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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SOCOTEC UK Limited was formerly known as Environmental Scientifics Group Limited. The Certificate of Incorporation on Change of Name was filed on 16 October 2017.

CONTENTS

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:

Table 1: Historical Ground Investigation Reports Referenced in this Report

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.)	-

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)

Strata description	Range of Thicknesses	
	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.

Table 4: Indicative Proposed Scope for Ground Investigation

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.

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

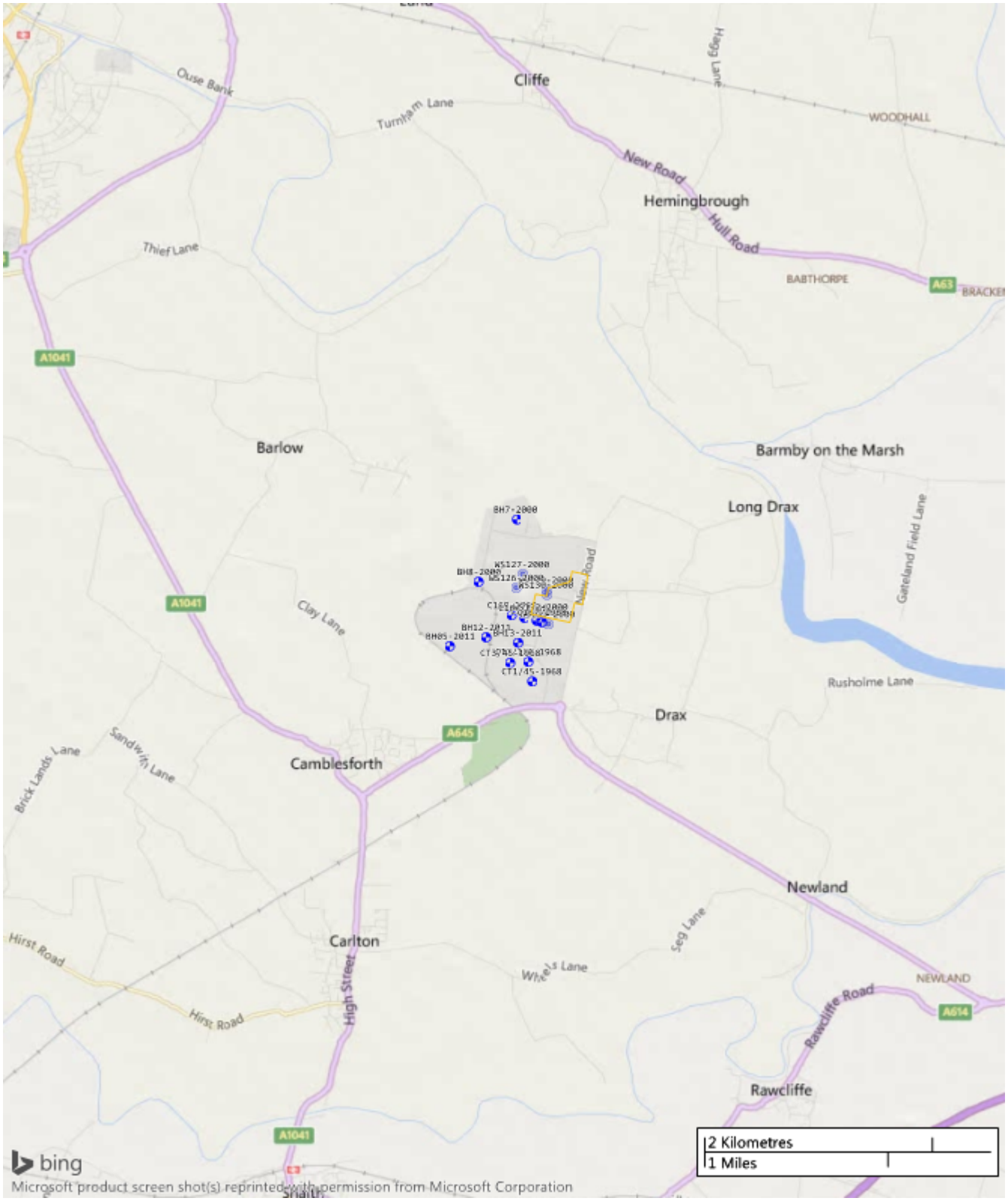
FIGURES AND DRAWINGS

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

SOCOTEC

Site location



Notes	Project	DRAX GEOTECHNICAL DESK STUDY	Figure
	Project No.	A7101-17	A1
	Carried out for	Drax Power Limited	

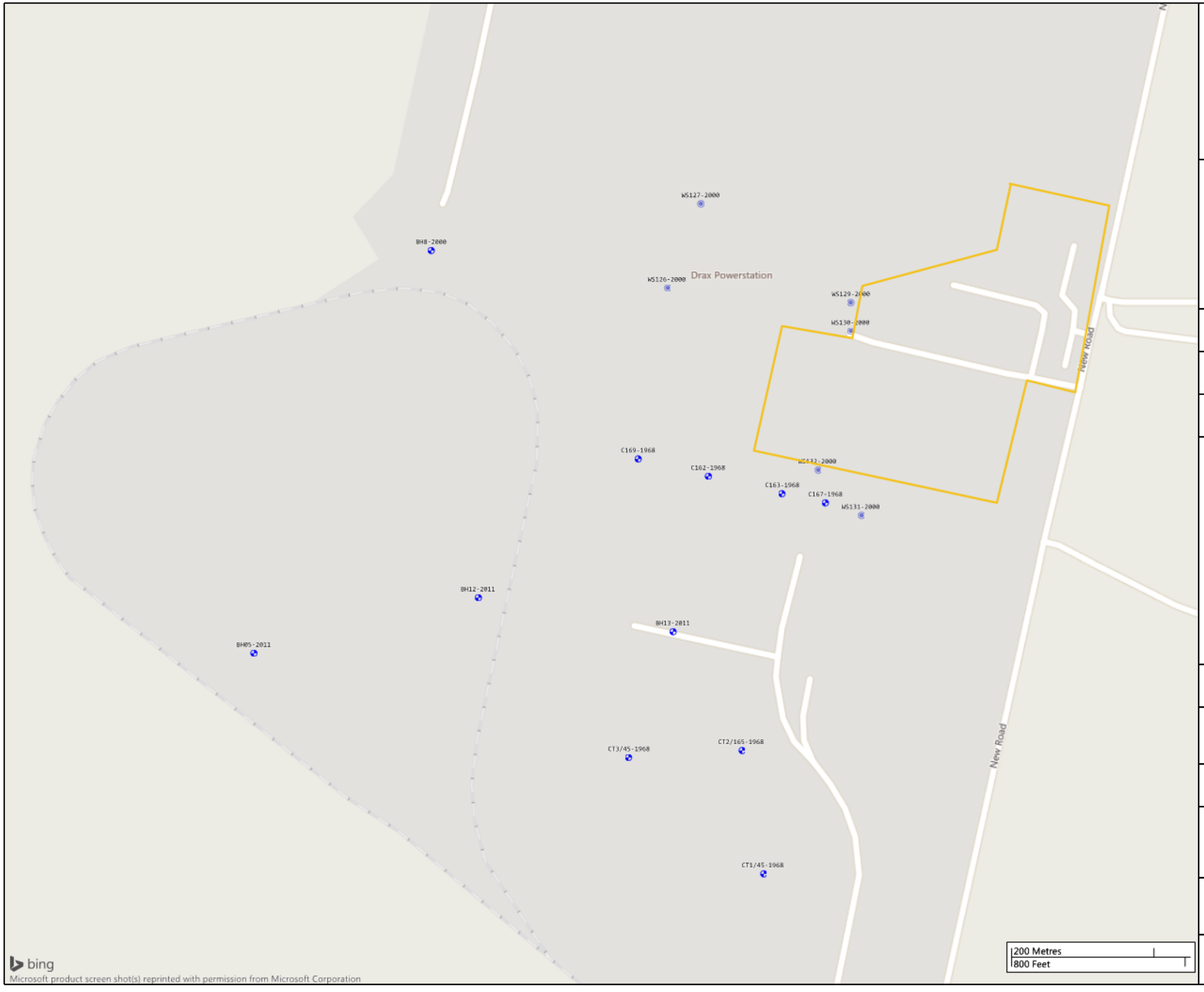
Z?	Z4	Z3	Z2	Z1
DRAWN: ??	DRAWN: SM	DRAWN: JMH	DRAWN: JMH	DRAWN: SK
DATE: 29.11.13	DATE: 27.10.10	DATE: 21.10.09	DATE: 22.10.04	DATE: 27.6.03
PROJECT NO: –	PROJECT NO: –	PROJECT NO: –	PROJECT NO: –	PROJECT NO: –
ORG'R: ???	ORG'R: DCW	TECH OFFICER: KL/DCW	TECH OFFICER: KL/DCW	TECH OFFICER: AW/DCW
PROG NO: ??	PROG NO: 10/42/3/12	PROG NO: 09/47/4/001	WI NO:	WI NO: S/03/55
APP'D: ???	APP'D: DCW	APP'D: DCW	PROG NO: 04/42/1/12	PROG NO: 03/25/4/005
			APP'D:	APP'D:
DIESEL BOWSER PARKING AREA AND BUND ADDED.	LORRY PARK & F.G.D. STORAGE AREA ADDED.	SITE PLAN UPDATED. TITLE MOD: (MASTER 'E') ADDED.	UPDATED TO SITE CONDITIONS.	NEW DRAWING.

DRAX POWER LTD

SITE LAYOUT (MASTER 'E')

Ecological survey areas Drax Re–Powering project

DRAX UNIQUE No. 039023



N

W E

S

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 B-B'
- 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:

A2.1

N
W
E
S

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

Site Plan - Aerial

SOCOTEC

Project ID:

A7101-17

Project Title:

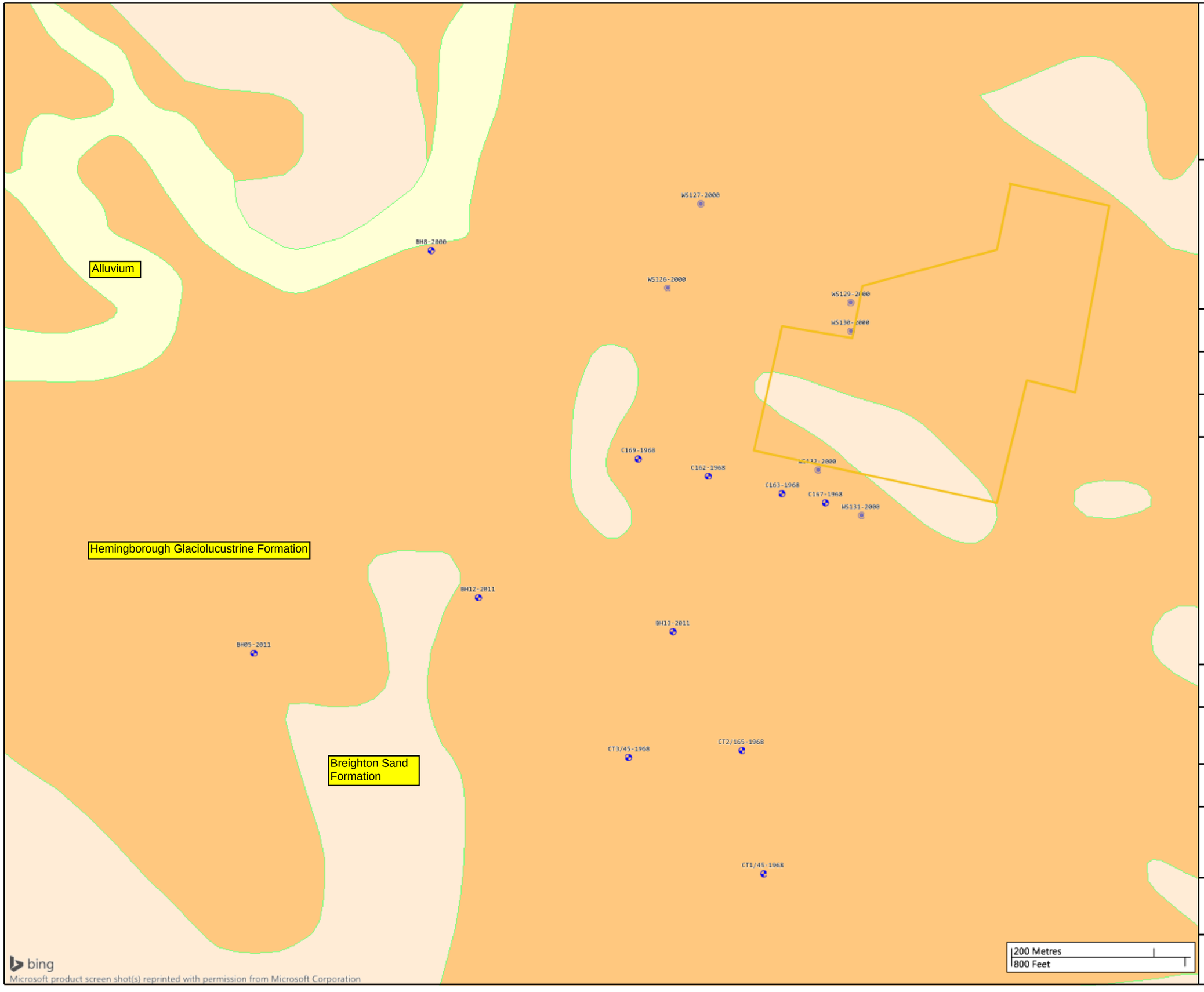
DRAX GEOTECHNICAL DESK STUDY

Client:

Drax Power Limited

Figure:

A2.2



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W E

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- Sections - Section line CC
- Sections - Section line DD
- Locations By Type - CP
- Locations By Type - WLS

Geological Plan

SOCOTEC

Project ID:

A7101-17

Project Title:

DRAX GEOTECHNICAL DESK STUDY

Client:

Drax Power Limited

Figure:

A3.0

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Notes:

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- Sections - Section line B-B'
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- Locations By Type - CP
- Locations By Type - WLS

Section Plan

SOCOTEC

Project ID:

A7101-17

Project Title:

DRAX GEOTECHNICAL DESK STUDY

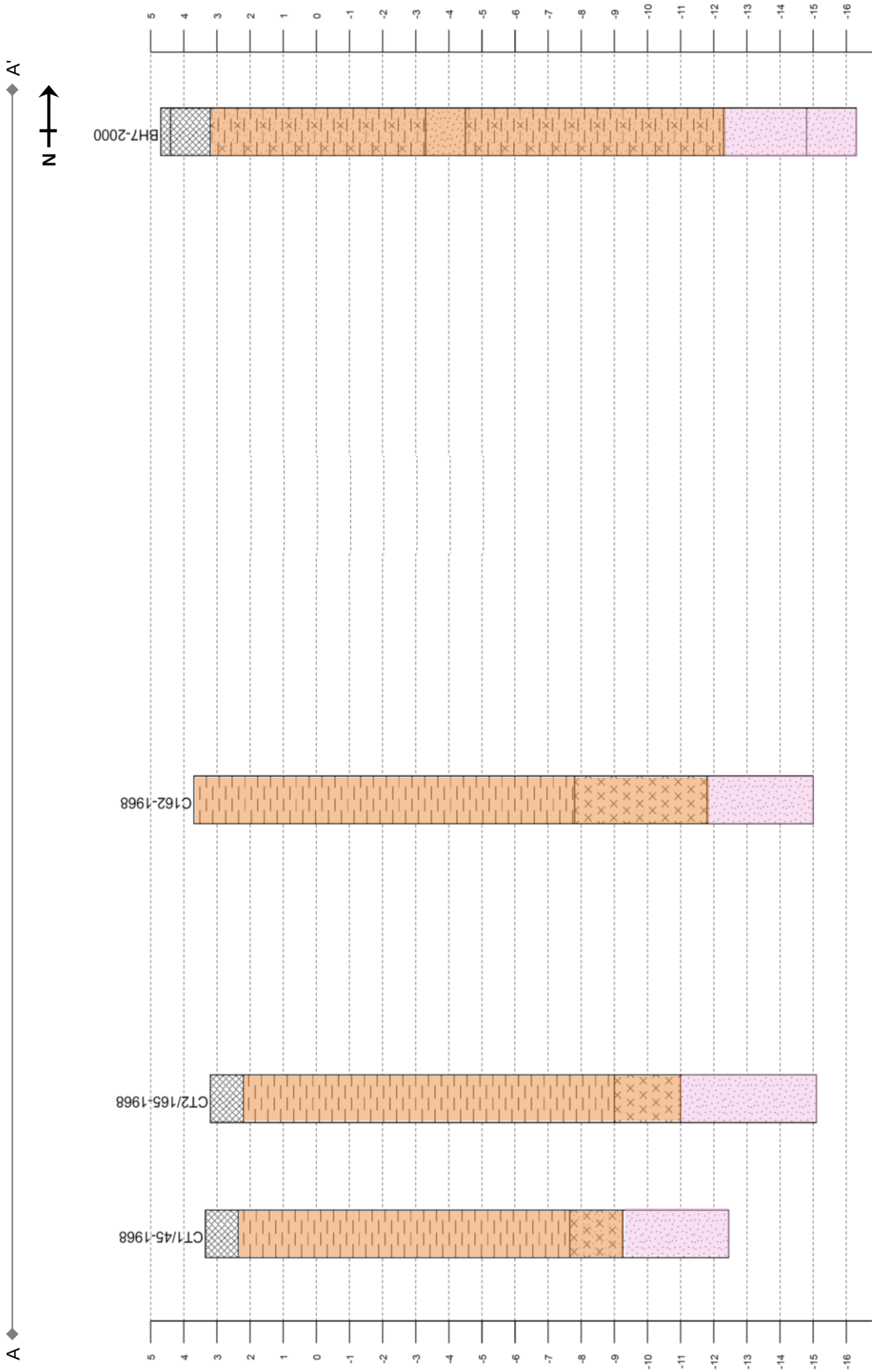
Client:

Drax Power Limited

Figure:

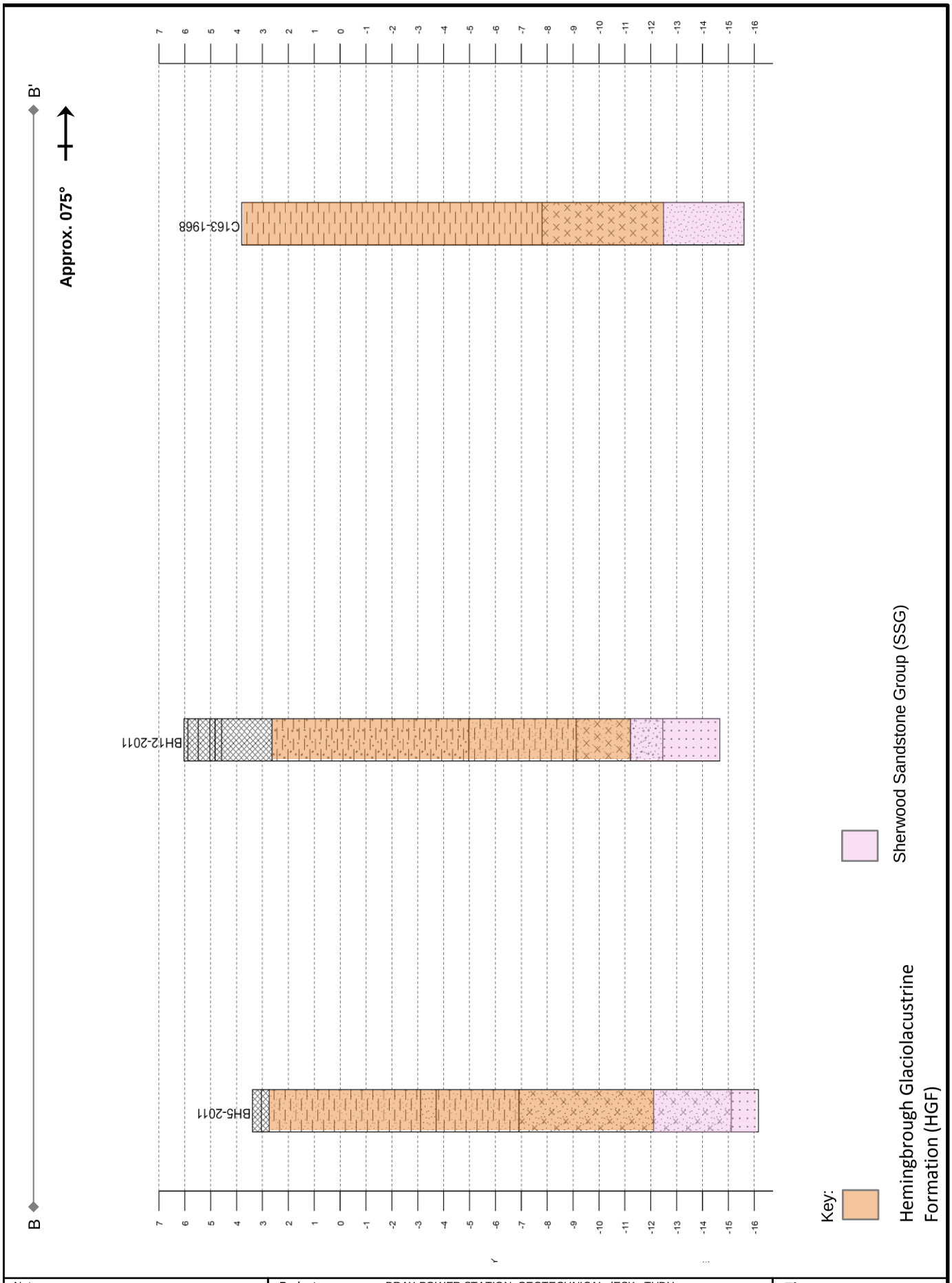
A4.0

Cross Section A-A'



Notes:	Project	DRAX POWER STATION, GEOTECHNICAL dESK sTUDY	Figure
	Project No.	A7101-17	A4.1
	Carried out for	Drax Power Limited	

Cross Section B-B'



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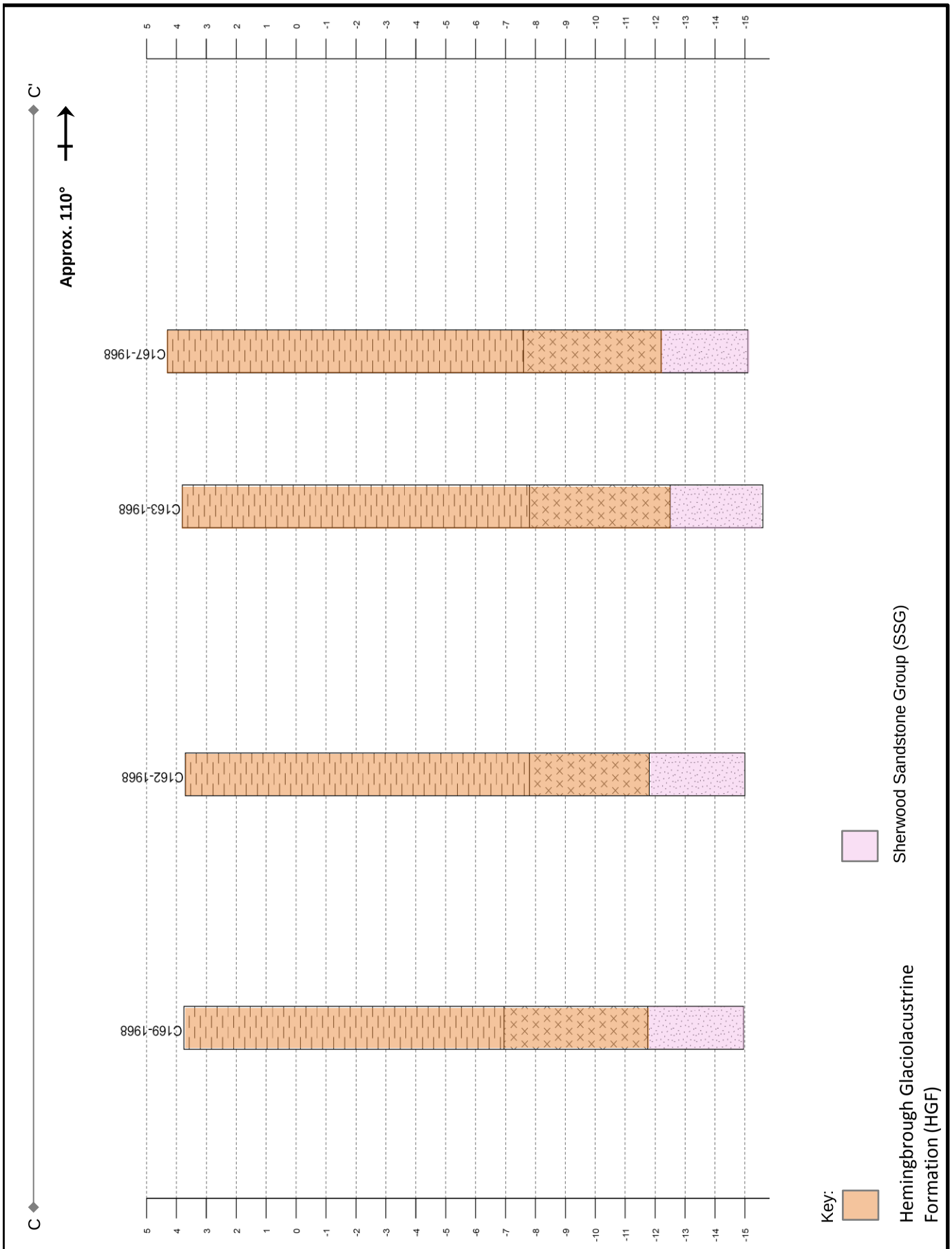
	Carried out for	Drax Power Limited	

Cross Section C-C'



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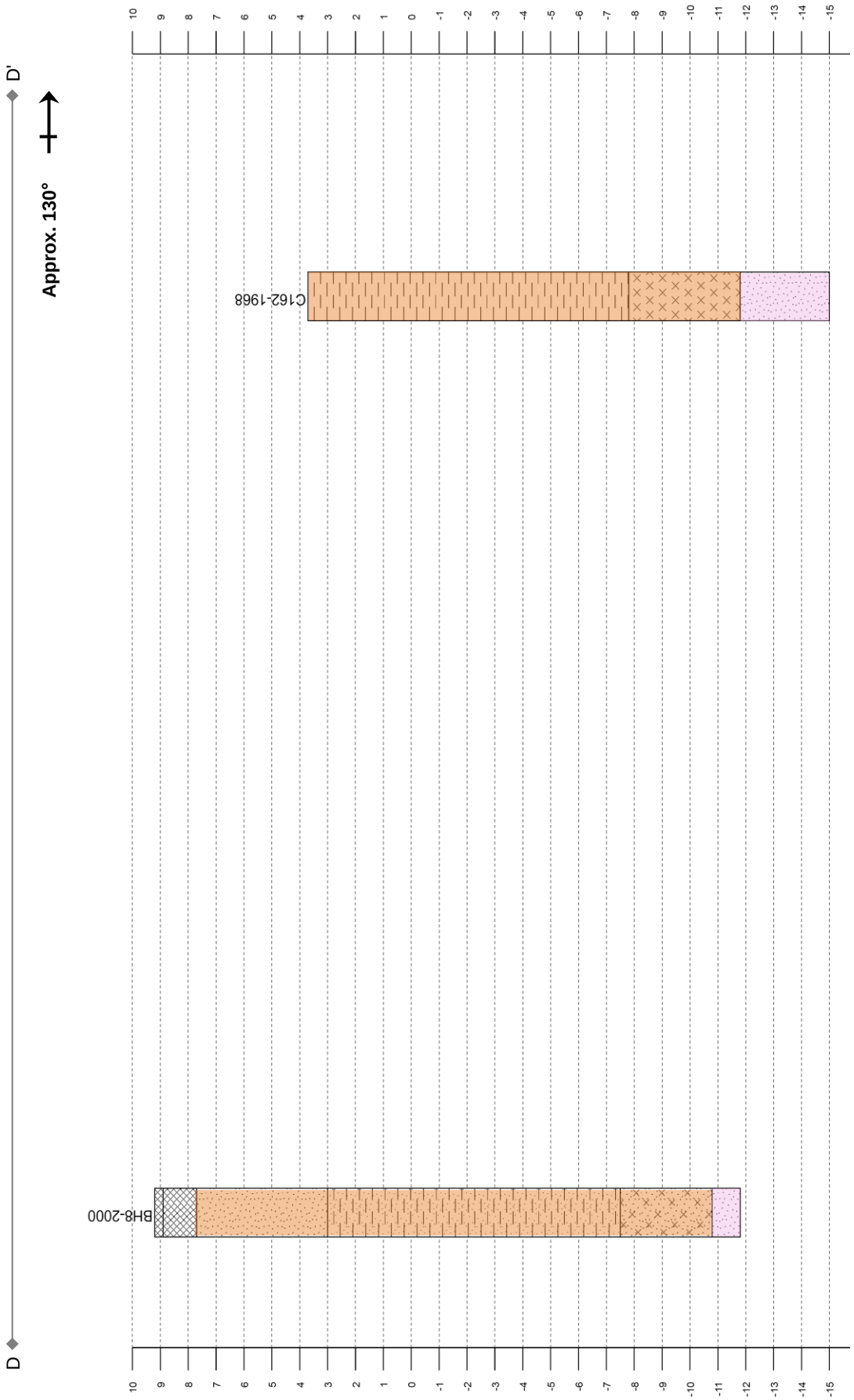
	Carried out for	Drax Power Limited	

Cross Section D-D'



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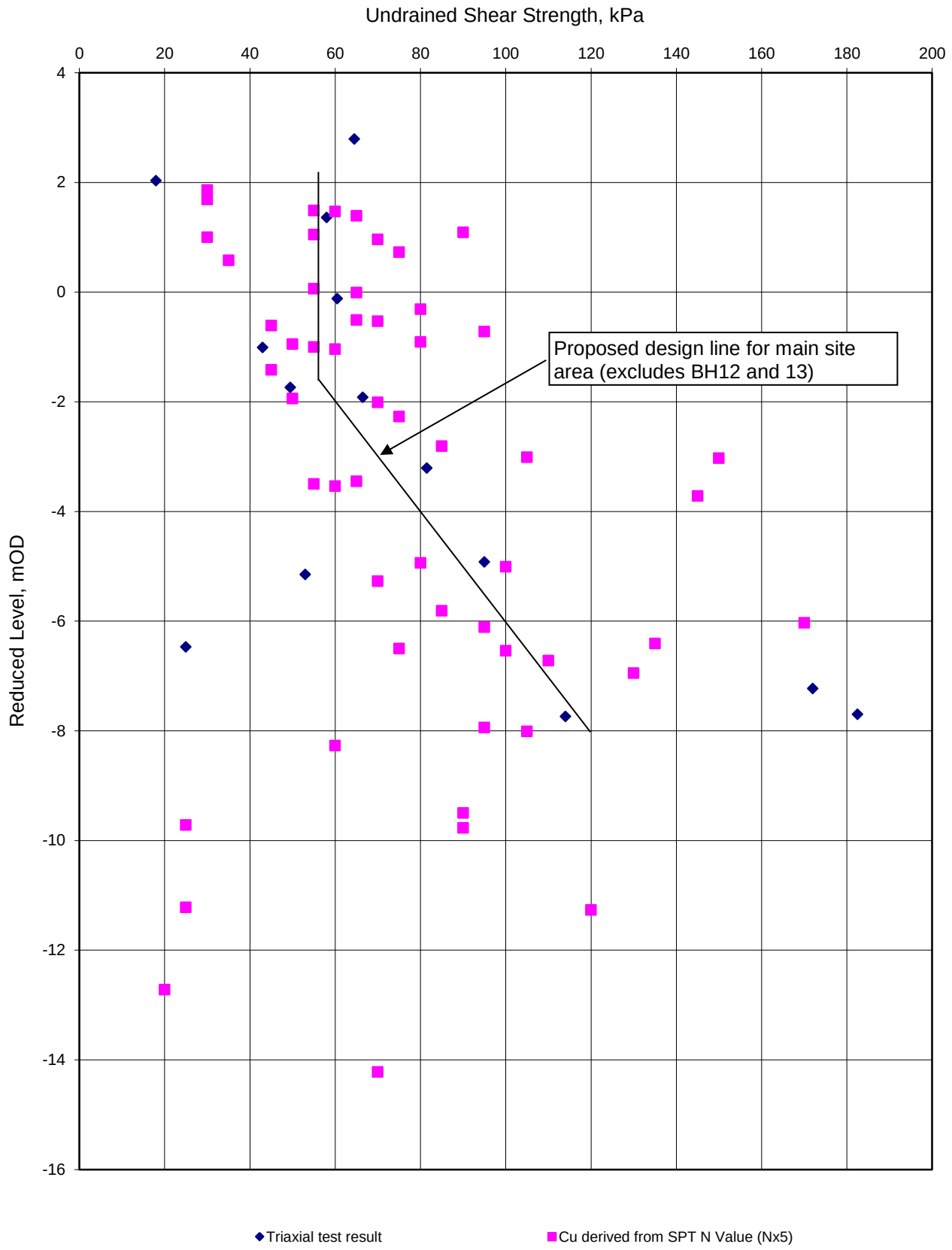
	Project No.	A7101-17	A4.4
	Carried out for	Drax Power Limited	

Undrained Shear Strength Profile

Soil Mechanics



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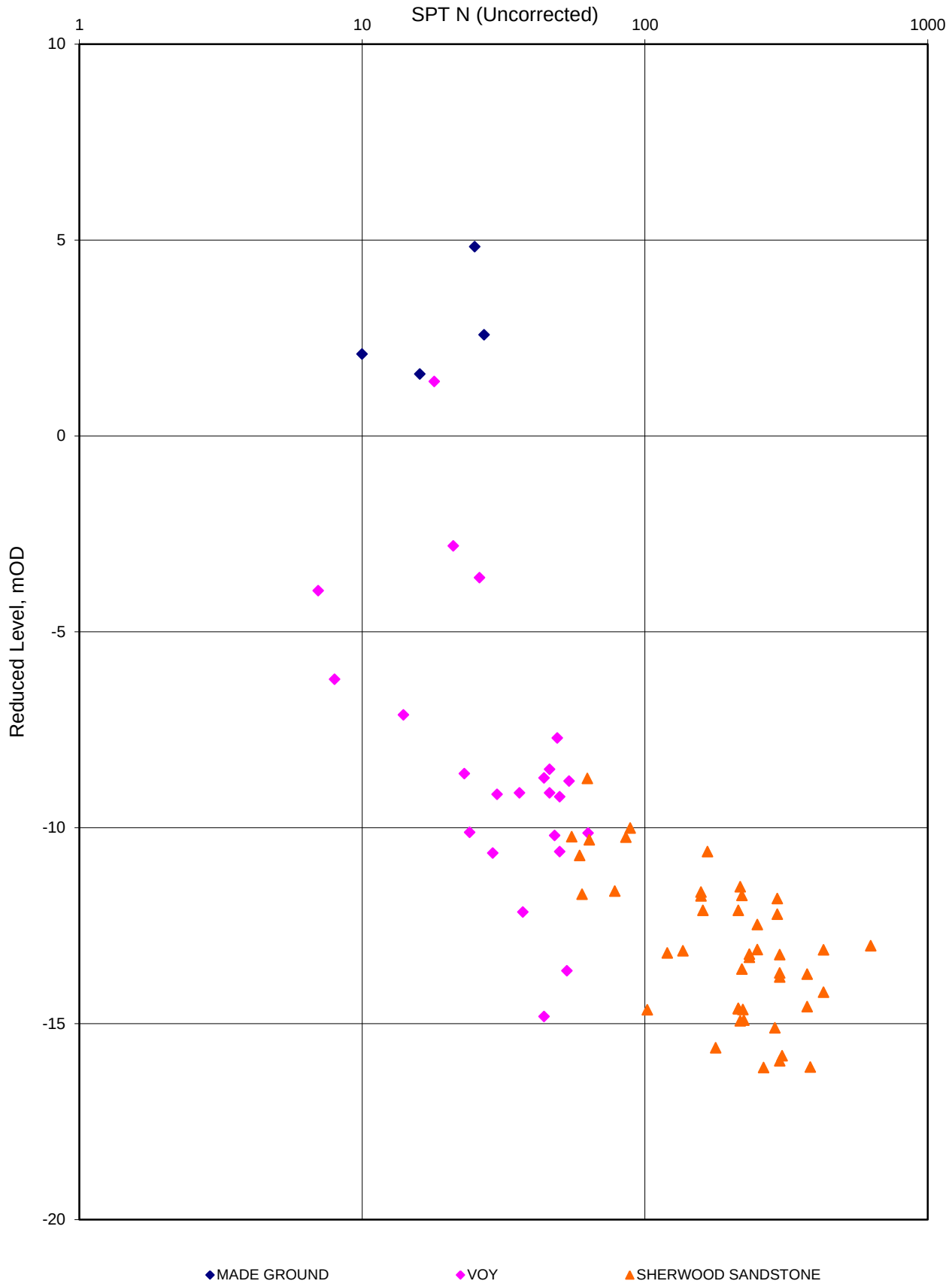
Notes:	Project	DRAX POWER STATION, PROJECT PHOENIX	Figure
	Project No.	A1047-11	5
	Carried out for	Drax Power Limited	

SPT N Value Depth Profile - (Granular Strata)

Soil Mechanics



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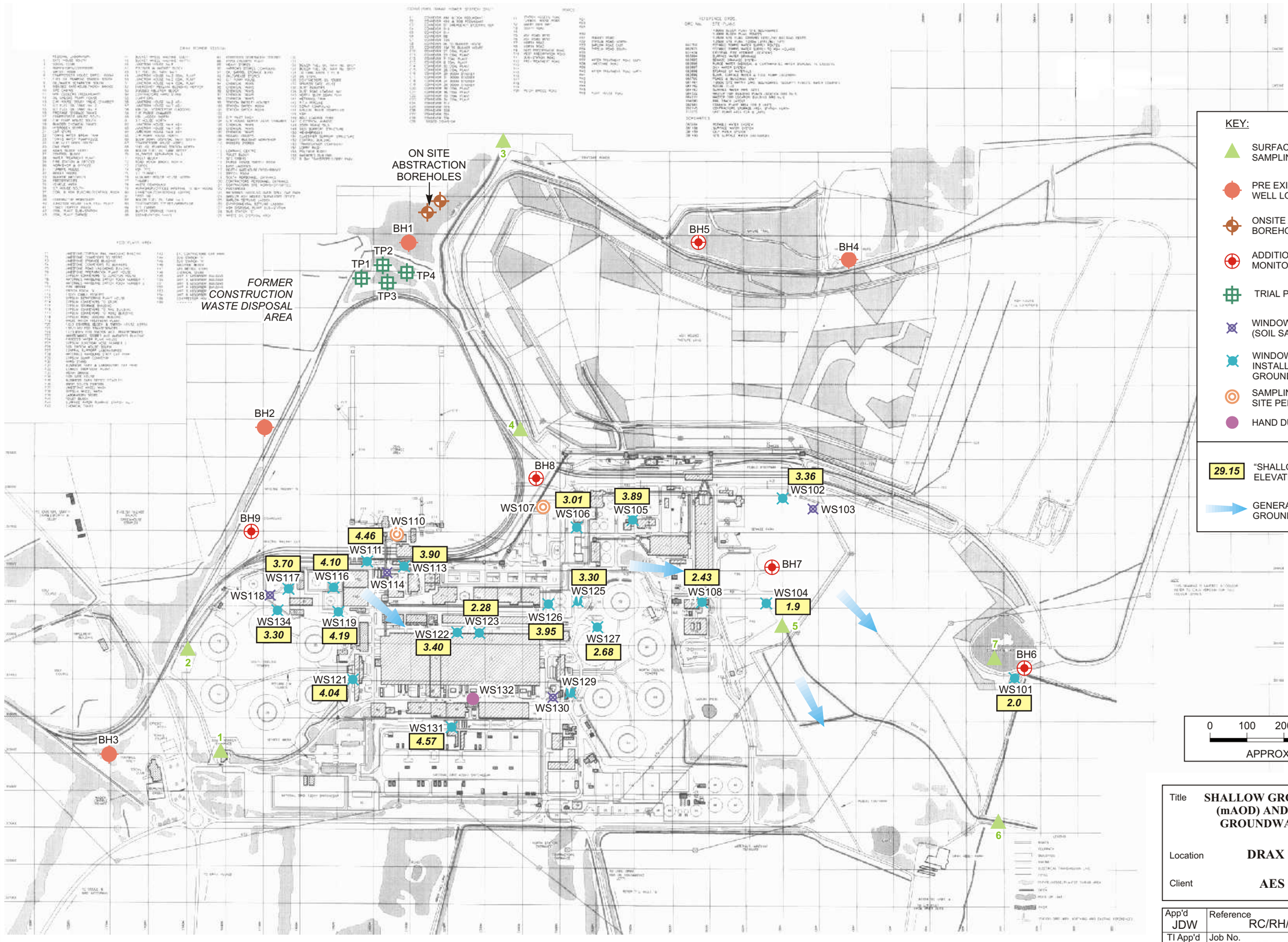
	Carried out for	Drax Power Limited	



Title **SHALLOW GROUNDWATER ELEVATIONS (mAOD) AND INFERRED "SHALLOW" GROUNDWATER FLOW DIRECTION**

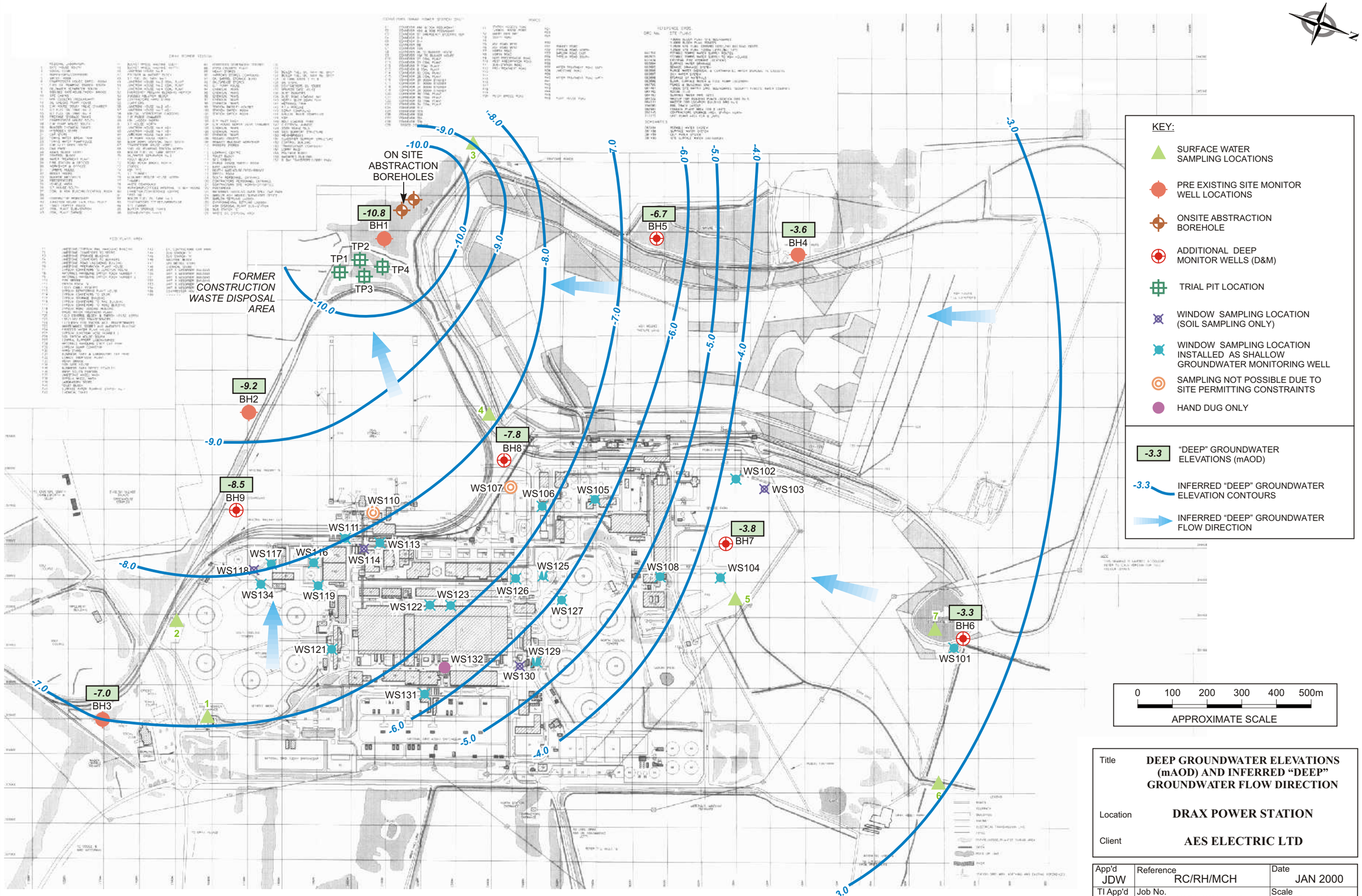
Location **DRAX POWER STATION**

Client **AES ELECTRIC LTD**

App'd	Reference	Date
JDW	RC/RH/MCH	JAN 2000
TI App'd	Job No.	Scale
RH	44354-001-420	AS SHOWN

DAMES & MOORE GROUP

FIGURE 4



Title **DEEP GROUNDWATER ELEVATIONS (mAOD) AND INFERRED "DEEP" GROUNDWATER FLOW DIRECTION**

Location **DRAX POWER STATION**

Client **AES ELECTRIC LTD**

App'd	Reference	Date
JDW	RC/RH/MCH	JAN 2000
TI App'd	Job No.	Scale
RH	44354-001-420	AS SHOWN

DAMES & MOORE GROUP

FIGURE 5

APPENDIX B

EXPLORATORY HOLE RECORDS

Site Investigation for Turbine Hall and Boiler House - 4958/1 (Soil Mechanics)	C162, C163, C167 and C169
Site Investigation for Cooling Towers - 4958/2 (Soil Mechanics)	CT1/45, CT2/165 and CT3/45
Drax, Humberside - 44354-001-420 (Dames and Moore)	BH7, BH8, WS126, WS127, WS129, WS130, WS130, WS131 and WS132
Drax Power Station – Project Phoenix - A1047-11/2 (ESG / Soil Mechanics)	BH05, BH12 and BH13
Summary BH Logs	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. C162

Fig. 73

Sheet 1 of 2

Location No. T 1958 DRAX POWER STATION
TURBINE HALL & BOILER HOUSE. UNIT 3

Date 4th - 5th JULY 1967

Description	Reduced Level: ft.	Legend	Sample	Depth ft. in.	Thickness ft. in.	Standard Penetration test: Depth and Penetration ft. in.	Standard Penetration test: No. of Blows (N)	Corrected N Value
Ground Level (Ft. above N.D.)	+ 12. 3			0 0				
			1					
			2					
Firm brown laminated CLAY with partings of silt. The clay becoming silty with depth.			3		37 9			
			4					
			5					Water entered at 24' 0"
			6					
			7					
	- 25. 5			37 9				
(as sheet 2)			8	(40 0)	13 5	38 6	17	16
						12		

Scale 1 in. = 5 ft.

● Disturbed Sample

Bulk Sample

Tube or Core Sample (Length to scale)

△ Water Sample

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

CONTINUATION LOG for BOREHOLE No. C162

Fig. 73
Sheet 2 of 2

Description	Reduced Level: ft.	Legend	Sample	Depth ft. in.	Thickness ft. in.	Standard Penetration test: Depth and Penetration ft. in.	Standard Penetration test: No. of Blows (N)	Corrected N Value
				(40 0)				
			9			40 6 / 12	19	17
Compact grey-brown SILT with layers of clay and sand towards base.			10			42 6 / 12	21	18
			11		13 5	44 6 / 12	17	16
			12			46 6 / 12	16	16
			13			48 6 / 12	17	16
	- 38.9		14	51 2		50 6 / 12	29	22
2 No 1/16" layers of clay 1½" layer of slightly silty sand.			15			52 6 / 12	53	34
			16			54 6 / 12	49	32
Dense fine and medium red-brown SAND with traces.			17		10 6 penetrated	56 6 / 12	71	43
			18			58 6 / 12	56	36
			19			60 6 / 12	67	41
	- 49.2			61 6				
			END OF BOREHOLE					

LOG for BOREHOLE No. C163

Fig. 74

Sheet 1 of 2

Location No. T4958-7 DRAX POWER STATION.

TURBINE HALL AND BOILER HOUSE UNIT 3

Date 6th JULY 1967

Description	Reduced Level: ft.	Legend	Sample	Depth ft.	Depth in.	Thickness ft.	Thickness in.	Standard Penetration test: Depth and Penetration ft.	Standard Penetration test: Depth and Penetration in.	Standard Penetration test: No. of Blows (N)	
Ground Level (Ft. above N.D.)	+12.6			0	0						
			1								
			2								
Firm brown laminated CLAY with partings of silt.			3								
						38	0				
			4								Water entered at 23' 0"
			5								
			6								
			7								
	-25.4			38	0						
(as sheet 2)			8					38	6	16	16
				(40	0)				12		
				Continued on sheet 2							

Scale 1 in. = 5 ft.

● Disturbed Sample

↕ Bulk Sample

▮ Tube or Core Sample (Length to scale)

△ Water Sample

CONTINUATION LOG for BOREHOLE No. C163

Fig. 74
Sheet 2 of

Loc.
68-7

Description	Reduced Level : ft.	Legend	Sample	Depth ft.	Depth in.	Thickness ft.	Thickness in.	Standard Penetration test: Depth and Penetration ft.	Standard Penetration test: Depth and Penetration in.	Standard Penetration test: No. of Blows (N)	Corrected N Values
				(40	0)			40	6 12	23	19
			9					42	6 12	20	18
Moderately compact and compact grey brown SILT with layers of clay and sand near base.			10					44	6 12	14	14
			11					46	6 12	16	16
			12								
			13			15	4	48	6 12	12	12
			14					50	6 12	19	17
			15					52	6 12	25	20
	-40.7			53	4						
Thin layers of silt and silty sand to 55' 0"			16					54	6 12	53	34
			17					56	6 12	74	45
Dense fine and medium red-brown SAND with traces of silt near top and clay at 57' 0".						10	2				
			18			pene- trated		58	6 12	65	40
			19					60	6 12	69	42
			20					62	6 12	67	41
	-50.9			63	6						
END OF BOREHOLE											

LOG for BOREHOLE No. C167 Fig. 78

Location No. T 4958 DRAX POWER STATION

TURBINE HALL & BOILER HOUSE

Date 10th - 11th JULY 1967

Description	Reduced Level: ft.	Legend	Sample	Depth ft. in.	Thickness ft. in.	Standard Penetration test: Depth and Penetration ft. in.	Standard Penetration test: No. of Blows (N)	Corrected N Values
Ground Level (Ft. above N.D.)	+ 14.1			0 0				
			1					
			2					
Firm brown laminated CLAY with partings of silt. The clay becomes silty at depth.			3		39 10			
			4					
			5					Water entered at 24' 0"
			6					
			7					
	- 25.8			39 10				
Continued on sheet 2								

Scale 1 in. = 5 ft.

● Disturbed Sample ↕ Bulk Sample ▮ Tube or Core Sample (Length to scale) △ Water Sample

CONTINUATION LOG for BOREHOLE No. C167

Fig. 78
Sheet 2 of 2

Description	Reduced Level : ft.	Legend	Sample	Depth ft.	Depth in.	Thickness ft.	Thickness in.	Standard Penetration test: Depth and Penetration ft.	Standard Penetration test: Depth and Penetration in.	Standard Penetration test: No. of Blows (N)	Corrected N Values
	- 25.8			(39	10)						
			8					40	6 12	23	19
			9					42	6 12	23	19
Compact grey-brown SILT with layers of clay & sand near base.			10					44	6 12	28	22
			11			14	2	46	6 12	28	22
			12					48	6 12	16	16
			13					50	6 12	19	17
Very silty sand for 8in			14					52	6 12	16	16
	- 29.9			54	0						
			15					54	6 12	58	37
			16			9	6	56	6 12	58	37
Dense fine red-brown SAND with traces of silt in top 3' 0"						penetrated					
			17					58	6 12	63	39
			18					60	6 12	74	45
			19					62	6 12	75	45
	- 39.4			62	6						
			END OF BOREHOLE								

LOG for BOREHOLE No. C169

Fig. 80

Sheet 1 of 2

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

Date 26th JULY 1967

Description	Reduced Level: ft.	Legend	Sample	Depth ft.	Depth in.	Thickness ft.	Thickness in.	Standard Penetration test: Depth and Penetration ft.	Standard Penetration test: Depth and Penetration in.	Standard Penetration test: No. of Blows (N)	Corrected N Values
Ground Level (Ft. above N.D.)	+12. 2			0	0						
Firm to stiff becoming soft to firm brown laminated CLAY with partings of silt. Silty clay at depth.			1								
			2								
			3			35	10				
			4								
			5								Water entered at 24' 0"
			6								
	- 23. 7		7	35	10						
(As sheet 2)			8					36	6		
									12	16	16
						15	11				
			9					38	6		
									12	19	17
				(40	0)						
Continued on sheet 2											

Scale 1 in. = 5 ft.

● Disturbed Sample

Bulk Sample

Tube or Core Sample (Length to scale)

△ Water Sample

Description	Reduced Level: ft.	Legend	Sample	Depth ft.	Depth in.	Thickness ft.	Thickness in.	Standard Penetration test: Depth and Penetration ft.	Standard Penetration test: Depth and Penetration in.	Standard Penetration test: No. of Blows (N)	Corrected N Values
				(40	0)			40	6 12	18	17
			10								
Compact grey-brown SILT with some layers of clay and thin layers of sand at base.			11			15	11	42	6 12	20	18
			12					44	6 12	18	17
			13					46	6 12	17	16
			14					48	6 12	18	17
			15					50	6 12	16	16
	- 39.6			51	9						
			16					52	6 12	54	35
Dense becoming very dense with depth fine red SAND traces of silt in top 12"			17					54	6 12	70	43
			18			9	9	56	6 12	70	43
						penetrated					
			19					58	6 12	76	46
			20					60	6 12	94	55
	- 49.3			61	6						
	END OF BOREHOLE										

LOG for BOREHOLE No. CTI/45 Fig. 1

Location No. 4958 /2 Drax Power Station **Sheet** 1 of

Carried out for Soil Mechanics Ltd.

Date 8th September 1967

Description	Reduced Level: ft.	Legend	Sample	Depth ft.	Depth in.	Thickness ft.	Thickness in.	Standard Penetration test: Depth and Penetration ft.	Standard Penetration test: Depth and Penetration in.	Standard Penetration test: No. of Blows (N)	
Ground Level (Ft. above N.D.)	+ 11.00			0	0						
Made Ground.						3	6				
	+ 7.50			3	6						
			1								
Firm brown laminated CLAY with partings of silt above 20ft, clay becoming silty below 20ft			2								
5" layer of sand.						32	6				Water entered at 21' 9"
			3								
			4								
			5								
	- 25.00			36	0						

Continued on sheet 2

Scale 1 in. = 5 ft.

● Disturbed Sample ↕ Bulk Sample ▮ Tube or Core Sample (Length to scale) △ Water Sample

CONTINUATION LOG for BOREHOLE No. CTI/45

Fig. 1
Sheet 2 of 2

Loc. 4958

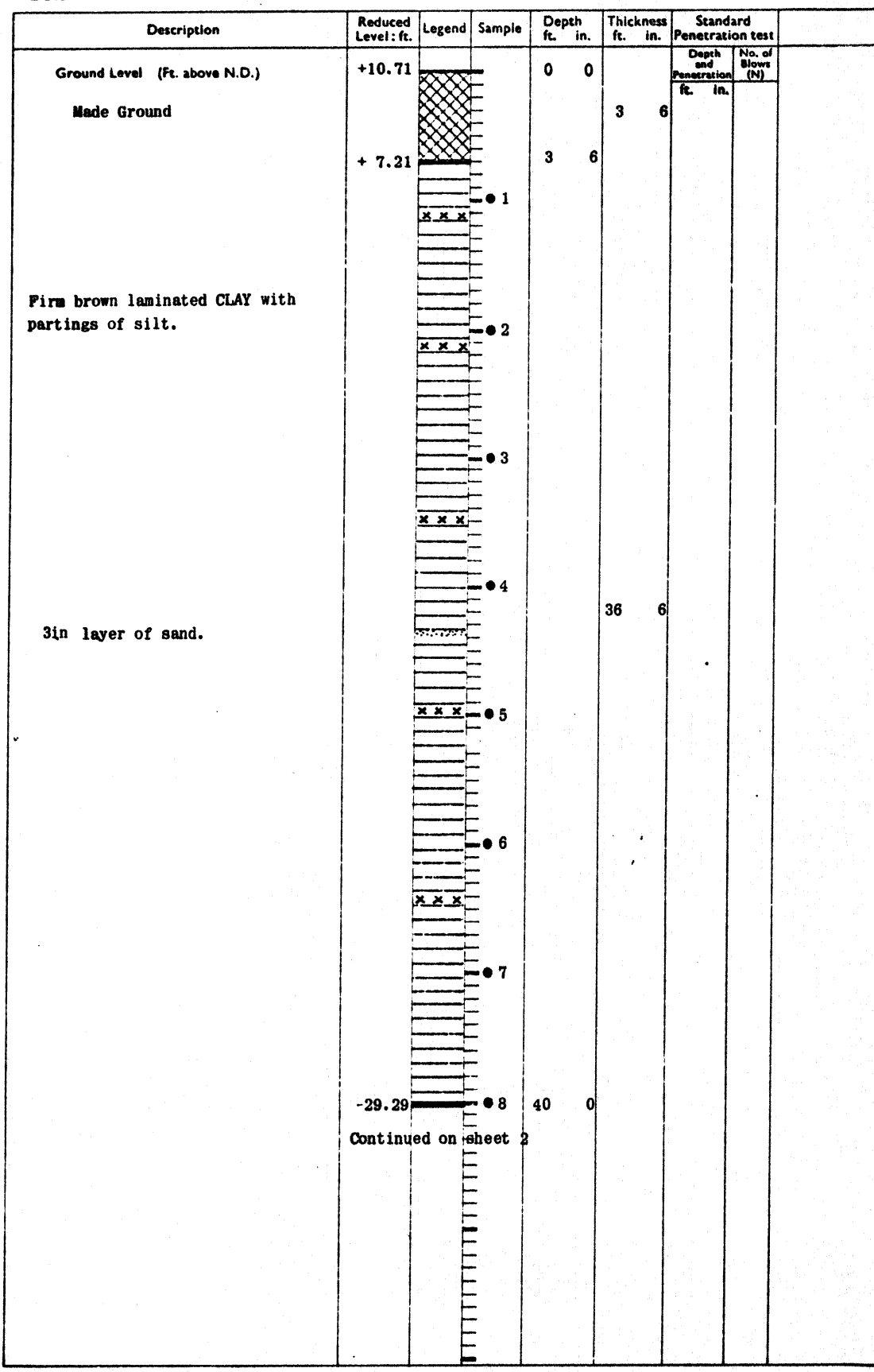
Description	Reduced Level: ft.	Legend	Sample	Depth ft.	Depth in.	Thickness ft.	Thickness in.	Standard Penetration test: Depth and Penetration ft.	Standard Penetration test: Depth and Penetration in.	Standard Penetration test: No. of Blows (N)	Corrected N values
	25.00			36	0						
Very loose and compact brown, very sandy SILT with layers of brown clay.			6					37	0		
			7						12	7	7
			8			5	6				
			9					39	0		
									12	41	28
	30.50		10	41	6			41	0		
									12	43	29
			11					43	0		
									12	33	24
Medium dense and dense fine red brown SAND with thin layers of clay and silty sand.			12					45	0		
									12	28	22
			13			10	6	47	0		
						penetrated			12	52	34
			14					49	0		
									12	38	27
	41.00		15	52	0			51	0		
									12	58	37
End of Borehole											

LOG for BOREHOLE No. CT2/165 Fig. 3

Location No. 4958/2 Drax Power Station **Sheet** 1 of

Carried out for Soil Mechanics Ltd.

Date 16th Sept 1967



Scale 1 in. = 5 ft.

● Disturbed Sample ↕ Bulk Sample ▮ Tube or Core Sample (Length to scale) △ Water Sample

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

CONTINUATION LOG for BOREHOLE No. CT2/165

Fig. 3
Sheet 2 of 2

Loc.
958

Description	Reduced Level: ft.	Legend	Sample	Depth ft.	Depth in.	Thickness ft.	Thickness in.	Standard Penetration test: Depth and Penetration ft.	Depth and Penetration in.	No. of Blows (N)	Corrected N Values
	-29.29			40	0						
			9					41	0		
Compact brown SILT with some layers of clay and sand at bottom.						6	5		12	35	25
			10					43	0		
									12	38	27
								45	6		
			11						12	48	32
	-35.71			46	5						
								47	6		
			12						12	43	29
								49	6		
			13						12	46	31
Generally medium dense becoming dense fine red brown SAND with some silty sand near the top.						13	7	51	6		
			14			penetrated			12	44	30
								54	6		
			15						12	44	30
								56	6		
			16						12	49	32
								59	0		
			17						12	55	35
	-49.29			60	0						
	END OF BOREHOLE										

LOG for BOREHOLE No. CT3/45 Fig. 4

Location No. 4958/2 Drax Power Station **Sheet** 1 of 2

Carried out for Soil Mechanics Ltd

Date 12th September 1967

Description	Reduced Level: ft.	Legend	Sample	Depth ft.	Depth in.	Thickness ft.	Thickness in.	Standard Penetration test: Depth and Penetration ft.	Standard Penetration test: Depth and Penetration in.	Standard Penetration test: No. of Blows (N)	
Ground Level (Ft. above N.D.)	+ 10.69			0	0						
Made Ground						3	6				
	+ 7.19			3	6						
			1								
Firm brown laminated CLAY with partings of silt. The clay becomes silty with depth.			2								
			3			31	6				
			4								
5in layer of sand			5								Water entered at 22' 0"
	+19.31		6	30	0						

Continued on sheet 2

Scale 1 in. = 5 ft.

● Disturbed Sample ↕ Bulk Sample ▮ Tube or Core Sample (Length to scale) △ Water Sample

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

CONTINUATION LOG for BOREHOLE No. CT3/45

Fig. 4
Sheet 2 of 2

Loc. 958/2

Description	Reduced Level: ft.	Legend	Sample	Depth ft.	Depth in.	Thickness ft.	Thickness in.	Standard Penetration test: Depth and Penetration ft.	Standard Penetration test: Depth and Penetration in.	Standard Penetration test: No. of Blows (N)	
	- 19.31			30	0						
Compact grey brown SILT. The silt becoming very sandy with depth			7					35	6	35	25
			8						12		
			9					37	6	36	26
						13	6		12		
			10					40	6	44	30
									12		
			11					42	6	64	40
	- 32.81			43	6				12		
			12					44	6	61	38
Dense, medium becoming fine with depth red brown SAND with traces of silty sand.									12		
			13			11	0	47	6	52	34
						penetrated			12		
			14					49	6	52	34
									12		
			15					51	6	69	42
									12		
			16					53	6	76	46
	- 33.81			54	6				12		
End of Borehole											

BOREHOLE NUMBER: **BH7** | PAGE 1 OF 3

DRILLING DATES: 20-21/09/99	DRILLING METHOD: Shell and Auger
DRILLER: I Martin	BOREHOLE DIAMETER: 8" - 6"
LOGGED BY: IM/RC	SCREEN TYPE & DIAMETER: 50mm HDPE
CHECKED BY: JDW	SCREEN SLOT SIZE: 1mm and sock

BOREHOLE CONSTRUCTION	SPT N-VALUE	SAMPLE NUMBER	SAMPLE TYPE	SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	DESCRIPTION	COMMENTS
				*0		0 – 1.0		MADE GROUND: Hardcore/gravel FILL to 0.3mbgl. Medium to coarse dark grey sand FILL including some soft grey clayey lenses to 1.5mbgl.	Dry, no visual or olfactory evidence of contamination.
				*0		1.0 – 8.0		Firm to stiff brown silty sandy CLAY.	Dry, no visual or olfactory evidence of contamination.
				*0					
				*0					
				*0					
				*0					
				*0					
				*0	06/01/00 ▽	8.0 – 9.0		Coarse dark brown SAND.	Damp from 8.0mbgl. No visual or olfactory evidence of contamination.
						9.0 – 10.0		Firm brown very sandy silty CLAY with occasional sandy lenses.	

LOCATION / NOTES:

Located in former contractor laydown area (FGD Plant construction).

LEGEND

- Disturbed Sample
- Undisturbed Sample
- * Headspace Analysis
- Down Borehole Analysis
- Groundwater Table
- Perched Water Table

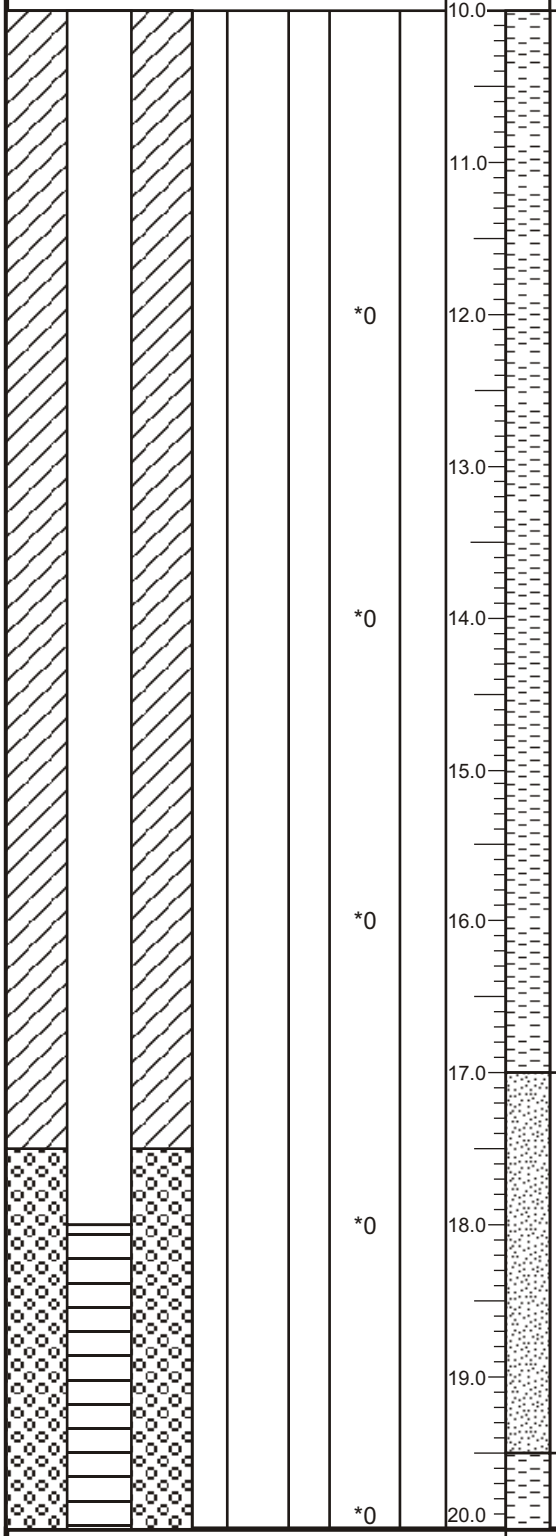
BOREHOLE LOG

Job Title	**Phase II Investigation**
Location	**DRAX, HUMBERSIDE**
Client	**AES ELECTRIC LTD**
TI App'd	DB
Ref.	JDW/DB/MCH
Date	JAN 2000
Job No.	44354-001-420

DCM GROUP DAMES & MOORE

BOREHOLE NUMBER: **BH7** | PAGE 2 OF 3

DRILLING DATES: 21-22/09/99	DRILLING METHOD: Shell and Auger
DRILLER: I Martin	BOREHOLE DIAMETER: 8"
LOGGED BY: SJC	SCREEN TYPE & DIAMETER: 50mm
CHECKED BY: JDW	SCREEN SLOT SIZE: 1mm and sock



SOIL VAPOUR (ppm)	DESCRIPTION	COMMENTS
*0		Very damp, no visual or olfactory evidence of contamination.
*0		
*0	Fine brown SAND, occasional soft to medium clayey lenses.	Very damp, no visual or olfactory evidence of contamination.
*0		
*0		

LOCATION / NOTES:

LEGEND

- Disturbed Sample
- Undisturbed Sample
- Headspace Analysis
- Down Borehole Analysis
- Groundwater Table
- Perched Water Table

BOREHOLE LOG

Job Title	**Phase II Investigation**
Location	**DRAX, HUMBERSIDE**
Client	**AES ELECTRIC LTD**
TI App'd	DB
Ref.	JDW/DB/MCH
Date	JAN 2000
Job No.	44354-001-420

DCM GROUP DAMES & MOORE

BOREHOLE NUMBER: **BH7**	PAGE 3 OF 3
DRILLING DATES: 21-22/09/99	DRILLING METHOD: Shell and Auger
DRILLER: I Martin	BOREHOLE DIAMETER: 8"
LOGGED BY: SJC	SCREEN TYPE & DIAMETER: 50mm
CHECKED BY: JDW	SCREEN SLOT SIZE: 1mm and sock

BOREHOLE CONSTRUCTION	SPT N-VALUE	SAMPLE NUMBER	SAMPLE TYPE	SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	DESCRIPTION	COMMENTS
						20.0		Fine brown SAND, traces of dark brown/red sandstone.	Wet, no visual or olfactory evidence of contamination.
				*0		21.0		Borehole completed at 21.0mbgl and installed.	
						22.0			
						23.0			
						24.0			
						25.0			
						26.0			
						27.0			
						28.0			
						29.0			
						30.0			

LOCATION / NOTES:

Borehole completed at 21.0mbgl.

LEGEND

- Disturbed Sample
- Undisturbed Sample
- Headspace Analysis
- Down Borehole Analysis
- Groundwater Table
- Perched Water Table

BOREHOLE LOG

Job Title	**Phase II Investigation**
Location	**DRAX, HUMBERSIDE**
Client	**AES ELECTRIC LTD**
TI App'd	DB
Ref.	JDW/DB/MCH
Date	JAN 2000
Job No.	44354-001-420

DCM GROUP DAMES & MOORE

BOREHOLE NUMBER: **BH8** | PAGE 1 OF 3

DRILLING DATES: 20-21/09/99	DRILLING METHOD: Shell and Auger
DRILLER: I Martin	BOREHOLE DIAMETER: 8" - 6"
LOGGED BY: IM/RC	SCREEN TYPE & DIAMETER: 50mm HDPE
CHECKED BY: JDW	SCREEN SLOT SIZE: 1mm and sock

BOREHOLE CONSTRUCTION	SPT N-VALUE	SAMPLE NUMBER	SAMPLE TYPE	SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	DESCRIPTION	COMMENTS
				*0		0 – 1.0		MADE GROUND: Loose black ashy gravel FILL to 0.3mbgl. Loose brown very sandy clayey FILL including some brick fragments.	Dry, no visual or olfactory evidence of contamination.
				*0		1.0 – 2.0		Coarse dark brrown SAND.	Dry, no visual or olfactory evidence of contamination.
				*0		2.0 – 3.0			
				*0		3.0 – 4.0			
				*0		4.0 – 5.0			
				*0		5.0 – 6.0			
				*0		6.0 – 7.0		Firm to stiff dark grey/brown slightly sandy CLAY.	Dry, no visual or olfactory evidence of contamination.
				*0		7.0 – 8.0			
				*0		8.0 – 9.0			Damp from 8.0mbgl. No visual or olfactory evidence of contamination.
				*0		9.0 – 10.0			

LOCATION / NOTES:

Located adjacent to coal stockyard area.

LEGEND

- Disturbed Sample
- Undisturbed Sample
- Headspace Analysis
- Down Borehole Analysis
- Groundwater Table
- Perched Water Table

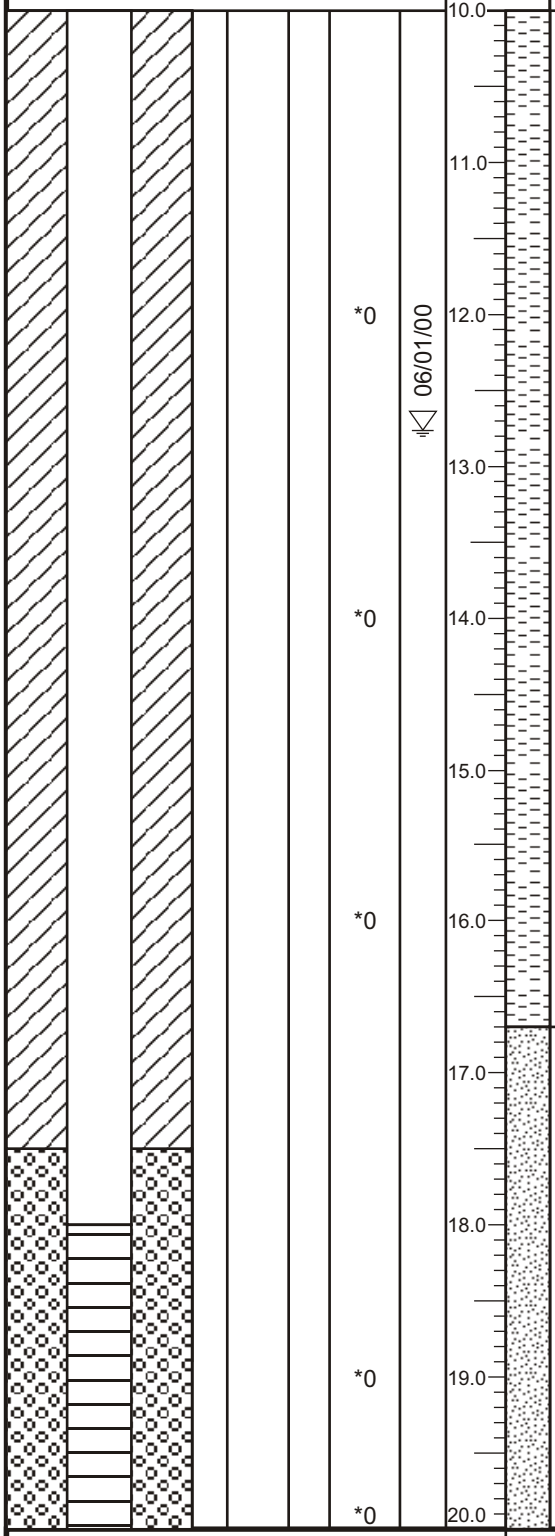
BOREHOLE LOG

Job Title	**Phase II Investigation**
Location	**DRAX, HUMBERSIDE**
Client	**AES ELECTRIC LTD**
TI App'd	DB
Ref.	JDW/DB/MCH
Date	JAN 2000
Job No.	44354-001-420

DCM GROUP DAMES & MOORE

BOREHOLE NUMBER: **BH8** | PAGE 2 OF 3

DRILLING DATES: 21-22/09/99	DRILLING METHOD: Shell and Auger
DRILLER: I Martin	BOREHOLE DIAMETER: 8"
LOGGED BY: SJC	SCREEN TYPE & DIAMETER: 50mm
CHECKED BY: JDW	SCREEN SLOT SIZE: 1mm and sock



DESCRIPTION	COMMENTS
	Very damp, no visual or olfactory evidence of contamination.
Medium to coarse dark brown, very silty SAND.	Wet, no visual or olfactory evidence of contamination.
	Becoming very wet.

LOCATION / NOTES:

LEGEND

- Disturbed Sample
- Undisturbed Sample
- Headspace Analysis
- Down Borehole Analysis
- Groundwater Table
- Perched Water Table

BOREHOLE LOG

Job Title	**Phase II Investigation**
Location	**DRAX, HUMBERSIDE**
Client	**AES ELECTRIC LTD**
TI App'd	DB
Ref.	JDW/DB/MCH
Date	JAN 2000
Job No.	44354-001-420

DCM GROUP DAMES & MOORE

BOREHOLE NUMBER: **BH8** | PAGE 3 OF 3

DRILLING DATES: 21-22/09/99	DRILLING METHOD: Shell and Auger
DRILLER: I Martin	BOREHOLE DIAMETER: 8"
LOGGED BY: SJC	SCREEN TYPE & DIAMETER: 50mm
CHECKED BY: JDW	SCREEN SLOT SIZE: 1mm and sock

BOREHOLE CONSTRUCTION	SPT N-VALUE	SAMPLE NUMBER	SAMPLE TYPE	SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	DESCRIPTION	COMMENTS
				*0		20.0		Fine dark brown/red SAND, much sandstone fragments.	
						21.0		Borehole completed at 21.0mbgl and installed.	
						22.0			
						23.0			
						24.0			
						25.0			
						26.0			
						27.0			
						28.0			
						29.0			
						30.0			

LOCATION / NOTES:

LEGEND

- Disturbed Sample
- Undisturbed Sample
- * Headspace Analysis
- Down Borehole Analysis
- Groundwater Table
- Perched Water Table

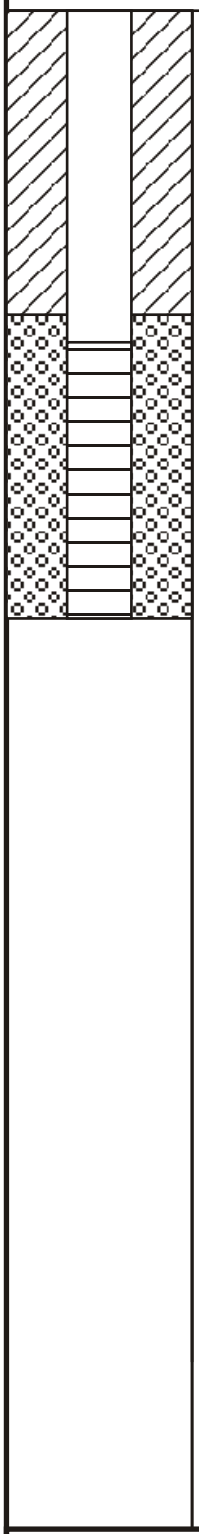
BOREHOLE LOG

Job Title	**Phase II Investigation**
Location	**DRAX, HUMBERSIDE**
Client	**AES ELECTRIC LTD**
TI App'd	DB
Ref.	JDW/DB/MCH
Date	JAN 2000
Job No.	44354-001-420

DCM GROUP DAMES & MOORE

BOREHOLE NUMBER: **WS126** | PAGE 1 OF 1

DRILLING DATES: 15/12/99	DRILLING METHOD: Window Sampler
DRILLER: Cape Site Services	BOREHOLE DIAMETER: 70-35mm
LOGGED BY: RC	SCREEN TYPE & DIAMETER: 35mm ID HDPE
CHECKED BY: JDW	SCREEN SLOT SIZE: 1mm



SO-WS126 0.5m HM

SO-WS126 1.5m DRO/PAH/PCB

SO-WS126 4.0m GSA/TOC/HM/DRO

06/01/00

DEPTH (m)	DESCRIPTION	COMMENTS
0	MADE GROUND: Brick to 0.12mbgl. Angular limestone gravel to 0.6mbgl. Coarse to medium red sand to 2.0mbgl.	Dry, no visual or olfactory evidence of contamination.
2.0	Firm to very stiff red CLAY including frequent coarse sandy lenses.	Damp in sand lenses. No visual or olfactory evidence of contamination.
4.0	Borehole terminated at 4.0mbgl and installed.	
10.0		

LOCATION / NOTES:

Hand dug to 1.5mbgl.

Located north of fuel oil AST's (North site).

LEGEND

- Disturbed Sample
- Undisturbed Sample
- Headspace Analysis
- Down Borehole Analysis
- Groundwater Table
- Perched Water Table

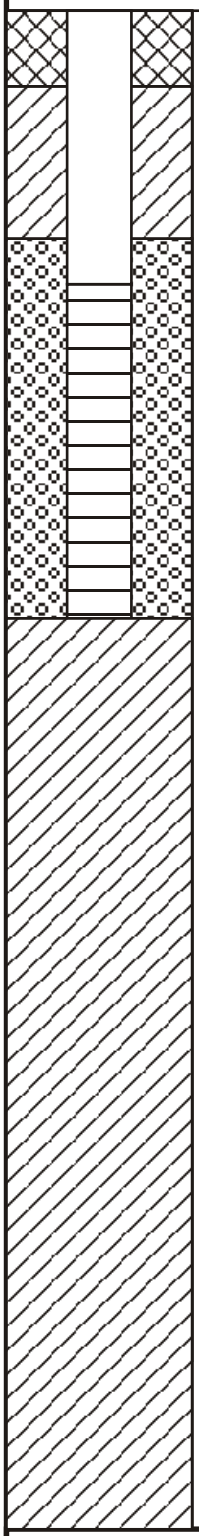
BOREHOLE LOG

Job Title	**Phase II Investigation**
Location	**DRAX, HUMBERSIDE**
Client	**AES ELECTRIC LTD**
TI App'd	DB
Ref.	JDW/DB/MCH
Date	JAN 2000
Job No.	44354-001-420

DCM GROUP DAMES & MOORE

BOREHOLE NUMBER: **WS127** PAGE 1 OF 1

DRILLING DATES: 08/12/99	DRILLING METHOD: Window Sampler
DRILLER: Cape Site Services	BOREHOLE DIAMETER: 70-35mm
LOGGED BY: RC	SCREEN TYPE & DIAMETER: 35mm ID HDPE
CHECKED BY: JDW	SCREEN SLOT SIZE: 1mm



SO-WS127 0.6m
VOC/TPH/PAH/Heavy metals/PCB

06/01/00

DEPTH (m)	DESCRIPTION	COMMENTS	SOIL VAPOUR (ppm)
0	MADE GROUND: Brownsand/gravel/hardcore /ash/clinker.	Dry, no visual or olfactory evidence of contamination.	
0.5	MADE GROUND: Buff dolomite sand and angular gravel.		*0
1.0	MADE GROUND: Brown/grey medium to coarse gravel and angular limestone gravel. Clay rich from 0.8 - 1.0mbgl.	Dry, no visual or olfactory evidence of contamination. Wet from 1.3mbgl.	
1.5			*0
2.0	Firm to stiff brown CLAY with orange/grey mottling from 1.9 - 3.0mbgl.	Dry, no visual or olfactory evidence of contamination.	
2.5			*0
3.0			
3.5	Continued stiff brown CLAY.		
4.0			
4.5			
5.0	Window sample completed at 5.0mbgl.		

LOCATION / NOTES:

Hand dug to 1.5mbgl.

Located adjacent to oil water seperator No.2 (north cooling towers).

LEGEND

- Disturbed Sample
- Undisturbed Sample
- * Headspace Analysis
- Down Borehole Analysis
- Groundwater Table
- Perched Water Table

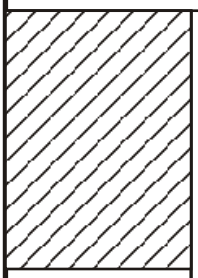
BOREHOLE LOG

Job Title	**Phase II Investigation**
Location	**DRAX, HUMBERSIDE**
Client	**AES ELECTRIC LTD**
TI App'd	DB
Ref.	JDW/DB/MCH
Date	JAN 2000
Job No.	44354-001-420

DCM GROUP DAMES & MOORE

BOREHOLE NUMBER: **WS129** | PAGE 1 OF 1

DRILLING DATES: 15/12/99	DRILLING METHOD: Window Sampler
DRILLER: Cape Site Services	BOREHOLE DIAMETER: 70-35mm
LOGGED BY: RC	SCREEN TYPE & DIAMETER: 35mm ID HDPE
CHECKED BY: JDW	SCREEN SLOT SIZE: 1mm



BOREHOLE CONSTRUCTION	SPT N-VALUE	SAMPLE NUMBER	SAMPLE TYPE	SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	DESCRIPTION	COMMENTS
		SO-WS129 0.3m HM		*0		0		MADE GROUND: Tarmac to 0.17mbgl. Limestone gravel to 0.6mbgl. Coarse sandy gravel to 1.5mbgl. Limestone gravel to 1.7mbgl.	Dry, no visual or olfactory evidence of contamination.
		SO-WS129 1.0m PAH/DRO		*0		1.0			
						2.0		Borehole terminated upon refusal at 1.7mbgl and backfilled with bentonite.	
						3.0			
						4.0			
						5.0			
						6.0			
						7.0			
						8.0			
						9.0			
						10.0			

LOCATION / NOTES:

Hand dug to 1.5mbgl.

Located adjacent to chemical tanks. (Road R21).

LEGEND

- Disturbed Sample
- Undisturbed Sample
- * Headspace Analysis
- Down Borehole Analysis
- Groundwater Table
- Perched Water Table

BOREHOLE LOG

Job Title	**Phase II Investigation**
Location	**DRAX, HUMBERSIDE**
Client	**AES ELECTRIC LTD**
TI App'd	DB
Ref.	JDW/DB/MCH
Date	JAN 2000
Job No.	44354-001-420

DCM GROUP DAMES & MOORE

BOREHOLE NUMBER: **WS130** | PAGE 1 OF 1

DRILLING DATES: 09/12/99	DRILLING METHOD: Window Sampler
DRILLER: Cape Site Services	BOREHOLE DIAMETER: -
LOGGED BY: SJC	SCREEN TYPE & DIAMETER: -
CHECKED BY: JDW	SCREEN SLOT SIZE: -

BOREHOLE CONSTRUCTION	SPT N-VALUE	SAMPLE NUMBER	SAMPLE TYPE	SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	DESCRIPTION	COMMENTS
		SO-WS130 0.7m TPH/PAH/Heavy metals		*0		0		MADE GROUND: Concrete.	Dry, no visual or olfactory evidence of contamination.
						0.5		MADE GROUND: Buff dolomite angular gravel/sand and silt.	
						1.0		MADE GROUND: Red/brown medium sand with much fine to medium angular gravel.	Dry, no visual or olfactory evidence of contamination.
		SO-WS130 1.7m Heavy metals		*0		1.5		MADE GROUND: Loose red brown medium sand.	Dry, no visual or olfactory evidence of contamination.
						2.0		MADE GROUND: Loose grey coarse sand.	
		SO-WS130 2.7m Heavy metals		*0		2.5		MADE GROUND: Brown sand/sandstone gravel.	Dry, no visual or olfactory evidence of contamination.
						3.0		Soft to firm brown CLAY with some peat and occasional light brown silty lenses/laminance from 2.6 - 3.0mbgl. Rootlets/organic remains throughout all clay sequence.	Dry/damp, natural organic odour.
		SO-WS130 4.7m TOC		*0		4.5		Borehole terminated at 5.0mbgl and backfilled.	
						5.0			

LOCATION / NOTES:

Not installed.

Located in the hydrogen AST compound.

LEGEND

- Disturbed Sample
- Undisturbed Sample
- Headspace Analysis
- Down Borehole Analysis
- Groundwater Table
- Perched Water Table

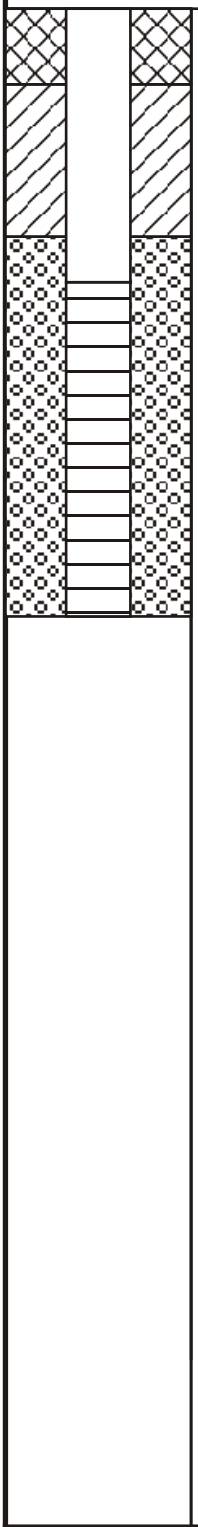
BOREHOLE LOG

Job Title	**Phase II Investigation**
Location	**DRAX, HUMBERSIDE**
Client	**AES ELECTRIC LTD**
TI App'd	DB
Ref.	JDW/DB/MCH
Date	JAN 2000
Job No.	44354-001-420

DCM GROUP DAMES & MOORE

BOREHOLE NUMBER: **WS131** | PAGE 1 OF 1

DRILLING DATES: 08/12/99	DRILLING METHOD: Window Sampler
DRILLER: Cape Site Services	BOREHOLE DIAMETER: 70-35mm
LOGGED BY: SJC	SCREEN TYPE & DIAMETER: 35mm ID HDPE
CHECKED BY: JDW	SCREEN SLOT SIZE: 1mm



SAMPLE NUMBER	SAMPLE TYPE	SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	DESCRIPTION	COMMENTS
SO-WS131 0.7m TPH/Heavy metals		*0	06/01/00	0		MADE GROUND: Tarmac.	Dry, no visual or olfactory evidence of contamination.
				0.5		MADE GROUND: Brown sand/gravel/clinker/ash.	
						MADE GROUND: Buff dolomite sand and angular gravel.	
SO-WS131 1.7m TOC		*0		1.0		MADE GROUND: Loose to dense red brown medium to coarse sand with occasional clayey fragments (lenses/laminae).	Wet from 1.0mbgl
SO-WS131 2.2m Heavy metals		*0		1.5			
				2.0			
				2.5		Borehole completed at 2.3mbgl due to concrete/sandstone or limestone boulder causing refusal.	
				3.0			
				3.5			
				4.0			
				4.5			
				5.0			

LOCATION / NOTES:

Located on Barry Kirk Way adjacent to chemical tanks.

LEGEND

- Disturbed Sample
- Undisturbed Sample
- Headspace Analysis
- Down Borehole Analysis
- Groundwater Table
- Perched Water Table

BOREHOLE LOG

Job Title	**Phase II Investigation**
Location	**DRAX, HUMBERSIDE**
Client	**AES ELECTRIC LTD**
TI App'd	DB
Ref.	JDW/DB/MCH
Date	JAN 2000
Job No.	44354-001-420

DCM GROUP DAMES & MOORE

BOREHOLE NUMBER: **WS132** PAGE 1 OF 1

DRILLING DATES: 16/12/99	DRILLING METHOD: Hand dug
DRILLER: Cape Site Services	BOREHOLE DIAMETER: -
LOGGED BY: SJC	SCREEN TYPE & DIAMETER: -
CHECKED BY: JDW	SCREEN SLOT SIZE: -

BOREHOLE CONSTRUCTION	SPT N-VALUE	SAMPLE NUMBER	SAMPLE TYPE	SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	DESCRIPTION	COMMENTS
		SO-WS131 0.3m HM		*0		0		MADE GROUND: Tarmac to 0.11mbgl. Concrete to 0.2mbgl. Angular limestone gravel to 0.45mbgl. Medium to coarse red sand to 1.5mbgl.	Dry, no visual or olfactory evidence of contamination.
		SO-WS132 1.3m HM/PAH/DRO		*0		1.0		Hand dug pit terminated at 1.3mbgl upon refusal and backfilled with bentonite.	
						2.0			
						3.0			
						4.0			
						5.0			
						6.0			
						7.0			
						8.0			
						9.0			
						10.0			

LOCATION / NOTES:

No intrusive drilling permitted.

Hand dug to 1.3mbgl only.

Located on Turbine House Road adjacent to chemical tanks.

LEGEND

- Disturbed Sample
- Undisturbed Sample
- * Headspace Analysis
- Down Borehole Analysis
- Groundwater Table
- Perched Water Table

BOREHOLE LOG

Job Title	**Phase II Investigation**
Location	**DRAX, HUMBERSIDE**
Client	**AES ELECTRIC LTD**
TI App'd	DB
Ref.	JDW/DB/MCH
Date	JAN 2000
Job No.	44354-001-420

DCM GROUP DAMES & MOORE

Borehole Log

Soil Mechanics

Drilled JB **Logged** CP **Checked** PH	**Start** 30/06/2011 **End** 01/07/2011	**Equipment, Methods and Remarks** Dando 2000. Cable percussion boring. No sample No.s 34 and 46. SPT Hammer ID: JB13. SPT Rod type: NWY.	**Depth from** / **to** 0.00m / 7.50m 7.50m / 19.55m	**Diameter** 200mm 150mm	**Casing Depth** 7.50m 15.00m

Ground Level +3.39 mOD
Coordinates E 465607.67
National Grid N 426920.16
Chainage

Samples and Tests

Depth	Type & No	Records	Date Casing	Time Water
0.10	D 1	0.00-1.20 m Hand excavated inspection pit.		
0.10-0.30	B 2			
0.30	ES 3			
0.40	D 4			
0.40-0.60	B 5			
0.60	ES 6			
0.70	D 7			
0.80-1.00	B 8			
1.20-1.65	U 10	70 blows		dry
1.20	ES 9			
1.50-2.00	KFH	k=0.0E+0 m/s		
1.70	D 11			
1.70-2.00	D 12			
2.00-2.45	SPT S	N=18 (3,3/4,4,5,5)	2.00	dry
2.00-2.45	D 13			
2.00-2.50	B 14			
3.00-3.45	U 15	30 blows	3.00	dry
3.50	D 16			
4.00-4.45	SPT S	N=16 (2,2/3,4,5,4)	4.00	dry
4.00-4.65	D 17			
4.00-4.50	B 18			
5.00-5.45	U 19	50 blows	5.00	dry
5.50	D 20			
6.50-6.95	SPT S	N=18 (3,3/4,5,4,5)	6.50	dry
6.50-6.95	D 21			
6.50-7.00	B 22			
7.20	D 23			
7.20-7.71	B 24			
8.00-8.45	U 25	110 blows	8.00	dry
8.50	D 26			
9.50-9.95	SPT S	N=27 (3,4/6,5,8,8)	9.50	dry
9.50-9.95	D 27			
9.50-10.00	B 28			

Strata

Description	Depth, *Level* (Thickness)
Black sandy angular fine to coarse GRAVEL of coal. (MADE GROUND)	(0.35)
	0.35 *+3.04*
Reddish brown mottled grey slightly clayey fine to coarse SAND. (MADE GROUND)	(0.30)
	0.65 *+2.74*
Firm thinly laminated greyish brown mottled light brown slightly sandy CLAY with occasional partings of light brown silt.	(5.85)
Medium dense orangish brown fine to medium SAND.	6.50 *-3.11*
	(0.60)
Firm dark orangish brown slightly sandy CLAY.	7.10 *-3.71*
	(3.20)
9.50-10.30 m becoming thinly laminated with partings of light brown silt	
Stratum continues to 10.30 m	

Legend

Backfill/ Instruments

Groundwater Entries

No.	Struck (m)	Post strike behaviour	Depth sealed (m)

Depth Related Remarks *

From	to (m)

Chiselling

Depths (m)	Time	Tools used

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

Scale 1:50

Project DRAX POWER STATION, PROJECT PHOENIX
Project No. A1047-11
Carried out for Drax Power Limited

Borehole
BH5
Sheet 1 of 2

Borehole Log

Soil Mechanics

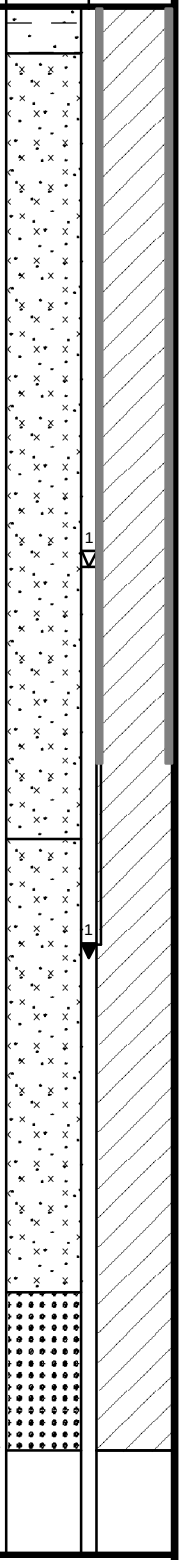
Drilled JB **Logged** CP **Checked** PH	**Start** 30/06/2011 **End** 01/07/2011	**Equipment, Methods and Remarks** Dando 2000. Cable percussion boring. No sample No.s 34 and 46. SPT Hammer ID: JB13. SPT Rod type: NWX	**Depth from** / **to** / **Diameter** / **Casing Depth** 0.00m / 7.50m / 200mm / 7.50m 7.50m / 19.55m / 150mm / 15.00m			**Ground Level** +3.39 mOD **Coordinates** E 465607.67 **National Grid** N 426920.16 **Chainage**	

Samples and Tests

Depth	Type & No	Records	Date Casing	Time Water
10.30	B 29			
10.40-10.90	B 30			
11.00-11.45	U 31	125 blows	11.00	dry
11.50	D 32			
12.00	D 33	*		
12.50-12.95	SPT S	N=46 (5,7/11,9,12,14)	12.50	dry
12.50-13.00	B 35			
12.50-12.95	D NR			
13.00-13.80	B 36			
14.00-14.45	SPT S	N=50 (10,12/13,11,13,13)	14.00	dry
14.00-14.45	D 37			
14.00-14.50	D 38			
			30/06/2011 15.00	dry
			01/07/2011 15.00	0800 dry
15.50-15.71	SPT S	50 (10,15 for 52mm/ 25,25 for 11mm)	15.00	dry
15.50-15.93	D 39			
15.50-16.00	B 40			
16.20	W 41			
17.00-17.09	SPT S	50 (25 for 20mm/50 for 68mm)	15.00	13.70
17.00-17.08	D 42			
17.00-17.50	B 43			
18.50-18.57	SPT S	50 (25 for 15mm/50 for 52mm)	15.00	13.70
18.50-18.56	D 44			
18.50-19.50	B 45			
			01/07/2011 15.00	13.70
19.50-19.55	SPT S	50 (25 for 11mm/50 for 39mm)		
19.50-19.55	D NR			

Strata

Description (Continued from Sheet 1)	Depth, *Level* (Thickness)
Firm dark orangish brown slightly sandy CLAY.	10.30 *-6.91*
Dense, becoming very dense, orangish brown silty fine to medium SAND.	(5.20)
13.00-13.80 m occasional cobbles of sandstone	
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*
	(3.00)
Extremely weak reddish brown fine to coarse grained SANDSTONE. Recovered as sand and angular to subangular fine to coarse gravel. (SHERWOOD SANDSTONE)	18.50 *-15.11*
	(1.05)
EXPLORATORY HOLE ENDS AT 19.55 m	19.55 *-16.16*



Groundwater Entries

No.	Struck (m)	Post strike behaviour	Depth sealed (m)
1	16.20	Rose to 13.70 m after 20 minutes.	-

Depth Related Remarks *

From	to (m)	
12.00	16.20	Water added to assist boring.

Chiselling

Depths (m)	Time	Tools used
13.30 -13.30	30 mins	

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

Scale 1:50

Project DRAX POWER STATION, PROJECT PHOENIX

Project No. A1047-11

Carried out for Drax Power Limited

Borehole **BH5**

Borehole Log

Soil Mechanics

Drilled CS **Logged** MT **Checked** PH	**Start** 06/07/2011 **End** 07/07/2011	**Equipment, Methods and Remarks** Dando 150. Cable percussion boring. SPT Hammer ID: INFOS01. SPT Rod type: B.	**Depth from** 0.00m	**to** 20.70m	**Diameter** 150mm	**Casing Depth** 20.00m	**Ground Level** +6.03 mOD **Coordinates** E 465922.97 **National Grid** N 427002.72 **Chainage**

Samples and Tests

Depth	Type & No	Records	Date Casing	Time Water
		0.00-1.20 m Hand excavated inspection pit.		
0.25	D 1			
0.30	ES 2			
0.30-0.50	B 3			
0.60	ES 4			
0.65	D 5			
0.65-1.00	B 6			
1.20-1.65	SPT S	N=25 (6,7/6,5,6,8)		dry
1.20-1.65	D 7			
1.55	D 8			
1.55-2.00	B 9			
2.10-2.55	SPT S	* N=9 (2,3/2,3,2,2)	2.10	dry
2.10-2.55	D 10			
2.50	ES 11			
2.50-3.00	B 12			
3.00-3.45	SPT S	N=12 (4,4/3,3,3,3)	3.00	
3.00-3.45	D 13			
3.50	D 14			
3.50-4.00	B 15			
3.80	ES 16			
4.00-4.45	U 17	40 blows	4.00	dry
4.45-4.65	D 18			
4.65-5.00	B 19			
5.00-5.45	SPT S	N=15 (2,3/3,4,4,4)	5.00	dry
5.00-5.45	D 20			
5.50-6.00	B 21			
6.50-6.95	U 22	39 blows	6.20	dry
6.95-7.15	D 23			
7.20-7.60	B 24			
8.00-8.45	SPT S	N=15 (2,3/3,4,4,4)	8.00	dry
8.00-8.45	D 25			
8.50-9.00	B 26			
9.50	U 27	42 blows	9.00	dry
9.95-10.15	D 27			

Depth	Type & No	Records	Date Casing	Time Water

Strata

Description	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
Cream angular to subangular coarse GRAVEL of limestone. Ballast/sub-base. (MADE GROUND)	0.15 *+5.88* (0.40)		
Black slightly clayey very sandy angular to subangular fine to coarse GRAVEL of coal with occasional sandstone and mudstone. (MADE GROUND)	0.55 *+5.48* (0.45) 1.00 *+5.03*		
Black and orange gravelly medium to coarse SAND. Gravel is angular to subangular fine to coarse of coal, sandstone and mudstone. (MADE GROUND)	1.20 *+4.83* 1.45 *+4.58*		
Cream angular to subangular coarse GRAVEL of limestone. Ballast/sub-base. (MADE GROUND)			
Orange brown medium to coarse SAND. (MADE GROUND)	(1.95)		
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) 3.40-4.50 m locally soft	3.40 *+2.63*		
Firm to stiff brown, locally mottled grey, locally slightly gravelly, CLAY with occasional partings of light brown silt. Gravel is subangular to subrounded fine to medium of mudstone and siltstone.	(7.60)		SP
Stratum continues to 11.00 m			

Groundwater Entries

No.	Struck (m)	Post strike behaviour	Depth sealed (m)

Depth Related Remarks *

From	to (m)	
2.10	3.00	Water added to assist boring.

Chiselling

Depths (m)	Time	Tools used

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

Scale 1:50

Project DRAX POWER STATION, PROJECT PHOENIX

Project No. A1047-11

Carried out for Drax Power Limited

Borehole

BH12

Borehole Log

Soil Mechanics

Drilled CS **Logged** MT **Checked** PH	**Start** 06/07/2011 **End** 07/07/2011	**Equipment, Methods and Remarks** Dando 150. Cable percussion boring. SPT Hammer ID: INFOS01. SPT Rod type: B.	**Depth from** 0.00m **to** 20.70m **Diameter** 150mm **Casing Depth** 20.00m	**Ground Level** +6.03 mOD **Coordinates** E 465922.97 **National Grid** N 427002.72 **Chainage**	

Samples and Tests

Depth	Type & No	Records	Date Casing	Time Water
10.50-11.00	B 29		06/07/2011 10.50	dry
11.00-11.45	SPT S	N=14 (2,3/3,3,4,4)		
11.00	D 30		07/07/2011 10.50	0800 dry
11.50-12.00	B 31			
12.50-12.95	U 32	42 blows	12.00	dry
12.95-13.15	D 33			
13.15-13.80	B 34			
14.00-14.45	SPT S	N=12 (2,2/2,2,3,5)	14.00	dry
14.00-14.45	D 35			
14.50-15.20	B 36			
15.50-15.95	SPT S	* N=18 (2,3/3,4,4,7)	15.00	dry
15.50-15.95	D 37			
16.00-16.70	B 38			
17.00-17.45	SPT S	N=24 (3,3/4,5,7,8)	17.00	14.10
17.00-17.45	D 39			
17.00	W 40			
17.40-18.20	B 41			
18.50-18.62	SPT S	50 (25 for 60mm/50 for 60mm)	18.50	14.10
18.50-18.62	D 42			
18.50-19.40	B 43			

Strata

Description (Continued from Sheet 1)	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
Firm to stiff brown, locally mottled grey, locally slightly gravelly, CLAY with occasional partings of light brown silt. Gravel is subangular to subrounded fine to medium of mudstone and siltstone.			
Firm reddish brown slightly sandy CLAY with occasional partings of reddish brown silt.	11.00 *-4.97*		
12.50-13.00 m locally soft	(4.15)		
Firm to stiff sandy SILT.	15.15 *-9.12*		
Dense reddish brown medium to coarse slightly gravelly SAND. Gravel is angular to subangular fine to medium of sandstone.	(2.10)		
Extremely weak reddish brown fine to medium grained SANDSTONE. Recovered as sand and angular to subangular fine to medium gravel. (SHERWOOD SANDSTONE)	17.25 *-11.22*		
	(1.25)		
	18.50 *-12.47*		SPIE
	(2.20)		
Stratum continues to 20.70 m			

Groundwater Entries

No.	Struck (m)	Post strike behaviour	Depth sealed (m)
1	17.00	Rose to 14.10 m after 20 minutes.	-

Depth Related Remarks *

From	to (m)	
15.50	20.50	Water added to assist boring.

Chiselling

Depths (m)	Time	Tools used
18.50 -20.60	60 mins	

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

Scale 1:50

Project DRAX POWER STATION, PROJECT PHOENIX

Project No. A1047-11

Carried out for Drax Power Limited

Borehole **BH12**

Borehole Log

Soil Mechanics

Drilled CS **Logged** MT **Checked** PH	**Start** 06/07/2011 **End** 07/07/2011	**Equipment, Methods and Remarks** Dando 150. Cable percussion boring. SPT Hammer ID: INFOS01. SPT Rod type: B.	**Depth from** 0.00m **to** 20.70m **Diameter** 150mm **Casing Depth** 20.00m	**Ground Level** +6.03 mOD **Coordinates** E 465922.97 **National Grid** N 427002.72 **Chainage**	

Samples and Tests

Depth	Type & No	Records	Date Casing	Time Water
20.60-20.70 ~~20.60-20.70~~	SPT S ~~D 44~~	50 (25 for 60mm/50 for 40mm)	07/07/2011 20.00	14.30

Strata

Description (Continued from Sheet 2)	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
Extremely weak reddish brown fine to medium grained SANDSTONE. Recovered as sand and angular to subangular fine to medium gravel. (SHERWOOD SANDSTONE)			
EXPLORATORY HOLE ENDS AT 20.70 m	20.70 *-14.67*		

Depth	Type & No	Records	Date Casing	Time Water

Groundwater Entries

No.	Struck (m)	Post strike behaviour	Depth sealed (m)

Depth Related Remarks *

From	to (m)

Chiselling

Depths (m)	Time	Tools used

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

Scale 1:50

Project DRAX POWER STATION, PROJECT PHOENIX

Project No. A1047-11

Carried out for Drax Power Limited

Borehole

BH12

Borehole Log

Soil Mechanics

Drilled JB **Logged** MT **Checked** PH	**Start** 07/07/2011 **End** 08/07/2011	**Equipment, Methods and Remarks** Dando 2000. Cable percussion boring. No sample No.s 26, 30 and 34. SPT Hammer ID: JB13. SPT Rod type: NWY.	**Depth from** 0.00m **to** 20.41m **Diameter** 150mm **Casing Depth** 20.00m	**Ground Level** +4.58 mOD **Coordinates** E 466198.39 **National Grid** N 426958.76 **Chainage**		

Samples and Tests

Depth	Type & No	Records	Date Casing	Time Water
0.10-0.50	B 1	0.00-1.20 m Hand excavated inspection pit.		
0.60	D 2			
0.60-1.00	B 3			
1.20	ES 4			
1.20-2.00	B 5			
2.00-2.45	SPT S	N=27 (2,4/5,7,7,8)	2.00	dry
2.00-2.45	D 6			
2.00-2.50	B 7			
2.00-3.45	D 8			
3.00-3.45	SPT S	N=16 (1,2/3,4,4,5)	3.00	dry
3.00-3.50	B 9			
3.50	D 10			
3.60	ES 11			
3.70-4.00	B 12			
4.00-4.45	U 13	72 blows	4.00	dry
4.50	D 14			
4.50-4.80	B 15			
5.00-5.45	SPT S	N=19 (3,4/4,5,4,6)	5.00	dry
5.00-5.45	D 16			
5.00-5.50	B 17			
6.50-6.95	U 18	85 blows	6.50	dry
7.00	D 19			
8.00-8.45	SPT S	N=29 (4,4/6,7,9,7)	8.00	dry
8.00-8.45	D 20			
8.00-8.50	B 21			
9.50-9.95	U 22	100 blows 405 mm rec	9.50	dry

Strata

Description	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
MACADAM. Road Surface. (MADE GROUND)	0.10 *+4.48* (0.40)		
Light grey sandy angular to subangular fine to coarse GRAVEL of limestone. Ballast/sub-base. (MADE GROUND)	0.50 *+4.08*		
Medium dense reddish brown slightly gravelly SAND. Gravel is subangular to rounded medium to coarse of sandstone and mudstone. (MADE GROUND)	(2.90)		
Firm brown mottled orange and grey sandy CLAY.	3.40 *+1.18* (0.70)		
Stiff fissured brown mottled grey CLAY with frequent partings of light brown silt.	4.10 *+0.48* (0.90)		
Stiff, locally firm, brown CLAY with occasional partings of light brown silt.	5.00 *-0.42* (4.60)		
Stiff reddish brown slightly sandy CLAY	9.60 *-5.02*		
Stratum continues to 12.50 m			

Groundwater Entries

No.	Struck (m)	Post strike behaviour	Depth sealed (m)

Depth Related Remarks *

From	to (m)

Chiselling

Depths (m)	Time	Tools used

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

Scale 1:50

Project DRAX POWER STATION, PROJECT PHOENIX

Project No. A1047-11

Carried out for Drax Power Limited

Borehole

BH13

Borehole Log

Soil Mechanics

Drilled JB **Logged** MT **Checked** PH	**Start** 07/07/2011 **End** 08/07/2011	**Equipment, Methods and Remarks** Dando 2000. Cable percussion boring. No sample No.s 26, 30 and 34. SPT Hammer ID: JB13. SPT Rod type: NWX	**Depth from** 0.00m **to** 20.41m **Diameter** 150mm **Casing Depth** 20.00m	**Ground Level** +4.58 mOD **Coordinates** E 466198.39 **National Grid** N 426958.76 **Chainage**	

Samples and Tests

Depth	Type & No	Records	Date Casing	Time Water
10.00	D 23			
11.00-11.45	SPT S	N=22 (3,4/6,5,6,5)	11.00	dry
11.00-11.45	D 24			
11.00-11.50	B 25			
			07/07/2011 12.00	dry
12.50-12.95	U 26	21 blows No recovery	08/07/2011 12.00	0800 dry
13.00	D 27			
13.20	D 28			
13.60-13.80	B 29			
14.00-14.45	SPT S	N=5 (1,1/2,1,1,1)	14.00	13.10
14.00-14.50	B 31			
14.00-14.45	D NR			
15.50-15.95	SPT S	N=5 (2,1/1,1,2,1)	15.50	13.10
15.50-15.95	D 32			
15.80-16.00	B 33			
17.00-17.45	SPT S	N=4 (1,1/1,1,1,1)	17.00	13.10
17.00-17.50	B 35			
17.00-17.45	D NR			
17.60	W 36			
18.50-18.95	SPT S	N=14 (2,3/3,3,4,4)	18.50	13.10
18.50-18.95	D 37			
18.50-19.00	B 38			
19.00-19.40	B 39			
19.00-19.35	D 40			
19.40-19.85	SPT S	N=44 (5,7/8,10,12,14)	19.40	13.10
19.40-20.20	B 41			

Depth	Type & No	Records	Date Casing	Time Water

Strata

Description (Continued from Sheet 1)	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
with occasional partings of light brown silt.	(2.90)		
Soft brown CLAY.	12.50 *-7.92*		
	(0.60)		
Soft brown very sandy CLAY.	13.10 *-8.52*		
18.50 m becoming firm	(6.30)		
Dense reddish brown clayey medium to coarse SAND with occasional angular fine to medium gravel of sandstone.	19.40 *-14.82*		
	(0.90)		
Stratum continues to 20.30 m			

Groundwater Entries

No.	Struck (m)	Post strike behaviour	Depth sealed (m)
1	17.60	Rose to 13.10 m after 20 minutes.	-

Depth Related Remarks *

From	to (m)

Chiselling

Depths (m)	Time	Tools used
19.60 -20.20	60 mins	

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

Scale 1:50

Project DRAX POWER STATION, PROJECT PHOENIX

Project No. A1047-11

Carried out for Drax Power Limited

Borehole

BH13

Borehole Log

Soil Mechanics

Drilled JB **Logged** MT **Checked** PH	**Start** 07/07/2011 **End** 08/07/2011	**Equipment, Methods and Remarks** Dando 2000. Cable percussion boring. No sample No.s 26, 30 and 34. SPT Hammer ID: JB13. SPT Rod type: NWX	**Depth from** 0.00m **to** 20.41m **Diameter** 150mm **Casing Depth** 20.00m	**Ground Level** +4.58 mOD **Coordinates** E 466198.39 **National Grid** N 426958.76 **Chainage**	

Samples and Tests

Depth	Type & No	Records	Date Casing	Time Water
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

Strata

Description (Continued from Sheet 2)	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
Dense reddish brown clayey medium to coarse SAND with occasional angular fine to medium gravel of sandstone.	20.30 *-15.72*		
Extremely weak reddish brown medium to coarse grained SANDSTONE. Recovered as sand and angular to subangular fine to coarse gravel. (SHERWOOD SANDSTONE)	20.41 *-15.83*		
EXPLORATORY HOLE ENDS AT 20.41 m			

Depth	Type & No	Records	Date Casing	Time Water

Groundwater Entries

No.	Struck (m)	Post strike behaviour	Depth sealed (m)

Depth Related Remarks *

From	to (m)

Chiselling

Depths (m)	Time	Tools used

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

Scale 1:50

Project DRAX POWER STATION, PROJECT PHOENIX

Project No. A1047-11

Carried out for Drax Power Limited

Borehole

BH13

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level	3.70 mOD
Logged		Drilled by Soil Mechanics.					Coordinates (m)	E 466245.00
Checked TC	End						National Grid	N 427178.00
Approved TC								

Samples and Tests

Strata Description

Depth	Type & No.	Records	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
					Firm brown laminated CLAY with partings of silt. Clay becoming silty with depth.		(11.50)		

Groundwater Entries

No.	Depth Strike (m)	Remarks	Depth Sealed (m)

Depth Related Remarks

Depths (m)	Remarks

Hard Boring

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

18/12/2017 21:43:31

AGS

Project DRAX GEOTECHNICAL DESK STUDY

Project No. A7101-17

Carried out for Drax Power Limited

Borehole

C162-1968

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level	3.70 mOD
Logged		Drilled by Soil Mechanics.					Coordinates (m)	E 466245.00
Checked TC	End						National Grid	N 427178.00
Approved TC								

Samples and Tests

Depth	Type & No.	Records	Date Casing	Time Water

Strata Description

Main	Detail	Depth, Level (Thickness)	Legend	Backfill
Firm brown laminated CLAY with partings of silt. Clay becoming silty with depth.				
		11.50 -7.80		
Compact grey-brown SILT with layers of clay and sand towards base.		(4.00)		
		15.50 -11.80		
Dense fine and medium red-brown SAND with traces.		(3.20)		
		18.70 -15.00		
END OF EXPLORATORY HOLE				

Groundwater Entries

No.	Depth Strike (m)	Remarks	Depth Sealed (m)

Depth Related Remarks

Depths (m)	Remarks

Hard Boring

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

18/12/2017 21:43:31

AGS

Project DRAX GEOTECHNICAL DESK STUDY

Project No. A7101-17

Carried out for Drax Power Limited

Borehole

C162-1968

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level	3.80 mOD
Logged		Drilled by Soil Mechanics.					Coordinates (m)	E 466350.00
Checked TC	End						National Grid	N 427155.00
Approved TC								

Samples and Tests

Strata Description

Depth	Type & No.	Records	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
					Firm brown laminated CLAY with partings of silt.		(11.60)		

Groundwater Entries

No.	Depth Strike (m)	Remarks	Depth Sealed (m)

Depth Related Remarks

Depths (m)	Remarks

Hard Boring

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

18/12/2017 21:43:32

AGS

Project: DRAX GEOTECHNICAL DESK STUDY

Project No.: A7101-17

Carried out for: Drax Power Limited

Borehole: **C163-1968**

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level	3.80 mOD
Logged		Drilled by Soil Mechanics.					Coordinates (m)	E 466350.00
Checked TC	End						National Grid	N 427155.00
Approved TC								

Samples and Tests

Strata Description

Depth	Type & No.	Records	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
					Firm brown laminated CLAY with partings of silt.				
					Moderately compact and compact grey brown SILT with layers of clay and sand near base.		11.60 -7.80 (4.70)		
					Dense fine and medium red-brown SAND with traces of silt near top and clay at 17.40m.		16.30 -12.50 (3.10)		
					END OF EXPLORATORY HOLE		19.40 -15.60		

Groundwater Entries

No.	Depth Strike (m)	Remarks	Depth Sealed (m)

Depth Related Remarks

Depths (m)	Remarks

Hard Boring

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

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Project DRAX GEOTECHNICAL DESK STUDY

Project No. A7101-17

Carried out for Drax Power Limited

Borehole

C163-1968

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level	4.30 mOD
Logged		Drilled by Soil Mechanics.					Coordinates (m)	E 466411.00
Checked TC	End						National Grid	N 427143.00
Approved TC								

Samples and Tests

Strata Description

Depth	Type & No.	Records	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
					Firm brown laminated CLAY with partings of silt. Clay becomes silty at depth.		(11.90)		

Groundwater Entries

No.	Depth Strike (m)	Remarks	Depth Sealed (m)

Depth Related Remarks

Depths (m)	Remarks

Hard Boring

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

18/12/2017 21:43:32

Project	DRAX GEOTECHNICAL DESK STUDY
Project No.	A7101-17
Carried out for	Drax Power Limited

Borehole

C167-1968

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level 4.30 mOD
Logged		Drilled by Soil Mechanics.					Coordinates (m) E 466411.00
Checked TC	End						National Grid N 427143.00
Approved TC							

Samples and Tests

Strata Description

Depth	Type & No.	Records	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
					Firm brown laminated CLAY with partings of silt. Clay becomes silty at depth.				
					Compact grey-brown SILT with layers of clay and sand near base.		11.90 -7.60 (4.60)		
					Dense fine red-brown SAND with traces of silt in top 1.00m.		16.50 -12.20 (2.90)		
					END OF EXPLORATORY HOLE		19.40 -15.10		

Groundwater Entries

No.	Depth Strike (m)	Remarks	Depth Sealed (m)

Depth Related Remarks

Depths (m)	Remarks

Hard Boring

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

18/12/2017 21:43:32

Project DRAX GEOTECHNICAL DESK STUDY

Project No. A7101-17

Carried out for Drax Power Limited

Borehole

C167-1968

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level	3.75 mOD
Logged		Drilled by Soil Mechanics.					Coordinates (m)	E 466146.00
Checked TC	End						National Grid	N 427201.00
Approved TC								

Samples and Tests

Strata Description

Depth	Type & No.	Records	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
					Firm to stiff, becoming soft to firm, brown laminated CLAY with partings of silt. Silty clay at depth.		(10.70)		

Groundwater Entries

No.	Depth Strike (m)	Remarks	Depth Sealed (m)

Depth Related Remarks

Depths (m)	Remarks

Hard Boring

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

18/12/2017 21:43:32

Project DRAX GEOTECHNICAL DESK STUDY

Project No. A7101-17

Carried out for Drax Power Limited

Borehole

C169-1968

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level	3.75 mOD
Logged		Drilled by Soil Mechanics.					Coordinates (m)	E 466146.00
Checked TC	End						National Grid	N 427201.00
Approved TC								

Samples and Tests

Strata Description

Depth	Type & No.	Records	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
					Firm to stiff, becoming soft to firm, brown laminated CLAY with partings of silt. Silty clay at depth.				
					Compact grey-brown SILT with some layers of clay and thin layers of sand at base.		10.70 -6.95 (4.80)		
					Dense, becoming very dense with depth, fine red SAND traces of silt in top 0.30m.		15.50 -11.75 (3.20)		
					END OF EXPLORATORY HOLE		18.70 -14.95		

Groundwater Entries

No.	Depth Strike (m)	Remarks	Depth Sealed (m)

Depth Related Remarks

Depths (m)	Remarks

Hard Boring

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

18/12/2017 21:43:32

Project	DRAX GEOTECHNICAL DESK STUDY
Project No.	A7101-17
Carried out for	Drax Power Limited

Borehole

C169-1968

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level	3.35 mOD
Logged		Drilled by Soil Mechanics.					Coordinates (m)	E 466330.00
Checked TC	End						National Grid	N 426620.00
Approved TC								

Samples and Tests

Strata Description

Depth	Type & No.	Records	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
					MADE GROUND.		(1.00)		
					Firm brown laminated CLAY with partings of silt above 7.00m, clay becoming silty below 7.00m.		1.00 +2.35		
							(10.00)		

Groundwater Entries

No.	Depth Strike (m)	Remarks	Depth Sealed (m)

Depth Related Remarks

Depths (m)	Remarks

Hard Boring

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

18/12/2017 21:43:32

Project	DRAX GEOTECHNICAL DESK STUDY
Project No.	A7101-17
Carried out for	Drax Power Limited

Borehole

CT1/45-1968

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level	3.35 mOD
Logged		Drilled by Soil Mechanics.					Coordinates (m)	E 466330.00
Checked TC	End						National Grid	N 426620.00
Approved TC								

Samples and Tests

Depth	Type & No.	Records	Date Casing	Time Water

Strata Description

Main	Detail	Depth, Level (Thickness)	Legend	Backfill
Firm brown laminated CLAY with partings of silt above 7.00m, clay becoming silty below 7.00m.				
		11.00 -7.65		
Very loose and compact brown very sandy SILT with layers of brown clay.		(1.60)		
		12.60 -9.25		
Medium dense and dense fine red brown SAND with thin layers of clay and silty sand.		(3.20)		
		15.80 -12.45		
END OF EXPLORATORY HOLE				

Groundwater Entries

No.	Depth Strike (m)	Remarks	Depth Sealed (m)

Depth Related Remarks

Depths (m)	Remarks

Hard Boring

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

18/12/2017 21:43:32

AGS

Project DRAX GEOTECHNICAL DESK STUDY

Project No. A7101-17

Carried out for Drax Power Limited

Borehole

CT1/45-1968

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level	3.20 mOD
Logged		Drilled by Soil Mechanics.					Coordinates (m)	E 466297.00
Checked TC	End						National Grid	N 426793.00
Approved TC								

Samples and Tests

Strata Description

Depth	Type & No.	Records	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
					MADE GROUND.		(1.00)		
					Firm brown laminated CLAY with partings of silt.		1.00 +2.20		
							(11.20)		

Groundwater Entries

No.	Depth Strike (m)	Remarks	Depth Sealed (m)

Depth Related Remarks

Depths (m)	Remarks

Hard Boring

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

18/12/2017 21:43:33

Project DRAX GEOTECHNICAL DESK STUDY

Project No. A7101-17

Carried out for Drax Power Limited

Borehole

CT2/165-1968

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level	3.20 mOD
Logged		Drilled by Soil Mechanics.					Coordinates (m)	E 466297.00
Checked TC	End						National Grid	N 426793.00
Approved TC								

Samples and Tests

Strata Description

Depth	Type & No.	Records	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
					Firm brown laminated CLAY with partings of silt.				
					Compact brown SILT with some layers of clay and sand at bottom.		12.20 -9.00 (2.00)		
					Generally medium dense, becoming dense, fine red brown SAND with some silty sand near top.		14.20 -11.00 (4.10)		
					END OF EXPLORATORY HOLE		18.30 -15.10		

Groundwater Entries

No.	Depth Strike (m)	Remarks	Depth Sealed (m)

Depth Related Remarks

Depths (m)	Remarks

Hard Boring

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

18/12/2017 21:43:33

Project DRAX GEOTECHNICAL DESK STUDY

Project No. A7101-17

Carried out for Drax Power Limited

Borehole

CT2/165-1968

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level	3.20 mOD
Logged							Coordinates (m)	E 466139.00
Checked TC	End						National Grid	N 426781.00
Approved TC								

Samples and Tests

Strata Description

Depth	Type & No.	Records	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
					MADE GROUND.		(1.00)		
					Firm brown laminated CLAY with partings of silt. Clay becomes silty with depth.		1.00 +2.20		
							(8.10)		
					Compact grey brown SILT becoming sandy with depth.		9.10 -5.90		

Groundwater Entries

No.	Depth Strike (m)	Remarks	Depth Sealed (m)

Depth Related Remarks

Depths (m)	Remarks

Hard Boring

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

18/12/2017 21:43:33

Project DRAX GEOTECHNICAL DESK STUDY

Project No. A7101-17

Carried out for Drax Power Limited

Borehole

CT3/45-1968

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level	3.20 mOD
Logged							Coordinates (m)	E 466139.00
Checked TC	End						National Grid	N 426781.00
Approved TC								

Samples and Tests

Depth	Type & No.	Records	Date Casing	Time Water

Strata Description

Main	Detail	Depth, Level (Thickness)	Legend	Backfill
Compact grey brown SILT becoming sandy with depth.		(4.40)		
Dense medium, becoming fine with depth, red brown SAND with traces of silty sand.		13.50 -10.30 (3.10)		
END OF EXPLORATORY HOLE		16.60 -13.40		

Groundwater Entries

No.	Depth Strike (m)	Remarks	Depth Sealed (m)

Depth Related Remarks

Depths (m)	Remarks

Hard Boring

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

18/12/2017 21:43:33

AGS

Project DRAX GEOTECHNICAL DESK STUDY

Project No. A7101-17

Carried out for Drax Power Limited

Borehole

CT3/45-1968

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level	4.70 mOD
Logged		Drilled by Dames & Moore.					Coordinates (m)	E 466166.00
Checked TC	End						National Grid	N 428043.00
Approved TC								

Samples and Tests

Strata Description

Depth	Type & No.	Records	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
					Hardcore/gravel FILL. (MADE GROUND)		(0.30) 0.30 +4.40		
					Medium to coarse dark grey sand FILL including some soft grey clayey lenses. (MADE GROUND)		(1.20) 1.50 +3.20		
					Firm to stiff brown silty sandy CLAY.		(6.50) 8.00 -3.30		
					Coarse dark brown SAND.		(1.20) 9.20 -4.50		
					Firm brown very sandy silty CLAY with occasional sandy lenses.				

Groundwater Entries

No.	Depth Strike (m)	Remarks	Depth Sealed (m)

Depth Related Remarks

Depths (m)	Remarks

Hard Boring

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

18/12/2017 21:43:33

Project DRAX GEOTECHNICAL DESK STUDY

Project No. A7101-17

Carried out for Drax Power Limited

Borehole

BH7-2000

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level	4.70 mOD
Logged		Drilled by Dames & Moore.					Coordinates (m)	E 466166.00
Checked TC	End						National Grid	N 428043.00
Approved TC								

Samples and Tests

Strata Description

Depth	Type & No.	Records	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
					Firm brown very sandy silty CLAY with occasional sandy lenses.		(7.80)		
					Fine brown SAND, occasional soft to medium clayey lenses.		17.00 -12.30 (2.50)		
					Fine brown SAND, traces of dark brown/red sandstone.		19.50 -14.80		

Groundwater Entries

No.	Depth Strike (m)	Remarks	Depth Sealed (m)

Depth Related Remarks

Depths (m)	Remarks

Hard Boring

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

18/12/2017 21:43:33

Project DRAX GEOTECHNICAL DESK STUDY

Project No. A7101-17

Carried out for Drax Power Limited

Borehole

BH7-2000

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level	4.70 mOD
Logged		Drilled by Dames & Moore.					Coordinates (m)	E 466166.00
Checked TC	End						National Grid	N 428043.00
Approved TC								

Samples and Tests

Strata Description

Depth	Type & No.	Records	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
					Fine brown SAND, traces of dark brown/red sandstone.		(1.50)		
					END OF EXPLORATORY HOLE		21.00 -16.30		

Groundwater Entries

No.	Depth Strike (m)	Remarks	Depth Sealed (m)

Depth Related Remarks

Depths (m)	Remarks

Hard Boring

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

18/12/2017 21:43:33

Project	DRAX GEOTECHNICAL DESK STUDY
Project No.	A7101-17
Carried out for	Drax Power Limited

Borehole

BH7-2000

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level	9.20 mOD
Logged		Drilled by Dames & Moore.					Coordinates (m)	E 465850.00
Checked TC	End						National Grid	N 427490.00
Approved TC								

Samples and Tests

Depth	Type & No.	Records	Date Casing	Time Water

Strata Description

Main	Detail	Depth, Level (Thickness)	Legend	Backfill
Loose black ashy gravel FILL. (MADE GROUND)		(0.30) 0.30 +8.90		
Loose brown very sandy clayey FILL including some brick fragments. (MADE GROUND)		(1.20) 1.50 +7.70		
Coarse dark brown SAND.		(4.70) 6.20 +3.00		
Firm to stiff dark grey/brown slightly sandy CLAY.				

Groundwater Entries

No.	Depth Strike (m)	Remarks	Depth Sealed (m)

Depth Related Remarks

Depths (m)	Remarks

Hard Boring

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

18/12/2017 21:43:33

AGS

Project DRAX GEOTECHNICAL DESK STUDY

Project No. A7101-17

Carried out for Drax Power Limited

Borehole

BH8-2000

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level	9.20 mOD
Logged		Drilled by Dames & Moore.					Coordinates (m)	E 465850.00
Checked TC	End						National Grid	N 427490.00
Approved TC								

Samples and Tests

Depth	Type & No.	Records	Date Casing	Time Water

Strata Description

Main	Detail	Depth, Level (Thickness)	Legend	Backfill
Firm to stiff dark grey/brown slightly sandy CLAY.		(10.50)		
Medium to coarse dark brown very silty SAND.		16.70 -7.50 (3.30) 20.00 -10.80		

Groundwater Entries

No.	Depth Strike (m)	Remarks	Depth Sealed (m)

Depth Related Remarks

Depths (m)	Remarks

Hard Boring

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

18/12/2017 21:43:33

Project	DRAX GEOTECHNICAL DESK STUDY
Project No.	A7101-17
Carried out for	Drax Power Limited

Borehole

BH8-2000

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level	9.20 mOD
Logged		Drilled by Dames & Moore.					Coordinates (m)	E 465850.00
Checked TC	End						National Grid	N 427490.00
Approved TC								

Samples and Tests

Strata Description

Depth	Type & No.	Records	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
					Fine dark brown/red SAND, much sandstone fragments.		(1.00)		
					END OF EXPLORATORY HOLE		21.00 -11.80		

Groundwater Entries

No.	Depth Strike (m)	Remarks	Depth Sealed (m)

Depth Related Remarks

Depths (m)	Remarks

Hard Boring

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

18/12/2017 21:43:33

Project	DRAX GEOTECHNICAL DESK STUDY
Project No.	A7101-17
Carried out for	Drax Power Limited

Borehole

BH8-2000

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level	
Logged		Drilled by Dames & Moore.					Coordinates (m)	E 466183.00
Checked TC	End						National Grid	N 427442.00
Approved TC								

Samples and Tests

Strata Description

Depth	TCR SCR RQD	If	Records/Samples	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
						Brick. (MADE GROUND)		0.12 (0.12)		
						Angular GRAVEL of limestone. (MADE GROUND)		(0.48)		
						Medium to coarse red SAND. (MADE GROUND)		0.60		
								(1.40)		
						Firm to very stiff red CLAY including frequent coarse sandy lenses.		2.00		
								(2.00)		
						END OF EXPLORATORY HOLE		4.00		

Groundwater Entries

No.	Depth Strike	Remarks	Depth Sealed

Depth Related Remarks

Depths (m)	Remarks

Chiselling Details

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

18/12/2017 21:43:34

Project	DRAX GEOTECHNICAL DESK STUDY
Project No.	A7101-17
Carried out for	Drax Power Limited

Borehole

WS126-2000

Sheet 1 of 1

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level
Logged		Drilled by Dames & Moore.					Coordinates (m) E 466229.00
Checked TC	End						National Grid N 427561.00
Approved TC							

Samples and Tests

Strata Description

Depth	TCR SCR RQD	If	Records/Samples	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
						Brown sand/gravel/hardcore/ash/clinker. (MADE GROUND)		(0.40)		
						Buff dolomite sand and angular gravel. (MADE GROUND)		0.40 (0.10) 0.50		
						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 from 1.90-3.00m.		1.70		
								(3.30)		
						END OF EXPLORATORY HOLE		5.00		

Groundwater Entries

No.	Depth Strike	Remarks	Depth Sealed

Depth Related Remarks

Depths (m)	Remarks

Chiselling Details

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

18/12/2017 21:43:34

AGS

Project DRAX GEOTECHNICAL DESK STUDY

Project No. A7101-17

Carried out for Drax Power Limited

Borehole

WS127-2000

Sheet 1 of 1

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level	
Logged		Drilled by Dames & Moore.					Coordinates (m)	E 466443.00
Checked TC	End	Borehole terminated due to refusal.					National Grid	N 427425.00
Approved TC								

Samples and Tests

Strata Description

Depth	TCR SCR RQD	If	Records/Samples	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
						MACADAM. (MADE GROUND)		(0.17) 0.17		
						Limestone gravel. (MADE GROUND)		(0.43) 0.60		
						Coarse sandy gravel. (MADE GROUND)		(0.90) 1.50		
						Limestone gravel. (MADE GROUND)		(0.20) 1.70		
						END OF EXPLORATORY HOLE				

Groundwater Entries

No.	Depth Strike	Remarks	Depth Sealed

Depth Related Remarks

Depths (m)	Remarks

Chiselling Details

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

18/12/2017 21:43:34

Project	DRAX GEOTECHNICAL DESK STUDY
Project No.	A7101-17
Carried out for	Drax Power Limited

Borehole

WS129-2000

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level
Logged		Drilled by Dames & Moore.					Coordinates (m) E 466443.00
Checked TC	End						National Grid N 427385.00
Approved TC							

Samples and Tests

Strata Description

Depth	TCR SCR RQD	If	Records/Samples	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
						CONCRETE. (MADE GROUND)		(0.20) 0.20		
						Buff dolomite angular gravel/sand and silt. (MADE GROUND)		(0.30) 0.50		
						Red/brown medium sand with much fine to 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)		(0.60) 2.60		
						Soft to firm brown CLAY with some peat and occasional light brown silty lenses/laminance from 2.60-3.00m.		(2.40)		
						END OF EXPLORATORY HOLE		5.00		

Groundwater Entries

No.	Depth Strike	Remarks	Depth Sealed

Depth Related Remarks

Depths (m)	Remarks

Chiselling Details

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

18/12/2017 21:43:34

AGS

Project DRAX GEOTECHNICAL DESK STUDY

Project No. A7101-17

Carried out for Drax Power Limited

Borehole

WS130-2000

Sheet 1 of 1

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level	
Logged		Drilled by Dames & Moore.					Coordinates (m)	E 466461.00
Checked TC	End	Borehole terminated due to concrete/sandstone or limestone boundary causing refusal.					National Grid	N 427126.00
Approved TC								

Samples and Tests

Strata Description

Depth	TCR SCR RQD	If	Records/Samples	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
						MACADAM. (MADE GROUND)		0.10 (0.10)		
						Brown sand/gravel/clinker/ash. (MADE GROUND)		0.20 (0.10)		
						Buff dolomite sand and angular gravel. (MADE GROUND)		(0.40) 0.60		
						Loose to dense red brown medium to coarse sand with occasional clayey fragments (lenses/ laminae). (MADE GROUND)		(1.70)		
						END OF EXPLORATORY HOLE		2.30		

Groundwater Entries

No.	Depth Strike	Remarks	Depth Sealed

Depth Related Remarks

Depths (m)	Remarks

Chiselling Details

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

18/12/2017 21:43:35

Project	DRAX GEOTECHNICAL DESK STUDY
Project No.	A7101-17
Carried out for	Drax Power Limited

Borehole

WS131-2000

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level	
Logged		Drilled by Dames & Moore.					Coordinates (m)	E 466399.00
Checked TC	End	Hand dug pit terminated at 1.30m upon refusal.					National Grid	N 427189.00
Approved TC								

Samples and Tests

Strata Description

Depth	TCR SCR RQD	If	Records/Samples	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
						MACADAM. (MADE GROUND)		0.11 (0.11)		
						CONCRETE. (MADE GROUND)		0.20 (0.09)		
						Angular limestone gravel. (MADE GROUND)		0.45 (0.25)		
						Medium to coarse red sand. (MADE GROUND)		(0.85)		
						END OF EXPLORATORY HOLE		1.30		

Groundwater Entries

No.	Depth Strike	Remarks	Depth Sealed

Depth Related Remarks

Depths (m)	Remarks

Chiselling Details

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

18/12/2017 21:43:35

Project DRAX GEOTECHNICAL DESK STUDY

Project No. A7101-17

Carried out for Drax Power Limited

Borehole

WS132-2000

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level	3.39 mOD
Logged		Drilled by Soil Mechanics.					Coordinates (m)	E 465607.67
Checked TC	End						National Grid	N 426920.16
Approved TC								

Samples and Tests

Strata Description

Depth	Type & No.	Records	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
					Black sandy angular fine to coarse GRAVEL of coal. (MADE GROUND)		(0.35) 0.35 +3.04		
					Reddish brown mottled grey slightly clayey fine to coarse SAND. (MADE GROUND)		(0.30) 0.65 +2.74		
					Firm thinly laminated greyish brown mottled light brown slightly sandy CLAY with occasional partings of light brown silt.		(5.85)		
					Medium dense orangish brown fine to medium SAND.		6.50 -3.11 (0.60)		
					Firm dark orangish brown slightly sandy CLAY.	9.50-10.30 becoming thinly laminated with partings of light brown silt	7.10 -3.71 (3.20)		

Groundwater Entries

No.	Depth Strike (m)	Remarks	Depth Sealed (m)

Depth Related Remarks

Depths (m)	Remarks

Hard Boring

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

18/12/2017 21:43:35

Project	DRAX GEOTECHNICAL DESK STUDY
Project No.	A7101-17
Carried out for	Drax Power Limited

Borehole

BH05-2011

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level	3.39 mOD
Logged		Drilled by Soil Mechanics.					Coordinates (m)	E 465607.67
Checked TC	End						National Grid	N 426920.16
Approved TC								

Samples and Tests

Depth	Type & No.	Records	Date Casing	Time Water

Strata Description

Main	Detail	Depth, Level (Thickness)
Firm dark orangish brown slightly sandy CLAY.		10.30 -6.91
Dense, becoming very dense, orangish brown silty fine to medium SAND.	13.00-13.80 occasional cobbles of sandstone	(5.20)
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 (3.00)
Extremely weak reddish brown fine to coarse grained SANDSTONE. Recovered as sand and angular to subangular fine to coarse gravel. (SHERWOOD SANDSTONE)		18.50 -15.11 (1.05)
END OF EXPLORATORY HOLE		19.55 -16.16

Legend

Backfill

Groundwater Entries

No.	Depth Strike (m)	Remarks	Depth Sealed (m)

Depth Related Remarks

Depths (m)	Remarks

Hard Boring

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

18/12/2017 21:43:35

AGS

Project	DRAX GEOTECHNICAL DESK STUDY
Project No.	A7101-17
Carried out for	Drax Power Limited

Borehole

BH05-2011

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level	6.03 mOD
Logged		Drilled by Soil Mechanics.					Coordinates (m)	E 465922.97
Checked TC	End						National Grid	N 427002.72
Approved TC								

Samples and Tests

Strata Description

Depth	Type & No.	Records	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
					Cream angular to subangular coarse GRAVEL of limestone. Ballast/sub-base. (MADE GROUND)		(0.15) 0.15 +5.88		
					Black slightly clayey very sandy angular to subangular fine to coarse GRAVEL of coal with occasional sandstone and mudstone. (MADE GROUND)		(0.40) 0.55 +5.48		
					Black and orange gravelly medium to coarse SAND. Gravel is angular to subangular fine to coarse of coal, sandstone and mudstone. (MADE GROUND)		(0.45) 1.00 +5.03		
					Cream angular to subangular coarse GRAVEL of limestone. Ballast/sub-base. (MADE GROUND)		(0.20) 1.20 +4.83		
					Orange brown medium to coarse SAND. (MADE GROUND)		(0.25) 1.45 +4.58		
					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)		
					Firm to stiff brown, locally mottled grey, locally slightly gravelly, CLAY with occasional partings of light brown silt. Gravel is subangular to subrounded fine to medium of mudstone and siltstone.	3.40-4.50 locally soft	3.40 +2.63		
							(7.60)		

Groundwater Entries

No.	Depth Strike (m)	Remarks	Depth Sealed (m)

Depth Related Remarks

Depths (m)	Remarks

Hard Boring

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

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Project	DRAX GEOTECHNICAL DESK STUDY
Project No.	A7101-17
Carried out for	Drax Power Limited

Borehole

BH12-2011

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level	6.03 mOD
Logged		Drilled by Soil Mechanics.					Coordinates (m)	E 465922.97
Checked TC	End						National Grid	N 427002.72
Approved TC								

Samples and Tests

Strata Description

Depth	Type & No.	Records	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
					Firm to stiff brown, locally mottled grey, locally slightly gravelly, CLAY with occasional partings of light brown silt. Gravel is subangular to subrounded fine to medium of mudstone and siltstone.				
					Firm reddish brown slightly sandy CLAY with occasional partings of reddish brown silt.	12.50-13.00 locally soft	11.00 -4.97		
							(4.15)		
					Firm to stiff sandy SILT.		15.15 -9.12		
							(2.10)		
					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)		
					Extremely weak reddish brown fine to medium grained SANDSTONE. Recovered as sand and angular to subangular fine to medium gravel. (SHERWOOD SANDSTONE)		18.50 -12.47		
							(2.20)		

Groundwater Entries

No.	Depth Strike (m)	Remarks	Depth Sealed (m)

Depth Related Remarks

Depths (m)	Remarks

Hard Boring

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

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Project	DRAX GEOTECHNICAL DESK STUDY
Project No.	A7101-17
Carried out for	Drax Power Limited

Borehole

BH12-2011

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level	6.03 mOD
Logged		Drilled by Soil Mechanics.					Coordinates (m)	E 465922.97
Checked TC	End						National Grid	N 427002.72
Approved TC								

Samples and Tests

Strata Description

Depth	Type & No.	Records	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
					Extremely weak reddish brown fine to medium grained SANDSTONE. Recovered as sand and angular to subangular fine to medium gravel. (SHERWOOD SANDSTONE)				
					END OF EXPLORATORY HOLE		20.70 -14.67		

Groundwater Entries

No.	Depth Strike (m)	Remarks	Depth Sealed (m)

Depth Related Remarks

Depths (m)	Remarks

Hard Boring

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

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Project DRAX GEOTECHNICAL DESK STUDY

Project No. A7101-17

Carried out for Drax Power Limited

Borehole

BH12-2011

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level	4.58 mOD
Logged		Drilled by Soil Mechanics.					Coordinates (m)	E 466198.39
Checked TC	End						National Grid	N 426958.76
Approved TC								

Samples and Tests

Depth	Type & No.	Records	Date Casing	Time Water

Strata Description

Main	Detail	Depth, Level (Thickness)	Legend	Backfill
MACADAM. Road Surface. (MADE GROUND)		0.10 (0.10) +4.48		
Light grey sandy angular to subangular fine to coarse GRAVEL of limestone.. Ballast/sub-base. (MADE GROUND)		(0.40) 0.50 +4.08		
Medium dense reddish brown slightly gravelly SAND. Gravel is subangular to rounded medium to coarse of sandstone and mudstone. (MADE GROUND)		(2.90)		
Firm brown mottled orange and grey sandy CLAY.		3.40 +1.18 (0.70)		
Stiff fissured brown mottled grey CLAY with frequent partings of light brown silt.		4.10 +0.48 (0.90)		
Stiff, locally firm, brown CLAY with occasional partings of light brown silt.		5.00 -0.42 (4.60)		
Stiff reddish brown slightly sandy CLAY with occasional partings of light brown silt.		9.60 -5.02		

Groundwater Entries

No.	Depth Strike (m)	Remarks	Depth Sealed (m)

Depth Related Remarks

Depths (m)	Remarks

Hard Boring

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

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Project DRAX GEOTECHNICAL DESK STUDY

Project No. A7101-17

Carried out for Drax Power Limited

Borehole

BH13-2011

Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level	4.58 mOD
Logged		Drilled by Soil Mechanics.					Coordinates (m)	E 466198.39
Checked TC	End						National Grid	N 426958.76
Approved TC								

Samples and Tests

Depth	Type & No.	Records	Date Casing	Time Water

Strata Description

Main	Detail	Depth, Level (Thickness)	Legend	Backfill
Stiff reddish brown slightly sandy CLAY with occasional partings of light brown silt.		(2.90)		
Soft brown CLAY.		12.50 -7.92 (0.60)		
Soft brown very sandy CLAY.		13.10 -8.52 (6.30)		
Dense reddish brown clayey medium to coarse SAND with occasional angular fine to medium gravel of sandstone.		19.40 -14.82 (0.90)		

Groundwater Entries

No.	Depth Strike (m)	Remarks	Depth Sealed (m)

Depth Related Remarks

Depths (m)	Remarks

Hard Boring

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

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Project DRAX GEOTECHNICAL DESK STUDY

Project No. A7101-17

Carried out for Drax Power Limited

Borehole

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Borehole Log

SOCOTEC

Drilled	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level	4.58 mOD
Logged		Drilled by Soil Mechanics.					Coordinates (m)	E 466198.39
Checked TC	End						National Grid	N 426958.76
Approved TC								

Samples and Tests

Strata Description

Depth	Type & No.	Records	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
					Dense reddish brown clayey medium to coarse SAND with occasional angular fine to medium gravel of sandstone.		20.30		
					Extremely weak reddish brown medium to coarse grained SANDSTONE. Recovered as sand and angular to subangular fine to coarse gravel.		(0.11)		
					END OF EXPLORATORY HOLE		20.41 -15.72 -15.83		

Groundwater Entries

No.	Depth Strike (m)	Remarks	Depth Sealed (m)

Depth Related Remarks

Depths (m)	Remarks

Hard Boring

Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

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Project DRAX GEOTECHNICAL DESK STUDY

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