

# ENVIRONMENTAL STATEMENT – VOLUME 3 – APPENDIX 12.5

# **Geotechnical Desk Study, Report No A7101-17**

# **Drax Bioenergy with Carbon Capture and Storage**

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations, 2009 -Regulation 5(2)(a) Document Reference Number: 6.3.12.5 Applicant: Drax Power Limited PINS Reference: EN010120



REVISION: 01 DOCUMENT OWNER: Socotec UK Limited PUBLIC



## DRAX POWER STATION, SELBY

## **GEOTECHNICAL DESK STUDY**

## Report No A7101-17

December 2017

Carried out for: Drax Power Ltd Drax Power Station Selby North Yorkshire YO8 8PH





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### Report No A7101-17

#### December 2017

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#### 1 INTRODUCTION

In November 2017 SOCOTEC UK Limited (formerly known as ESG) was commissioned by Drax Power Limited,to carry out a geotechnical desk study for a site at Drax Power Station, Selby, North Yorkshire. The desk study was required to collate and summarise information regarding the anticipated ground conditions for a location associated with the proposed coal to gas repowering of the Power Station.

This report presents a review of published geological information, historical information and existing ground investigation records, and the preparation of a preliminary geotechnical ground model. It makes initial recommendations for possible foundation solutions and also gives recommendations for further intrusive ground investigation works..

There have been several ground investigations carried out on the Drax Power Station site and within the wider area. These date from the late 1960s, when the Power Station was built, through to the present day. The findings of a selection of those available to SOCOTEC have been used in the writing of this report; details are provided in Section 3 below.

An Environmental Impact Assessment (EIA) has been prepared for the proposed development by WSP. The EIA presents an overview of the proposed scheme as follows;

Drax Power Ltd is seeking development consent to convert up to two existing coal fired units to gas, capable of generating up to 3,600MW. Drax Power Ltd is also seeking development consent to construct a battery storage facility with capacity of up to 200MW.

No detailed information is available on the layout, levels, loadings etc., however a requirement to support a 200 kPa bearing pressure has been indicated by Drax Power Ltd.



#### 2 SITE SETTING

#### 2.1 Location and Description

Drax Power Station is located 6 km south east of Selby in North Yorkshire, at National Grid reference SE 666 274, see Site Location Plan in Appendix A.

The area proposed for development is indicated as Area F on the Site Layout Plan in Appendix A. It comprises an irregular parcel of land, occupying approximately 11 ha, on the east side of Drax Power Station. To the north, west and south the area is bounded by the rest of the power station site, including buildings, roads, cooling towers, substations and other associated plant and equipment. To the east is New Road, running north to south parallel with the power station, with open farmland beyond.

#### 2.2 Site History

The construction of Drax Power Station started in the late 1960s, prior to this it was predominantly open farm land with some small roads. The power station has been developed since that time, including improvements to the infrastructure, rail and road access, as well as upgrades and expansion based on technological advances.

#### 3 PUBLISHED GEOLOGY AND PREVIOUS SITE INVESTIGATIONS

#### 3.1 Published Geological Information

The published geological map for the area, BGS Sheet 79 Goole (1972), and the BGS Geology of Britain Viewer (2017) show the site located on the Hemingbrough Glaciolacustrine Formation (HGF), formerly known as the 25-Foot Drift of Vale of York, comprising clay, silt and sand (with rare dropstones of fine pale sandstone, grey limestone and dark mudstone).

Some localised areas of the overlying Breighton Sand Formation (BSF) (formerly Sand of 25-Foot Drift of Vale of York) are shown on the site and around the wider area.

The underlying bedrock is shown as the Sherwood Sandstone Group.



The geology presented on BGS Geology of Britain Viewer has been used to prepare the Geological Plan presented in Appendix A, which also includes historical borehole locations discussed later.

#### 3.2 **Previous Investigations**

There are a number of site and ground investigation reports associated with the development of Drax Power Station, spanning from the late 1960s to the present. A selection of these have been used in this review of the anticipated geology; the reports referenced herein are summarised below:

Report Number	Report Title	Report Date	Report Author (Company)	Borehole IDs (discussed below)
4958/1	Site Investigation for Turbine Hall and Boiler House	Jun 1968	Soil Mechanics (Now SOCOTEC UK Ltd.)	C162, C163, C167 and C169
4958/2	Site Investigation for Cooling Towers	Feb 1968	Soil Mechanics (Now SOCOTEC UK Ltd.)	CT1/45, CT2/165 and CT3/45
44354-001-420	Drax, Humberside	Jan 2000	Dames and Moore	BH7, BH8, WS126, WS127, WS129, WS130, WS130, WS131 and WS132
A1047-11/2	Drax Power Station – Project Phoenix	Sep 2011	ESG / Soil Mechanics (Now SOCOTEC UK Ltd.)	BH05, BH12 and BH13
A2048-12	Drax Boiler Distribution System	Sep 2012	ESG / Soil Mechanics (Now SOCOTEC UK Ltd.)	-

 Table 1:
 Historical Ground Investigation Reports Referenced in this Report

To facilitate comparison between the borehole logs from the various ground investigations, including producing sections, selected historical borehole information has been entered into our database. This includes the drilled dates, company responsible and strata descriptions. A postfix to borehole nomenclature has been used to indicate the year in which the hole was drilled, e.g. BH07-2000. The original borehole logs are also provided in Appendix B which include all recorded data.

For borehole locations where National Grid co-ordinates were not available these have been approximated by scaling from the available drawings.

Four Section Lines have been plotted to illustrate the variation in stratigraphy across the site, these are presented as Sections A to D in Appendix A and are accompanied by a Section Plan showing the orientation of each section.



#### 4 GROUND CONDITIONS

#### 4.1 Summary of Historical Ground Investigations

The ground conditions as summarised in each of the historical ground investigations are presented below. These are as presented in the relevant reports, with metrication of depths where necessary.

Table 2:	SI for Turbine Hall and Boiler House (4958/1) and SI for Cooling Towers (4958/2)
----------	--

	Range of Thicknesses		
Strata description	Feet and inches	Metres	
Made Ground	0 to 12 ft.	0 to 3.7 m	
Firm brown laminated CLAY with brown silty partings. The clay becomes silty and the laminations die out with depth. The clay generally contains sandy layer at depth of approximately 20ft. (6.1m).	20 ft. to 42 ft.	6.1 m to 12.8 m	
Loose, moderately compact and compact grey SILT with many bands of brown clay and red brown sand increasing in number towards the base	5 ft. to 24 ft. 4 in.	1.5 m to 7.4 m	
Generally medium dense to very dense fine and some medium red brown SAND with some bands of clay and silt near the top. Traces of gravel and cobbles were also found.	Penetrated to a max of 17 ft. 11 in.	Penetrated to a max of 5.5 m.	

#### Table 3: Drax Power Station – Project Phoenix (A1047-11/2)

Strata description	Range of Thicknesses (m)	Remarks
MADE GROUND	0.65-3.4 m	
VALE OF YORK DEPOSITS	7.2 to 17.0 m	Top of stratum 1.18 to 3.07 mOD
Cohesive - Brownish grey sandy gravelly CLAY with silt partings, locally laminated	0.2-16.0 m	
Granular – Reddish to orangish brown clayey/silty SAND with occasional gravel	0.2-5.5 m	
SHERWOOD SANDSTONE	Penetrated up to 5.8 m	Top of stratum at -8.64 to -15.72 mOD

#### 4.2 Made Ground

The made ground encountered across the site was found to be variable in thickness and nature, comprising both granular and cohesive strata. Areas of overlying hard surfacing are recorded in parts.



The 2000 investigation comprised several comparatively shallow dynamic (window) sampled boreholes. Two of these were within the proposed development area, WS129 and WS130, and as such are considered more representative. They encountered made ground to 1.7 and 2.7 m depth, comprising hard surfacing over predominantly granular material.

Across other areas of the site made ground was encountered to maximum depths of around 4 m, although these thicknesses are not anticipated within the proposed development area.

#### 4.3 Hemingbrough Glaciolacustrine Formation (HGF)

#### 4.3.1 Description and thicknesses

Below the made ground, HGF (formerly 25-Foot Drift of Vale of York) was encountered across the site. This is generally described as firm, slightly sandy clay, with varying colour and localised laminations and silt partings.

The variation in depths and thicknesses is shown on the Sections presented in Appendix A. These show the HGF extending to reduced levels of between about -9 and -13 mOD. The shallowest being at the southern end of the power station, but with no significant dip.

The material at the base of the older holes (1968), between about -7 mOD, is described as silt with layers of clay and sand near the base. This may represent some of the localised silty sands identified in some of the more recent boreholes, possibly a gradational boundary between the HGF and the underlying SSG.

Some localised sand bands / thin strata were identified across the site, including those towards the base of the HGF. There is also a stratum of sand at shallow depth in BH08-2000, this may be part of the BSF which is present locally on the site.

#### 4.3.2 Material Properties

The site investigation for the Project Phoenix scheme in 2011, included some laboratory analysis on samples from the HGF. The relevant report section is shown below.

Atterberg limit determinations for the cohesive strata indicate a wide range of plasticity, from low to high, with Liquid Limits of 29 to 69 % and Plastic Limits of 16 to 27 %, and one sample noted as



non-plastic. Natural moisture contents range from 22 to 33 % and are somewhat closer to corresponding Plastic Limits.

The bulk density from triaxial test samples was between 1.8 and 2.2  $Mg/m^3$ .

The undrained shear strength profile assessed from the triaxial tests and correlations with SPT N values is shown on Figure 5 This suggests a general trend of increasing strength with depth, but some noticeably low strengths in BH12 and 13. A proposed design line is shown with a consistent strength of about 50 to 60 kPa between ground level and -2 mOD, then increasing with depth to about 120 kPa at -9 mOD, the average base of the stratum.

The SPTs carried out within the granular material recorded N values from 7 to greater than 50 blows indicating a loose to very dense relative density with an indication of an increase in density with depth, see Figure 6.

Figures 5 and 6 from this report are included in Appendix A.

The reference to low strength clays in BH12 and 13 indicate variability within the HGF. Borehole BH12 has been included in the Sections, presented in Appendix A, to show the depths of strata and not to highlight the lower strength.

#### 4.4 Breighton Sand Formation (BSF)

Sand of the BSF is expected to overly the HGF locally across the proposed development area. However, the historical information doesn't differentiate the former 25-Foot Drift of Vale of York, other than discussing cohesive and granular strata.

The BGS online lexicon describes the BSF as, yellow to pale brown and reddish yellow slightly clayey sand to silty sand with a variably developed very dusky red to black compressible peat to clayey sandy peat base.



#### 4.5 Sherwood Sandstone Group

The Sherwood Sandstone was encountered below the HGF across the site with little variation in the reduced level, generally between -9 and -13 mOD. The boundary between the two is not always clearly defined, it is gradational, with the upper SSG being weathered to sand and blending into the base of the HGF. The SSG was proven to depths of between around -12.5 and -16 mOD.

No records of rotary core drilling are available, although it is likely that some may have been completed in the past.

SPTs carried out within the SSG recorded blow counts generally in excess of 50, indicating a relative density of very dense where the material is described as sand. The sand would be expected to become increasingly cemented with further penetration, its behaviour becoming more like that of a rock. Its strength would generally be expected to increase with depth into the less weathered material, but it is likely to be only an extremely to very weak sandstone in the upper part.

#### 4.6 **Precautions Relating to Mine Workings**

The site is not in an area affected by coal workings at shallow depth, and certainly not at the depths of investigation carried out in the present study. It has been assumed that any consideration of deep coal mining activities will be carried out by others.

#### 4.7 Groundwater

The Dames and Moore Report, 2000, includes plans detailing the *shallow* and *deep* groundwater encountered across the site. The two plans are included in Appendix A.

The shallow groundwater is likely to be perched water above the HGF, generally within the made ground. It is shown to vary between about 1.9 and 4.6 mOD.

The plan showing the deep groundwater includes groundwater contour lines. These radiate away from two abstraction boreholes at the south west corner of the power station. Close to the wells the groundwater is shown at -10.8 mOD, rising to about 3 mOD beyond the northern boundary of the power station.



The current status of abstraction has not been investigated, but is presumably known to Drax. It is assumed that groundwater abstraction is continuing from these wells, and possibly from others, to provide supply for power station activities. If monitoring of existing borehole installations across the site has been carried out and this information is available, further review could be made.

#### 5 CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Anticipated Geology

There is limited information on the ground conditions directly beneath the proposed development area, however it is not expected to vary significantly from the findings across the wider site.

#### 5.2 Foundations

The early factual reports from 1968 do not include engineering recommendations. Also the extract from the Dames and Moore report, 2000, does not include the associated recommendations which are understood to be contained in the original document.

The Phoenix Project Report, 2011, made the following observations in relation to likely foundation options:

The site is not in an area affected by coal workings at shallow depth, and certainly not at the depths of investigation carried out in the present study. It has been assumed that any consideration of deep coal mining activities will be carried out by others.

The Made Ground should be regarded as an unsuitable founding stratum due to its variable composition and engineering properties.

Small area shallow foundations constructed at 2 mOD or deeper within the natural Vale of York Deposits could be considered. Using the strength profile discussed, a safe bearing pressure of 75 kPa could be used for preliminary design purposes, where the ground conditions conform to this assumption. These may be suitable for relatively small and lightly loaded parts of the proposed scheme. There will be time dependent settlements due to consolidation of the underlying clay. Reference should be made to the individual borehole logs where locally softer near surface material is indicated, to assess the suitability at these locations. It will be necessary to confirm the



soil strength by further investigation and inspection of exposed formations where construction is proposed at locations away from those investigated.

Column loads for the steel portal frame buildings have not been provided but would be expected to be not inconsiderable for the large structures proposed. It is likely that to provide adequate settlement control, and to avoid influence from the floor slab loading, these will require piled foundations taken to the dense sand/sandstone at -9 to -13 mOD.

Post construction settlement monitoring of the biomass domes for Project Phoenix showed settlements in excess of 50 mm; although loads and loaded areas not known, these are likely to be less onerous than those expected to be imposed in the proposed construction.

It is reasonable to assume that these recommendations are generally applicable across the proposed development area, and piled foundations would be necessary to support the anticipated loads advised (see Section 1) within acceptable performance limits, although depths to competent strata will vary. These should be treated as indicative parameters for feasibility / preliminary consideration only. A detailed ground investigation of the actual area will be required to confirm the stratigraphy and obtain information suitable for interpretation to provide appropriate geotechnical parameters for design.

#### 5.3 Recommendations

It is recommended that an intrusive ground investigation be carried out.

At this stage details of the proposed development have not been finalised, and therefore a detailed scope for ground investigation cannot be provided. However, we have provided an indicative scope based on the size of the site and the anticipated geotechnical hazards from the summarised geotechnical data in this report.



The ground investigation should aim to provide information for the following (the list is not exhaustive):

- Foundation design (considering both deep and shallow solutions)
- Floor slab design
- Pavement design
- Service trenches (stability, depth etc.)
- Concrete design (Aggressive chemical conditions)
- Groundwater (levels, flow and chemical properties)
- Existing foundations
- Contamination assessment
- Ground gas assessment

We understand that the proposed development area covers approximately 11 Ha. Given the fairly consistent ground conditions across the wider site we would suggest that, for an initial investigation, deep boreholes be spaced at approximately 60 m centres. This would require provisionally 30 boreholes / cone penetration tests.

The following table presents a proposed scope for a ground investigation to meet these requirements.

Investigation Technique / Hole Type	Number of Holes	Provisional depth (m)	Remarks
Cable percussive boreholes	20	12.0 to 16.0	Confirm ground conditions, obtain samples for inspection and lab testing, prove top of Sherwood Sandstone
Rotary cored boreholes	10	25.0 to 30.0	Rotary follow on to selected CP boreholes
Cone Penetration Testing (CPT)	10	12.0 to 16.0	Make indirect assessment of material types and strength, and prove top of Sherwood Sandstone
Dynamic (windowless)sample boreholes	20 (prov 4 days)	3.0 to 5.0	Prove base of made ground and obtain samples for geoenvironmental testing
Trial pits	20 (prov 5 days)	2.5 to 4.0	Assess stability for excavations, investigate existing foundations etc., sampling for geoenvironmental testing.
Gas and groundwater monitoring standpipes and standpipe piezometers	25	3.0 to 22.0	Installations in selected boreholes, targeting shallow and deep groundwater and possible ground gas.

 Table 4:
 Indicative Proposed Scope for Ground Investigation



Laboratory testing will be required on soils samples and rock cores to facilitate a geotechnical appraisal. Additionally consideration should be given to contamination analysis to assess potential risk to human health and environmental receptors, such as groundwater. Piled foundations can create preferential pathways for groundwater, that can elevate contamination migration risk from the made ground to the aquifer.

Post fieldwork gas and groundwater monitoring should be carried out, this may be complimented by historical groundwater data where available.

The actually scope of works should be refined once the proposed layout and the anticipated loadings are known.

It is likely that in critical areas the frequency of boreholes may be increased. This should be done with a combination of boreholes and CPTs, with the proportion of boreholes to CPTs adjusted to provide cost effective site coverage.



#### REFERENCES

BGS England and Wales Sheet 79 : 1972 : Goole. 1:50,000 geological map (solid and drift). British Geological Survey.

BGS Geology of Britain Viewer : 2017. www.bgs.ac.uk. British Geological Survey.

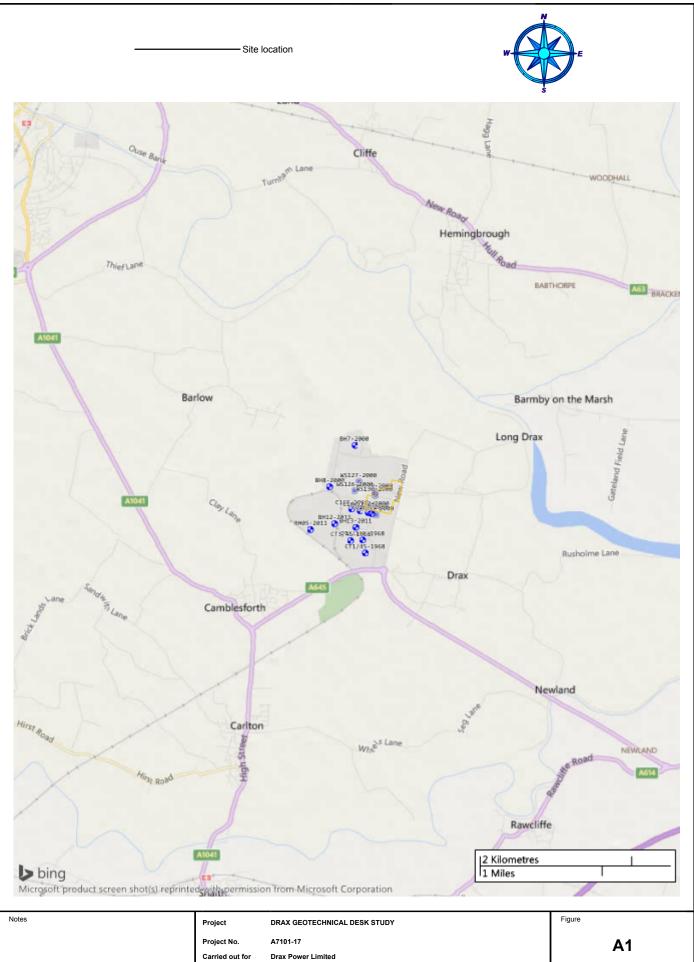


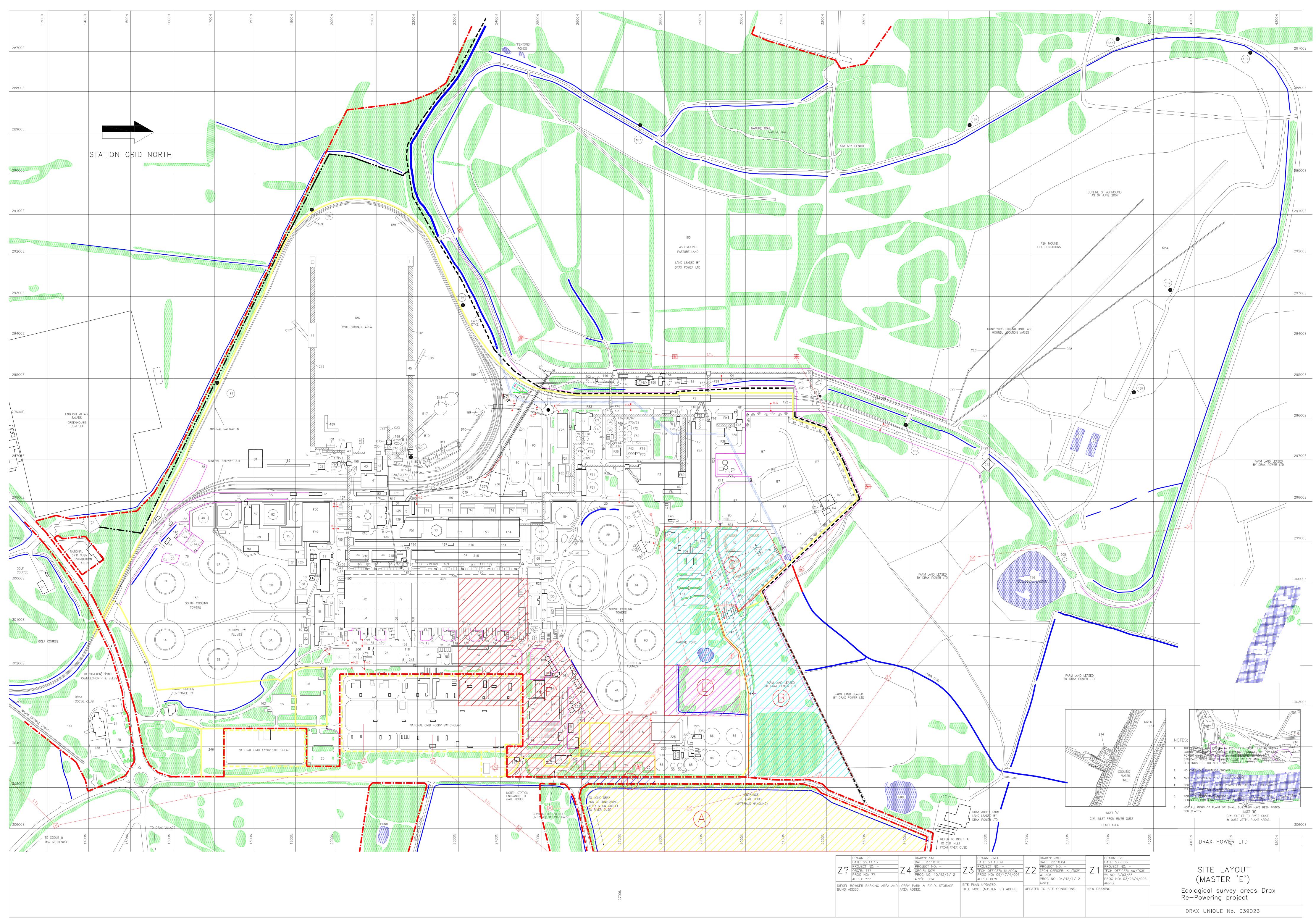
#### APPENDIX A FIGURES AND DRAWINGS

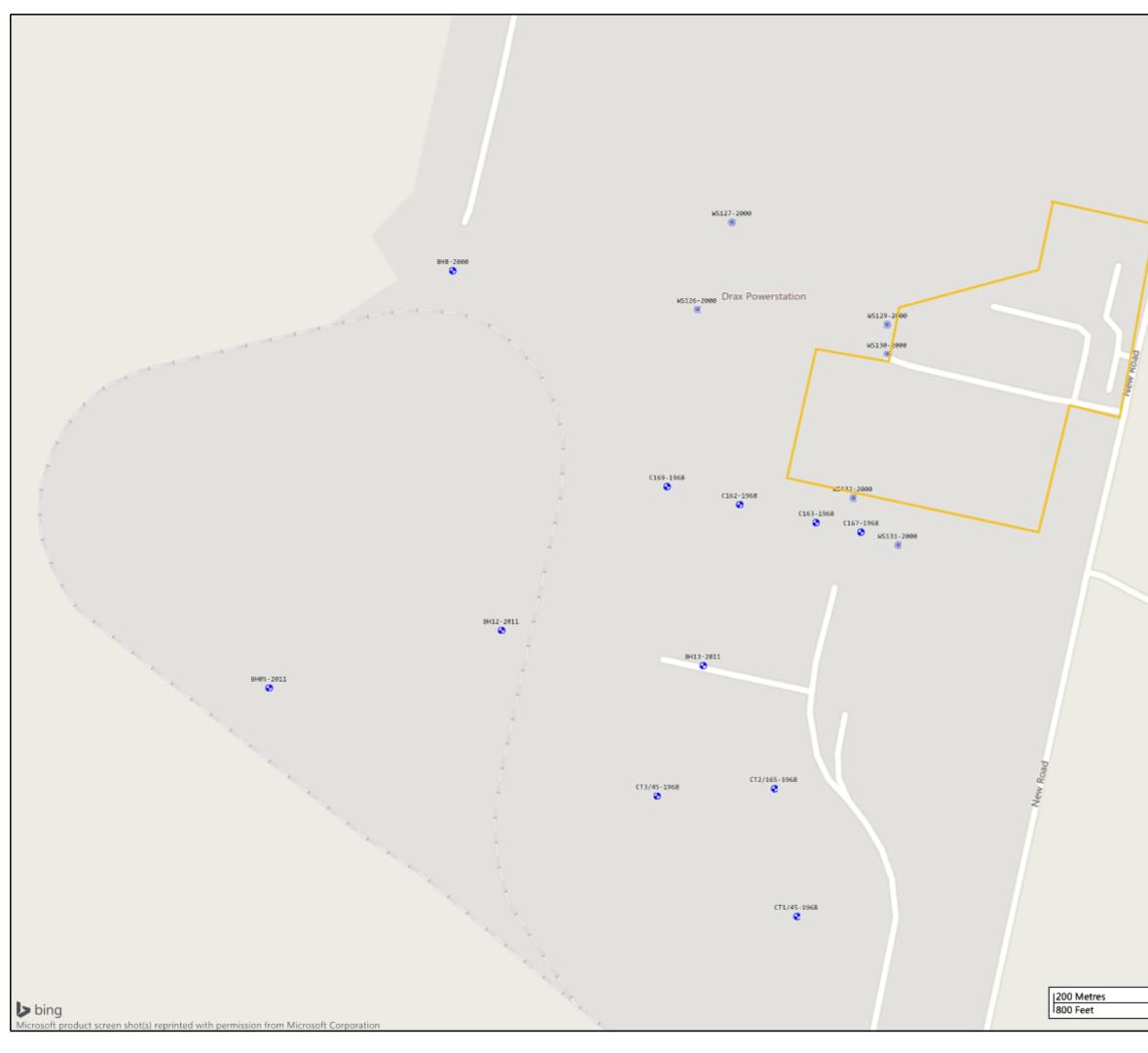
Site Location Plan	A1
Site Layout	A2.0
Site Plan	A2.1
Site Plan – Aerial	A2.2
Geology Plan	A3
Section Plan	A4.0
Sections A to D	A4.1 to A4.2
The Phoenix Project – Figures 5 and 6	A5.1 and 5.2
Dames and Moore Report – Groundwater Plots	A6.1 and A6.2

# **Site Location Plan**









N	
	Notes: Historical location coordinates are approximate based on scaling from original drawings
	Scale:
	1:5000
	Surveyed By:
	Not Applicable
	Surveyed Date:
	Key:
	Sections - Section line A-A'
	Sections - Section line CC
	Sections - Section line DD
	Locations By Type - CP
	Locations By Type - WLS
	Site Plan
	SOCOTEC
	Project ID:
	A7101-17
	Project Title:
	DRAX GEOTECHNICAL DESK STUDY
	Client: Drax Power Limited
	Figure:
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Notes:

#### Historical location coordinates are approximate based on scaling from original drawings

Scale:

1:5000

Surveyed By:

Not Applicable

Surveyed Date:

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	Sections - Section line A-A'
	Sections - Section line B-B'
	Sections - Section line CC
	Sections - Section line DD
۲	Locations By Type - CP
	Locations By Type - WLS

## Site Plan - Aerial



Project ID:

A7101-17

Project Title:

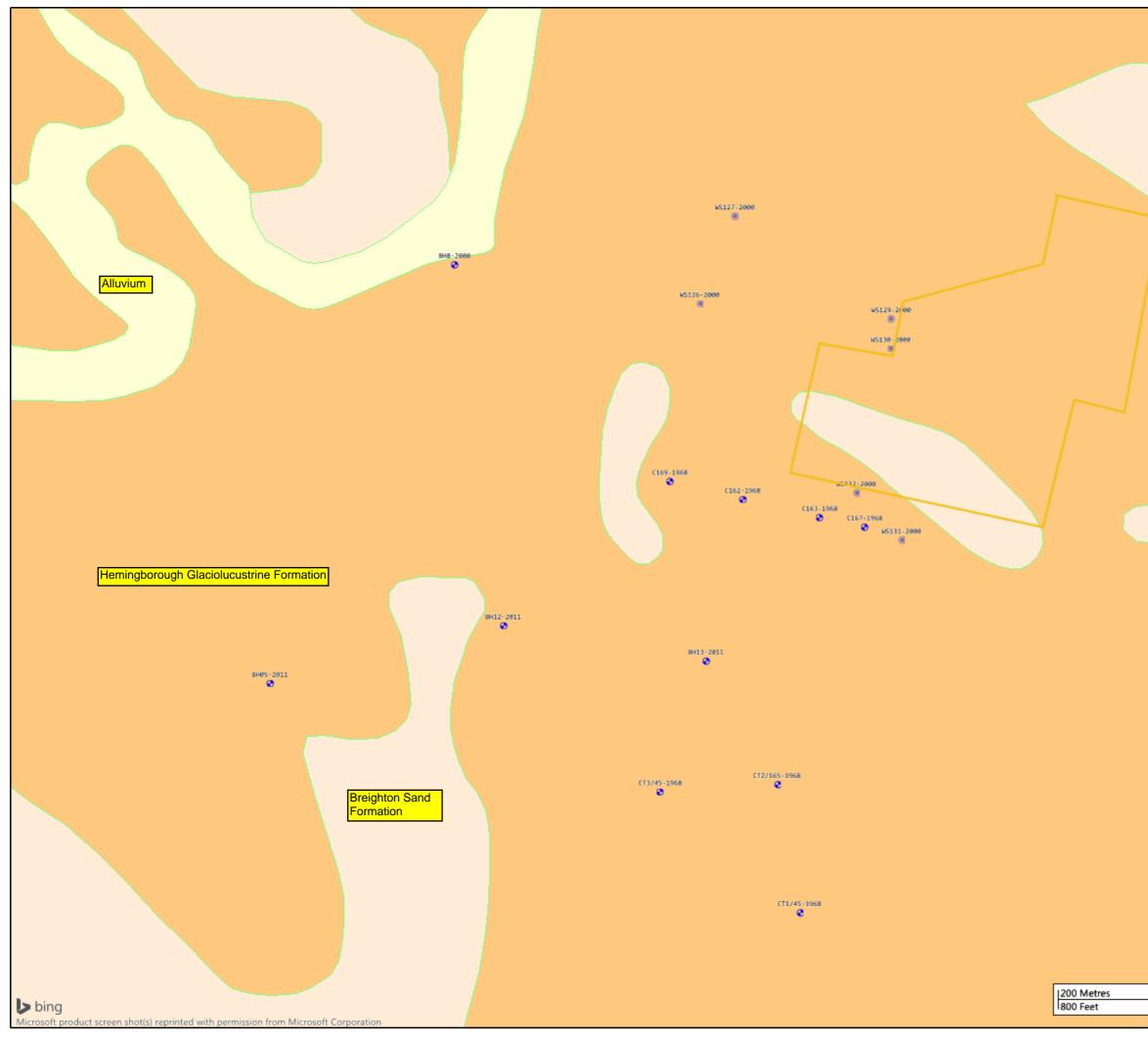
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Client:

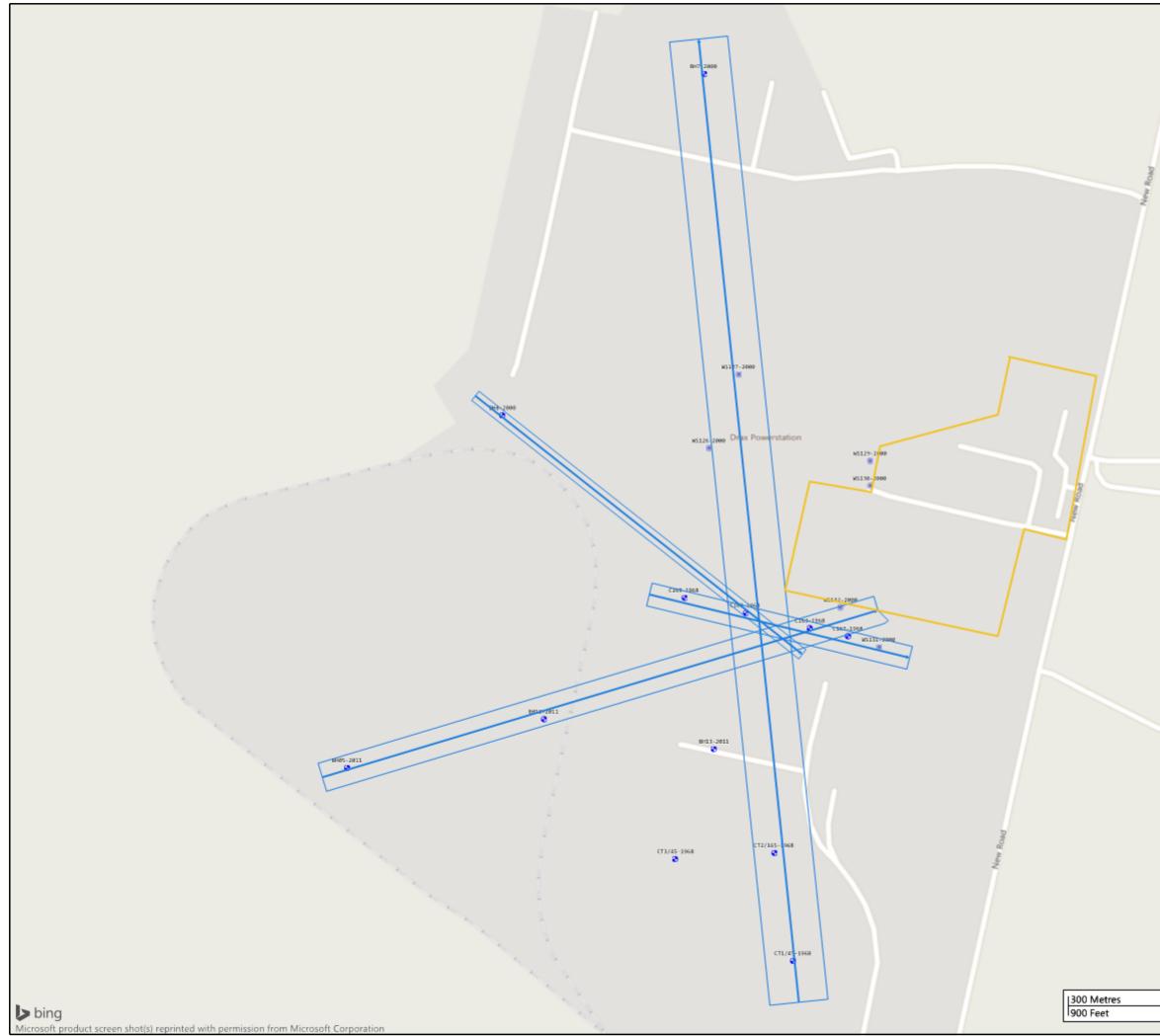
Drax Power Limited

Figure:

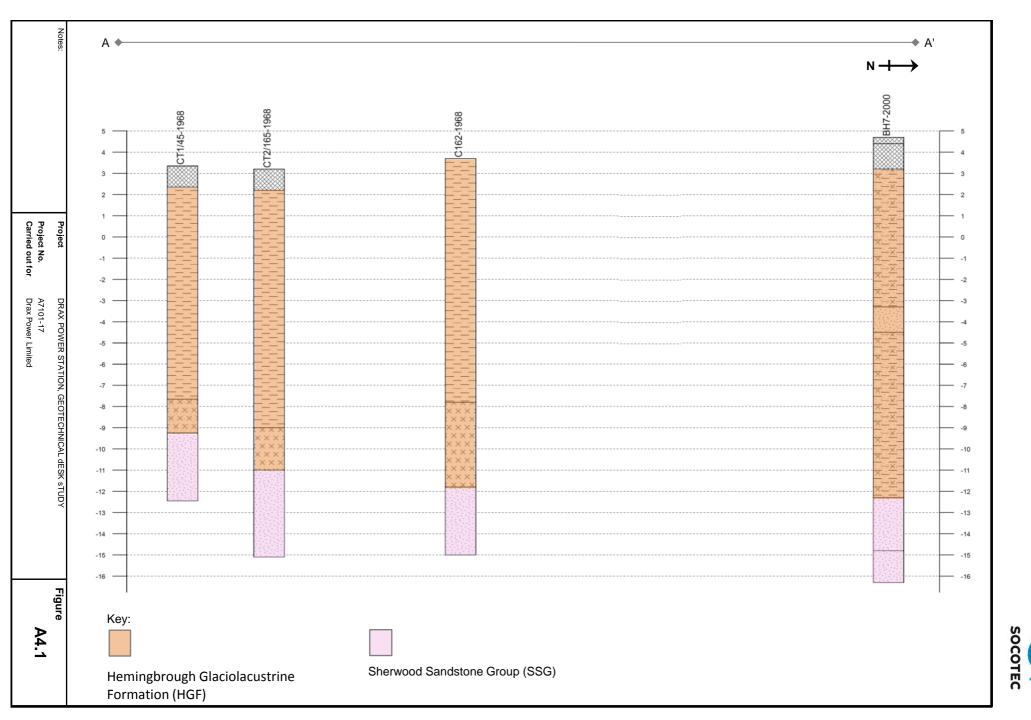
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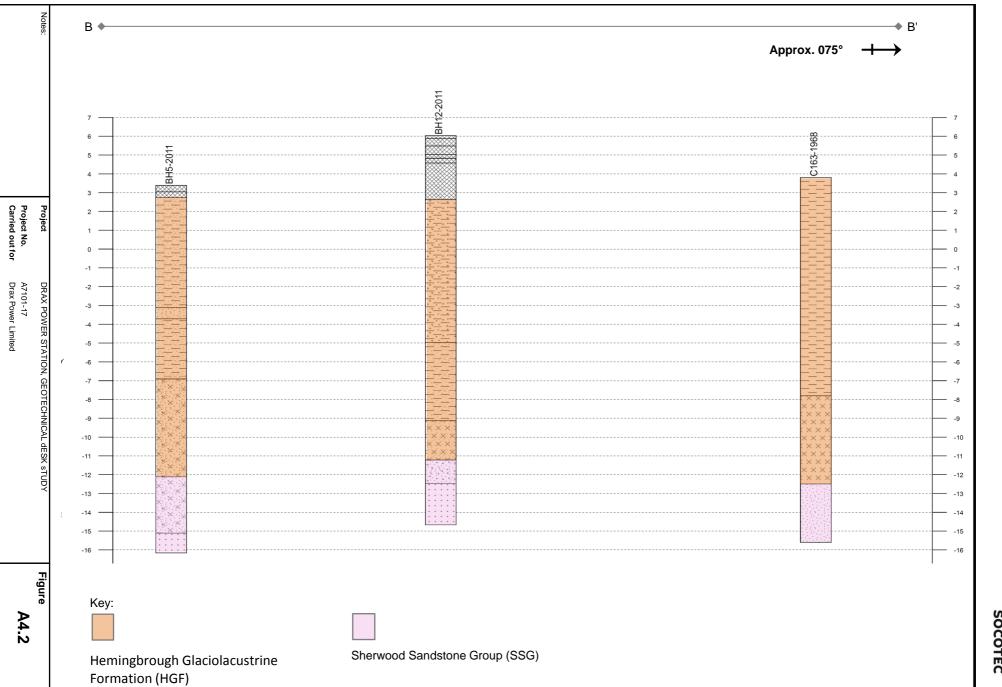
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	Key:         Sections - Section line A-A'         Sections - Section line B-B'         Sections - Section line CC         Sections - Section line DD         Locations By Type - CP
	Locations By Type - WLS Geological Plan
	Project ID: A7101-17 Project Title:
	DRAX GEOTECHNICAL DESK STUDY Client: Drax Power Limited
L T	Figure: A3.0



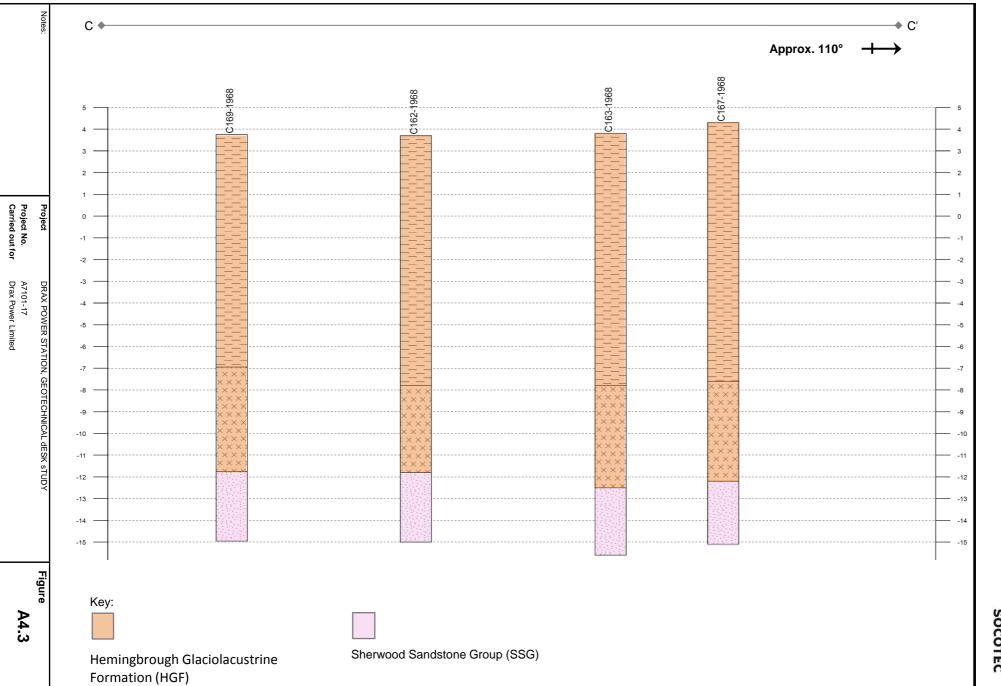
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	Not Applicable Surveyed Date:
Carr Lane	Key:         Sections - Section line A-A'         Sections - Section line B-B'         Sections - Section line CC         Sections - Section line DD         Locations By Type - CP         Locations By Type - WLS
Wren Ha	Section Plan
	SOCOTEC Project ID: A7101-17 Project Title:
	DRAX GEOTECHNICAL DESK STUDY Client:
I	Drax Power Limited Figure: A4.0



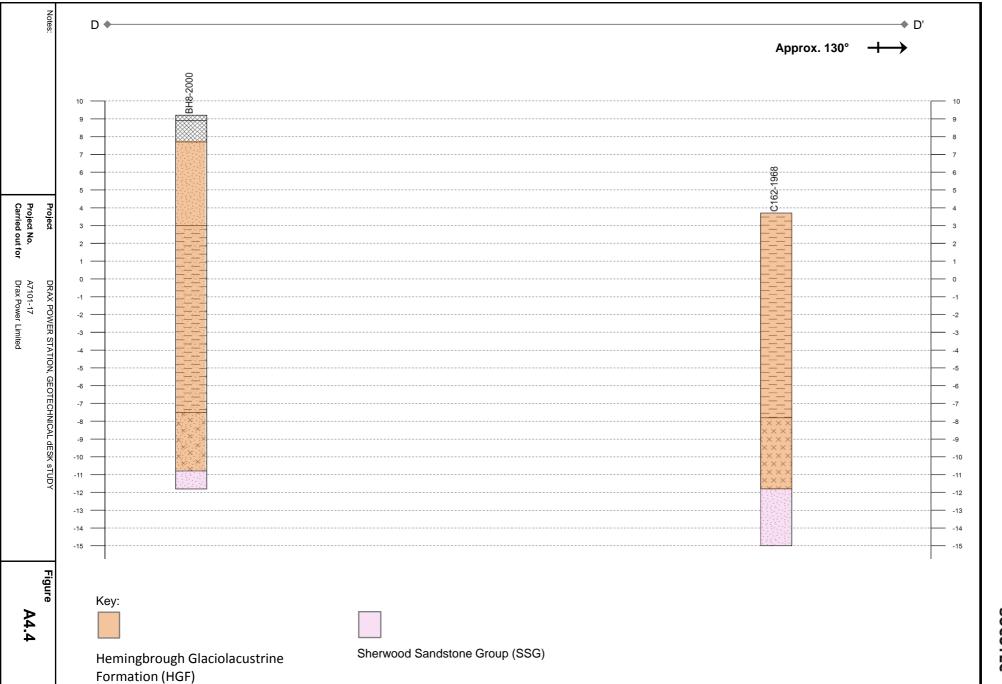
**Cross Section A-A'** 



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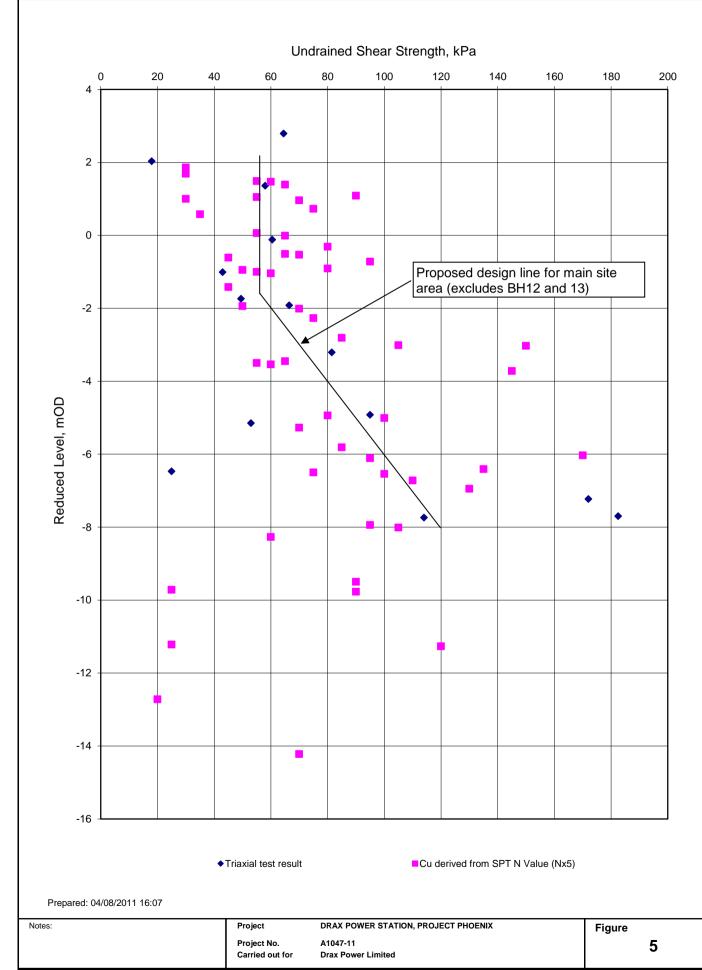






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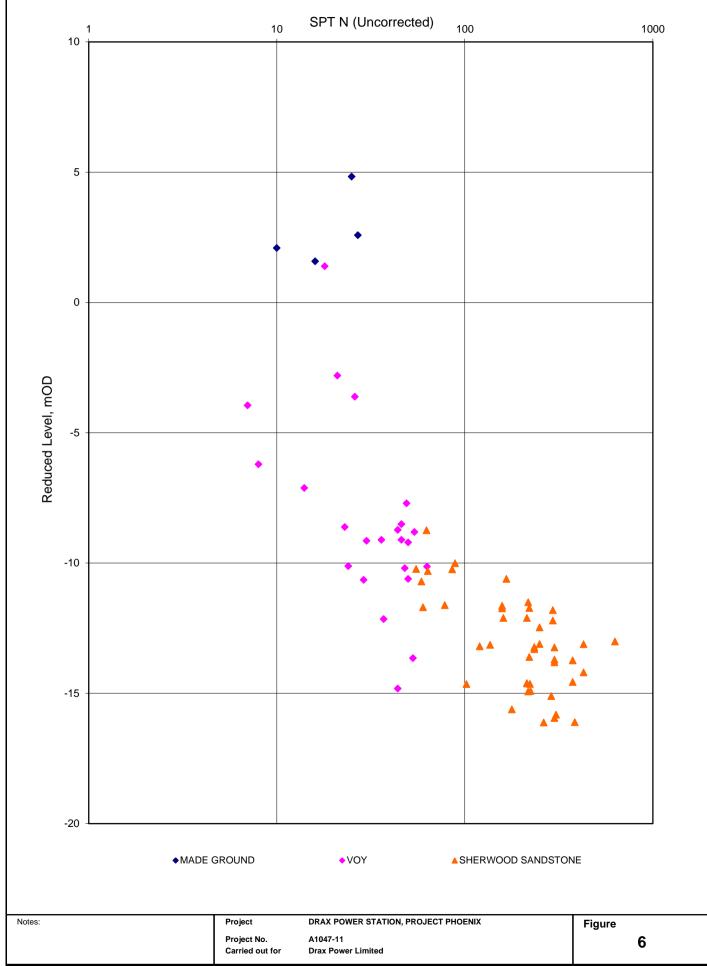
# **Undrained Shear Strength Profile**

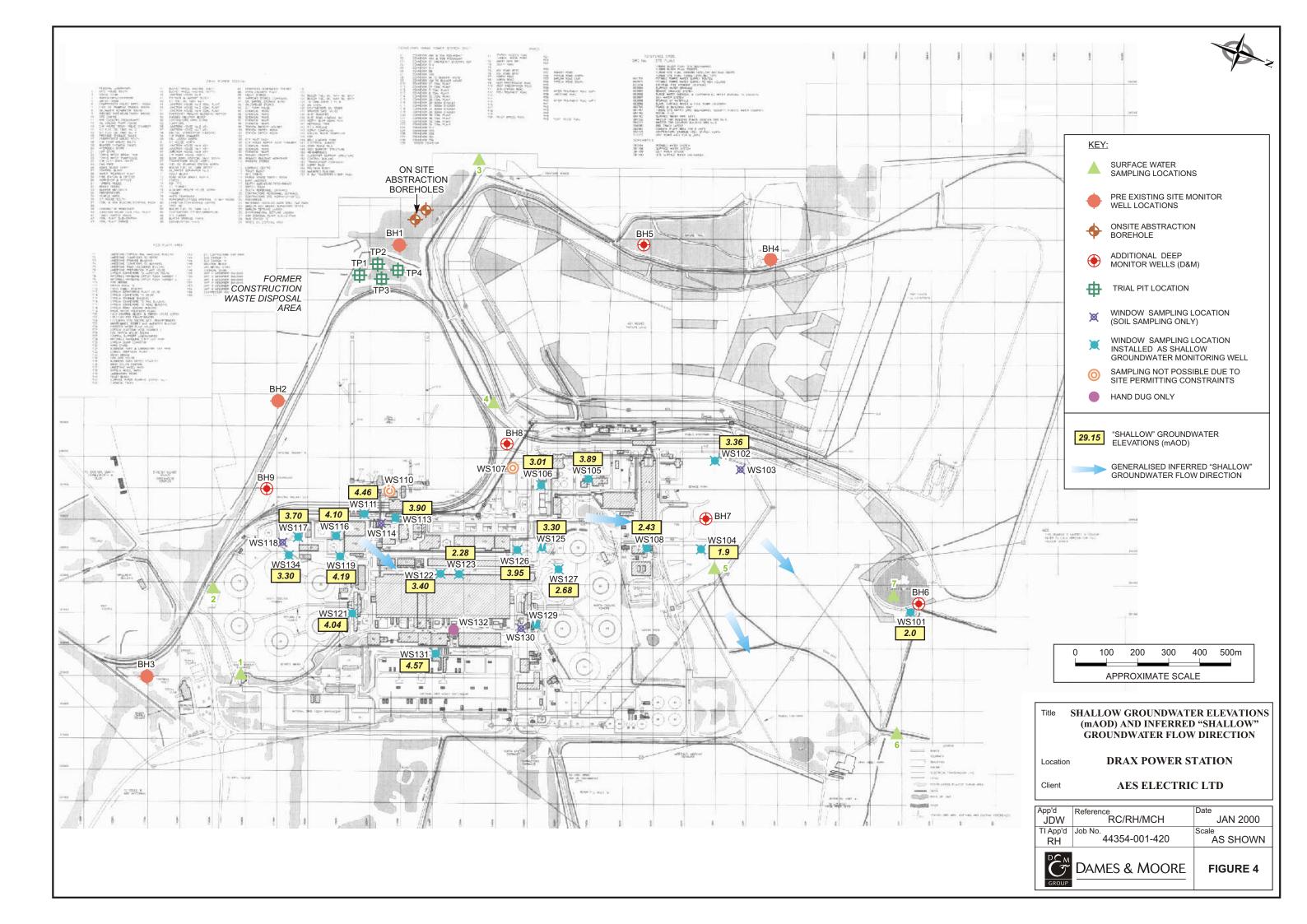


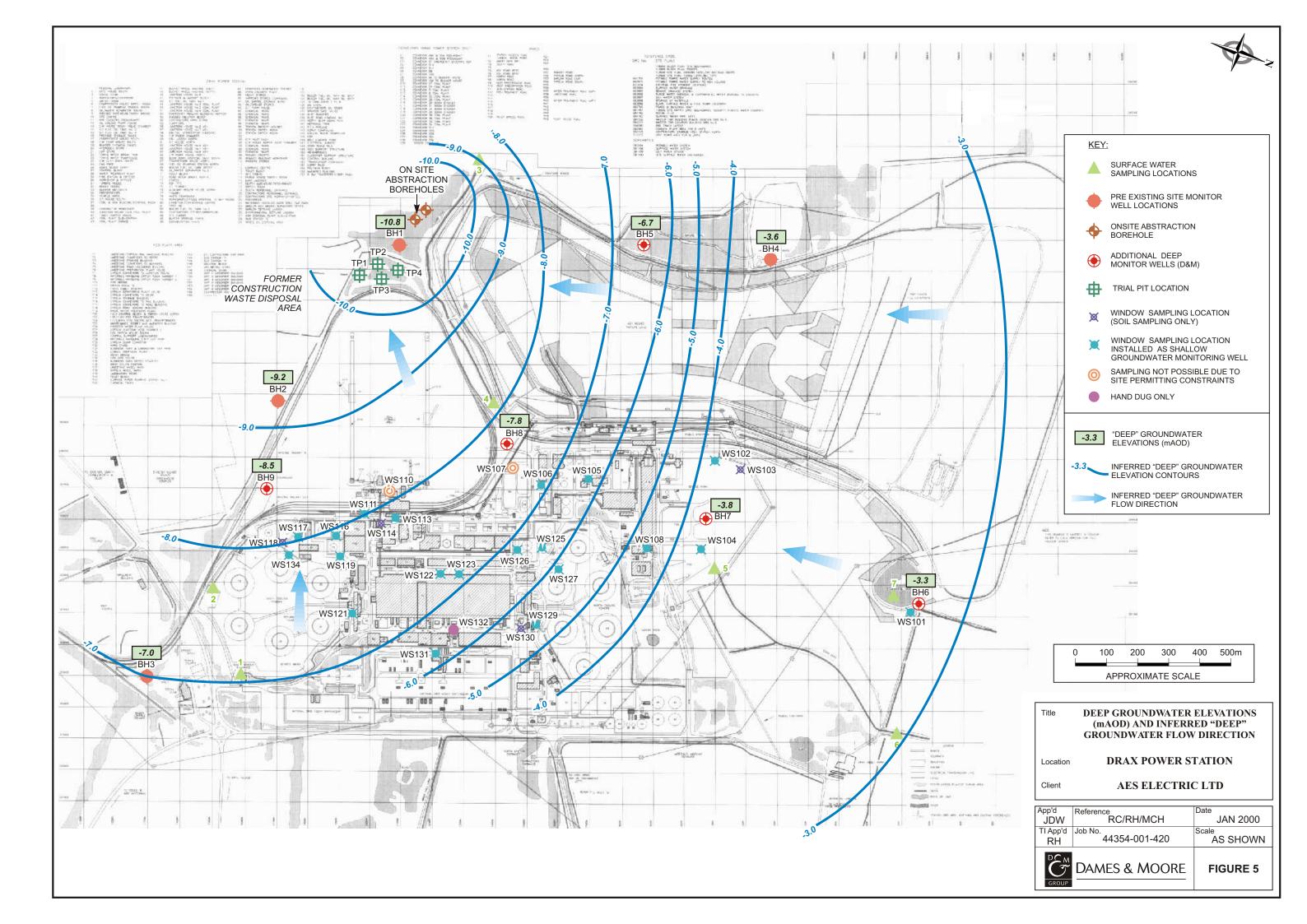
# Soil Mechanics

# **SPT N Value Depth Profile - (Granular Strata)**











#### APPENDIX B EXPLORATORY HOLE RECORDS

Site Investigation for Turbine Hall and Boiler House - 4958/1 (Soil Mechanics) Site Investigation for Cooling Towers - 4958/2 (Soil Mechanics) Drax, Humberside - 44354-001-420 (Dames and Moore) Drax Power Station – Project Phoenix - A1047-11/2

(ESG / Soil Mechanics) Summary BH Logs C162, C163, C167 and C169

CT1/45, CT2/165 and CT3/45

BH7, BH8, WS126, WS127, WS129, WS130, WS130, WS131 and WS132

BH05, BH12 and BH13

C162-1968, C163-1968, C167-1968 and C169-1968

CT1/45-1968, CT2/165-1968 and CT3/45-1968

BH7-2000, BH8-2000, WS126-2000, WS127-2000, WS129-2000, WS130-2000, WS130-2000, WS131-2000 and WS132-2000 BH05-2000, BH12-2000 and BH13-2000

# LOG for BOREHOLE No. CI62

DRAX POWER STATION T 4958 DRAX POWER STATION TURBINE HALL & BOILER HOUSE. UNIT 3 Location No.

Date 4th - 5th JULY 1967

Date 4th + 5th JULY 1967 Description	Reduced Level : ft.	Legend	Sample	Dep ft.	th in.	Thick ft.	iness in.	Penetr		n test	Corrected N Value
Ground Level (Ft. above N.D.)	<b>+</b> 12. 3			0	0			Dept and Penetrat	tion	No, of Blows (N)	
·								ft.	In.		
		<u> </u>									
		××									
		* * *	<b>•</b> 2						1	.*	
			_								
Firm brown laminated CLAY with partings of silt. The clay becoming silty with											
depth.		<u>× ×</u>	-								
			- 3								
		<u>× × ×</u>	_			37	9				
-		***	-•4								
		× × ×	5								Water entered at 24' 0"
										•	
		× ×									
		×									
			<b>6</b>								
		×									
		<b>A</b>									
		×									
		×	<b>-</b> 7.								
	<b>- 25.</b> 5	X	_	37	9					•	
(as sheet 2)		**	<b>8</b>			13	5	38	6 12	17	16
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			E								
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Scale I in.≂5 ft.				Tul (Le	be or	Core to scal	Sam	ple		۵ %	iater Sample
<ul> <li>Disturbed Sample</li> </ul>	ulk Sample			= (Le	ngth	to scal	ne)				

Copyright of Soil Mechanics Led

Bulk Sample SOIL MECHANICS LTD., 65 Old Church Street, London, S.W.3.

Fig.**73** Sheet 1 of 2

.

## CONTINUATION LOG for BOREHOLE No. C162

	CONTINUATION	LOG f	or B(	OREHC				S	Fig. <b>73</b> heet 2 of 2
	Description .	Reduced Level: ft.	Legend	Sample	Depth ft. in.	Thickness ft. in.	Stand Penetrati	ard	Corrected
958							Depth and	No. of Blows	
	<b>D</b>	Reduced Level: ft. - 38.9 - 49. 2	l	Sample 9 • 10 • 11 • 12 • 13 • 14 • 15 • 16 • 17 • 18	Depth ft. in. (40 0°)	Thickness ft. in. 13 5	Penetrati Depth and Penetration ft. in. 40 6 12 42 6 12 44 6 12 44 6 12 44 6 12 45 6 12 45 6 12 50 6 12 52 6 12 54 6 12 54 6 12 54 6 12 55 6 12 55 6 12 55 6 12 55 6 12 55 6 12 55 6 12 55 6 12 12 12 12 12 12 12 12 12 12	S and on test No. of Blows (N) 19 21 17 16 17 29 53 49 71 56	heet 2 of 2 Corrected N Value
Copyright of Soil Mechanics Ltd.									

# LOG for BOREHOLE No.CI63

Locotion No. T4958-7 DRAX POWER STATION.

#### TURBINE HALL AND BOILER HOUSE UNIT 3

#### Date 6th JULY 1967

Description	Reduced Level : ft.	Legend	Sample	Dep ít.	in.	Thick ft.	in.	Pene		on test	ļ	
Ground Level (Ft. above N.D.)	+12.6		-	0	0			De a Penet	epth nd ration	No, of Blows (N)		
								ft.	in.			
			1									
		XXX	-									
			1									
			-									
		<u> </u>										
		XXX	<b></b> •2	•								
			-									
Firm brown laminated CLAY with			-									
partings of silt.		XXX										
						-						
						38	0					
		XX										
		<b></b>										
			<b>•</b> 4									
		- x ×									Water <b>at</b> 23	
												•
		XXX										
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		× -										
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			_						1			
			-•7									
			-									
	-25.4	<u> </u>	_	38	0							
(as sheet 2)	au + I	'H g	8	50	Ĭ			38	6 12	16	16	
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		E	_									

Disturbed Sample

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Buik Sample

Tube or Core Sample (Length to scale)

#### CONTINUATION LOG for BOREHOLE No. C163

Fig. 74

DescriptionReduced Level: ft.LegendSampleDepth ft.Thickness ft.Standard Penetration testCorrect ValueModerately compact and compact grey brown SILT with layers of clay and sand near base.Reduced Level: ft.LegendSampleDepth ft.Thickness ft.Standard Penetration testCorrect ValueModerately compact and compact grey brown SILT with layers of clay and sand near base.Reduced Level: ft.Image: standard LegendCorrect ValueCorrect ValueCorrect ValueModerately compact and compact grey brown SILT with layers of clay and sand near base.Image: standard Penetration (N)Volume (40 0)40 6 42 6 1220 18 14
Moderately compact and compact x = x x = x
This layers of silt and silty sand to 55'0"       -40.7       -40.7       -11       -12       15       4       46       62       12       12         Dense fine and medium red-brown SAN with traces of silt near top and clay at 57'0".       -17       -16       -17       53       4       56       12       74       45         Dense fine and medium red-brown SAN with traces of silt near top and clay at 57'0".       -18       -17       53       4       61       56       12       74       45         0       2       pene       58       6       63       61       62       63       61       12

## LOG for BOREHOLE No. C167 Fig. 78

Location No. T 4958 DRAX POWER STATION

TURBINE HALL & BOILER HOUSE

Sheet 1 of 2

Date 10th - 11th JULY 1967

Description	Reduced Level : ft.	Legend	Sample	Depi ft.	th in.	Thick ft.	iness In.	Standa Penetrati	on test	Corrected N Values
Ground Level (Ft. above N.D.)	+ 14.1		_	0	0			Depth and Penetration	No, of Blows (N)	
			_					ft. in.		
			E							
		XXX	-							
			- 1							
			-							
		* *								
			-• 2							
		***	-							
			-							
Firm brown laminated CLAY with partings of silt. The clay becomes silty at depth.			- 3							
or bire, me cray becomes sing as appen		x x								
			-			39	10			
			 }							
		***	-•4							
			Ē							Water entered
		<u>× ×</u>	<b>-</b> •'							at 24'0"
		***	<u> </u>							
			<b>-</b> •6							
		<u>×</u>								
		×	<u> </u>							
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	- 25.8	*		39	10					
	Contin	ued on	sheet	2						
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		-	-						-	
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			E							
			E							
		<b>I</b>	<b> </b>	I		I			l	L
Scale 1 in.=5 ft.			i	Tub	e or	Core	Sam	ple	Δw	ater Sample
Disturbed Sample     Be     South MECHANNE	ulk Sample					Core o scale		on. S.W		-

## CONTINUATION LOG for BOREHOLE No. C167

	CONTINUATION	LOG	for B(	OREHO	DLE N	No.	C167	7	S	Fig.	78 : 2 of	2
	Description	Reduced Level : ft.	Legend	Sample	Depth ft. 1	n.	Thickness ft. in.	Penetrati	ard on test		Correcte N Value	d
	Compact grey-brown SILT with layers of clay & mand near base.	- 25.8	<del>х у х</del> я у х я я х я у х у х у х х х х х х х х х х х х х х х	• 8	(39	10),		Depth           and           Penetration           ft.           in.           40           6           12           42           6           12           44           6           12	23 23	19 19 19 22		
	Very silty sand for 8in		5 8 8 5	• 11 • 12 • 13 • 14				46 6 12 48 6 12 50 6 12 52 6 12	28 16 19	22 22 16 17 16		
	Dense fine red-brown SAND with traces of silt in top 3'0"	- 29,9		•15 •16 •17 •18		0 pen	9 6 etrated	54 6 12 56 6 12 58 6 12 58 6 12 50 6 12	58 58 63 74	37 37 39 45		
	-	- 39.4 EN	D OF BU	- ●19 REHOLE	62	6		<sup>52</sup> 6 12	75	45		
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## LOG for BOREHOLE No. C169

## Fig. 80 Sheet 1 of 2

Location No. T 4958 · DRAX POWER STATION

26th JULY 1967

Date

TURBINE HALL & BOILER HOUSE

Date 26th JULY 1967 Description	Reduced Level : ft.	Legend	Sample	Dep ít.	in.	Thick ft.	In.	Penet	tanda tratio	on test	Corrected N Values
	+ 12, 2							Dej an Penetr	pth id	No. of Blows (N)	
Ground Level (Ft. above N.D.)	169.0			0	0			Penetr ft.	ation In.	(N)	4
			F								
		XXX	E								
			<u> </u>								
			<u> </u>								
			-• 1								
Firm to stiff becoming soft to firm		* *	-								
brown laminated CLAY with partings											
of silt. Silty clay at depth.			E								
		XXX	•								
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		Xx	Ē			1					
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		<u>x x</u>	- • 5								Water entered
											at 24'0"
		XXX									
		<u>× ×</u>									
		XXX	<b>6</b>								
			- <b>F</b> -								
		XX		l							
				ŗ							9.44 a 10 mm
		XXX									
	- 23.7	<u> </u>	7	35	10						
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(As sheet 2)			- 8			15		1	6 12	16	16
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			• 9	i t					6 12	19	17
		<b>E D i</b>		(40	0)	)					
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Bulk Sample

SOIL MECHANICS LTD., 65 Old Church Street, London, S.W.3.

Scale | in.=5 ft.

Disturbed Sample

△ Water Sample

Tube or Core Sample (Length to scale)

CONTINUATION	LOG	for	BOREHOLE	No. C 169

	CONTINUATION	LOG	for B	OREHO	OLE	No	. C	169			S	Fig.	90 2 of 2
ic	Description	Reduced Level : ft.	Legend	Sample	Depi ft.	th in.	Thic ft.	kness In.		Standa etrati	ard on test	Co N	rrected Values
58			<u> </u>	<u></u>				··	D	epth Ind tration	No. of		
				- - - - - -	(40	0			ft.	in. 6 12	18	17	
	Compact grey-brown SILT with some layers of clay and thin layers of sand		× × × × × × × × × × ×	• 11			15	11	42	6 12	20	18	
	at base.		× × ×	• 12					44	6 12	18	17	
			ж ж ж ж ж ж ж ж	<b>●</b> 13					46	6 12	17	16	
			<u>х</u> <u>х</u> х х х х х	• 14 • 15			•		48 50	6 12 6	18	17	
		- <b>39.</b> 6	* * * *	• 16	51	9			52	6 12 12	16 54	16 35	
	Dense becoming very dense with depth			- 17					54	6 12	- <del>34</del> 70	35 43	
	fine red SAND traces of silt in top 12"			• 18		per	9 etra	9 ted	56	6 12	70	43	
				<b>●</b> 19					58	6 12	76	46	
		<b>- 49.</b> 3		⊑● 20 -	61	6			60	6 12	94	55	
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## LOG for BOREHOLE No.CTI/45 Fig. I

Sheet 1 of

Location No. 4958 /2 Drax Power Station

Carried out for Soil Mechanics Ltd.

Dote 8th September 1967

Description	Reduced Level : ft.	Legend	Sample	Depi ft.	th in.	Thick ft.	in.	Stand Penetrati	ard on test	
Description Ground Level (Ft. above N.D.) Made Ground. Pirm brown leminated CLAY with partings of silt above 20ft_cley becoming silty below 20ft	Reduced Level: ft. + 11.00 + 7.50		Sample • 1 • 2	Deprint. O	eh in. 0	Thick R.	6	Stand Penetrati Pade Penetration ft. in.	ard Ca test No. of No.	
" leger of send.			•4		1977、1997年7月,1977年7月,1979年7月,1987年1月,1987年1月,1987年1月,1987年1月,1987年1月,1987年1月,1987年1月,1987年1月,1987年1月 1997年1月,1987年1月,1987年1月,1987年1月,1987年1月,1987年1月,1987年1月,1987年1月,1987年1月,1987年1月,1987年1月,1987年1月,1987年1月,1987年1月	32	C			Nator entere at 21'9"
	- 25.00 Cont 1	19 - 19 - 19 <u>1</u>	a sheet	36	0					

Scale 1 in. -5 ft. • Disturbed Sampl

SOIL MECHA

Capyright of Soll Machanics Lod

. 17

Tube or Core Sample (Length to scale)

Chunch Street, 1

Water Sama

### CONTINUATION LOG for BOREHOLE No. CTI/45

4958 Very loose and compact brown, very sandy SILT with layers of brown clay. $\begin{array}{c} -25.00 \\ \hline & & 36 \\ \times & \times \\ \times & \times \\ \end{array}$	I/45     Fig. I       Standard       Corrected       N     Penetration test     N vslues       Penetration (N)     Blows       Penetration (N)     12       7     0       12     7       6     39     0       12     41     28       41     0     12       12     33     24
Very loose and compact brown, very sandy SILT with layers of brown clay. $\begin{array}{c} -25.00 \\ \hline m + m + M \\ \hline m$	ft. in. 37 0 12 7 7 6 39 0 12 41 28 41 0 12 43 29
Very loose and compact brown, very sandy SILT with layers of brown clay. $\begin{array}{c} N & H & M & \bigoplus & 6 \\ N' & M' & M' & \bigoplus & 6 \\ N' & M' & M' & M' \\ N' & M' & M' & M' \\ N' $	6 39 0 12 41 28 41 0 12 43 29
sandy SILT with layers of brown clay. $\begin{array}{c} x \\ y \\ y \\ y \\ z \\ z \\ z \\ z \\ z \\ z \\ z$	6 39 0 12 41 28 41 0 12 43 29
	39         0           12         41           41         0           12         43
	41 0 12 43 29
- 30. 50	
	43 0 12 33 24
Medium dense and dense fine red brown SAND with thin layers of clay and silty	45 0 12 28 22
sand.	
	14 04 04
	49 0 12 3 <b>2</b> 27
41.00 15 52 0	51 0
	12 58 37
End of Borehole	
	n an fair ann an San Anna Anna Anna Anna Anna Anna Anna An
	a second s

### LOG for BOREHOLE No. CT2/165 Fig. 3 over Station Sheet 1 of

Location No. 4958/2 Drax Power Station

Corried out for Soil Mechanics Ltd.

Date 16th Sept 1967

Description	Reduced Level : ft.	Legend	Sample	Dep ft.	in.	Thickness ft. in.	Penetrati	on test	
Ground Level (Ft. above N.D.)	+10.71	~~~	-	0	0		Depth and Penetration	No. of Blows (N)	
		$\bigotimes$	E	1		• •	ft. in.		
Made Ground		$\bigotimes$				36			
	+ 7.21	$\otimes$	E	3	6				
		XXX	•••1						
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irm brown laminated CLAY with			-						n an an an Ar
artings of silt.			-•2						
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	1								
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Disturbed Sample

Captright of Soil Machanics Ltd

Tube or Core Sample (Length to scale)

SOIL MECHANICS LTD., 65 Old Church Street, London, S.W.3.

**Bulk Sample** 

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### CONTINUATION LOG for BOREHOLE No. CT2/165

Fig. 3

of clay a Generally fine red	Description brown SILT with some layers and sand at bottom. medium dense becoming dens brown SAND with some silty the top.	-35.71	Legend H H L H H L H H H H H H H H H	Sample ● 9 ● 10 ● 11 ● 12 ● 12 ● 13 ● 14 ● 15 ● 16	De ft. 40 46	<u>in.</u> 0	Thick ft. 6 13 enet:	<u>in.</u> 5	Pene Der Penetr ft. 41 43 45 45 47 49 51	tanda tratic pth di ration in. 0 12 0 12 6 12 6 12 6 12 6 12 6 12 6 12	rd	Corre N Val 25 27 32 29 31 30
of clay a Generally fine red	and sand at bottom. medium dense becoming dens brown SAND with some silty	-35.71	2 H L H H H H H H H H H H H H H H H H H H	• 10 • 11 • 12 • 13 • 13 • 14		5	13	7	41 43 45 47 49 51	in. 0 12 0 12 6 12 6 12 6 12 6 12 6	35 38 48 43 46	27 32 29 31
of clay a Generally fine red	and sand at bottom. medium dense becoming dens brown SAND with some silty	-35.71	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	• 10 • 11 • 12 • 13 • 13 • 14	46		13	7	fr. 41 43 45 47 49 51	in. 0 12 0 12 6 12 6 12 6 12 6 12 6	35 38 48 43 46	27 32 29 31
of clay a Generally fine red	and sand at bottom. medium dense becoming dens brown SAND with some silty	-35.71		• 10 • 11 • 12 • 13 • 13 • 14	46		13	7	43 45 47 49 51	12 0 12 6 12 6 12 6 12 6 12 6	38 48 43 46	27 32 29 31
Generally fine red	y medium dense becoming dens brown SAND with some silty			• 11 • 12 • 13 • 14 • 15	46		13	7	43 45 47 49 51	0 12 6 12 6 12 6 12 6 12 6	38 48 43 46	27 32 29 31
fine red	brown SAND with some silty			• 12 • 13 • 14	46		13 enet		45 47 49 51	12 6 12 6 12 6 12 6	48 43 46	32 29 31
fine red	brown SAND with some silty			• 12 • 13 • 14	46		13 enet		47 49 51	12 6 12 6 12 6	43 46	29 31
fine red	brown SAND with some silty		2	• 12 • 13 • 14	46		13 enet		49 51	6 12 6 12 6	43 46	29 31
fine red	brown SAND with some silty			• 13 • 14 • 14		ļ	13 enet		49 51	12 6 12 6	46	31
fine red	brown SAND with some silty	<b>e</b>		• 13 • 14 • 14			13 enet		51	6 12 6	46	31
fine red	brown SAND with some silty			• 14 • 15			13 eneti		51	12 6		
fine red	brown SAND with some silty			• 15		g	13 enet:			6		
fine red	brown SAND with some silty			• 15		4	13 enet:			12	44	30
sand neal	r the top.			• 15			alet	ale	ľ.	1		
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### LOG for BOREHOLE No.CT3/45 Fig. 4 Power Station Sheet 1 of 2

Location No. 4958/2 Drax Power Station

Carried out for Soil Mechanics Ltd

Date 12th September 1967

entered
0,0

Scale I in. -5 ft.

Ceptright of Sail Machanics Ltd

Disturbed Sample

Buik Sample

Tube or Core Sample (Length to scale)

△ Water Sample

### SOIL MECHANICS LTD., 45 Old Church Street, London, S.W.3.

#### CONTINUATION LOG for BOREHOLE No.CT3/45

	CONTINUATION	LOG	for BC	OREHO	DLE	No	.C1	.31	/45		l Sh	Fig.	4 2	of
Loc.	Description	Reduced Level: ft.	Legend	Sample	De ft.	pth in.	Thic ft.	kness in.	Si	tandar	d test			
58/2		- 19.31			30				Dep an Penetr	th N	lo. of lows (N)		•••••	
			ик ик ик ик ик						Penetr ft_	in.	<u>(N)</u>			
	Compact grey brown SILT. The silt becoming very sandy with depth		ы ы ы а ы ы д - д ы - д						35	6				
				- 9					37	6		25 26		
			ж ж ж × ж ж. н ж • ж • н	•10			13	6	40	6				
		- 32.81	. × . x . x . x . x . x . x . x . x . x . x	11	43	6			42	6		30 40		
	Dense,medium becoming fine with depth red			- <sup>12</sup>					44	6	61	38		
	brown SAND with traces of silty sand.			•13			11 etra	U	47	6 12	52	34		
				•14 - •15		•			49 51		52	34		
		- 33.81		-	54	6			l .	6		42 46		
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of Machanics														
Capinght of Soil Machanica Ltd.														

	BOREHOLE CONSTRUCTION	Ц	í	SAMPLE	R	GROUNDWATER	(	~	BOREHOLE NUMBER	R: BH7		P	PAGE	1 OF 3	
	L L L L L L	SPT N-VALUE		SAN	SOIL VAPOUR (ppm)	AN I	DEPTH (m)	GEOLOGY	DRILLING DATES: 20-21/0	)9/99	DRILLING N	NETHO	D: Sh	nell and Auger	
	REI STR				(mpm)		I L	<u></u>	DRILLER: I Martin		BOREHOLE	E DIAME	ETER	R: 8" - 6"	
	ON SNC	۲ ۲	NUMBER	TYPE	ll0	ğ	B	ы	LOGGED BY: IM/RC					ETER: 50mm HDF	ΡE
	ö		ΪZ		0)	ΰ			CHECKED BY: JDW		SCREEN SI	LOT SIZ	ZE: 1	mm and sock	_
									DE	SCRIPTION				COMMENTS	0 -
									MADE GROUND: Har	dcore/grave	el FILL to 0.	.3mbgl	I.	Dry, no visual	] []
		7							Madium to accrea dar	k arey cond		dina		or olfactory evidence of	
		1						==	Medium to coarse dar some soft grey clayey			ung		contamination.	=
		7			*0		1.0	===			<u>.</u>				1.0
		2													=
		1													_
		2						==	Firm to stiff brown silty	v sandy CLA	λY.			Dry, no visual	
$\langle / \rangle$		2			*0		2.0-	===						or olfactory evidence of	2.0-
		1												contamination.	
		2													
$\langle / \rangle$		2						==							
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								E-E-							=
$\langle / \rangle$		7			*0		4.0								4.0
		2													=
		7						===							-
		2													
		1			*0		5.0-								5.0-
		2													=
		2						====							
								===							-
		2			*0		6.0-								6.0
$\vee$		2					=	==							=
		2													
		7			*0		7.0-								7.0
$\langle / \rangle$		1					7.0-								1.0-
		7						===							
$\langle / \rangle$		7				8	-								=
		1				06/01/00	8.0-	===							8.0-
		7					-		Coarse dark brown SA	AND.				Damp from	=
$\mathbb{V}$		2			*0	¥								8.0mbgl. No visual or	_
								<u>0000</u> 5-5-			/			olfactory	=
$\mathbb{Z}$		7					9.0-		Firm brown very sandy sandy lenses.	y siny CLAY	with occas	sional		evidence of contamination.	9.0-
$\langle / \rangle$		2													=
								E-=1							_
		2													
r74							10.0 -	-1-1	<u>LEGEND</u>				<u> </u>		10.0-
			ION						Disturbed Sample		BOF	KEH	OL	E LOG	
	ated in fo a (FGD P					dow	n		Undisturbed Sample	Job Title	Pha	ase II I	nves	stigation	
								*	Headspace Analysis	Location	DRA	AX, HU	JMB	ERSIDE	
								+	Down Borehole Analysis	Client	AES	S ELE	CTR	RIC LTD	
											DB	DC M			
								≛ 			DB/MCH N 2000	$\mathcal{C}^{\scriptscriptstyle\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!}$	DA	AMES & MOO	ORE
								ļ¥	Perched Water Table	Date JAN Job No. 44354		GROUP			

	_		L	L										
	BOREHOLE CONSTRUCTION	Щ		L L	ЦК	GROUNDWATER			BOREHOLE NUMBER	R: <b>BH7</b>		PAG	E 2 OF 3	
		SPT N-VALUE	4	R0	SOIL VAPOUR (ppm)	MA	DEPTH (m)	GEOLOGY	DRILLING DATES: 21-22/	09/99	DRILLING N	METHOD: S	Shell and Auger	
	I A B	~  z	R		≱ ]d		I II	<u> </u>	DRILLER: I Martin		BOREHOLE			
	ONS	PT	NUMBER	ТҮРЕ	30IL	RO		U	LOGGED BY: SJC				METER: 50mm	
	ŏ	Ű	Ν		0	Ū			CHECKED BY: JDW		SCREEN SI	LOT SIZE:	1mm and sock	
							10.0—		DI	ESCRIPTION	1		COMMENTS	10.0 -
V/							-							-
$\langle A$														
VA														
$V \land$							11.0-							11.0-
							=							
								===]						
$V \land$								Ē						
$V \land$					*0		12.0-						Very damp, no visual	12.0-
							-	===					or olfactory	
$\langle \rangle$							-						evidence of contamination.	
$V \wedge$							 13.0—	E==]						- 13.0-
$\langle A$														
$V \land$					*0		14.0							14.0
$V \land$								ĒĒ						
$V \land$							15.0-	===						15.0-
							=							
$V \land$					*0		 16.0—							16.0
$\mathbb{Z}$							=							
$V \land$							17.0		Fine brown SAND, oc	casional so	ft to medium	n clavev	Very damp,	17.0
$V \land$									lenses.	003101101 301		nolayey	no visual	
													or olfactory evidence of	
ß					*0		 18.0—						contamination.	
							- 10.0							18.0
							_							
	0_0_0_0													
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~						19.0							19.0
														]
							-	923 					-	
					*0		 20.0 –							20.0
	LOC	ΑΤΙ	ON /	NOT				- 1	LEGEND		BOF	REHOI	LE LOG	
					·				Disturbed Sample	Job Title		ase II Inve		
									Undisturbed Sample	Location			BERSIDE	
								*	Headspace Analysis	Client			RIC LTD	
									Down Borehole Analysis	TI App'd	DB			
								₹	Groundwater Table		/DB/MCH	C D	AMES & MOO	ORE
								Į¥	Perched Water Table	Date JA Job No. 44354	N 2000 4-001-420	GROUP		

z	Π	Ц	Ţ		ц								
CITIC	빙			DUR	ATE	Ê.	۲	BOREHOLE NUMBER				SE 3 OF 3	
BOREHOLE CONSTRUCTION	SPT N-VALUE		ò	SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	DRILLING DATES: 21-22/ DRILLER: I Martin	03/33	BOREHOLE		Shell and Auger	
ORE	Ż ⊢	BER	Щ	/ bi		E D	С Ш	LOGGED BY: SJC				METER: 50mm	
<sup>™</sup> <sup>C</sup>	SP	NUMBER	ТҮРЕ	SO	DRC DRC			CHECKED BY: JDW				1mm and sock	
		Z							ESCRIPTION		OT SIZE.		
0.0.0						20.0	2003	Fine brown SAND, tra				COMMENTS	20.0 -
				*0		21.0		sandstone.				Wet, no visual or olfactory evidence of contamination.	21.0
						=		Borehole completed a	it 21.0mbgi a	and installed	J.		
						22.0-							22.0-
						-							
						 23.0—							23.0-
						24.0-							24.0-
						 25.0—							 25.0—
						20.0							
						26.0							26.0
						 27.0—							
						27.0							27.0
						28.0							28.0-
1													
						29.0							29.0-
L						30.0 -			1				30.0-
LOC	ATIO	) NC	ΝΟΤ	ES:				LEGEND		BOR	EHO	LE LOG	
Borehole comp	olete	ed at	21.	0mbg	I.			Disturbed Sample	Job Title	Pha	se II Inv	estigation	
								Undisturbed Sample	Location			IBERSIDE	
							*	Headspace Analysis	Client				
							1	Down Borehole Analysis		DB AES		<b>FRIC LTD</b>	
							Ţ	Groundwater Table		DB/MCH		DAMES & MOO	
							Į	Perched Water Table	Date JAN	V 2000	GROUP		
									Job No. 44354	-001-420			

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	BOREHOLE CONSTRUCTION	빙			SOIL VAPOUR (ppm)	GROUNDWATER	(u	┝╱┝	BOREHOLE NUMBER				E 1 OF 3	
		SPT N-VALUE	<	I D	Q E	AV0	DEPTH (m)	GEOLOGY	DRILLING DATES: 20-21/	09/99			hell and Auger	
	STR	ź	ER	ш	≯ dd	Ľ	EPT	틼	DRILLER: I Martin		BOREHOLE D			
	ONS	ЪТ	NUMBER	ТҮРЕ		В М	D	Ū	LOGGED BY: IM/RC				IETER: 50mm HDF	ΡE
	ŏ	0,	Ν	Η	0,	Ū			CHECKED BY: JDW		SCREEN SLO	T SIZE:	1mm and sock	
							0		DE	ESCRIPTION	l		COMMENTS	0 -
								$\bigotimes$	MADE GROUND: Loc 0.3mbgl. Loose brown very san				Dry, no visual or olfactory evidence of contamination.	
					*0		1.0	$\bigotimes$	brick fragments.				Dry, no visual	1.0
					*0		2.0		Coarse dark brown 3	AND.			or olfactory evidence of contamination.	2.0
					*0		3.0							3.0
						4.0							4.0	
				*0		5.0							5.0	
					*0		6.0		Firm to stiff dark grey/	brown sligh	tly sandy CLA	AY.	Dry, no visual or olfactory evidence of	6.0
					*0		7.0						contamination.	7.0-
							8.0						Damp from 8.0mbgl. No visual or olfactory evidence of contamination.	8.0
					*0		9.0							9.0
	LOC		ON /	NOT	TES:				LEGEND		BORI	EHOI	E LOG	
Loc	ated adjace					ard		$\boxtimes$	Disturbed Sample	Job Title			stigation	
area									Undisturbed Sample	Location				
								*	Headspace Analysis				BERSIDE	
								†	Down Borehole Analysis	Client			RIC LTD	
								₹ V	Groundwater Table Perched Water Table	Date JA	N 2000		AMES & MOC	ORE
										Job No. 44354	4-001-420			

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BOREHOLE CONSTRUCTION	Щ	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	(L	≻	BOREHOLE NUMBER				E 2 OF 3	
IC HOI	SPT N-VALUE	Ø0	5	D D D	N N N	DEPTH (m)	GEOLOGY	DRILLING DATES: 21-22/	09/99			hell and Auger	
STR	ź	ER	Ш	L √∕	Ĭ	EPT	Ы.	DRILLER: I Martin		BOREHOLE			
OBO	SPT	NUMBER	ТҮРЕ	sol	R0	ā	Ū	LOGGED BY: SJC				IETER: 50mm	
0		z	'		U			CHECKED BY: JDW			LOT SIZE:	1mm and sock	
						10.0—		DI	ESCRIPTION			COMMENTS	10.0 -
				*0	i∰ 06/01/00	10.0						Very damp, no visual or olfactory evidence of contamination.	
				*0		15.0		Medium to coarse dar	k brown, ve	ry silty SAN	۱D.	Wet, no visual or olfactory evidence of contamination.	15.0
1°0°01°0°0°												Becoming very wet.	
<u>1000 1000</u>				*0		20.0 -			1				20.0-
LOC	ATIC	DN / I	NOT	<u>'ES:</u>			N7	LEGEND		BOF	REHOL	LE LOG	
								Disturbed Sample	Job Title	Pha	ase II Inve	stigation	
								Undisturbed Sample	Location		X, HUMI	_	
1							*	Headspace Analysis	Client				
1							†	Down Borehole Analysis			S ELECTI	RIC LTD	
							¥ ⊻	Groundwater Table Perched Water Table	Ref. JDW/	DB /DB/MCH N 2000		AMES & MOO	ORE
							÷		Job No. 44354		GROUP		

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BOREHOLE CONSTRUCTION	ш	Ę	SAINIPLE	К	GROUNDWATER			BOREHOLE NUMBER	R: <b>BH8</b>		PAG	GE 3 OF 3	
ICT	SPT N-VALUE	<	AIV	SOIL VAPOUR (ppm)	NAT N	DEPTH (m)	GEOLOGY	DRILLING DATES: 21-22/	09/99	DRILLING N	IETHOD:	Shell and Auger	
RLH				VAF 2pm	1 2 2	L H	5	DRILLER: I Martin		BOREHOLE			
NS <sup>-</sup>	F	1BE	ТҮРЕ				ШÜ	LOGGED BY: SJC		SCREEN TY	PE & DIA	METER: 50mm	
<sup>m</sup> OS	5	NUMBER		о Х	L R			CHECKED BY: JDW				1mm and sock	
							$\square$		ESCRIPTION			COMMENTS	
0001 0000						20.0	X	Fine dark brown/red S					-20.0 -
								fragments.	,				
						<u> </u>							
	1			*0		21.0-	74.54S	Borehole completed a	t 21.0mbal a	and installe	d.	-	21.0-
								·	0				-
						 22.0—							22.0
						- 22.0							-
													-
						23.0-							23.0-
													-
						24.0							24.0-
						 25.0—							25.0-
						=							-
						26.0							26.0
													27.0-
						27.0							27.0-
						28.0-							28.0-
						29.0-							29.0-
L													30.0-
LOC	ATI	<u>ON /</u>	NOT	ES:				LEGEND		BOR	REHO	LE LOG	
								Disturbed Sample	Job Title	Pha	se II Inv	restigation	
								Undisturbed Sample	Location			IBERSIDE	
							*	Headspace Analysis	Client				
							†	Down Borehole Analysis	TI App'd	DB	ELECI	FRIC LTD	
							Ţ	Groundwater Table		DB/MCH		DAMES & MO	
							ĮΫ	Perched Water Table	Date JA	N 2000	GROUP		
									Job No. 44354	4-001-420			

UN UN	ш			Я	TER			BOREHOLE NUMBER	R: WS126		PAGE	1 OF 1	
BOREHOLE	SPT N-VALUE			SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	DRILLING DATES: 15/12/5	99	DRILLING M	ETHOD: W	indow Sampler	
REF	>-Z	R		- VAPC (ppm)				DRILLER: Cape Site Serv	ices	BOREHOLE	DIAMETER	R: 70-35mm	
OB OS NC	PT	NUMBER	ТҮРЕ	SOIL	м М		5	LOGGED BY: RC				IETER: 35mm ID H	IDPE
Ŭ		∩ Z			U			CHECKED BY: JDW		SCREEN SL	OT SIZE:	1mm	
						0_			ESCRIPTION			COMMENTS	0 -
		0.5m					$\bigotimes$	MADE GROUND: Brid		ogl. Angular		Dry, no visual	
	7	126 H	$\bigtriangledown$				$\bigotimes$	limestone gravel to 0.6	ombgi.			or olfactory evidence of	
	1	SO-WS126 0.5m HM	$\vdash$				$\otimes$	Coarse to medium rec	sand to 2.0	Ombgl.		contamination.	
						1.0-	$\otimes$						1.0
	7	1.5r PCB			8	_	$\bigotimes$						-
	1	S126 /PAH	$\square$		01		$\otimes$						
	1	SO-WS126 1.5m DRO/PAH/PCB			i≺ 06/01/00		X						
	g .	0,			Į≚	2.0_		Firm to very stiff red C	LAY includi	na frequent	coarse	Damp in sand	2.0-
	3					-		sandy lenses.		ng noquoni	000100	lenses.	
	9					-						No visual or olfactory	
	8					3.0-	===					evidence of	3.0-
	3					3.0-	==					contamination.	3.0-
	3	_0											_
	8	4.0m //DR											
<u>```````</u>	4	SO-WS126 4.0m GSA/TOC/HM/DRO	$\square$			4.0	=_=:					4	4.0-
		ATO NTO				=		Borehole terminated a	at 4.0mbgl a	nd installed			=
		လမ္မ											
						5.0-							5.0-
						-							-
						6.0-							6.0
						0.0 -							0.0 -
													_
						7.0-							7.0-
													=
						8.0-							8.0-
						9.0-							9.0-
						9.0 <u>–</u>							9.0-
						_							
						10.0 -		LEGEND					10.0 -
		ON /	NOT	ES:				Disturbed Sample		BOR	EHOL	E LOG	
Hand dug to 1	l.5n	nbgl.						Undisturbed Sample	Job Title	Pha	se II Inve	stigation	
Located north	of	fuel o	il As	ST's (I	Vort	h	*	Headspace Analysis	Location	DRA	X, HUME	BERSIDE	
site).							+	Down Borehole Analysis	Client	AES	ELECTE	RIC LTD	
								Groundwater Table		DB	DCM		
										/DB/MCH N 2000	C DA	AMES & MOO	ORE
							¥	Perched Water Table	Job No. 44354		GROUP		

		Ш										
LION	Щ	SAMPLE	۲ ۲	TER			BOREHOLE NUMBER	R: WS127		PAG	E 1 OF 1	
BOREHOLE CONSTRUCTION	SPT N-VALUE	SAN	SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	DRILLING DATES: 08/12/		DRILLING M	ETHOD: V	Vindow Sampler	
STR		<b>К</b> Ш	L VAPC (ppm)		EPTI		DRILLER: Cape Site Serv	vices	BOREHOLE			
ONG	SPT	TYPE	soll	ROL		0	LOGGED BY: RC				IETER: 35mm ID F	IDPE
Ō		z 「	Ľ	U		Цļ	CHECKED BY: JDW		SCREEN SL	OT SIZE:	1	
	,    ,				0_			ESCRIPTION			COMMENTS	0 -
		etals/PCB				$\bigotimes$	MADE GROUND: Bro /ash/clinker.	wnsand/gra	vel/hardcore	9	Dry, no visual or olfactory evidence of contamination.	
	127 0 6r	VOC/TPH/PAH/Heavy metals/PCB	*0		0.5	$\bigotimes$	MADE GROUND: Buf gravel.	f dolomite s	and and ang	gular		0.5
	N-Cv	TPH/PAP		01/00		$\otimes$	MADE GROUND: Bro gravel and angular lim			rse	Dry, no visual or olfactory evidence of	
		VOC		₩ 06/01/00	1.0	$\bigotimes$	Clay rich from 0.8 - 1.	0mbgl.			contamination.	1.0
						BS					Wet from	
			*0		1.5	$\bigotimes$					1.3mbgl.	1.5
						ĽΥ					_	
							Firm to stiff brown CL/ from 1.9 - 3.0mbgl.	AY with orar	nge/grey mo	ttling	Dry, no visual or olfactory evidence of	
					2.0						contamination.	2.0-
			*0		2.5	E						2.5
					2.5 -							2.0 -
												_
												=
					3.0	===						3.0
///////						<u>E==</u> ]						=
///////					3.5	E==]	Continued stiff brown	CLAY.				3.5-
///////////////////////////////////////												-
///////////////////////////////////////						E-=1						_
///////////////////////////////////////												
///////////////////////////////////////					4.0	EEE						4.0
///////////////////////////////////////						Ē						
												-
						E1						
///////					4.5							4.5-
///////////////////////////////////////						E==]						
///////							Window completer	Noted at E A	mbal			
///////					5.0 -	===1	Window sample comp <u>LEGEND</u>	neted at 5.0	-			5.0 -
		<u>N / NO<sup>-</sup></u>	<u> [ES:</u>				Disturbed Sample	Job Title			LE LOG	
Hand dug to 1.	.ombo	yı.					Undisturbed Sample		Pha	se II Inve	stigation	
Located adjace				pera	tor	*	Headspace Analysis	Location	DRA	X, HUMI	BERSIDE	
No.2 (north co	oling	towers	s).			+	Down Borehole Analysis	Client	AES	ELECT	RIC LTD	
							Groundwater Table	TI App'd Ref. JDW/	DB /DB/MCH	DC M		
						Į	Perched Water Table		N 2000		AMES & MOO	JRE
						1		000 NOT-00-				

NO NO	ш	L	SAINIPLE	ц	ËR			BOREHOLE NUMBER	R: WS129		PAG	E 1 OF 1	
BOREHOLE CONSTRUCTION	SPT N-VALUE		VIAN	SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	DRILLING DATES: 15/12/9	99	DRILLING N	NETHOD: \	Window Sampler	
REP	N-V			Man (ppn	DN N		0 U	DRILLER: Cape Site Serv	rices	BOREHOLE	E DIAMETE	ER: 70-35mm	
BO	SPT	NUMBER	ТҮРЕ	Soll	ROL		ы	LOGGED BY: RC				METER: 35mm ID H	IDPE
<u> </u>		Z			U		$\Box$	CHECKED BY: JDW		SCREEN S	LOT SIZE:	1	
	-				1	0—	ĸ x		ESCRIPTION			COMMENTS	0 -
		m SO-WS129 0.3m O HM	$\times$	*0				MADE GROUND: Tari Limestone gravel to 0. Coarse sandy gravel to Limestone gravel to 1.	.6mbgl. to 1.5mbgl.	ingi.		Dry, no visual or olfactory evidence of contamination.	
		SO-WS129 1.0m PAH/DRO		*0		2.0	$\bigotimes$	Borehole terminated u backfilled with bentoni		at 1.7mbgl	and	_	2.0
						  3.0							3.0
						4.0							4.0
						  5.0							5.0
													6.0
						7.0							7.0-
						8.0							8.0
						9.0							9.0
						- - 10.0 -							10.0 -
LOC	ATI	ON /	NOT	TES:	ć	•		LEGEND		BOF	REHO	LE LOG	
Hand dug to 1	.5m	ıbgl.					$\boxtimes$	Disturbed Sample	Job Title			estigation	
		-		inel (	سامد			Undisturbed Sample	Location			-	
Located adjac (Road R21).	ent		iem	icai tâ	HKS.		*	Headspace Analysis	Client			BERSIDE	
							†   ¥ ▽	Down Borehole Analysis Groundwater Table Borehod Water Table	TI App'd Ref. JDW/	AEX DB /DB/MCH N 2000	DCM	RIC LTD DAMES & MOO	ORE
1							ļ¥	Perched Water Table	Job No. 44354		GROUP		

BOREHOLE CONSTRUCTION	UE			SOIL VAPOUR (ppm)	GROUNDWATER	(u	<b>≻</b>	BOREHOLE NUMBER: W				1 OF 1	
BOREHOLE	SPT N-VALUE	< U	5	APO ₽	M	DEPTH (m)	GEOLOGY	DRILLING DATES: 09/12/99				indow Sampler	
STR	ź	ER	ш	≯d)	Š	EPT	Ы Ш	DRILLER: Cape Site Services		OREHOLE DIA			
<sup>M</sup> NO	SPT	NUMBER	ТҮРЕ	SOI	NS NS		Ū	LOGGED BY: SJC		CREEN TYPE			
0		z			0		$\square$	CHECKED BY: JDW		CREEN SLOT	SIZE: -	1	
						0-		DESCR				COMMENTS	0 -
							$\boxtimes$	MADE GROUND: Concrete	ie.			Dry, no visual or olfactory	
///////////////////////////////////////	1						<b>B</b>	MADE GROUND: Buff dolo	omite ang	ular gravel/s	and	evidence of	_
		als				=	RS	and silt.				contamination.	=
		SO-WS130 0.7m TPH/PAH/Heavy metals				0.5	ŔX	MADE GROUND: Red/brov	wn mediu	m sand with		Dry, no visual	0.5
		130 ( leavy		*0		-	$\bigotimes$	much fine to medium angul				or olfactory	
	1	SW-C	$\vdash$			-	$\boxtimes$					evidence of contamination.	
		SS DS				-	$\otimes$					contarnination.	
{//////		н				1.0-	$\bigotimes$						1.0-
							$\bigotimes$		l l		-1		_
						-	Ю	MADE GROUND: Loose re	ed brown i	medium san	α.	Dry, no visual or olfactory	
		m s				1.5-	$\bigotimes$					evidence of contamination.	1.5
		SO-WS130 1.7m Heavy metals				-	緻	MADE GROUND: Loose gr		e sand		contamination.	
		WS1: avy r	$\bowtie$	*0		-	$\boxtimes$	WINDE CITCOTTE: 20000 gr		c ound.			
		SOR					X						
						2.0-	$\widehat{\mathbb{X}}$	MADE GROUND: Brown sa	and/sand	stone gravel		Dry, no visual	2.0-
						-	X			<u> </u>		or olfactory	
							RX					evidence of contamination.	
		۶				2.5-	$\bigotimes$						2.5
		0 2.7ı etals				-	X	Soft to firm brown CLAV wit	ith come r	oot ond			
		O-WS130 2.7m Heavy metals	$\ge$	*0				Soft to firm brown CLAY wit occasional light brown silty			m	Dry/damp, natural organic	_
		SO-M Hea						2.6 - 3.0mbgl.				odour.	
	1					3.0		Rootlets/organic remains th	hroughout	t all clav			3.0
								sequence.	inoughout	cull oldy			
	1					3.5-	E						3.5-
													_
						-	ĒĒ						
						4.0-							4.0-
	1					-	E						
		4.7m				4.5-							4.5-
	1	SO-WS130 4.7m TOC	$\bigtriangledown$	*0									
		SW-0				-		Borehole terminated at 5.0r	)mbgl and	backfilled.			
		Š				5.0 -							5.0 -
LOC	ATI	ON /	NOT	TES:				LEGEND		BORE	HOL	E LOG	
Not installed.								Disturbed Sample Job Titl	itle	Phase I	I Inves	stigation	
Located in the	hve	droge	en Δ	ST				Undisturbed Sample	ion			BERSIDE	
compound.			~~ <i>1</i> ~				*	Headspace Analysis Client	t			RIC LTD	
							Ī	Down Borehole Analysis TI App'	p'd DB				
							₹	Groundwater Table Ref.	JDW/DB	B/MCH	う グ D4	AMES & MOO	ORF
							ĮŸ	Perched Water Table Date Job No	JAN 2 lo. 44354-00		/		

N		ш			ц	ËR			BOREHOLE NUMBER	R: WS131		PAGE	1 OF 1	
BOREHOLE CONSTRUCTION		SPT N-VALUE			SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	DRILLING DATES: 08/12/	99	DRILLING ME	THOD: W	/indow Sampler	
TRL		≥¦			- VAPC (ppm)	N N	PTF	5	DRILLER: Cape Site Serv	vices	BOREHOLE D	IAMETER	R: 70-35mm	
BOI		Ы	NUMBER	ТҮРЕ	OI	l ∑	DE	В В	LOGGED BY: SJC		SCREEN TYP	E & DIAN	IETER: 35mm ID H	IDPE
Ö		S	NU	Ĥ	S	5			CHECKED BY: JDW		SCREEN SLO	T SIZE:	1mm	
							0		DE	ESCRIPTION	1		COMMENTS	0 -
KXX R	$\otimes$						- 0	KX	MADE GROUND: Tar	mac.			Dry, no visual	1 =
	翗							$\bigotimes$	MADE GROUND: Bro	wn sand/gr	avel/clinker/as	sh.	or olfactory evidence of	
	$\square$		<u>د م</u>					$\bigotimes$	MADE GROUND: Buf	f dolomite s	and and angu	ılar	contamination.	
	$\square$		SO-WS131 0.7m TPH/Heavy metals				0.5	$\bigotimes$	gravel.				4	0.5
			/S131 eavy	$\ge$	*0			$\boxtimes$	MADE GROUND: Loc					_
	Š.		N-OS			1/0	-	KX	to coarse sand with or (lenses/laminae).	ccasional cl	ayey fragmen	ts		
			°°⊢			i≺ 06/01/00	1.0-	$\bigotimes$	(lenses/laminae).				Wet from	1.0
	88					¥	-	$\bigotimes$					1.0mbgl	
								$\boxtimes$						-
	ୖ୶		_				-	X						
			1.7m				1.5-	$\bigotimes$						1.5-
	8		S131 TOC	$\mathbf{X}$	*0			$\boxtimes$						
	83		SO-WS131 TOC		1		-	$\boxtimes$						=
	<u>~~</u>						2.0-	X						2.0-
			SO-WS131 2.2m Heavy metals		,			88						
			VS13 avy m	$\bowtie$	*0			$\bigotimes$						_
			SO-V He				-		Borehole completed a					
							2.5-		concrete/sandstone of refusal.	r limestone	boulder causi	ng		2.5
							-		reiusai.					
							-							
							3.0-							3.0-
														-
														_
							-							
							3.5-							3.5
							-							
							4.0							4.0-
							_							_
							4.5							4.5
							-							=
							5.0 -							5.0 -
			<u>) NC</u>	NOT	ES:	•		<b>—</b>	LEGEND		BORF	сног	E LOG	•
Located or	n Bar	ry				cent	to		Disturbed Sample	Job Title			stigation	
chemical ta	anks	•							Undisturbed Sample	Location			BERSIDE	
								*	Headspace Analysis	Client			RIC LTD	
								T	Down Borehole Analysis	TI App'd	DB			
								₹	Groundwater Table	Ref. JDW	/DB/MCH		AMES & MOC	)RF
								ĮΫ	Perched Water Table	Date JA Job No. 44354	N 2000			
								1		JUD 110. 7700'				

Z		L		~	К			BOREHOLE NUMBER	R· WS132		PAG	E 1 OF 1	
CTIC			SAIVIPLE	OUF (	VATE	(u)	[2]	DRILLING DATES: 16/12/		DRILLING M			
BOREHOLE CONSTRUCTION	SPT N-VALUE			SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	DRILLER: Cape Site Serv		BOREHOLE		•	
NS1 NS1	Г	1BE	ТҮРЕ		IN I	DEF	ы Ш	LOGGED BY: SJC		SCREEN TY			
-00	l∾	NUMBER	Ē	Ň	GR B			CHECKED BY: JDW		SCREEN SL	OT SIZE:	-	
								DI	ESCRIPTION	l		COMMENTS	
		SO-WS132 1.3m SO-WS131 0.3m HM/IPAH/DRO HM		*0				DI MADE GROUND: Tar Concrete to 0.2mbgl. Angular limestone gra Medium to coarse red Hand dug pit terminat backfilled with benton	mac to 0.11 avel to 0.45n I sand to 1.5 ced at 1.3mb	mbgl. nbgl. imbgl.	Isal and	COMMENTS Dry, no visual or olfactory evidence of contamination.	
						10.0 -		LEGEND		nor	FILO		10.0-
LOC/							$\square$	Disturbed Sample	Job Title			LE LOG	
No intrusive dr	IIIIN	g pe	rmit	ted.				Undisturbed Sample			se II Inve		
Hand dug to 1.	3m	bgl o	only				*	Headspace Analysis	Location	DRA	X, HUMI	BERSIDE	
Located on Tu					k		†	Down Borehole Analysis	Client		ELECT	RIC LTD	
adjacent to che	emi	cal ta	anks	3.			Ţ Ţ	Groundwater Table Perched Water Table		DB /DB/MCH N 2000 4-001-420		AMES & MOC	ORE

							Soil Mec	
Drilled JB Logged CP	Start 30/06/2011	Equipment, Methods a Dando 2000.	and Remar	ks	Depth from         to         Diameter         Casing Depth           0.00m         7.50m         200mm         7.50m           7.50m         19.55m         150mm         16.00m	Ground Level Coordinates	E 4	65607.67
Checked PH	End 01/07/2011	Cable percussion boring. No sample No.s 34 and 46 SPT Hammer ID: JB13.	6.		7.50m 19.55m 150mm 15.00m	National Grid Chainage	N 4	26920.16
Samalaa ar		SPT Rod type: NWY			Ctrata	Chainage		
Samples ar		Describ	Date	Time	Strata Description	Depth, Level	Lowend	Backfill/
Depth	Type & No	Records	Casing	Water	·	(Thickness)	Legend	Instruments
- 0.10 - 0.10-0.30	D 1 B 2	0.00-1.20 m Hand excavated inspection pit.			Black sandy angular fine to coarse – GRAVEL of coal.	(0.35)	$\otimes$	$\langle / /$
0.30 0.40	ES 3 D 4				(MADE GROUND)	0.35 +3.04 (0.30)		$\mathbb{N}$
0.40-0.60 0.60	B 5 ES 6				Reddish brown mottled grey slightly – clayey fine to coarse SAND.	0.65 +2.74	$\sim$	
– 0.70 – 0.80-1.00	D 7 B 8				(MADE GROUND)			
-		70.11			Firm thinly laminated greyish brown		· · ·	$\mathbb{Z}/\mathbb{Z}$
- 1.20-1.65 - 1.20	U 10 ES 9	70 blows		dry	mottled light brown slightly sandy CLAY with occasional partings of light brown		l' —∶-	V//
– 1.50-2.00 –	KFH	k=0.0E+0 m/s			silt.		·	$\mathbb{Z}$
- 1.70 - 1.70-2.00	D 11 D 12				1			$\mathbb{N}$
- 2.00-2.45	SPT S	N=18 (3,3/4,4,5,5)	2.00	dry	-		$\left  \begin{array}{c} \cdot \\ \cdot \\ \cdot \end{array} \right $	
- 2.00-2.45 2.00-2.50	D 13 B 14				-		$ [ - \cdot ]$	V/J
_							·	V//
-			1		-		<u> </u>	V//
-					-		· _:	$\mathbb{K}//\mathbb{A}$
3.00-3.45 	U 15	30 blows	3.00	dry		l	<u>i i</u>	$\mathbb{N}$
			1				-:	[//]
3.50	D 16					(5.85)	$\frac{\cdot}{\cdot}$ $-$	
_					-	· · ·	. —÷-	$\langle / \rangle$
_ 4.00-4.45	SPT S	N=16 (2,2/3,4,5,4)	4.00	dry				$\mathbb{Z}$
- 4.00-4.65 - 4.00-4.50	D 17 B 18				-		1	$\mathbb{K}/\mathbb{A}$
_							· _ · _	$\mathbb{K}/\mathbb{A}$
_							· ·	
-					1		<u>·</u> _· ∔	
5.00-5.45 	U 19	50 blows	5.00	dry			<u> </u>	$\langle / \rangle$
-							[ —: -	$\langle / /$
- 5.50	D 20				-		<u>-</u>	$\mathbb{Z}$
-					-		ŀ. ─;	$\mathbb{N}$
-							·	
							·	$\langle / \rangle$
_ - 6.50-6.95	SPT S	N=18 (3,3/4,5,4,5)	6.50	dry		6.50 -3.11	;	$\langle / / \rangle$
- 6.50-6.95 - 6.50-7.00	D 21 B 22			-	Medium dense orangish brown fine to	(0.00)		$\mathbb{K}/\mathbb{A}$
-						(0.60)		$\mathbb{Z}$
 7.20	D 23				Firm dark orangish brown slightly sandy -	7.10 -3.71	<u> </u>	
- 7.20-7.71	B 24				CLAY.		<u>-</u>	V/J
_					-		<u> </u>	V/I
-							[ —: -	
	U 25	110 blows	8.00	dry			<u>⊢</u> . –.]	$\mathbb{N}$
-			1			1	.∹	
 8.50	D 26		1		-	1	·	V/1
_			1		-	(3.20)	<u> </u>	$V/\lambda$
-			1				: :	$\mathbb{V}/\mathbb{A}$
-			1		2		⊢ ́–́I	$\mathbb{N}$
-					-		[ —: -	
- 9.50-9.95 - 9.50-9.95	SPT S D 27	N=27 (3,4/6,5,8,8)	9.50	dry	9.50-10.30 m		<u>⊢</u> . –	$\mathbb{N}$
9.50-10.00	B 28		1		laminated with partings of light			V/
Depth	Type & No	Records	Date Casing	Time Water	brown siltbrown siltbrown silt	<u> </u>		
Groundwater Entri					Depth Related Remarks *	Chiselling	·	
No. Struck Po (m)	st strike beha	viour	Depth s	sealed (m)	From to (m)		ïme Tool	s used
Notes: For explanation abbreviations see ke	on of symbols	and oths and reduced	Project		DRAX POWER STATION, PROJECT PHOENIX	Borehole		
levels in metres. Stra in depth column.	atum thickness	given in brackets	Project N		A1047-11		BH5	
Scale 1:50	(c) E 40	SGL www.esgl.co.uk 8.24 15/09/2011 15:36:14	Carried o	out for	Drax Power Limited	Sh	eet 1 of 2	

Soil Mechanics

Drilled JB Logged CP Checked PH	Start 30/06/2011 End 01/07/2011	Equipment, Methods an Dando 2000. Cable percussion boring. No sample No.s 34 and 46. SPT Hammer ID: JB13. SPT Rot tune: NWX		5	Depth fromtoDiameterCasing Depth0.00m7.50m200mm7.50m7.50m19.55m150mm15.00m	Ground Level Coordinates National Grid Chainage	+3.39 n E 46560 N 42692	nOD )7.67
Samples an	d Tests	SPI ROATOR NWY			Strata			
Depth	Type & No	Records	Date Casing	Time Water	Description (Continued from Sheet 1)	Depth, <i>Level</i> (Thickness)		ackfill/ uments
- 10.30 - 10.40-10.90 11.00-11.45	B 29 B 30 U 31	125 blows	11.00	dry	Firm dark orangish brown slightly sandy CLAY. Dense, becoming very dense, orangish brown silty fine to medium SAND.	10.30 -6.91		
- 11.50 12.00	D 32			u.y			• × × · · · · · · · · · · · · · · · · ·	
- 12.50-12.95 - 12.50-13.00 - 12.50-13.00 - 12.50-13.80 - 13.00-13.80	5 33 8 35 0 NR 8 36	N=46 (5,7/11,9,12,14)	12.50	dry	13.00-13.80 m occasional cobbles of sandstone	(5.20)	<pre>&lt; x x x x x x x x x x x x x x x x x x x</pre>	
	SPT S D 37 D 38	N=50 (10,12/13,11,13,13)	14.00	dry			x x · 1 · x · x · x · x · x · x · x · x · · · · · · · · · · · · · · · ·	
- 15.50-15.71 - 15.50-15.93 - 15.50-16.00 	SPT S D 39 B 40 W 41	50 (10,15 for 52mm/ 25,25 for 11mm)	15.00 01/07/2011 15.00 15.00	dry 0800 dry dry	Very dense reddish brown slightly silty fine to coarse SAND with occasional angular gravel of extremely weak sandstone. (Possible SHERWOOD SANDSTONE)	15.50 -12.11		
- 17.00-17.09 - 17.00-17.08 - 17.00-17.50 - 17.00-17.50	SPT S D 42 B 43	50 (25 for 20mm/50 for 68mm)	15.00	13.70		(3.00)	· · · · · · · · · · · · · · · · · · ·	
- 18.50-18.57 - 18.50-18.56 - 18.50-19.50 	SPT S D 44 B 45	50 (25 for 15mm/50 for 52mm)		13.70	Extremely weak reddish brown fine to coarse grained SANDSTONE. Recovered as sand and angular to subangular fine to coarse gravel. (SHERWOOD SANDSTONE)	18.50 <i>-15.11</i> (1.05)		
<u>19.50-19.55</u> 19.50-19.55	<u>SPT_S_</u> _ 	50_(25 for <u>11mm</u> /50 for <u>39mm</u> ),	01/07/2011 15.00	13.70	EXPLORATORY HOLE ENDS AT 19.55 m	19.55 -16.16		
Depth	Type & No	Records	Date Casing	Time Water				
(m)	st strike beha	viour after 20 minutes.	Depth se	ealed (m) -	Depth Related Remarks * From to (m) 12.00 16.20 Water added to assist boring.	Chiselling Depths (m) Ti 13.30 -13.30 3	<b>ime Tools use</b> 0 mins	d
Notes: For explanatic abbreviations see key levels in metres. Stra in depth column. Scale 1:50	y sheet. All de itum thickness	oths and reduced	Project Project No Carried ou	<b>).</b>	DRAX POWER STATION, PROJECT PHOENIX A1047-11 Drax Power Limited		<b>BH5</b> eet 2 of 2	

DrilledCSLoggedMTCheckedPH	Start 06/07/2011 End 07/07/2011	Equipment, Methods a Dando 150. Cable percussion boring. SPT Hammer ID: INFOSO SPT Rod type: B.		s	Depth from to Diameter Casing Depth 0.00m 20.70m 150mm 20.00m	Ground Level Coordinates National Grid Chainage	+6.03 mOD E 465922.97 N 427002.72
Samples ar	nd Tests		-		Strata		
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level (Thickness)	Legend Backfill/ Instruments
0.25 0.30 0.30-0.50 0.60 0.65	D 1 ES 2 B 3 ES 4 D 5	0.00-1.20 m Hand excavated inspection pit.			Cream angular to subangular coarse GRAVEL of limestone. Ballast/sub-base. (MADE GROUND) Black slightly clayey very sandy angular to subangular fine to coarse GRAVEL of	0.15 +5.86 (0.40) 0.55 +5.46 (0.45)	
- 0.65-1.00 - 1.20-1.65 - 1.20-1.65 - 1.20-1.65 - 1.55	B 6 SPT S D 7 D 8	N=25 (6,7/6,5,6,8)		dry	coal with occasional sandstone and mudstone. (MADE GROUND) Black and orange gravelly medium to coarse SAND. Gravel is angular to	1.00 +5.0 1.20 +4.8 1.45 +4.5	<sup>3</sup> XX
1.55-2.00 	B 9 SPT S	* N=9 (2,3/2,3,2,2)	2.10	drv	subangular fine to coarse of coal, sandstone and mudstone. (MADE GROUND) Cream angular to subangular coarse		
- 2.10-2.55 - 2.50 - 2.50-3.00	D 10 ES 11 B 12	( <u> </u>	2.10	uiy	GRAVEL of limestone. Ballast/sub-base. (MADE GROUND) Orange brown medium to coarse SAND.	(1.95)	
	SPT S D 13	N=12 (4,4/3,3,3,3)	3.00		(MADE GROUND) Firm brown, locally orange and black, sandy gravelly CLAY. Gravel is angular to subangular fine to coarse of coal,		
- 3.50 - 3.50-4.00 - 3.80 - 4.00-4.45	D 14 B 15 ES 16 U 17	40 blows	4.00	dry	limestone, sandstone and mudstone.     3.40-4.50 m       (MADE GROUND)     locally soft       Firm to stiff brown, locally mottled	3.40 +2.6	
4.45-4.65	D 18 B 19				silt. Gravel is subangular to subrounded fine to medium of mudstone and siltstone.		
- 5.00-5.45 - 5.00-5.45	SPT S D 20	N=15 (2,3/3,4,4,4)	5.00	dry			
5.50-6.00	B 21						
- - 6.50-6.95 -	U 22	39 blows	6.20	dry			
6.95-7.15 7.20-7.60	D 23 B 24					(7.60)	
	SPT S D 25	N=15 (2,3/3,4,4,4)	8.00	dry			
8.50-9.00	B 26						
9.50	U 27	42 blows	9.00	dry			
9.95-10.15 Depth	D 27 Type & No	Records	Date Casing	Time Water			0 0
Groundwater Entri			Depth s		Depth Related Remarks *         From to (m)         2.10       3.00       Water added to assist boring.	Chiselling Depths (m)	Time Tools used
Notes: For explanati abbreviations see ke levels in metres. Stra in depth column. Scale 1:50	ey sheet. All de atum thickness	oths and reduced	Project Project N Carried o		DRAX POWER STATION, PROJECT PHOENIX A1047-11 Drax Power Limited		BH12 neet 1 of 3

Soil Mechanics

Drilled CS Logged MT Checked PH	Start 06/07/2011 End 07/07/2011	Equipment, Methods an Dando 150. Cable percussion boring. SPT Hammer ID: INFOS01 SPT Rod type: B.		S	Depth from to Diameter Casing Depth 0.00m 20.70m 150mm 20.00m	Ground Level Coordinates National Grid Chainage	+6.03 mOD E 465922.97 N 427002.72
Samples ar	nd Tests				Strata		
Depth	Type & No	Records	Date Casing	Time Water	Description (Continued from Sheet 1)	Depth, <i>Level</i> (Thickness)	Legend Backfill/ Instruments
10.50-11.00 11.00-11.45 11.00 11.50-12.00	B 29 SPT S D 30 B 31	N=14 (2,3/3,3,4,4)	06/07/2011 10.50 07/07/2011 10.50	dry	Firm to stiff brown, locally mottled         grey, locally slightly gravelly, CLAY         with occasional partings of light brown         silt.	11.00 -4.97	
12.50-12.95 12.95-13.15 13.15-13.80 14.00-14.45	U 32 D 33 B 34 SPT S	42 blows N=12 (2,2/2,2,3,5)	12.00	dry	12.50-13.00 m locally soft	(4.15)	
- 14.00-14.45 - 14.50-15.20 	D 35 B 36			_,	Firm to stiff sandy SILT.	15.15 - <del>9</del> .12	
- 15.50-15.95 - 15.50-15.95 	SPT S D 37 B 38	<ul> <li>N=18 (2,3/3,4,4,7)</li> </ul>	15.00	dry		(2.10)	
- 17.00-17.45 17.00-17.45 17.00 17.40-18.20 - -	SPT S D 39 W 40 B 41	N=24 (3,3/4,5,7,8)	17.00	14.10	Dense reddish brown medium to coarse Slightly gravelly SAND. Gravel is angular to subangular fine to medium of sandstone.	17.25 -11.22 (1.25)	
- 18.50-18.62 18.50-18.62 18.50-19.40 	SPT S D 42 B 43	50 (25 for 60mm/50 for 60mm)	18.50	14.10	Extremely weak reddish brown fine to medium grained SANDSTONE. Recovered as sand and angular to subangular fine to medium gravel. (SHERWOOD SANDSTONE)	18.50 <i>-12.47</i> (2.20)	SPIE
Depth	Type & No	Records	Date Casing	Time Water	Stratum continues to 20.70 m		
(m)	st strike beha	viour after 20 minutes.	Depth se		Depth Related Remarks * From to (m) 15.50 20.50 Water added to assist boring.	Chiselling Depths (m) T 18.50 -20.60 6	<b>ime Tools used</b> 0 mins
Notes: For explanatic abbreviations see key levels in metres. Stra in depth column. Scale 1:50	y sheet. All de atum thickness	pths and reduced	Project Project No Carried ou	<b>b</b> .	DRAX POWER STATION, PROJECT PHOENIX A1047-11 Drax Power Limited		<b>3H12</b> eet 2 of 3

# Soil Mechanics

Drilled CS	Start	Equipment, Methods an	nd Remarks		I	Depth from to 0.00m 20.70m	Diameter 150mm	Casing Depth	Ground Level		6.03 mOD
Logged MT Checked PH	06/07/2011 End	Dando 150. Cable percussion boring. SPT Hammer ID: INFOS01 SPT Rod type: B.				0.00m 20.70m	150mm	20.00m	Coordinates National Grid		465922.97 427002.72
	07/07/2011	SPT Rod type: B.							Chainage		
Samples an			Date 1	ime	Strata	Description			Depth, Level		Backfill/
Depth	Type & No	Records		later		inued from Sheet 2)			(Thickness)	Legend	Instruments
   20.60-20.70 20.60-20.70	SPT S <del>D</del> 44	50 (25 for 60mm/50 for 40mm)	07/07/2011 20.00	14.30	Extremely weak reddish to medium grained SANDS sand and angular to suba medium gravel. (SHERWOOD SANDSTO	TONE. Recovered ingular fine to	l as		20.70 -14.67		
20.60-20.70	SPT S D-44	50 (25 for 60mm/50 for 40mm)	20.00	14.30	(SHERWOOD SANDST( EXPLORATORY HOLE E				20.70 -14.67		
Depth	Type & No	Records	Date Ti Casing W	ime ater							
Groundwater Entrie No. Struck Pos (m)	es st strike beha	viour	Depth seal	ed (m)	Depth Related Remarks * From to (m)				Chiselling Depths (m)	lime Too	ols used
Notes: For explanatic abbreviations see key levels in metres. Stra in depth column. Scale 1:50		and bihs and reduced given in brackets SGL www.esgl.co.uk 824 15/09/2011 15:36:33	Project Project No. Carried out f	or	DRAX POWER STATION, PROJ A1047-11 Drax Power Limited	ECT PHOENIX				<b>3H12</b> leet 3 of 3	



Drilled JB Logged MT Checked PH	<b>Start</b> 07/07/2011 <b>End</b> 08/07/2011	Equipment, Methods a Dando 2000. Cable percussion boring. No sample No.s 26, 30 an SPT Hammer ID: JB13. SPT Rod type: NWV		S.	Depth from to Diameter Casing Depth 0.00m 20.41m 150mm 20.00m	Ground Level Coordinates National Grid Chainage	E	4.58 mOD 466198.39 426958.76
Samples ar	nd Tests				Strata			
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level (Thickness)	Legend	Backfill/ Instruments
- 0.10-0.50	B 1	0.00-1.20 m Hand excavated inspection pit.			MACADAM. Road Surface. (MADE GROUND)	0.10 +4.48 (0.40) 0.50 +4.08		
- 0.60 - 0.60-1.00 	D 2 B 3				Light grey sandy angular to subangular fine to coarse GRAVEL of limestone. Ballast/sub-base. (MADE GROUND)			
- 1.20 - 1.20-2.00	ES 4 B 5				Medium dense reddish brown slightly gravelly SAND. Gravel is subangular to rounded medium to coarse of sandstone and mudstone. (MADE GROUND)			
- 2.00-2.45 2.00-2.45 2.00-2.50 2.00-3.45	SPT S D 6 B 7 D 8	N=27 (2,4/5,7,7,8)	2.00	dry		(2.90)		
- 	SPT S B 9	N=16 (1,2/3,4,4,5)	3.00	dry				
- 3.50 - 3.60 - 3.70-4.00	D 10 ES 11 B 12				Firm brown mottled orange and grey sandy CLAY.	3.40 +1.18 (0.70)		
- 4.00-4.45 	U 13	72 blows	4.00	dry	Stiff fissured brown mottled grey CLAY with frequent partings of light brown	4.10 + <i>0.4</i> 8	· 	
- 4.50 - 4.50-4.80 -	D 14 B 15				silt.	(0.90)		
	SPT S D 16 B 17	N=19 (3,4/4,5,4,6)	5.00	dry	Stiff, locally firm, brown CLAY with occasional partings of light brown silt.	5.00 -0.42		
6.50-6.95	U 18 D 19	85 blows	6.50	dry				
-						(4.60)		
8.00-8.45 - 8.00-8.45 - 8.00-8.50 	SPT S D 20 B 21	N=29 (4,4/6,7,9,7)	8.00	dry				
- - 9.50-9.95 - -	U 22	100 blows 405 mm rec	9.50	dry	Stiff reddish brown slightly sandy CLAY	9.60 -5. <i>02</i>	 	
Depth	Type & No	Records	Date Casing	Time Water	Stratum continues to 12.50 m			
Groundwater Entrie No. Struck Po (m)	es st strike beha	viour	Depth s	ealed (m)	Depth Related Remarks * From to (m)	Chiselling Depths (m) T	ime Too	ls used
Notes: For explanation abbreviations see ke levels in metres. Stra in depth column. Scale 1:50	y sheet. All de atum thickness	oths and reduced	Project Project N Carried o	о.	DRAX POWER STATION, PROJECT PHOENIX A1047-11 Drax Power Limited		<b>3H13</b> eet 1 of 3	

								_	Soil Med	
Drilled JB	Start 07/07/2011	Equipment, Methods a Dando 2000.	and Remark	s	1	Depth from to Diameter 0.00m 20.41m 150mm	Casing Depth 20.00m	Ground Level Coordinates	+4 E 4	4.58 mOD 466198.39
Logged MT Checked PH	End 08/07/2011	Cable percussion boring. No sample No.s 26, 30 an	d 34.					National Grid		426958.76
		SPT Hammer ID: JB13. SPT Rod type: NW/Y						Chainage		
Samples an			Date	Time	Strata	De contratione		Depth, Level		Deel-GW/
Depth	Type & No	Records	Casing	Water		Description ued from Sheet 1)		(Thickness)	Legend	Backfill/ Instruments
_ 10.00	D 23				with occasional partings of silt.	light brown	-		<u></u>	
_					Siit.		-		<u> </u> . ─; <u> </u>	
_							-		$\overline{\cdot }$	
-							-		<u>.                                    </u>	
11.00-11.45 - 11.00-11.45	SPT S D 24	N=22 (3,4/6,5,6,5)	11.00	dry				(2.90)	<u>-</u>	
11.00-11.50	B 25						-		<u> </u>	
_							-		[`—:+	
							-		<u>⊢</u> . –	
-										
_							-		·	
_ _ _ 12.50-12.95	U 26	21 blows No recovery	07/07/201 12.00	1 dry			-	12.50 -7.92	· _ ·	
- 12.30-12.93 	0 20	21 blows no recovery	08/07/201 12.00	1 0800 dry	Soft brown CLAY.		-	12.50 -7.92	<u> </u>	
-			12.00	uly			-	(0.60)	-	1
13.00 	D 27				Coff brown your condy CLA	V		13.10 -8.52	— — <b>—</b>	₫ / /
- 13.20 _	D 28				Soft brown very sandy CLA		-			
_ - 13.60-13.80	B 29						-		<u>.                                    </u>	
_							-		[ — : -	
	SPT S	N=5 (1,1/2,1,1,1)	14.00	13.10					<u>⊢</u>	$\mathbf{Y}$
14.00-14.50 14.00-14.45	B 31 D NR						-		}_∹ †	
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_							-		<u>.                                    </u>	
-							-			$\langle / /$
_							-		<u> </u>	$\mathbf{V}$
-							-		[`—:+	
- 15.50-15.95 - 15.50-15.95	SPT S D 32	N=5 (2,1/1,1,2,1)	15.50	13.10			-		<u>⊢</u> ,;	
15.80-16.00	B 33						-			
									$\cdot$ $\cdot$	
_							-	(6.30)	<u> </u>	$\mathbf{Y}$
-							-		<u>·</u> _·	
_							-		<u> </u>	
_ 17.00-17.45	SPT S	N=4 (1,1/1,1,1,1)	17.00	13.10					[ —: -	
17.00-17.50 17.00-17.45	B 35 D NR						-		<u>⊢</u> , –;	$\mathbf{V}/\mathbf{A}$
_										
17.60	W 36						-		$\overline{\cdot} \_ \overline{\cdot}$	╉╱╱
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							-		╞╶╤┊╡	
-	057 6						-		<u>⊢</u> –	
- 18.50-18.95 18.50-18.95	SPT S D 37	N=14 (2,3/3,3,4,4)	18.50	13.10			18.50 m		ŀ —∶¦	$\mathbb{Y}$
18.50-19.00	B 38						-		<u> </u>	
19.00-19.40 19.00-19.35	B 39 D 40									
-		N 44 / 7 7/0 40 10 11	10.40	10.10			=	10.40 11.00	<u> `                                    </u>	$\langle / \rangle$
- 19.40-19.85 - 19.40-20.20	SPT S B 41	N=44 (5,7/8,10,12,14)	19.40	13.10	Dense reddish brown claye			19.40 <i>-14.8</i> 2	· · ·	
					coarse SAND with occasio to medium gravel of sands		-	(0,00)	<u>-</u> .	Y/A
	Time A M		Date	Time				(0.90)		
Depth Groundwater Entrie	Type & No	Records	Casing	Water	Stratum continues to 20.30 m			Chicallin		1
	s st strike behav	riour	Depth s		Depth Related Remarks * From to (m)					s used
(m) 1 17.60 Ros	se to 13.10 m	after 20 minutes.		(m) -				19.60 - 20.20 6	u mins	
Notes: For explanation abbreviations see key	/ sheet. All dec	oths and reduced	Project		DRAX POWER STATION, PROJECT	CT PHOENIX		Borehole		
levels in metres. Stra in depth column.		-	Project N		A1047-11 Dray Power Limited				3H13	
Scale 1:50	(C) E 408	SGL www.esgl.co.uk	Carried o	ut 101	Drax Power Limited			Sh	eet 2 of 3	

Drilled JB Logged MT Checked PH	Start 07/07/2011 End 08/07/2011	Equipment, Methods a Dando 2000. Cable percussion boring. No sample No.s 26, 30 and SPT Hammer ID: JB13. SPT Rod two: NWY		Depth from to Diameter Casing Depth 0.00m 20.41m 150mm 20.00m	Ground Level Coordinates National Grid Chainage	+4.58 mOD E 466198.39 N 426958.76
Samples ar	nd Tests			Strata		
Depth	Type & No	Records	Date Time Casing Water	Description (Continued from Sheet 2)	Depth, Level (Thickness)	Legend Backfill/ Instruments
 20.20-20.38 20.20-20.41	SPT S D 42	50 (1,21/50 for 32mm)	08/07/2011 20.00 13.10	Dense reddish brown clayey medium to coarse SAND with occasional angular fine to medium gravel of sandstone.	20.30 -15.72	
Depth	Туре & No	Records	Date Time Casing Water	Extremely weak reddish brown medium to coarse grained SANDSTONE. Recovered as sand and angular to subangular fine to coarse gravel. (SHERWOOD SANDSTONE) EXPLORATORY HOLE ENDS AT 20.41 m	20.41 -15.83	
Groundwater Entrie No. Struck Po: (m)	es st strike beha	ńour	Depth sealed (m)	Depth Related Remarks * From to (m)	Chiselling Depths (m) T	me Tools used
Notes: For explanation	on of symbols :	and	Project	DRAX POWER STATION, PROJECT PHOENIX	Borehole	
Notes: For explanationabbreviations see key levels in metres. Stra	y sheet. All dep atum thickness	oths and reduced given in brackets				3H13
in depth column.			•	A1047-11 Drax Power Limited		
Scale 1:50	40	SGL www.esgl.co.uk			She	eet 3 of 3



									30	COTEC
Order     Decide To     Decide To     Constrained Bit	Drilled	Start	Equipment, Methods and Rem	arks		Depth from to	Diameter Casing Depth	Ground Level		3.70 mOD
			Drilled by Soil Mechanics.			(,	(,	Coordinates (m)	E	466245.00
Strate Description         Optimization         Optimization         Optimization           mym         Type A 10.         mecone         [001]         Non         Data Million         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001]         [001] <td< td=""><td></td><td>End</td><td></td><td></td><td></td><td></td><td></td><td>National Grid</td><td>Ν</td><td>427178.00</td></td<>		End						National Grid	Ν	427178.00
Supple         Type & Sta         Hermine         Description         Des										
Optim         Type M for         Description         Descriprint         Description	Samples and	I Tests			Strata Description	า				
And for sequences of which and actionations are as a sequence of the formula of a line of the sequences of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the formula of the	Depth	Type & N	o. Records		Ма	ain	Detail		Legend	Backfil
No.     Depth Strike (m) Remarks     Depth Sealed (m)     Depths (m)     Remarks     Depths (m)     Duration (mins)     Tools       Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and educed levels in metres. Stratum thickness given in project No.     Project     DRAX GEOTECHNICAL DESK STUDY     Borehole     C162-1968	Samples and		o. Records		Ма	ain		(Thickness)		Backfill
No.       Depth Strike (m) Remarks       Depth Sealed (m)       Depths (m)       Remarks       Depths (m)       Duration (mins)       Tools         Notes:       For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres.       Project       DRAX GEOTECHNICAL DESK STUDY       Borehole       C162-1968         Project No.       A7101-17       C162-1968       C162-1968       C162-1968	- - - - - -									
No.       Depth Strike (m) Remarks       Depth Sealed (m)       Depths (m)       Remarks       Depths (m)       Duration (mins)       Tools         Notes:: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and educed levels in metres. Stratum thickness given in project       DRAX GEOTECHNICAL DESK STUDY       Borehole       C162-1968         Project No.       A7101-17       C162-1968       C162-1968       C162-1968	-						-	1	F_= 1	
No.       Depth Strike (m) Remarks       Depth Sealed (m)       Depths (m)       Remarks       Depths (m)       Duration (mins)       Tools         Index:       For explanation of symbols and abbreviations es (key to Exploratory Hole Records. All depths and educed levels in metres.       Stratum thickness given in reackets in depth column.       Project No.       A7101-17       Borehole       C162-1968							-			
No.       Depth Strike (m) Remarks       Depth Sealed (m)       Depths (m)       Remarks       Depths (m)       Duration (mins)       Tools         Ioles:       For explanation of symbols and abbreviations es Key to Exploratory Hole Records. All depths and educed levels in metres.       Project       DRAX GEOTECHNICAL DESK STUDY       Borehole       C162-1968         © Convinth SOCOTEC UK Limited       © Convinth SOCOTEC UK Limited       Project No.       A7101-17       C162-1968									<u>[-]-]</u>	
No.       Depth Strike (m) Remarks       Depth Sealed (m)       Depths (m)       Remarks       Depths (m)       Duration (mins)       Tools         Index:       For explanation of symbols and abbreviations es (key to Exploratory Hole Records. All depths and educed levels in metres.       Stratum thickness given in reackets in depth column.       Project No.       A7101-17       Borehole       C162-1968										
No.       Depth Strike (m) Remarks       Depth Sealed (m)       Depths (m)       Remarks       Depths (m)       Duration (mins)       Tools         Ioles:       For explanation of symbols and abbreviations es Key to Exploratory Hole Records. All depths and educed levels in metres.       Project       DRAX GEOTECHNICAL DESK STUDY       Borehole       C162-1968         © Convinth SOCOTEC UK Limited       © Convinth SOCOTEC UK Limited       Project No.       A7101-17       C162-1968	Groundwater Entrie	s		1	Depth Related Remarks			Hard Boring		_
ee Key to Exploratory Hole Records. All depths and educed levels in metres. Stratum thickness given in vackets in depth column. © Copyright SOCOTEC UK Limited	No. Depth Strike (	(m) Remarks			Depths (m) Remarks			Depths (m)	Duration (mins)	Tools used
rackets in depth column. © Convinit SOCOTEC UK Limited ACS	lotes: For explanation	1 of symbols and V Hole Records	d abbreviations Project	DRA	X GEOTECHNICAL DESK STU	UDY		Borehole		
Scale         1:50         18/12/2017 21:43:31         Carried out for         Drax Power Limited         Sheet 1 of 2	rackets in depth colui © Cop	mn. pyright SOCOTE	EC UK Limited AGS					C <sup>,</sup>	162-1968 Sheet 1 of 2	B



				• • • • • • • • • • • • • • • • • • •			30	COTEC
Drilled	Start	Equipment, Methods and Re	marks		ameter Casing Depth mm) (m)			3.70 mOD
Logged		Drilled by Soil Mechanics.				Coordinates (m)		E 466245.00
Checked TC	End					National Grid	1	N 427178.00
Approved TC								
Samples and	Tests		Date Time	Strata Description				
Depth	Type & N	o. Records	Casing Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
Lepth	iype & N	v. Kecords	Casing Water	Main Firm brown laminated CLAY with partings of silt. Clay becoming silty with depth. Compact grey-brown SILT with layers of clay and sand towards base.	Jetaii			
-				Dense fine and medium red-brown SAND with traces.		15.50 -11.80		
				END OF EXPLORATORY HOLE		(3.20) 18.70 -15.00		
				Donth Polistod Romarks		Hard Boring		
Groundwater Entries No. Depth Strike ( Notes: For explanation	m) Remarks	abbreviations Projet	Depth Sealed (m)	Depth Related Remarks Depths (m) Remarks X GEOTECHNICAL DESK STUDY		Hard Boring Depths (m) Borehole	Duration (mins)	Tools use
see Key to Exploratory	Hole Records.	All depths and	JR/	A GEOTECHNICAL DESK STUDT				-
educed levels in metre rackets in depth colur	nn	Projec	ct No. A71	01-17		C1	62-196	8
© Cop Scale 1:50	yright SOCOTE	C UK Limited AGS Carrie	d out for Dra	Power Limited			Sheet 2 of 2	
Scale 1:50 18/12/2017 21:43:31								



								5	OCOTEC
Drilled	Start	Equipment, Methods and Rema	arks		Depth from to	Diameter Casing I	Depth Ground Level		3.80 mOD
Logged		Drilled by Soil Mechanics.			(m) (m)	(mm) (m)	Coordinates (m)		E 466350.00
Checked TC	End	Shired by Soli Mechanics.					National Grid		N 427155.00
Approved TC									
Samples and	Tests			Strata Description	1				
Depth	Type & N	e Beeerde	Date Time	м	ain	Detail	Depth, Level	Legend	Backfill
Depth	Type & N	o. Records	Casing Water				(Thickness)		
-				Firm brown laminated CL	AY with partings of silt.		_	<u> </u>	
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Groundwater Entries	<u> </u>			Depth Related Remarks			Hard Boring		
No. Depth Strike (r			Depth Sealed (m)	Depths (m) Remarks			Depths (m)	Duration (mins	;) Tools used
	of our hal			V GEOTECUNICAL DECK OF			Doveba'-		
Notes: For explanation see Key to Exploratory	Hole Records.	All depths and	DR4	X GEOTECHNICAL DESK ST	זעט		Borehole		
educed levels in metre	s Stratum thic	kness given in	No. A71	01-17			C1	163-196	68
© Cop Scale 1:50	yright SOCOTE	EC UK Limited AGS		Power Limited				Sheet 1 of 2	
55015 I.UU	18	/12/2017 21:43:32	510					SHOEL I ULZ	



r	-							COTEC
Drilled	Start	Equipment, Methods and	Remarks		iameter Casing Depth (mm) (m)	Ground Level		3.80 mOD
.ogged Checked TC	End	Drilled by Soil Mechanics.				Coordinates (m)		E 466350.00 N 427155.00
pproved TC	End					National Grid	I	N 427155.00
amples and	Tests			Strata Description		4		
			Date Time		D-4-11	Depth, Level	Legend	Backfill
Depth	Type & No	o. Records	Casing Water	Main	Detail	(Thickness)		
				Firm brown laminated CLAY with partings of silt.	-	-	F1	
					-	-	<u>[</u> ]	
					-	-		
					-	-		
-					_		F	
					-	_		
						-		
				Moderately compact and compact grey brown		11.60 -7.80	$\times \times \times \times$	
				SILT with layers of clay and sand near base.	-	-	$\times \times \times \times$	
-					-	-	$\begin{array}{c} \times \times \times \times \\ \times \times \times \times \end{array}$	
					-	_	$\times \times \times \times$	
						]	$\times \times \times \times$	
						-	$\begin{array}{c} \times \times \times \times \\ \times \times \times \end{array}$	
-						1	$\times \times \times \times$	
					:	-	$\begin{array}{c} \times \times \times \times \\ \times \times \times \times \end{array}$	
					-	-	$\times \times \times \times$	
						-	$\times \times $	
					-		$\times \times $	
-						(4.70)	$\times \times \times \times$	
						-	$\begin{array}{c} \times \times \times \times \\ \times \times \times \times \end{array}$	
						-	$\times \times \times \times$	
					-	-	$\times \times \times \times$	
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_						-	$\times \times $	
						-	k x x x x	
				Dense fine and medium red-brown SAND with		16.30 -12.50		
				traces of silt near top and clay at 17.40m.		_		
					-	_		
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					-	-		
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_						(3.10)		
						4		
					-	-		
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					-	4		
-						1		
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				END OF EXPLORATORY HOLE		19.40 -15.60		_
					-	1		
						1		
roundwater Entries	;		I	Depth Related Remarks		Hard Boring		
Io. Depth Strike (r			Depth Sealed (m)	Depths (m) Remarks		Depths (m)	Duration (mins)	Tools us
						I		
tes: For explanation			oject DR/	AX GEOTECHNICAL DESK STUDY		Borehole		
tes: For explanation e Key to Exploratory luced levels in metre ickets in depth colur	Hole Records. s. Stratum thic	All depths and ness given in		AX GEOTECHNICAL DESK STUDY 01-17			163-196	8



									so	COTEC
Drilled	Start	Equipment, Methods and Re	emarks		Dept	th from to (m) (m)	Diameter Casing Depth (mm) (m)	Ground Level		4.30 mOD
Logged		Drilled by Soil Mechanics.			, i i i i i i i i i i i i i i i i i i i	(11)	() ()	Coordinates (m	)	E 466411.00
Checked TC	End	,						National Grid	1	N 427143.00
Approved TC										
Samples and	Tests				Strata Description					
Depth	Type & N	o. Records	Date Casing	Time Water	Main		Detail	Depth, Level (Thickness)	Legend	Backfill
_			ousing	mater	Firm brown laminated CLAY wi	vith partings of silt.		(1110101000)	<u> </u>	
_					Clay becomes silty at depth.		-			
-							-			
_									<b>E-I-I</b>	
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-							-	(11.90)	<u>[-]-]</u>	
-							-	(11.30)	<u>[-]-]</u>	
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Groundwater Entrie		1	1		Depth Related Remarks			Hard Boring		
No. Depth Strike (	m) Remarks		Depth Sealed	d (m)	Depths (m) Remarks			Depths (m)	Duration (mins)	Tools used
								1		
Notes: For explanation	of symbols and	abbreviations Proje	ect	DRA	AX GEOTECHNICAL DESK STUDY			Borehole		
ee Key to Exploratory educed levels in metro	Hole Records. es. Stratum thic	All depths and kness given in							167-106	8
see Key to Exploratory reduced levels in metro	Hole Records. es. Stratum thic	All depths and kness given in	ect ect No. ed out for	A71	XX GEOTECHNICAL DESK STUDY 01-17 x Power Limited				<b>167-196</b> Sheet 1 of 2	8



				<u> </u>				ΟCOTEC
Drilled	Start	Equipment, Methods and Re	marks	Depth from to Dia (m) (m) (	ameter Casing Depth (mm) (m)	Ground Level		4.30 mOD
Logged		Drilled by Soil Mechanics.			(,	Coordinates (m)		E 466411.00
Checked TC	End	,				National Grid		N 427143.00
pproved TC						1		
Samples and	l Tests			Strata Description				
Depth	Type & N	o. Records	Date Time Casing Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfil
	+			Firm brown laminated CLAY with partings of silt.	-			Ĩ
				Clay becomes silty at depth.	-	4		
-						1	E	
					-		<b></b>	
							<b>L-_</b> - <b>_</b>	
-								
						-	F	
-								
-					-	-		
						- 11.90 -7.60		
				Compact grey-brown SILT with layers of clay and sand near base.		-	$\times \times \times \times$	
					-		$\begin{array}{c} \times \times \times \times \\ \times \times \times \end{array}$	
-						1	$\times \times \times \times$	
					-		$\times \times \times \times$	
					-		$\times \times $	
					-		$\times \times \times \times$	
					-		$\begin{array}{c} \times \times \times \times \\ \times \times \times \times \end{array}$	
-						-	$\begin{array}{c} \times \times \times \times \\ \times \times \times \times \end{array}$	
					-	1	$\times \times \times \times$	
					-	1	$\begin{array}{c} \times \times \times \times \\ \times \times \times \times \end{array}$	
					-	1 ,,	$\times \times \times \times$	
					-	(4.60)	$\times \times $	
-					-	-	$\times \times \times \times$	
					-	1	$\times \times \times \times$	
					-	1	$\begin{array}{c} \times \times \times \times \\ \times \times \times \end{array}$	
-						1	$\times \times \times \times$	
-					-	-	$\times \times $	
-					-		$\times \times \times \times$	
-					-	_	$\times \times $	
-					-		$\times \times \times \times$	
							$\times \times \times \times$	
							$\begin{array}{c} \times \times \times \times \\ \times \times \times \end{array}$	
_				Dense fine red-brown SAND with traces of silt in		16.50 -12.20		
				top 1.00m.	-	_		
					-			
						-		
-								
					:	1		
_					_	(2.90)		
					-	-		
					-			
-					-	1		
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-					_			
					-			
						- 19.40 -15.10	, <u>1999</u>	_
-				END OF EXPLORATORY HOLE	-			
						4		
						1		
Groundwater Entrie	s			Depth Related Remarks		Hard Boring		
No. Depth Strike (			Depth Sealed (m)	Depths (m) Remarks		Depths (m)	Duration (mins	) Tools use
otes: For explanation	n of symbols an	d abbreviations Project	ct DR.	X GEOTECHNICAL DESK STUDY		Borehole		
ee Key to Exploratory educed levels in metr	res. Stratum thic	kness aiven in	at No.	04 47			67-196	8
ackets in depth colu © Cop	ımn. pyright SOCOTE	C LIK Limited AGS		01-17				
Scale 1:50		Carrie	ed out for Dra	c Power Limited			Sheet 2 of 2	



									30	COTEC
Drilled	Start	Equipment, Methods and Rem	arks		Depth from to (m) (m)	Diameter Cas (mm)	sing Depth (m)	Ground Level		3.75 mOD
Logged		Drilled by Soil Mechanics.			(,	()	(11)	Coordinates (m)		E 466146.00
Checked TC	End	,						National Grid		N 427201.00
Approved TC										
Samples and	l Tests		Date Time	Strata Description	ו					
Depth	Type & N	o. Records	Casing Water	Ма		Deta	ail	Depth, Level (Thickness)	Legend	Backfil
1				Firm to stiff, becoming sof laminated CLAY with parti	ft to firm, brown					
				depth.	ings of slit. Slity clay a	at	-	-	F	
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								-	<b>F-I-1</b>	
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								(10.70)	$F_{}$	
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Groundwater Entries			Dopth Scaled (m)	Depth Related Remarks				Hard Boring	Duroties (	Toole
No. Depth Strike (	iii) rtemarks		Depth Sealed (m)	Depths (m) Remarks				Depths (m)	Duration (mins)	I UOIS USED
otes: For explanation	of symbols and	d abbreviations Project All depths and	DRA	XX GEOTECHNICAL DESK STU	YDI			Borehole		
e Key to Exploratory duced levels in metri ackets in depth colur © Cop Scale 1:50	mn. oyright SOCOTE	EC UK Limited AGS		01-17 k Power Limited				C'	169-196	8
Scale 1:50	18	/12/2017 21:43:32	210						Sheet 1 of 2	



Defile at	04- 1	Fundament in the second		<b>I</b>			30	
Drilled	Start	Equipment, Methods and Re	emarks		iameter Casing Depth (mm) (m)			3.75 mOD
Logged Checked TC	End	Drilled by Soil Mechanics.				Coordinates (m) National Grid		E 466146.00 N 427201.00
Approved TC	Enu					National Griu	'	427201.00
Samples and	Tests			Strata Description				
		o. Records	Date Time	Main	Detail	Depth, Level	Legend	Backfill
Depth	Type & N	o. Records	Casing Water		Detail	(Thickness)		
				Firm to stiff, becoming soft to firm, brown laminated CLAY with partings of silt. Silty clay at		-		
				depth.	-	-		
-					-	40.70 0.05	L1	
				Compact grey-brown SILT with some layers of clay and thin layers of sand at base.		10.70 -6.95	$\times \times \times \times$	
_				ciay and thin layers of sand at base.				
							$\times \times $	
_					-		$\times \times $	
						_	k x x x x	
					-	-	$\begin{array}{c} \times \times \times \times \\ \times \times \times \times \end{array}$	
_					-	-	$\begin{array}{c} \times \times \times \times \\ \times \times \times \times \end{array}$	
						-	$\begin{array}{c} \times \times \times \times \\ \times \times \times \times \end{array}$	
-					-	-	$\begin{array}{c} \times \times \times \times \\ \times \times \times \times \end{array}$	
					-	-	$\times \times \times \times$	
_							$\begin{array}{c} x \times x \times x \\ \times \times \times \times \end{array}$	
						(4.80)	$\times \times $	
					:	4	$\times \times $	
-						4		
					:	-	$\times \times \times \times$	
_					· ·	-	$\begin{array}{c} \times \times \times \times \\ \times \times \times \times \end{array}$	
						-	$\begin{array}{c} \times \times \times \times \\ \times \times \times \times \end{array}$	
						-	$\begin{array}{c} \times \times \times \times \\ \times \times \times \times \end{array}$	
-					-	-	$\times \times \times \times$	
							$\begin{array}{c} X \times X \times X \\ X \times X \times X \end{array}$	
						_	$\times \times $	
						_	$\times \times $	
-						- 15.50 -11.75	+ ~ ~ ~ 1	
				Dense, becoming very dense with depth, fine red SAND traces of silt in top 0.30m.		_		
					-	-		
					-	-		
						-		
-								
					_			
						(3.20)		
						_		
-					-	-		
					-	-		
_						-		
						]		
_								
						18.70 -14.95		
				END OF EXPLORATORY HOLE				
_					-	-		
					:	-		
					-	4		
					:	-		
						-		
Groundwater Entrie	s			Depth Related Remarks		Hard Boring		
No. Depth Strike (			Depth Sealed (m)	Depths (m) Remarks		Depths (m)	Duration (mins)	Tools use
otes: For explanatior se Key to Exploratory	of symbols and	d abbreviations Proje	ect DR.	AX GEOTECHNICAL DESK STUDY		Borehole		
educed levels in metr	es. Stratum thic	kness given in	ect No. A71	01-17		C1	69-196	8
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	18	/12/2017 21:43:32	210				511001 £ 01 £	



								30	DCOTEC
Drilled	Start	Equipment, Methods and Remain	arks	Dep	pth from to [ (m) (m)	Diameter Casing Depth (mm) (m)	Ground Level		3.35 mOD
Logged		Drilled by Soil Mechanics.			(,	()	Coordinates (m)		E 466330.00
Checked TC	End						National Grid	I	N 426620.00
Approved TC									
Samples and	Tests			Strata Description					
Depth	Type & N	o. Records	Date Time Casing Water	Main		Detail	Depth, Level (Thickness)	Legend	Backfil
-				MADE GROUND.					
-						-			
-							(1.00)		
-						-	(1.00)		
_									
				Firm brown laminated CLAY w	vith partings of silt		1.00 +2.35		
-				above 7.00m, clay becoming s	silty below 7.00m.			F	
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-								<u>[]</u>	
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						_		<u> </u>	
_						-		E- <u>-</u> ]	
_								F	
-						_			
_							(10.00)		
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-						-		F	
-									
Groundwater Entries No. Depth Strike (I			Depth Sealed (m)	Depth Related Remarks Depths (m) Remarks			Hard Boring Depths (m)	Duration (mins)	Tools used
Notes: For explanation	of symbols and	d abbreviations Project	DRA	X GEOTECHNICAL DESK STUDY			Borehole		
see Key to Exploratory reduced levels in metre prackets in depth colur	es. Stratum thic	All depths and kness given in	No. A71	01-17			CT <sup>,</sup>	1/45-19	68
© Cop Scale 1:50	yright SOCOTE	C UK Limited AGS		Power Limited				Sheet 1 of 2	-
- 5010 1.00	18	/12/2017 21:43:32	_10					5	



							<u> </u>		COTEC
Drilled	Start	Equipment, Methods a	ind Remarks			ameter Casing Depth (mm) (m)			3.35 mOE
ogged		Drilled by Soil Mechanic	S.				Coordinates (m)		E 466330.00
hecked TC	End						National Grid		N 426620.00
pproved TC									
amples and	Tests		Date	Time	Strata Description		Double Louis	1	De el fil
Depth	Type & N	o. Records	Casing	Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfil
					Firm brown laminated CLAY with partings of silt	-			
					above 7.00m, clay becoming silty below 7.00m.	-	-	F	
							-		
						-	-		
						-	-	<u>[]</u>	
_					Very loose and compact brown very sandy SILT		11.00 -7.65	5 5 7 5 7 5 C 10	
					with layers of brown clay.	-	-	$\times \times \times \times$	
							-	$\times \times \times \times$	
						-	-	$(\times \times \times)$	
						-	(1.60)	$(\times \times \times )$	
_							-	$\times \times \times \times$	
						-		$\times \times \times \times$	
-							-	$\times \times \times \times$	
					Medium dense and dense fine red brown SAND	1 -	12.60 -9.25		
					with thin layers of clay and silty sand.	-	-		
-							-		
						-	-		
-							-		
						-	-		
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_							-		
							(3.20)		
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-						-			
-						-	45.00 40.45		
-					END OF EXPLORATORY HOLE	-	15.80 -12.45		
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Groundwater Entries					Depth Related Remarks		Hard Boring		
No. Depth Strike (i			Depth Seal	ed (m)	Depths (m) Remarks		Depths (m)	Duration (mins)	Tools us
otes: For explanation	of symbols and	abbreviations	Project	DR	X GEOTECHNICAL DESK STUDY		Borehole		
e Key to Exploratory duced levels in metre	Hole Records.	All depths and		510					••
ackets in denth colun	n	C UK Limited	Project No.	A71	01-17		I CT <sup>.</sup>	1/45-19	68



								SO	COTEC
Drilled	Start	Equipment, Methods and F	Remarks		Depth from to Dia	ameter Casing Depth	Ground Level		3.20 mOD
Logged		Drilled by Soil Mechanics.			(m) (m) (r	mm) (m)	Coordinates (m)	) E	E 466297.00
Checked TC	End	Stared by Son Weelldriks.					National Grid	1	N 426793.00
Approved TC									
Samples an	d Tests				Strata Description				
Depth	Type & N	o. Records	Date	Time	Main	Detail	Depth, Level	Legend	Backfill
	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Casing	Water	MADE GROUND.		(Thickness)		<u> </u>
-						-	-		
-						-	1		
-						-	(1.00)		
-						-	1		
—					Firm brown laminated CLAY with partings of silt.		- 1.00 +2.20		
-					Firm brown laminated CLAY with partings of silt.	-	-		
-						-	-		
-						-	-		
-						-	-	<u> </u>	
-							-	F]	
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-						-	1	$F_{}$	
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Groundwater Entri					Depth Related Remarks		Hard Boring		
	es		Depth Seale	ed (m)	Depths (m) Remarks		Depths (m)	Duration (mins)	Tools used
No. Depth Strike			Dopail Count		• • • •				
			2001.000						
			200111 00011						
No. Depth Strike	(m) Remarks	l abbreviations Pro			X GEOTECHNICAL DESK STUDY		Borehole		
No. Depth Strike	(m) Remarks	All depths and kness given in	oject	DRA	X GEOTECHNICAL DESK STUDY				
No. Depth Strike	(m) Remarks	All depths and kness given in		DRA A71				2/165-19	68



		1			· · · · · · · · · · · · · · · · · · ·		<u> </u>		COTEC
Drilled	Start	Equipment, Methods	and Remarks		Depth from to D (m) (m)	Diameter Casing Depth (mm) (m)			3.20 mOD
_ogged		Drilled by Soil Mechan	ics.				Coordinates (m		E 466297.00
Checked TC	End						National Grid	1	N 426793.00
Approved TC									
Samples and	Tests		Date	Time	Strata Description				
Depth	Type & N	lo. Record	s Casing	Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfil
					Firm brown laminated CLAY with partings of silt.	-	-		
							-		
						-	-		
- ·						-			
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						-	-	<u> </u>	
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-							-		
							-	<u> </u>	
_						_			
						-	12.20 -9.0		
					Compact brown SILT with some layers of clay and sand at bottom.	-	-9.0		
-					sand at bottom.	-		$\times \times \times \times$	
						-		$\times \times $	
•						-	1	<pre>x x x x x x x x x x</pre>	
						-	-	$\times \times \times \times$	
						:	(2.00)	$\times \times \times \times$	
-							4	$\times \times \times \times$	
-						-		$\times \times $	
						-		$\times \times $	
_						-	-	$\times \times \times \times$	
					Generally medium dense, becoming dense, fine		14.20 -11.0		
					red brown SAND with some silty sand near top.	-	-		
•							-		
						-	-		
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					END OF EXPLORATORY HOLE		18.30 -15.1	0	-
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						-	-		
Groundwater Entrie					Depth Related Remarks		Hard Boring		
No. Depth Strike (	m) Remarks		Depth Seale	ed (m)	Depths (m) Remarks		Depths (m)	Duration (mins)	Tools use
otes: For explanation	of symbols an	d abbreviations	Project	DRA	X GEOTECHNICAL DESK STUDY		Borehole		
ee Key to Exploratory educed levels in metro	Hole Records	. All depths and						-	
ackets in denth colu	mn		Project No.	A71	)1-17		נוט ן	2/165-19	60
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	10		-						



								COTEC
Drilled Logged	Start	Equipment, Methods and Re	emarks	Depth from to Dia (m) (m) (r	meter Casing Depth nm) (m)	Ground Level Coordinates (m	)	3.20 mOD E 466139.00
Checked TC	End					National Grid		N 426781.00
Approved TC Samples and	d Teete			Strate Description				
			Date Time	Strata Description		Depth, Level	Legend	Backfill
Depth	Type & No	o. Records	Casing Water		Detail	(Thickness)		
-				MADE GROUND.	-	-		
-					-	-		
-					-	(1.00)		
- -					-	_		
				Firm brown laminated CLAY with partings of silt.		1.00 +2.2	0	
				Clay becomes silty with depth.	-	-		
-					-	-	F	
					-		F	
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					-	-		
-						-		
					-	_		
					-	-		
					-	-		
_					-	 9.10 -5.9		
				Compact grey brown SILT becoming sandy with depth.	-	- 9.10 - 5.9	< X X X X	
					-		$\begin{array}{c} \times \times \times \times \\ \times \times \times \times \end{array}$	
					-		$\begin{array}{c} \times \times \times \times \\ \times \times \times \times \end{array}$	
					-	-	$\times \times \times \times$	
_							<u> </u>	
Groundwater Entrie	s			Depth Related Remarks		Hard Boring		
No. Depth Strike (	(m) Remarks		Depth Sealed (m)	Depths (m) Remarks		Depths (m)	Duration (mins)	Tools used
otes: For explanation	n of symbols and v Hole Records	d abbreviations Proje	ct DR	AX GEOTECHNICAL DESK STUDY		Borehole		
ee Key to Exploratory educed levels in metro prackets in depth colu	es. Stratum thick	kness given in	ct No. A71	01-17		Ст	3/45-19	68
	pyright SOCOTE	C UK Limited AGS		x Power Limited			Sheet 1 of 2	
	18/	12/2017 21:43:33				1	ONGGET ULZ	



Drilled Logged Checked TC	Start Equipr	nent, Methods and Re	narks	Depth from to Di (m) (m)	iameter Casing Depth (mm) (m)	<ul> <li>Ground Level</li> <li>Coordinates (m</li> <li>National Grid</li> </ul>		3.20 mOD E 466139.00 N 426781.00
Approved TC								120101.00
Samples and	Tests		Date Time	Strata Description				
Depth	Type & No.	Records	Casing Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfil
Depth	Type & No.	Records		Main Compact grey brown SILT becoming sandy with depth. Dense medium, becoming fine with depth, red brown SAND with traces of silty sand.	Detail		×××× ×××× ×××× ×××× ×××× ×××× ×××× ×××× ××××	
						-		
				END OF EXPLORATORY HOLE		16.60 -13.4	10	$\neg$
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						-		
roundwater Entries o. Depth Strike (r			Depth Sealed (m)	Depth Related Remarks Depths (m) Remarks		Hard Boring Depths (m)	Duration (mins)	Tools us
etes: For explanation e Key to Exploratory duced levels in metre ackets in depth colum	of symbols and abbrev Hole Records. All depti s. Stratum thickness gi n. rright SOCOTEC UK Li	iations Projectors and ven in Projectors Projectors		X GEOTECHNICAL DESK STUDY		Borehole CT	3/45-19	68



<u>-</u> _		•						-	οςοτες
Drilled	Start	Equipment, Methods a	and Remarks			neter Casing Depth nm) (m)	Ground Level		4.70 mOE
ogged		Drilled by Dames & Mod	ore.		() ()	, , ,	Coordinates (m	)	E 466166.00
	End						National Grid		N 428043.00
pproved TC									
amples and	lests		Date	Time	Strata Description		Depth, Level	Lawand	Backfi
Depth	Type & N	o. Records	Casing	Water	Main	Detail	(Thickness)	Legend	Backin
					Hardcore/gravel FILL. (MADE GROUND)	-	(0.30)		
					Medium to coarse dark grev sand FILL including		0.30 +4.4		
					some soft grey clayey lenses. (MADE GROUND)	-	_		
							(1.20)		
_							-		
							-		
					Firm to stiff brown silty sandy CLAY.	-	1.50 +3.2		
					Thin to still brown sity sainty OLAT.		-	$\overline{\times}$ $\overline{\times}$ $\overline{-}$	
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-							-	×	
							-	X—X	
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							(6.50)	$\overline{}$ $\times$ $\overline{}$	
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							8.00		
-					Coarse dark brown SAND.		- 8.00 -3.3	, <u> </u>	
						-	-		
						-	1		
							(1.20)		
							1		
-							1		
					Firm brown very sandy silty CLAY with occasional		9.20 -4.5	) <del></del>	
					sandy lenses.		1	X	
								××	
						-	-	×	
					Denth Deleted Demonstra		Hand Do. 1		
Groundwater Entries No. Depth Strike (n			Depth Sea	led (m)	Depth Related Remarks Depths (m) Remarks		Hard Boring Depths (m)	Duration (mins	s) Tools us
stop: For systematic	of ourses!	hobbrovictions	Brojact				Borobele		
otes: For explanation e Key to Exploratory	of symbols and Hole Records.	d abbreviations All depths and	Project	DR/	AX GEOTECHNICAL DESK STUDY		Borehole		
otes: For explanation the Key to Exploratory duced levels in metre ackets in depth colum	nn	d abbreviations All depths and kness given in EC UK Limited	Project Project No.		AX GEOTECHNICAL DESK STUDY 01-17			H7-200	0



								30	COTEC
Drilled	Start	Equipment, Methods and Rei	marks			iameter Casing Depth (mm) (m)	Ground Level		4.70 mOD
Logged		Drilled by Dames & Moore.			(, ()	, (iii)	Coordinates (m		E 466166.00
hecked TC	End						National Grid	١	428043.00
pproved TC									
Samples and	Tests		Date Time	Strata Description	1		Don'the Lowel	1	Backfil
Depth	Type & N	o. Records	Casing Water	. Ma	ain	Detail	Depth, Level (Thickness)	Legend	Backing
				Firm brown very sandy si sandy lenses.	Ity CLAY with occasional	-		XX	
				sandy lenses.		-	-	×	
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_							17.00 -12.3		
				Fine brown SAND, occas clayey lenses.	ional soft to medium		-12.3	v	
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							-		
							-		
-							-		
						-	(2.50)		
						-	, <i>,</i>		
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-									
						-			
							- 19.50 -14.8	0	
				Fine brown SAND, traces sandstone.	or dark prown/red	-	-		
						-	-		
								<u> </u>	
Groundwater Entrie	e			Depth Related Remarks			Hard Boring		
lo. Depth Strike (			Depth Sealed (m)	Depths (m) Remarks			Depths (m)	Duration (mins)	Tools used
otes: For explanatior	of symbols and	abbreviations Project	t DR/	AX GEOTECHNICAL DESK STI	JDY		Borehole		
e Key to Exploratory	Hole Records.	All depths and						U7 2000	<b>`</b>
ackets in depth colu © Cop	mn. byright SOCOTF	CLIK Limited AGS		01-17				H7-2000	,
Scale 1:50	18	/12/2017 21:43:33	d out for Dra	x Power Limited				Sheet 2 of 3	



Drilled									
	Start	Equipment, Methods	and Remarks		Depth from to D (m) (m)	iameter Casing Depth (mm) (m)	Ground Level		4.70 mOD
.ogged		Drilled by Dames & Mo	ore		(11) (11)	(1111) (111)	Coordinates (m)		E 466166.00
hecked TC	End	Drilled by Durlies & Me	Jore.				National Grid		N 428043.00
Approved TC									
Samples and	d Tests				Strata Description		1		
			Date	Time		D-4-1	Depth, Level	Legend	Backfil
Depth	Type & N	o. Record	s Casing	Water	Main	Detail	(Thickness)	_	
					Fine brown SAND, traces of dark brown/red sandstone.	-			
					Sanusione.		(1.50)		
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							-		
_							21.00 -16.30		
					END OF EXPLORATORY HOLE	-	-		
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Groundwater Entrie					Denth Related Remarks		Hard Boring		_
Groundwater Entrie No. Depth Strike (			Depth Se	aled (m)	Depth Related Remarks Depths (m) Remarks		Hard Boring Depths (m)	Duration (mins)	Tools used
	n of symbols and	abbreviations	Project	DR/	X GEOTECHNICAL DESK STUDY		Borehole		
otes: For explanation		All depths and	• •	-			1		
otes: For explanation ee Key to Exploratory	y Hole Records.	All deptris and					I		•
e Key to Exploratory duced levels in metr ackets in depth colu	y Hole Records. es. Stratum thic mn. pyright SOCOTE		Project No.	A71	01-17		В	H7-200	0



								DCOTEC
Drilled	Start	Equipment, Methods and	I Remarks	Depth from to D (m) (m)	iameter Casing Depth (mm) (m)	Ground Level		9.20 mOD
_ogged		Drilled by Dames & Moore		(11) (11)	()	Coordinates (m)		E 465850.00
hecked TC	End	,				National Grid		N 427490.00
pproved TC								
amples and	J Tests		Dete Time	Strata Description				
Depth	Type & N	lo. Records	Date Time Casing Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
	1			Loose black ashy gravel FILL.	-	(0.30)		
				(MADE GROUND) Loose brown very sandy clayey FILL including	-  -	0.30 +8.90		
				some brick fragments.	-	-		
				(MADE GROUND)	-			
_					_	(1.20)		
					-	_		
					-	-		
				Coarse dark brown SAND.		1.50 +7.70		
						-		
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						_		
						4		
					:	1		
					-	-		
					-	-		
					-			
						(4.70)		
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					:	4		
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						1		
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						4		
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					-	1		
				Firm to stiff dark grey/brown slightly sandy CLAY.	1 :	6.20 +3.00		
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						4		
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oundwater Entries			I	Depth Related Remarks		Hard Boring		
o. Depth Strike (	(m) Remarks		Depth Sealed (m)	Depths (m) Remarks		Depths (m)	Duration (mins)	Tools us
tes: For explanation	n of symbols an	d abbreviations	roject DR/	AX GEOTECHNICAL DESK STUDY		Borehole		
e Key to Exploratory duced levels in metro	/ Hole Records. es. Stratum thic	. All depths and ckness given in	roject No A74	01-17		R	H8-200	0
ckets in depth colur © Cop	mn. pyright SOCOT!	EC UK Limited AGS	-	01-17				
ale 1:50	18	B/12/2017 21:43:33	arried out for Dra	x Power Limited			Sheet 1 of 3	



								30	COTEC
Drilled	Start	Equipment, Methods and Rem	arks		Depth from to (m) (m)	Diameter Casing Depth (mm) (m)	Ground Level		9.20 mOD
Logged		Drilled by Dames & Moore.			(,	()	Coordinates (m)	E	465850.00
checked TC	End						National Grid	Ν	427490.00
Approved TC									
Samples and	Tests		Date Time	Strata Description	<u>1</u>				
Depth	Type & No	o. Records	Casing Water	Ma	ain	Detail	Depth, Level (Thickness)	Legend	Backfill
				Firm to stiff dark grey/bro	wn slightly sandy CLA	Y			
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				Medium to coarse dark b	rown very silty SAND.		16.70 -7.50		
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	+						20.00 -10.80	)  x: ^ : ×	
Groundwater Entries No. Depth Strike (			Depth Sealed (m)	Depth Related Remarks Depths (m) Remarks			Hard Boring Depths (m)	Duration (mins)	Tools used
opui ouike (	,		_ op ooulou (iii)					_ a. a.ion (mm3)	
otes: For explanation	of symbols and	d abbreviations Project	DRA	X GEOTECHNICAL DESK ST	UDY		Borehole		
ee Key to Exploratory duced levels in metro	Hole Records. es. Stratum thick	All depths and kness given in						H8-2000	•
ackets in depth colur © Cop	nn. yright SOCOTE	ECUK Limited AGS		01-17					,
Scale 1:50		Carried	out for Drax	Power Limited			I	Sheet 2 of 3	



								SC	DCOTEC
Drilled	Start	Equipment, Methods	and Remarks		Depth from to (m) (m)	Diameter Casing Depth (mm) (m)			9.20 mOD
Logged		Drilled by Dames & M	oore.		(, (,	()	Coordinates (m)		E 465850.00
Checked TC	End						National Grid		N 427490.00
Approved TC							4		
Samples and	Tests		Date	Time	Strata Description		Denth Level	Levend	Backfil
Depth	Type & N	o. Record	ls Casing		Main	Detail	Depth, Level (Thickness)	Legend	Backing
					Fine dark brown/red SAND, much sandstone fragments.				
					laginents.	-			
-						-	(1.00)		
-							_		
						-	21.00 -11.8	,	
-					END OF EXPLORATORY HOLE	-	-		
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Groundwater Entries					Depth Related Remarks		Hard Boring		_
No. Depth Strike (r			Depth \$	Sealed (m)	Depth Kelated Remarks Depths (m) Remarks		Hard Boring Depths (m)	Duration (mins)	Tools used
lates: For evaluation	of symbols and	abbreviations	Project	90	X GEOTECHNICAL DESK STUDY		Borebolo		
otes: For explanation ee Key to Exploratory	Hole Records.	All depths and	Project	DR	X GEOTECHNICAL DESK STUDY		Borehole		
ee Key to Exploratory	Hole Records.	All depths and	Project Project No.		X GEOTECHNICAL DESK STUDY )1-17			H8-200	D



illed	Start	Equipment, Method	is and Remarks	6		Depth from to Diar (m) (m) (m	neter Casing Depth nm) (m)			E 466192 0
gged ecked TC	End	Drilled by Dames &	Moore.					Coordinates (m) National Grid		E 466183.0
proved TC	Liid								·	1 427 442.0
amples and						Strata Description		1		
Depth	TCR	If Records/S			Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfi
	RQD			using	mater	Brick.		0.12 <sup>(0.12)</sup>		
						(MADE GROUND) Angular GRAVEL of limestone. (MADE GROUND)		(0.48)		
						(MĂDE GROUND)	-	_		
						Medium to coarse red SAND. (MADE GROUND)		0.60		
						(MADE GROUND)	_			
								(1.40)		
							-	_		
								_		
						Firm to very stiff red CLAY including frequent	_	2.00		
						coarse sandy lenses.		-	F	
								-		
							-			
							-	(2.00)	<u>⊢−−−</u>	
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						END OF EXPLORATORY HOLE		4.00		
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oundwater Entrie						Depth Related Remarks		Chiselling Detai	ls	_
	e Remarks		I	Depth Seale	d	Depths (m) Remarks			Duration (mins)	Tools u
s: For explanation	of symbols and	abbreviations	Project		DRA	X GEOTECHNICAL DESK STUDY		Borehole		
Key to Exploratory	Hole Records. es. Stratum thic	All depths and kness given in	Brelect N			04 47		We	126-20	00
kets in depth colu		C UK Limited AGS	Project No.		A71	01-17		1 443	120-20	<b>U</b> U



rilled	Start	Equipment.	Methods and Ren	narks		Depth from to Dia	ameter Casing Depth	Ground Level		
ogged						(m) (m) (	(mm) (m)	Coordinates (m)		E 466229.0
necked TC	End	Drilled by Da	ames & Moore.					National Grid		N 427561.0
proved TC										
amples and	l Tests					Strata Description		1		
Depth	TCR SCR RQD	lf Re	cords/Samples	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backf
	RQD			ouomy		Brown sand/gravel/hardcore/ash/clinker.	-	_		
						(MADE GROUND)	-	(0.40)		
						Buff dolomite sand and angular gravel.		0.40 0.50 (0.10)		
						(MADE GROUND) Brown/grey medium to coarse gravel and angular	·	-		
						limestone gravel. (MADE GROUND)	0.80-1.00 clay rich -	-		
-						(		(1.20)		
							-			
								-		
						Firm to stiff brown CLAY with orange/grey mottling		1.70		
						from 1.90-3.00m.		_	F	
							-	-		
							-	-		
								-		
							-		L	
							-	1	F	
							-			
								(3.30)		
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							-	-		
								-	F	
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							-	5.00		
						END OF EXPLORATORY HOLE	-			
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roundwater Entries				Donth C		Depth Related Remarks		Chiselling Detai		Toolog
o. Depth Strike	e nemarks			Depth Se	dieŭ	Depths (m) Remarks		Depths (m)	Duration (mins)	TOOIS U
es: For evplopation	of symbols an	d abbreviation	s Projec	t	DR/	X GEOTECHNICAL DESK STUDY		Borehole		
Co. I OI EXPIDITATION	HOID Records	All depths an	u					1		~~
Key to Exploration Key to Exploratory uced levels in metre ckets in depth colur	es. Stratum thic	kness given i	Projec	t No	A 74	01-17		I WS	127-20	00



		-			_				50	COTEC
Drilled	Start	Equipm	ent, Methods and Ren	narks		Depth from to D (m) (m)	Diameter Casing Depth (mm) (m)			
.ogged	<b>_</b> .	Drilled b	y Dames & Moore.					Coordinates (m)		E 466443.00
hecked TC	End	Borenole	e terminated due to refu	isal.				National Grid	ſ	427425.00
pproved TC	1 Toete					Strata Description				
				Date	Time			Depth, Level	Legend	Backfil
Depth	TCR SCR RQD	lf	Records/Samples	Casing	Water	Main	Detail	(Thickness)		
						MACADAM. (MADE GROUND)		0.17 (0.17)		
						Limestone gravel. (MADE GROUND)	-	(0.43)		
						Coarse sandy gravel.		0.60		
						(MADE GROUND)		-		
-							-	(0.90)		
								1.50		
						Limestone gravel. (MADE GROUND)		(0.20)		
						END OF EXPLORATORY HOLE				
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roundwater Entrie	s					Depth Related Remarks		Chiselling Detai	ls	
lo. Depth Strike	e Remarks			Depth Se	aled	Depths (m) Remarks			Duration (mins)	Tools us
otes: For explanation	n of symbols ar	id abbrevia	ations Projec	t	DRA	X GEOTECHNICAL DESK STUDY		Borehole		
e Key to Exploratory duced levels in metr	y Hole Records es. Stratum thi	. All depths	s and en in						120 204	<b>n</b> n
ackets in depth colu © Cor	mn. pyright SOCOT		nited AGS			11-17		**3	129-20	00
cale 1:50		B/12/2017 21		d out for	Drax	Power Limited		1	Sheet 1 of 1	



illed	Start	Equipn	nent, Methods and Ren	narks	_		meter Casing Depth	Ground Level		
ogged		Drilled	North Company			(m) (m) (r	mm) (m)	Coordinates (m)		E 466443.0
ecked TC	End	Drilled	by Dames & Moore.					National Grid		N 427385.0
proved TC										
amples and					i	Strata Description				
Depth	TCR SCR RQD	lf	Records/Samples	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backf
						CONCRETE.	-	(0.20)		
						(MADE GROUND) Buff dolomite angular gravel/sand and silt.	-	0.20 (0.30)		
						(MADE GROUND)		0.50		
						Red/brown medium sand with much fine to medium angular gravel.	-			
						medium angular gravel. (MADE GROUND)	-	(0.75)		
							-	1.25		
						Loose red brown medium sand. (MADE GROUND)	-	(0.35)		
								1.60		
						Loose grey coarse sand. (MADE GROUND)	-	(0.40)		
							-	2.00		
						Brown sand/sandstone gravel. (MADE GROUND)		2.00		
						(	-	(0.60)		
							-			
						Soft to firm brown CLAY with some peat and	-	2.60		
						occasional light brown silty lenses/laminance from 2.60-3.00m.	-	-		
	1						-	1	⊢	
							-		[- <u>-</u> -]	
							-	-		
							-	-		
							-	(2.40)		
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						END OF EXPLORATORY HOLE		5.00		
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undwater Entrie						Depth Related Remarks		Chiselling Detai		_
Depth Strike	e Remarks			Depth Se	aled	Depths (m) Remarks		Depths (m)	Duration (mins)	Tools
s: For explanation	n of symbols an	d abbrevi	ations Projec	t	DRA	X GEOTECHNICAL DESK STUDY		Borehole		
Key to Exploratory ced levels in metr	es. Stratum this	All depth kness giv	/en in		-				130-20	ሰሰ
kets in denth colu	mn		mited AGS		A71	01-17		**3	130-20	00
				l out for	Dray	Power Limited		•	Sheet 1 of 1	



rilled	Start	Equipment, Met	hods and Rema	rks		Depth from to Di	ameter Casing Depth	Ground Level		ΟΟΟΤΕΟ
ogged						(m) (m)	(mm) (m)	Coordinates (m)		E 466461.0
ecked TC	End	Drilled by Dames Borehole termina	& Moore. ted due to concr	ete/sandston	e or limes	tone boulder causing refusal.		National Grid		N 427126.0
proved TC						, , , , , , , , , , , , , , , , , , ,				
amples and	d Tests					Strata Description		1		
Depth	TCR SCR RQD	If Record	s/Samples	Date Casing	Time	Main	Detail	Depth, Level (Thickness)	Legend	Backf
-	RQD			Casing	Water	MACADAM.				
						(MADE GROUND) Brown sand/gravel/clinker/ash.	1 :	0.10 (0.10) 0.20 (0.10)		
						(MADE GROUND) Buff dolomite sand and angular gravel.	/	(0.40)		
						(MADE GROUND)		0.60		
						Loose to dense red brown medium to coarse sand with occasional clayey fragments (lenses/		-		
-						laminae). (MADE GROUND)				
							-			
							-	(1.70)		
								-		
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						END OF EXPLORATORY HOLE		2.30	*****	
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oundwater Entrie . Depth Strik	e Remarks			Depth Se	aled	Depth Related Remarks Depths (m) Remarks		Chiselling Detai Depths (m)	ls Duration (mins	s) Tools u
es: For explanation Key to Explorator	y Hole Records	. All depths and	Project		DR/	X GEOTECHNICAL DESK STUDY		Borehole		
ced levels in metr	es. Stratum thi	ckness given in	Project N	lo.	A71	01-17		WS	131-20	00
© Cop ale 1:50	oyright SOCOT	EC UK Limited A	GS Carried of	out for	Dra	Power Limited			Sheet 1 of 1	



illed	Start	Equipp	nent, Methods and Rer	narke		Depth from to D	Diameter Casing Depth	Ground Lovel		ΟΟΟΤΕΟ
ogged	Start			liaiko		(m) (m)	(mm) (m)	Coordinates (m)		E 466399.0
necked TC	End	Drilled t Hand d	by Dames & Moore. ug pit terminated at 1.30	)m upon refusa	al.			National Grid		N 427189.0
proved TC										
amples and	d Tests					Strata Description				
Depth	TCR SCR RQD	lf	Records/Samples	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backf
	RQD			Casing	Water	MACADAM.		0.11 (0.11) 0.20 (0.09)		
						(MADE GROUND) CONCRETE.	-/ :	0.20 (0.09) (0.25)		
						(MADE GROUND)		0.45		
						Angular limestone gravel. (MADE GROUND)		_		
						Medium to coarse red sand. (MADE GROUND)	-	(0.85)		
						(MADE GROUND)				
								1.30		
						END OF EXPLORATORY HOLE	-			
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undwater Entrie	s					Depth Related Remarks		Chiselling Deta	ils	
	e Remarks			Depth Se	aled	Depths (m) Remarks			Duration (min	s) Tools
s: For explanatior	n of symbols an	d abbrevi	ations Project	t	DRA	X GEOTECHNICAL DESK STUDY		Borehole		
Key to Explorator ced levels in metr	y Hole Records es. Stratum this	. All depth	is and ven in						420.00	
ets in denth colu	mn		Projec	t No.	A71	01-17		l ws	132-20	000
© Cor	pyright SOCOT	EC UK Lir	mited AGS 1:43:35	d out for	Dra	c Power Limited			Sheet 1 of 1	



	<b>0</b> 11									
	Start	Equipment, Methods an	d Remarks		D	epth from to (m) (m)	Diameter Casing Depth (mm) (m)			3.39 mOD
ogged		Drilled by Soil Mechanics				. ,,		Coordinates (m)		E 465607.67
	End							National Grid		N 426920.1
pproved TC								ł		
amples and	Tests		Date	Time	Strata Description					
Depth	Type & No	o. Records	Casing	Water	Main		Detail	Depth, Level (Thickness)	Legend	Backfil
					Black sandy angular fine to a coal. (MADE GROUND) Reddish brown mottled grey coarse SAND. (MADE GROUND) Firm thinly laminated greyist brown slightly sandy CLAY v partings of light brown silt. Medium dense orangish brown sli Firm dark orangish brown sli	slightly clayey fine t		(0.35) 0.35 + 3.04 (0.30) 0.65 + 2.74 (5.85) 6.50 - 3.11 (0.60) 7.10 - 3.71 (3.20)		
Groundwater Entries					Depth Related Remarks			Hard Boring		
Groundwater Entries No. Depth Strike (m	) Remarks		Depth Seale		Depths (m) Remarks			Hard Boring Depths (m) Borehole	Duration (mins)	Tools us
					V OFOTEOUNIOAL DEOK OTUD	,		Blazabala		
tes: For explanation o	of symbols and tole Records	abbreviations All depths and	Project	DRA	X GEOTECHNICAL DESK STUD			Borenole		
es: For explanation o Key to Exploratory H uced levels in metres ckets in depth columr	Iole Records. . Stratum thicl	All depths and kness given in	Project Project No.		01-17				105-201	1



							50	COTEC
Drilled	Start	Equipment, Methods and Re	emarks		ameter Casing Depth (mm) (m)	Ground Level		3.39 mOD
ogged		Drilled by Soil Mechanics.			, (,	Coordinates (m)		465607.67
hecked TC	End					National Grid	١	426920.16
pproved TC								
Samples and	1 Tests		Date Time	Strata Description				
Depth	Type & N	o. Records	Casing Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfil
				Firm dark orangish brown slightly sandy CLAY.	-	-		
				Dense, becoming very dense, orangish brown		10.30 -6.91		
-				silty fine to medium SAND.			× ^ ×	
							× × ×	
						-	× × ×	
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						-	× × × ×	
					-	-	× × ×	
					-	(5.20)	× × × ×	
-					13.00-13.80 occasional cobbles		× × × 1	
					of sandstone -		× × ×	
							× × ×	
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_						-	× × × ×	
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_					_		× × ×	
					-		××××	
-						15.50 -12.1 <sup>2</sup>	×××	
				Very dense reddish brown slightly silty fine to coarse SAND with occasional angular gravel of	-	10.00 12.1	××`×	
				extremely weak sandstone. (Possible SHERWOOD SANDSTONE)	-	-	× × × ×	
_						-	× × × ×	
					-	-		
-							Îx x î î	
						-	Âx XÂ	
_						(3.00)	× × × × ×	
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_						4	× × × î	
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				Extromoly wook reddich brown first to serve		18.50 -15.11		
				Extremely weak reddish brown fine to coarse grained SANDSTONE. Recovered as sand and	-	-		
				angular to subangular fine to coarse gravel. (SHERWOOD SANDSTONE)	-	-		
-				· · · · · · · · · · · · · · · · · · ·	-	(1.05)		
					-		:::::	
				END OF EXPLORATORY HOLE		19.55 -16.16	5	_
				END OF EXPLORATORY HULE				
						-		
Groundwater Entrie		1	1	Depth Related Remarks		Hard Boring		
No. Depth Strike (	ίm) Remarks		Depth Sealed (m)	Depths (m) Remarks		Depths (m)	Duration (mins)	Tools use
otes: For explanation	n of symbols an	d abbreviations Proje	ect DR/	AX GEOTECHNICAL DESK STUDY		Borehole		
ee Key to Exploratory duced levels in metro	res. Stratum thic	kness given in	at No.	04.47		DI DI	105-201	1
ackets in depth colu © Cop	ımn. pyright SOCOTE	C UK Limited AGS		01-17				1
Scale 1:50		/12/2017 21:43:35	ied out for Dra	x Power Limited			Sheet 2 of 2	



		·			• • • • • • • • • • • • • • • • • • •		·		OCOTEC
Drilled	Start	Equipment, Methods an				neter Casing Depth nm) (m)			6.03 mOE
_ogged		Drilled by Soil Mechanics	i.				Coordinates (m)		E 465922.97
hecked TC	End						National Grid		N 427002.72
pproved TC									
Samples and	l Tests		Dete	Time	Strata Description				
Depth	Type & No	o. Records	Date Casing	Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfil
					Cream angular to subangular coarse GRAVEL of	_	(0.15)		
					Imestone. Ballast/sub-base.	-			
_					Black slightly clayey very sandy angular to	-	(0.40)		
					subangular fine to coarse GRAVEL of coal with occasional sandstone and mudstone.	-	0.55 +5.48		
					(MADE GROUND)	-	(0.45)		
_					Black and orange gravelly medium to coarse SAND. Gravel is angular to subangular fine to		1.00 +5.00		
					coarse of coal, sandstone and mudstone.	-	(0.20) 1.20 +4.83		
					(MADE GROUND) Cream angular to subangular coarse GRAVEL of	-	(0.25) 1.45 +4.58		
-					limestone. Ballast/sub-base.				
					(MADE GROUND) Orange brown medium to coarse SAND.	-	-		
_					(MADE GROUND)	-	-		
					Firm brown, locally orange and black, sandy gravelly CLAY. Gravel is angular to subangular	-			
					fine to coarse of coal, limestone, sandstone and	-			
-					mudstone. (MADE GROUND)	-	(1.95)		
					·	-			
						-	-		
_							-		
						-	1		
_					Firm to stiff brown, locally mottled grey, locally	- 3.40-4.50 locally soft	3.40 +2.63		
					slightly gravelly, CLAY with occasional partings of light brown silt. Gravel is subangular to	soit –			
					subrounded fine to medium of mudstone and	-			
_					siltstone.	_	-	· · · · · ·	
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Groundwater Entrie No. Depth Strike (			Depth Seale	d (m)	Depth Related Remarks Depths (m) Remarks		Hard Boring Depths (m)	Duration (min	s) Tools us
lotes: For explanation	n of symbols and	d abbreviations	Project	DR	AX GEOTECHNICAL DESK STUDY		Borehole		
ee Key to Exploratory educed levels in metr	res. Stratum thicl	kness given in	Project No.		01-17		RI RI	112-20	11
rackets in depth colu © Cop	ımn. pyright SOCOTE	C UK Limited AGS	Project No.						••
Scale 1:50		/12/2017 21:43:35	Carried out for	Dra	x Power Limited			Sheet 1 of 3	



		1								50	COTEC
Drilled	Start	Equipment, Method		rks			pth from to (m) (m)	Diameter Casing Dep (mm) (m)	h Ground Level		6.03 mOD
Logged		Drilled by Soil Mecha	nics.				(,	()	Coordinates (m	i) I	E 465922.97
Checked TC	End								National Grid	r	N 427002.72
Approved TC											
Samples and	l Tests					Strata Description					
Depth	Type & N	o. Recor	- La	Date Casing	Time Water	Main		Detail	Depth, Level (Thickness)	Legend	Backfil
				Casing	water	Firm to stiff brown, locally mot	tled grey, locally		(Thickness)	· · · ·	Ì
						slightly gravelly, CLAY with oc	casional partings o	of	-		
						light brown silt. Gravel is suba subrounded fine to medium of			-		
-						siltstone.			_		
									-		
									7		
						Firm reddish brown slightly sa			- 11.00 -4.9		
						occasional partings of reddish	ı brown silt.				
_									_		
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									-		
-								12.50-13.00 locally	_		
								soft	-		
									_	불호립	
									(4.15)		
									-	동안 관리	
-										불호립	
										동물국	
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									-	흔흔길	
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						Firm to stiff sandy SILT.			15.15 -9.1	2 × × × ×	
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									- (2.10)	$( \times \times \times )$	
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-									_	$(\times \times \times \times)$	
									_	$\times \times \times \times$	
									-	$(\times \times \times )$	
									_	$(\times \times \times )$	
						Dense reddish brown medium	to coarse slightly		17.25 -11.2	22 × × × ×	
-						gravelly SAND. Gravel is angu			-		
						fine to medium of sandstone.					
									(1.25)		
_								·   ·			
									-		
									-		
-						Extremely weak reddish brown	n fine to medium		18.50 -12.4		
						grained SANDSTONE. Recover	vered as sand and				
						angular to subangular fine to r (SHERWOOD SANDSTONE)	neaium gravel.		-		
_						(				:::::	
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-									(2.20)	· · · · · · ·	
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Groundwater Entries						Depth Related Remarks			Hard Boring		
No. Depth Strike (	m) Remarks			Depth Seale	ed (m)	Depths (m) Remarks			Depths (m)	Duration (mins)	Tools use
otes: For explanation ee Key to Exploratory	/ Hole Records	All depths and	Project		DRA	X GEOTECHNICAL DESK STUDY			Borehole		
duced levels in metre	es. Stratum thic	kness given in	Project N	lo	A 74	01-17			R	H12-201	1
ackets in depth colur © Cop	oyright SOCOT	EC UK Limited AGS									•
Scale 1:50	- 18	/12/2017 21:43:35	Carried o	out for	Dray	Power Limited				Sheet 2 of 3	



							50	DCOTEC
Drilled	Start	Equipment, Methods and	d Remarks	Depth from to Di	iameter Casing Depth	Ground Level		6.03 mOD
ogged		Drilled by Soil Mechanics.		(m) (m)	(mm) (m)	Coordinates (m)		E 465922.97
Checked TC	End					National Grid		N 427002.72
pproved TC								
amples and	Toete			Strata Description		1		
			Date Time			Depth, Level	Legend	Backfill
Depth	Type & No	o. Records	Casing Water	Main	Detail	(Thickness)	Legena	Backin
				Extremely weak reddish brown fine to medium	-	_		
				grained SANDSTONE. Recovered as sand and angular to subangular fine to medium gravel.	-	-	:::::	
				angular to subangular fine to medium gravel. (SHERWOOD SANDSTONE)	-	-		
						20.70 -14.67		
				END OF EXPLORATORY HOLE				
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Groundwater Entries				Depth Related Remarks		Hard Boring		
lo. Depth Strike (r	m) Remarks		Depth Sealed (m)	Depths (m) Remarks		Depths (m)	Duration (mins)	Tools use
otes: For explanation	of symbols and	abbreviations	roject DR/	AX GEOTECHNICAL DESK STUDY		Borehole		
ee Key to Exploratory duced levels in metre	s Stratum thic	kness given in					112-201	1
ackets in depth colum	nn. vright SOCOTE	C UK Limited AGS C	-	01-17			112-201	
	VIUL SUCULE	O OK LIMILEU AUOO	arried out for Dra	x Power Limited		•	Sheet 3 of 3	



		9						S	οςοτες
Drilled	Start	Equipment, Methods and	Remarks		Depth from to Dia (m) (m) (i	meter Casing Depth mm) (m)			4.58 mOD
ogged	End	Drilled by Soil Mechanics.			., 、		Coordinates (m)		E 466198.3
hecked TC	End						National Grid		N 426958.7
amples and	Tosts			Strata Descriptio			1		
			Date Time				Depth, Level	Legend	Backfil
Depth	Type & No	o. Records	Casing Water		ain	Detail	(Thickness)	3	
Depth	Type & No	>. Records		M	ain to subangular fine to toone Town slightly gravelly ular to rounded medium and mudstone. ge and grey sandy CLAY. ed grey CLAY with brown silt.	Detail	Depth, Level (Thickness)           0.10 (0.10)         +4.48           (0.40)         0.50           0.50         +4.08           (2.90)         (2.90)           4.10         +0.48           (0.70)         4.10           5.00         -0.42		Backfi
- - - Groundwater Entries No. Depth Strike (n			Depth Sealed (m)	Stiff reddish brown slightl occasional partings of ligh Depth Related Remarks Depths (m) Remarks			(4.60) 9.60 -5.02 Hard Boring Depths (m)	Duration (mins	) Tools us
otes: For explanation of the Key to Exploratory of duced levels in metre: ackets in depth column © Copy Scale 1:50	Hole Records. s. Stratum thicl n. rright SOCOTE	All depths and cness given in C UK Limited AGS	ject No. A71	AX GEOTECHNICAL DESK ST 01-17 x Power Limited	UDY		Borehole BH	<b>113-201</b> Sheet 1 of 3	11



r		I		<b>I</b> .		T		OCOTEC
Drilled	Start	Equipment, Methods	and Remarks	Depth from to D (m) (m)	liameter Casing Depth (mm) (m)	Ground Level		4.58 mOD
Logged		Drilled by Soil Mechani	cs.			Coordinates (m	)	E 466198.39
Checked TC	End					National Grid		N 426958.76
Approved TC						4		
Samples and	d Tests		Data	Strata Description		<u> </u>		
Depth	Type & N	lo. Records	Date Ti Casing Wa	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
_				Stiff reddish brown slightly sandy CLAY with				
-				occasional partings of light brown silt.		-		
-						-		
-					-	-		
-					-	-		
					_	(2.90)		
-					-	-	<u> </u>	
-					-	-		
-					-	-		
-					-	-		
-						-		
-					-	-	흔 후 길 .	
-					-	-		
-				Soft brown CLAY.		12.50 -7.9	2	
-					-	(0.60)	<u>[]</u>	
							<u></u>	
-				Soft brown very sandy CLAY.	1 :	13.10 -8.5	2	
-					-	-	눈도님	
-					-	-		
-					-	-		
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-					-	-		
-					-	-	흔후림	
_					-	-		
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-					-	-		
-					-	-		
-					-	-		
-					-	-		
-					-	-		
-						-		
-					-	(6.30)		
-						-		
_						-		
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						-		
-					-	-		
-						-	문포되	
-					-	-	는 고 집	
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_					-	-		
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-					-	-		
-					-	-	흔흔릴	
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-						-	는 그 그	
-					-	-		
-				Dependentials brown allower allower to a	-  -	19.40 -14.8	2	
-				Dense reddish brown clayey medium to coarse SAND with occasional angular fine to medium	-	1		
-				gravel of sandstone.		(0.00)		
-						(0.90)		
				1				
Groundwater Entrie	s		L	Depth Related Remarks		Hard Boring		
No. Depth Strike	(m) Remarks		Depth Sealed (m	Depths (m) Remarks		Depths (m)	Duration (mins	) Tools used
Notes: For explanation	n of symbols an	d abbreviations	Project	RAX GEOTECHNICAL DESK STUDY		Borehole		
see Key to Explorator	y Hole Records es. Stratum thic	. All depths and kness given in					42 204	14
rackets in depth colu © Cor	mn. ovright SOCOT	EC UK Limited AGS	-	7101-17			H13-20 <sup>°</sup>	11
Scale 1:50		3/12/2017 21:43:36	Carried out for	rax Power Limited		1	Sheet 2 of 3	



rilled	Start	Equipment, Methods and R	emarks		Depth from to Di	ameter Casing Depth	Ground Level		4.58 mO[
ogged						(mm) (m)	Coordinates (m)		E 466198.3
hecked TC	End	Drilled by Soil Mechanics.					National Grid		× 426958.76
pproved TC								I	20000.70
amples and	Tests				Strata Description		1		
			Date	Time			Depth, Level	Legend	Backfil
Depth	Type & N	o. Records	Casing	Water	Main	Detail	(Thickness)		
					Dense reddish brown clayey medium to coarse SAND with occasional angular fine to medium				
					gravel of sandstone. Extremely weak reddish brown medium to coarse		20.30 -15.72 20.41 <sup>0.11)</sup> -15.83		
					grained SANDSTONE. Recovered as sand and	Λ –	20.41 -13.0	,	
					angular to subangular fine to coarse gravel.		_		
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roundwater Entries				- 14	Depth Related Remarks		Hard Boring	Duranti di di	<b>.</b> .
o. Depth Strike (r	n) Remarks		Depth Seal	ed (m)	Depths (m) Remarks		Depths (m)	Duration (mins)	Tools us
tes: For explanation e Key to Exploratory	of symbols and	abbreviations Proj	ect	DR/	X GEOTECHNICAL DESK STUDY		Borehole		
e key to Exploratory duced levels in metre ackets in depth colun	s. Stratum thic	kness given in	ect No	A 74	01-17		R	113-201	1
	uni.	C UK Limited AGS	ect No.	A/1	//-//		יט ו		•