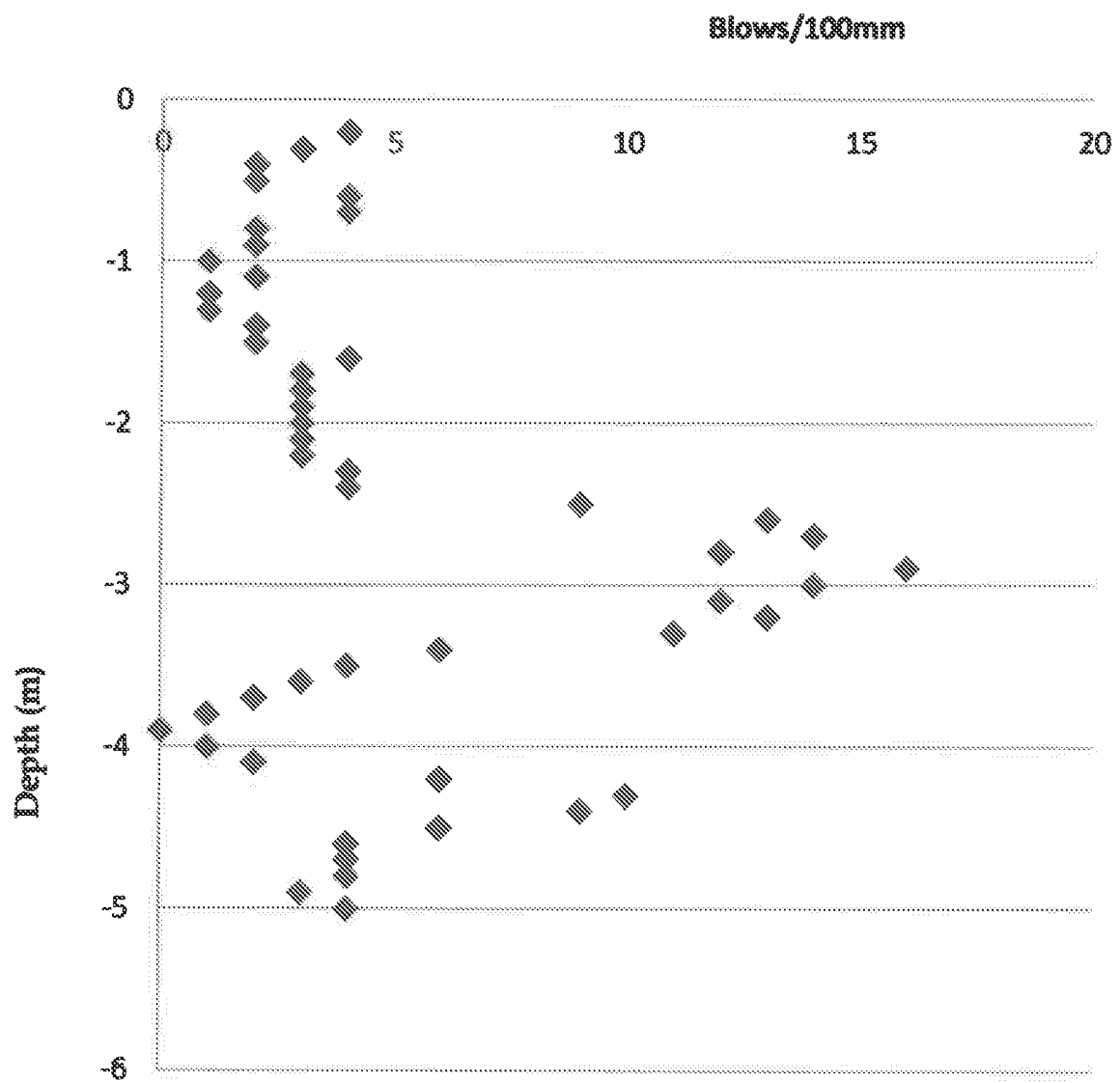
Project Title : <i>ROUNDSTONE LANE ANGMERING</i>						Project No: <i>5382</i>	
TRIAL PIT RESULTS						Pit No. & Location	
Date : <i>18-01-18</i> Engineer : <i>AKR</i>						<i>BH9</i>	
Ground Level							
Description	Legend	water Level	Depth	Reduced Level	Samples	In situ Tests	Remarks
<i>TOPSOIL</i>			0m				
			0.85				
<i>Orange brown silty CLAY, stiff consistency, dry. Burrows</i>	<i>1-2</i>				<i>D</i>	<i>V</i>	<i>S_u > 130 kN/m²</i>
	<i>1-3</i>						
	<i>1-4</i>						
	<i>1-5</i>						
	<i>1-6</i>						
	<i>1-7</i>						
	<i>1-8</i>						
<i>FLINT GRAVEL with silty clay matrix</i>	<i>1-9</i>		1.90		<i>D</i>		
	<i>1-10</i>		2m				
	<i>1-11</i>		2.90				
<i>Orange brown silty CLAY, Orange iron staining</i>	<i>1-12</i>						<i>Dry soil.</i>
<i>Fire roots</i>	<i>1-13</i>				<i>D</i>		
<i>Dense flint GRAVEL</i>	<i>1-14</i>		3.10				<i>Poor recovery</i>
	<i>1-15</i>						
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DPT No WS9



Project Title : <i>ROUNDSTONE LANE ANGMERING</i>						Project No: <i>5382</i>	
TRIAL PIT RESULTS						Pit No. & Location	
Date : <i>18-01-18</i> Engineer : <i>M.K.R.</i>						<i>BH10</i>	
Ground Level							
Description	Legend	water Level	Depth	Reduced Level	Samples	Soils Tests	Remarks
<i>Fill, chalk soil ash brick</i>			<i>0m</i>	<i>0.2m</i>			
<i>Orange brown silty CLAY</i>							
<i>firm consistency</i>					D	V	<i>Su = 60 kN/m²</i>
<i>Ditto with trace of</i>			<i>1m</i>				
<i>flint gravel</i>							
<i>Mass flint GRAVEL</i>			<i>2m</i>		D		
<i>with clay matrix.</i>							
<i>Dense</i>			<i>3.10m</i>		D		
<i>Orange fine SAND,</i>							
<i>slightly silty</i>			<i>4.00m</i>	<i>EoH</i>	D		
KEY:-				INSITU TESTS :-			
D	Disturbed sample			Shear strength in K Pa			
B	Bulk sample			P Penetrometer			
W	Water sample			v Vane test			
U	U100 Undisturbed						

DPT No WS10



HEMSLEY CONSULTING LTD
ROUNDSTONE LANE, ANGMERING, WEST SUSSEX
SITE INVESTIGATION

APPENDIX C

Laboratory Test Results (1 of 2)

Water Content

Borehole No	1	1	1	1	2	2	2	2	3	3	3	3
Depth (m)	1.00	2.00	3.00	4.00	1.00	2.00	3.00	4.00	1.00	2.00	3.00	4.00
Water Content (%)	23.4	20.4	25.0	9.2	20.5	17.0	15.7	20.6	23.0	19.4	9.00	6.4

Borehole No	4	4	4	5	5	5	5	6	6	6
Depth (m)	1.00	2.00	3.00	1.00	2.00	3.00	4.00	1.00	2.00	5.00
Water Content (%)	19.3	19.1	18.9	23.0	20.6	10.7	12.5	17.4	18.7	20.8

Borehole No	7	7	7	7	8	8	8	8	9	9	9	9
Depth (m)	0.90	1.90	2.70	3.50	0.90	1.90	2.90	3.90	0.90	1.80	2.90	3.90
Water Content (%)	23.8	22.7	11.1	11.3	21.6	14.7	29.0	16.8	14.7	15.3	13.3	12.0

Borehole No	10	10	10	10
Depth (m)	0.90	1.90	2.90	3.90
Water Content (%)	22.3	15.0	10.5	19.1

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SITE INVESTIGATION

Laboratory Test Results (2 of 2)

Atterberg Limits

Sample Reference	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Soil Classification
BH1 1.00m	38	20	18	CI
BH3 1.00m	39	20	19	CI
BH5 1.00m	39	20	19	CI
BH6 2.00m	43	21	22	CI
BH7 0.90m	43	21	22	CI
BH8 1.90m	32	17	15	CL
BH9 1.80m	44	19	25	CI

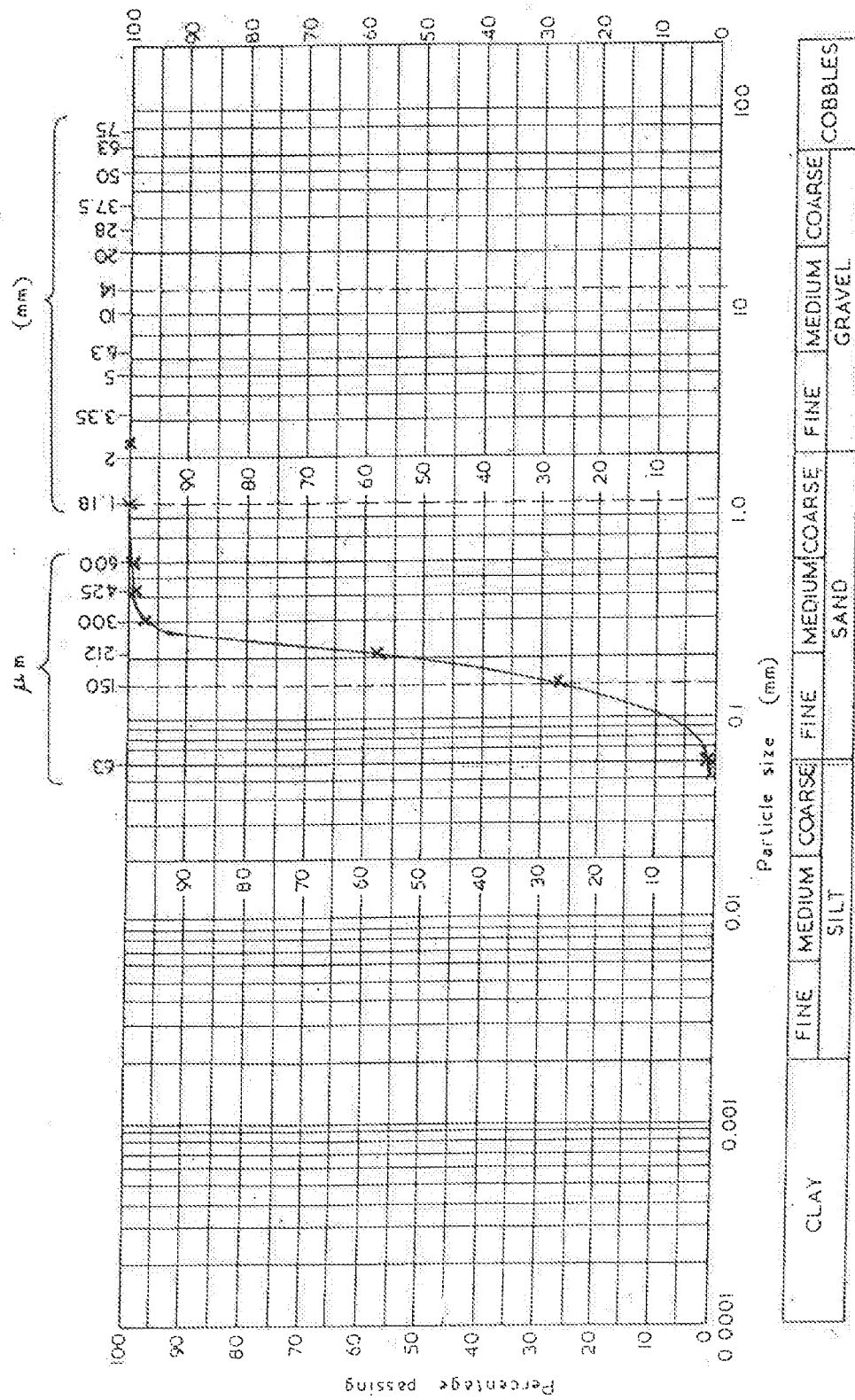
Grading Analysis

Sample Reference	Coarse Sand (%)	Medium Sand (%)	Fine Sand (%)	Fines (%)
BH3 4.00m	1	47	51	1

Californian Bearing Ratio

Location \ Depth(mm)	Californian Bearing Ratio (%)		
	300	600	900
CBR 1	3.5	4.5	8
CBR2	6	8	10
CBR3	8	8	8
CBR4	2	11	8

TRRL Dynamic Cone Penetrometer



Operator: *M.K.Q.*

Date: *02-02-18*

Description of soil: *Light brown medium to fine SAND*

Job:

Site: *ROUNSTONE LANE AND MERING*

Borehole No: *3*

Sample No:

Depth of sample *14.00 m*

British Standard test sieves

HEMSLEY CONSULTING LTD
ROUNDSTONE LANE, ANGMERING, WEST SUSSEX
SITE INVESTIGATION

APPENDIX D

Analytical Report



2683



Unit A2
Windmill Road
Ponswood Industrial Estate
St Leonards on Sea
East Sussex
TN38 9BY

THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 18-15878

Issue: 1

Date of Issue: 01/02/2018

Contact: Keith Elson

Customer Details: Hemsley Consulting Ltd
Park Farm
Unit 9
Wivelsfield Green
West Sussex RH17 7RU

Quotation No: Q14-00022

Order No: Not Supplied

Customer Reference: Not Supplied

Date Received: 24/01/2018

Date Approved: 01/02/2018

Details: Roundstone Lane Angmering

Approved by:

John Wilson, Operations Manager

Any comments, opinions or interpretations expressed herein are outside the scope of UKAS accreditation (Accreditation Number 2683)



Sample Summary

Report No.: 18-15878

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
124718	CBR1 0.30	18/01/2018	24/01/2018	Silty loam	
124719	CBR2 0.30	18/01/2018	24/01/2018	Silty loam	
124720	TP4 0.50	18/01/2018	24/01/2018	Silty loam	
124721	TP5 0.50	18/01/2018	24/01/2018	Silty loam	
124722	TP6 0.20	18/01/2018	24/01/2018	Silty loam	
124723	TP7 0.20	18/01/2018	24/01/2018	Silty loam	
124724	CBR3 0.30	18/01/2018	24/01/2018		



Results Summary

Report No.: 18-15878

2683

ELAB Reference	124718	124719	124720	124721	124722	124723
Customer Reference						
Sample ID						
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Location	CBR1	CBR2	TP4	TP5	TP6	TP7
Sample Depth (m)	0.30	0.30	0.50	0.50	0.20	0.20
Sampling Date	18/01/2018	18/01/2018	18/01/2018	18/01/2018	18/01/2018	18/01/2018

Determinand	Codes	Units	LOD						
Metals									
Arsenic	M	mg/kg	1	10.0	14.1	12.0	13.3	14.8	13.1
Cadmium	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	M	mg/kg	5	20.6	27.6	26.6	27.9	29.0	26.3
Copper	M	mg/kg	5	18.7	28.1	23.4	28.5	24.7	61.6
Lead	M	mg/kg	5	31.5	62.4	47.2	68.6	55.1	105
Mercury	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5	13.5	17.1	17.4	18.2	16.5	18.4
Selenium	M	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc	M	mg/kg	5	90.2	93.6	83.4	99.2	120	157
Inorganics									
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Water Soluble Boron	N	mg/kg	0.5	0.5	0.9	0.9	0.8	1.0	1.3
Miscellaneous									
pH	M	pH units	0.1	6.9	6.9	7.2	7.7	6.9	6.5
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	0.3	0.3	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1	2.4	< 0.1	< 0.1	< 0.1	0.1
Anthracene	M	mg/kg	0.1	< 0.1	0.7	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	0.2	4.7	0.1	0.2	< 0.1	0.4
Pyrene	M	mg/kg	0.1	0.2	4.3	0.1	0.1	< 0.1	0.3
Benzo(a)anthracene	M	mg/kg	0.1	0.1	2.0	< 0.1	0.1	< 0.1	0.3
Chrysene	M	mg/kg	0.1	0.1	2.1	< 0.1	0.1	< 0.1	0.3
Benzo(b)fluoranthene	M	mg/kg	0.1	0.1	1.6	< 0.1	0.2	< 0.1	0.3
Benzo(k)fluoranthene	M	mg/kg	0.1	0.2	1.9	0.3	0.4	0.2	0.6
Benzo(a)pyrene	M	mg/kg	0.1	0.1	1.9	< 0.1	0.1	< 0.1	0.3
Indeno(1,2,3-cd)pyrene	M	mg/kg	0.1	< 0.1	1.1	< 0.1	0.1	< 0.1	0.2
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(g,h,i)perylene	M	mg/kg	0.1	< 0.1	1.1	< 0.1	< 0.1	< 0.1	0.2
Total PAH(16)	M	mg/kg	0.4	1.7	24.4	0.6	1.2	0.6	3.2



25003

Unit A2, Windmill Farm, Ponscroft Industrial Estate, Sillemonds on Sea, East Sussex, TN38 0BY
Tel: +44 (0)1424 718818, Email: info@elab-uk.co.uk, Web: www.elab-uk.co.uk

Results Summary

Report No.: 18-15878

Asbestos Results

Analysis result only applies to the sample as submitted by the client. Any subsequent investigation or remediation (if required) is the responsibility of the client.

Elab No	Depth (m)	Client's Reference	Description of Sample Matrix #	Asbestos Identification	Gravimetric Analysis Total (%)	Gravimetric Analysis by ACM Type (%)	Free Fibre Analysis (%)	Total Asbestos (%)
124720	0.50	TP4	brown soil (clay) with stones	No asbestos detected	n/a	n/a	n/a	n/a
124721	0.50	TP5	brown soil (clay) with stones and clinker	No asbestos detected	n/a	n/a	n/a	n/a
124722	0.50	TP6	brown soil (clay) with stones	No asbestos detected	n/a	n/a	n/a	n/a
124723	0.20	TP7	brown soil (clay) with stones and clinker	No asbestos detected	n/a	n/a	n/a	n/a



Method Summary

Report No.: 18-15878

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Hexavalent chromium	N	As submitted sample	29/01/2018	110	Colorimetry
pH	M	Air dried sample	30/01/2018	113	Electromeric
Aqua regia extractable metals	M	Air dried sample	30/01/2018	118	ICPMS
PAH (GC-FID)	M	As submitted sample	27/01/2018	133	GC-FID
Water soluble boron	N	Air dried sample	30/01/2018	202	Colorimetry
Asbestos identification	U	As submitted sample	27/01/2018	PMAN	Microscopy

Tests marked N are not UKAS accredited



Report Information

Report No.: 18-15878

Key

U	hold UKAS accreditation
M	hold MCERTS and UKAS accreditation
N	do not currently hold UKAS accreditation
^	MCERTS accreditation not applicable for sample matrix
*	UKAS accreditation not applicable for sample matrix
S	Subcontracted to approved laboratory UKAS Accredited for the test
SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
I/S	Insufficient Sample
U/S	Unsuitable sample
n/t	Not tested
<	means "less than"
>	means "greater than"

Soil sample results are expressed on an air dried basis (dried at < 30°C)

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

PCB congener results may include any coeluting PCBs

Uncertainty of measurement for the determinands tested are available upon request

Deviation Codes

-
- | | |
|---|--|
| a | No date of sampling supplied |
| b | No time of sampling supplied (Waters Only) |
| c | Sample not received in appropriate containers |
| d | Sample not received in cooled condition |
| e | The container has been incorrectly filled |
| f | Sample age exceeds stability time (sampling to receipt) |
| g | Sample age exceeds stability time (sampling to analysis) |

Where a sample has a deviation code, the applicable test result may be invalid.

Sample Retention and Disposal

All soil samples will be retained for a period of one month

All water samples will be retained for 7 days following the date of the test report

Charges may apply to extended sample storage